



NVLAP LAB CODE 200707-0



FCC PART 15.247

MEASUREMENT AND TEST REPORT

For

President Industry Development (Shenzhen) Co, Ltd.

West Side of Bu-Long Road, LongHua Street,
Shenzhen, Guangdong, China

FCC ID: VCPKB33S-KC33S

This Report Concerns: <input checked="" type="checkbox"/> Original Report		Equipment Type: Bluetooth Stereo Headphone
Test Engineer:	Phoenix Liu <i>Phoenix Liu</i>	
Report No.:	RSZ08040303	
Test Date:	2008-04-17 to 2008-04-22	
Report Date:	2008-04-25	
Reviewed By:	EMC Manager: Green Xu <i>Green Xu</i>	
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008	

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *President Industry Development(Shenzhen)Co,Ltd.* 's product, model number: *KB33S* or the "EUT" as referred to in this report is a *Bluetooth Stereo Headphone*, which measures approximately: 13.0 cm L x 14.0 cm W x 2.5 cm H, input voltage: DC 3.7V battery.

** All measurement and test data in this report was gathered from production sample serial number: 0804007 (Assigned by BACL, Shenzhen). The EUT was received on 2008-04-03.*

Objective

This Type approval report is prepared on behalf of *President Industry Development (Shenzhen) Co, Ltd.* in accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).



NVLAP LAB CODE 200707-0

The current scope of accreditations can be found at
<http://ts.nist.gov/Standards/scopes/2007070.htm>

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

EUT Exercise Software

N/A.

Special Accessories

The special accessories were provided by Bay Area Compliance Laboratories Corp. (Shenzhen).

Equipment Modifications

No modification was made to the unit tested.

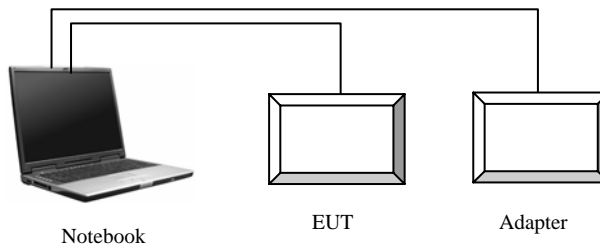
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
COMPAQ	Notebook	PP2040	N610Cp180X430VC250	DoC

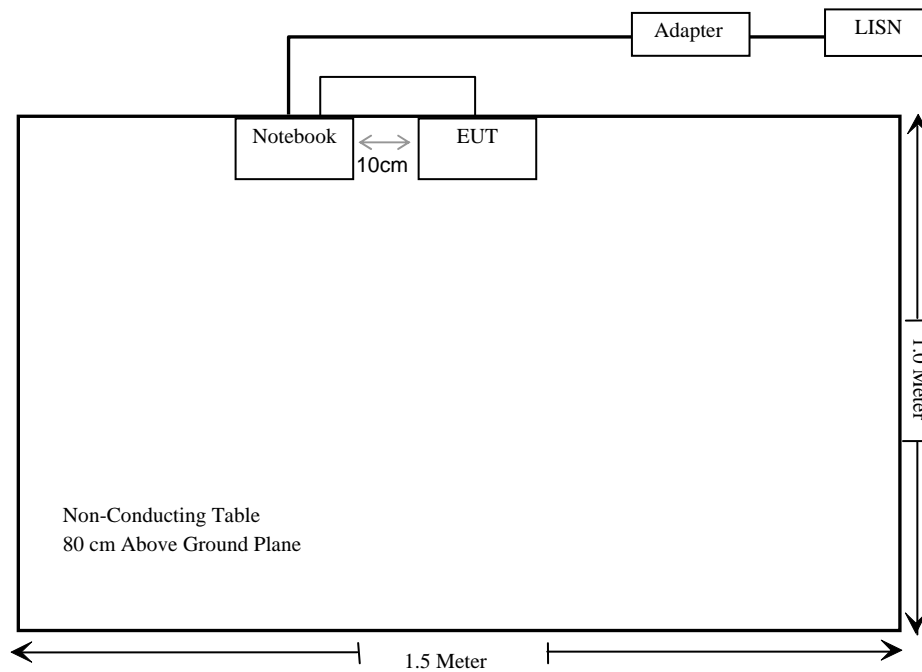
External I/O Cable

Cable Description	Length (m)	From Port	To
Unshielded Detachable USB Cable	0.80	EUT	Notebook

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
CFR47 §15.247 (i), §1.1307 (b)(1)	Maximun Permissible exposure	Compliant
CFR47 §15.203	Antenna Requirement	Compliant
CFR47 §15.207 (a)	Conducted Emissions	Compliant
CFR47 §15.205, §15.209, §15.247(d)	Radiated Emission	Compliant
CFR47 §15.247 (a)(1)	20 dB Bandwidth	Compliant
CFR47 §15.247(a)(1)	Channel Separation Test	Compliant
CFR47 §15.247(a)(1)(iii)	Time of occupancy (Dwell Time)	Compliant
CFR47 §15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliant
CFR47 §15.247(b)(1)	Peak Output Power Measurement	Compliant
CFR47 §15.247(d)	Band edges	Compliant

CFR47 §15.247 (i) and §1.1310 §2.1093 - RF EXPOSURE

Standard Applicable

According to CFR47 § 1.1310, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to FCC Exclusion list, In the following table, fGHz is mid-band frequency in GHz, and d is the distance to a person's body, excluding hands, wrists, feet, and ankles.

Exposure category	<u>low threshold</u>	<u>high threshold</u>
general population	$(60/f_{\text{GHz}})$ mW, $d < 2.5$ cm $(120/f_{\text{GHz}})$ mW, $d \geq 2.5$ cm	$(900/f_{\text{GHz}})$ mW, $d < 20$ cm
occupational	$(375/f_{\text{GHz}})$ mW, $d < 2.5$ cm $(900/f_{\text{GHz}})$ mW, $d \geq 2.5$ cm	$(2250/f_{\text{GHz}})$ mW, $d < 20$ cm

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

Measurement Result:

This is a portable device and the Max peak output power is $1.435 \text{ mW} < 24.59 \text{ mW} = (60/2.440 \text{ GHz}) \text{ mW}$

The SAR measurement is not necessary.

CFR47 §15.203 - ANTENNA REQUIREMENT

Standard Applicable

According to CFR47 § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Antenna Connector Construction

The EUT has a printed antenna on PCB. The maximum gain is 4 dBi; please refer to the internal photos.

Result: Compliance.

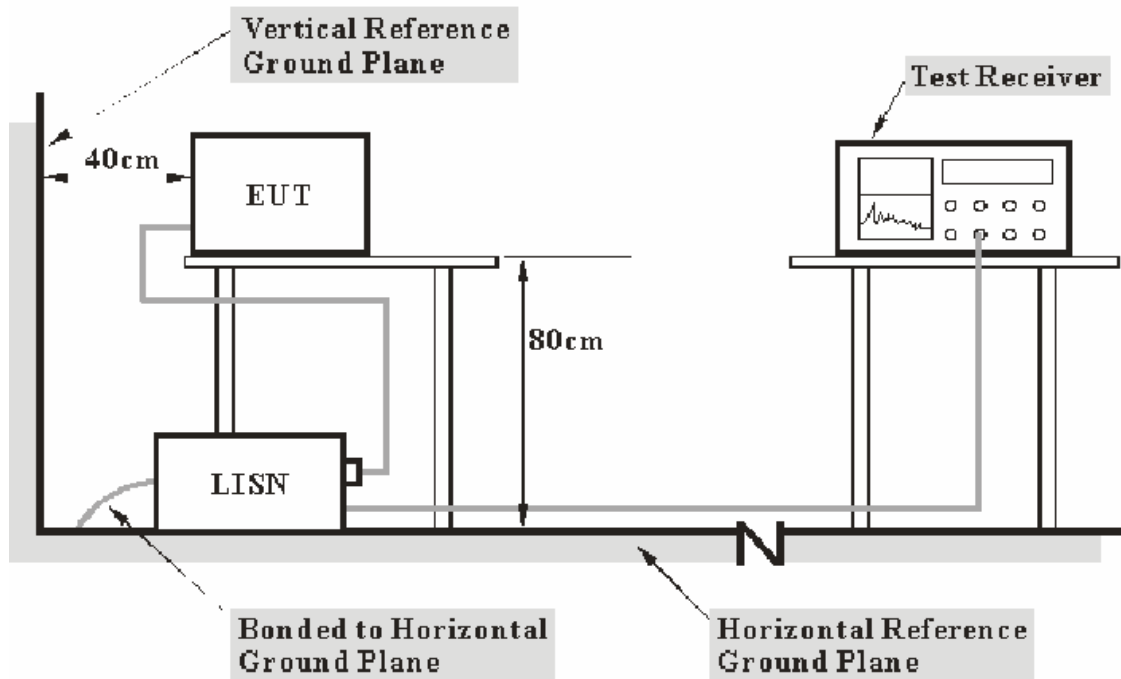
§15.207 (a) - CONDUCTED EMISSIONS

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratory Corp. (Shenzhen) is ± 2.4 dB.

EUT Setup



- Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC 15.207.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

<i>Frequency Range</i>	<i>IF B/W</i>
150 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Com-Power	L.I.S.N.	LI-200	12005	N/A	N/A
Com-Power	L.I.S.N.	LI-200	12008	N/A	N/A
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2007-03-26	2008-03-26
Rohde&Schwarz	Spectrum Analyzer	FSEM30	849720/019	2007-05-09	2008-05-09

* Com-Power's LISN were used as the supporting equipment.

