Test Report

Product Name ： 1-to-1 Wireless Audio Transmitter

Model No. ： WA-320

FCC ID. ： ZML-WA320

Applicant ： DJH ENTERPRISES, INC.

Address ： 234 Fischer Ave., COSTA MESA, California 92626
United States

Date of Receipt ： 2011/03/29

Issued Date ： 2011/05/16

Report No. ： 114029R-RFUSP29V01

Report Version ： V1.0

Test Report Certification

Issued Date : 2011/05/16
Report No. : 114029R-RFUSP29V01

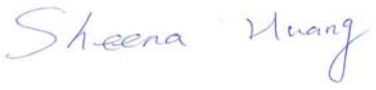
QuieTek

Product Name	:	1-to-1 Wireless Audio Transmitter
Applicant	:	DJH ENTERPRISES, INC.
Address	:	234 Fischer Ave., COSTA MESA, California 92626 United States
Manufacturer	:	DJH ENTERPRISES, INC.
Model No.	:	WA-320
FCC ID.	:	ZML-WA320
EUT Voltage	:	AC 120V/60Hz
Trade Name	:	DJH enterprises, inc
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 : 

(Carol Tsai / Engineering Adm. Specialist)

Reviewed By : 

(Sheena Huang / Engineer)

Approved By : 

(Roy Wang / Manager)

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1. General Information

1.1. EUT Description

Product Name	1-to-1 Wireless Audio Transmitter
Trade Name	DJH enterprises, inc
Model No.	WA-320
Frequency Range	2401.92MHz ~2479.68MHz
Channel Number	8
Type of Modulation	GFSK
Antenna Gain	5dBi
Channel Control	Manual
Antenna Type	Dipole

Component	
Power Adapter	YUNYONG ELECTRONIC CO., LTD, MW41-0500250R I/P: 120V AC 60Hz MAX5W O/P: 5V DC 250mA Cable Out: Non-Shielded, 1.8m

Working Frequency of Each Channel	
Channel	Frequency
1	2401.920 MHz
2	2412.288 MHz
3	2422.656 MHz
4	2433.024 MHz
5	2448.576 MHz
6	2458.944 MHz
7	2469.312 MHz
8	2479.680 MHz

Note:

1. This device is a 1-to-1 Wireless Audio Transmitter, which including 2.4GHz transmitting function.
2. These test results on a sample of the device are for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.247.
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.

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 normal operation, which was shown in this test report and defined as:

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

Test Items	Mode	Result
Conducted Emission	1	Complies
Peak Power Output	1	Complies
Radiated Emission	1	Complies
RF antenna conducted test	1	Complies
Band Edge	1	Complies
Occupied Bandwidth	1	Complies
Power Density	1	Complies

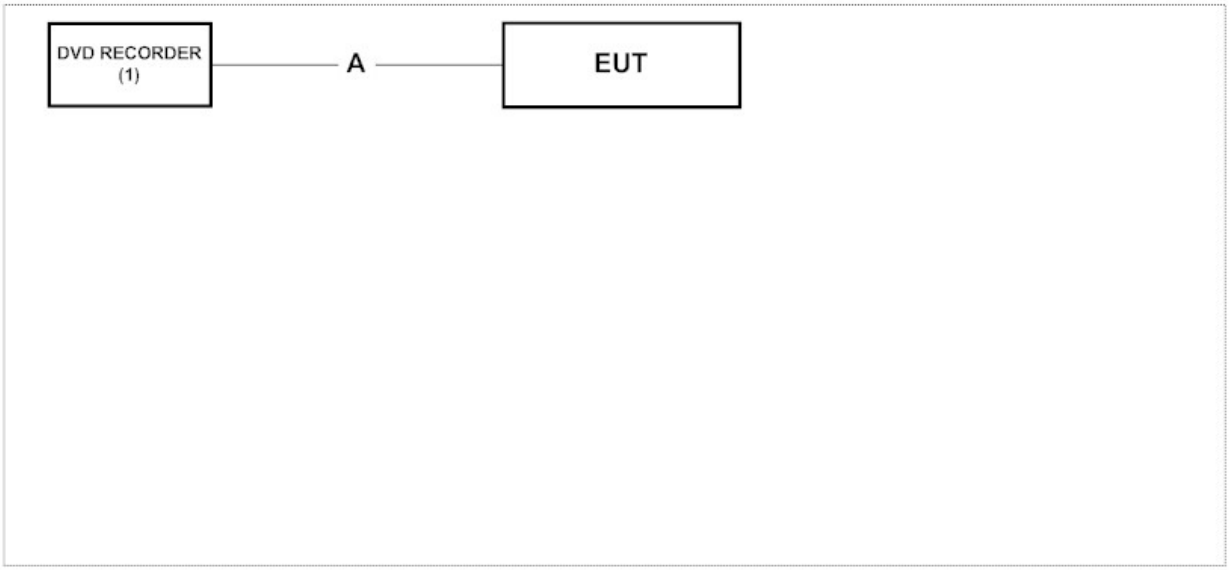
1.4. Tested System Details

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	DVD RECORDER	BenQ	JH300	99K1402200 50900002H	DoC	Non-Shielded, 1.8m

1.5. Configuration of tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	Audio Cable	Non-Shielded, 1.6m

1.6. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.5
2	Turn on the power of all equipment.
3	Play music through DVD Player, and the EUT will transmit wireless signals continuously.
4	Press the link button to change test channel.
5	Repeat the above procedure (3) to (4)

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	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output (DSSS)	15 - 35	27
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission (DSSS)	15 - 35	25
Humidity (%RH)		25 - 75	65
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test (DSSS)	15 - 35	26
Humidity (%RH)		25 - 75	55
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Band Edge (DSSS)	15 - 35	25
Humidity (%RH)		25 - 75	48
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth (DSSS)	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Power Density (DSSS)	15 - 35	25
Humidity (%RH)		25 - 75	50
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. 75-2, 3rd Lin, Wangye Keng, Yonghxing
Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan
TEL : 886-3-5928858 / FAX : 886-3-5928859
E-Mail : service@quietek.com

2. Conducted Emission

2.1. Test Equipment

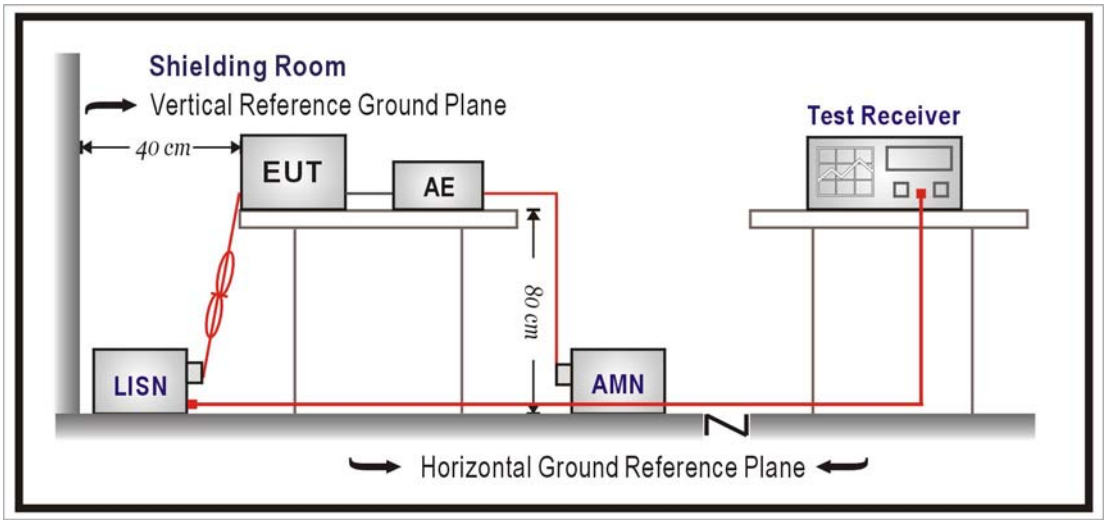
The following test equipments are used during the test:

Conducted Emission / SR3

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
LISN	R&S	ENV216	100096	2011/09/20
LISN	R&S	ESH3-Z5	836679/022	2012/02/10
Test Receiver	R&S	ESCS 30	825442/017	2012/01/16

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

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
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 was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)
Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.5. Test Specification

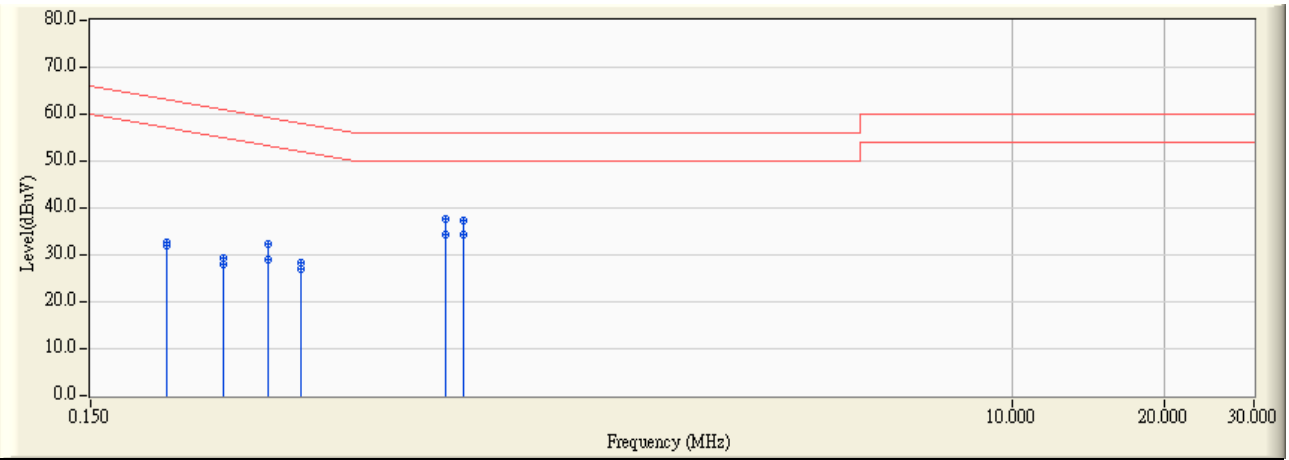
According to FCC Part 15 Subpart C Paragraph 15.207: 2010

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR3	**Time : 2011/05/11 - 18:37**
Limit : CISPR_B_00M_QP	**Margin : 6**
Probe : SR3_LISN(16A) - Line1	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note :**

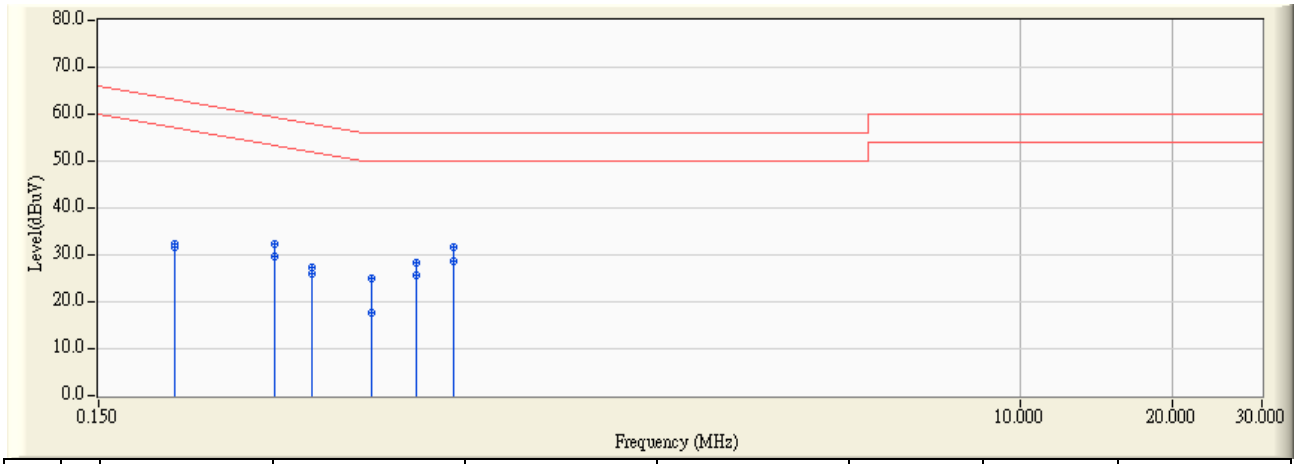


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.212	9.660	22.900	32.560	-30.547	63.107	QUASIPEAK
2		0.212	9.660	22.240	31.900	-21.207	53.107	AVERAGE
3		0.275	9.656	19.610	29.266	-31.700	60.966	QUASIPEAK
4		0.275	9.656	18.420	28.076	-22.890	50.966	AVERAGE
5		0.338	9.653	22.750	32.403	-26.861	59.265	QUASIPEAK
6		0.338	9.653	19.370	29.023	-20.241	49.265	AVERAGE
7		0.392	9.650	18.700	28.350	-29.667	58.017	QUASIPEAK
8		0.392	9.650	17.470	27.120	-20.897	48.017	AVERAGE
9		0.755	9.836	27.900	37.736	-18.264	56.000	QUASIPEAK
10	*	0.755	9.836	24.660	34.496	-11.504	46.000	AVERAGE
11		0.818	9.864	27.580	37.444	-18.556	56.000	QUASIPEAK
12		0.818	9.864	24.330	34.194	-11.806	46.000	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 : 2011/05/11 - 18:46**
Limit : CISPR_B_00M_QP	**Margin : 6**
Probe : SR3_LISN(16A) - Line2	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note :**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.212	9.660	22.590	32.250	-30.857	63.107	QUASIPEAK
2		0.212	9.660	21.950	31.610	-21.497	53.107	AVERAGE
3		0.334	9.653	22.790	32.443	-26.918	59.361	QUASIPEAK
4		0.334	9.653	19.930	29.583	-19.778	49.361	AVERAGE
5		0.396	9.650	17.790	27.440	-30.495	57.935	QUASIPEAK
6		0.396	9.650	16.340	25.990	-21.945	47.935	AVERAGE
7		0.521	9.713	15.140	24.853	-31.147	56.000	QUASIPEAK
8		0.521	9.713	7.940	17.653	-28.347	46.000	AVERAGE
9		0.638	9.777	18.580	28.357	-27.643	56.000	QUASIPEAK
10		0.638	9.777	16.040	25.817	-20.183	46.000	AVERAGE
11		0.755	9.836	21.760	31.596	-24.404	56.000	QUASIPEAK
12	*	0.755	9.836	18.960	28.796	-17.204	46.000	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

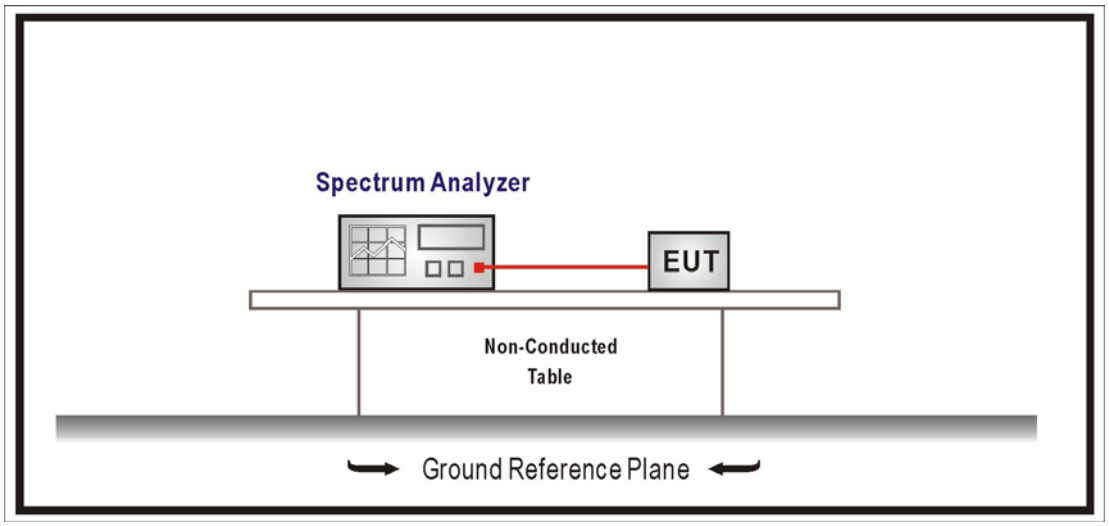
The following test equipment is used during the test:

Peak Power / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Power Meter	Agilent	N1911A	MY45101353	2012/01/04
Power Sensor	Agilent	N1921A	MY45241670	2012/01/04

Note: 1. All equipments that need to calibrate 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 DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements Power Output Option 2: **Method #2**

3.4. Limits

The maximum peak power shall be less 1 Watt.

