



# FCC PART 15B

## MEASUREMENT AND TEST REPORT

For

**ITALCOM GROUP**

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**FCC ID: YPVITALCOMIQUQ**

<b>Report Type:</b> Original Report	<b>Product Type:</b> Mobile Phone
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<b>Report Number:</b> <u>RSZ11010702</u>	
<b>Report Date:</b> <u>2011-01-26</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\*, NIST, 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

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

The *ITALCOM GROUP*'s product, model number: *iQ* (FCC ID: *YPVITALCOMIQUQ*) or the "EUT" as referred to in this report is a *Mobile Phone*, which measures approximately: 11.3 cm (L) x 6.3 cm (W) x 1.3 cm (H), rated input voltage: DC 3.7V battery.

Adapter information:

Input: 100-240 VAC 50/60 Hz 0.5 A  
Output: DC 5.0 V 500 mAh

*\* All measurement and test data in this report was gathered from production sample serial number: 11010013 (Assigned by BACL, Shenzhen). The EUT was received on 2011-01-07.*

### 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 Bluetooth submissions with FCC ID: *YPVITALCOMIQUQ*.

### 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 a National Institute of Standards and Technology (NIST) accredited laboratory, under the 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.

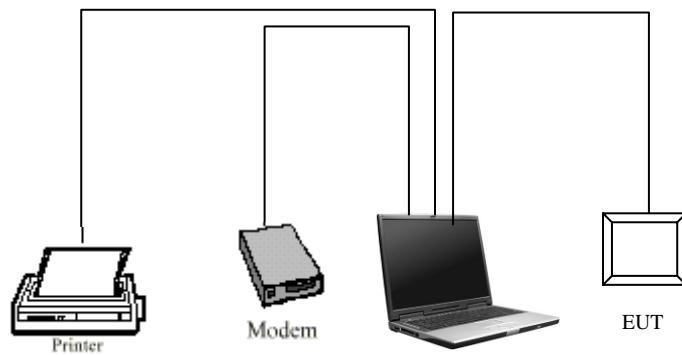
### Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
DELL	System PC	1#	N/A	DOC
SAST	Modem	AEM-2100	0293	DOC
HP	Laser Jet5L	C3941A	JPTVOB2337	DOC