* **Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, with the worst margin reading of:

13.40 dB at 4.925 MHz in the **Neutral** conductor mode

Test Data**Environmental Conditions**

Temperature:	26 ° C
Relative Humidity:	55 %
ATM Pressure:	100.0 kPa

The testing was performed by Phoenix Liu on 2008-04-21

Test Mode: Communicating

Line Conducted Emissions				FCC Part 15.207	
Frequency (MHz)	Amplitude (dBμV)	Detector (QP/AV)	Conductor (Hot/Neutral)	Limit (dBμV)	Margin (dB)
4.925	32.60	AV	Neutral	46.00	13.40
2.625	32.00	AV	Neutral	46.00	14.00
2.145	29.30	AV	Hot	46.00	16.70
4.895	27.60	AV	Hot	46.00	18.40
4.925	36.80	QP	Neutral	56.00	19.20
4.895	36.60	QP	Hot	56.00	19.40
2.630	36.20	QP	Neutral	56.00	19.80
14.615	35.50	QP	Hot	56.00	20.50
0.200	42.90	QP	Hot	63.61	20.71
0.200	32.90	AV	Neutral	53.61	20.71
0.405	26.80	AV	Neutral	47.75	20.95
0.200	42.30	QP	Neutral	63.61	21.31
19.695	28.10	AV	Neutral	50.00	21.90
0.200	29.90	AV	Hot	53.61	23.71
19.685	36.20	QP	Neutral	60.00	23.80
0.270	27.20	AV	Neutral	51.12	23.92
14.570	24.80	AV	Hot	50.00	25.20
0.270	35.70	QP	Neutral	61.12	25.42
0.270	35.70	QP	Hot	61.12	25.42
0.270	24.90	AV	Hot	51.12	26.22
2.145	32.60	QP	Hot	59.33	26.73
0.405	29.80	QP	Neutral	57.75	27.95
0.335	30.90	QP	Hot	59.33	28.43
0.335	20.10	AV	Hot	49.33	29.23

Plot(s) of Test Data

Plot(s) of Test Data is presented hereinafter as reference.

Hot:

Conducted Emission

21. Apr 08 13:10

FCC part15

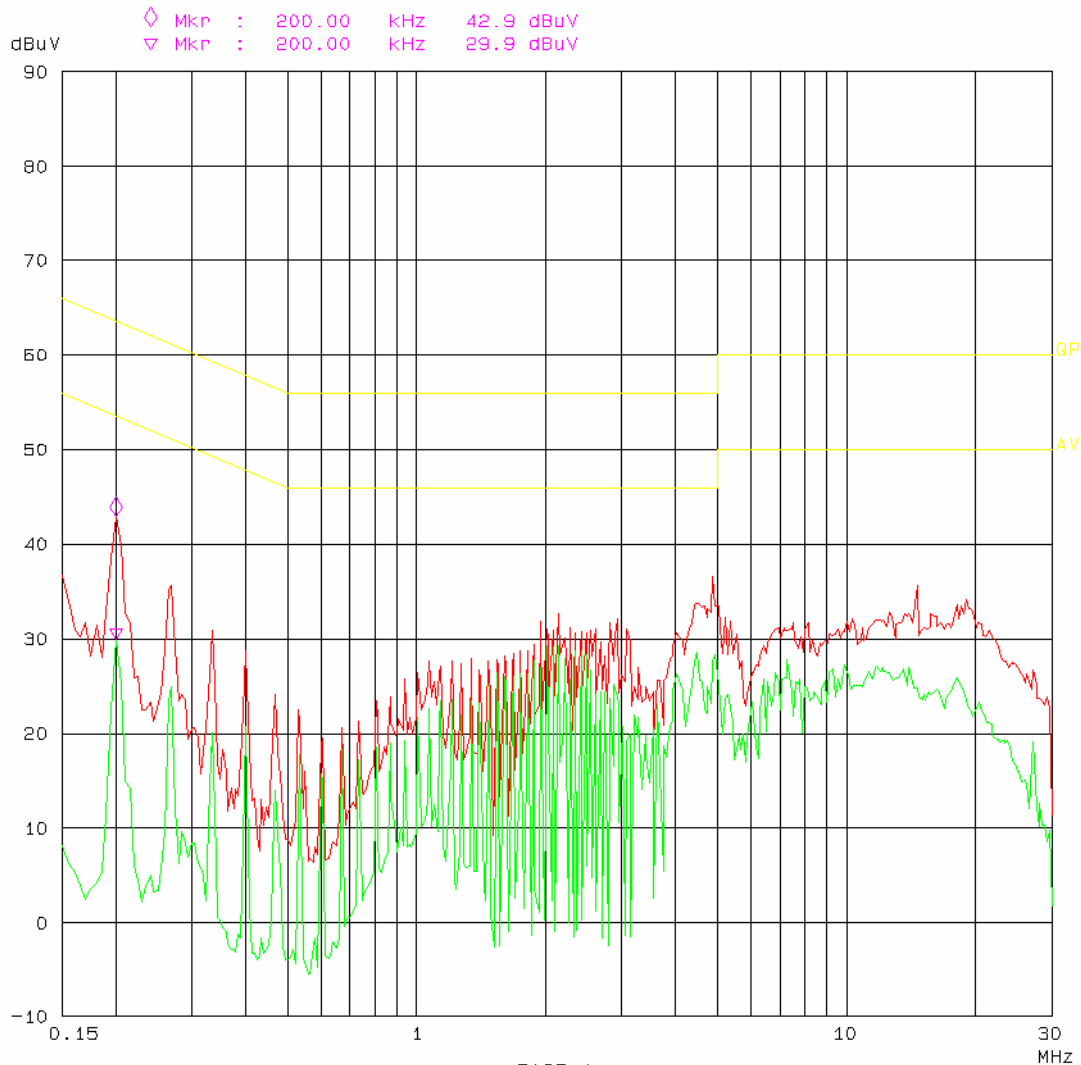
EUT: Bluetooth stereo headphone M/N: KB33S
Manuf: President

Operator: Phoenix
Test Spec: AC 120V/60Hz H
Comment: Temp: 25 Humi: 56%

Scan Settings (1 Range)

----- Frequencies -----			----- Receiver Settings -----				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	5k	9k	PK+AV	20ms	AUTO LN	OFF

Final Measurement:	x QP / + AV	Transducer	No.	Start	Stop	Name
Meas Time:	1 s		5	150k	30M	ESH2_Z5
Subranges:	8					
Acc Margin:	5dB					



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Neutral:

Conducted Emission

21. Apr 08 11:48

FCC part 15

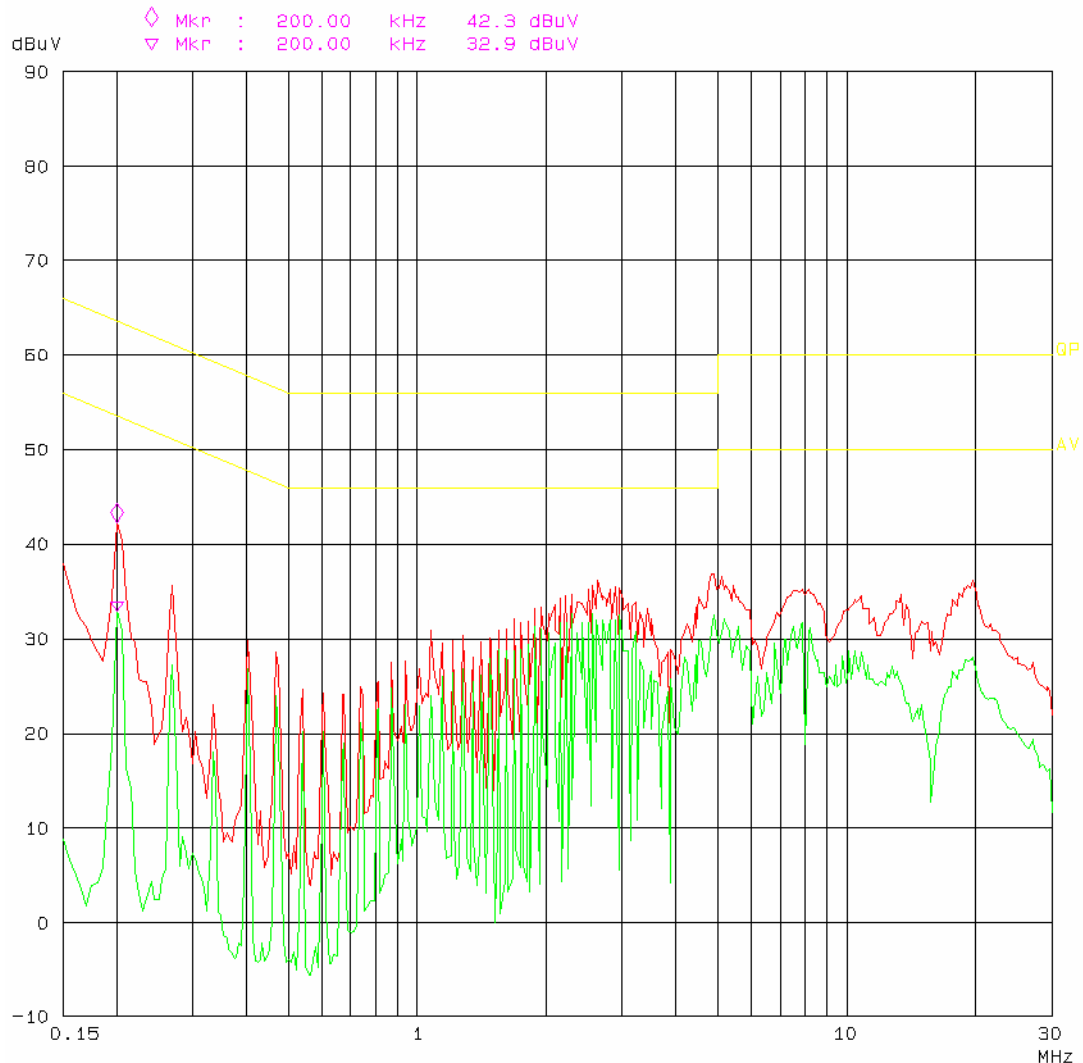
EUT: Bluetooth stereo headphone M/N: KB33S
Manuf: President

Operator: Phoenix
Test Spec: AC 120V/60Hz N
Comment: Temp: 25 Humi: 56%

Scan Settings (1 Range)

----- Frequencies -----			----- Receiver Settings -----				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	5k	9k	PK+AV	20ms	AUTO	LN OFF

Final Measurement:	x QP / + AV	Transducer	No.	Start	Stop	Name
Meas Time:	1 s		5	150k	30M	ESH2_Z5
Subranges:	8					
Acc Margin:	5dB					



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CFR47 §15.205, §15.209, §15.247 - RADIATED EMISSIONS