3.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB.

3.6. Test Result

Product	1-to-1 Wireless Audio Transmitter		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2011/05/11	Test Site	SR7

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2401.92	8.52	1Watt= 30 dBm	Pass
5	2448.576	6.96	1Watt= 30 dBm	Pass
8	2479.68	5.71	1Wat t= 30 dBm	Pass

4. Radiated Emission

4.1. Test Equipment

The following test equipments are used during the test:

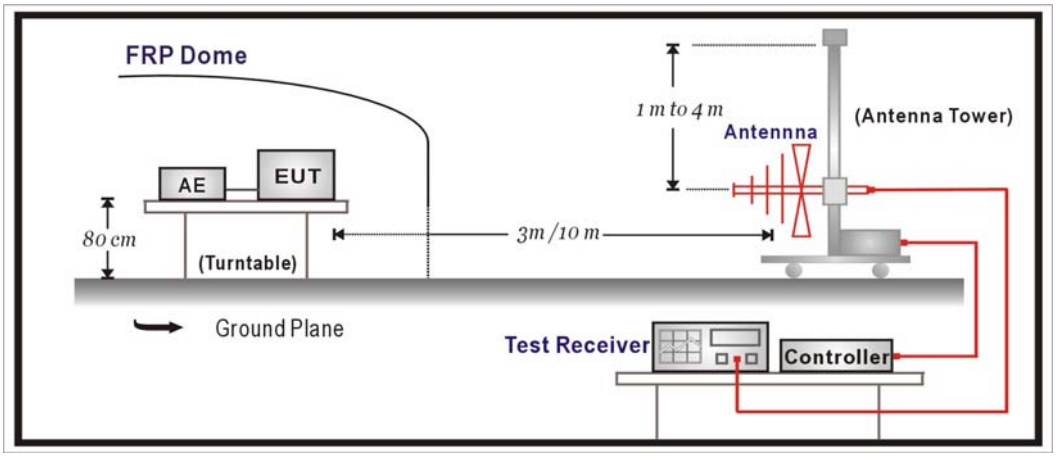
Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	SCHAFFNER	CBL6112B	2895	2011/08/14
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

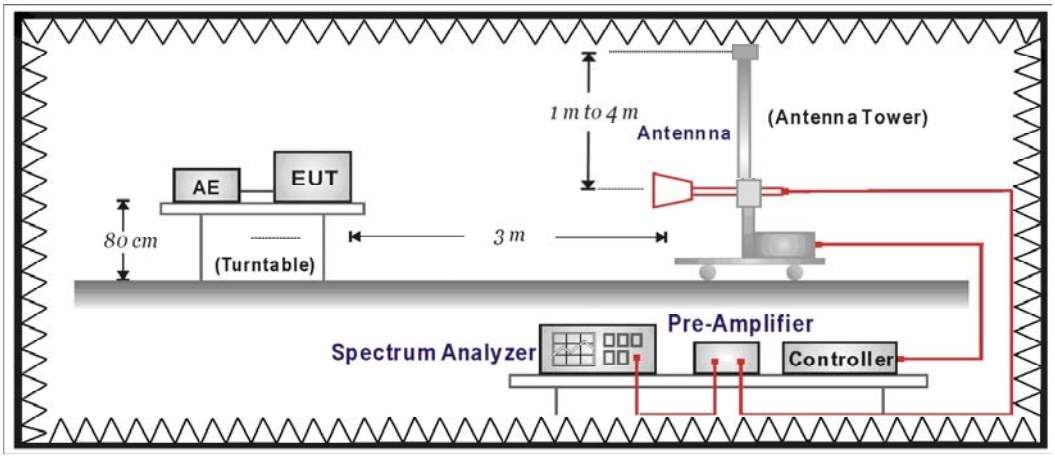
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

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.

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

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to DTS test procedure of Oct 2002 KDB558074 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. Uncertainty

The measurement uncertainty

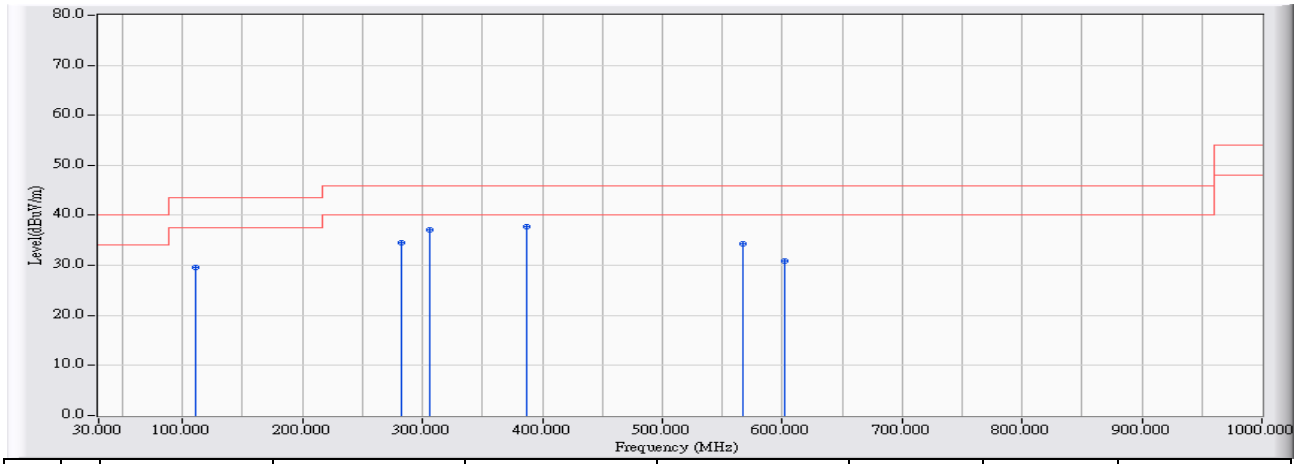
30MHz～1GHz as ±3.19dB

1GHz～26.5Ghz as ±3.9dB

4.6. Test Result

30MHz-1GHz Spurious:

Site : CB1	**Time : 2011/05/12 - 15:54**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : EFS_30-1G(2010-12) - HORIZONTAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note :**

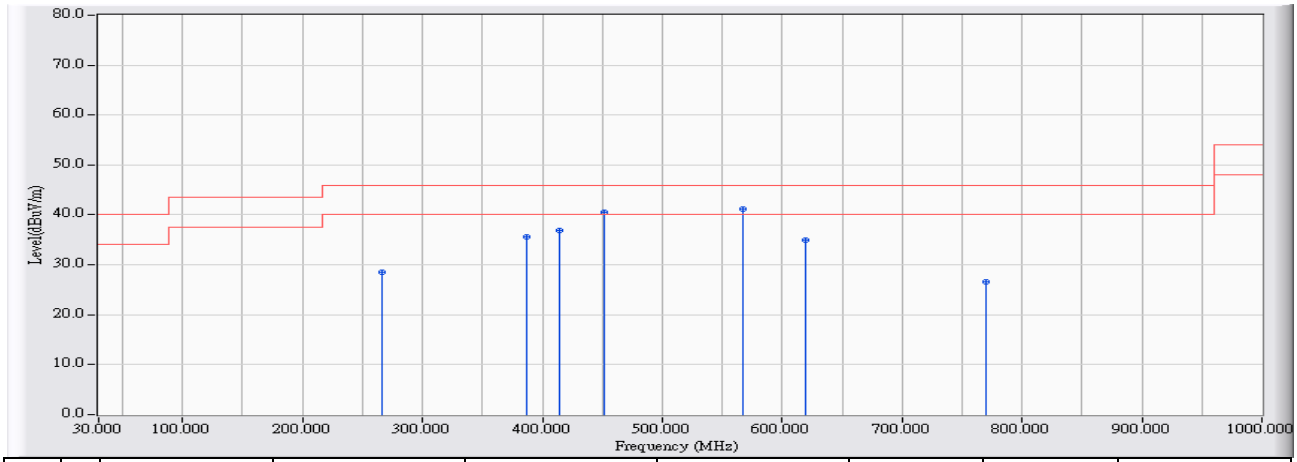


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		110.833	-12.984	42.687	29.703	-13.797	43.500	Quasi-Peak
2		282.200	-10.956	45.583	34.628	-11.372	46.000	Quasi-Peak
3		306.450	-10.492	47.511	37.020	-8.980	46.000	Quasi-Peak
4	*	387.283	-8.225	46.072	37.847	-8.153	46.000	Quasi-Peak
5		566.733	-5.295	39.671	34.376	-11.624	46.000	Quasi-Peak
6		602.300	-5.017	35.919	30.903	-15.097	46.000	Quasi-Peak

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 : 2011/05/12 - 15:55**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : EFS_30-1G(2010-12) - VERTICAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note :**



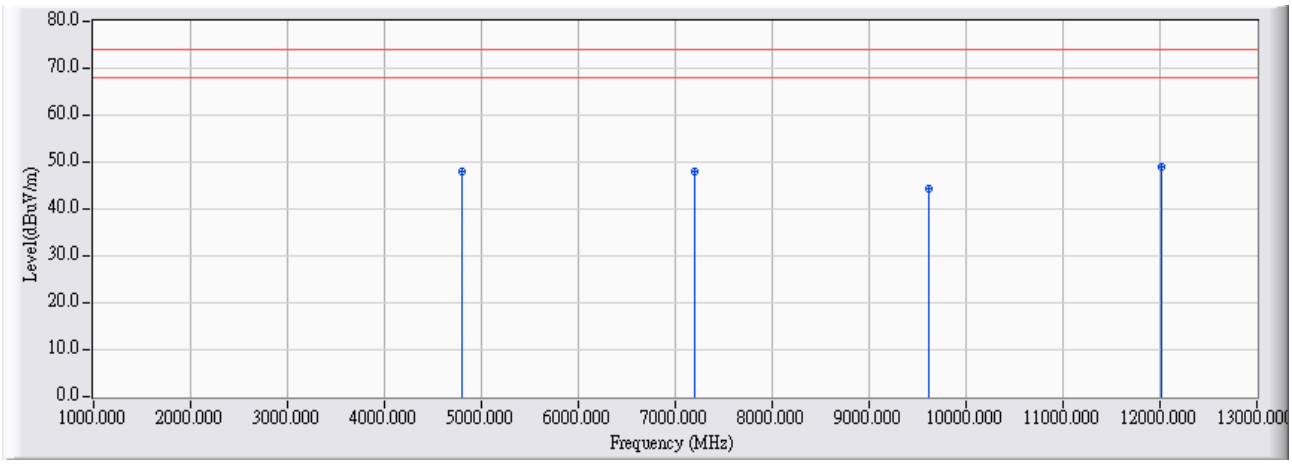
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		266.033	-11.212	39.714	28.502	-17.498	46.000	Quasi-Peak
2		387.283	-8.225	43.736	35.511	-10.489	46.000	Quasi-Peak
3		414.767	-7.593	44.582	36.989	-9.011	46.000	Quasi-Peak
4		451.950	-6.899	47.438	40.538	-5.462	46.000	Quasi-Peak
5	*	566.733	-5.295	46.509	41.214	-4.786	46.000	Quasi-Peak
6		620.083	-4.911	39.866	34.955	-11.045	46.000	Quasi-Peak
7		770.433	-3.699	30.338	26.640	-19.360	46.000	Quasi-Peak

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 : 2011/05/12 - 14:29**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2401.92 MHz**

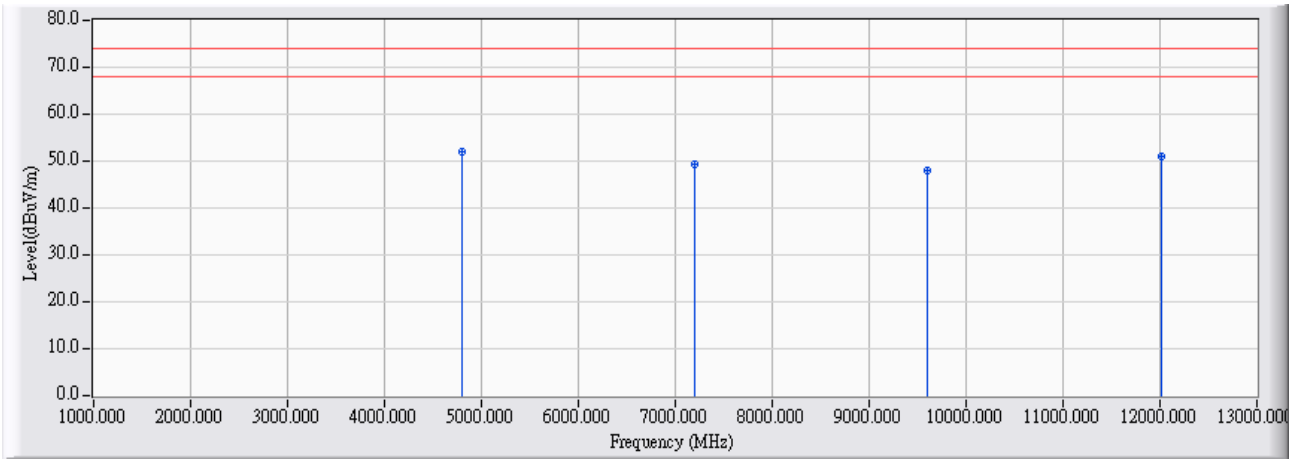


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4803.730	-2.807	50.740	47.933	-26.067	74.000	54.00	PEAK
2		7206.480	4.145	43.830	47.975	-26.025	74.000	54.00	PEAK
3		9608.820	6.907	37.580	44.486	-29.514	74.000	54.00	PEAK
4	*	12008.710	8.511	40.640	49.151	-24.849	74.000	54.00	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.

Site : CB1	**Time : 2011/05/12 - 14:40**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : EFS_1-18G(2010-12) - VERTICAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2401.92 MHz**

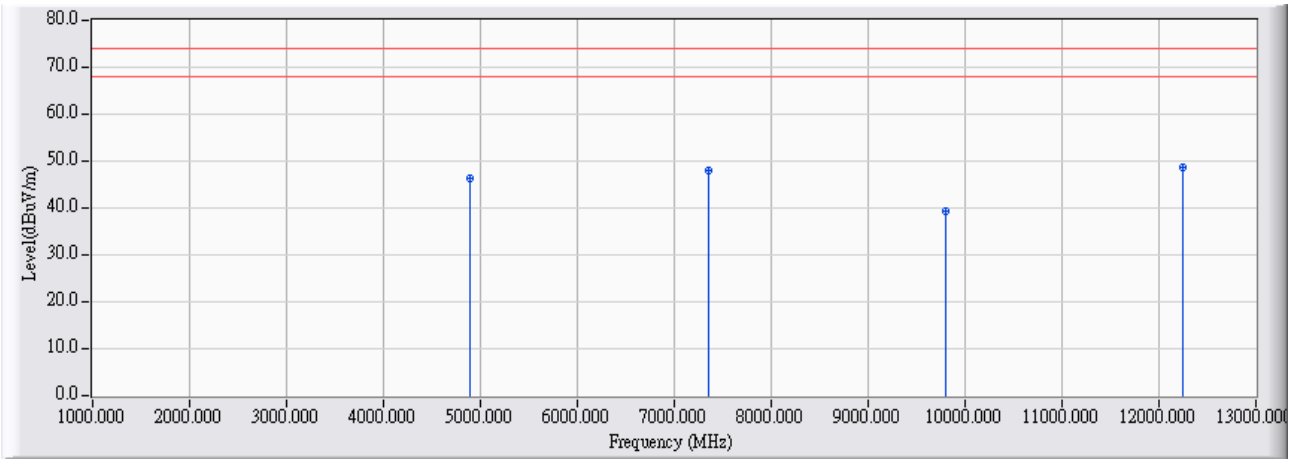


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4803.390	-2.808	54.860	52.052	-21.948	74.000	54.00	PEAK
2		7205.080	4.140	45.150	49.290	-24.710	74.000	54.00	PEAK
3		9607.150	6.906	41.110	48.015	-25.985	74.000	54.00	PEAK
4		12010.030	8.512	42.650	51.163	-22.837	74.000	54.00	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.

