

## FCC PART 15.247

## TEST REPORT

For

**Acomdata Technology, Inc.**

12F.-1, No.99, Sec. 1, Nankan Rd., Luzhu Township, Taoyuan County 338, Taiwan (R.O.C.)

**FCC ID: SYO-SOUNDPOP**

<b>Report Type:</b> Original Report	<b>Product Type:</b> SoundPop Bluetooth speaker
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<b>Report Number:</b>	R2DG130424003-00B
<b>Report Date:</b>	2013-04-28
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## GENERAL INFORMATION

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### Product Description for Equipment under Test (EUT)

The Acomdata Technology, INC.'s product, model number: SP0E, SP2E, SP2N, SP2P, SP6P, SP7P, SP9E (FCC ID: SYO-SOUNDPOP) or ("EUT") in this report is a *SoundPop Bluetooth speaker*, which is a Bluetooth 4.0 device, and measured approximately: 7.0 cm (L) x 7.0 cm (H) x 7.0 cm (W), rated input voltage: rated input voltage: DC3.7V from battery or DC 5V form system.

*Note: The serial product model SP0E, SP2E, SP2N, SP2P, SP6P, SP7P, SP9E, all the models are electrically identical, only their difference is model names, and we select model SP0E for the testing in this report, which was explained in the attached declaration letter.*

*\* All measurement and test data in this report was gathered from production sample serial number: 130424003 (Assigned by BACL, Dongguan). The EUT was received on 2013-04-26.*

*Manufacturer company name: Qinyi Electronic Company Limited*

*Address: Lincun industrial area, tangxia town, dongguan city, guangdong province, China*

### Objective

This report is prepared on behalf of Acomdata Technology, INC. 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 the compliance of the EUT with FCC Part 15-Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

### Related Submittal(s)/Grant(s)

FCC Part 15.247 DSS submissions with FCC ID: SYO-SOUNDPOP.

### 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. (Dongguan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

The uncertainty of any RF tests which use conducted method measurement is  $\pm 0.96$  dB, the uncertainty of any radiation on emissions measurement is  $\pm 4.0$  dB

### Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) 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 February 02, 2012. 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.: 273710. 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. (Dongguan) is an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 500069-0).



The current scope of accreditations can be found at <http://ts.nist.gov/standards/scopes/5000690.htm>

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

The system was configured for testing in a test mode.

For Bluetooth LE mode, 40 channels are provided for testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	20	2442
1	2404	...	...
...	...	...	...
...	...	...	...
...	...	38	2478
19	2440	39	2480

EUT was tested with channel 0, 19 and 39.

### EUT Exercise Software

EUT exercise software “CSR BlueSuite2.5.0” was used.

### Equipment Modifications

No modification was made to the EUT tested.

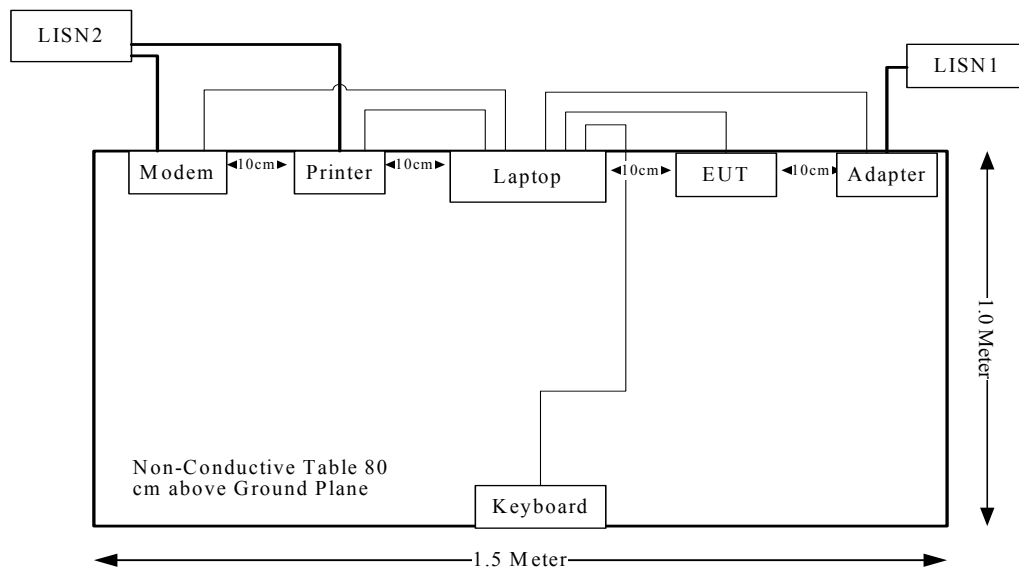
### Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
HP	Printer	C3941A	JPTVOB2337
SAST	Modem	AEM-2100	0293
DELL	Keyboard	L100	CNORH656658907BL05DC
DELL	Laptop	PP11L	N/A

### External I/O Cable

Cable Description	Length (m)	From	To
Shielded Detachable Printer Cable	1.2	Parallel Port of Laptop	Printer
Shielded Detachable Serial Cable	1.2	Serial Port of Laptop	Modem
Shielded Detachable Keyboard Cable	1.5	Keyboard Port of Laptop	Keyboard

## Block Diagram of Test Setup



**SUMMARY OF TEST RESULTS**

FCC Rules	Description of Test	Result
§15.247 (i), §1.1307,§2.1091	Maximum Permissible Exposure (MPE)	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.247(d)	Spurious Emissions at Antenna Port	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
§15.247(b)(3)	Maximum Peak Output Power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance



## FCC §15.247 (i) & §1.1307 (b) (1) & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

### Applicable Standard

According to subpart 15.247(i) and subpart §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; \* = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

### Calculated Formulary:

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$  = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

### Calculated Data:

Frequency (MHz)	Antenna Gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
	(dBi)	(numeric)	(dBm)	(mW)			
2440	0	1.00	4.62	2.90	20.00	0.00058	1.0

**Result:** The device meet FCC MPE at 20 cm distance

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## **FCC §15.203 - ANTENNA REQUIREMENT**

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### **Applicable Standard**

According to § 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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
  - b. Antenna must use a unique type of connector to attach to the EUT.
- Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

### **Antenna Connector Construction**

The EUT has an internal printed antenna permanently soldering on the printed circuit board, which in accordance to FCC §15.203, the antenna's maximum gain is 0 dBi; please refer to the internal photos.

