



# FCC PART 15B

## MEASUREMENT AND TEST REPORT

For

### ITALCOM GROUP

1728 Coral Way, Coral Gables, Miami, Florida 518048, USA

**FCC ID: YPVITALCOMKIWI**

<b>Report Type:</b> Original Report	<b>Product Type:</b> GSM Mobile Phone
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<b>Report Number:</b> <u>RSZ11050603</u>	
<b>Report Date:</b> <u>2011-05-23</u>	
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**Note:** This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP\*, or any agency of the Federal Government.

\* This report contains data that are not covered by the NVLAP accreditation and are marked with an asterisk “★” (Rev.2)

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## GENERAL INFORMATION

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

The *ITALCOM GROUP*'s product, model number: *KIWI (FCC ID: YPVITALCOMKIWI)* or the "EUT" as referred to in this report is a *Mobile phone*, which measures approximately: 10.3 cm (L) x 5.2 cm (W) x 1.2 cm (H), rated input voltage: DC 3.7 V battery.

*\* All measurement and test data in this report was gathered from production sample serial number: 1105033 (Assigned by BACL, Shenzhen). The EUT was received on 2011-05-06.*

### Objective

This Type approval report is prepared on behalf of *ITALCOM GROUP* in accordance with Part 2, Subpart J, Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to determine compliance with FCC Part 15 Class B.

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

FCC Part 22H&24E and FCC Part 15.247 submissions with FCC ID: YPVITALCOMKIWI.

### 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 December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

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 an ISO/IEC 17025 guide accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 200707-0).



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

## SYSTEM TEST CONFIGURATION

### Justification

The system was configured for testing in a manufacturer testing fashion.

### EUT Exercise Software

N/A

### Equipment Modifications

No modification was made to the unit tested.

### Host System Configuration List and Details

Manufacturer	Device Name	Model	Serial Number
DELL	Motherboard	OWC297	CN-OWC297-70821-566-02BR
DELL	Power	NPS-250KB D	CN-0H2678-17972-56E8NBM
Seagate	Hard Disk	ST340014A	5JXK3NAD
DELL	3.5' Floppy	N/A	CN-0N8893-69802-54Q-02OZ
Lite-ON	CD-Rom	LTN-489S	N/A
Intel	CPU	Celeron D-2533	N/A
ProMOS	Memory	V826632K24SATG-C0	0525-K1933700
Intel	Ethernet	PRO 10/100 VE	N/A

### Local Support Equipment List and Details

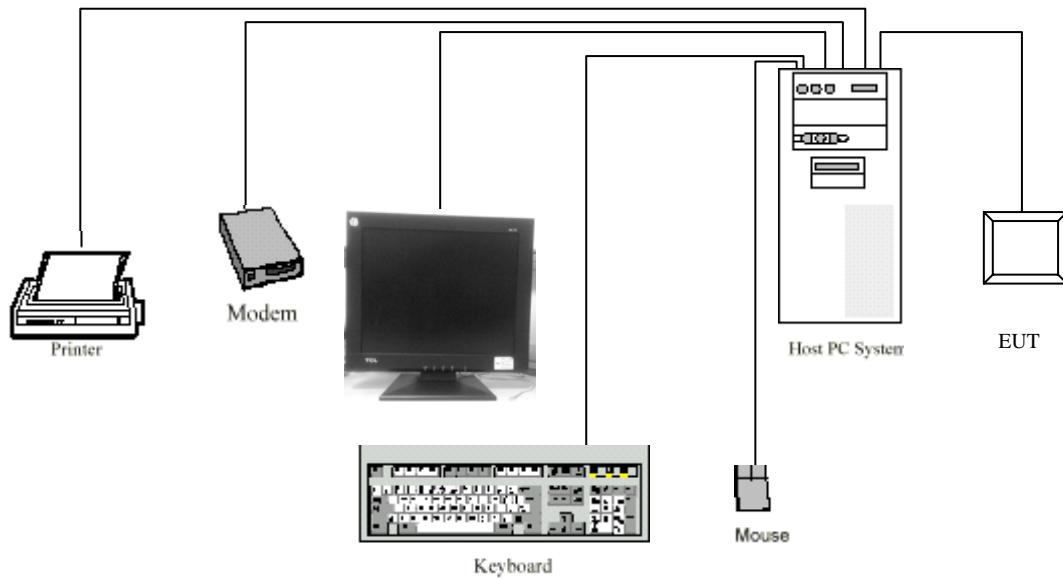
Manufacturer	Description	Model	Serial Number
DELL	PC	1#	N/A
DELL	Keyboard 1#	L100	CNORH656658907BL04TY
DELL	Mouse 1#	MOC5UO	G1B0096D
DELL	LCD 1#	E178WFPC	CN-OWY564-64180-7C4-2SQH
HP	Laser Jet5L	C3941A	JPTVOB2337
SAST	Modem	AEM-2100	0293