Site : CB1	**Time : 2011/05/12 - 14:59**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2448.576 MHz**

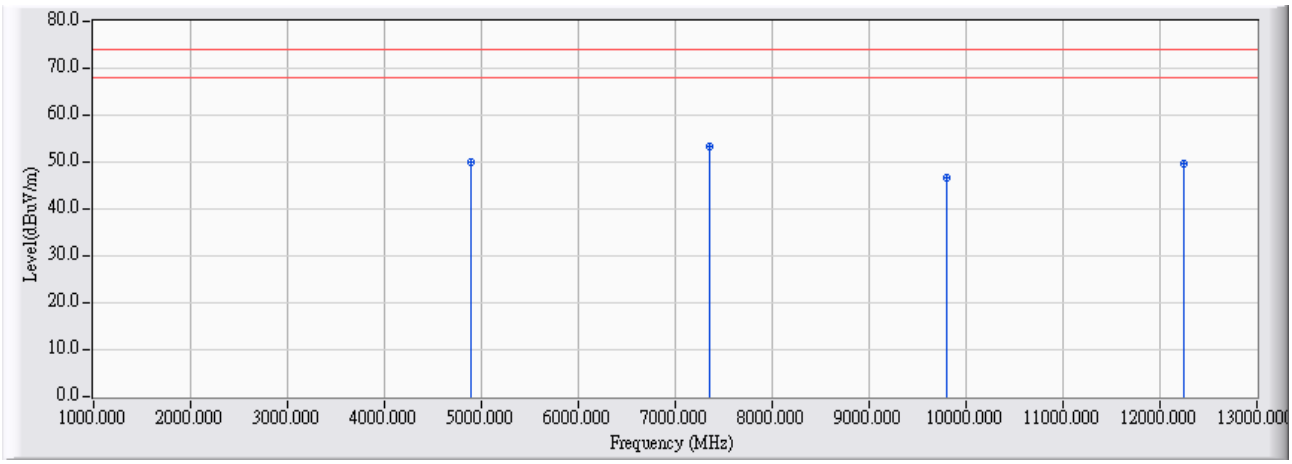


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4897.500	-2.531	48.710	46.178	-27.822	74.000	54.00	PEAK
2		7346.700	4.716	43.320	48.036	-25.964	74.000	54.00	PEAK
3		9793.570	7.019	32.290	39.309	-34.691	74.000	54.00	PEAK
4	*	12244.730	8.734	40.070	48.804	-25.196	74.000	54.00	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.

Site : CB1	**Time : 2011/05/12 - 15:06**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : EFS_1-18G(2010-12) - VERTICAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2448.576 MHz**

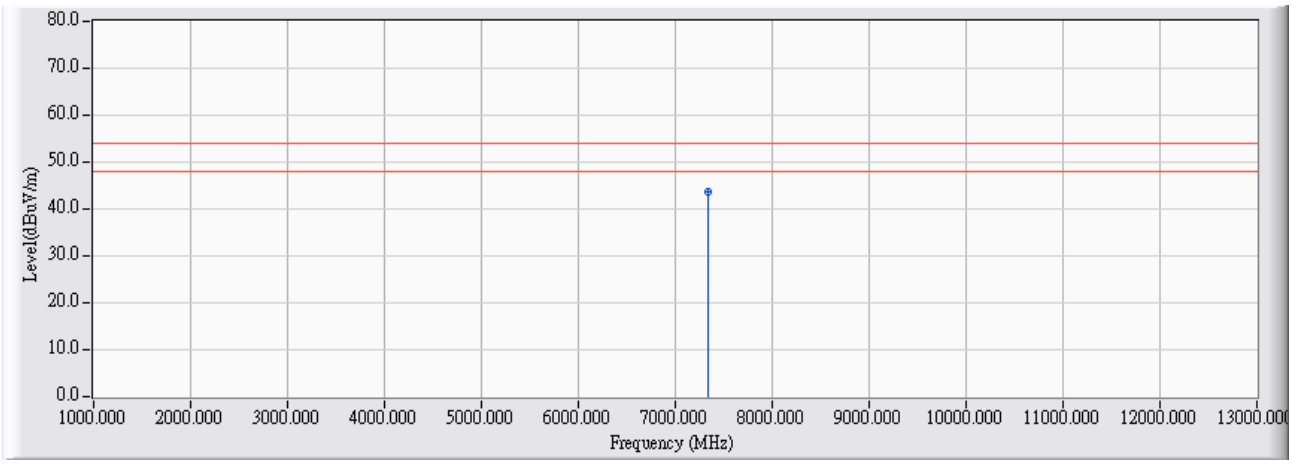


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4896.870	-2.534	52.640	50.106	-23.894	74.000	54.00	PEAK
2	*	7346.670	4.716	48.620	53.336	-20.664	74.000	54.00	PEAK
3		9793.500	7.019	39.720	46.739	-27.261	74.000	54.00	PEAK
4		12244.470	8.734	41.060	49.794	-24.206	74.000	54.00	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.

Site : CB1	**Time : 2011/05/12 - 15:07**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : EFS_1-18G(2010-12) - VERTICAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2448.576 MHz**

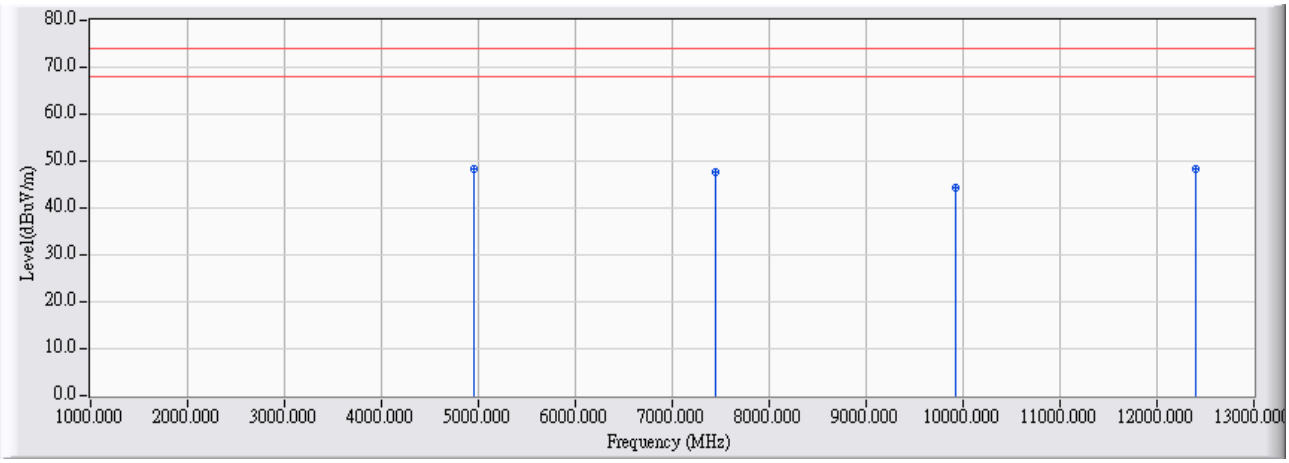


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	7345.900	4.713	38.990	43.703	-10.297	74.000	54.00	AVERAGE

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.

Site : CB1	**Time : 2011/05/12 - 15:19**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2479.68 MHz**

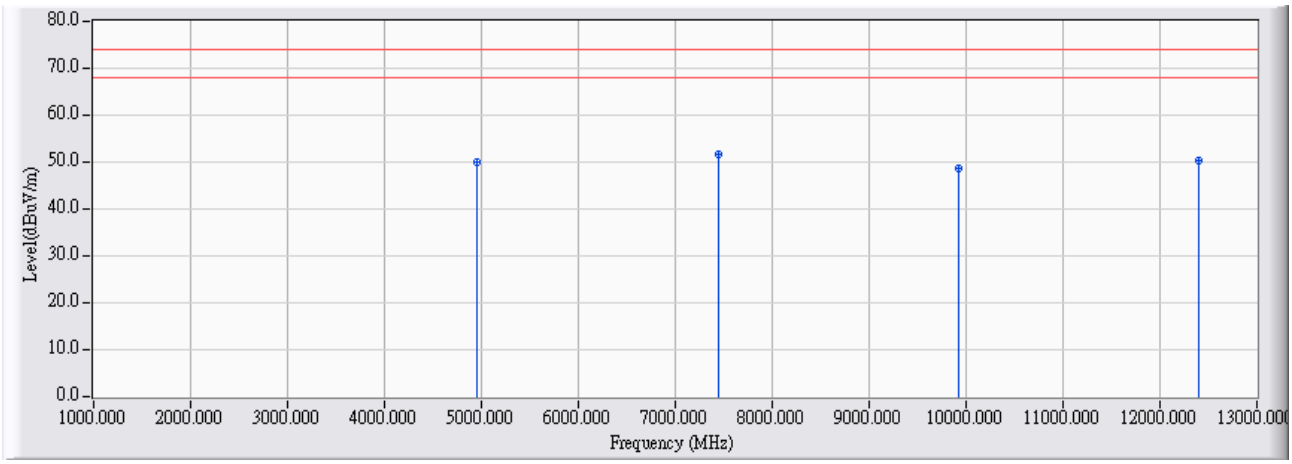


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	4960.130	-2.348	50.760	48.412	-25.588	74.000	54.00	PEAK
2		7439.554	5.094	42.470	47.564	-26.436	74.000	54.00	PEAK
3		9919.950	7.096	37.370	44.466	-29.534	74.000	54.00	PEAK
4		12397.630	8.878	39.470	48.348	-25.652	74.000	54.00	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.

Site : CB1	**Time : 2011/05/12 - 15:27**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : EFS_1-18G(2010-12) - VERTICAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2479.68 MHz**



		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		4959.990	-2.348	52.470	50.122	-23.878	74.000	54.00	PEAK
2	*	7440.010	5.096	46.640	51.736	-22.264	74.000	54.00	PEAK
3		9920.050	7.096	41.420	48.516	-25.484	74.000	54.00	PEAK
4		12397.370	8.878	41.500	50.378	-23.622	74.000	54.00	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.

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5. RF antenna conducted test

5.1. Test Equipment

The following test equipment is used during the test:

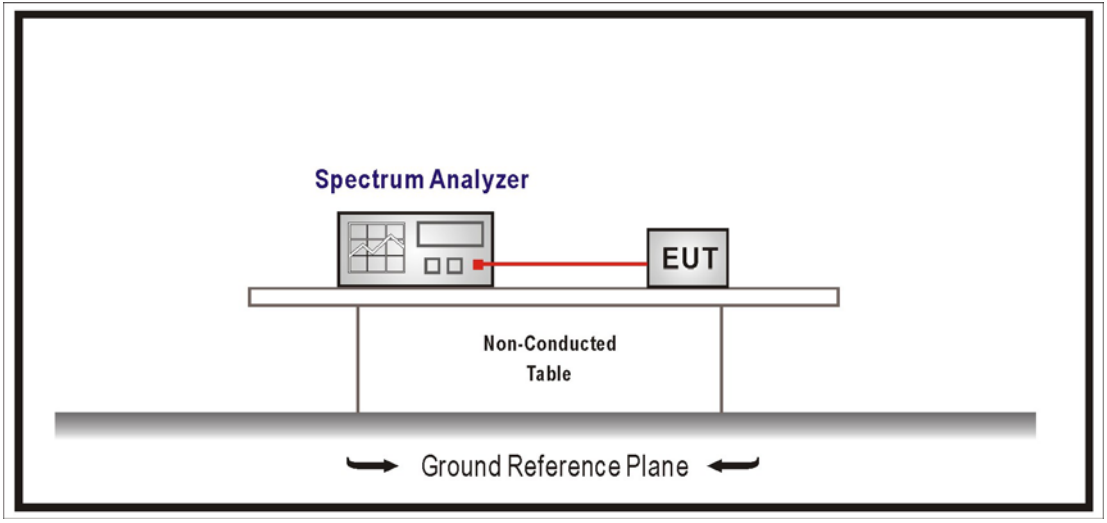
RF antenna conducted test / SR7

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

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

5.2. Test Setup

RF Antenna 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 DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements
Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.5. Uncertainty

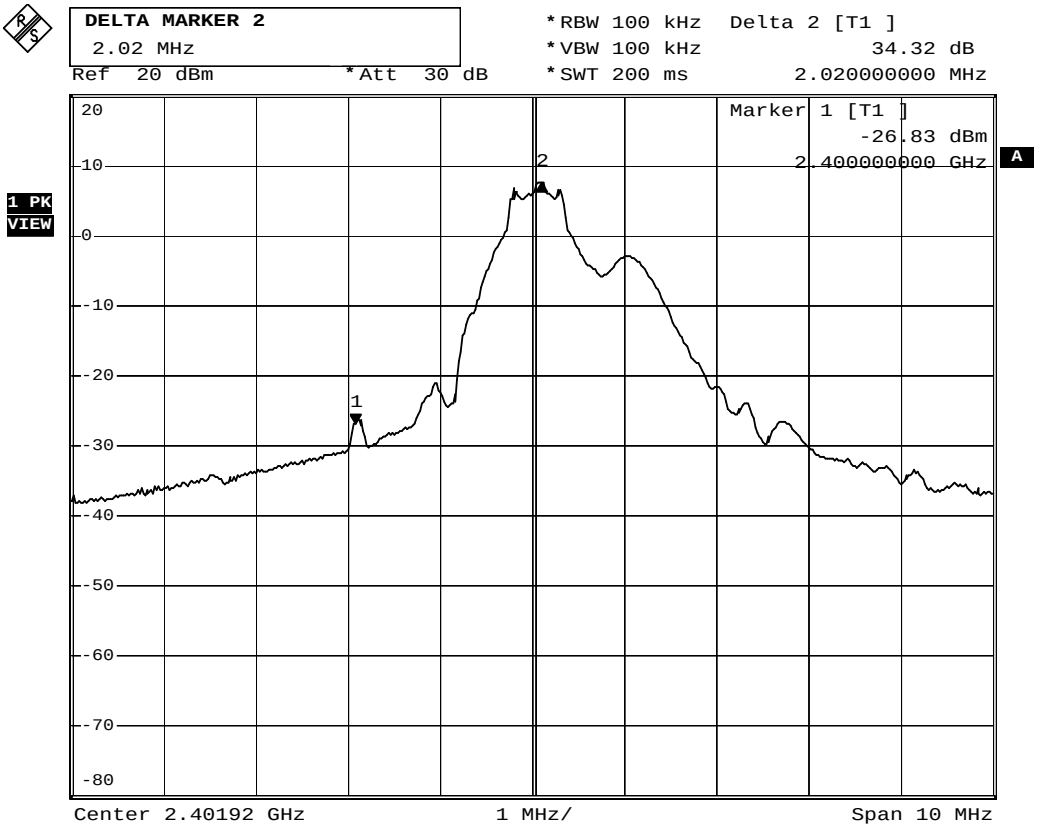
The measurement uncertainty
Conducted is defined as ± 1.27dB
Radiated is defined as ± 3.9dB

5.6. Test Result

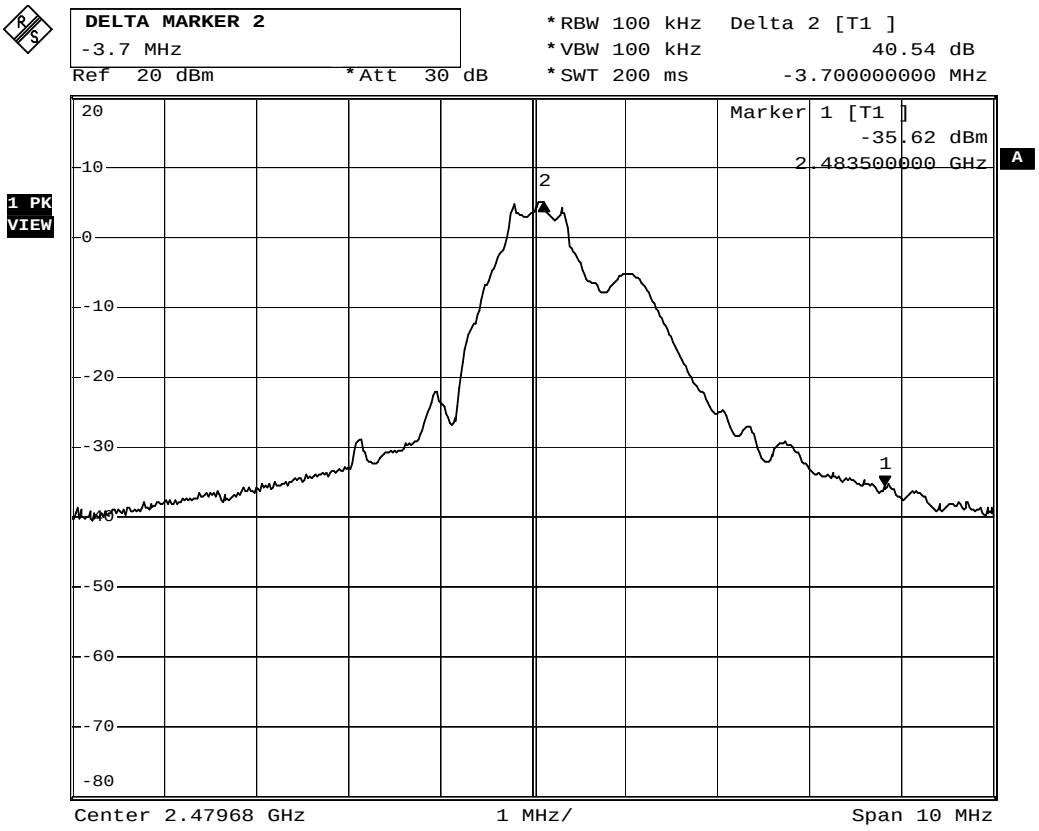
Product	1-to-1 Wireless Audio Transmitter		
Test Item	RF antenna conducted test		
Test Mode	Transmit		
Date of Test	2011/05/12	Test Site	SR7

Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2401.92	34.32	≧20	Pass
8	2479.68	40.54	≧20	Pass

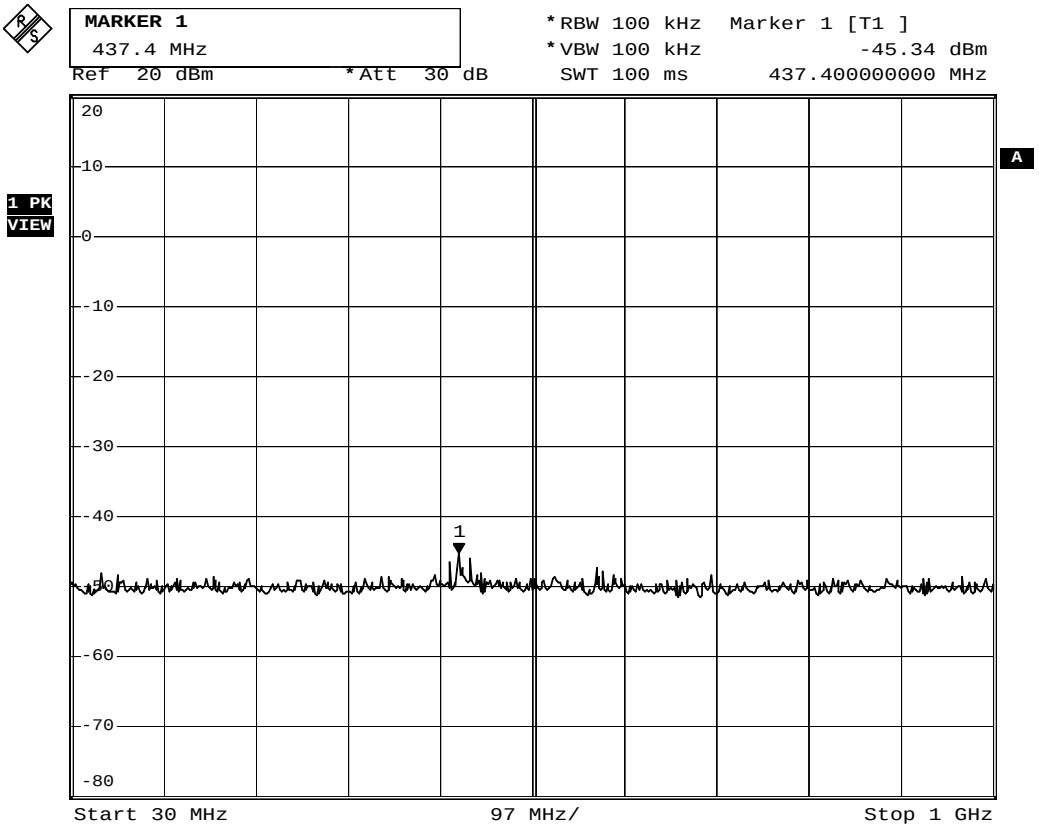
Channel 1-Bandedge



Channel 8-Bandedge

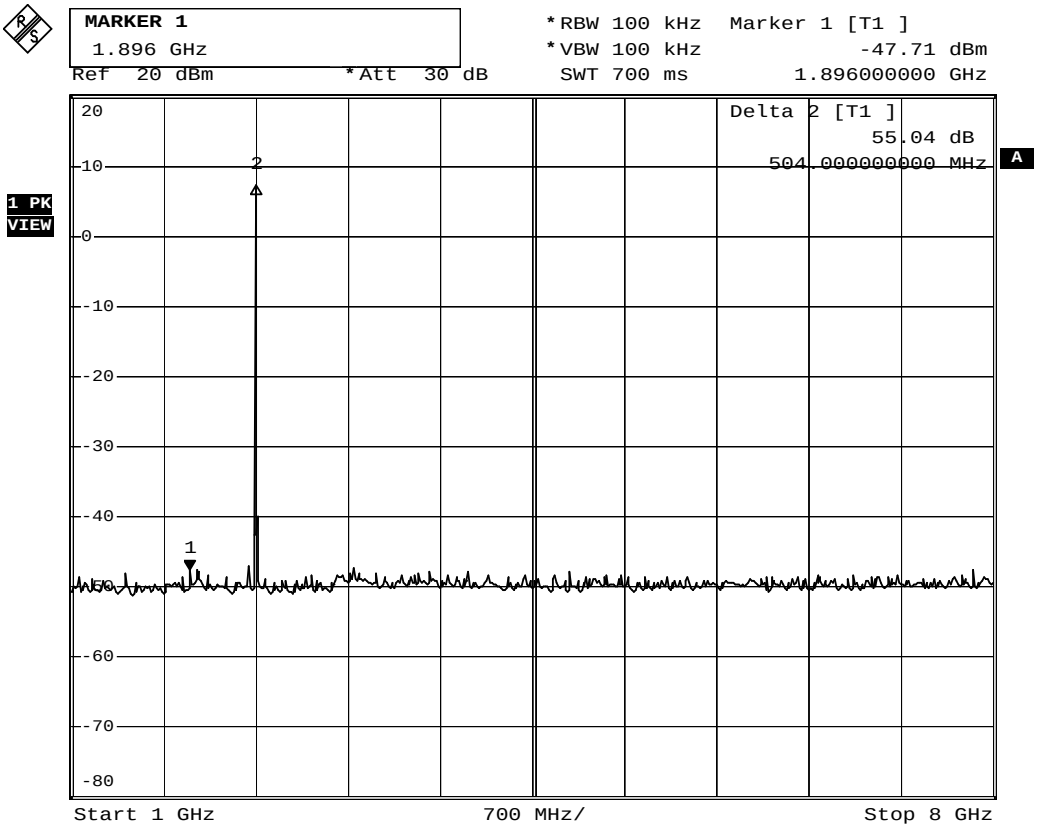


2401.92 MHz (30MHz-1GHz)



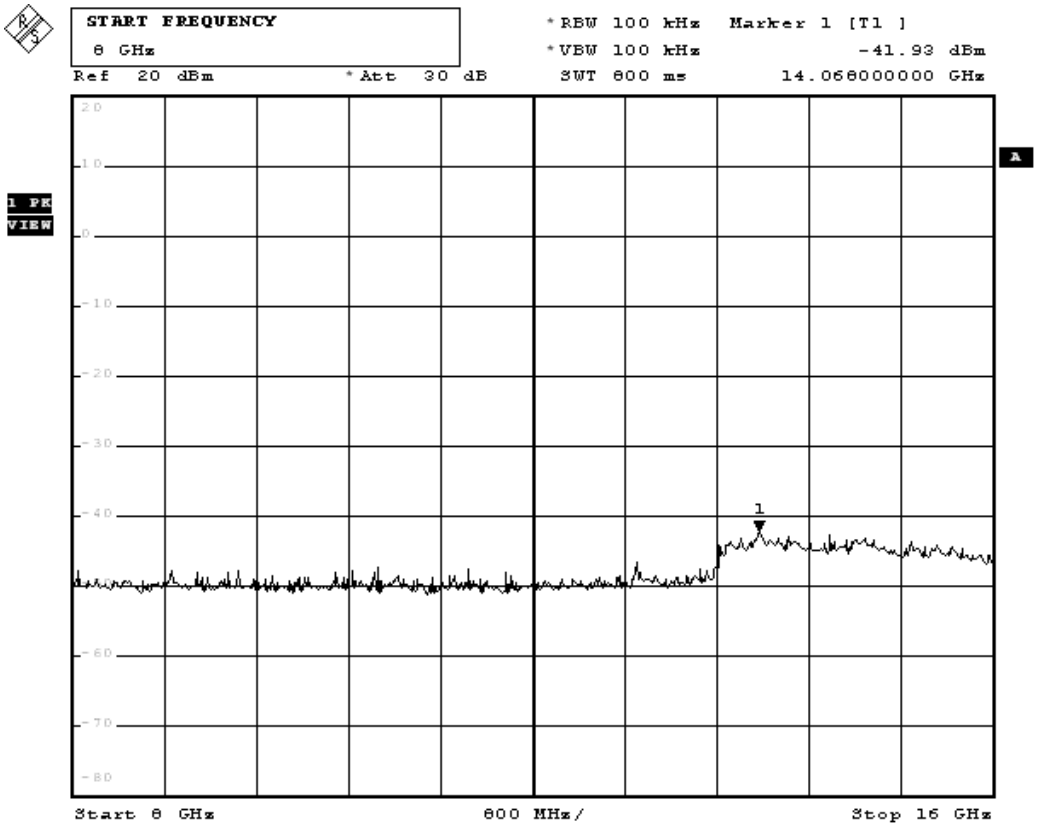
Date: 11.MAY.2011 17:44:04

2401.92 MHz (1GHz-8GHz)



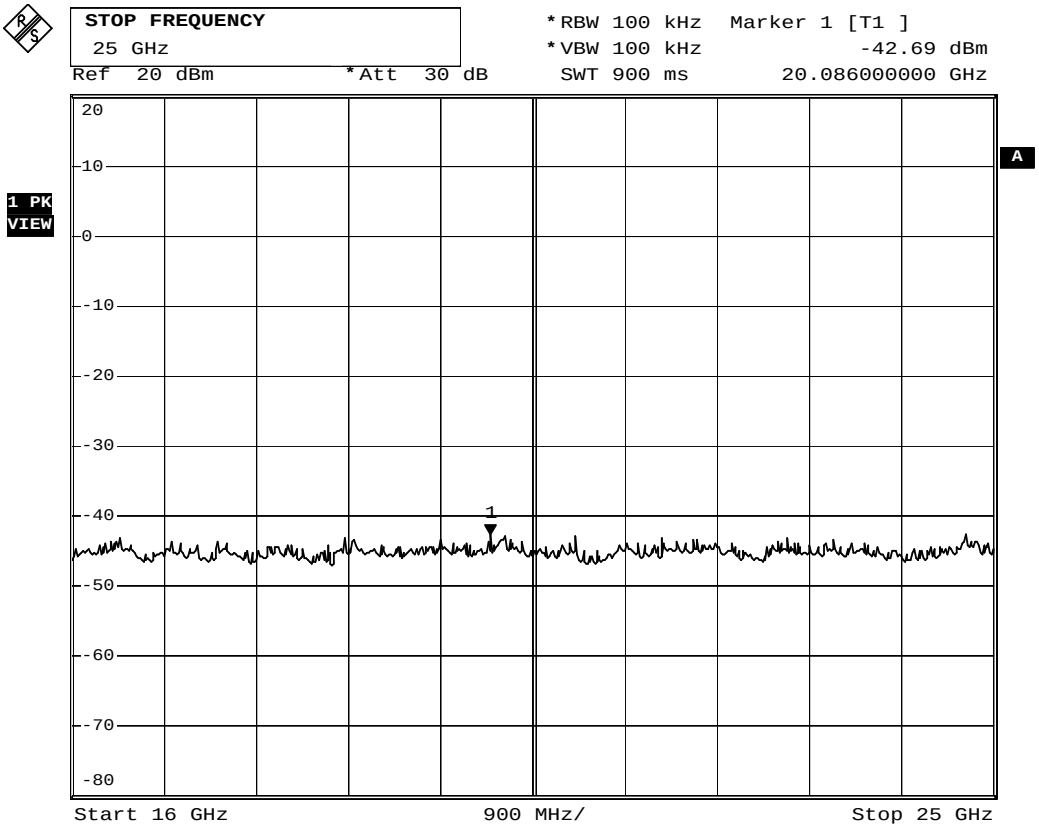
Date: 11.MAY.2011 17:47:42

2401.92 MHz (8GHz-16GHz)



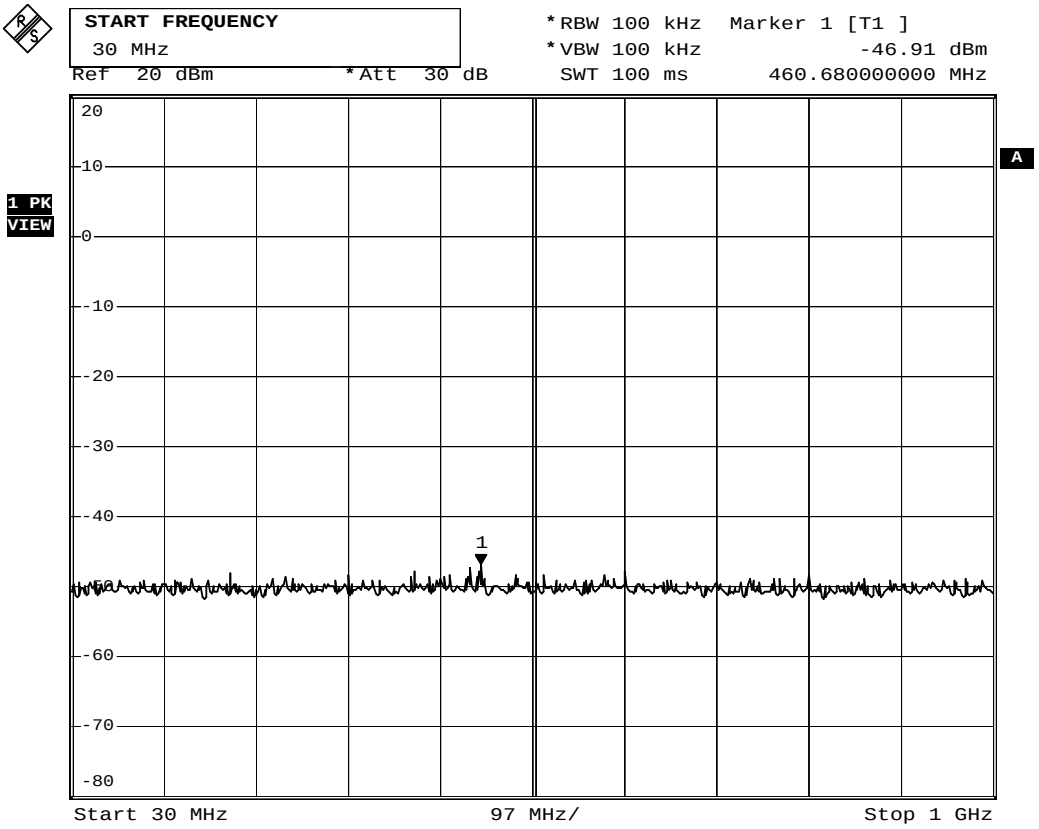
Date: 11.MAY.2011 17:52:36

2401.92 MHz (16GHz-25GHz)



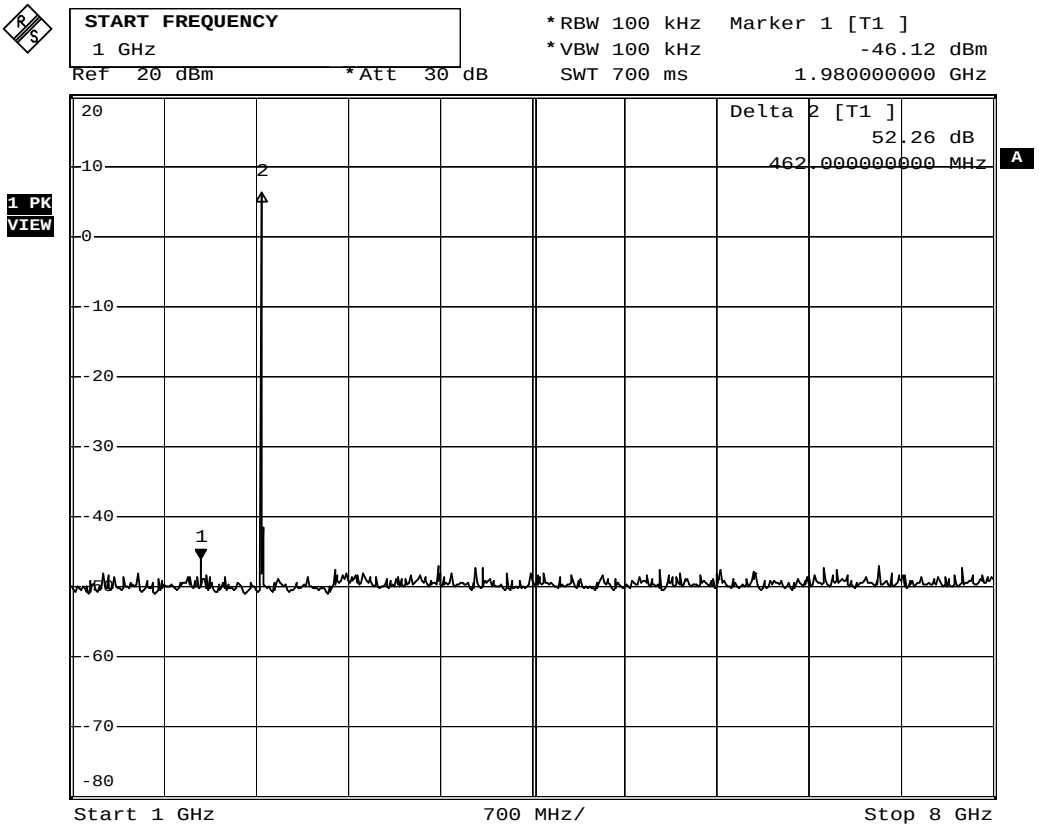
Date: 11.MAY.2011 17:52:53

2448.576 MHz (30MHz-1GHz)



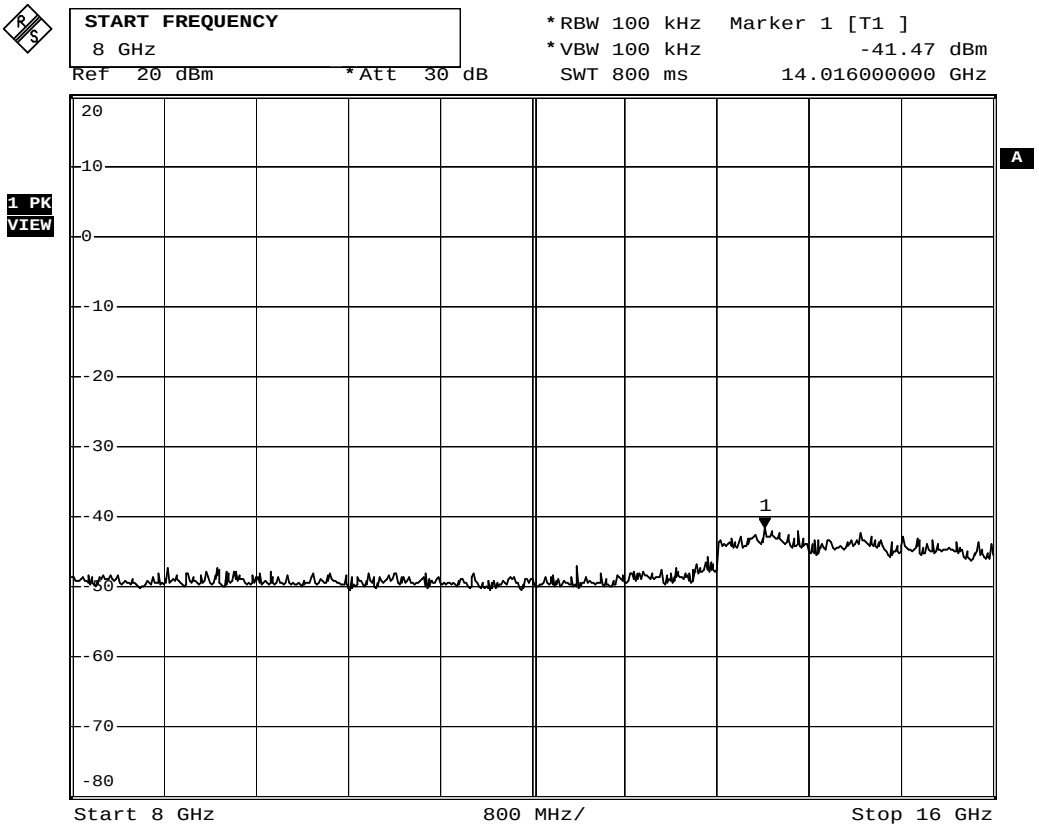
Date: 11.MAY.2011 17:55:04