**Result:** Compliance.

**FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS****Applicable Standard**

FCC§15.207

**Measurement Uncertainty**

Compliance or non-compliance with a disturbance limit shall be determined in the following manner:

If  $U_{lab}$  is less than or equal to  $U_{cisp}$  of Table 1, then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If  $U_{lab}$  is greater than  $U_{cisp}$  of Table 1, then:

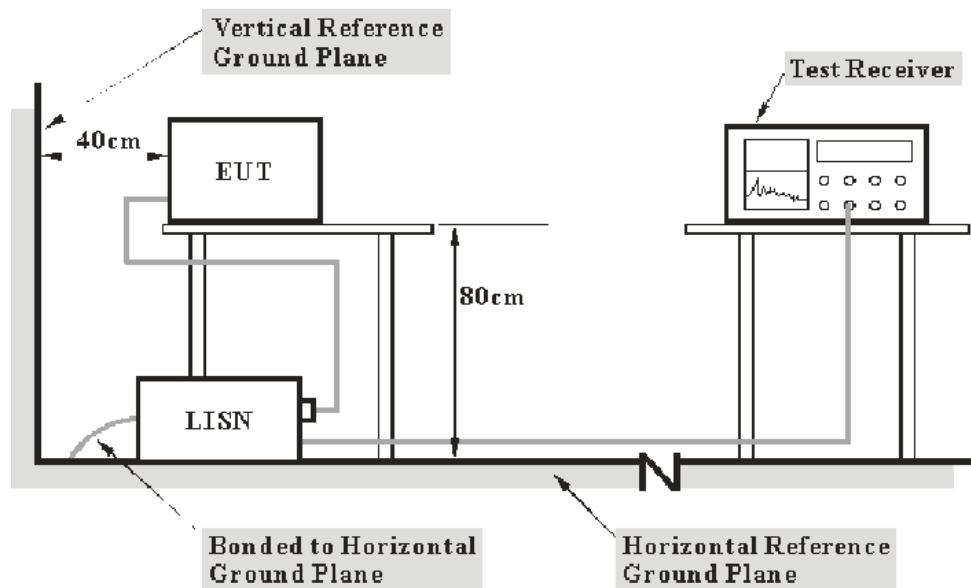
- compliance is deemed to occur if no measured disturbance level, increased by  $(U_{lab} - U_{cisp})$ , exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by  $(U_{lab} - U_{cisp})$ , exceeds the disturbance limit.

Based on CISPR 16-4-2: 2011, measurement uncertainty of conducted disturbance at mains port using AMN at Bay Area Compliance Laboratories Corp. (Dongguan) is 3.46 dB (150 kHz to 30 MHz).

Table 1 – Values of  $U_{cisp}$

Measurement	$U_{cisp}$
Conducted disturbance at mains port using AMN (150 kHz to 30 MHz)	3.4 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 C63.4-2009 measurement procedure. The specification used was with the FCC Part 15.207 limits.

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:

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

## Test Procedure

During the conducted emission test, the adapter was connected to 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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2012-11-29	2013-11-28
R&S	LISN1	ESH3-Z5	843331/015	2012-09-17	2013-09-16
R&S	LISN2	ESH3-Z5	100113	2012-11-29	2013-11-28
BACL	Test Software	BACL-EMC	V1.0-2010	N/A	N/A

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

### Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$$V_C = V_R + A_C + VDF$$

$$C_f = A_C + VDF$$

Herein,

$V_C$  (cord. Reading): corrected voltage amplitude

$V_R$ : reading voltage amplitude

$A_C$ : attenuation caused by cable loss

VDF: voltage division factor of AMN

$C_f$ : Correction Factor

The “**Margin**” column of the following data tables indicates the degree of compliance within 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 Part 15.207, with the worst margin reading of:

### 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:

**8.44 dB at 0.365 MHz in the Neutral conducted mode**

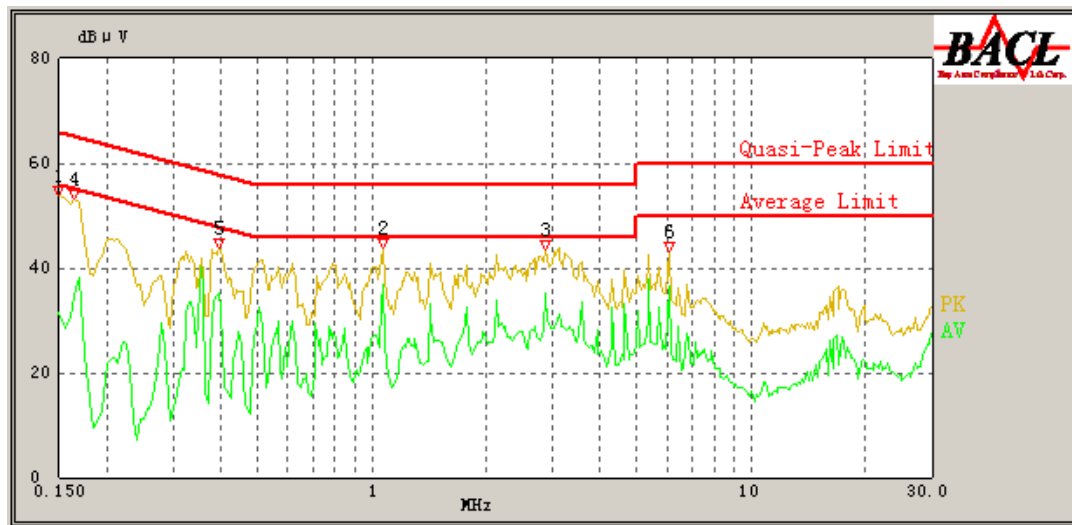
**Test Data****Environmental Conditions**

<b>Temperature:</b>	24.6 ° C
<b>Relative Humidity:</b>	67 %
<b>ATM Pressure:</b>	100.8 kPa