Applicable Standard

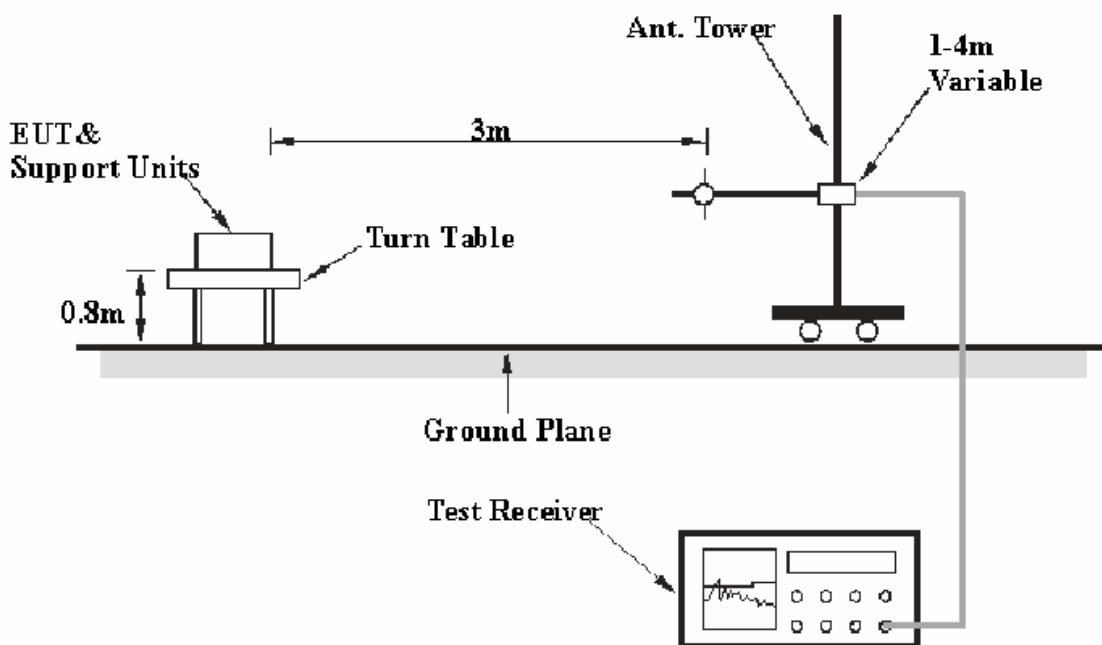
CFR47 §15.205; §15.209; §15.247 (d).

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is ± 4.0 dB.

EUT Setup



The radiated emission tests were performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.109, FCC 15.209 and FCC 15.247 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

<i>Frequency Range</i>	<i>RBW</i>	<i>Video B/W</i>
30MHz – 1000 MHz	100 kHz	300 kHz
1000 MHz – 25 GHz	1 MHz	3 MHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447D	2944A09795	2007-11-15	2008-11-15
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2007-08-14	2008-08-14
HP	Amplifier	8449B	3008A00277	2007-09-29	2008-09-29
Sunol Sciences	Horn Antenna	DRH-118	A052604	2007-09-25	2008-09-25
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2007-05-09	2008-05-09

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

For the radiated emissions test, the adapter was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz and peak and Average detection modes for frequencies above 1GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the maximum limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.109, 15.205, 15.209, and 15.247, with the worst margin reading of:

Transmitting mode (30 – 1000 MHz):

4.0 dB at 48.866125 MHz in the Vertical polarization

Charging mode (30 – 1000 MHz):

3.9 dB at 533.325100 MHz in the Horizontal polarization

Transmitting mode (Above 1 GHz):

7.25 dB at 4804 MHz in the Vertical polarization (Low Channel)

7.92 dB at 4882 MHz in the Horizontal polarization (Middle Channel)

7.38 dB at 4960 MHz in the Vertical polarization (High Channel)

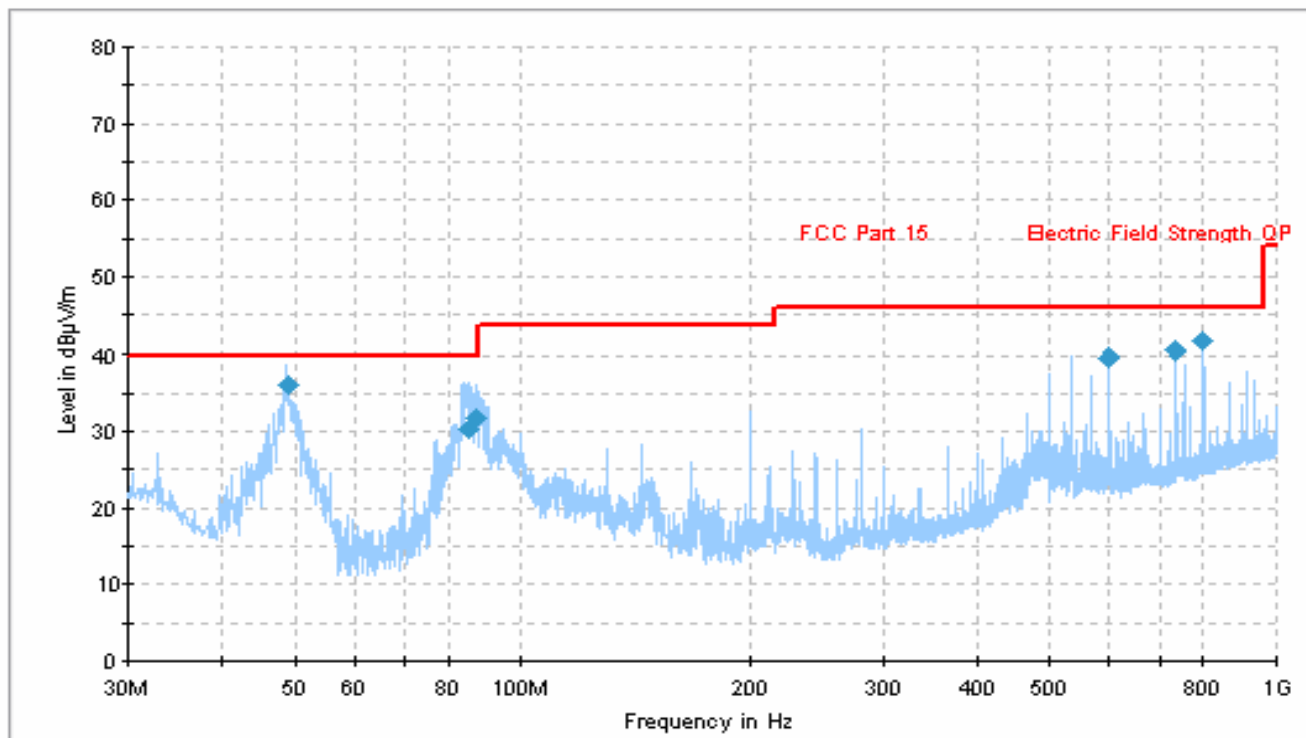
Test Data

Environmental Conditions

Temperature:	20 ° C
Relative Humidity:	50 %
ATM Pressure:	100.8 kPa

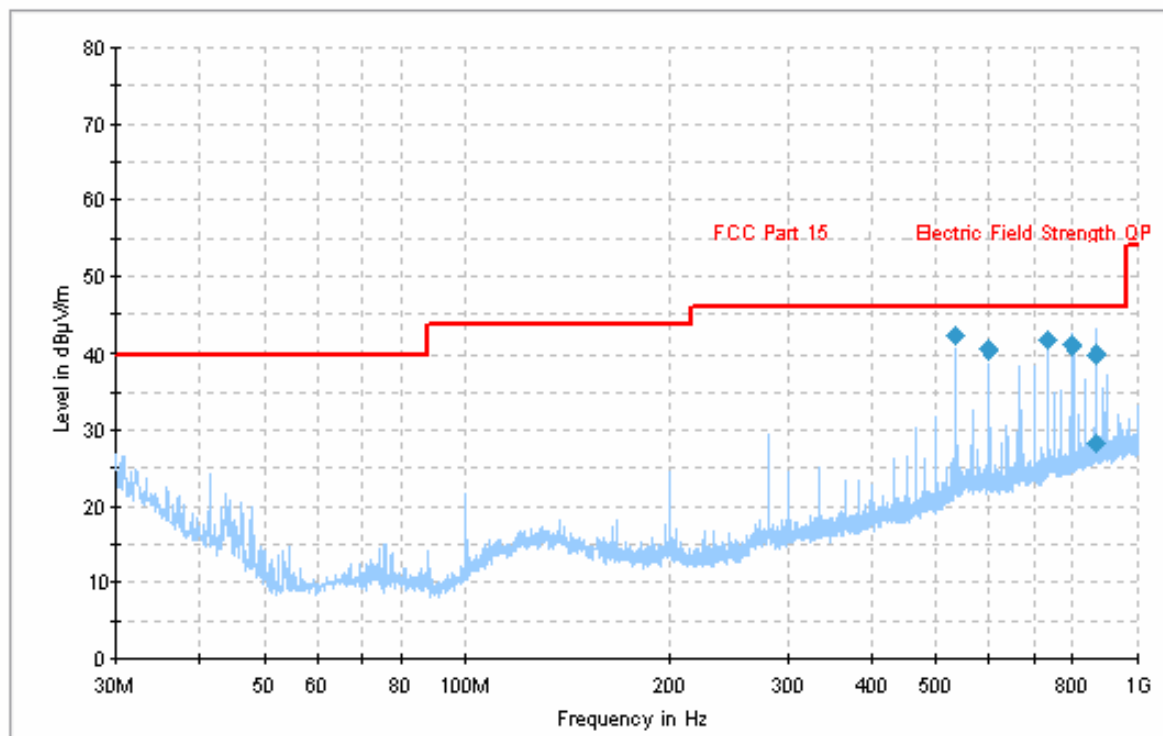
The testing was performed by Phoenix Liu on 2008-04-22

Test Mode: Transmitting (30 – 1000 MHz)



Frequency (MHz)	Corrected Amp. (dBμV/m)	Antenna Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBμV/m)	Margin (dB)
48.866125	36.0	104.0	V	275.0	-16.6	40.0	4.0
800.035950	41.5	103.0	H	7.0	-0.3	46.0	4.5
733.317250	40.5	132.0	V	90.0	-1.2	46.0	5.5
600.000000	39.7	173.0	H	179.0	-3.7	46.0	6.3
87.201825	31.8	122.0	V	286.0	-17.5	40.0	8.2
85.010250	30.4	103.0	V	296.0	-17.4	40.0	9.6

Test Mode: Charging (30 – 1000 MHz)



