



Test Report

Product Name : Portable 2.4G Digital Wireless Microphone
Model No. : TF-103
FCC ID. : Y63-TF103

Applicant : TWINKLE.SHARE CO., LTD
Address : No.15, Ln.185, Huanhe St., Xizhi Dist., New Taipei City 221,
Taiwan (R.O.C.)

Date of Receipt : 2011/08/15
Issued Date : 2011/09/01
Report No. : 118314R-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 : 2011/09/01

Report No. : 118314R-RFUSP43V01



Product Name : Portable 2.4G Digital Wireless Microphone
 Applicant : TWINKLE.SHARE CO., LTD
 Address : No.15, Ln.185, Huanhe St., Xizhi Dist., New Taipei City 221,
 Taiwan (R.O.C.)
 Manufacturer : TWINKLE.SHARE CO., LTD
 Model No. : TF-103
 FCC ID. : Y63-TF103
 EUT Voltage : DC 3V (Power by Battery)
 Trade Name : TWK
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2010
 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 : Sandy Chuang

(Sandy Chuang / Adm. Specialist)

Tested By : Ben Huang

(Ben Huang / Engineer)

Approved By : Roy Wang

(Roy Wang / Manager)

TABLE OF CONTENTS

Description	Page
1. General Information	5
1.1. EUT Description	5
1.2. Operational Description	7
1.3. Test Mode	8
1.4. Tested System Details	9
1.5. Tested System Details	9
1.6. Configuration of tested System	10
1.7. EUT Exercise Software	10
1.8. Test Facility	11
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. Uncertainty	13
2.7. Test Result	14
3. Radiated Emission	17
3.1. Test Equipment	17
3.2. Test Setup	17
3.3. Limits	18
3.4. Test Procedure	18
3.5. Test Specification	19
3.6. Uncertainty	19
3.7. Test Result	20
3.8. Test Photo	30
4. RF Conducted Emission	32
4.1. Test Equipment	32
4.2. Test Setup	32
4.3. Limits	33
4.4. Test Procedure	33
4.5. Test Specification	33
4.6. Test Result	34
5. Band Edge	39
5.1. Test Equipment	39
5.2. Test Setup	39
5.3. Limits	40
5.4. Test Procedure	40
5.5. Test Specification	40
5.6. Uncertainty	40
5.7. Test Result	41
6. Number of hopping frequency	45
6.1. Test Equipment	45

6.2.	Test Setup	45
6.3.	Limits	46
6.4.	Test Procedures	46
6.5.	Test Specification.....	46
6.6.	Test Result.....	47
7.	Carrier Frequency Separation	49
7.1.	Test Equipment.....	49
7.2.	Test Setup	49
7.3.	Limits	49
7.4.	Test Procedures	49
7.5.	Test Specification.....	49
7.6.	Test Result.....	50
8.	Occupied Bandwidth	53
8.1.	Test Equipment.....	53
8.2.	Test Setup	53
8.3.	Limits	54
8.4.	Test Procedures	54
8.5.	Test Specification.....	54
8.6.	Test Result.....	55
9.	Dwell Time.....	58
9.1.	Test Equipment.....	58
9.2.	Test Setup	58
9.3.	Limits	59
9.4.	Test Procedures	59
9.5.	Test Specification.....	59
9.6.	Test Result.....	60
	Attachement	63
	EUT Photograph.....	63

1. General Information

1.1. EUT Description

Product Name	Portable 2.4G Digital Wireless Microphone
Trade Name	TWK
Model No.	TF-103
Frequency Range	2408 MHz ~ 2475.5MHz
Channel Number	28
Type of Modulation	GFSK
Channel Control	Auto
Antenna Type	Dipole Antenna
Antenna Gain	1.2dBi

Component	
Microphone (TX)	Cable Out: Non-Shielded, 1.2m

Search for 28CH	Frequency(MHz)	Search for 28CH	Frequency(MHz)
CH0	2408	CH14	2450.5
CH1	2425.5	CH15	2468
CH2	2443	CH16	2418
CH3	2460.5	CH17	2435.5
CH4	2410.5	CH18	2453
CH5	2428	CH19	2470.5
CH6	2445.5	CH20	2420.5
CH7	2463	CH21	2438
CH8	2413	CH22	2455.5
CH9	2430.5	CH23	2473
CH10	2448	CH24	2423
CH11	2465.5	CH25	2440.5
CH12	2415.5	CH26	2458
CH13	2433	CH27	2475.5

Note:

1. This device is a Portable 2.4G Digital Wireless Microphone included a 2.4GHz transmitting.
2. These tests were conducted 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. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
5. 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 118314R-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: Transmitter (TX)
Final Test Mode	
EMI	Mode 1: Transmitter (TX)

Emission	
Conducted Emission	No
Peak Power Output	Yes
Radiated Emission	Yes
Band Edge	Yes
Channel of Number	Yes
Channel Separation	Yes
Occupied Bandwidth	Yes
Dwell Time	Yes

1.4. Tested System Details

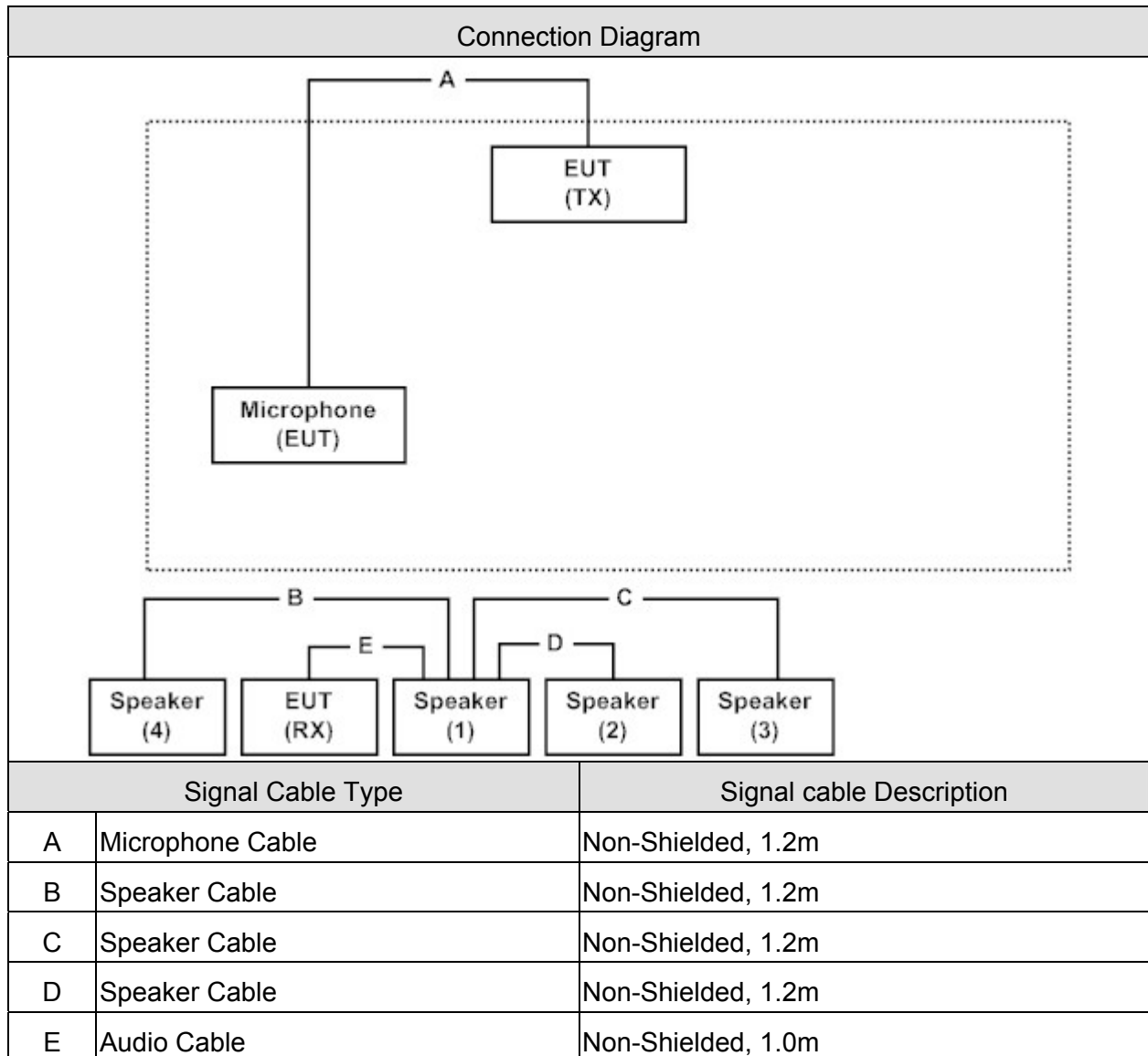
The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

1.5. 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	Speaker	YAMADA	N/A	K9452068	DoC	Non-Shielded, 1.0m
2	Speaker	YAMADA	N/A	K9452068	DoC	Non-Shielded, 1.0m
3	Speaker	YAMADA	N/A	K9452068	DoC	Non-Shielded, 1.0m
4	Speaker	YAMADA	N/A	K9452068	DoC	Non-Shielded, 1.0m

1.6. Configuration of tested System



1.7. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.4.
2	Turn on the power of all equipment.
3	The transmitter will continue receive through as the receiver.
4	Repeat at the above procedure (3).

1.8. 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	25
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	25
Humidity (%RH)		25 - 75	58
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 Channel Of Number (FHSS)	15 - 35	25
Humidity (%RH)		25 - 75	53
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Channel Separation (FHSS)	15 - 35	25
Humidity (%RH)		25 - 75	54
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	57
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Dwell Time (FHSS)	15 - 35	25
Humidity (%RH)		25 - 75	58
Barometric pressure (mbar)		860 - 1060	950-1000

Site Description: September 27, 2010 File on
Federal Communications Commission
Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 365520



Accredited by TAF
Accreditation Number: 1313
Effective through: December 27, 2013



Accredited by NVLAP
NVLAP Lab Code: 200347-0
Effective through: September 30, 2011



Site Name: Quietek Corporation

Site Address: No.75-1, Wang-Yeh Valley, Yung-Hsing,
Chiung-Lin, Hsin-Chu County,
Taiwan, R.O.C.
TEL : 886-3-592-8858 / FAX : 886-3-592-8859
E-Mail : service@quietek.com

2. Peak Power Output

2.1. Test Equipment

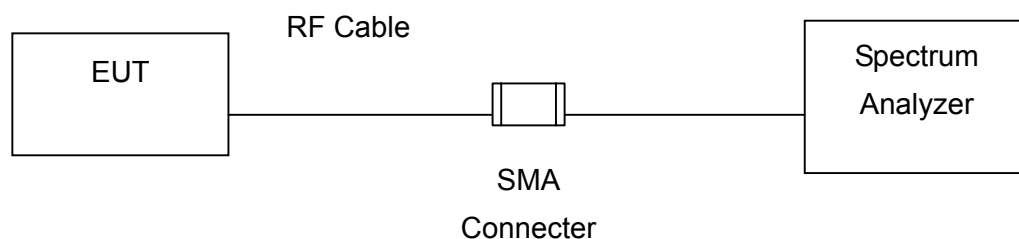
The following test equipments are used during the test:

Peak Power / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2012/01/16

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: 2010

2.6. Uncertainty

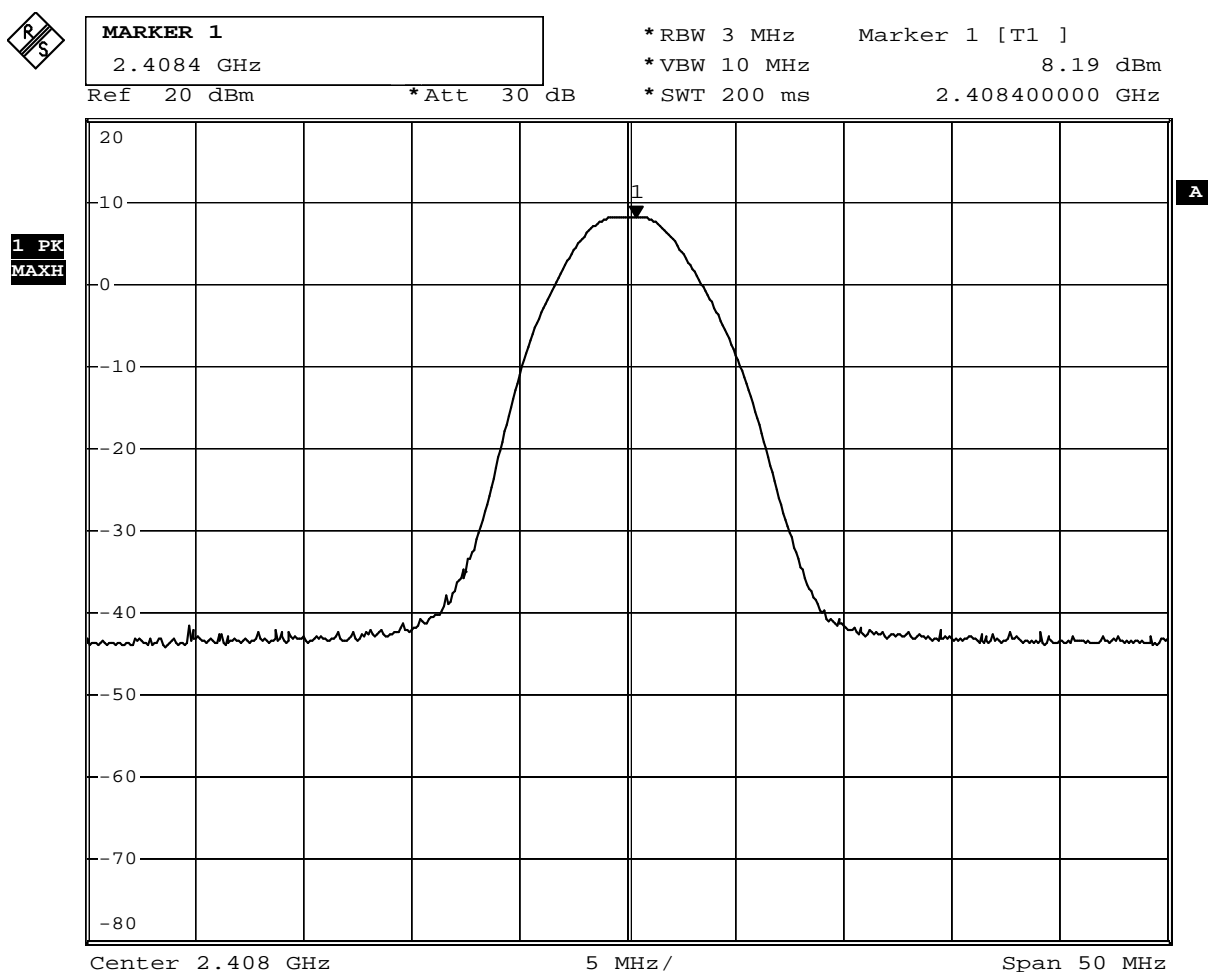
The measurement uncertainty is defined as ± 1.27 dB.