*The testing was performed by Allen Qiao on 2013-04-26.*

*Test Mode: Transmitting*

## AC 120V/60 Hz, Line



Frequency (MHz)	Corrected Amplitude (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/ QP/Ave.)
0.150	49.23	0.40	66.00	16.77	QP
0.150	31.51	0.40	56.00	24.49	AV
1.070	37.34	0.45	56.00	18.66	QP
1.070	36.98	0.45	46.00	9.02	AV
2.880	36.13	0.49	56.00	19.87	QP
2.885	29.80	0.49	46.00	16.20	AV
0.165	50.12	0.41	65.57	15.45	QP
0.165	34.81	0.41	55.57	20.76	AV
0.395	41.37	0.42	59.00	17.63	QP
0.395	35.13	0.42	49.00	13.87	AV
6.080	37.88	0.53	60.00	22.12	QP
6.085	36.51	0.53	50.00	13.49	AV

**AC 120V/60 Hz, Neutral**

Frequency (MHz)	Corrected Amplitude (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/ QP/Ave.)
0.160	47.15	0.40	65.71	18.56	QP
0.160	34.81	0.40	55.71	20.90	AV
0.365	41.85	0.42	59.86	18.01	QP
0.365	41.42	0.42	49.86	8.44	AV
0.615	37.81	0.43	56.00	18.19	QP
0.615	26.97	0.43	46.00	19.03	AV
1.095	37.23	0.45	56.00	18.77	QP
1.095	36.59	0.45	46.00	9.41	AV
2.160	35.42	0.48	56.00	20.58	QP
2.160	30.22	0.48	46.00	15.78	AV
2.920	35.59	0.49	56.00	20.41	QP
2.925	34.88	0.49	46.00	11.12	AV



## FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

### Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

### Measurement Uncertainty

Compliance or non-compliance with a disturbance limit shall be determined in the following manner:

If  $U_{lab}$  is less than or equal to  $U_{cispr}$  of Table 2, then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If  $U_{lab}$  is greater than  $U_{cispr}$  of Table 1, then:

- compliance is deemed to occur if no measured disturbance level, increased by  $(U_{lab} - U_{cispr})$ , exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by  $(U_{lab} - U_{cispr})$ , exceeds the disturbance limit.

Based on CISPR 16-4-2: 2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is:

30M~200MHz: 5.0 dB

200M~1GHz: 6.2 dB

1G~6GHz: 4.45 dB

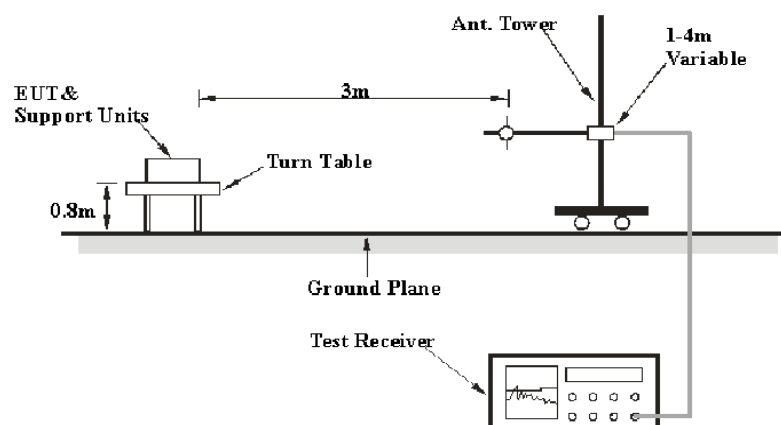
6G~18GHz: 5.23 dB

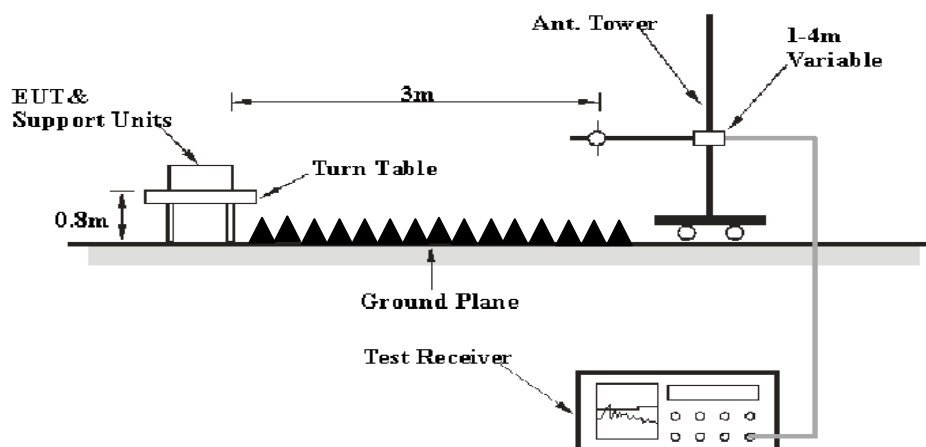
Table 2 – Values of  $U_{cispr}$

Measurement	$U_{cispr}$
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

### EUT Setup

Below 1GHz:



**Above 1GHz:**

The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the 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.

**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><b>Frequency Range</b></i>	<i><b>RBW</b></i>	<i><b>Video B/W</b></i>	<i><b>Detector</b></i>
30 MHz – 1000 MHz	100 kHz	300 kHz	QP
1000 MHz – 25 GHz	1 MHz	3 MHz	PK
1000 MHz – 25 GHz	1 MHz	10 Hz	Ave.

**Test Procedure**

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-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

**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 limit. The equation for margin calculation is as follows:

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

### Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2012-05-14	2013-05-13
Sunol Sciences	Hybrid Antennas	JB3	A060611-1	2011-09-06	2013-09-05
HP	Pre-amplifier	8447E	2434A02181	2012-10-08	2013-10-07
R&S	Spectrum analyzer	FSEM 30	849016/001	2012-9-4	2013-9-3
ETS-LINDGREN	Horn Antenna	3115	000 527 35	2012-09-06	2014-09-05
Mini-Circuits	Amplifier	ZVA-213-S+	054201245	N/A	N/A

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

### Test Results Summary

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

**2.71 dB at 2483.5 MHz in the Horizontal polarization**

### Test Data

#### Environmental Conditions

<b>Temperature:</b>	25.6 ° C
<b>Relative Humidity:</b>	61 %
<b>ATM Pressure:</b>	100.5 kPa