Frequency (MHz)	Corrected Amp. (dBμV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBμV/m)	Margin (dB)
533.325100	42.1	136.0	H	0.0	-4.5	46.0	3.9
733.338775	41.7	102.0	H	0.0	-1.2	46.0	4.3
800.007600	41.1	102.0	H	335.0	-0.3	46.0	4.9
600.002025	40.3	177.0	H	173.0	-3.7	46.0	5.7
866.639675	39.9	102.0	V	87.0	0.5	46.0	6.1
863.512900	28.4	118.0	V	0.0	0.5	46.0	23.5

Test Mode: Transmitting (Above 1GHz)

Freq. (MHz)	Meter Reading (dBuV)	Detector PK/QP/AV	Direction Degree	Antenna			Cable Loss (dB)	Pre- Amp. Gain (dB)	Corr. Amp. (dBuV/m)	FCC Part 15.247/209		
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBuV/m)	Margin (dB)	Remarks
Low Channel (2402 MHz)												
4804	40.81	AV	90	1.0	V	34.7	4.64	33.4	46.75	54	7.25	Harmonic
4804	40.46	AV	90	1.0	H	34.6	4.64	33.4	46.30	54	7.70	Harmonic
4804	40.46	AV	90	1.0	H	34.6	4.64	33.4	46.30	54	7.70	Harmonic
1196	48.32	AV	180	1.2	V	26.0	2.77	35.0	42.09	54	11.91	Spurious
1196	46.01	AV	180	1.2	H	26.5	2.77	35.0	40.28	54	13.72	Spurious
1196	46.01	AV	180	1.2	H	26.5	2.77	35.0	40.28	54	13.72	Spurious
4804	45.12	PK	180	1.2	V	34.7	4.64	33.4	51.06	74	22.94	Harmonic
4804	44.77	PK	180	1.2	H	34.6	4.64	33.4	50.61	74	23.39	Harmonic
4804	44.77	PK	180	1.2	H	34.6	4.64	33.4	50.61	74	23.39	Harmonic
1196	52.63	PK	45	1.2	V	26.0	2.77	35.0	46.40	74	27.60	Spurious
1196	50.32	PK	45	1.2	H	26.5	2.77	35.0	44.59	74	29.41	Spurious
1196	50.32	PK	45	1.2	H	26.5	2.77	35.0	44.59	74	29.41	Spurious
Middle Channel (2441 MHz)												
4882	40.14	AV	142	1.6	H	34.7	4.64	33.4	46.08	54	7.92	Harmonic
4882	40.14	AV	142	1.6	H	34.7	4.64	33.4	46.08	54	7.92	Harmonic
4882	40.22	AV	243	1.4	V	34.6	4.64	33.4	46.06	54	7.94	Harmonic
1200	47.40	AV	85	1.5	V	26.5	2.77	35.0	41.67	54	12.33	Spurious
1200	46.05	AV	135	1.3	H	26.0	2.77	35.0	39.82	54	14.18	Spurious
1200	46.05	AV	135	1.3	H	26.0	2.77	35.0	39.82	54	14.18	Spurious
4882	44.45	PK	234	1.8	H	34.7	4.64	33.4	50.39	74	23.61	Harmonic
4882	44.45	PK	234	1.8	H	34.7	4.64	33.4	50.39	74	23.61	Harmonic
4882	44.53	PK	153	1.5	V	34.6	4.64	33.4	50.37	74	23.63	Harmonic
1200	51.71	PK	265	1.4	V	26.5	2.77	35.0	45.98	74	28.02	Spurious
1200	50.36	PK	156	1.4	H	26.0	2.77	35.0	44.13	74	29.87	Spurious
1200	50.36	PK	156	1.4	H	26.0	2.77	35.0	44.13	74	29.87	Spurious
High Channel (2480 MHz)												
4960	40.77	AV	142	1.5	V	34.7	4.55	33.4	46.62	54	7.38	Harmonic
4960	39.79	AV	256	1.8	H	34.6	4.55	33.4	45.54	54	8.46	Harmonic
4960	39.79	AV	256	1.8	H	34.6	4.55	33.4	45.54	54	8.46	Harmonic
1200	49.92	AV	210	1.2	V	26.0	2.77	35.0	43.69	54	10.31	Spurious
1200	47.49	AV	156	1.2	H	26.5	2.77	35.0	41.76	54	12.24	Spurious
1200	47.49	AV	156	1.2	H	26.5	2.77	35.0	41.76	54	12.24	Spurious
4960	45.08	PK	142	1.4	V	34.7	4.55	33.4	50.93	74	23.07	Harmonic
4960	44.10	PK	145	1.4	H	34.6	4.55	33.4	49.85	74	24.15	Harmonic
4960	44.10	PK	145	1.4	H	34.6	4.55	33.4	49.85	74	24.15	Harmonic
1200	54.23	PK	240	1.4	V	26.0	2.77	35.0	48.00	74	26.00	Spurious
1200	51.80	PK	128	1.5	H	26.5	2.77	35.0	46.07	74	27.93	Spurious
1200	51.80	PK	128	1.5	H	26.5	2.77	35.0	46.07	74	27.93	Spurious

CFR47 §15.247(a) (1)-CHANNEL SEPARATION TEST

Applicable Standard

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater provided the systems operate with an output power no greater than 125 mW.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Set the EUT in transmitting mode, spectrum Bandwidth was set at 100 kHz, maxhold the channel.
2. Set the adjacent channel of the EUT maxhold another truce
3. Measure the channel separation.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.8 kPa

The testing was performed by Phoenix Liu on 2008-04-17.

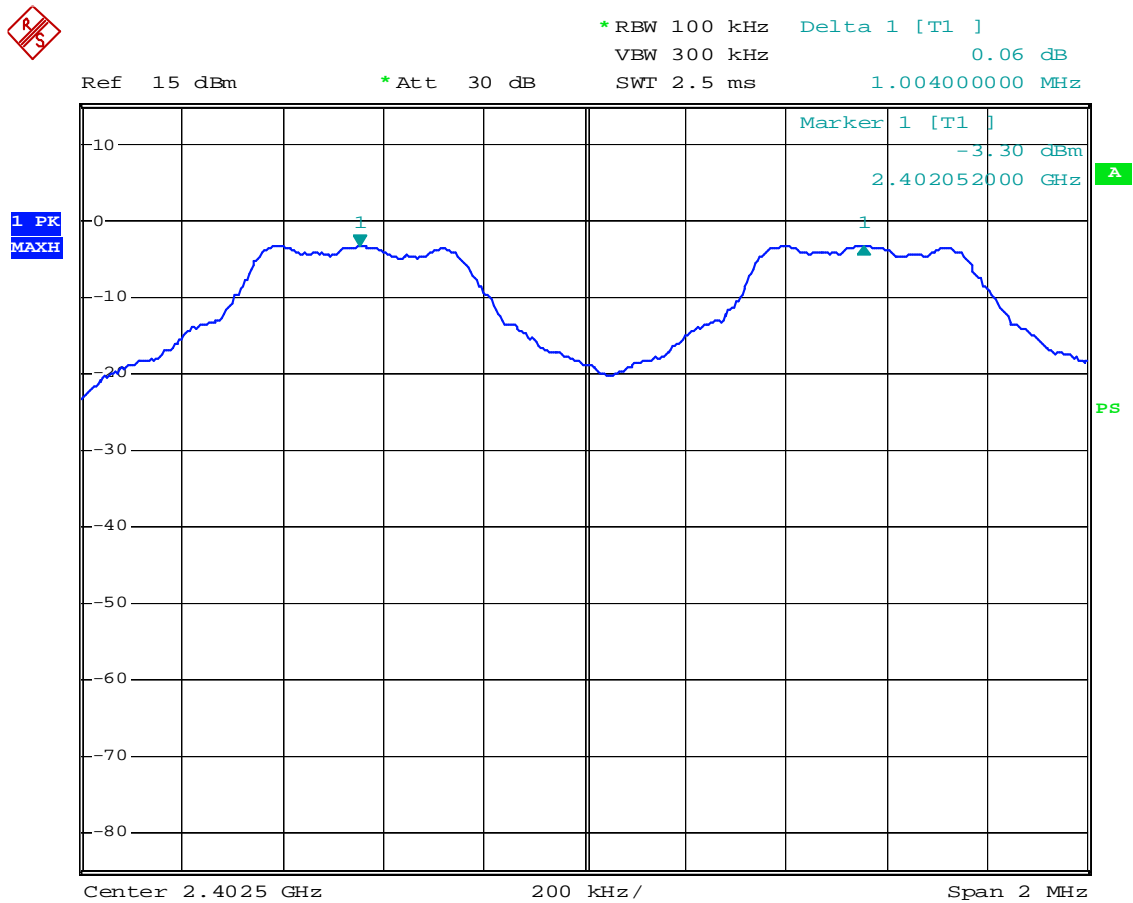
Test Mode: Transmitting

Channel	Channel Frequency (MHz)	Channel Separation (kHz)	Limit (kHz)	Result
Low Channel	2402	1.004	0.517	Pass
Adjacent Channel	2403			
Mid Channel	2441	1.004	0.541	Pass
Adjacent Channel	2442			
High Channel	2480	1.004	0.544	Pass
Adjacent Channel	2479			

Test Result: Compliance.