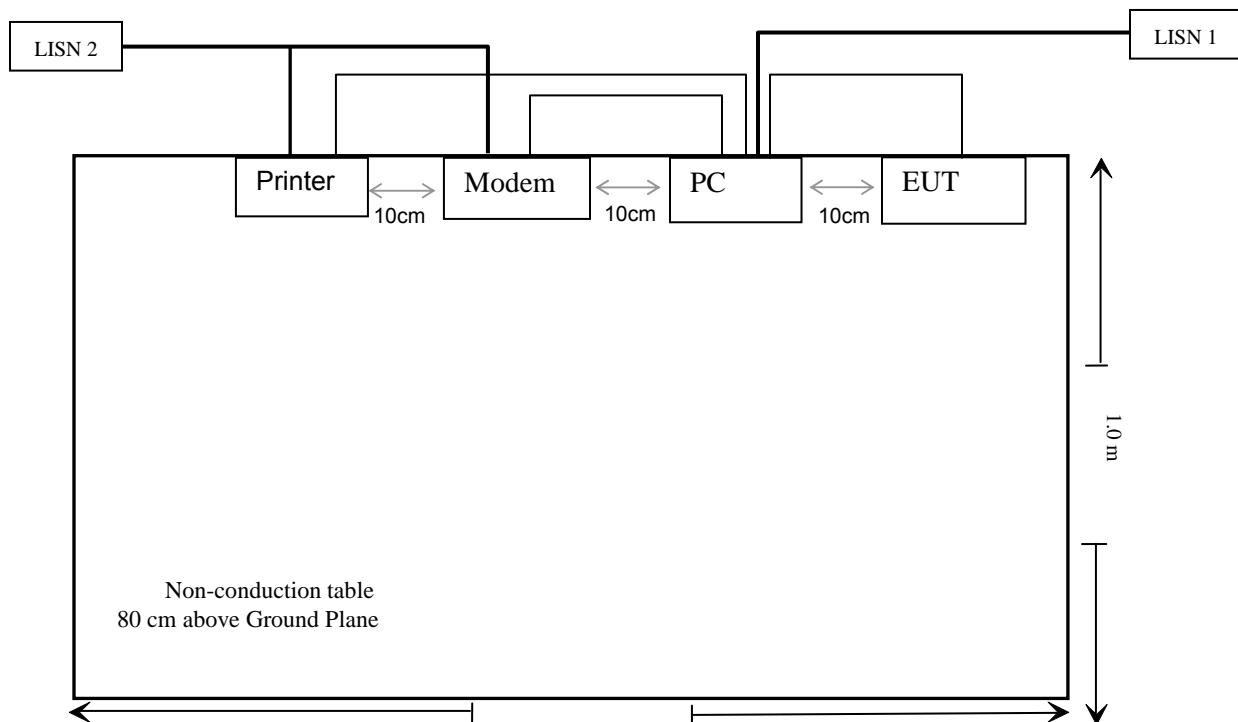
### External I/O Cable

Cable Description	Length (m)	From/Port	To
Unshielded Detachable USB Cable	1.0	EUT	Adapter
Shielded Detachable Mouse Cable	1.5	Mouse	Mouse
Shielded Detachable Printer Cable	1.2	Parallel	Printer
Shielded Detachable Serial Cable	1.2	Serial Port/Host	Modem
Shielded Detachable VGA Cable	1.5	VGA Port/Host	Monitor
Shielded Detachable Coaxial	1.8	Video Port/Host	Color TV PG

## Configuration of Test Setup



## Block Diagram of Test Setup



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## SUMMARY OF TEST RESULTS

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

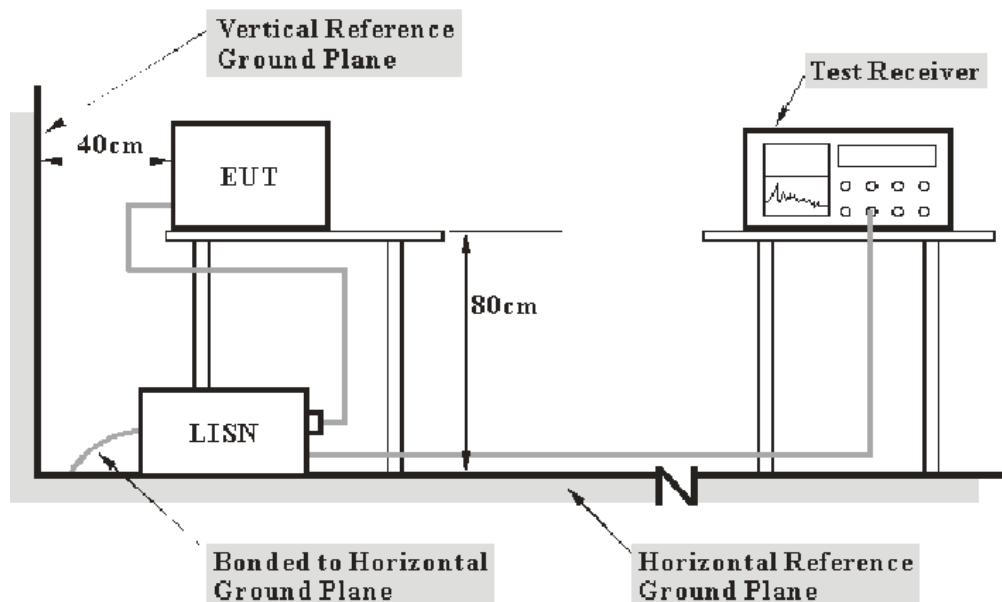
## FCC §15.107 – AC LINE CONDUCTED EMISSIONS

### 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 PC or adaptor 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>Frequency Range</b>	<b>IF B/W</b>
150 kHz – 30 MHz	9 kHz

## Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245/006	2010-03-03	2011-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2010-03-09	2011-03-08

\* **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 PC or adaptor was connected to the first LISN and the other equipments were conneted to the second 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 15.107 Class B](#), with the worst margin reading of:

**10.09 dB at 1.650 MHz** in the **Line** conductor mode, Ave

## Test Data

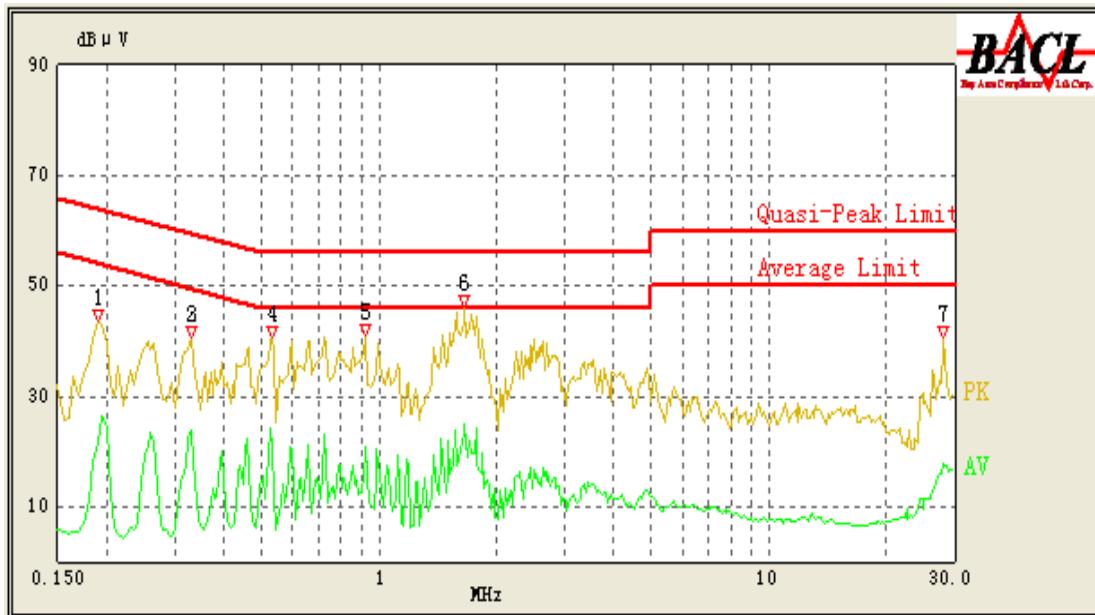
### Environmental Conditions

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

*The testing was performed by Jimmy Xiao on 2011-01-26.*

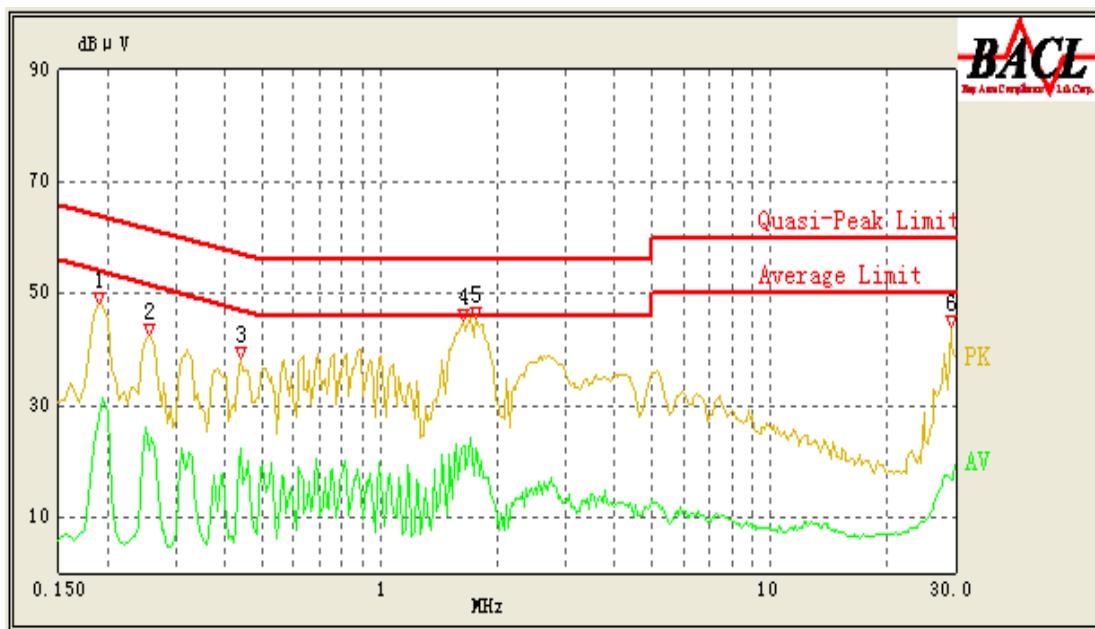
*Test Mode: Playing & charging*

**120 V, 60 Hz, Line:**



Conducted Emissions			FCC Part 15.107		
Frequency (MHz)	Corrected Factor (dB)	Cord. Result (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Remark (PK/QP/Ave)
1.650	10.16	45.91	56.00	10.09	QP
0.530	10.19	40.84	56.00	15.16	QP
0.330	10.03	43.56	60.86	17.30	QP
0.925	10.12	48.04	56.00	17.96	QP
0.330	10.03	42.89	60.86	17.97	QP
1.650	10.16	24.90	46.00	21.10	Ave
0.190	10.07	42.70	64.86	22.16	QP
0.530	10.19	21.24	46.00	24.76	Ave