2.7. Test Result

Product	Portable 2.4G Digital Wireless Microphone		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmitter (TX)		
Date of Test	2011/08/18	Test Site	SR7

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2408.0	8.19	1Watt= 30 dBm	Pass
25	2440.5	8.55	1Watt= 30 dBm	Pass
27	2475.5	8.43	1Watt= 30 dBm	Pass

Channel 00



Comment: A:\2

Date: 31.AUG.2011 13:45:00

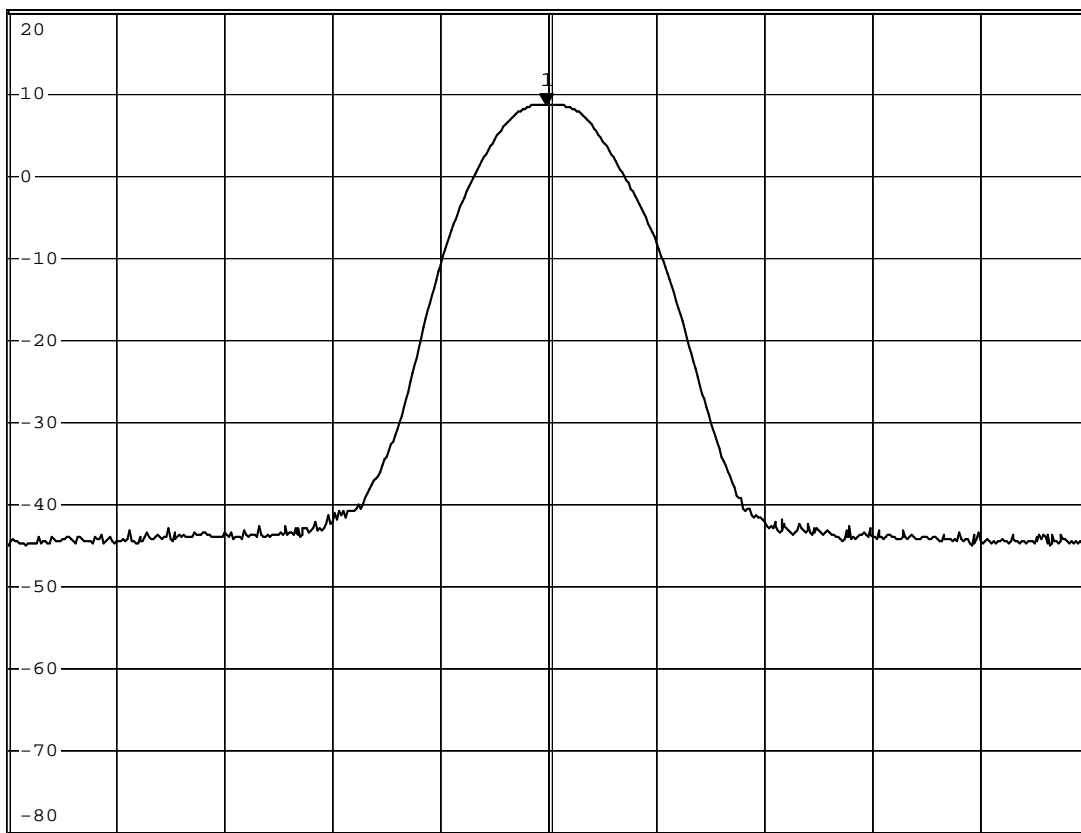
Channel 25



MARKER 1
 2.4404 GHz
 Ref 20 dBm *Att 30 dB

*RBW 3 MHz Marker 1 [T1]
 *VBW 10 MHz 8.55 dBm
 *SWT 200 ms 2.440400000 GHz

1 PK
 MAXH



Center 2.4405 GHz 5 MHz/ Span 50 MHz

Comment: A:\2

Date: 31.AUG.2011 13:47:19

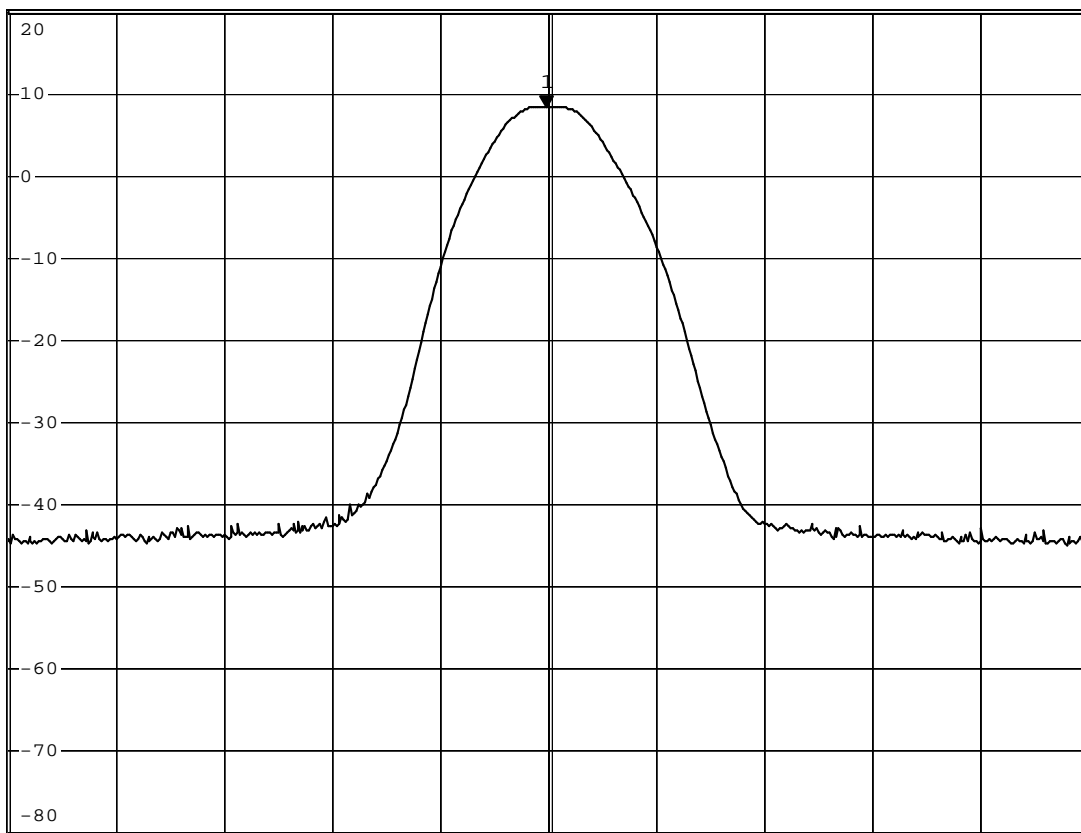
Channel 27



MARKER 1
2.4754 GHz
Ref 20 dBm *Att 30 dB

*RBW 3 MHz Marker 1 [T1]
*VBW 10 MHz 8.43 dBm
*SWT 200 ms 2.475400000 GHz

1 PK
MAXH



Center 2.4755 GHz 5 MHz/ Span 50 MHz

Comment: A:\2

Date: 31.AUG.2011 13:48:38

3. Radiated Emission

3.1. Test Equipment

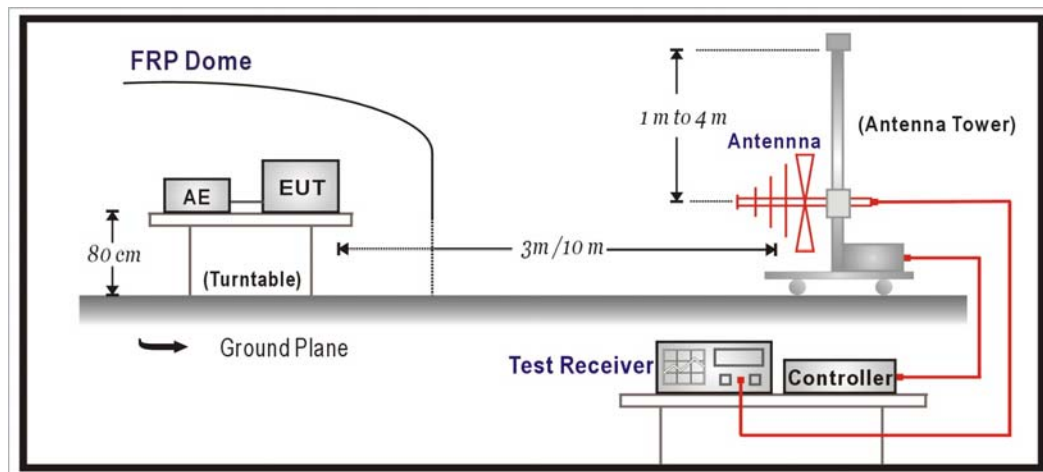
The following test equipments are used during the test:

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	SCHAFFNER	CBL6112B	2895	2012/08/14
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120D	743	2012/02/24
Pre-Amplifier	MITEQ	AMF-4D-005180-24-10P	888003	2011/12/16
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2012/03/10
PSA Series Spectrum analyzer	Agilent	E4440A	MY46187335	2012/01/06
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2012/03/21

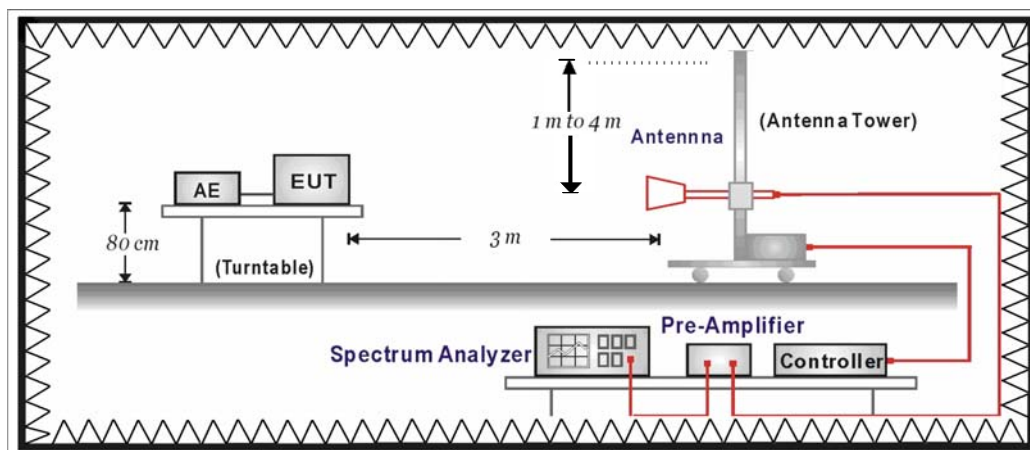
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

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.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
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 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: 2010

3.6. Uncertainty

The measurement uncertainty

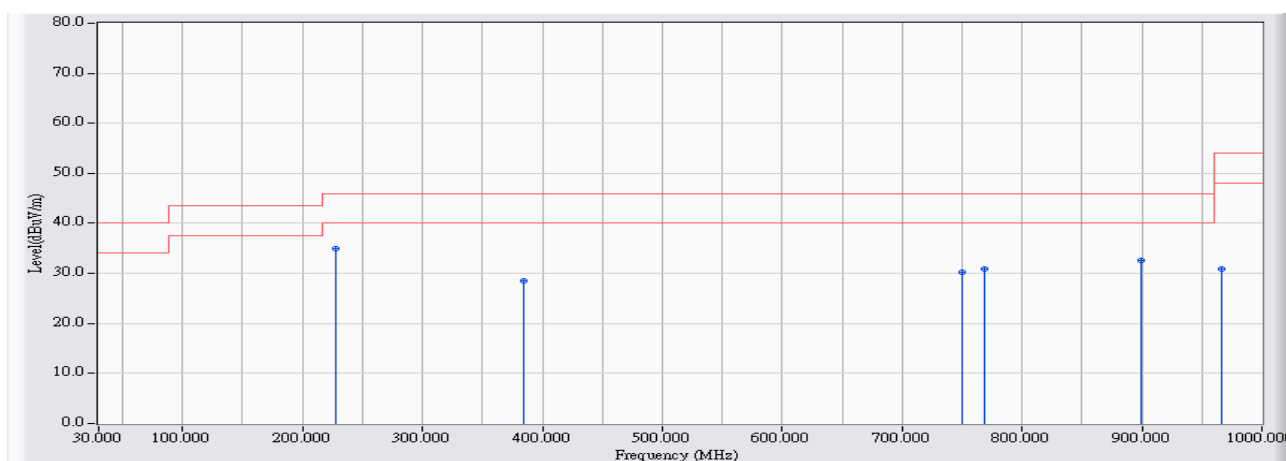
30MHz~1GHz as $\pm 3.43\text{dB}$

1GHz~26.5GHz as $\pm 3.65\text{dB}$

3.7. Test Result

Under 1GHz Spurious:

Site : CB1	Time : 2011/08/20 - 17:45
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_EFS_30-1G(2010-12) - HORIZONTAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : TX_2440.5MHz

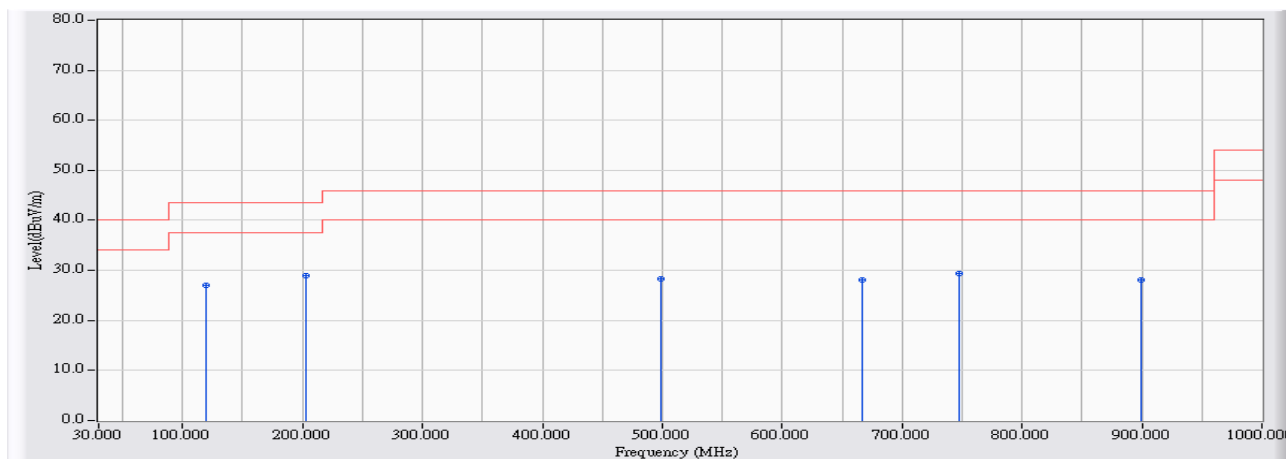


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	227.233	-13.128	48.002	34.874	-11.126	46.000	QUASIPeAK
2		384.050	-8.315	36.813	28.498	-17.502	46.000	QUASIPeAK
3		749.417	-3.947	34.116	30.170	-15.830	46.000	QUASIPeAK
4		768.817	-3.717	34.518	30.801	-15.199	46.000	QUASIPeAK
5		899.767	-2.911	35.583	32.672	-13.328	46.000	QUASIPeAK
6		966.050	-2.313	33.243	30.930	-23.070	54.000	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.

Site : CB1	Time : 2011/08/20 - 17:50
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_EFS_30-1G(2010-12) - VERTICAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : TX_2440.5MHz



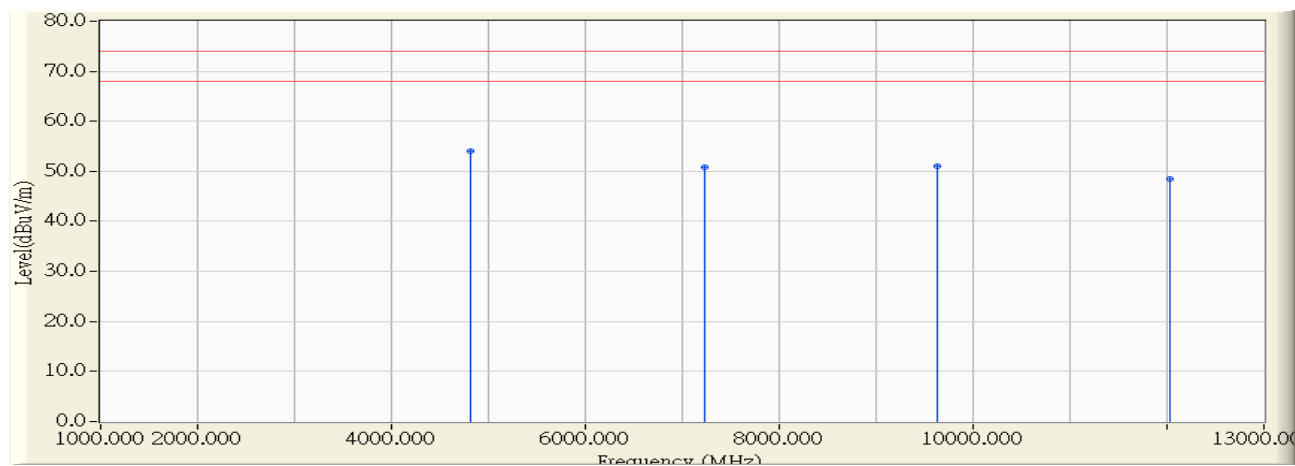
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		118.917	-12.284	39.345	27.062	-16.438	43.500	QUASIPeAK
2	*	202.983	-14.898	43.923	29.026	-14.474	43.500	QUASIPeAK
3		498.833	-6.097	34.369	28.272	-17.728	46.000	QUASIPeAK
4		666.967	-4.666	32.767	28.101	-17.899	46.000	QUASIPeAK
5		747.800	-3.965	33.249	29.284	-16.716	46.000	QUASIPeAK
6		899.767	-2.911	30.916	28.005	-17.995	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.