Please refer to following plots

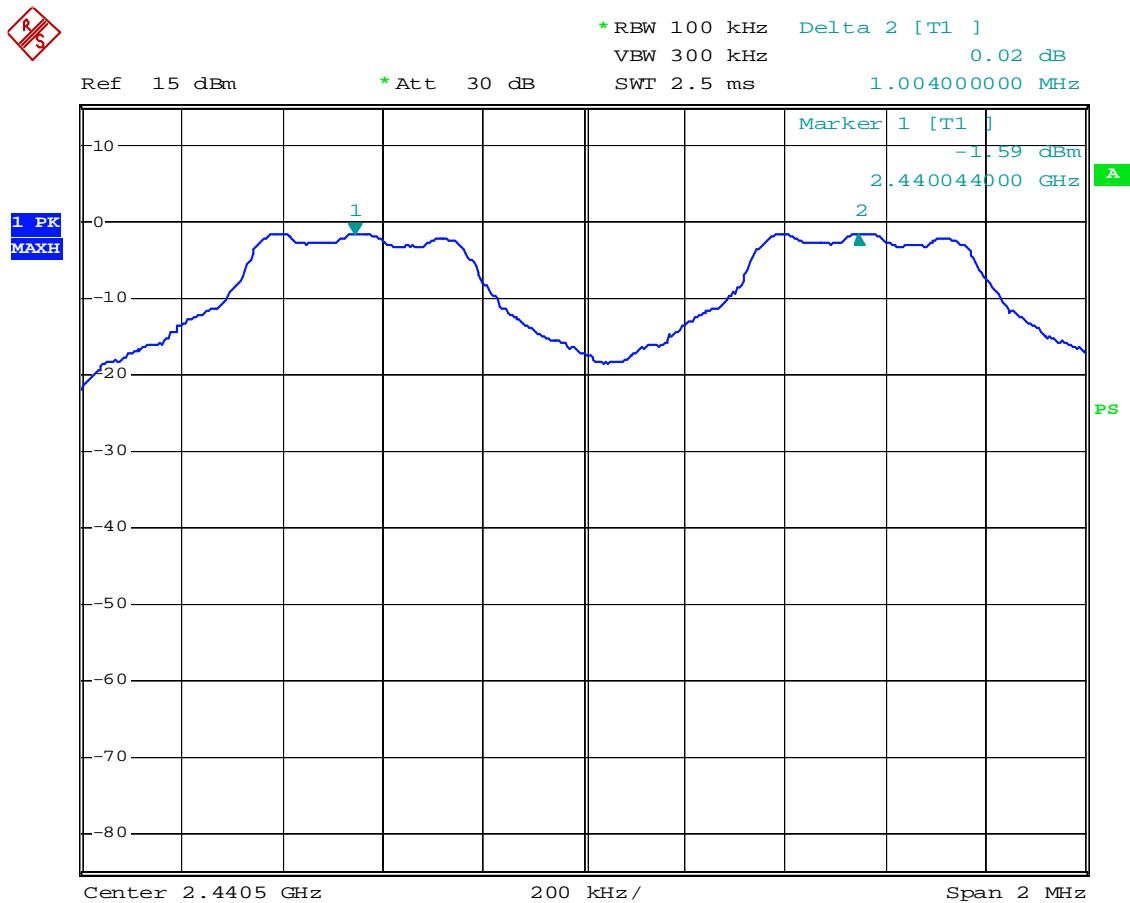
Low Channel



channel sepration low channel

Date: 17.APR.2008 03:26:02

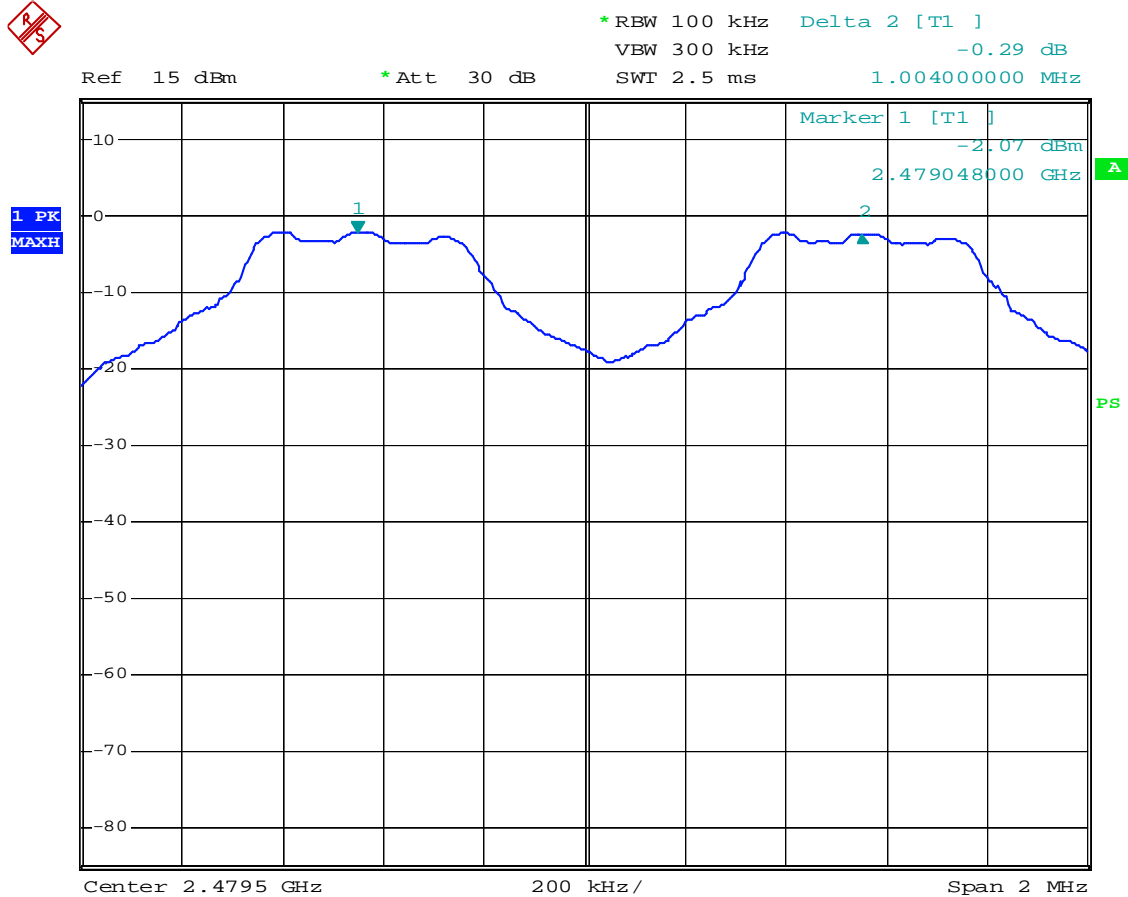
Middle Channel



channel separation middle channel

Date: 17.APR.2008 03:24:45

High Channel



channel separation high channel

Date: 17.APR.2008 03:23:37

CFR47 §15.247(a) (1) – 20dB BANDWIDTH TESTING

Applicable Standard

Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125mW.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.8 kPa

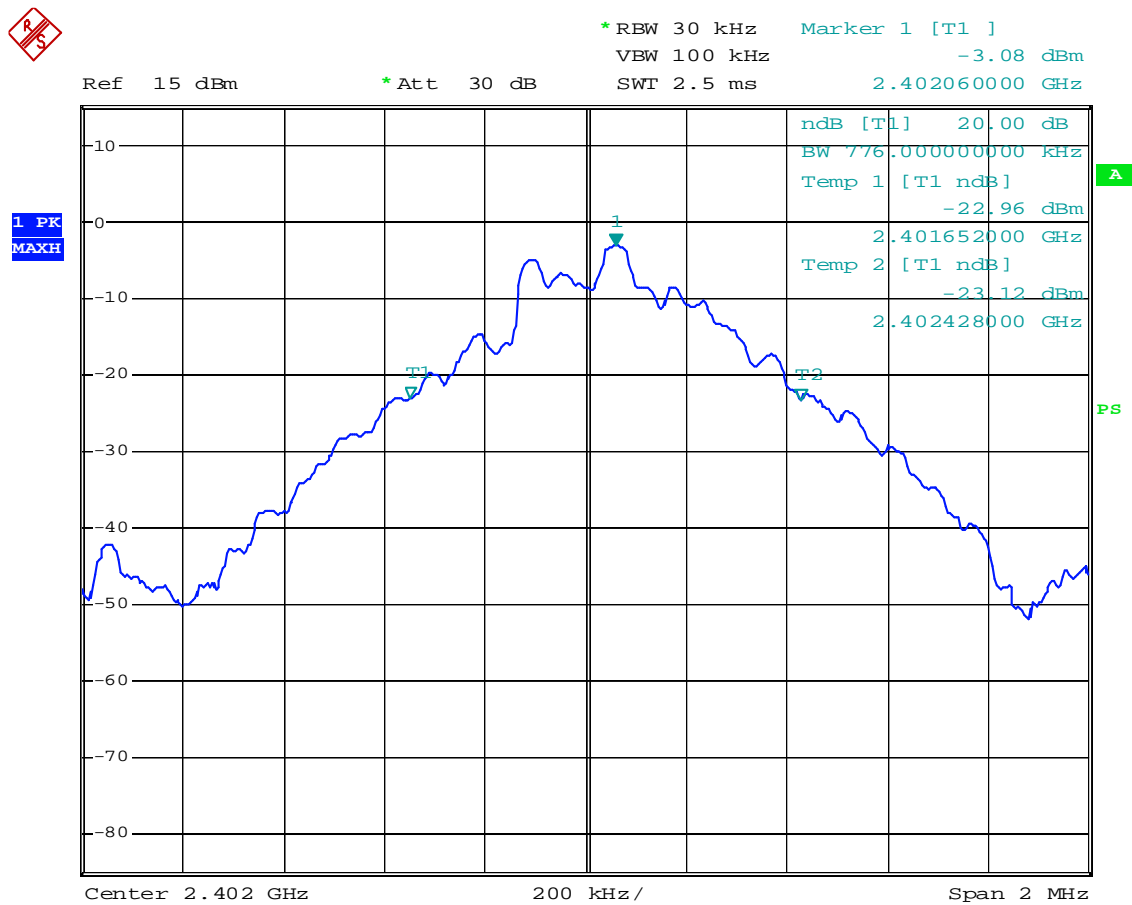
The testing was performed by Phoenix Liu on 2008-04-17.

Test Result: Please refer to the following table and plots.