0.925	10.12	20.70	46.00	25.30	Ave
0.330	10.03	23.74	50.86	27.12	Ave
0.330	10.03	23.74	50.86	27.12	Ave
0.190	10.07	21.62	54.86	33.24	Ave

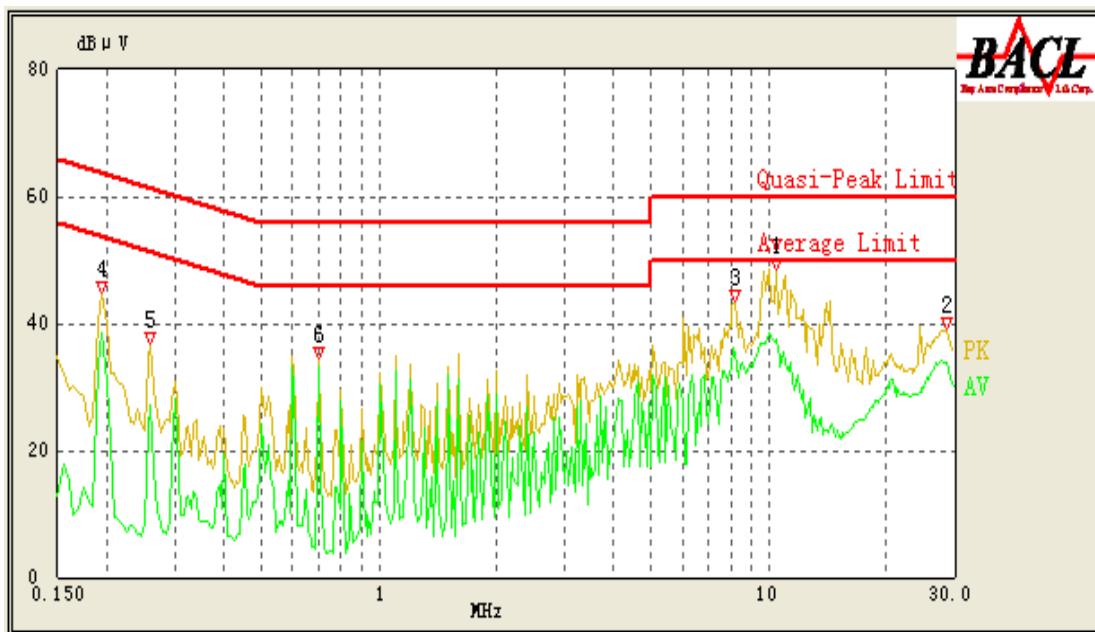
120V, 60 Hz, Neutral:



Conducted Emissions			FCC Part 15.107		
Frequency (MHz)	Corrected Factor (dB)	Cord. Result (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Remark (PK/QP/Ave)
1.635	10.16	42.11	56.00	13.89	QP
1.770	10.18	40.49	56.00	15.51	QP
0.440	10.14	35.87	57.71	21.84	QP
1.645	10.16	22.68	46.00	23.32	Ave
0.190	10.07	41.16	64.86	23.70	QP
1.775	10.18	21.73	46.00	24.27	Ave
0.440	10.14	22.23	47.71	25.48	Ave
0.255	10.03	36.16	63.00	26.84	QP
0.190	10.07	27.79	54.86	27.07	Ave
0.255	10.03	21.81	53.00	31.19	Ave
29.095	10.11	16.79	50.00	33.21	Ave
29.095	10.11	25.63	60.00	34.37	QP