## External I/O Cable

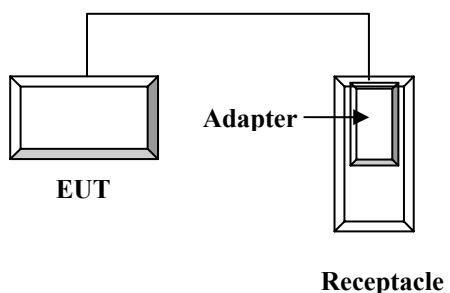
Cable Description	Length (m)	From/Port	To
Shielded Detachable K/B Cable	1.5	K/B Port/Host	K/B
Shielded Detachable Mouse Cable	1.5	Mouse Port/Host	Mouse
Shielded Detachable Printer Cable	1.2	Parallel Port/Host	Printer
Shielded Detachable Serial Cable	1.2	Serial Port/Host	Modem
Shielded Detachable VGA Cable	1.5	VGA Port/Host	Monitor
Unshielded Detachable Power Cable	1.0	AC Mains	EUT

## Configuration of Test Setup

PC Power Supply:

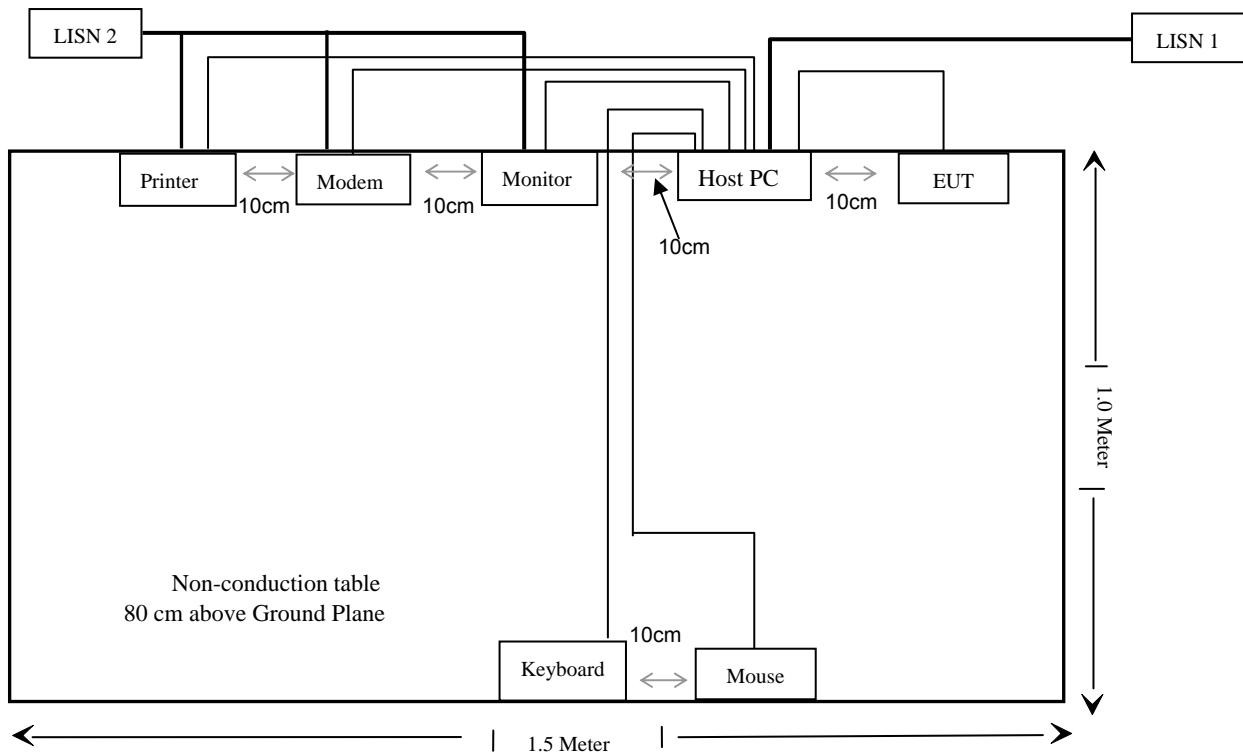


Adapter power supply:

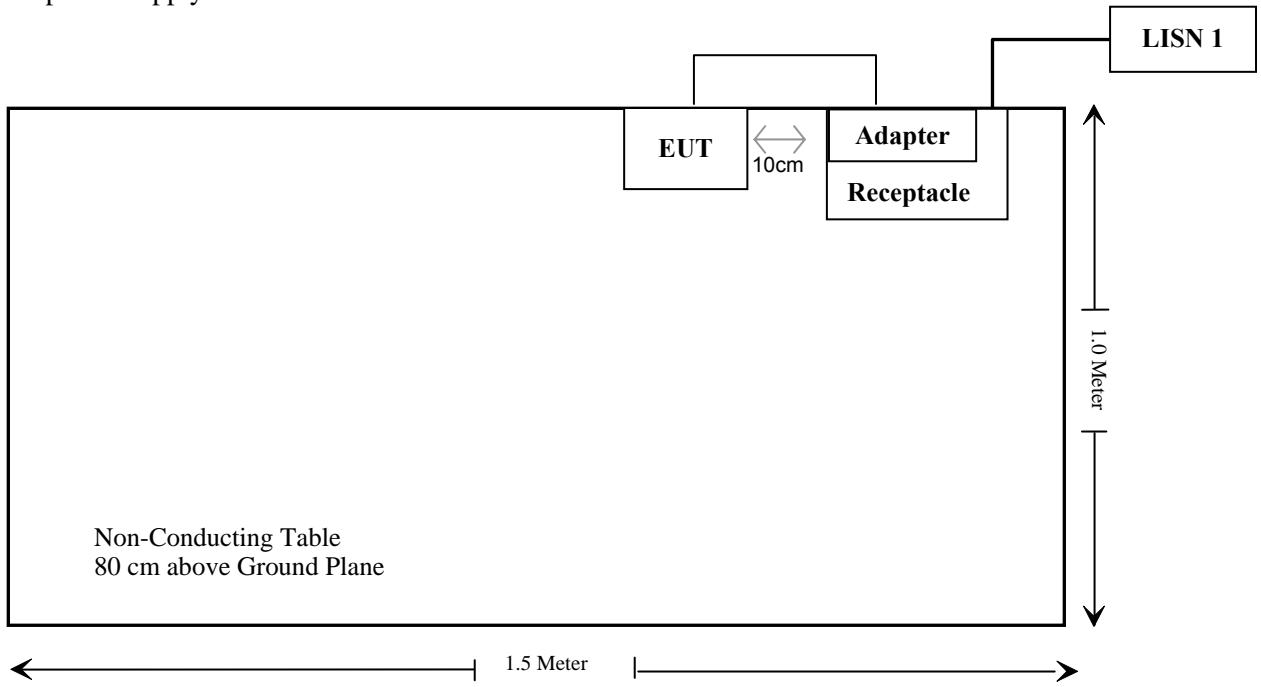


## Block Diagram of Test Setup

PC Power Supply:



Adapter power supply:



**SUMMARY OF TEST RESULTS**

FCC Rules	Description of Test	Results
§15.107	AC Line Conducted Emissions	Compliance
§15.109	Radiated Spurious Emissions	Compliance