2448.576 MHz (1GHz-8GHz)



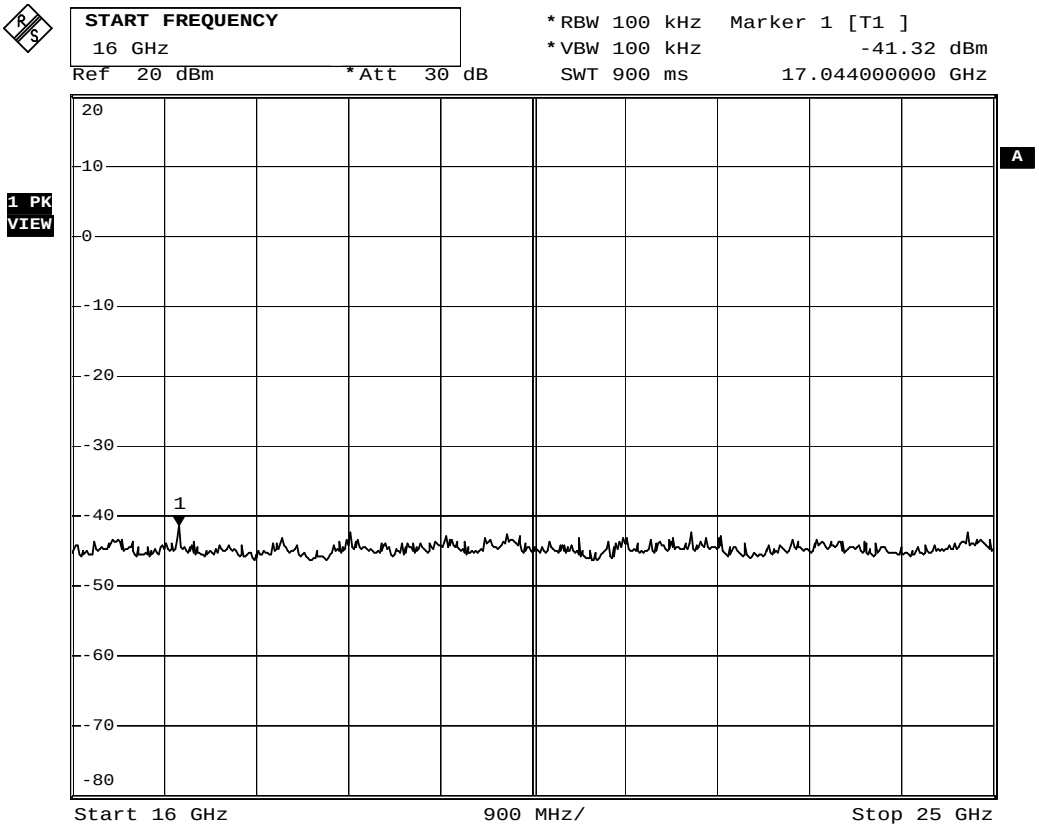
Date: 11.MAY.2011 17:56:55

2448.576 MHz (8GHz-16GHz)



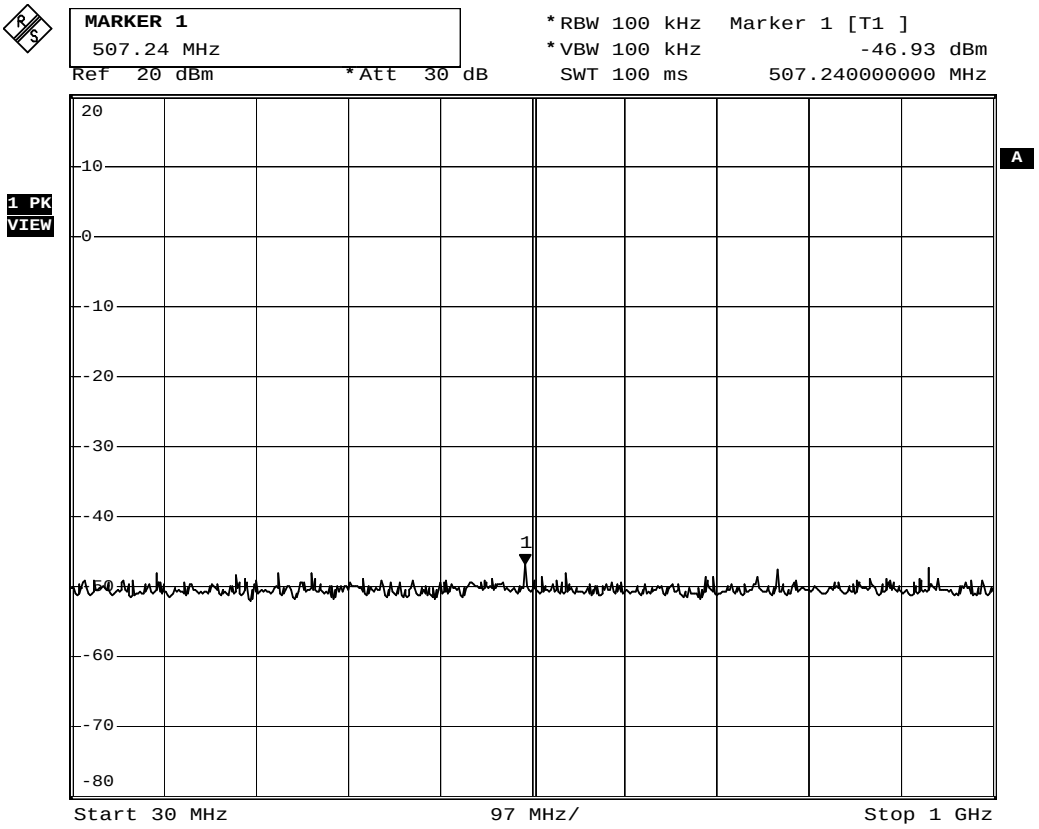
Date: 11.MAY.2011 17:58:18

2448.576 MHz (16GHz-25GHz)-



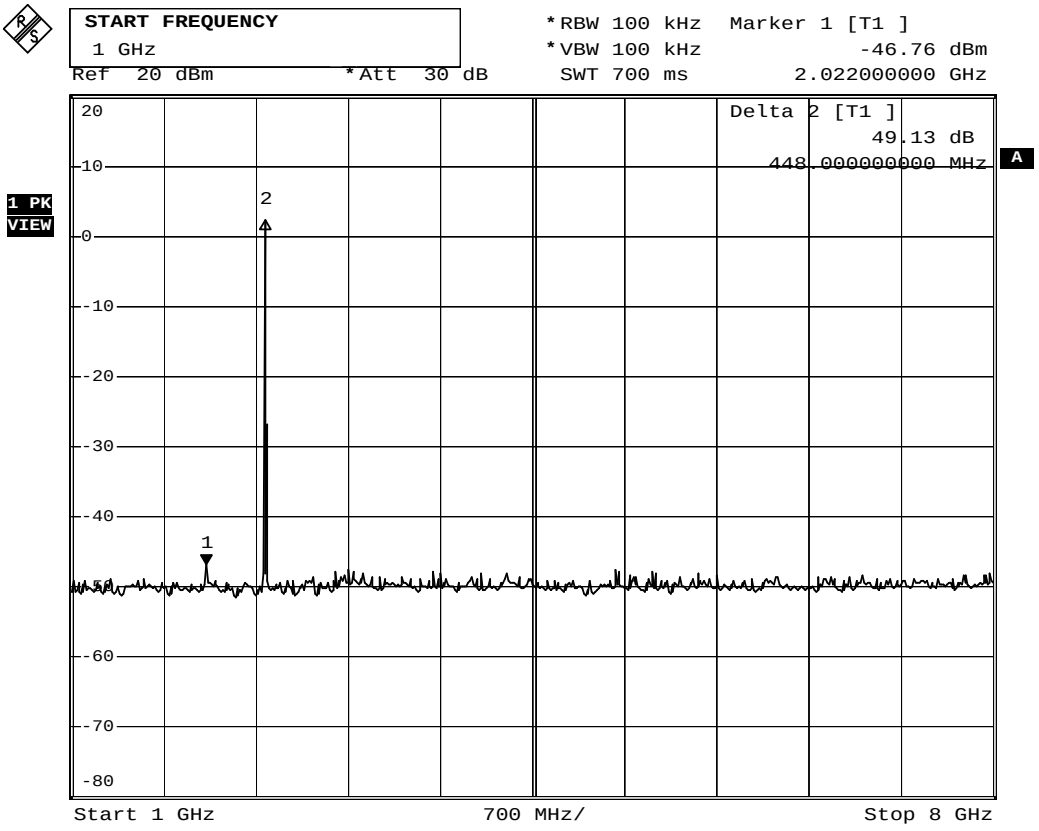
Date: 11.MAY.2011 17:59:34

2479.68 MHz (30MHz-1GHz)



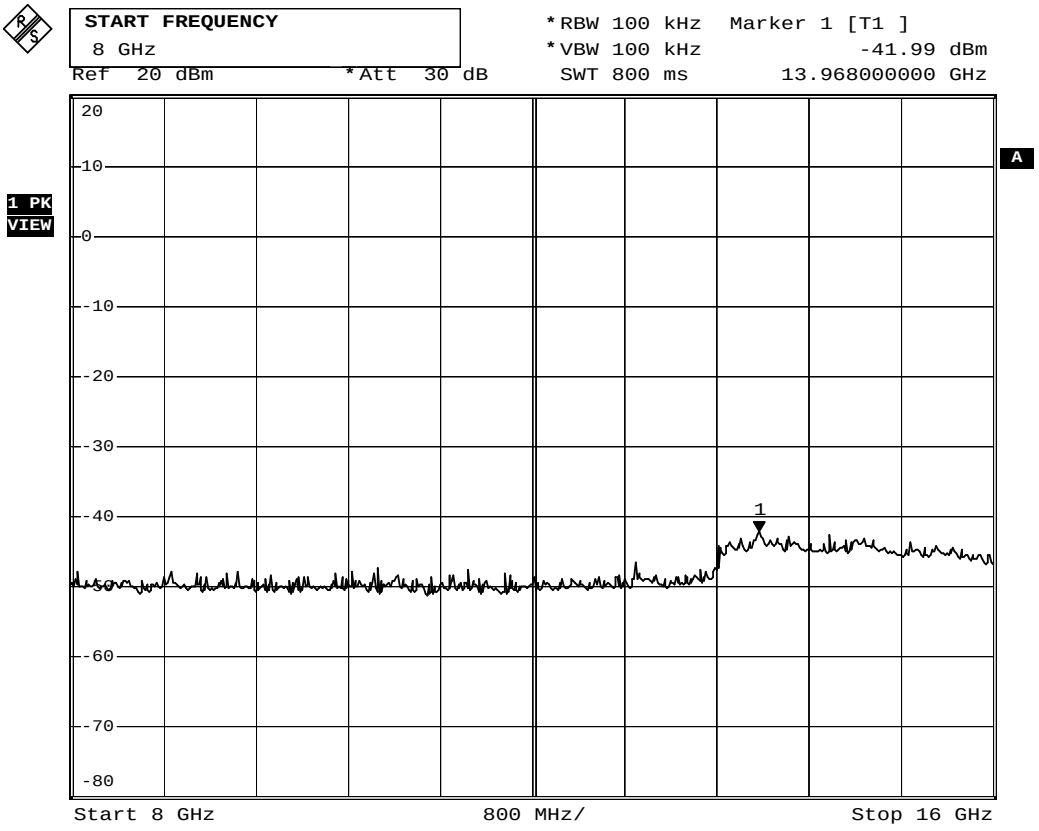
Date: 11.MAY.2011 17:42:14

2479.68 MHz (1GHz-8GHz)



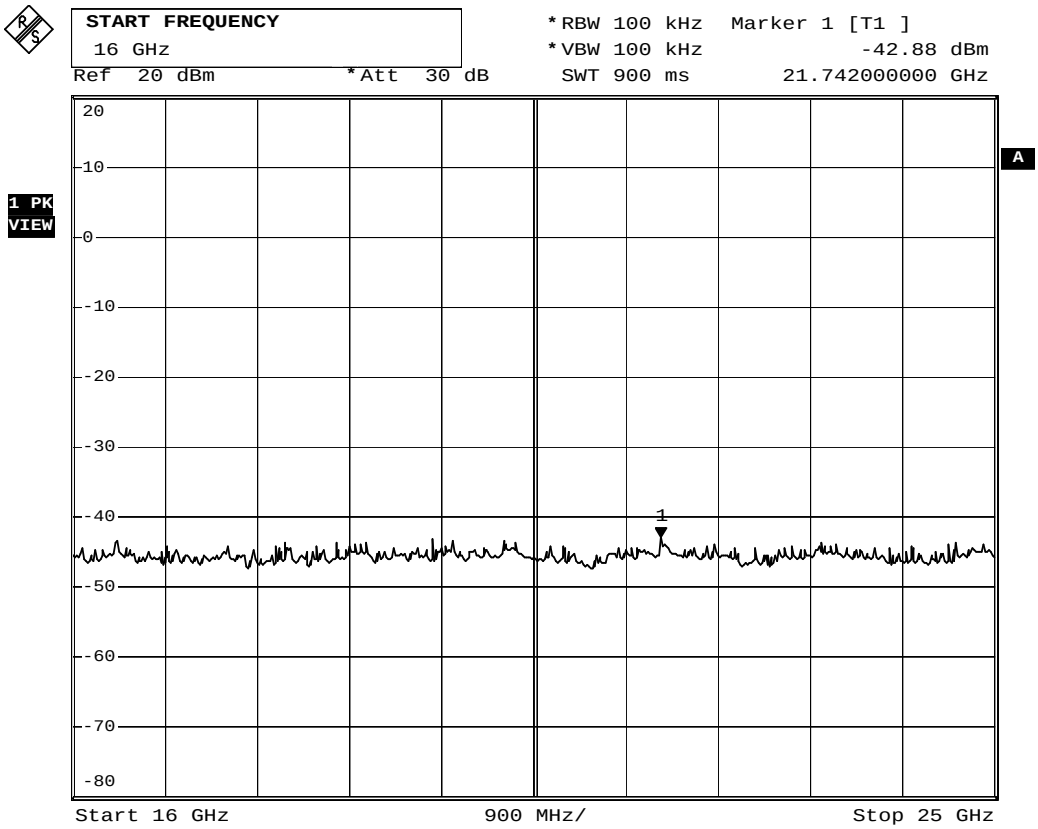
Date: 11.MAY.2011 18:02:22

2479.68 MHz (8GHz-16GHz)



Date: 11.MAY.2011 18:03:12

2479.68 MHz (16GHz-25GHz)-



Date: 11.MAY.2011 18:03:49

6. Radiated Emission Band Edge

6.1. Test Equipment

The following test equipments are used during the test:

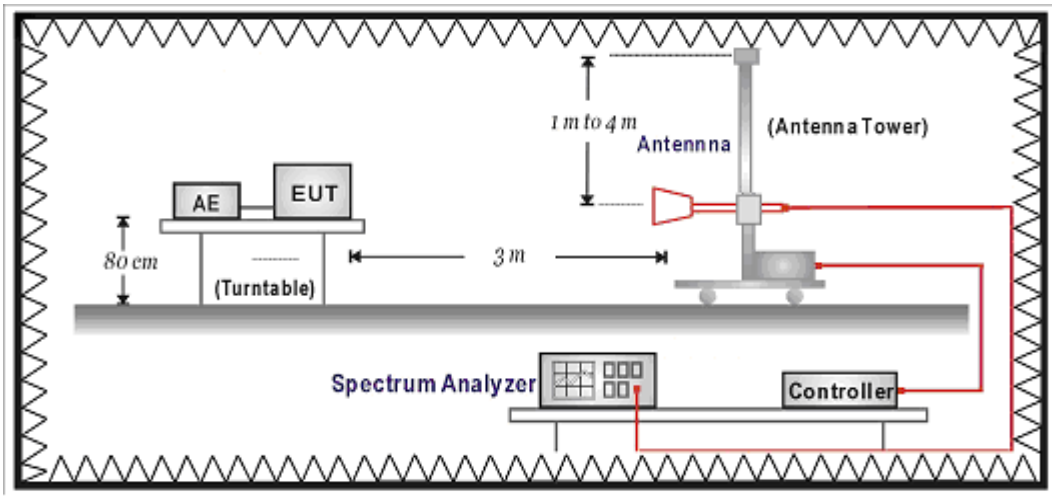
Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120D	743	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.

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 DTS test procedure of Oct 2002 KDB558074 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.

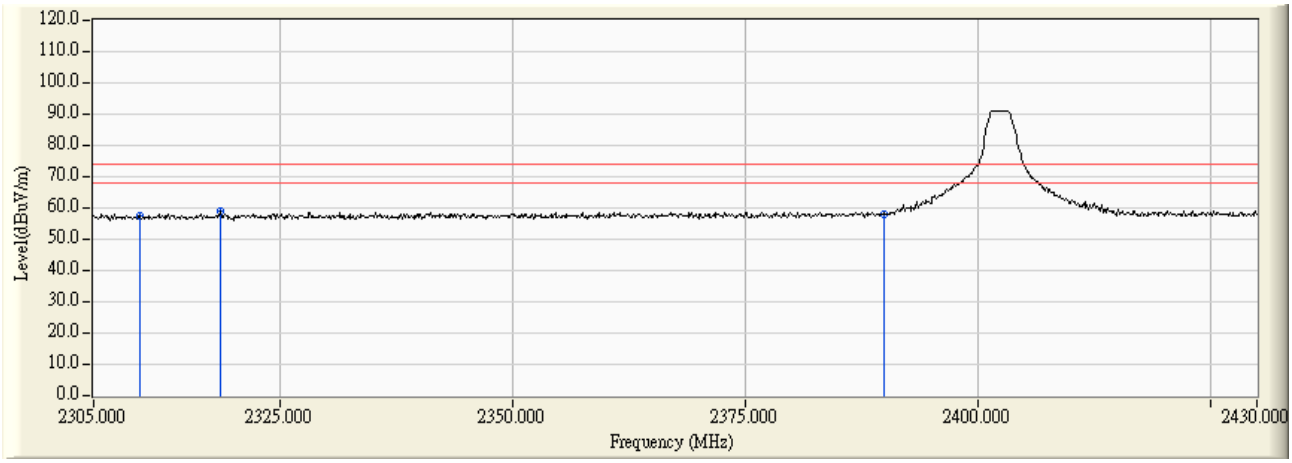
6.5. Uncertainty

The measurement uncertainty
± 3.9 dB above 1GHz

6.6. Test Result

Radiated is defined as

Site : CB1	**Time : 2011/05/11 - 19:13**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : EFS_1-18G(2011-04) - HORIZONTAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2401.92 MHz**

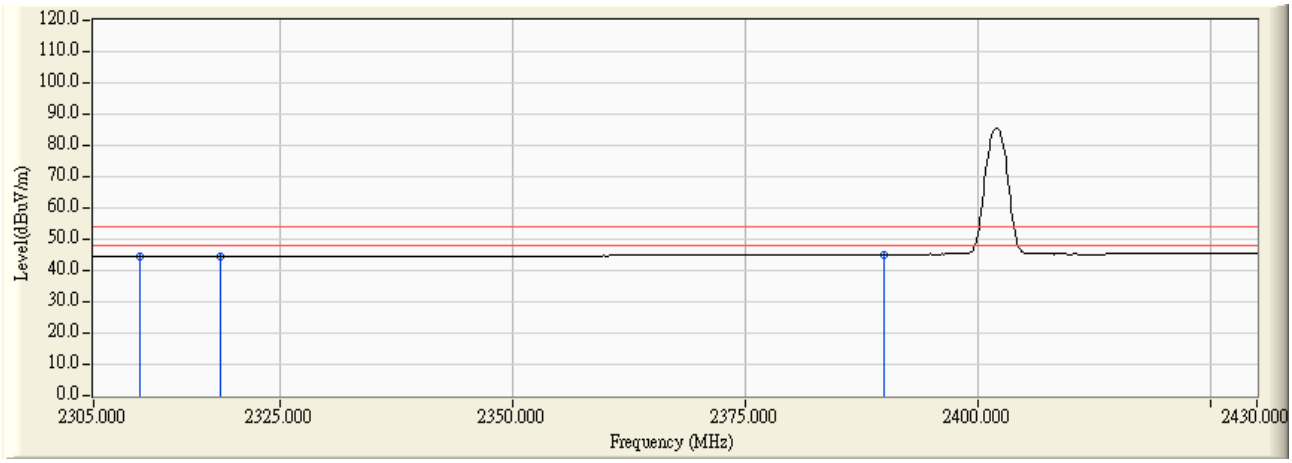


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.408	29.940	57.348	-16.652	74.000	PEAK
2	*	2318.625	27.443	31.432	58.876	-15.124	74.000	PEAK
3		2390.000	27.742	30.336	58.078	-15.922	74.000	PEAK

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.

Site : CB1	**Time : 2011/05/11 - 19:15**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : EFS_1-18G(2011-04) - HORIZONTAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2401.92 MHz**

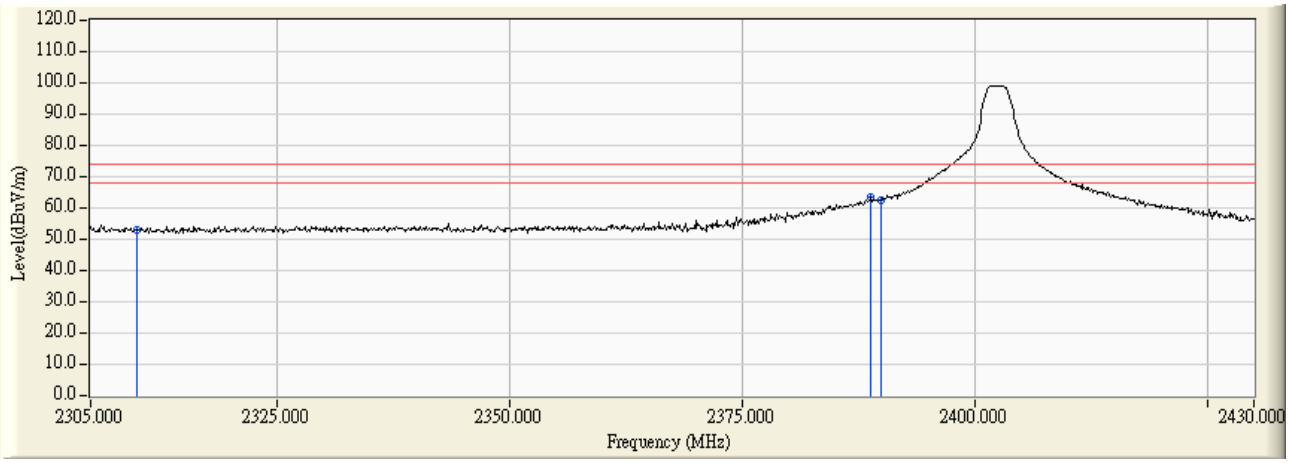


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.408	16.954	44.362	-9.638	54.000	AVERAGE
2		2318.625	27.443	16.952	44.396	-9.604	54.000	AVERAGE
3	*	2390.000	27.742	17.327	45.069	-8.931	54.000	AVERAGE

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.

Site : CB1	**Time : 2011/05/11 - 19:07**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : EFS_1-18G(2011-04) - VERTICAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2401.92 MHz**

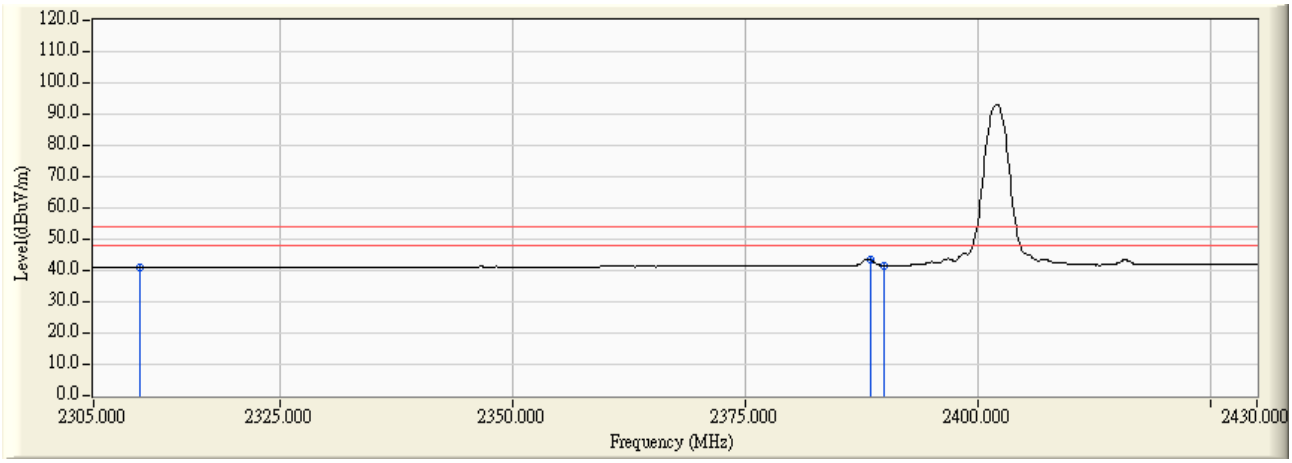


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	23.908	28.865	52.773	-21.227	74.000	PEAK
2	*	2388.875	24.237	39.508	63.745	-10.255	74.000	PEAK
3		2390.000	24.242	38.021	62.263	-11.737	74.000	PEAK

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.

Site : CB1	**Time : 2011/05/11 - 19:08**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : EFS_1-18G(2011-04) - VERTICAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2401.92 MHz**

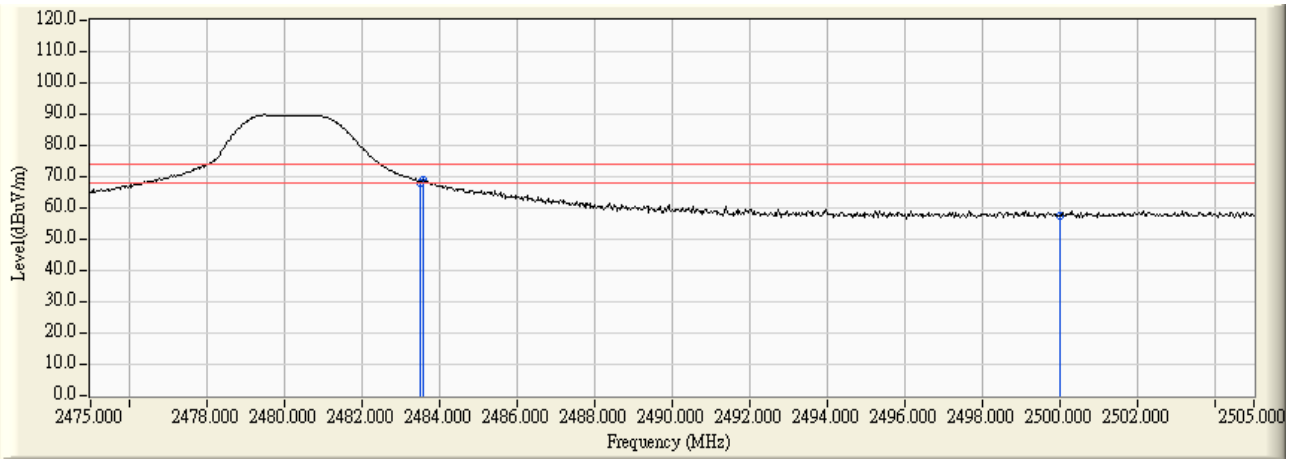


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	23.908	16.953	40.861	-13.139	54.000	AVERAGE
2	*	2388.500	24.236	19.115	43.351	-10.649	54.000	AVERAGE
3		2390.000	24.242	17.378	41.620	-12.380	54.000	AVERAGE

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.