Above 1GHz Spurious:

Site : CB1	Time : 2011/08/19 - 22:15
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2011-05) - HORIZONTAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : 2408MHz

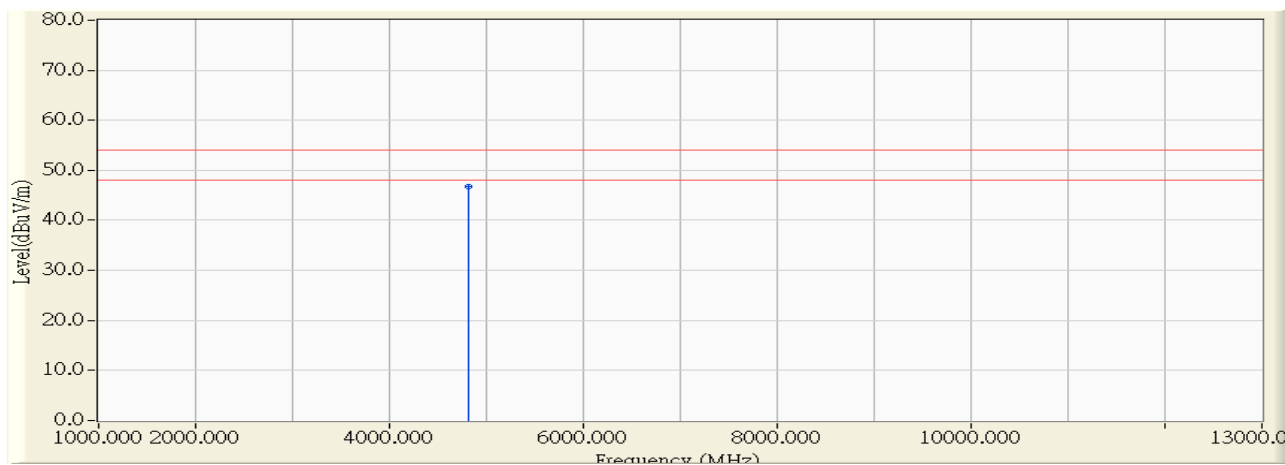


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4815.000	-1.522	55.630	54.108	-19.892	74.000	54.000	AVERAGE
2		7225.480	4.738	46.110	50.848	-23.152	74.000	54.000	AVERAGE
3		9630.080	8.088	43.030	51.118	-22.882	74.000	54.000	AVERAGE
4		12030.640	10.222	38.320	48.542	-25.458	74.000	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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2011/08/19 - 22:24
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2011-05) - HORIZONTAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : 2408MHz

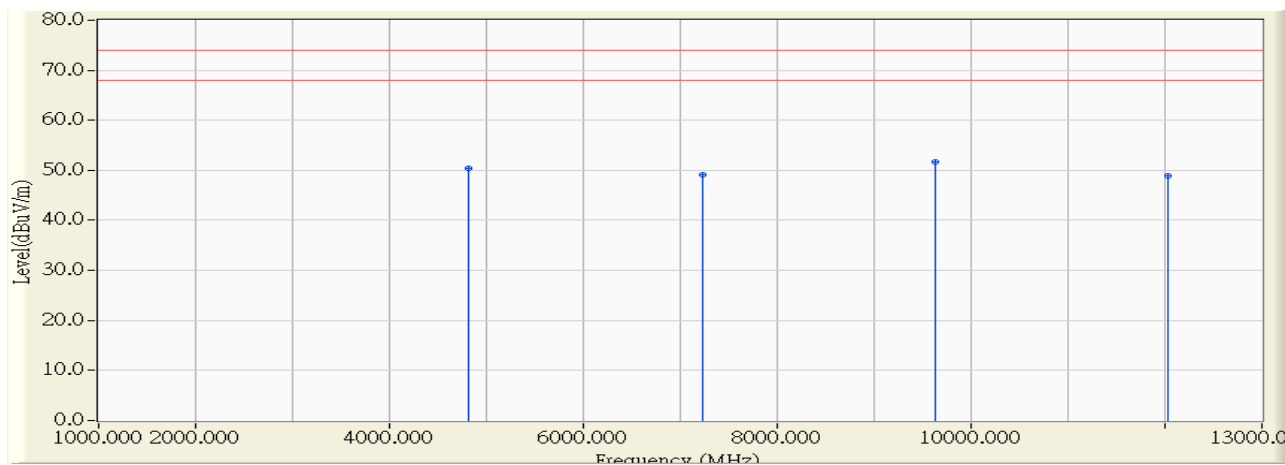


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4816.000	-1.520	48.230	46.710	-7.290	74.000	54.000	AVERAGE

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2011/08/19 - 22:16
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2011-05) - VERTICAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : 2408MHz

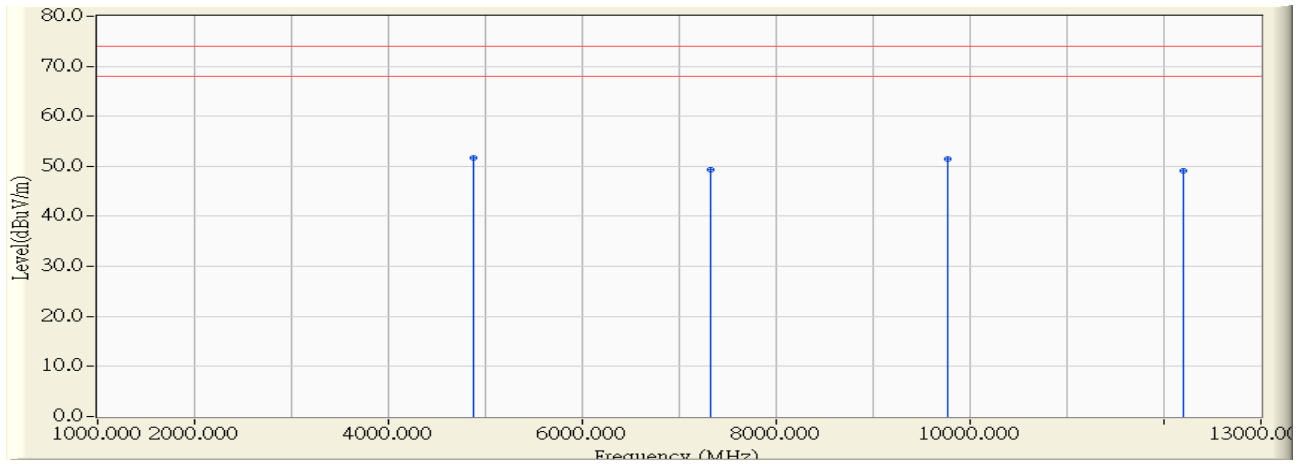


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	4814.840	-1.522	51.910	50.388	-23.612	74.000	54.000	AVERAGE
2	7225.360	4.738	44.310	49.048	-24.952	74.000	54.000	AVERAGE
3	* 9629.960	8.088	43.580	51.668	-22.332	74.000	54.000	AVERAGE
4	12037.760	10.223	38.780	49.003	-24.997	74.000	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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2011/08/19 - 22:18
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2011-05) - HORIZONTAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : 2440.5MHz

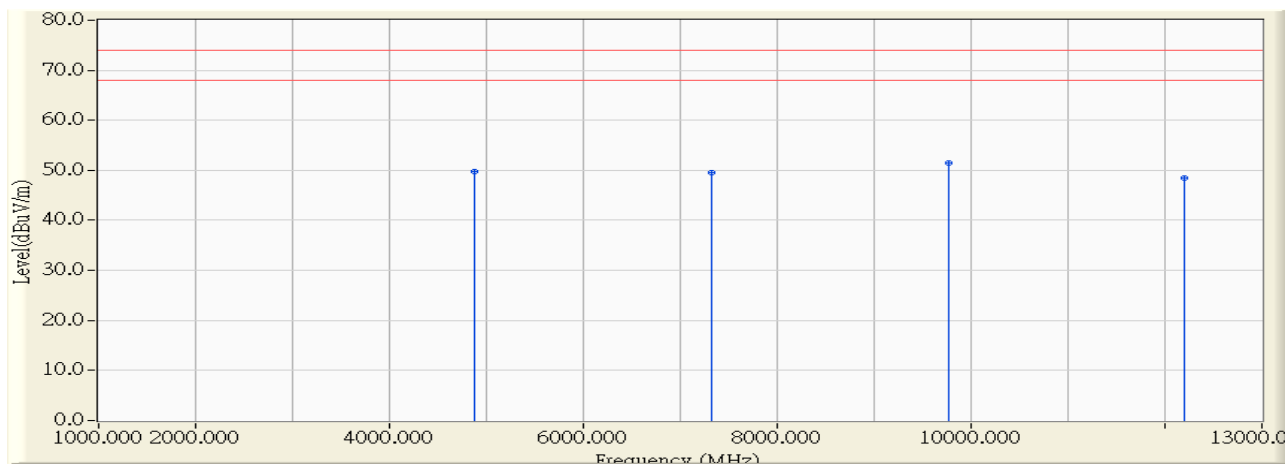


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4880.000	-1.382	53.020	51.638	-22.362	74.000	54.000	AVERAGE
2		7320.260	4.913	44.520	49.432	-24.568	74.000	54.000	AVERAGE
3	*	9763.600	8.950	42.570	51.520	-22.480	74.000	54.000	AVERAGE
4		12204.420	10.239	38.940	49.180	-24.820	74.000	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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2011/08/19 - 22:18
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2011-05) - VERTICAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : 2440.5MHz

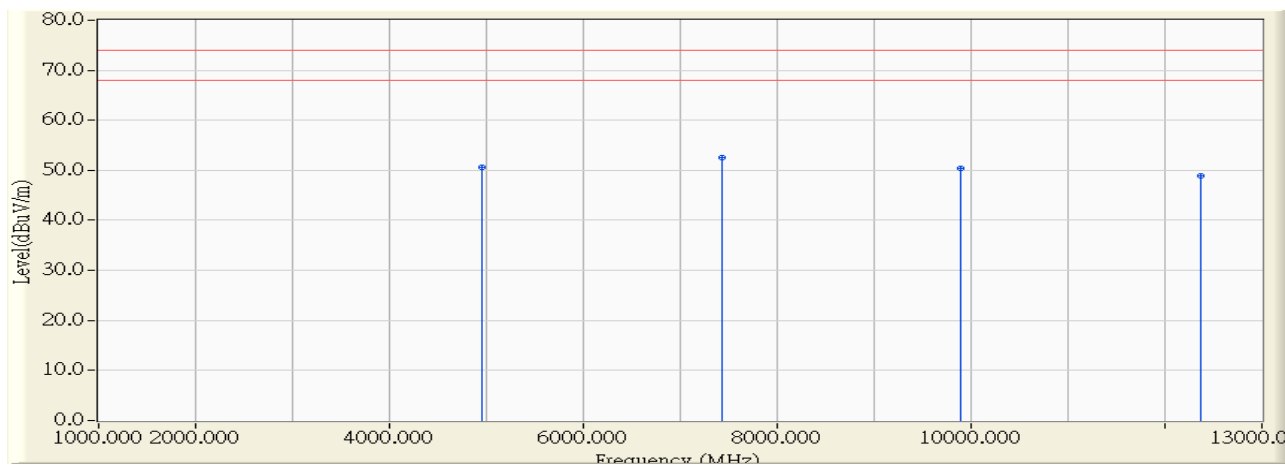


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	4881.960	-1.377	51.080	49.703	-24.297	74.000	54.000	AVERAGE
2	7319.660	4.911	44.610	49.521	-24.479	74.000	54.000	AVERAGE
3	* 9763.680	8.951	42.610	51.561	-22.439	74.000	54.000	AVERAGE
4	12197.180	10.239	38.320	48.559	-25.441	74.000	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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2011/08/19 - 22:19
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2011-05) - HORIZONTAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : 2475.5MHz

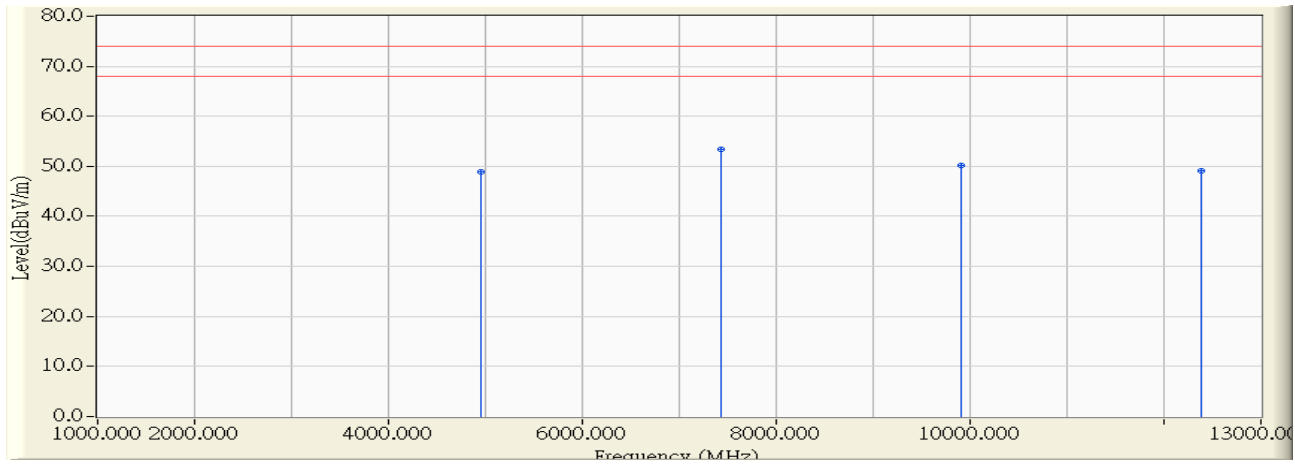


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4950.160	-1.230	51.740	50.510	-23.490	74.000	54.000	AVERAGE
2	*	7427.700	5.109	47.420	52.529	-21.471	74.000	54.000	AVERAGE
3		9899.880	9.829	40.660	50.490	-23.510	74.000	54.000	AVERAGE
4		12375.100	10.257	38.580	48.837	-25.163	74.000	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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2011/08/19 - 22:20
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2011-05) - VERTICAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : 2475.5MHz

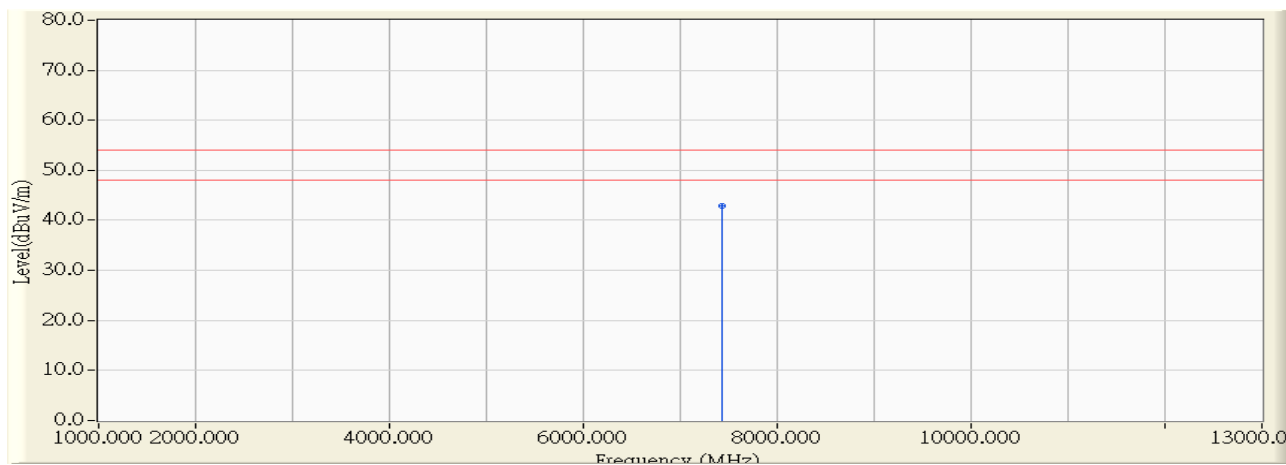


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4949.840	-1.231	50.050	48.819	-25.181	74.000	54.000	AVERAGE
2	*	7427.860	5.110	48.210	53.319	-20.681	74.000	54.000	AVERAGE
3		9904.080	9.856	40.240	50.097	-23.903	74.000	54.000	AVERAGE
4		12379.380	10.257	38.790	49.047	-24.953	74.000	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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2011/08/19 - 22:37
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2011-05) - VERTICAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : 2475.5MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	7427.622	5.109	37.880	42.989	-11.011	74.000	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.
7. The Emission above 13GHz were not included is because their levels are too low.