*The testing was performed by Allen Qiaon on 2013-04-28.*

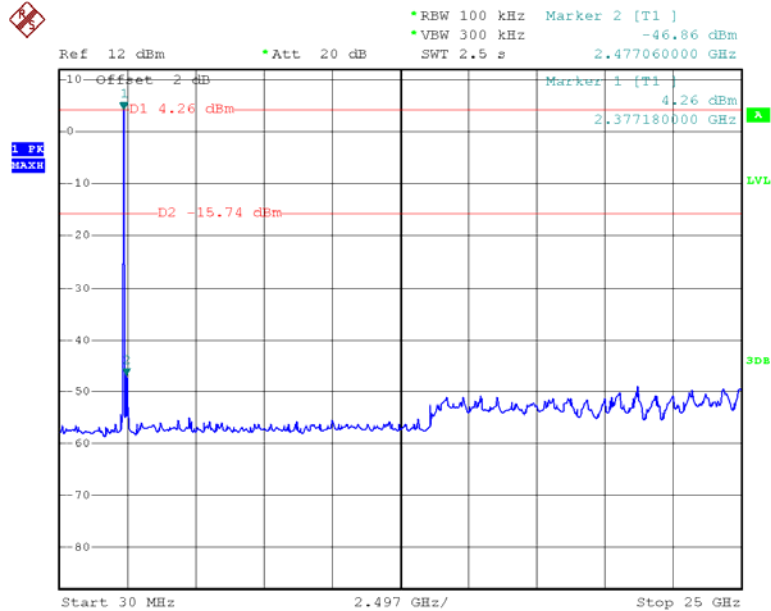
*Mode: Transmitting*

Frequency	Receiver		Rx Antenna		Cable	Amplifier	Corrected	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)	loss (dB)	Gain (dB)	Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low Channel: 2402(MHz)									
2402	67.62	PK	H	25.65	3.90	0.00	97.17	N/A	N/A
2402	47.31	AV	H	25.65	3.90	0.00	76.86	N/A	N/A
2402	62.52	PK	V	25.65	3.90	0.00	92.07	N/A	N/A
2402	44.65	AV	V	25.65	3.90	0.00	74.20	N/A	N/A
2390	24.79	PK	H	25.61	3.84	0.00	54.24	74.00	19.76
2390	14.13	AV	H	25.61	3.84	0.00	43.58	54.00	10.42
4804	41.05	PK	H	30.59	4.67	27.26	49.05	74.00	24.95
4804	29.84	AV	H	30.59	4.67	27.26	37.84	54.00	16.16
7206	37.23	PK	H	34.09	6.50	26.30	51.52	74.00	22.48
7206	22.06	AV	H	34.09	6.50	26.30	36.35	54.00	17.65
9608	31.69	PK	V	35.96	8.75	26.22	50.18	74.00	23.82
9608	18.33	AV	V	35.96	8.75	26.22	36.82	54.00	17.18
1600	52.36	PK	V	23.80	3.18	26.90	52.44	74.00	21.56
1600	41.25	AV	V	23.80	3.18	26.90	41.33	54.00	12.67
123.49	34.69	QP	H	12.99	1.45	21.43	27.70	43.50	15.80
Middle Channel: 2440(MHz)									
2440	69.46	PK	H	25.75	3.99	0.00	99.20	N/A	N/A
2440	48.67	AV	H	25.75	3.99	0.00	78.41	N/A	N/A
2440	62.69	PK	V	25.75	3.99	0.00	92.43	N/A	N/A
2440	44.28	AV	V	25.75	3.99	0.00	74.02	N/A	N/A
4880	41.38	PK	H	30.79	4.75	27.26	49.66	74.00	24.34
4880	28.96	AV	H	30.79	4.75	27.26	37.24	54.00	16.76
7320	36.29	PK	H	34.38	6.72	26.53	50.86	74.00	23.14
7320	22.79	AV	H	34.38	6.72	26.53	37.36	54.00	16.64
9760	32.08	PK	V	36.33	8.58	25.62	51.37	74.00	22.63
9760	18.24	AV	V	36.33	8.58	25.62	37.53	54.00	16.47
1590	51.36	PK	V	23.78	3.15	26.91	51.38	74.00	22.62
1590	40.03	AV	V	23.78	3.15	26.91	40.05	54.00	13.95
1060	53.19	PK	V	22.46	2.45	27.18	50.92	74.00	23.08
1060	41.26	AV	V	22.46	2.45	27.18	38.99	54.00	15.01
123.23	34.79	QP	H	13.01	1.45	21.43	27.82	43.50	15.68
High Channel: 2480(MHz)									
2480	69.22	PK	H	25.85	3.82	0.00	98.89	N/A	N/A
2480	48.45	AV	H	25.85	3.82	0.00	78.12	N/A	N/A
2480	62.36	PK	V	25.85	3.82	0.00	92.03	N/A	N/A
2480	44.19	AV	V	25.85	3.82	0.00	73.86	N/A	N/A
2483.5	31.63	PK	H	25.86	3.80	0.00	61.29	74.00	12.71
2483.5	21.63	AV	H	25.86	3.80	0.00	51.29	54.00	2.71*
4960	41.65	PK	H	31.00	4.70	27.27	50.08	74.00	23.92
4960	29.81	AV	H	31.00	4.70	27.27	38.24	54.00	15.76
7440	36.11	PK	H	34.66	6.95	26.56	51.16	74.00	22.84
7440	22.47	AV	H	34.66	6.95	26.56	37.52	54.00	16.48
9920	31.24	PK	V	36.71	8.41	25.50	50.86	74.00	23.14
9920	17.97	AV	V	36.71	8.41	25.50	37.59	54.00	16.41
1595.6	52.13	PK	V	23.79	3.17	26.90	52.19	74.00	21.81
1595.6	10.17	AV	V	23.79	3.17	26.90	10.23	54.00	43.77
123.86	34.16	QP	H	12.97	1.45	21.43	27.15	43.50	16.35

\*Within measurement uncertainty!