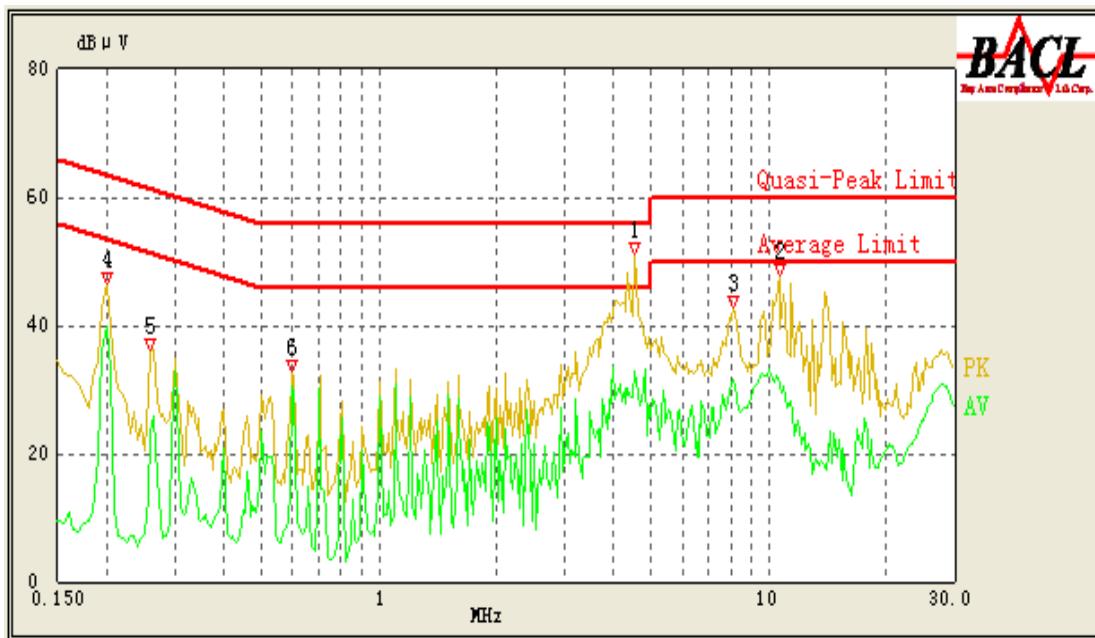
*Test Mode: Downloading & charging*

**120 V, 60 Hz, Line:**



Conducted Emissions			FCC Part 15.107		
Frequency (MHz)	Corrected Factor (dB)	Cord. Result (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Remark (PK/QP/Ave)
10.430	10.10	37.52	50.00	12.48	Ave
0.700	10.16	33.05	46.00	12.95	Ave
8.225	10.10	35.48	50.00	14.52	Ave
28.485	10.12	33.92	50.00	16.08	Ave
0.195	10.07	38.42	54.71	16.29	Ave
10.405	10.10	40.63	60.00	19.37	QP
8.225	10.10	37.68	60.00	22.32	QP
0.700	10.16	33.66	56.00	22.34	QP
0.195	10.07	41.07	64.71	23.64	QP
28.480	10.12	36.07	60.00	23.93	QP
0.260	10.03	27.02	52.86	25.84	Ave
0.260	10.03	34.13	62.86	28.73	QP

120V, 60 Hz, Neutral:



Conducted Emissions			FCC Part 15.107		
Frequency (MHz)	Corrected Factor (dB)	Cord. Result (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	Remark (PK/QP/Ave)
8.090	10.10	33.09	60.00	26.91	QP
0.200	10.07	39.71	54.57	14.86	Ave
0.260	10.03	34.86	62.86	28.00	QP
0.260	10.03	23.56	52.86	29.30	Ave
0.600	10.18	32.03	56.00	23.97	QP
4.540	10.10	32.75	46.00	13.25	Ave
4.535	10.10	42.73	56.00	13.27	QP
0.600	10.18	30.66	46.00	15.34	Ave
10.540	10.11	31.97	50.00	18.03	Ave
8.085	10.10	31.64	50.00	18.36	Ave
10.635	10.11	41.60	60.00	18.40	QP
0.200	10.07	40.53	64.57	24.04	QP