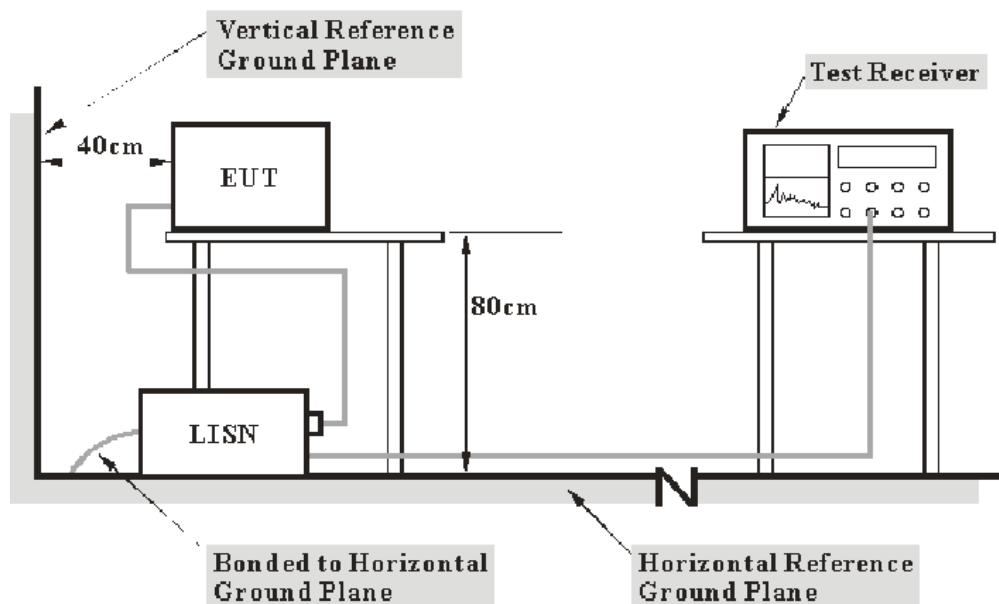
## FCC §15.107 – AC LINE CONDUCTED EMISSIONS

### 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 Laboratories Corp. (Shenzhen) is  $\pm 2.4$  dB.(k=2, 95% level of confidence)

### 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 15.107 Class B limits.

The spacing between the peripherals was 10 cm.

The host PC was connected to a 120 VAC/60 Hz power source.  
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:

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

## Test Equipment List and Details

<b>Manufacturer</b>	<b>Description</b>	<b>Model</b>	<b>Serial Number</b>	<b>Calibration Date</b>	<b>Calibration Due Date</b>
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245/006	2011-03-03	2012-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2011-03-09	2012-03-08

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

## Test Procedure

During the conducted emission test, the host PC was connected to the outlet of the first LISN and the other relevant support equipments were connected to the outlet of the second LISN for PC power supply. And the adapter was connected to the outlet of the LISN for adapter power supply.

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 15.107](#), with the worst margin reading of:

**10.99 dB at 10.025 MHz** in the **Neutral** conducted mode for USB charging mode

**19.76 dB at 28.465 MHz** in the **Line** conducted mode for power supply from adapter

## Test Data

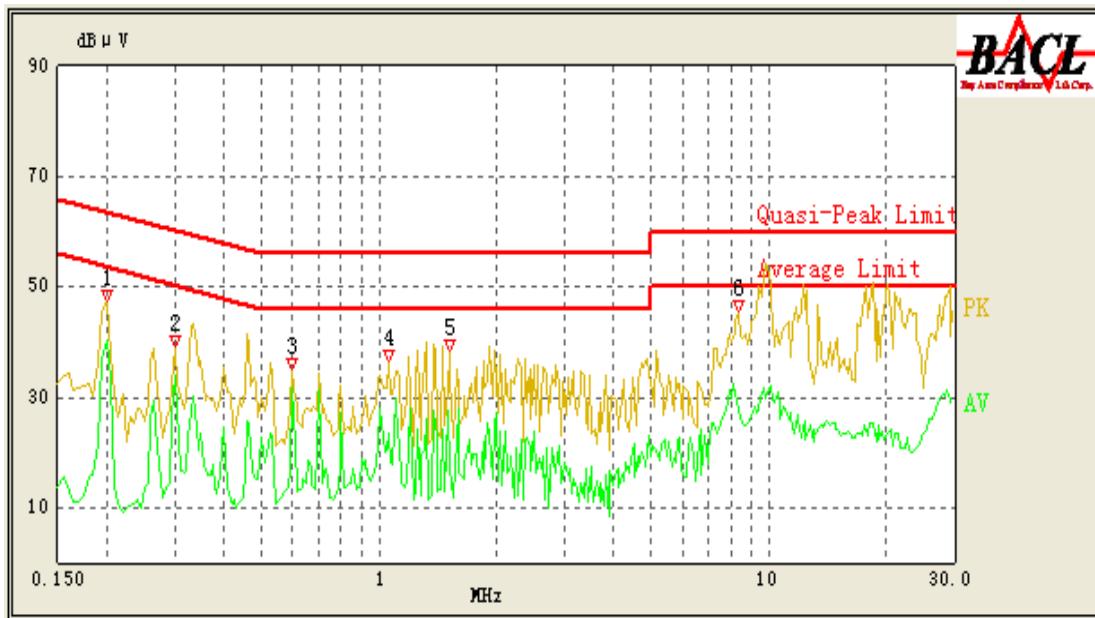
### Environmental Conditions

<b>Temperature:</b>	25 °C
<b>Relative Humidity:</b>	48 %
<b>ATM Pressure:</b>	100.0 kPa