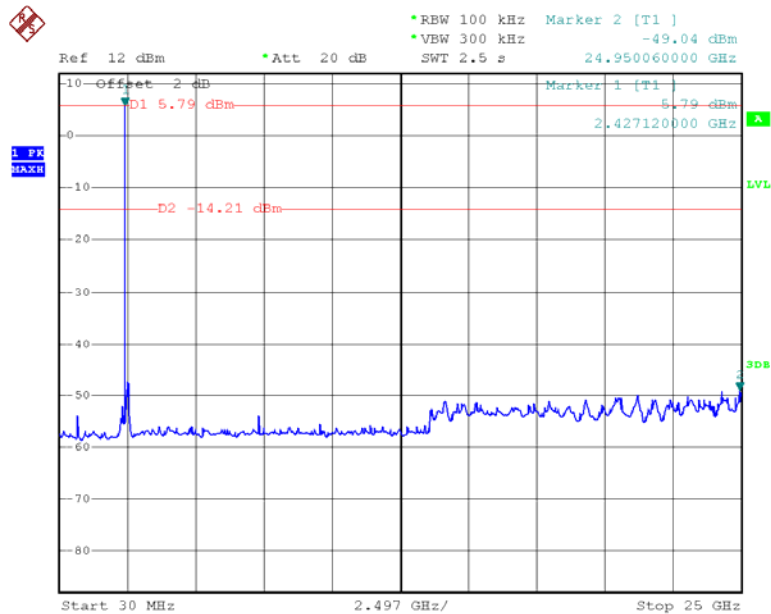
## Conducted Spurious Emissions at Antenna Port

### Low Channel



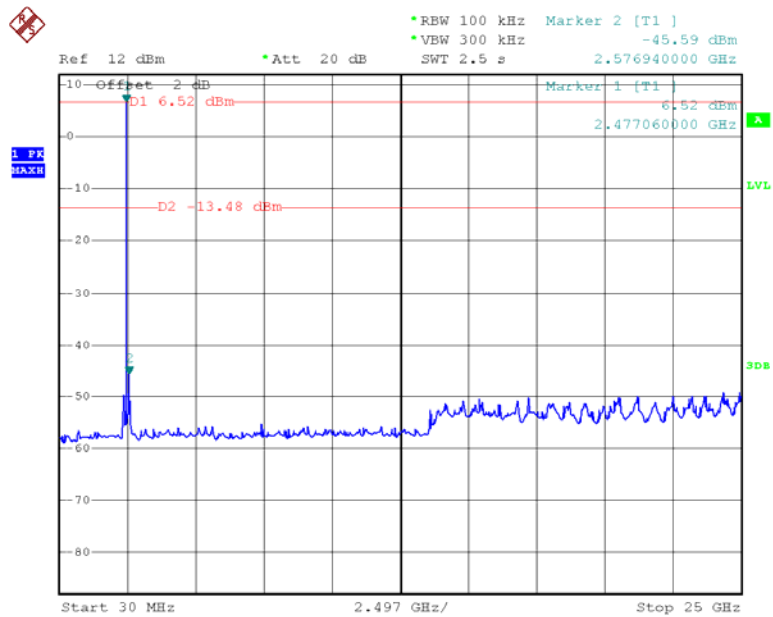
Date: 28.APR.2013 16:24:09

### Middle Channel



Date: 28.APR.2013 16:23:02

# High Channel



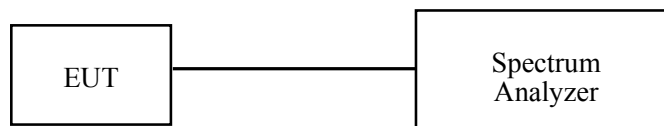
Date: 28.APR.2013 16:21:19

**FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH****Applicable Standard**

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

**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 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

**Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum analyzer	FSP 38	100478	2012-5-14	2013-5-13

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

**Test Data****Environmental Conditions**

Temperature:	25.6 °C
Relative Humidity:	61 %
ATM Pressure:	100.7 kPa

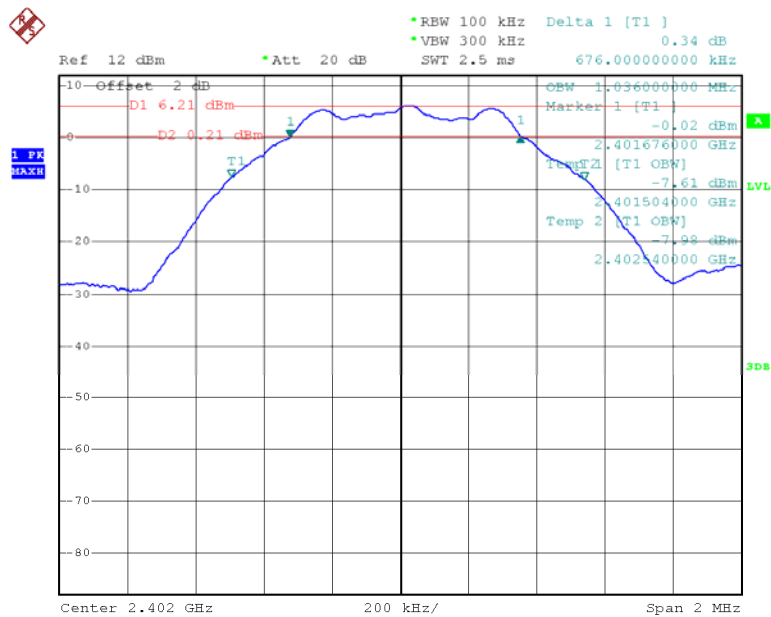
*The testing was performed by Allen Qiao on 2013-04-28.*

**Test Result:** Pass.

Please refer to the following tables and plots.