Test Mode: Transmitting

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)
Low	2402	776
Middle	2441	812
High	2480	816

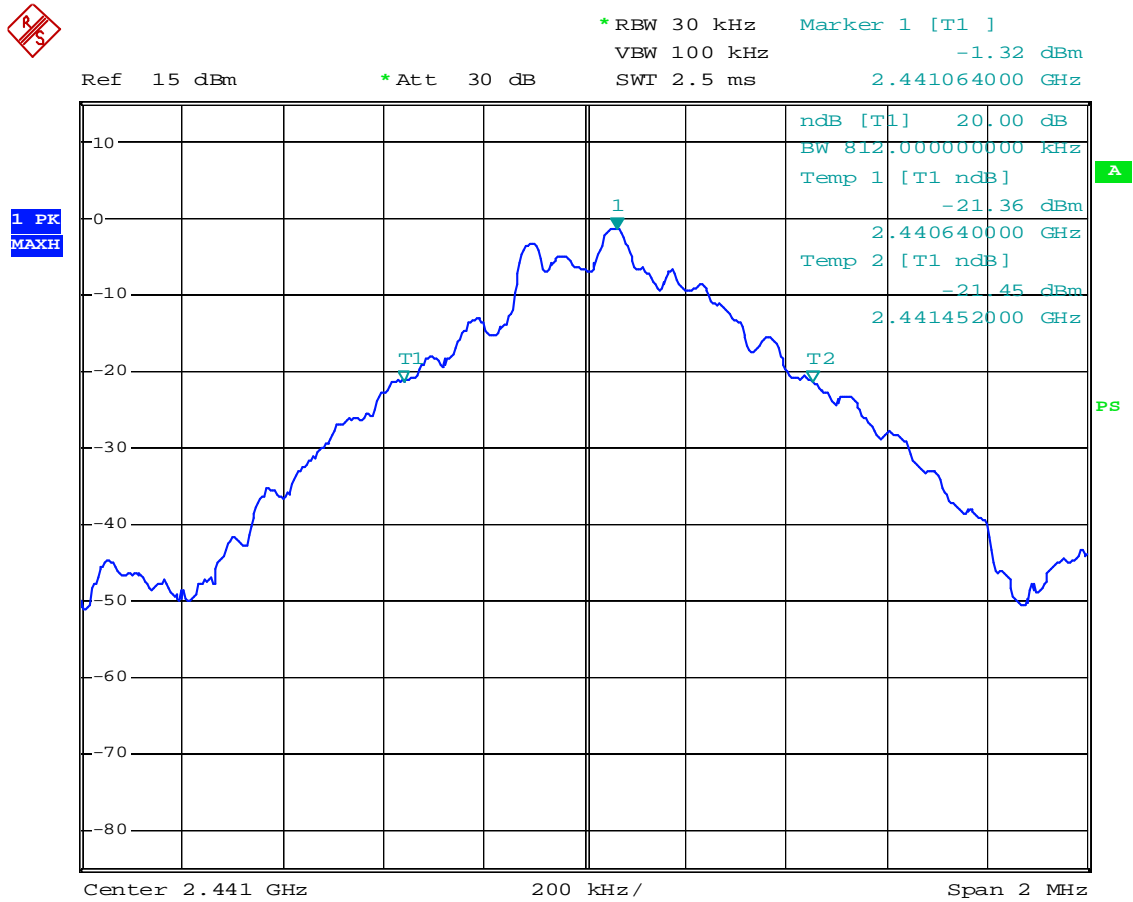
Low Channel



20dB bandwidth low channel

Date: 17.APR.2008 03:31:16

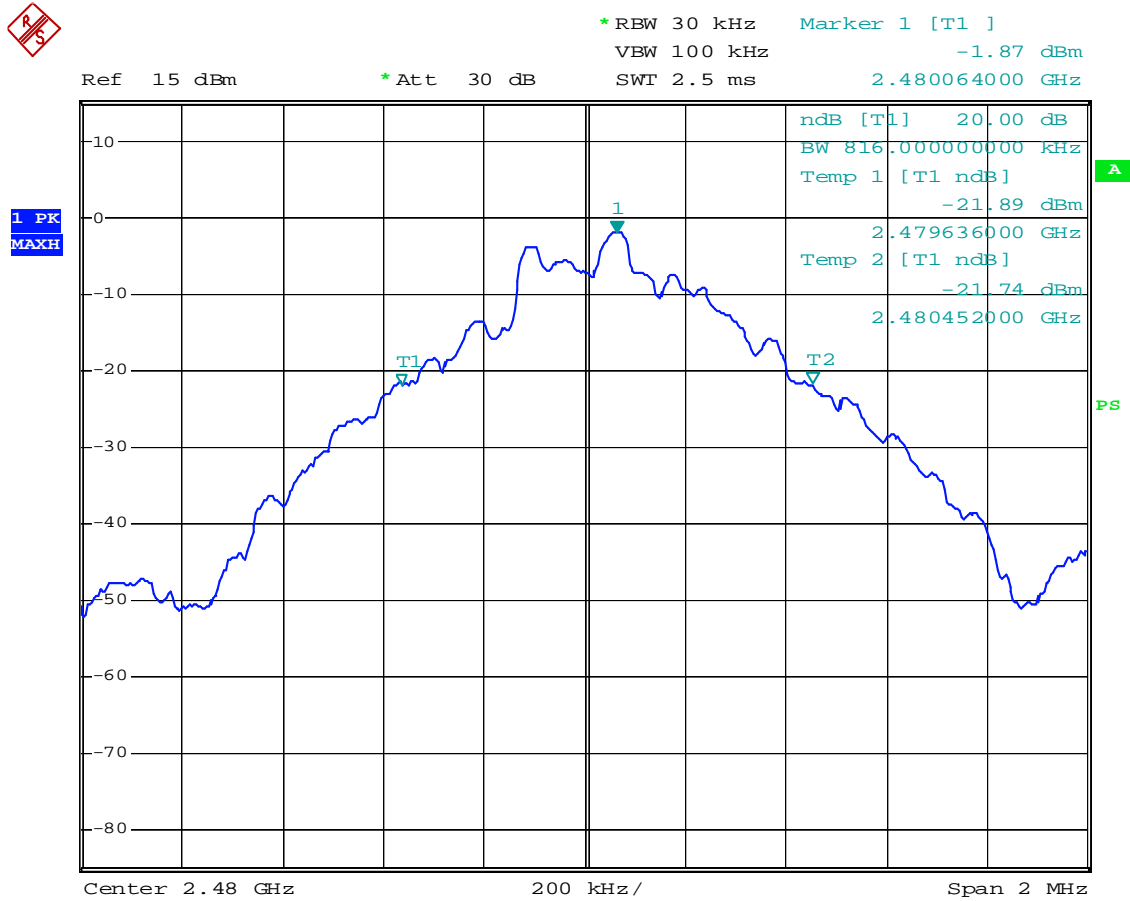
Middle Channel



20dB bandwidth middle channel

Date: 17.APR.2008 03:32:15

High Channel



20dB bandwidth high channel

Date: 17.APR.2008 03:33:00

CFR47 §15.247(a) (1) (iii)-QUANTITY OF HOPPING CHANNEL TEST**Applicable Standard**

Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. 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. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
2. Set the EUT in transmitting mode from first channel to last.
3. By using the Max-Hold function record the Quantity of the channel.

Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.8 kPa

The testing was performed by Phoenix Liu on 2008-04-17.

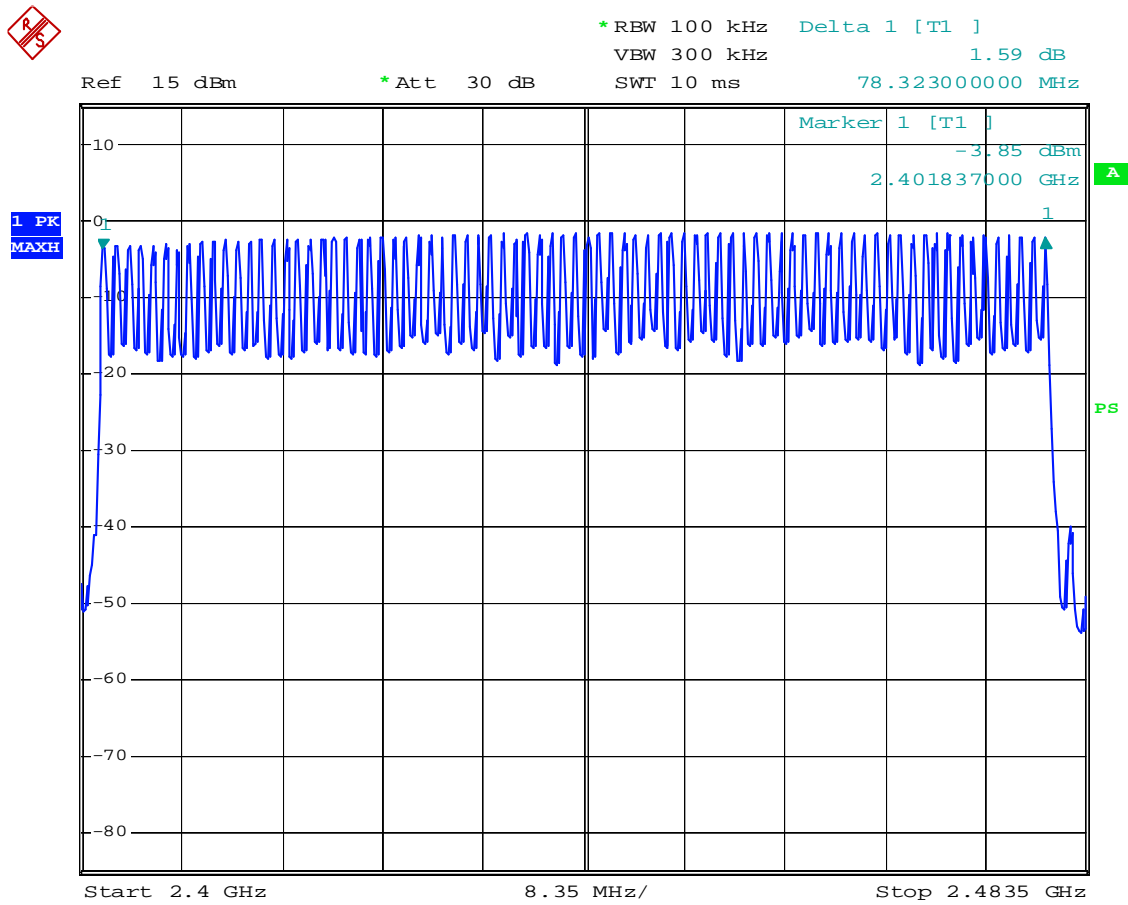
Test Mode: Transmitting

Test Result: Compliance.

Please refer to following plot.

Frequency Range (MHz)	Number of Hopping Channel	Limit
2400-2483.5	79	>15

Number of Hopping Channels



hopping channels

Date: 17.APR.2008 03:29:22

CFR47 §15.247(a) (1) (iii) -TIME OF OCCUPANCY (DWELL TIME)**Applicable Standard**

Frequency hopping systems in the 2400-2483.5 MHz shall use at least 15 channels. 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. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

The EUT was worked in channel hopping; Spectrum SPAN was set as 0. Sweep was set as 0.4 X channel no. (s), the quantity of pulse was get from single sweep. In addition, the time of single pulses was tested.