*The testing was performed by Jim Huang on 2011-05-20.*

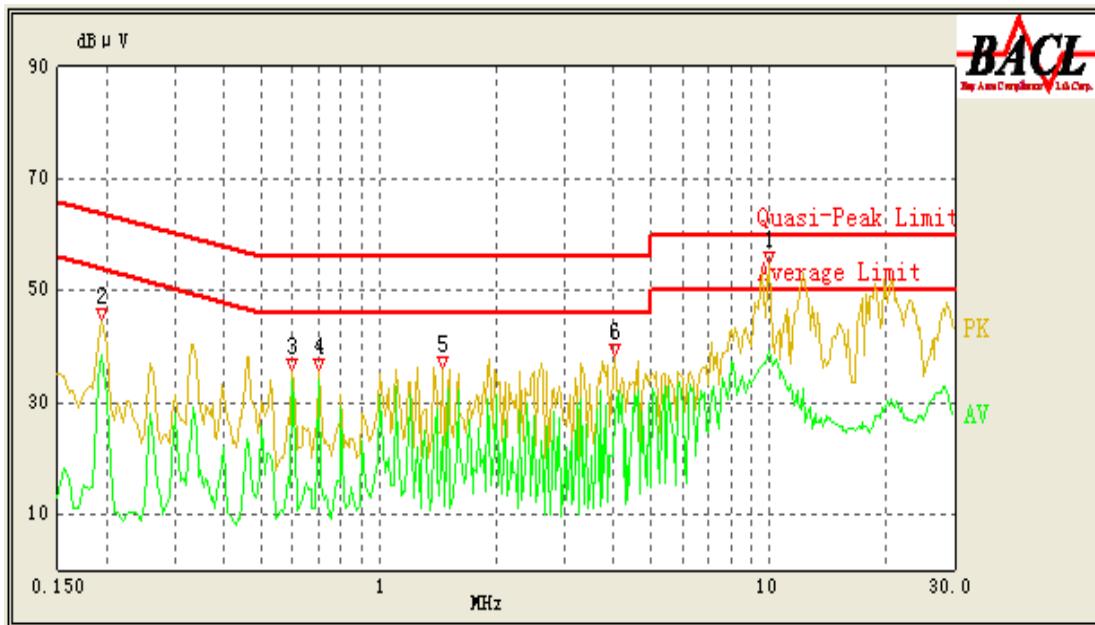
*Test Mode: USB Charging*

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



Conducted Emissions			FCC Part 15.107 Class B		
Frequency (MHz)	Corrected Result (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Remark (PK/ QP/Ave.)
0.200	40.50	10.07	54.57	14.07	Ave.
0.600	31.64	10.18	46.00	14.36	Ave.
0.300	33.85	10.00	51.71	17.86	Ave.
1.505	27.68	10.15	46.00	18.32	Ave.
0.200	44.60	10.07	64.57	19.97	QP
8.360	27.68	10.10	50.00	22.32	Ave.
1.055	23.39	10.11	46.00	22.61	Ave.
0.600	32.87	10.18	56.00	23.13	QP
1.515	32.78	10.15	56.00	23.22	QP
1.055	29.62	10.11	56.00	26.38	QP
0.300	35.30	10.00	61.71	26.41	QP
8.390	32.04	10.10	60.00	27.96	QP