Channel	Frequency	6 dB Bandwidth	Limit
	(MHz)	(MHz)	(kHz)
Low	2402	0.676	>500
Middle	2440	0.676	>500
High	2480	0.684	>500

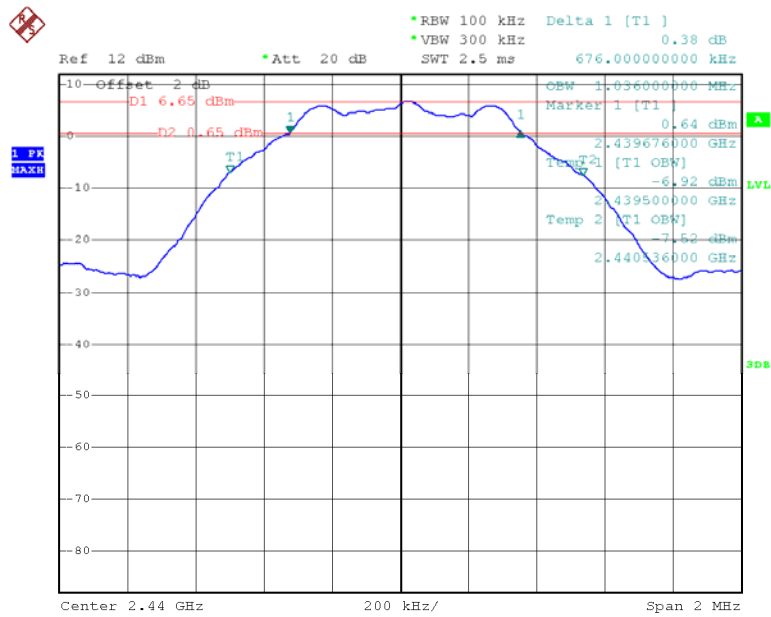
### Low Channel



Date: 28.APR.2013 16:10:07

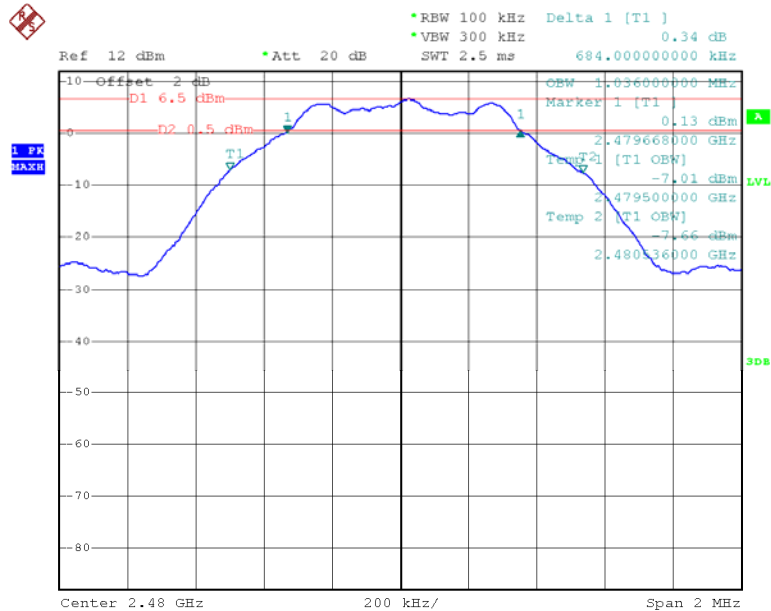


## Middle Channel



Date: 28.APR.2013 16:09:26

## High Channel



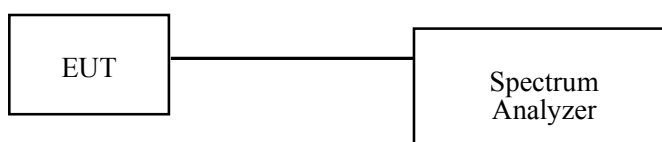
Date: 28.APR.2013 16:10:38

**FCC §15.247(b) (3) - MAXIMUM PEAK OUTPUT POWER****Applicable Standard**

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

**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 Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

**Test Data****Environmental Conditions**

Temperature:	25.6° C
Relative Humidity:	61 %
ATM Pressure:	100.7 kPa

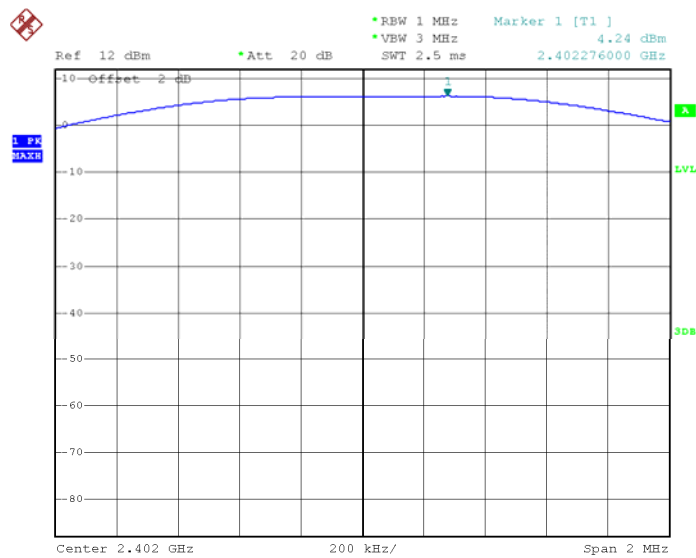
*The testing was performed by Allen Qiao on 2013-04-28*

*Test Mode: Transmitting*

Channel	Frequency	Conducted Output Power	Limit	Result
	(MHz)	(dBm)	(dBm)	
Low	2402	4.24	30	PASS
Middle	2440	4.62	30	PASS
High	2480	4.48	30	PASS