Dwell Time= time slot length * hope rate/ number of hopping channels * 31.6s
Hop rate=1600/s

Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.8 kPa

The testing was performed by Phoenix Liu on 2008-04-17.

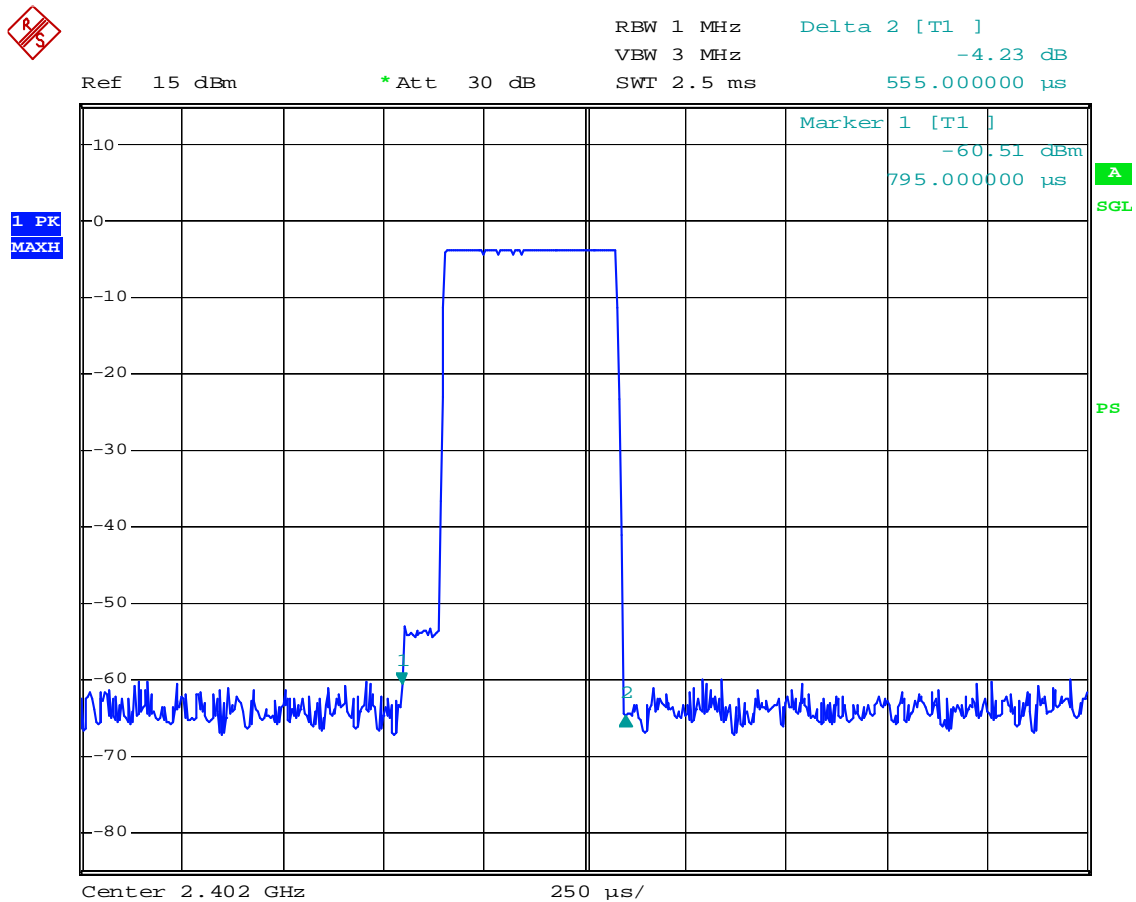
Test Mode: Transmitting

Test Result: Compliance. Please refer to following tables and plots

Channel	Pulse width (msec)	Dwell time (sec)	Limit (sec)	Result
Low	0.555	0.178	0.4	Pass
Middle	0.560	0.181	0.4	Pass
High	0.560	0.179	0.4	Pass

NOTE: Dwell time=Pulse width (ms) × (1600 ÷ 2 ÷ 79) × 31.6 Second

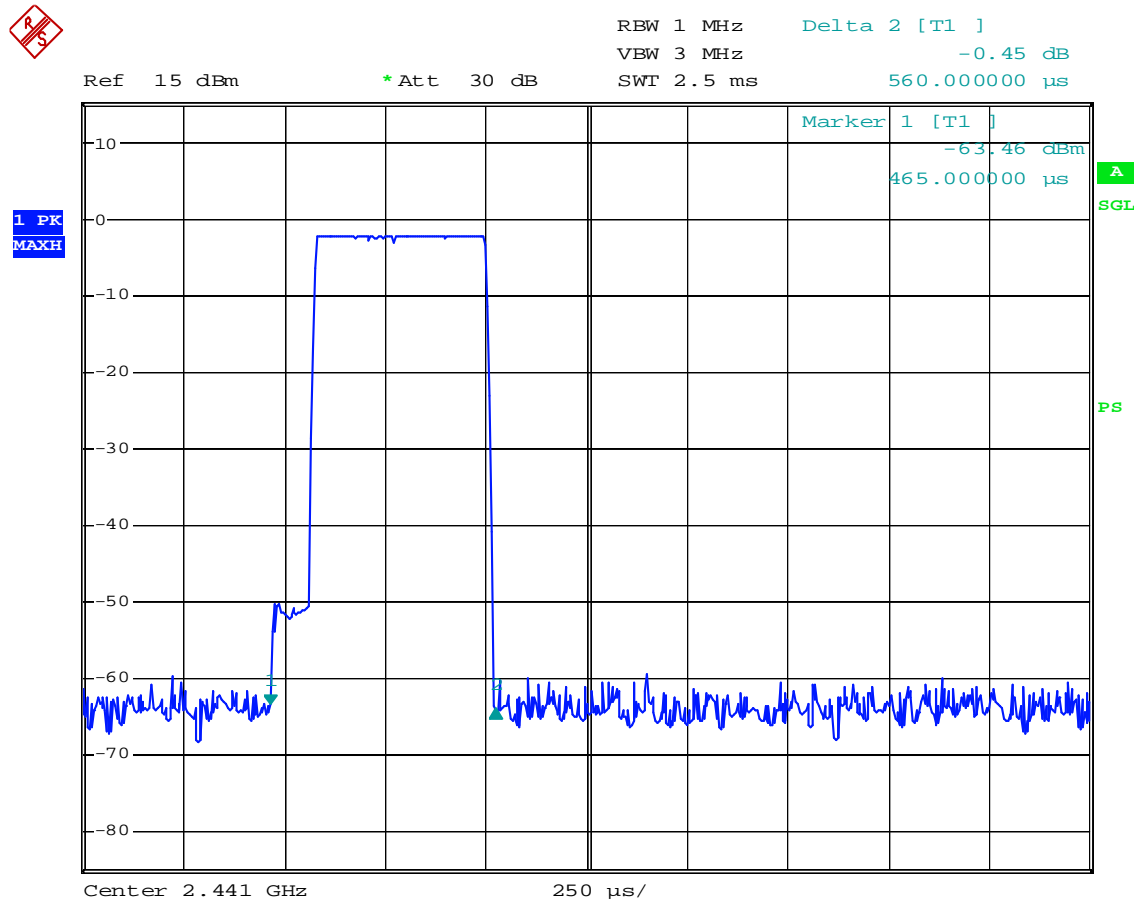
Low Channel



dwell time low channel

Date: 17.APR.2008 03:35:59

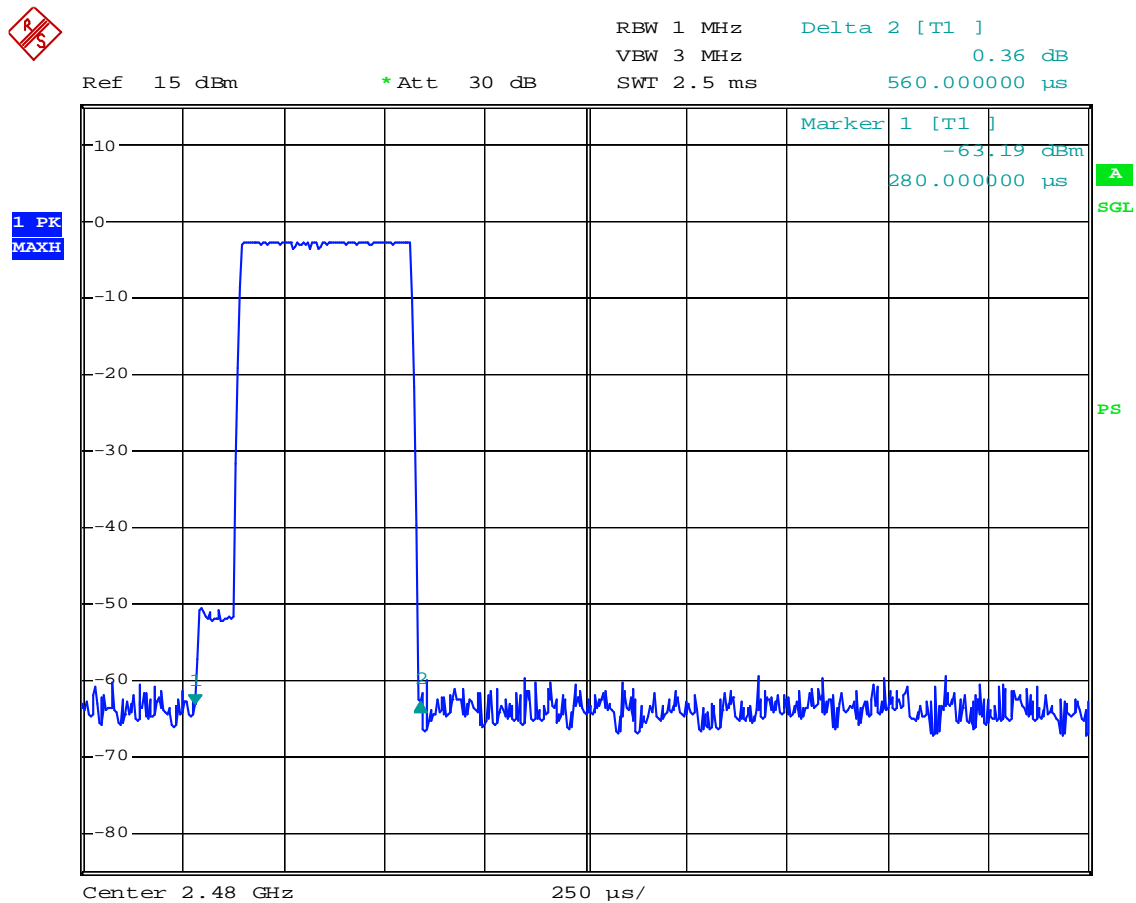
Middle Channel



dwell time middle channel

Date: 17.APR.2008 03:37:16

High Channel



dwell time high channel

Date: 17.APR.2008 03:38:10

CFR47 §15.247(b) (1) - PEAK OUTPUT POWER MEASUREMENT**Applicable Standard**

According to §15.247(b) (1), for frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725–5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts.