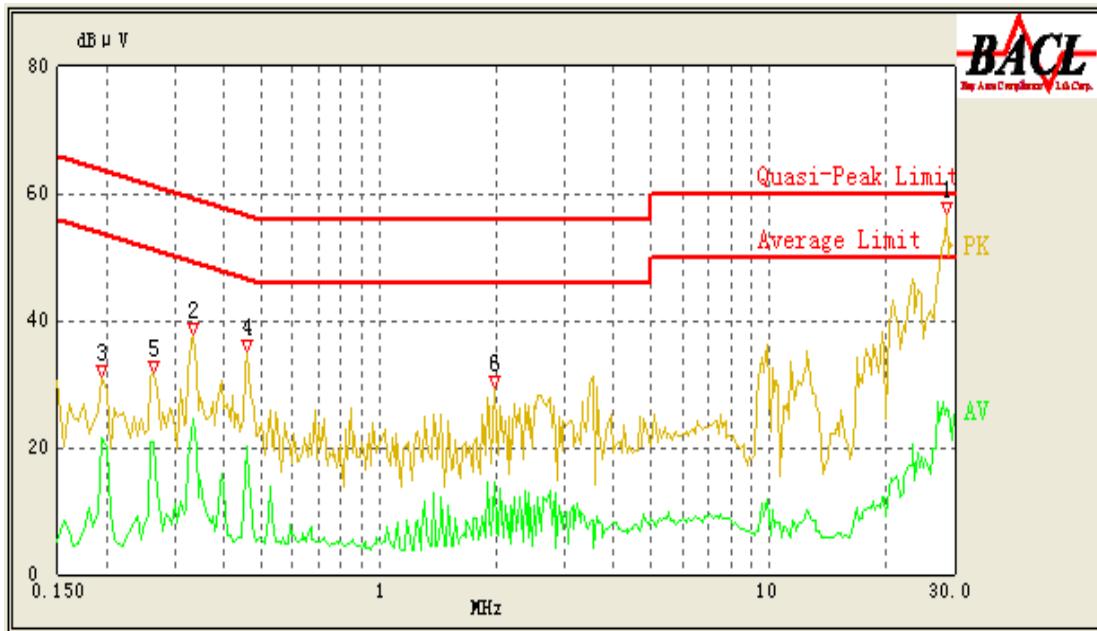
## AC 120V/60 Hz, Neutral



Conducted Emissions			FCC Part 15.107 Class B		
Frequency (MHz)	Corrected Result (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Remark (PK/ QP/Ave.)
10.025	39.01	10.10	50.00	10.99	Ave.
9.995	48.47	10.10	60.00	11.53	QP
0.600	34.04	10.18	46.00	11.96	Ave.
0.700	33.78	10.16	46.00	12.22	Ave.
0.195	38.40	10.07	54.71	16.31	Ave.
4.010	27.41	10.10	46.00	18.59	Ave.
0.600	35.03	10.18	56.00	20.97	QP
0.700	35.01	10.16	56.00	20.99	QP
1.450	23.73	10.15	46.00	22.27	Ave.
1.450	33.38	10.15	56.00	22.62	QP
0.195	41.38	10.07	64.71	23.33	QP
4.035	30.30	10.10	56.00	25.70	QP

*Test Mode: Power Supply from adapter*

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



Conducted Emissions			FCC Part 15.107 Class B		
Frequency (MHz)	Corrected Result (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Remark (PK/ QP/Ave.)
28.465	40.24	10.12	60.00	19.76	QP
28.555	26.14	10.11	50.00	23.86	Ave.
0.335	36.31	10.03	60.71	24.40	QP
0.335	24.48	10.03	50.71	26.23	Ave.
0.460	30.55	10.16	57.14	26.59	QP
0.460	20.24	10.16	47.14	26.90	Ave.
1.970	25.57	10.20	56.00	30.43	QP
1.970	14.39	10.20	46.00	31.61	Ave.
0.265	20.92	10.02	52.71	31.79	Ave.
0.195	21.49	10.07	54.71	33.22	Ave.
0.265	28.21	10.02	62.71	34.50	QP
0.195	29.15	10.07	64.71	35.56	QP

## AC 120V/60 Hz, Neutral



Conducted Emissions			FCC Part 15.107 Class B		
Frequency (MHz)	Corrected Result (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Remark (PK/ QP/Ave.)
9.620	26.25	10.10	50.00	23.75	Ave.
9.620	32.02	10.10	60.00	27.98	QP
28.685	32.02	10.11	60.00	27.98	QP
28.520	19.71	10.11	50.00	30.29	Ave.
12.865	16.46	10.13	50.00	33.54	Ave.
3.515	19.80	10.12	56.00	36.20	QP
3.515	9.80	10.12	46.00	36.20	Ave.
2.005	6.77	10.20	46.00	39.23	Ave.
12.865	19.80	10.13	60.00	40.20	QP
5.095	9.19	10.10	50.00	40.81	Ave.
2.005	13.45	10.20	56.00	42.55	QP
5.095	12.28	10.10	60.00	47.72	QP