4. RF Conducted Emission

4.1. Test Equipment

The following test equipments are used during the test:

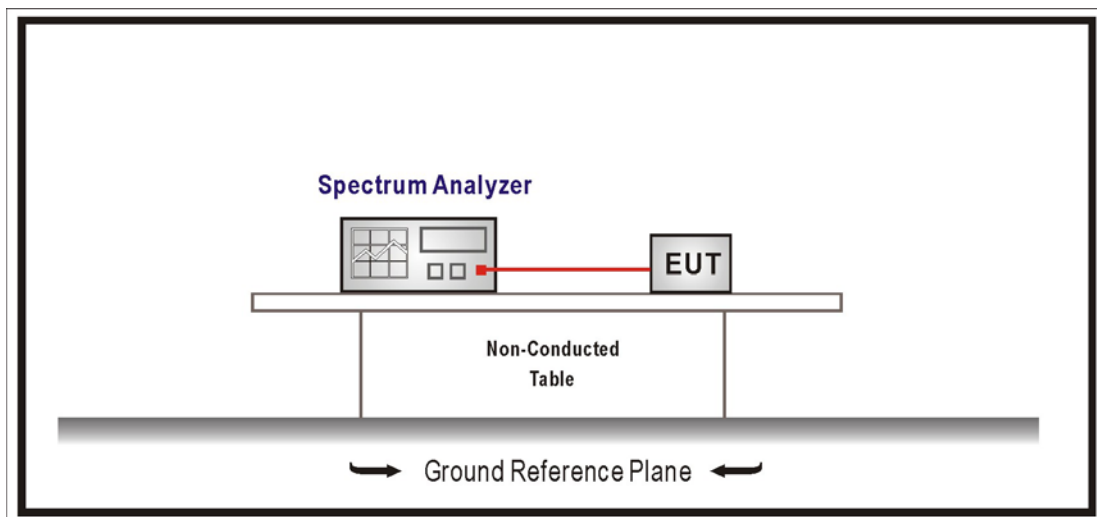
RF Antenna Conducted Test / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2012/01/16

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 either an RF conducted or a 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

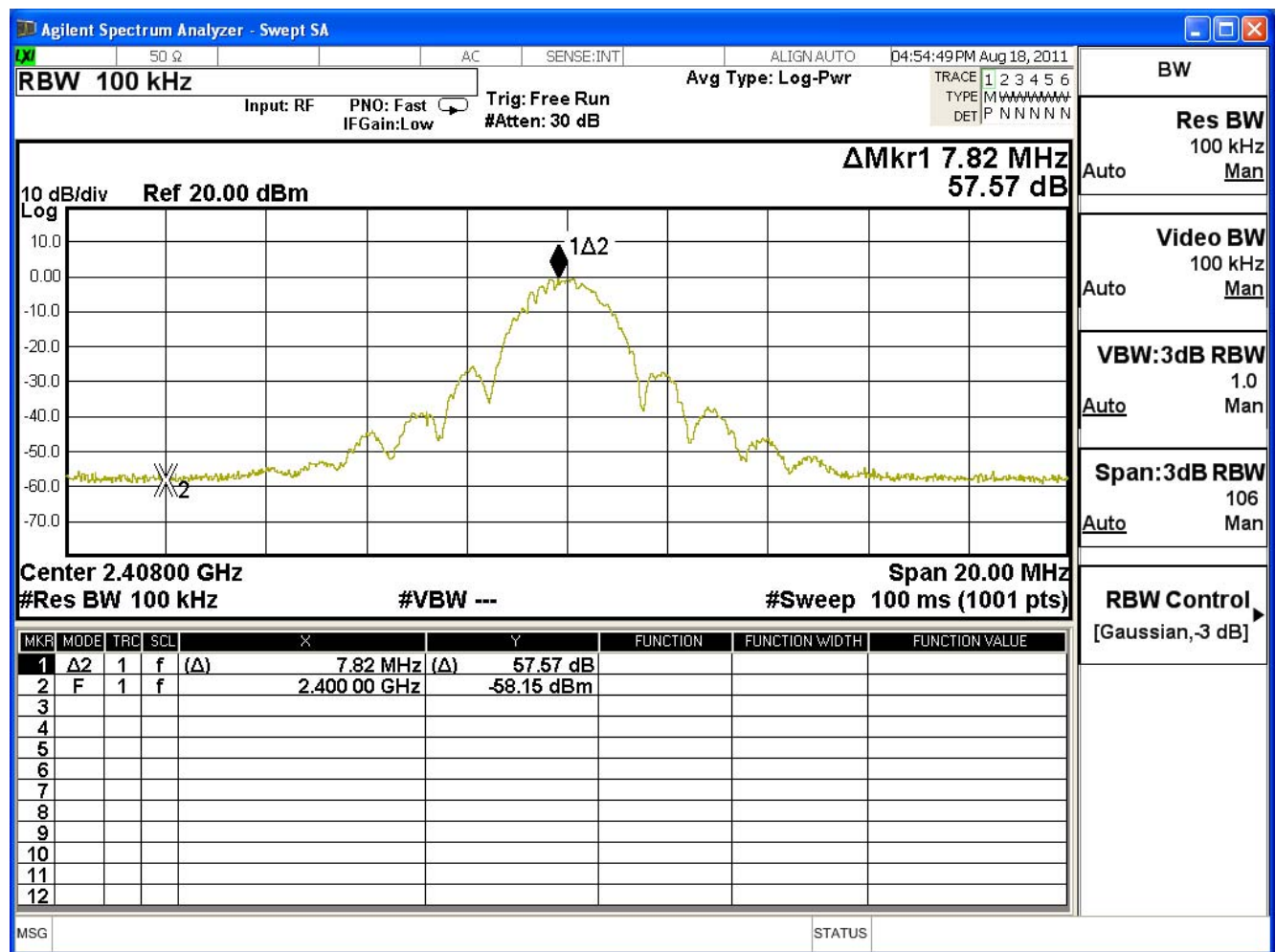
The EUT was setup according to ANSI C63.4, 2009 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

4.5. Test Specification

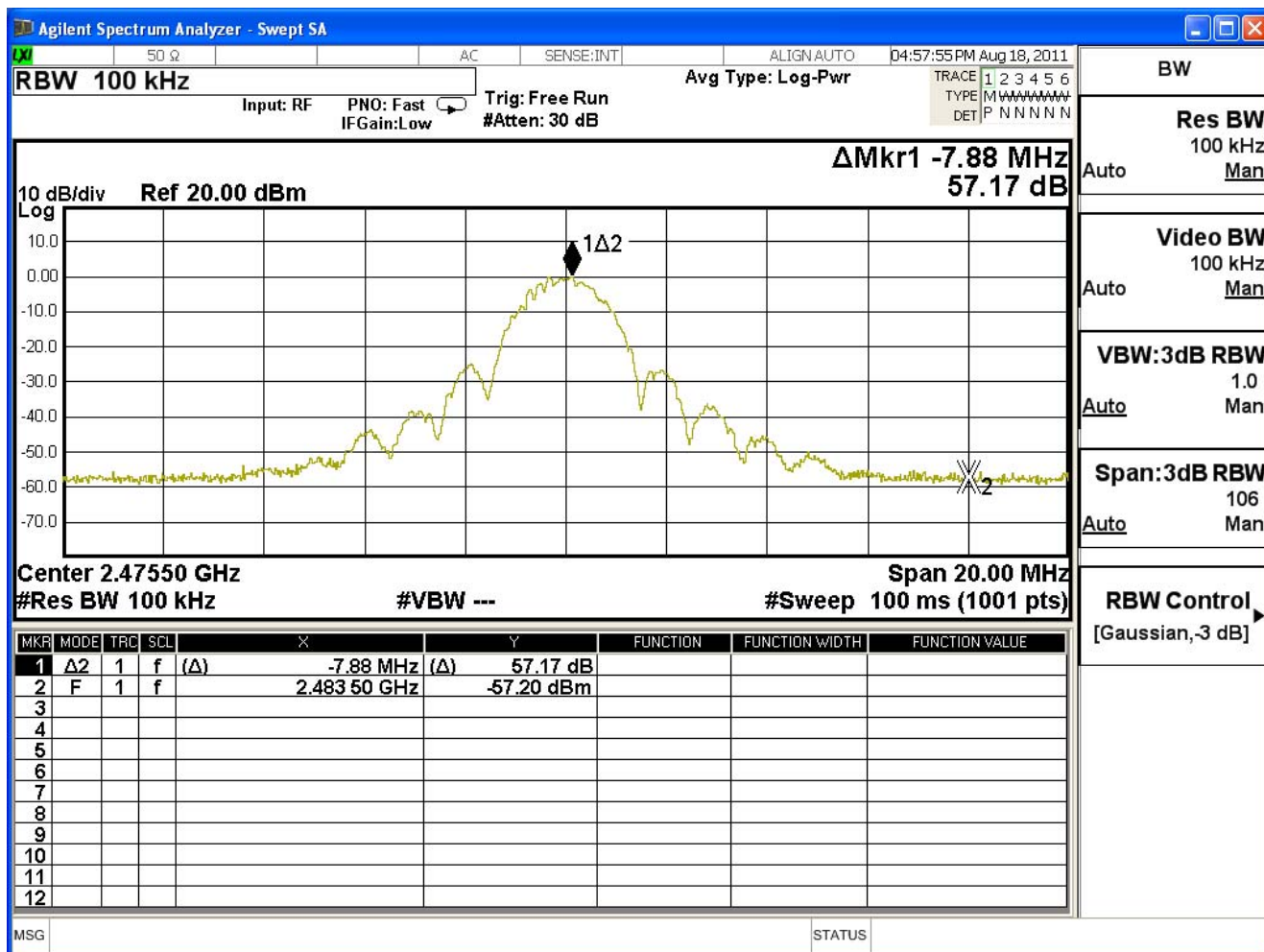
According to FCC Part 15 Subpart C Paragraph 15.247: 2010

Product	Portable 2.4G Digital Wireless Microphone		
Test Item	RF Conducted Emissions		
Test Mode	Mode 1: Transmit		
Date of Test	2011/08/18	Test Site	SR7

Channel No.	Frequency (MHz)	Measure Level (dBc)	Required Limit (dBc)	Result
00	2408.0	57.57	≥ 20	Pass
27	2475.5	57.17	≥ 20	Pass



Channel 27



Channel 00 (30MHz-25GHz)

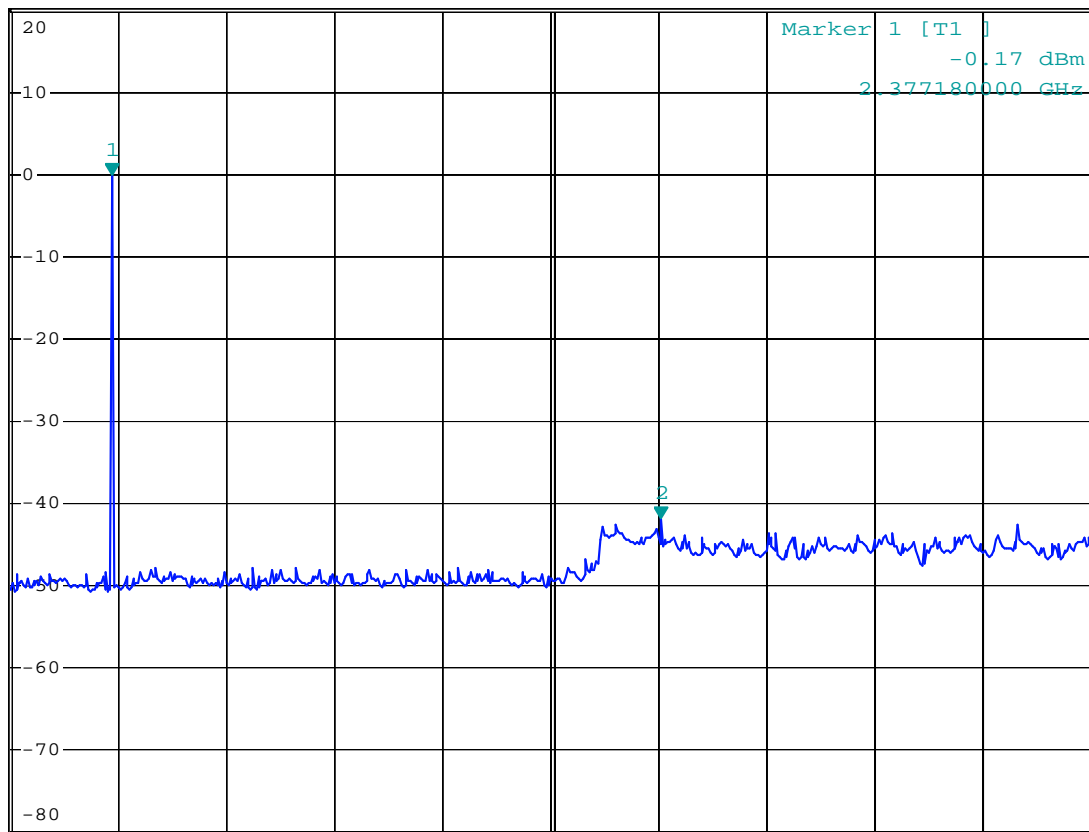


*RBW 100 kHz Marker 2 [T1]
 *VBW 100 kHz -41.73 dBm
 SWT 2.5 s 15.061940000 GHz

Ref 20 dBm

*Att 30 dB

1 PK
VIEW



Start 30 MHz

2.497 GHz/

Stop 25 GHz

Comment: A:\2

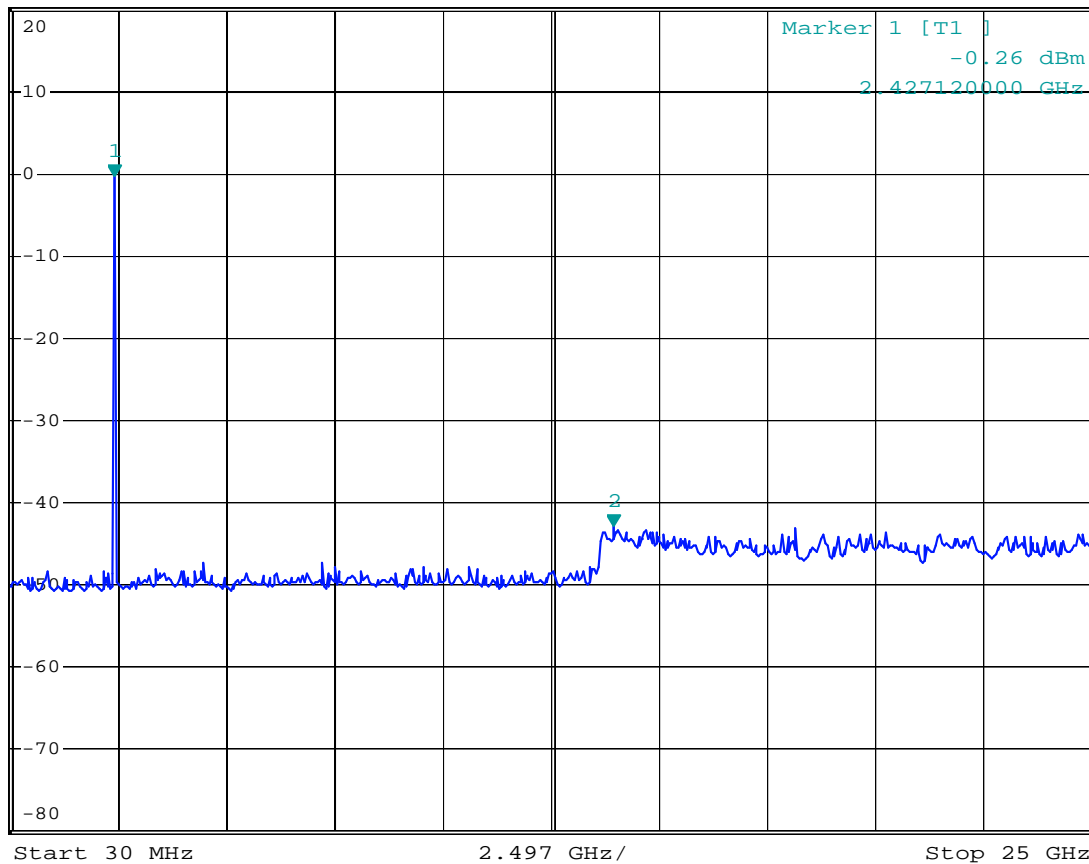
Date: 25.AUG.2011 15:42:09

Channel 25 (30MHz-25GHz)