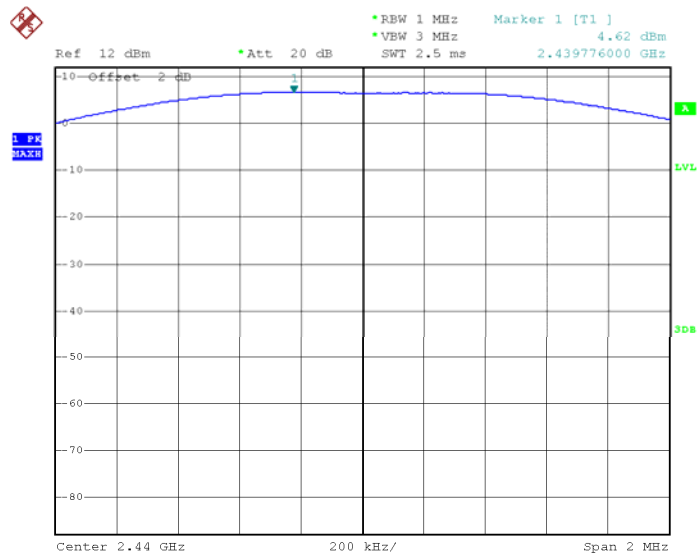
Please refer to the following plots

### RF Output Power, Low Channel



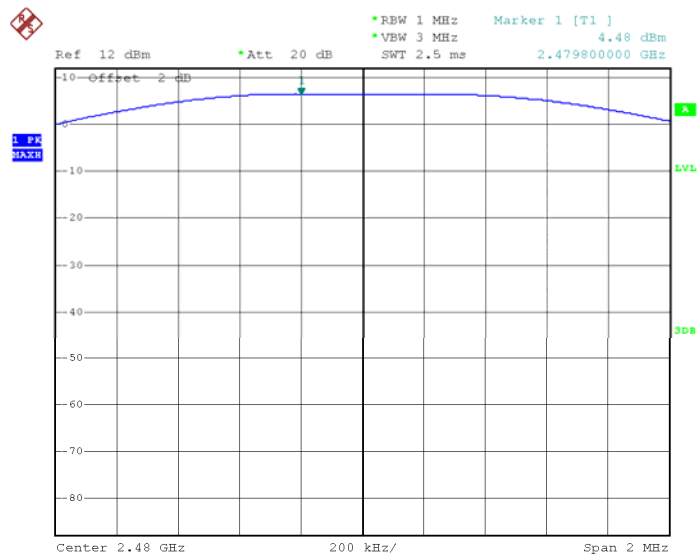
Date: 28.APR.2013 16:07:41

### RF Output Power, Middle Channel



Date: 28.APR.2013 16:08:43

### RF Output Power, High Channel



Date: 28.APR.2013 16:07:59

## **FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE**

### **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 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 its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
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 Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

### **Test Data**

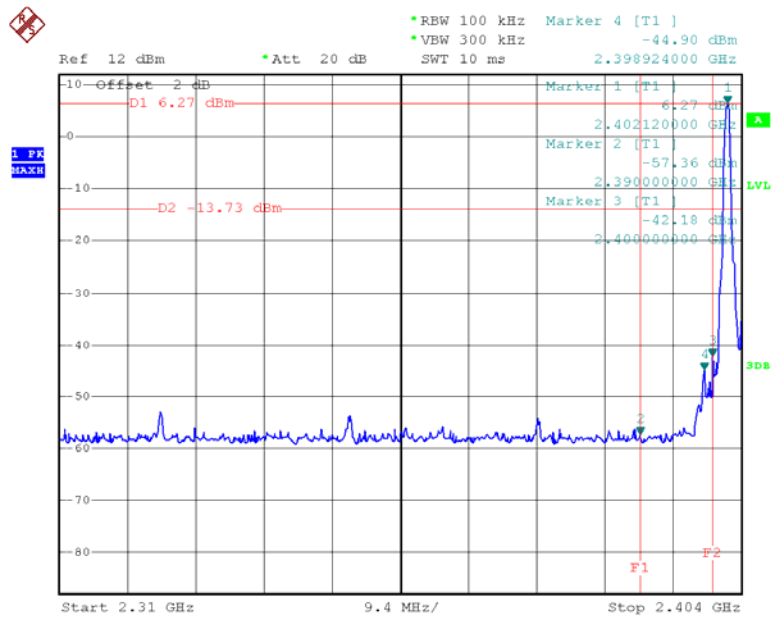
#### **Environmental Conditions**

<b>Temperature:</b>	25.6 ° C
<b>Relative Humidity:</b>	61 %
<b>ATM Pressure:</b>	100.7 kPa

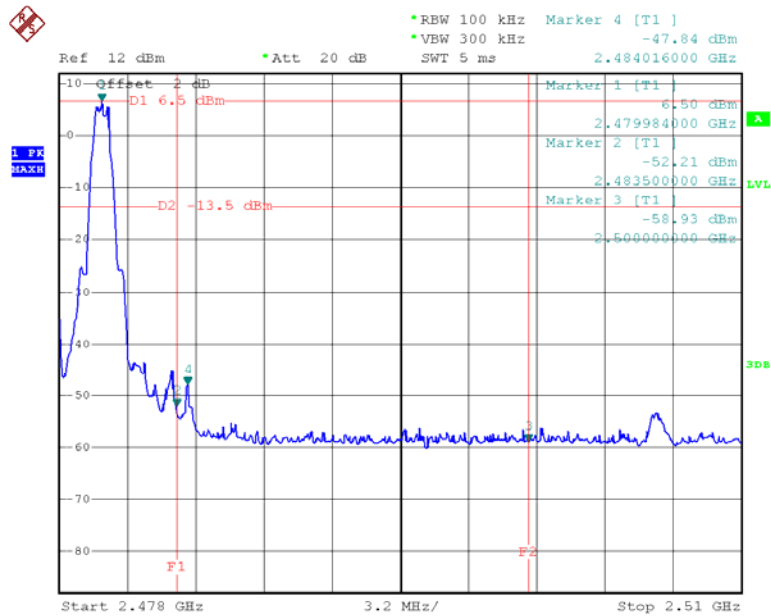
*The testing was performed by Allen Qiao on 2013-04-28.*

#### **Test Result: Compliance**

Please refer to following plots.

**Band Edge, Left Side**

Date: 28.APR.2013 16:16:33

**Band Edge, Right Side**

Date: 28.APR.2013 16:21:53

**FCC §15.247(e) - POWER SPECTRAL DENSITY****Applicable Standard**

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

**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 was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. According to KDB 558074 D01 DTS Meas Guidance v02, set the RBW = 3 kHz, VBW = 30 kHz, Set the span to 1.5 times the DTS channel bandwidth.
4. Use the peak marker function to determine the maximum power level in any 3 kHz band segment within the fundamental EBW.

**Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

**Test Data****Environmental Conditions**

<b>Temperature:</b>	25.6 ° C
<b>Relative Humidity:</b>	61 %
<b>ATM Pressure:</b>	100.7 kPa

*The testing was performed by Allen Qiao on 2013-04-28.*

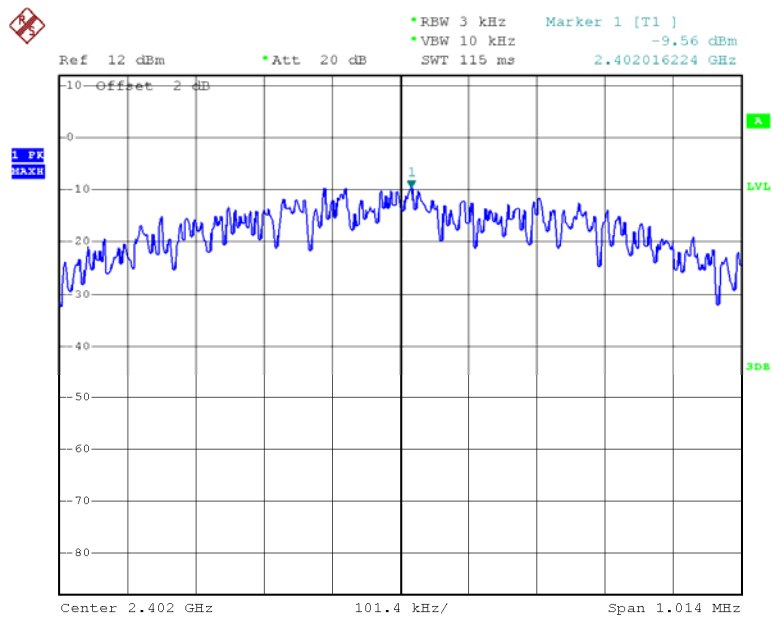
*Test Mode: Transmitting*

**Test Result:** Pass

Channel	Frequency	PSD	Limit	Result
	MHz	(dBm/3kHz)	(dBm/3kHz)	
Low	2402	-9.56	8	PASS
Middle	2440	-8.95	8	PASS
High	2480	-9.18	8	PASS

Please refer to the following plots

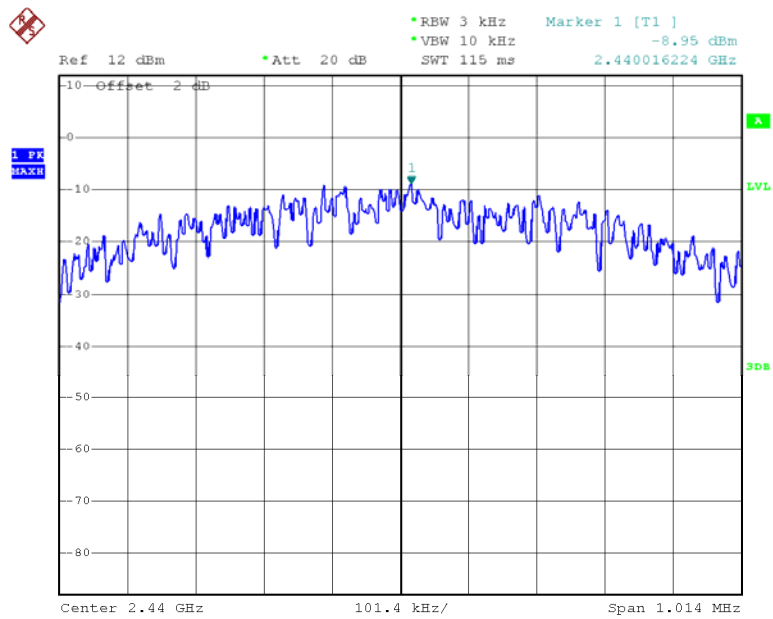
### Power Spectral Density, Low Channel



Date: 28.APR.2013 16:26:09

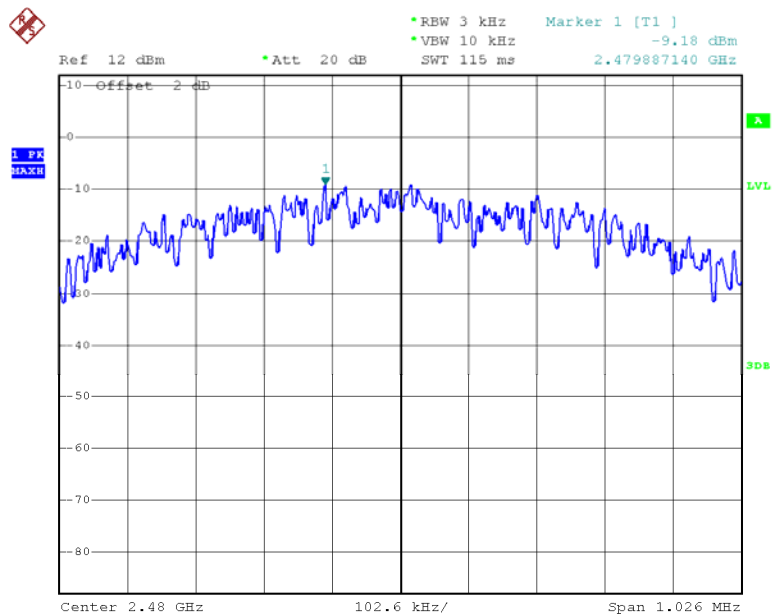


### Power Spectral Density, Middle Channel



Date: 28.APR.2013 16:26:22

### Power Spectral Density, High Channel



Date: 28.APR.2013 16:27:17

## DECLARATION LETTER

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**Acomdata Technology, INC.**

Add: 12F-1, No.99, Sec. 1, Nankan Rd., Luzhu Township, Taoyuan County 338,  
Taiwan (R.O.C.)

Tel: 886 3 2126157 Fax: 886 3 2124480

## DECLARATION OF SIMILARITY

April 27, 2013

To:

Bay Area Compliance Laboratories Corp. (Dongguan)

No.69 Pulong Village Puxinhu Industry Zone Tangxia, Dongguan, China

Tel: +86 769 86858888 ext. 8115 Fax: +86 769 86858891

<http://www.baclicorp.com>

Dear Sir or Madam:

We, Acomdata Technology, INC., hereby declare that our product: SoundPop Bluetooth speaker, models: SP2E, SP2N, SP2P, SP6P, SP7P and SP9E are electrically identical with the same electromagnetic emissions and electromagnetic compatibility characteristics as SP0E tested by BACL, the results of which are featured in BACL project: R2DG130424003, R2DG130424004, R2DG130424004-03.

A description of the differences between the tested model and those that are declared similar areas follows:

Models: SP0E, SP2E, SP2N, SP2P, SP6P, SP7P, SP9E. The only difference is the color.

Please contact me should there be need for any additional clarification or information.

Best Regards,

Signature: *Tina Xie*

Tina Xie/Manager

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