## FCC §15.109 - RADIATED SPURIOUS EMISSIONS

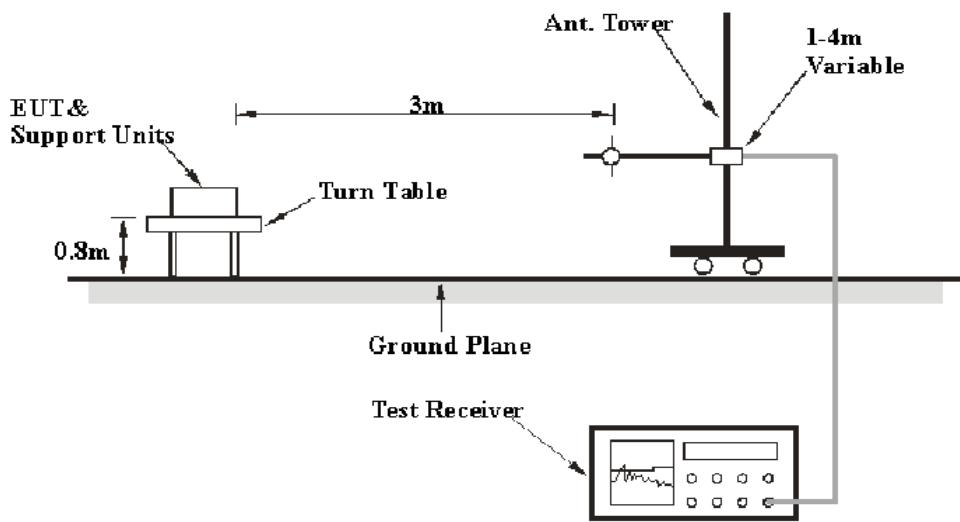
### Measurement Uncertainty

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. is  $\pm 4.0$  dB. (k=2, 95% level of confidence)

### EUT Setup

#### Below 1 GHz:



The radiated emission tests were performed in the 3 meters, 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 laptop 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 Range	RBW	Video B/W	Detector
30MHz – 1000 MHz	100 kHz	300 kHz	QP

## 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	2010-11-24	2011-11-24
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 laptop 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.

## 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 Class B 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:

### 30 -1000 MHz:

**1.0dB** at 54.1845 MHz in the **Vertical** polarization

## Test Data

### Environmental Conditions

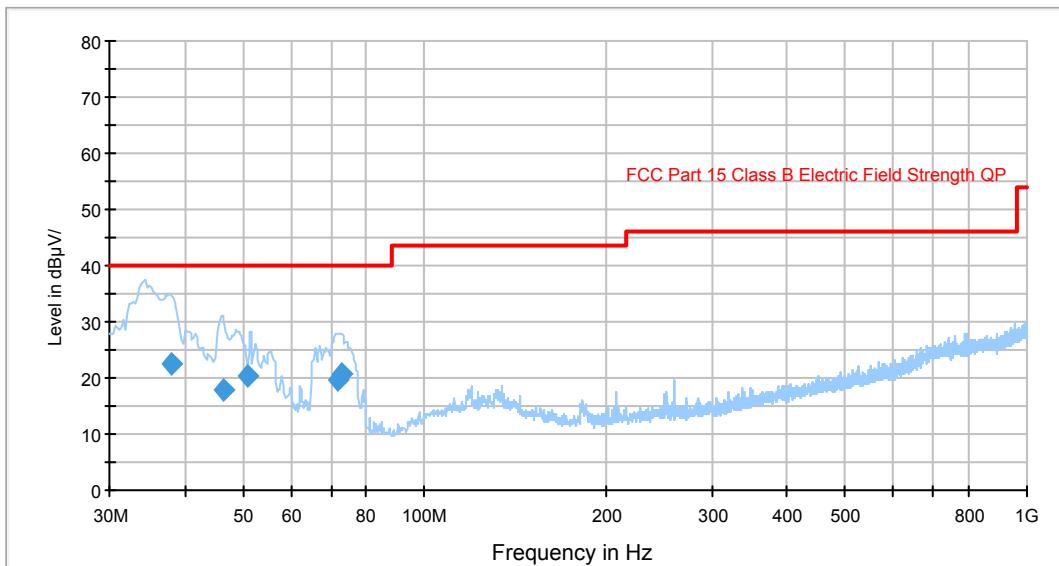
Temperature:	25 °C
Relative Humidity:	48 %
ATM Pressure:	100.0 kPa