*RBW 100 kHz Marker 2 [T1]
 *VBW 100 kHz -42.87 dBm
 Ref 20 dBm *Att 30 dB SWT 2.5 s 13.963260000 GHz

1 PK
VIEW



PRN

Comment: A:\2
 Date: 25.AUG.2011 15:43:18

Channel 27(30MHz-25GHz)



*RBW 100 kHz Marker 2 [T1]
 *VBW 100 kHz -41.63 dBm
 SWT 2.5 s 13.863380000 GHz

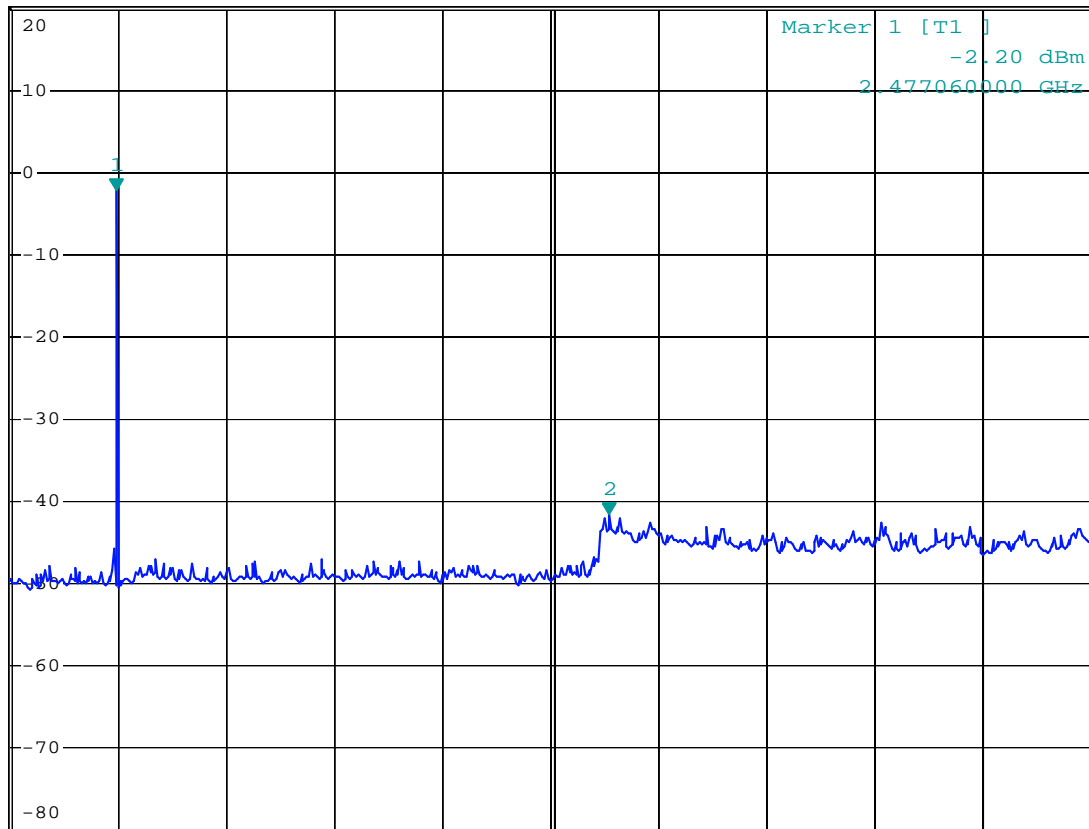
Ref 20 dBm

*Att 30 dB

SWT 2.5 s

13.863380000 GHz

1 PK
VIEW



A

PRN

Start 30 MHz

2.497 GHz/

Stop 25 GHz

Comment: A:\2

Date: 25.AUG.2011 15:44:52

5. Band Edge

5.1. Test Equipment

The following test equipments are used during the test:

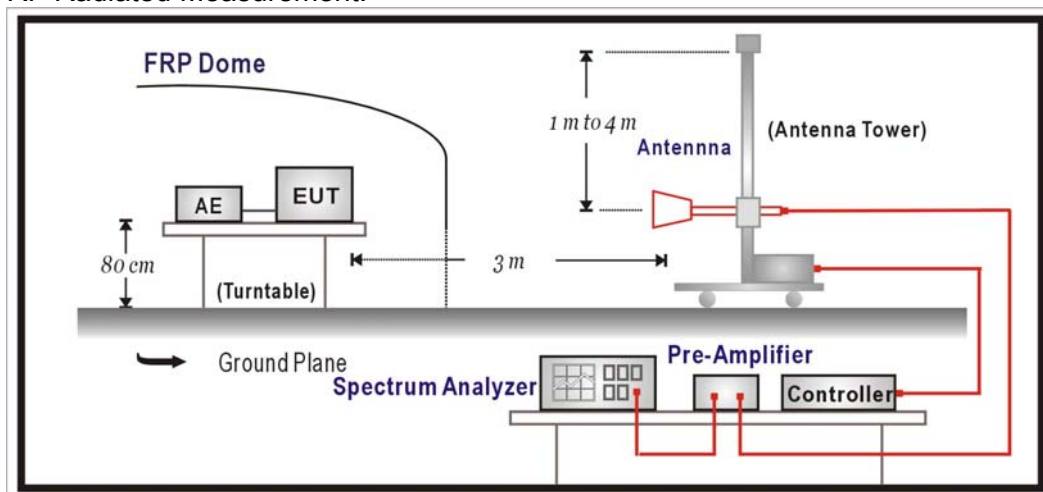
Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120D	743	2012/02/24
PSA Series Spectrum analyzer	Agilent	E4440A	MY46187335	2012/01/06
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2012/03/21

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: 2010

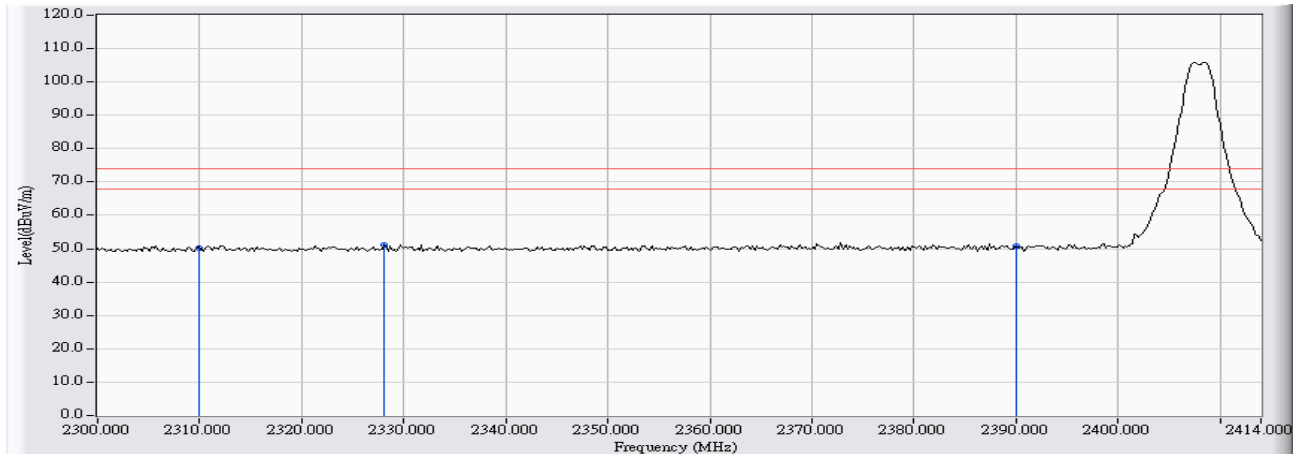
5.6. Uncertainty

The measurement uncertainty

± 3.9 dB above 1GHz

5.7. Test Result

Site : CB1	Time : 2011/08/20 - 12:42
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-12) - HORIZONTAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : TX_2408MHz

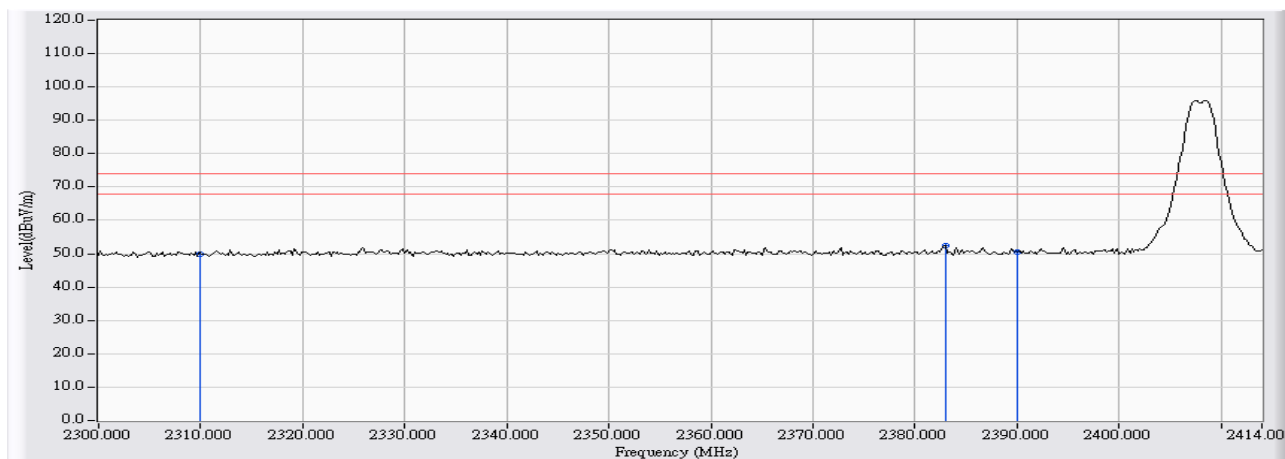


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	25.682	24.480	50.162	-23.838	74.000	PEAK
2	*	2328.120	25.749	25.505	51.254	-22.746	74.000	PEAK
3		2390.000	25.978	24.733	50.711	-23.289	74.000	PEAK

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 : 2011/08/20 - 12:32
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-12) - VERTICAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : TX_2408MHz

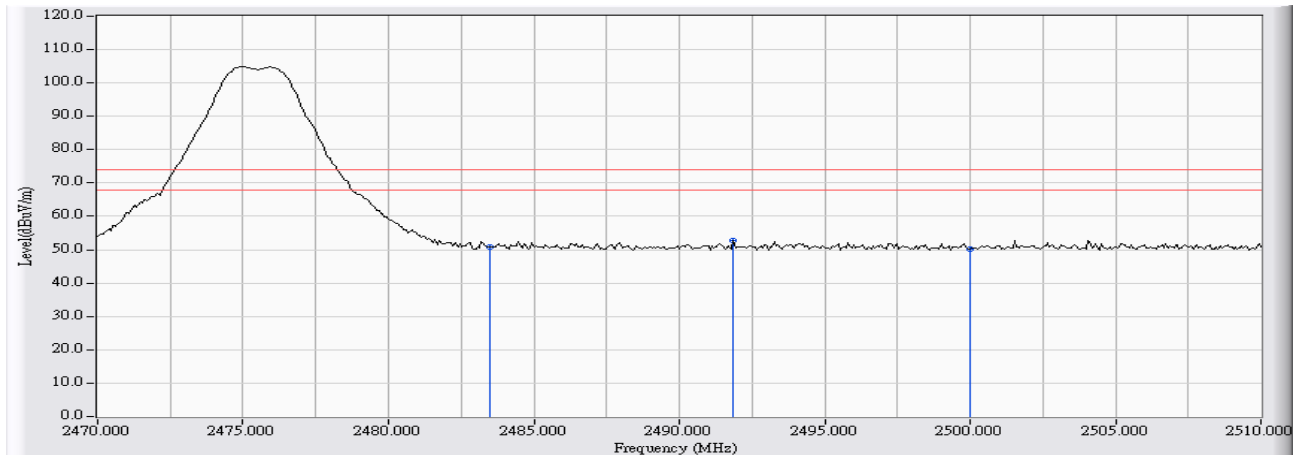


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	25.682	24.324	50.006	-23.994	74.000	PEAK
2	*	2383.030	25.953	26.327	52.280	-21.720	74.000	PEAK
3		2390.000	25.978	24.605	50.583	-23.417	74.000	PEAK

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 : 2011/08/20 - 12:50
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-12) - HORIZONTAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : TX_2475.5MHz

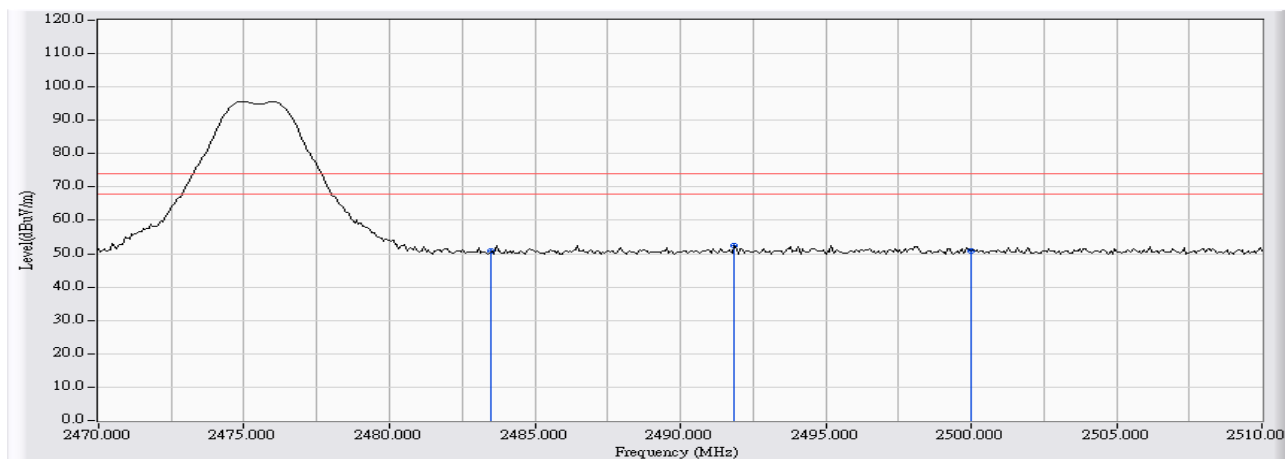


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	26.325	24.493	50.818	-23.182	74.000	PEAK
2	*	2491.867	26.356	26.513	52.869	-21.131	74.000	PEAK
3		2500.000	26.384	23.722	50.105	-23.895	74.000	PEAK

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 : 2011/08/20 - 12:53
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-12) - VERTICAL	Power : DC 3V (Power by Battery)
EUT : Portable 2.4G Digital Wireless Microphone	Note : TX_2475.5MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	26.325	24.396	50.721	-23.279	74.000	PEAK
2	*	2491.867	26.356	26.056	52.412	-21.588	74.000	PEAK
3		2500.000	26.384	24.562	50.945	-23.055	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.