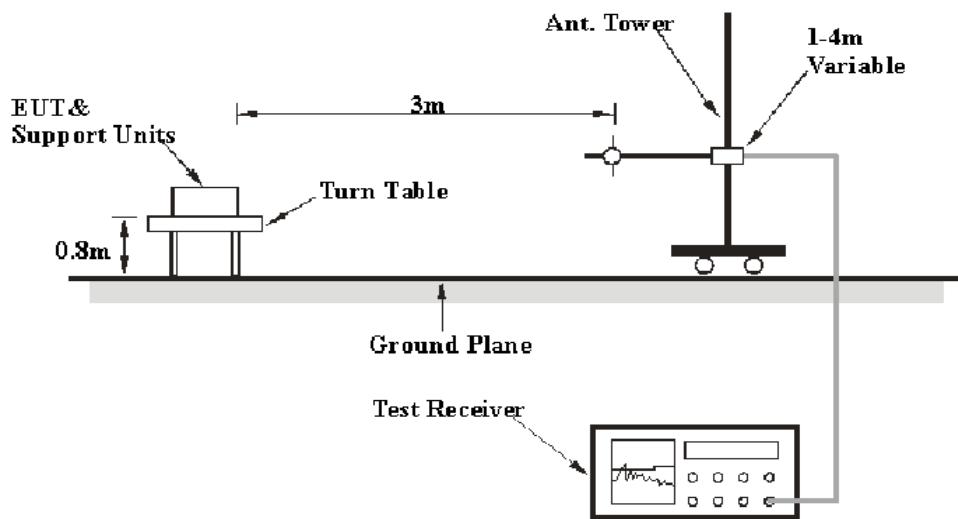
## FCC §15.109 - RADIATED SPURIOUS EMISSIONS

### Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, 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  $\pm 4.0$  dB. ( $k=2$ , 95% level of confidence)

### EUT Setup



The radiated emission tests were performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC Part 15.109 Class B 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 host PC was connected to a 120 VAC/60 Hz power source.

### EMI Test Receiver Setup

The system was investigated from 30 MHz to 1000 MHz.

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

Frequency	RB/W	VB/W	IF B/W	Detection
30 MHz-1 GHz	100 kHz	300 kHz	120 kHz	Quasi-peak

## Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447E	1937A01046	2010-08-02	2011-08-02
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2010-11-11	2011-11-10
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2010-07-05	2011-07-04

\* **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 host PC and all the other relevant equipments were connected to AC floor outlet.

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

All data was recorded in the Quasi-peak detection mode from 30 MHz to 1 GHz.

## Corrected Amplitude & Margin Calculation

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

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

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 Results Summary

According to the data in the following table, the EUT complied with the FCC §15.109 Class B, with the worst margin reading of:

**15.8 dB** at **42.367500 MHz** in the **Vertical** polarization for USB charging mode

**7.8 dB** at **30.031500 MHz** in the **Vertical** polarization for Multimedia playing mode

## Test Data

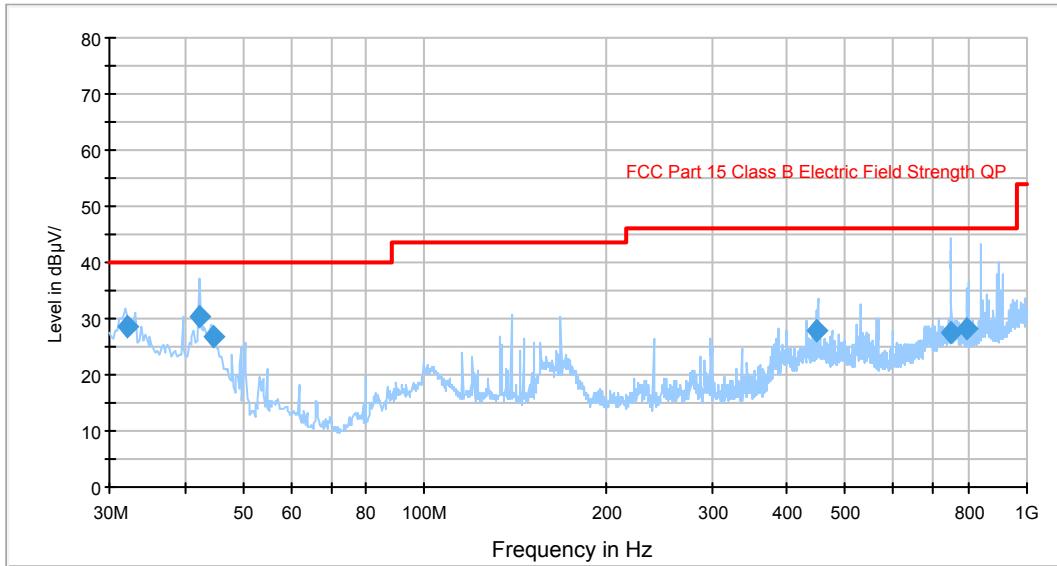
### Environmental Conditions

<b>Temperature:</b>	25 °C
<b>Relative Humidity:</b>	48 %
<b>ATM Pressure:</b>	100.0 kPa

*The testing was performed by Jim Huang on 2011-05-20.*

*Test Mode: USB Charging*

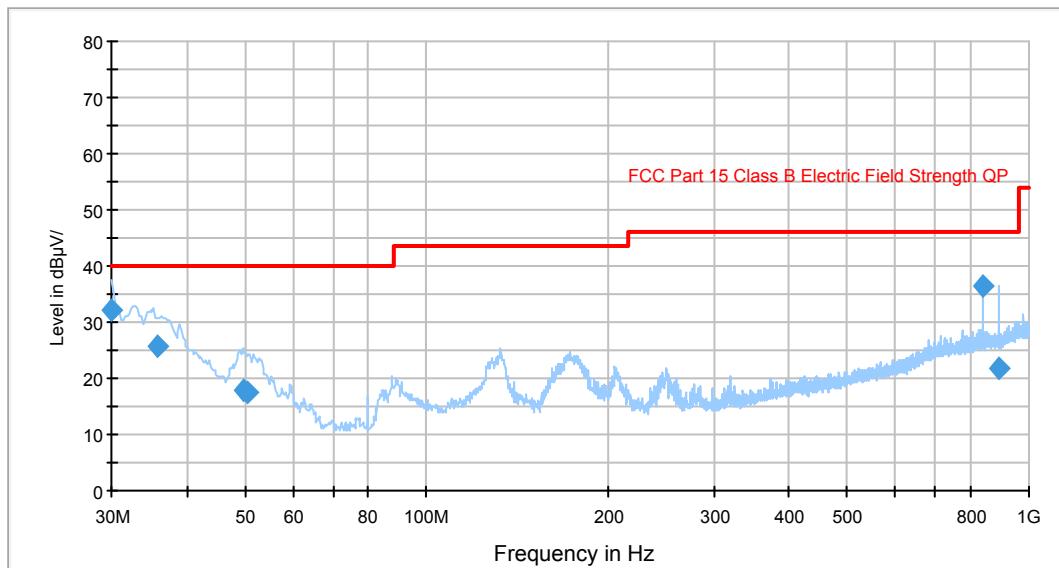
Auto Test(FCC 15 Class B)



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V/m)	Test Antenna		Turntable Position (degree)	Correction Factor (dB)	Limit (dB $\mu$ V/m)	Margin (dB)
		Height (cm)	Polarity (H/V)				
42.367500	30.2	207.0	V	327.0	-17.4	46.0	15.8
32.182500	28.5	330.0	V	145.0	-14.7	46.0	17.5
796.542500	28.4	265.0	V	98.0	-2.5	46.0	17.6
449.040000	28.0	209.0	V	162.0	-10.7	46.0	18.0
749.527500	27.4	193.0	V	348.0	-3.6	46.0	18.6
44.822500	26.7	158.0	V	308.0	-17.6	46.0	23.3

*Test Mode: Multimedia Playing*

Auto Test(FCC 15 Class B)



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V/m)	Test Antenna		Turntable Position (degree)	Correction Factor (dB)	Limit (dB $\mu$ V/m)	Margin (dB)
		Height (cm)	Polarity (H/V)				
30.031500	32.2	102.0	V	198.0	-5.4	40.0	7.8
836.609500	36.3	316.0	H	117.0	-1.3	46.0	9.7
35.830750	25.5	111.0	V	232.0	-9.4	40.0	14.5
49.857250	17.9	102.0	V	118.0	-17.2	40.0	22.1
50.498750	17.7	102.0	V	51.0	-17.3	40.0	22.3
890.505500	21.7	300.0	H	195.0	-1.2	46.0	24.3

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