The testing was performed by Jimmy Xiao on 2011-01-26

### 30-1000 MHz:

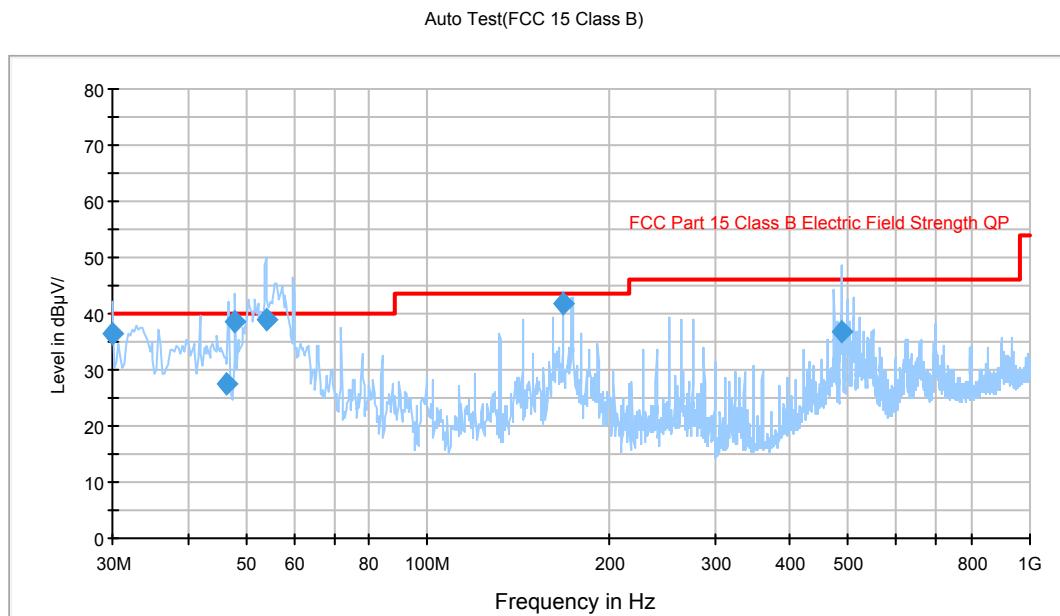
Test Mode: Playing & charging

Auto Test(FCC 15 Class B)



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turtable Position (deg)	Correction Factor (dB)	Limit (dB $\mu$ V/m)	Margin (dB)
38.137000	22.5	122.0	V	0.0	-10.9	40.0	17.5
38.137000	22.5	122.0	V	0.0	-10.9	40.0	17.5
73.103250	20.9	339.0	H	194.0	-18.2	40.0	19.1
51.045500	20.2	205.0	V	42.0	-17.4	40.0	19.8
71.826500	19.5	391.0	H	222.0	-18.3	40.0	20.5
46.354500	17.8	122.0	V	307.0	-15.7	40.0	22.2

*Test Mode: Downloading & charging*



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dB $\mu$ V/m)	Margin (dB)
54.184500	39.0	103.0	V	77.0	-17.9	40.0	1.0*
47.994000	38.6	124.0	V	8.0	-16.4	40.0	1.4*
167.999500	41.9	205.0	H	272.0	-14.8	43.5	1.6*
30.013250	36.3	102.0	V	0.0	-5.4	40.0	3.7*
485.740250	36.8	105.0	H	214.0	-8.6	46.0	9.2
46.450500	27.6	102.0	V	307.0	-15.8	40.0	12.4

\*With measurement uncertainty

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