6. Number of hopping frequency

6.1. Test Equipment

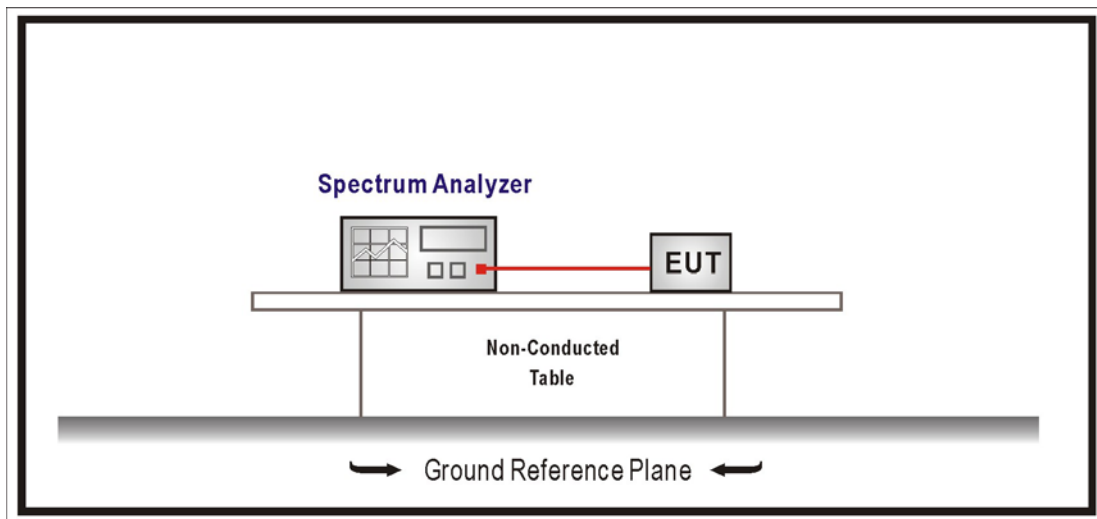
The following test equipments are used during the test:

Number Of Hopping Frequency / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2012/01/16

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

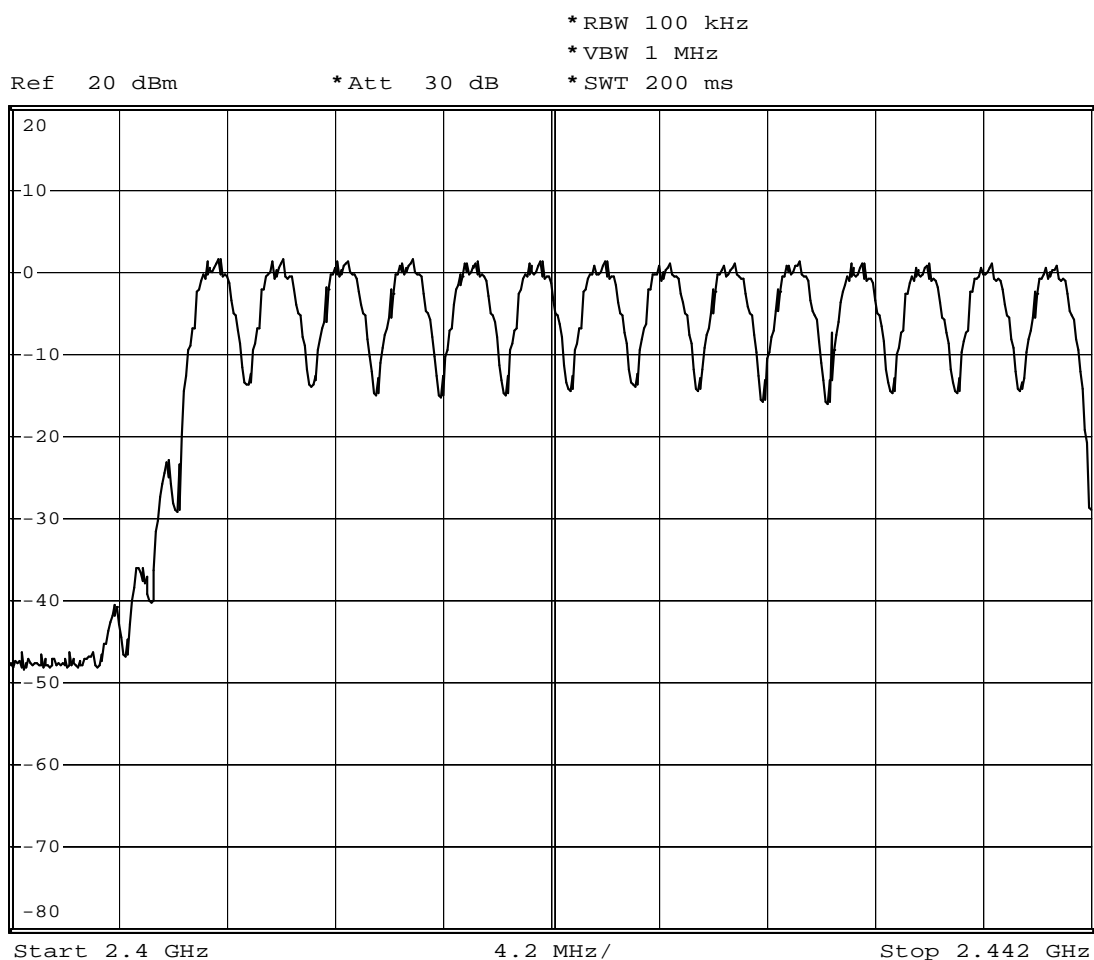
According to FCC Part 15 Subpart C Paragraph 15.247: 2010

6.6. Test Result

Product	Portable 2.4G Digital Wireless Microphone		
Test Item	Number of hopping frequency		
Test Mode	Mode 1: Transmitter (TX)		
Date of Test	2011/08/18	Test Site	SR7

Frequency Range (MHz)	Measure Level (Hopping Channel)	Limit (Hopping Channel)	Result
2408~2475.5	28	≥ 15	Pass

2407~2442MHz



Date: 1.JAN.2000 00:08:40

2442~2476MHz



*RBW 100 kHz

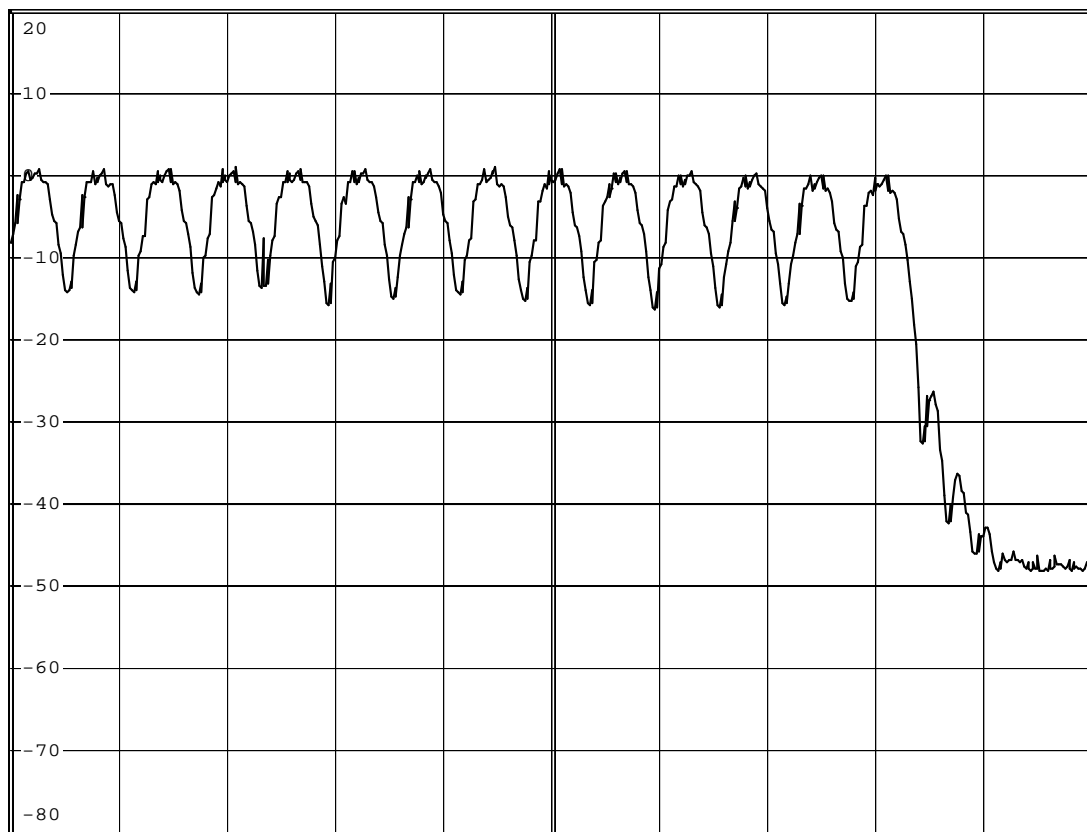
*VBW 1 MHz

*SWT 200 ms

Ref 20 dBm

*Att 30 dB

1 PK
MAXH



Start 2.442 GHz

4.15 MHz/

Stop 2.4835 GHz

Date: 1.JAN.2000 00:15:23

7. Carrier Frequency Separation

7.1. Test Equipment

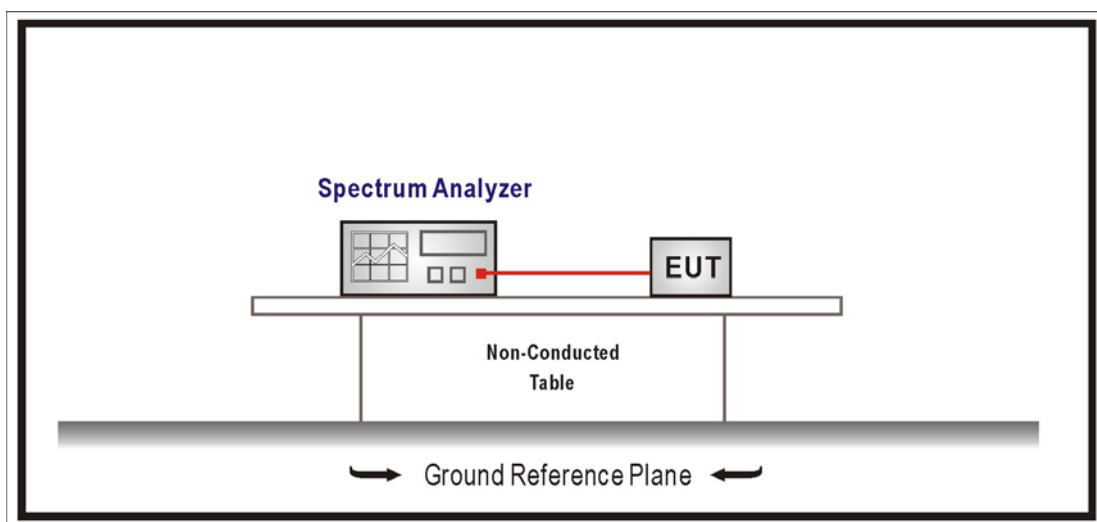
The following test equipment are used during the test:

Carrier Frequency Separation / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2012/01/16

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

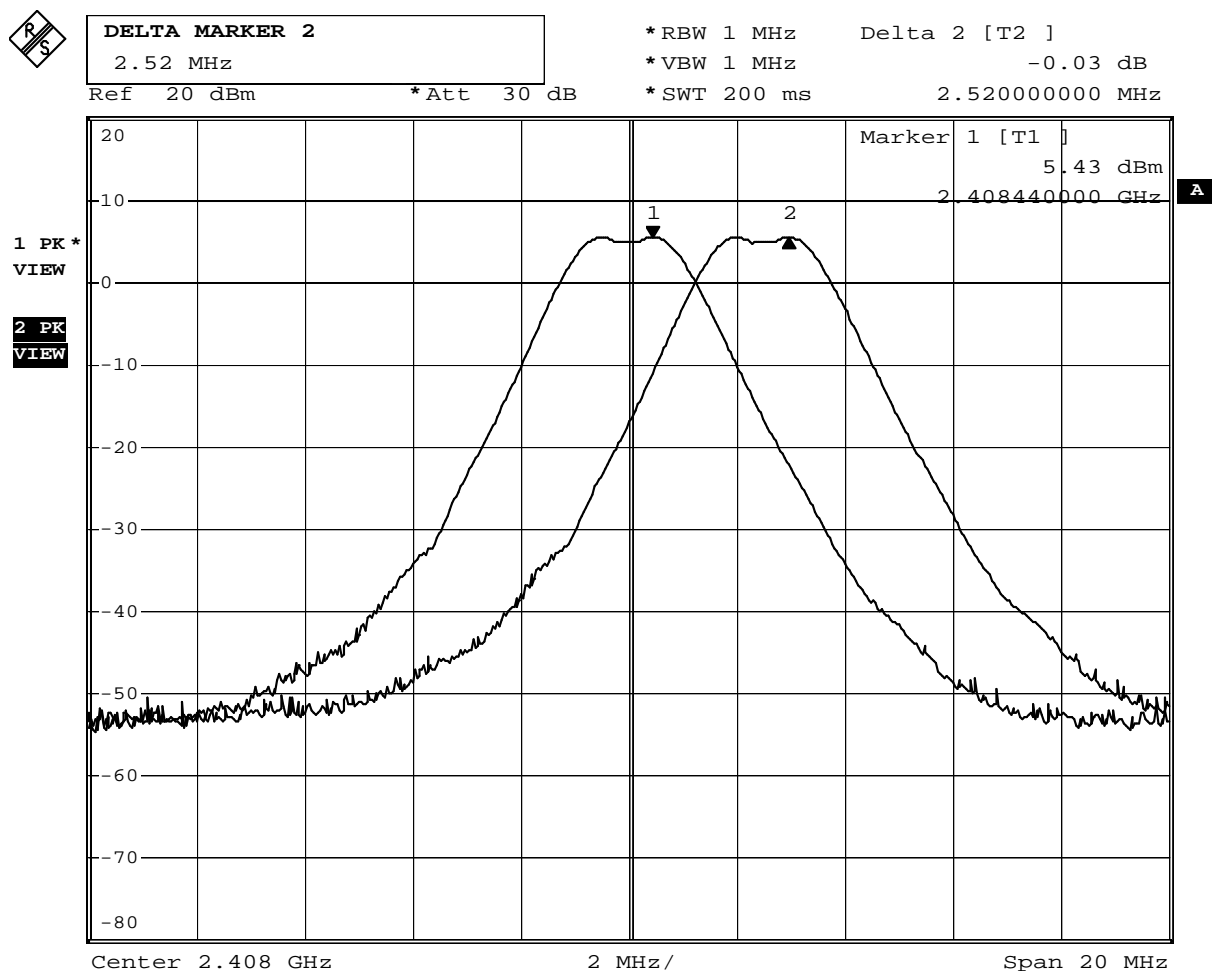
According to FCC Part 15 Subpart C Paragraph 15.247: 2010

7.6. Test Result

Product	Portable 2.4G Digital Wireless Microphone		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmitter (TX)		
Date of Test	2011/08/18	Test Site	SR7

Channel No.	Frequency (MHz)	Measure Level (kHz)	Limit (kHz)	Result
00	2408.0	2520	≥ 1646.66	Pass
25	2440.5	3440	≥ 1646.66	Pass
27	2475.5	2520	≥ 1653.33	Pass

Channel 00



Date: 1.JAN.2000 02:52:41

Channel 25



DELTA MARKER 2

-3.44 MHz

Ref 20 dBm

*Att 30 dB

*RBW 1 MHz

Delta 2 [T2]

*VBW 1 MHz

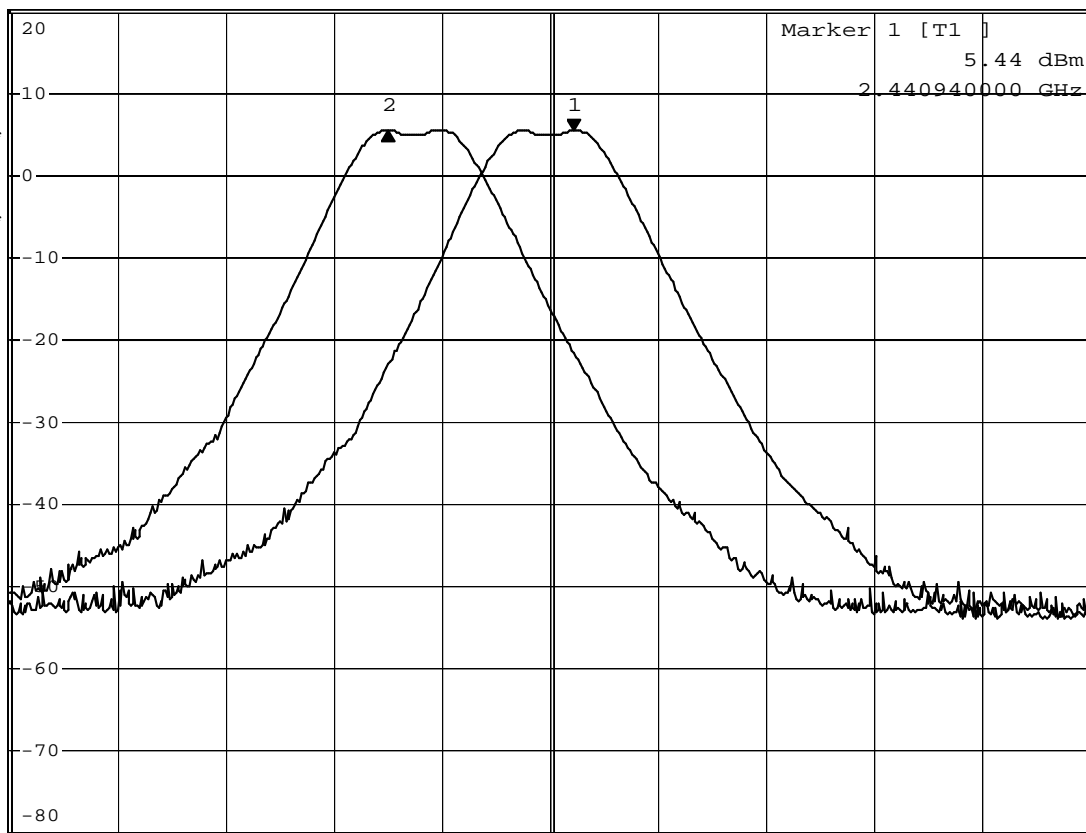
0.06 dB

*SWT 200 ms

-3.440000000 MHz

1 PK *
VIEW

2 PK *
VIEW



Center 2.4405 GHz

2 MHz/

Span 20 MHz

Comment: A:\2

Date: 24.AUG.2011 17:41:29

Channel 27



DELTA MARKER 2

-2.52 MHz

Ref 20 dBm

*Att 30 dB

*RBW 1 MHz

Delta 2 [T2]