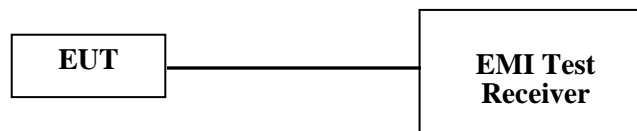
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447D	2944A09795	2007-11-15	2008-11-15
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16
HP	Amplifier	8449B	3008A00277	2007-09-29	2008-09-29
Sunol Sciences	Horn Antenna	DRH-118	A052604	2007-09-25	2008-09-25
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2007-05-09	2008-05-09

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to an EMI Test Receiver.
3. Add a correction factor to the display.



Test Data**Environmental Conditions**

Temperature:	25°C
Relative Humidity:	56 %
ATM Pressure:	100.8kPa

The testing was performed by Phoenix Liu on 2008-04-22.

Test Mode: Transmitting

Test Result: Compliance.

Indicated		Cable Loss (dB)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP Output Power (dBm)	FCC Part15.247	
Frequency (MHz)	S.A Reading (dBm)					Conducted Output Power Limit (dBm)	Result
Frequency in Low Channel							
2402	-4.19	0.5	-3.69	4	0.31	30	Pass
Frequency in Middle Channel							
2441	-4.24	0.5	-3.74	4	0.26	30	Pass
Frequency in High Channel							
2480	-2.93	0.5	-2.43	4	1.57	30	Pass

Note: The maximum peak conducted output power is based on the use of antenna with directional gains that do not exceed 6 dBi.

CFR47 §15.247(d) - BAND EDGES TESTING

Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2007-10-16	2008-10-16

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Put it on the Rotated table and turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.
3. Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, for Radiated emissions restricted band RBW=1MHz, VBW=3MHz.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Data**Environmental Conditions**

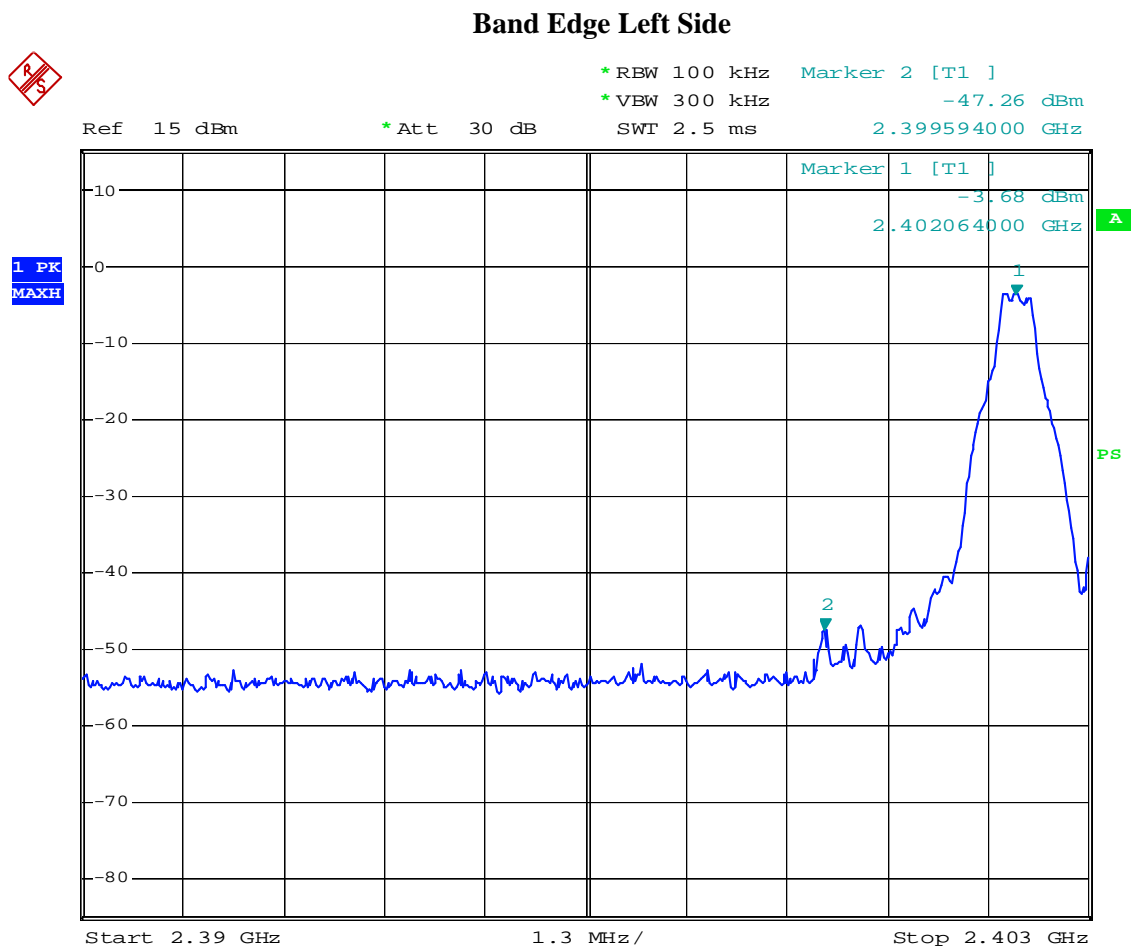
Temperature:	25°C
Relative Humidity:	56 %
ATM Pressure:	100.8kPa

The testing was performed by Phoenix Liu on 2008-04-17.

Test Mode: Transmitting

Test Result: Pass

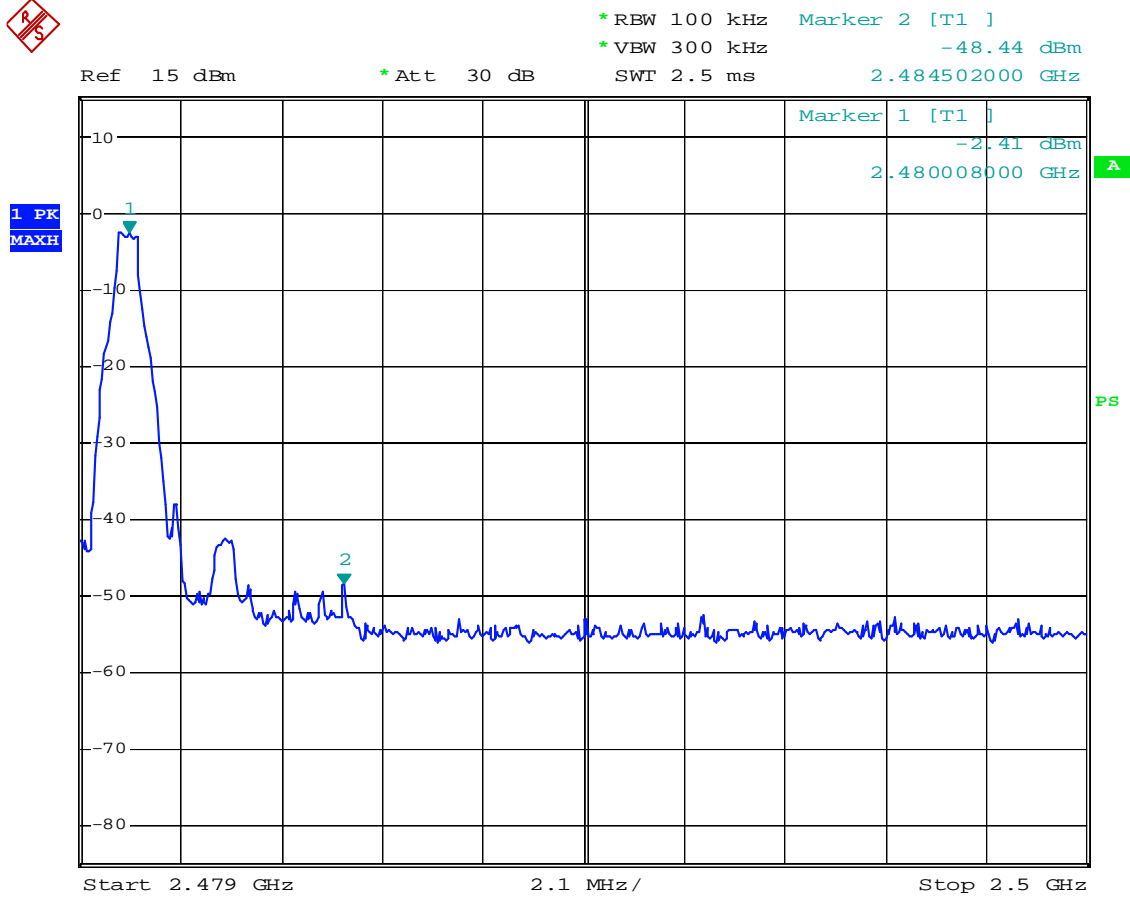
Please refer to following plot.



out of bandedge left

Date: 17.APR.2008 03:56:03

Band Edge Right Side



out of bandedge right

Date: 17.APR.2008 03:57:40

DECLARATION LETTER

Declaration letter

This is to certify that our company would entrust Bay Area Compliance Corp for testing our products bluetooth stereo headphone with model no.KB33S for the approval of CE+FCC, There are four different models with the same PCB, only difference in colour of appearance. Those models mentioned above should be stated in the CE +FCC certificate.

President Industry Development(Shenzhen) Co., Ltd.

Signature:

A handwritten signature in black ink, appearing to read 'Jacky Wu', is written over a red circular company stamp. The stamp contains the text 'PRESIDENT INDUSTRY DEVELOPMENT (SHENZHEN) CO., LTD.' around the perimeter and 'SHENZHEN' in the center.

Printed name: Jacky Wu

Tel: +86-755-28133616

Fax: +86-755-28133618

Address: West side of Bulong Road, Shangtang Village, Longhua, Shenzhen

***** END OF REPORT *****