Site : CB1	**Time : 2011/05/11 - 19:23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : EFS_1-18G(2011-04) - HORIZONTAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2479.68 MHz**

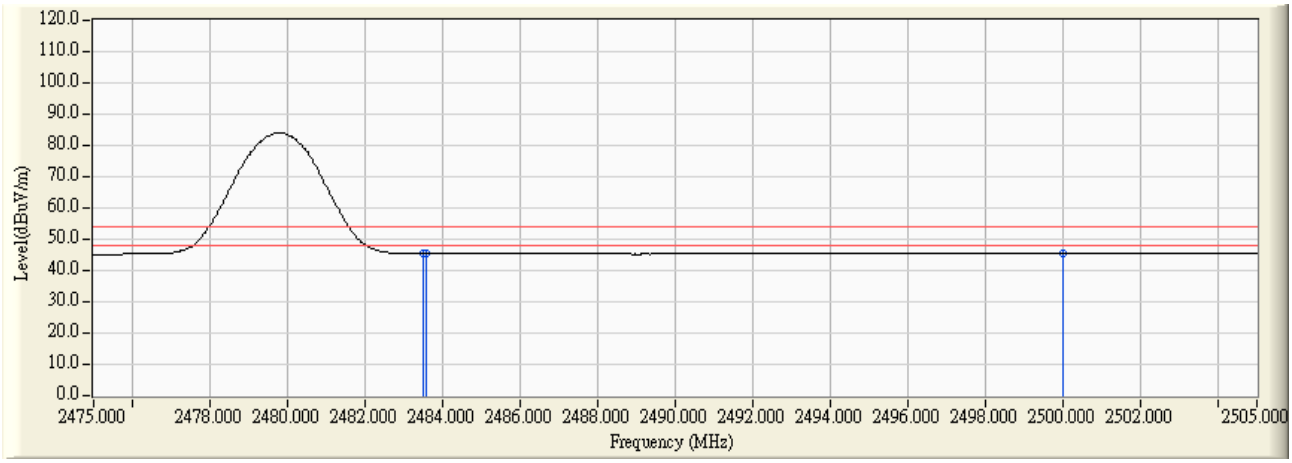


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	28.116	40.111	68.228	-5.772	74.000	PEAK
2	*	2483.580	28.117	40.694	68.811	-5.189	74.000	PEAK
3		2500.000	28.171	29.291	57.462	-16.538	74.000	PEAK

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.

Site : CB1	**Time : 2011/05/11 - 19:23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : EFS_1-18G(2011-04) - HORIZONTAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2479.68 MHz**

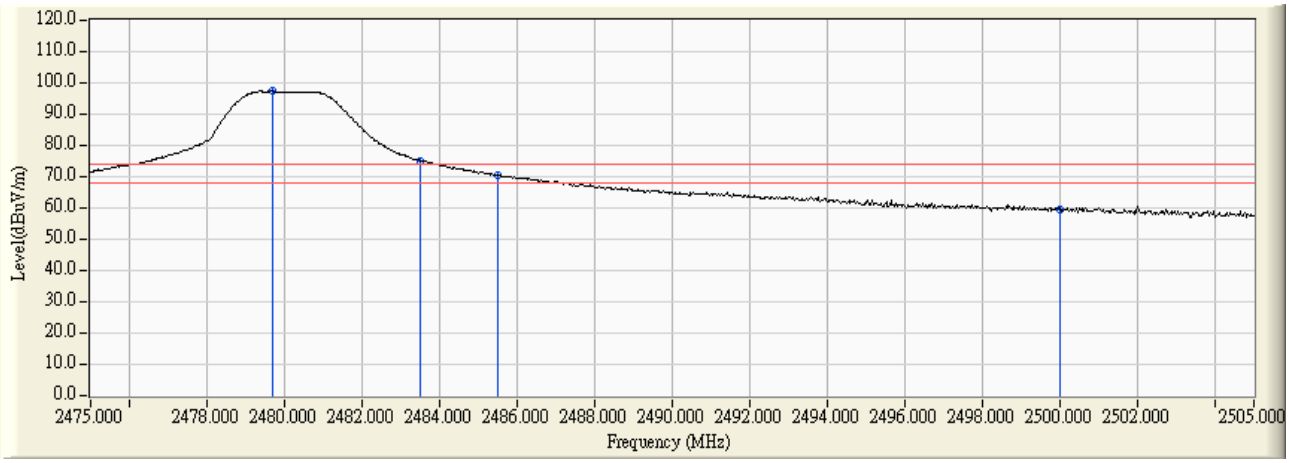


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	28.116	17.320	45.437	-8.563	54.000	AVERAGE
2		2483.580	28.117	17.302	45.419	-8.581	54.000	AVERAGE
3	*	2500.000	28.171	17.301	45.472	-8.528	54.000	AVERAGE

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.

Site : CB1	**Time : 2011/05/11 - 14:53**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : EFS_1-18G(2011-04) - VERTICAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2479.68 MHz**

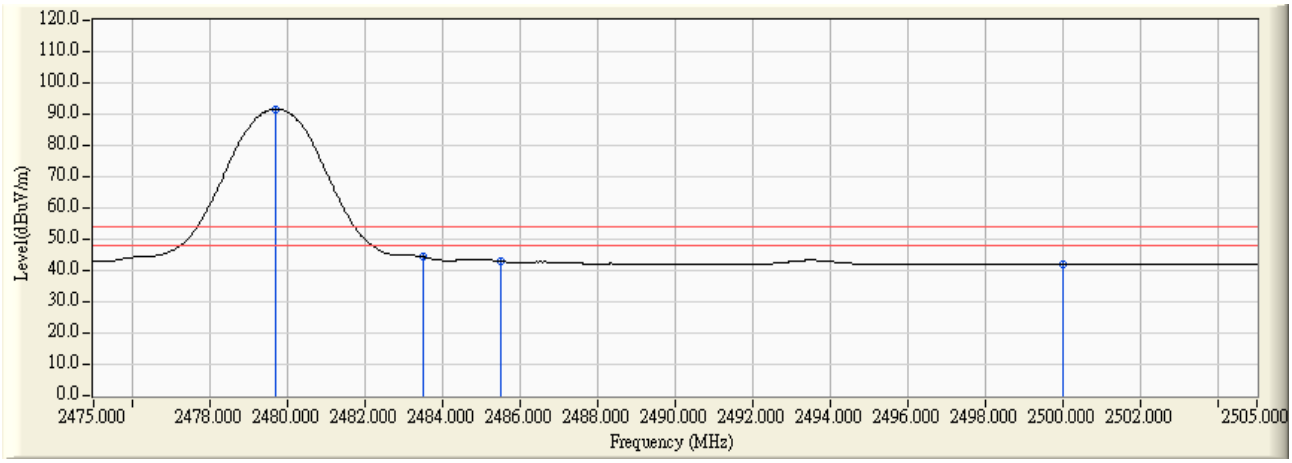


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Detector Type
1	*	2479.710	24.605	72.668	97.272	PEAK
2		2483.500	24.616	50.509	75.126	PEAK
3		2485.500	24.624	45.664	70.287	PEAK
4		2500.000	24.671	35.025	59.696	PEAK

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. This test was measured according to "**FCC PUBLIC NOTICE DA 00-705 Marker-Delta Method".**

Site : CB1	**Time : 2011/05/11 - 15:07**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : EFS_1-18G(2011-04) - VERTICAL	**Power : AC120V/60Hz**
EUT : 1-to-1 Wireless Audio Transmitter	**Note : 2479.68 MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Detector Type
1	*	2479.710	24.605	67.039	91.643	AVERAGE
2		2483.500	24.616	19.695	44.312	AVERAGE
3		2485.500	24.624	18.285	42.908	AVERAGE
4		2500.000	24.671	17.450	42.121	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. This test was measured according to "**FCC PUBLIC NOTICE DA 00-705 Marker-Delta Method".**

Product	1-to-1 Wireless Audio Transmitter		
Test Item	Radiated Emission Band Edge		
Test Mode	Transmit		
Date of Test	2011/05/11	Test Site	CB1

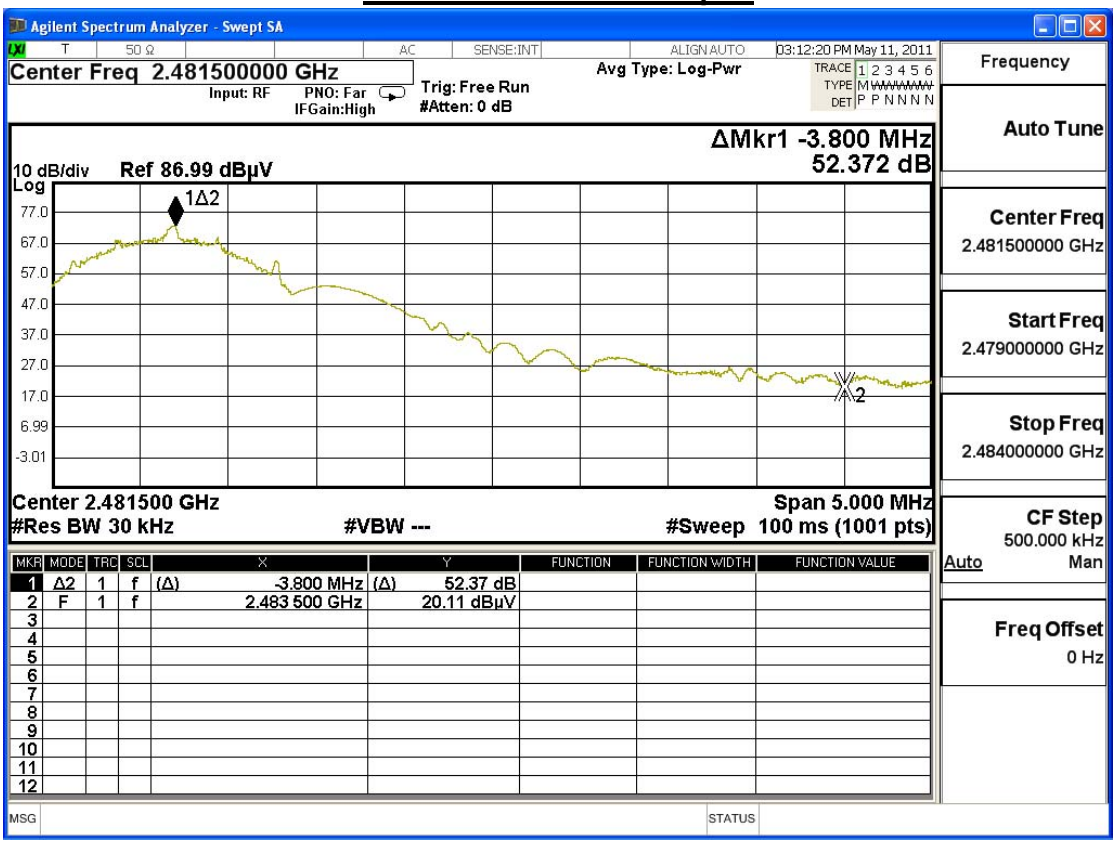
Peak Detector

Channel No.	Centre frequency (MHz)	Measure frequency (MHz)	Fundamental Level (dBuV/m)	Delta Marker (dB)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)
8	2479.680	2483.5	97.272	52.372	44.9	-29.1	74

Average Detector

Channel No.	Centre frequency (MHz)	Measure frequency (MHz)	Fundamental Level (dBuV/m)	Delta Marker (dB)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)
8	2479.680	2483.5	91.643	52.372	39.271	-14.729	54

Delta marker at 1% of span



Note: This test was measured according to **"FCC PUBLIC NOTICE DA 00-705 Marker-Delta Method".**

7. Occupied Bandwidth

7.1. Test Equipment

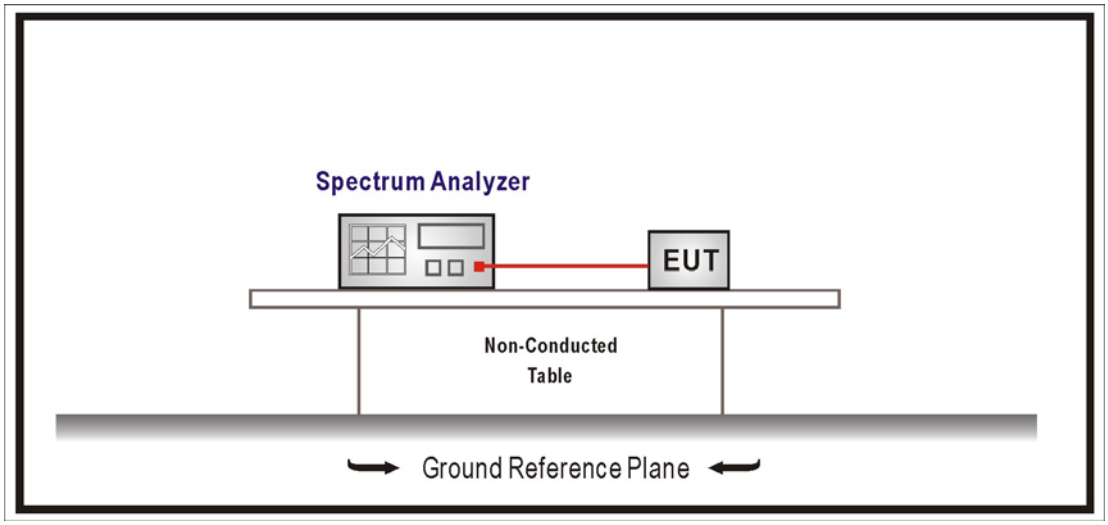
The following test equipment is used during the test:

Occupied Bandwidth / SR7

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

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

7.2. Test Setup



7.3. Test Procedures

The EUT was setup according to ANSI C63.4, 2009; tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 100 kHz, Span greater than RBW.

7.4. Limits

The 6 dB bandwidth must be greater than 500 kHz.

7.5. Uncertainty

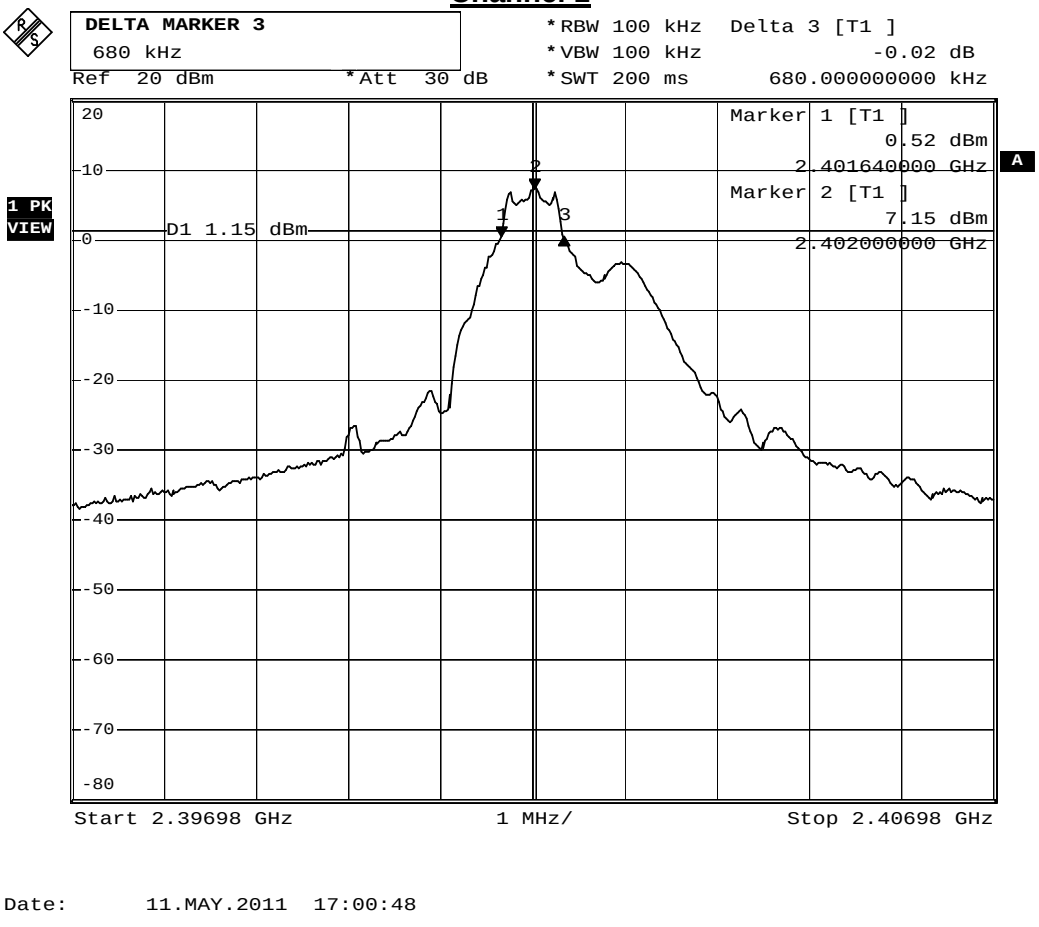
The measurement uncertainty is defined as ±150Hz