*VBW 1 MHz

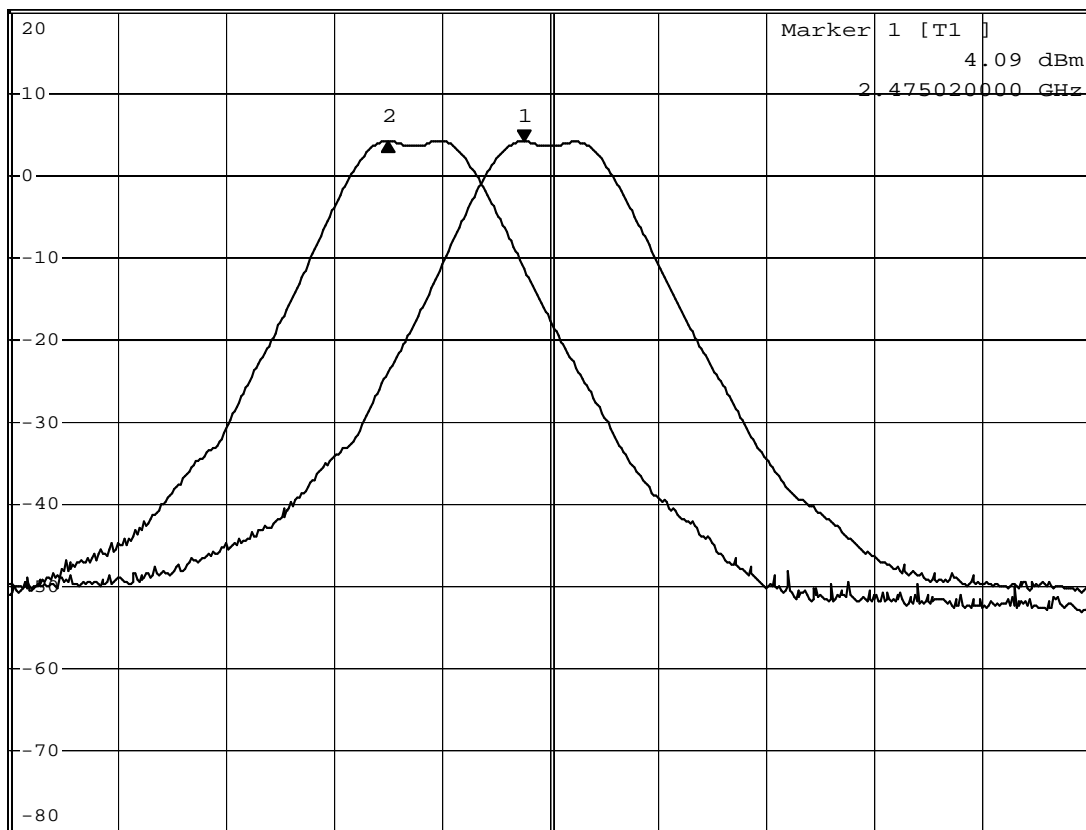
0.07 dB

*SWT 200 ms

-2.520000000 MHz

1 PK
MAXH

2 PK
VIEW



Center 2.4755 GHz

2 MHz/

Span 20 MHz

Comment: A:\2

Date: 24.AUG.2011 17:34:11

8. Occupied Bandwidth

8.1. Test Equipment

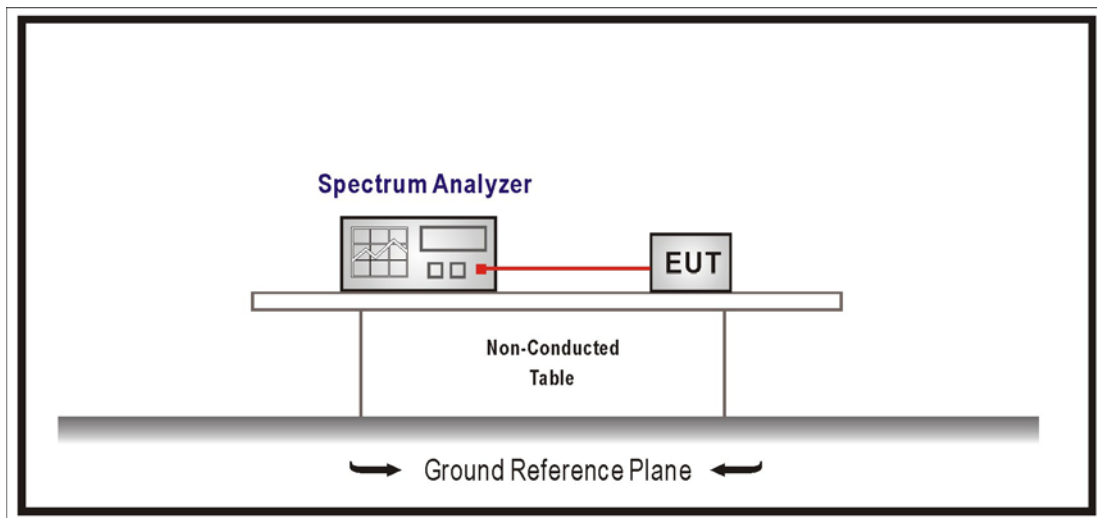
The following test equipment are used during the test:

Occupied Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2012/01/16

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

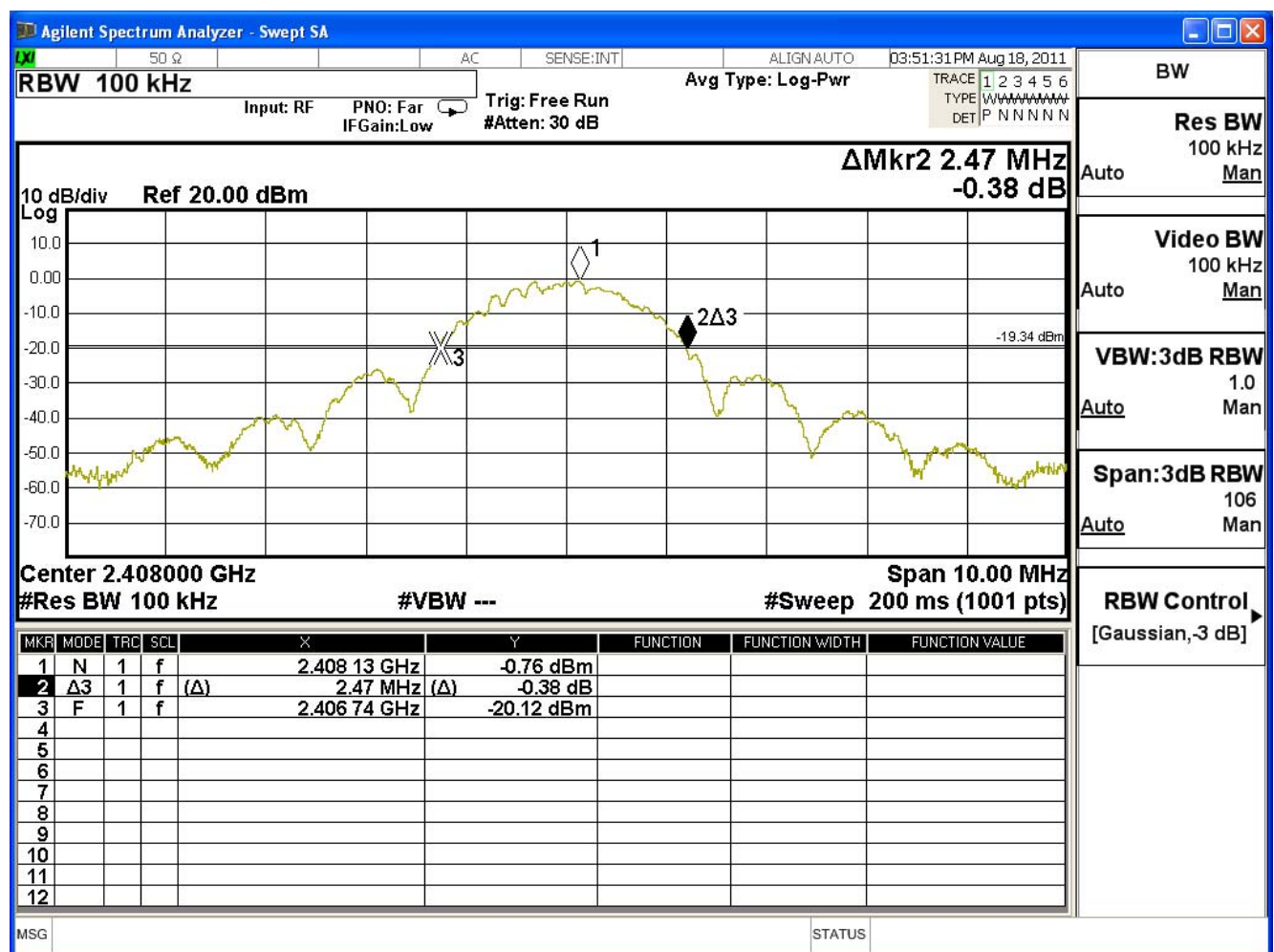
According to FCC Part 15 Subpart C Paragraph 15.247: 2010

8.6. Test Result

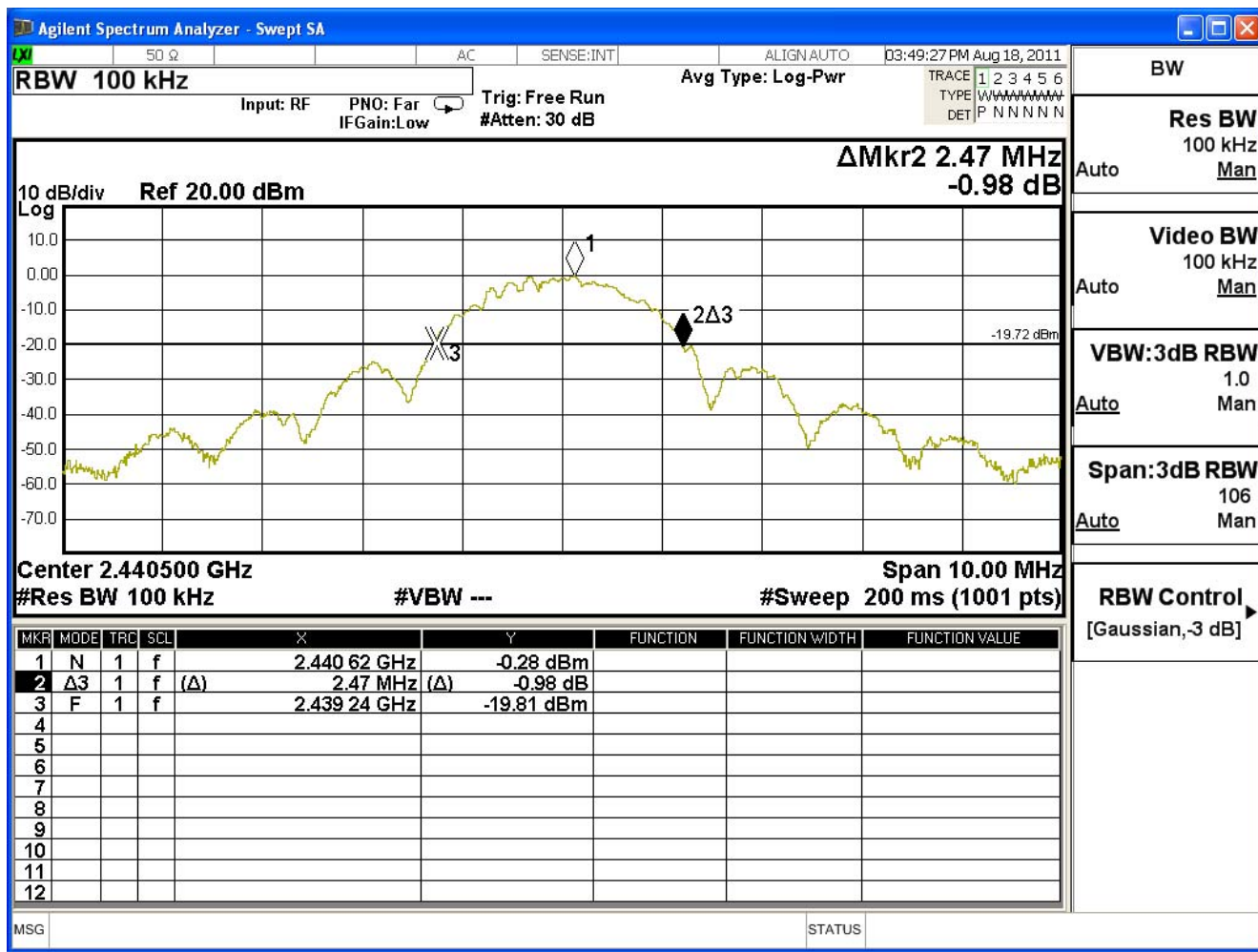
Product	Portable 2.4G Digital Wireless Microphone		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmitter (TX)		
Date of Test	2011/08/18	Test Site	SR7

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)
00	2408.0	2.47	--
25	2440.5	2.47	--
27	2475.5	2.48	--

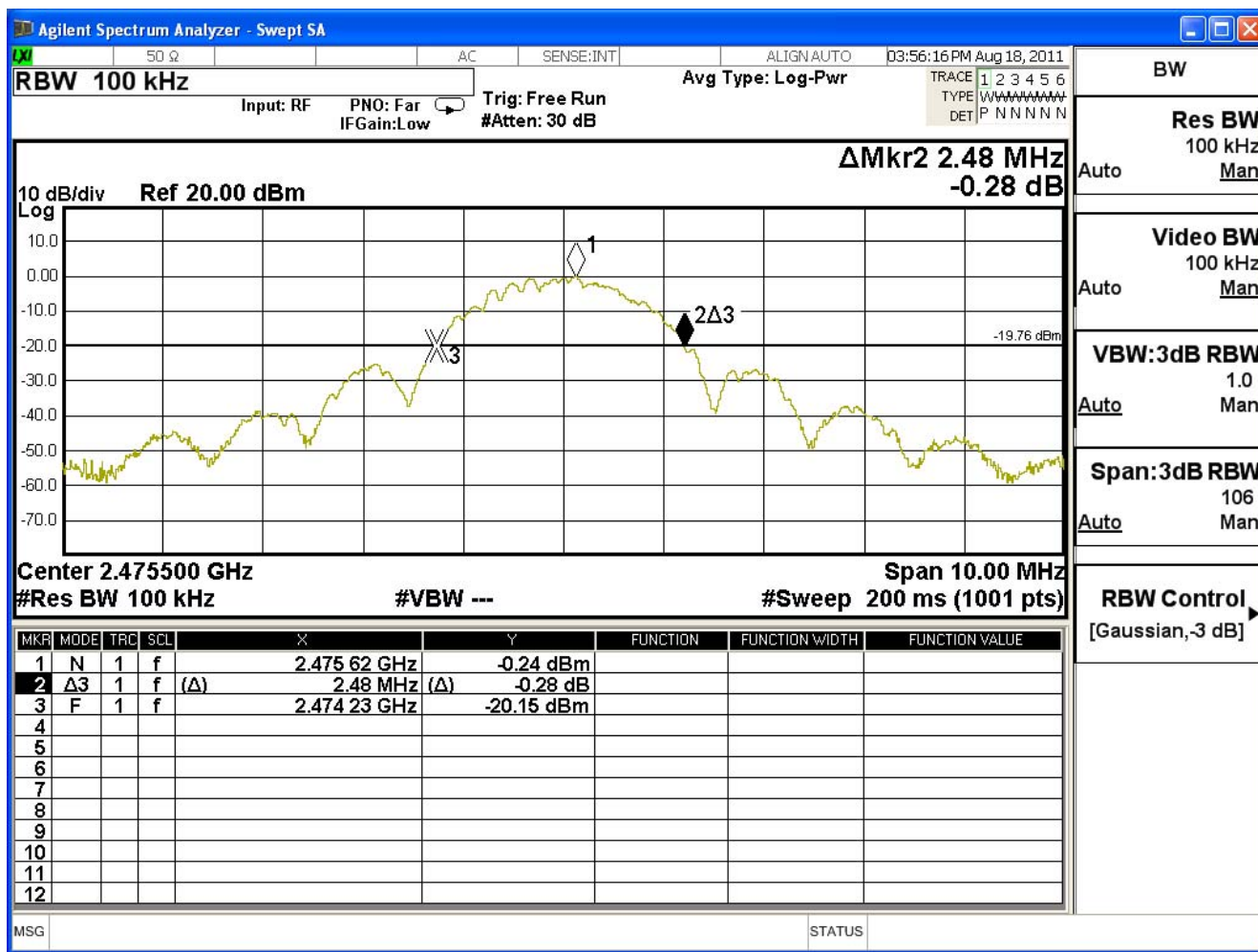
Channel 00



Channel 25



Channel 27



9. Dwell Time

9.1. Test Equipment

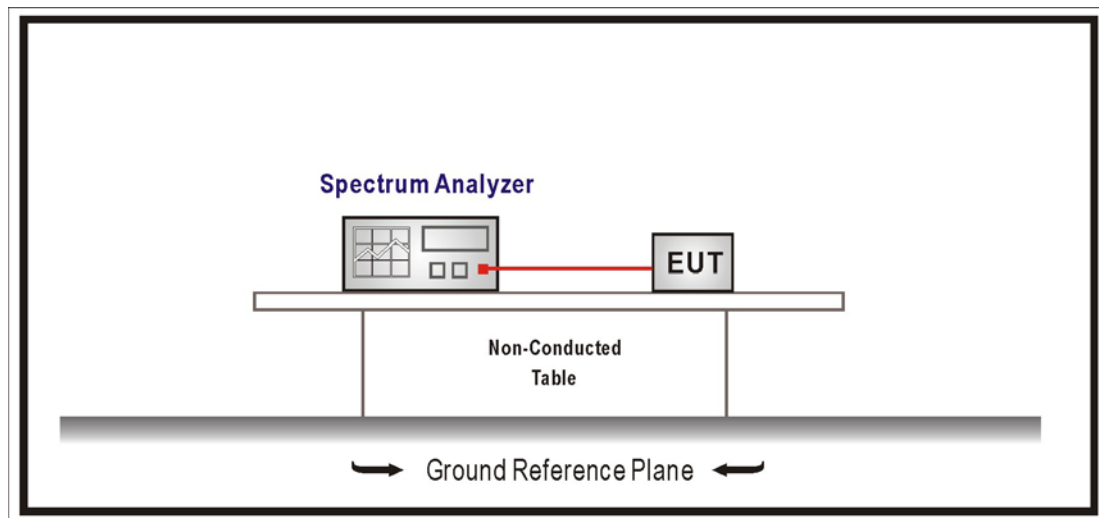
The following test equipment are used during the test:

Dwell Time / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2012/01/16

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 \geq 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: 2010

9.6. Test Result

Product	Portable 2.4G Digital Wireless Microphone		
Test Item	Dwell Time		
Test Mode	Mode 1: Transmitter (TX)		
Date of Test	2011/08/25	Test Site	SR7

Occupancy Time of Frequency Hopping System

A) 2408MHz Test Time Period: $0.4 \times 28 = 11.2\text{sec}$, Hopping Times Within 1sec: $7/20\text{msec} = 350/\text{sec}$

The Maximum Occupancy Time Within 11.2sec: $0.0024 \times (350/28) \times 11.2 = 0.336\text{sec}$.

B) 2440.5MHz Test Time Period: $0.4 \times 28 = 11.2\text{sec}$, Hopping Times Within 1sec: $7/20\text{msec} = 350/\text{sec}$

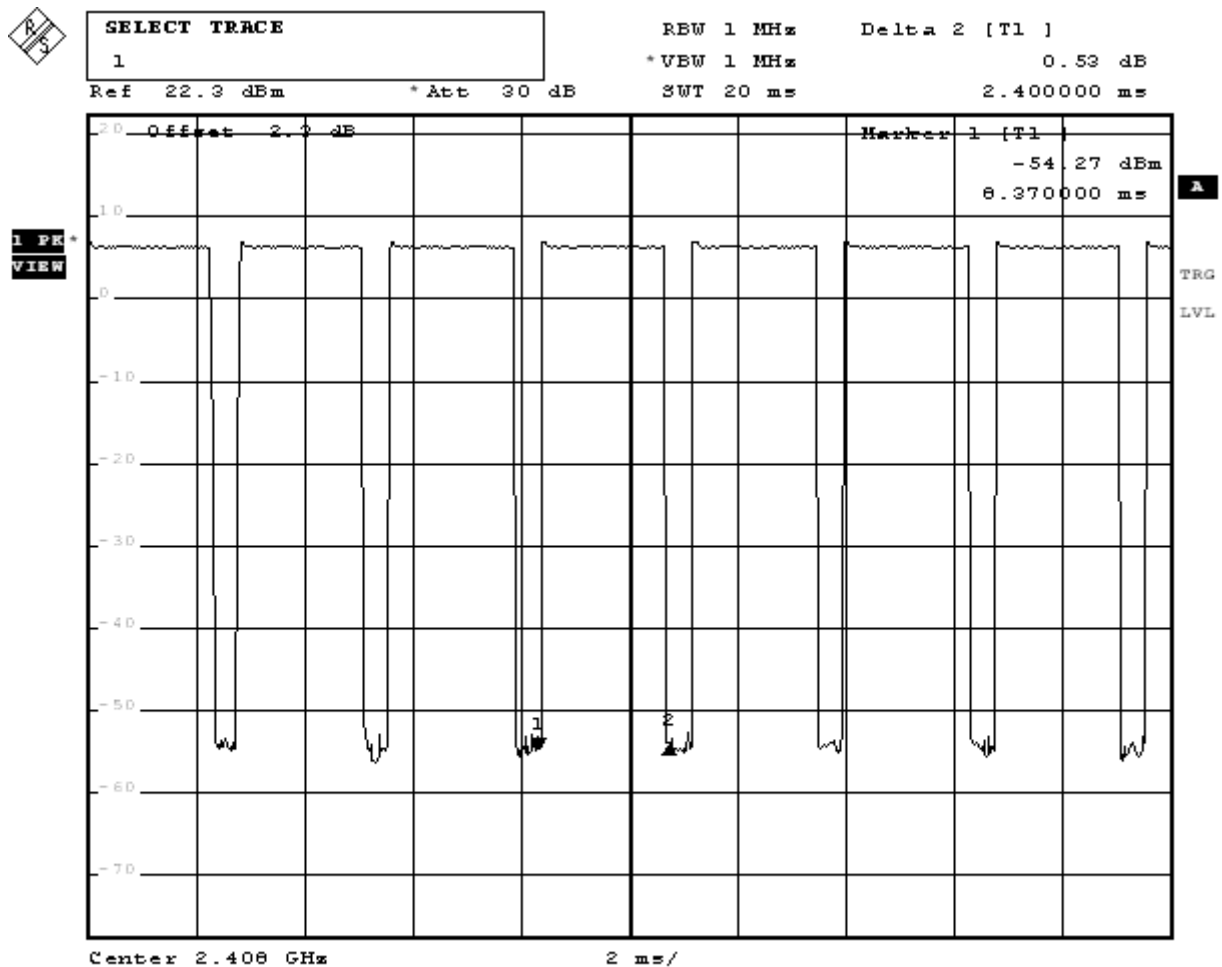
The Maximum Occupancy Time Within 11.2sec: $0.0024 \times (350/28) \times 11.2 = 0.336\text{sec}$.

C) 2475.5MHz Test Time Period: $0.4 \times 28 = 11.2\text{sec}$, Hopping Times Within 1sec: $7/20\text{msec} = 350/\text{sec}$

The Maximum Occupancy Time Within 11.2sec: $0.00224 \times (350/28) \times 11.2 = 0.3136\text{sec}$.

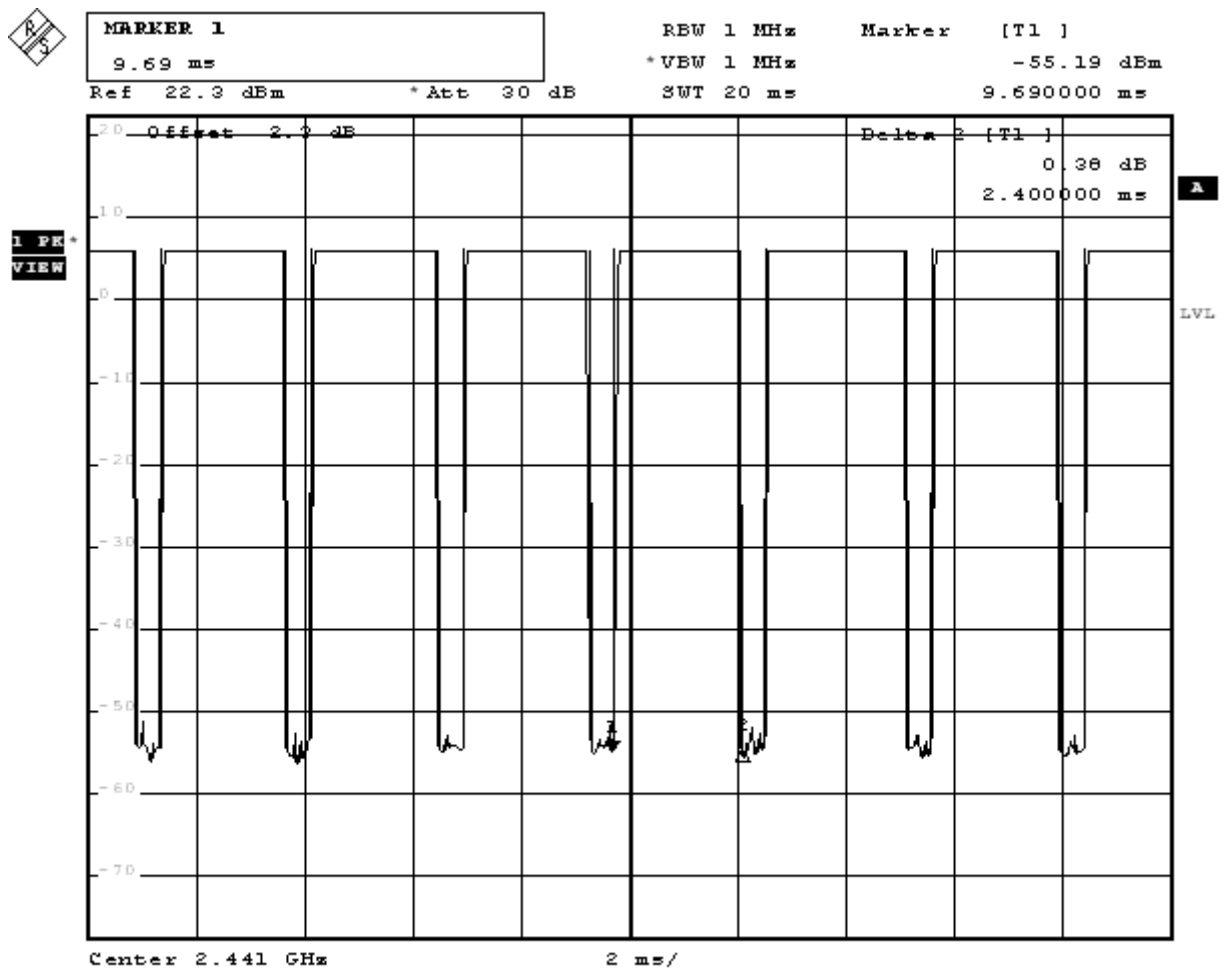
Test Result: The Average Occupancy Time of Each Highest , Middle and Lowest Channel Is Less Than 0.4sec , And Corresponds to The Standard .

Hop rate-2408MHz



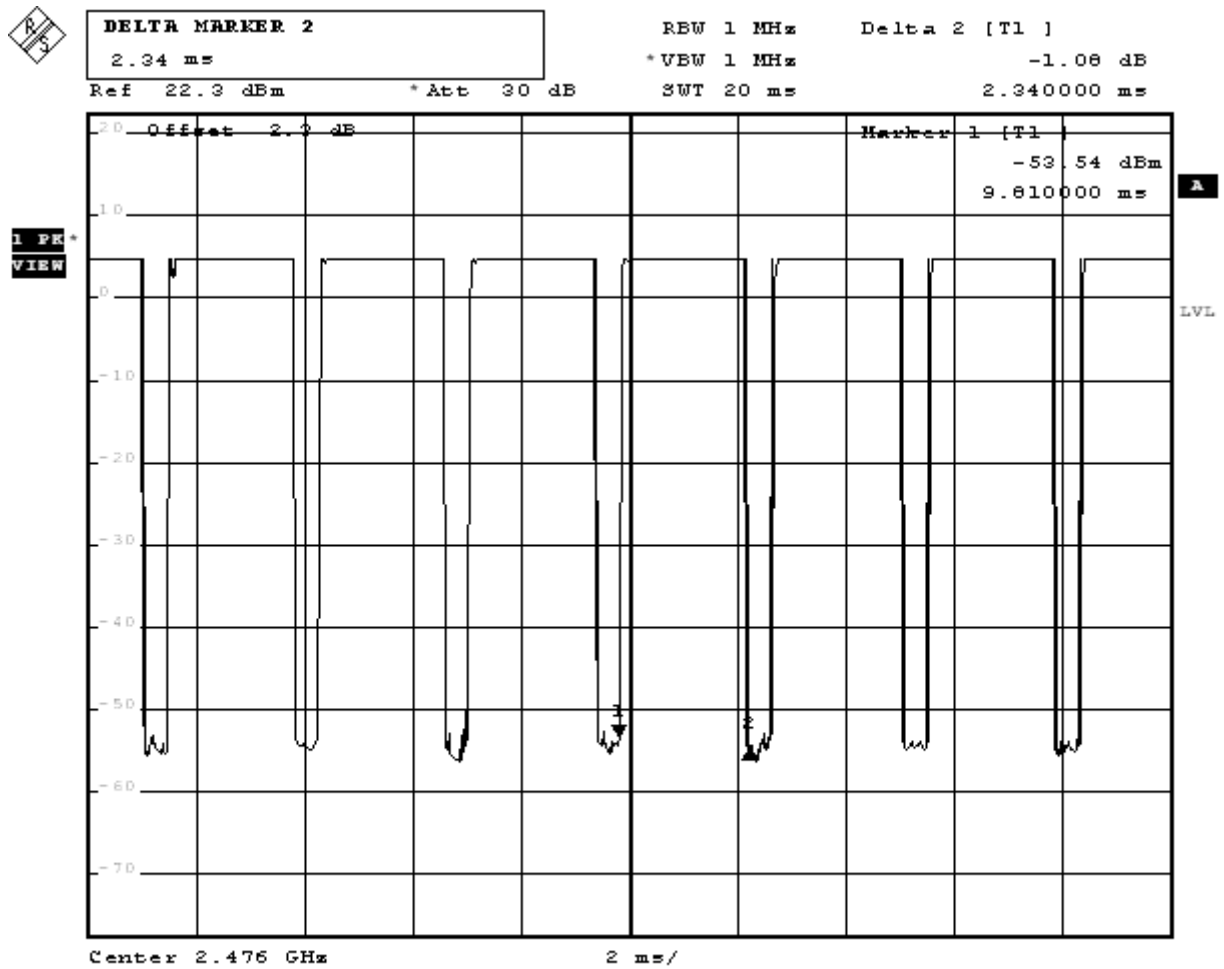
Date: 25.AUG.2011 15:57:52

Hop rate-2440.5MHz



Date: 25.AUG.2011 16:05:17

Hop rate-2475.5MHz



Date: 25.AUG.2011 16:18:07

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