7.6. Test Result

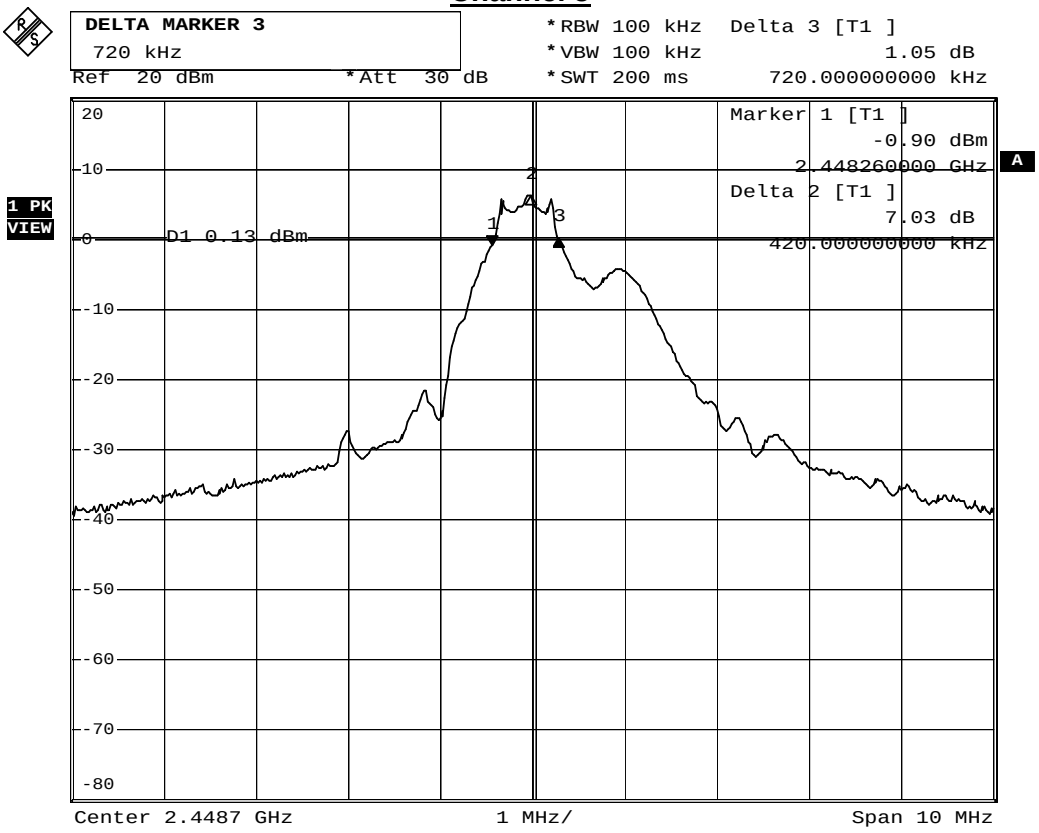
Product	1-to-1 Wireless Audio Transmitter		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2011/05/13	Test Site	SR7

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2401.920	680	≥500	Pass
5	2448.576	720	≥500	Pass
8	2479.680	760	≥500	Pass

Channel 1

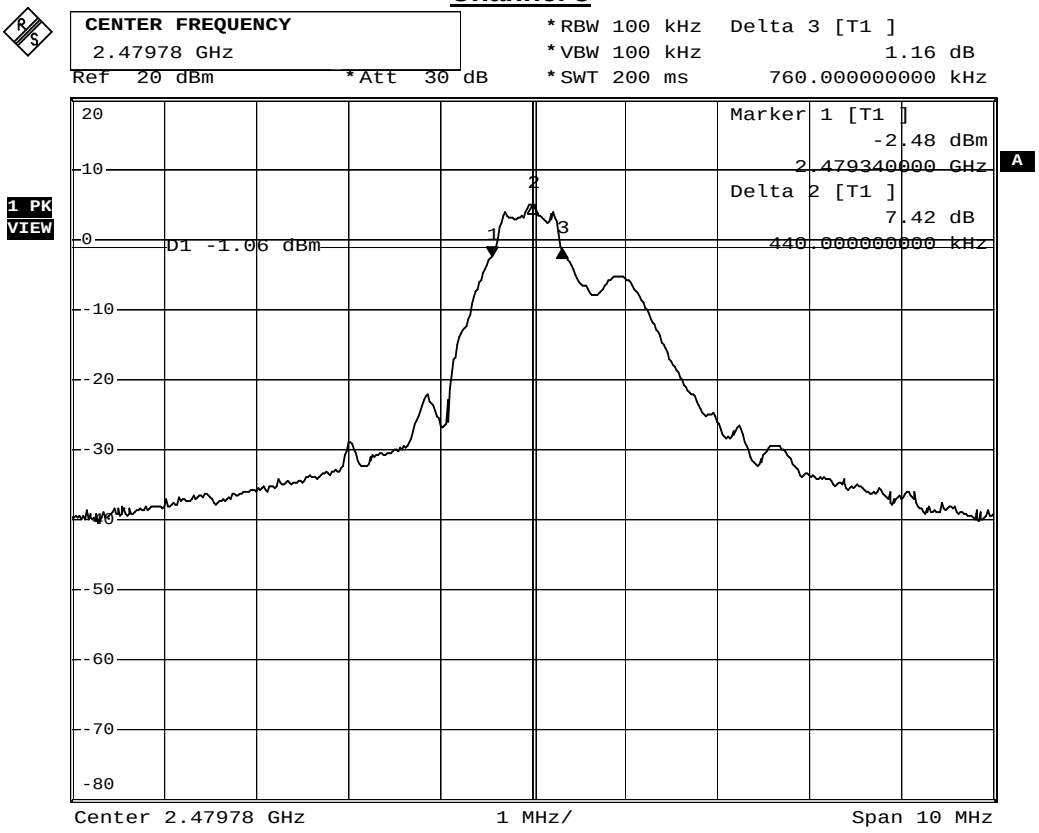


Channel 5



Date: 11.MAY.2011 17:06:39

Channel 8



Date: 11.MAY.2011 17:10:50

8. Power Density

8.1. Test Equipment

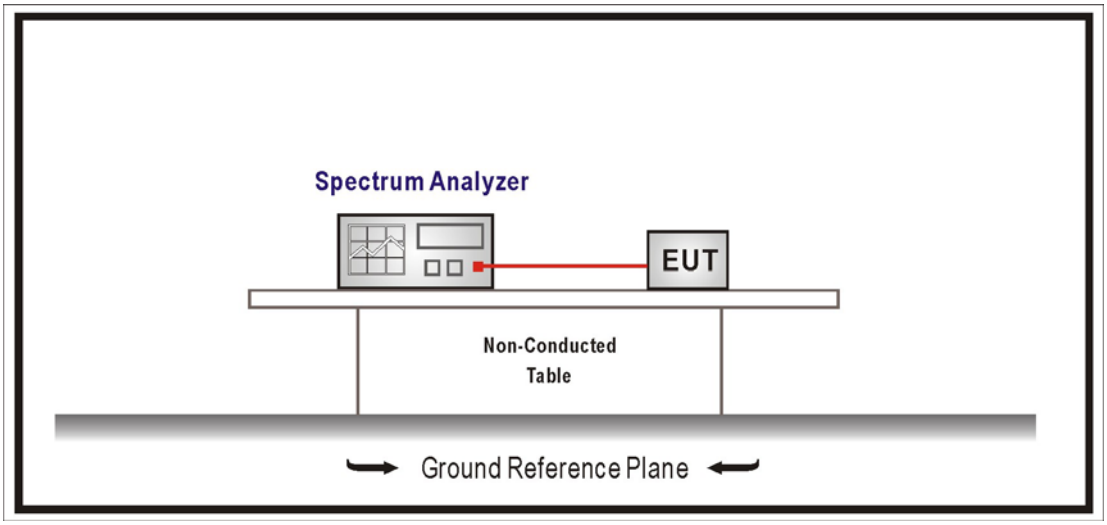
The following test equipment is used during the test:

Power Density / 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

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8dBm in any 3kHz band during any time interval of continuous transmission.

8.4. Test Procedures

The EUT was setup according to ANSI C63.4, 2009; tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

PSD Option 2:

Set RBW= 3 kHz, Set VBW≧ 9 kHz, Sweep time=Auto, Set detector=Peak detector. Use a video trigger. Trace average 100 traces in power averaging mode.

8.5. Uncertainty

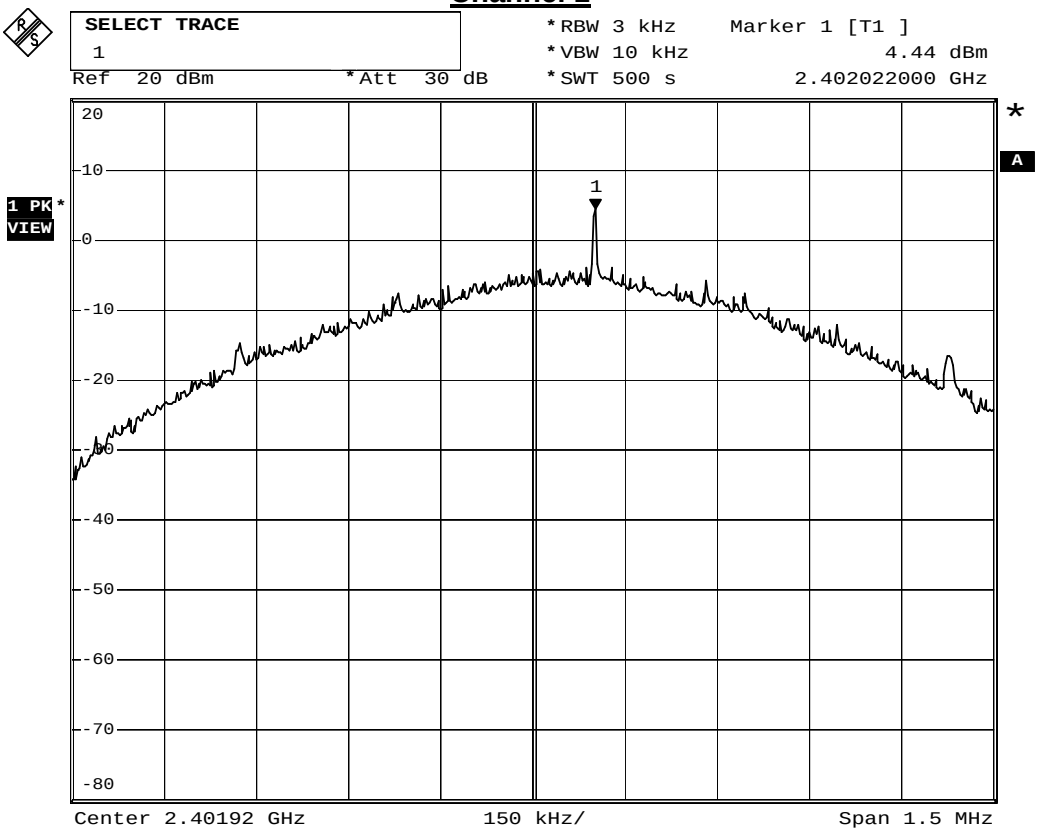
The measurement uncertainty is defined as ±1.27dB.

8.6. Test Result

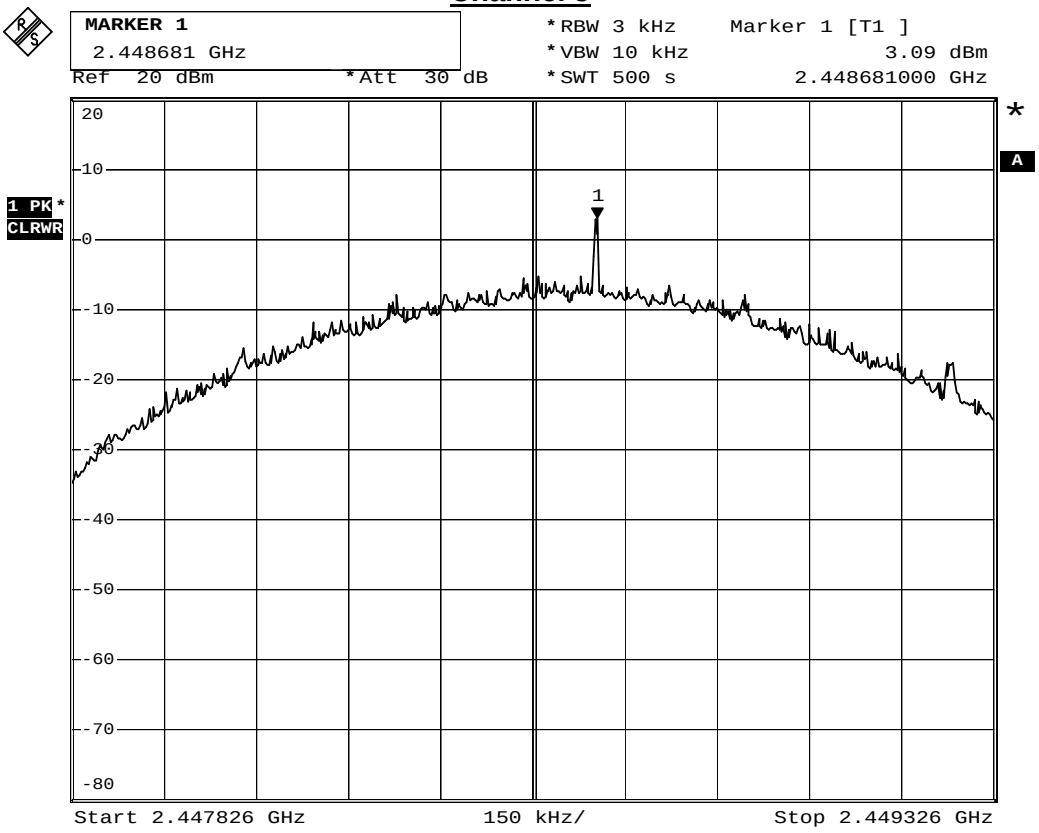
Product	1-to-1 Wireless Audio Transmitter		
Test Item	Power Density		
Test Mode	Transmit		
Date of Test	2011/05/11	Test Site	SR7

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2401.920	4.44	≤8	Pass
5	2448.576	3.09	≤8	Pass
3	2479.680	1.71	≤8	Pass

Channel 1

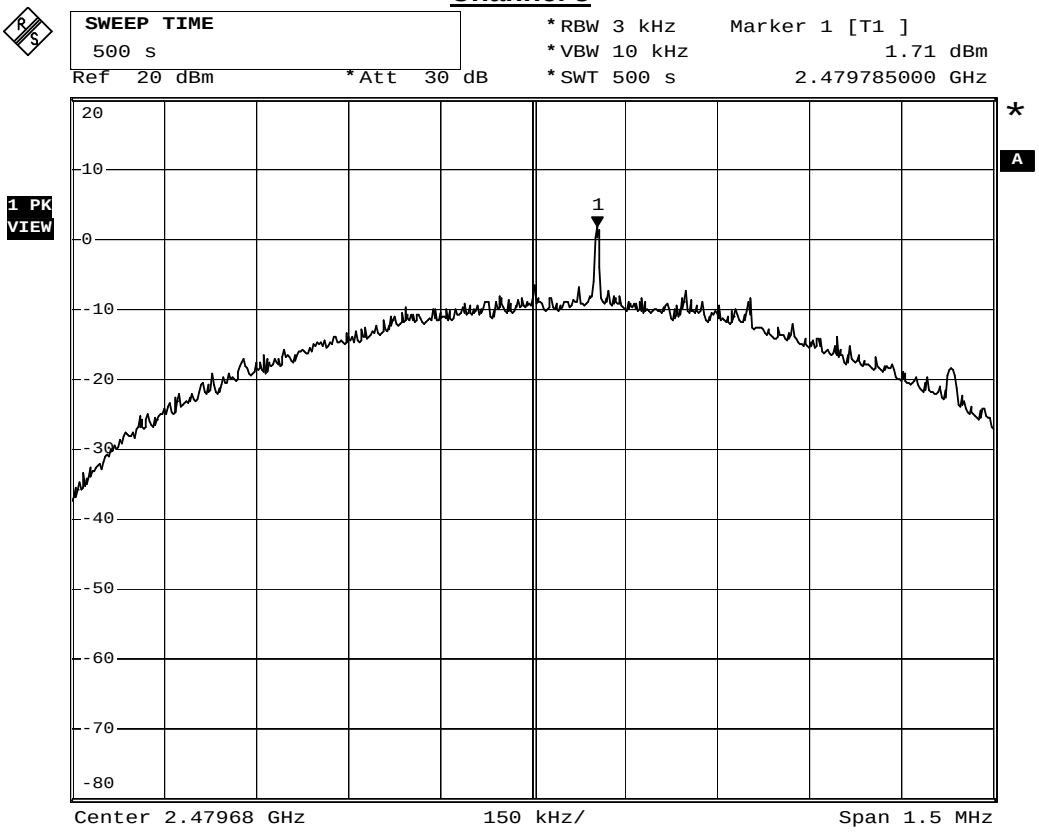


Channel 5



Date: 11.MAY.2011 17:26:46

Channel 8



Date: 11.MAY.2011 17:30:40