



## FCC PART 15B, CLASS B MEASUREMENT AND TEST REPORT

For

### **Nexpro International Limitada**

San Jose-Goicoechea, Guadalupe, Barrio Tournon, frente Al Hotel Villas Tournon,  
Oficinas Del Bufete Facio Y Canas, Costa Rica

**FCC ID: ZYPQ88K**

<b>Report Type:</b> Original Report	<b>Product Type:</b> GSM Mobile Phone
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<b>Report Number:</b> <u>RDG110908002-00</u>	
<b>Report Date:</b> <u>2011-10-12</u>	
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\* 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 *Nexpro International Limitada*'s product, model number: *Q88K (FCC ID: ZYPQ88K)* (the "EUT") in this report is a *GSM Mobile Phone*, which was measured approximately: 11.0 cm (L) x 5.8 cm (W) x 1.5 cm (H), rated input voltage: DC 3.7 V battery or charging DC 5V from adapter for charging.

Adapter information

Model: Q88

Input: 100-240V<sub>AC</sub> 50/60 Hz 0.2A

Output: 5.0V<sub>DC</sub> 500mA

*\* All measurement and test data in this report was gathered from production sample serial number: 1108063 (Assigned by BACL, Shenzhen). The EUT was received on 2011-09-08.*

### Objective

This report is prepared on behalf of *Nexpro International Limitada* 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 the compliance of EUT with FCC Part 15B, Class B.

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

FCC Part 15.247 DSS, 22H&24E PCE submissions with FCC ID: ZYPQ88K

### Test Facility

The Test site used by Bay Area Compliance Laboratories Corp.(Shenzhen) to collect test data is located on 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 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

### Description of Test Configuration

The system was configured for testing in a typical mode which is provided by manufacturer.

### EUT Exercise Software

N/A

### Equipment Modifications

No modification was made to the unit tested.

### Local Support Equipment List and Details

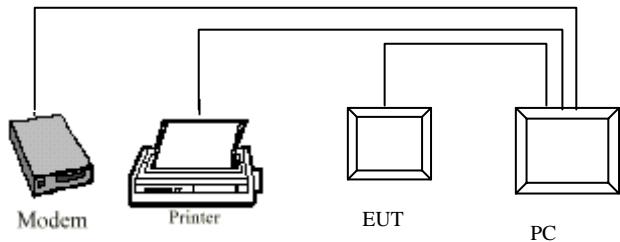
Manufacturer	Description	Model	Serial Number
DELL	PC	D600	85RF831
HP	Laser Jet5L	C3941A	JPTVOB2337
SAST	Modem	AEM-2100	0293

### External I/O Cable

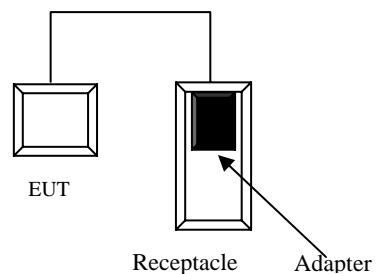
Cable Description	Length (m)	From/Port	To
Shielded Detachable Printer Cable	1.8	Parallel Port/Host	Printer
Shielded Detachable Serial Cable	1.8	Serial Port/Host	Modem
Shielded Detachable USB Cable	0.85	EUT	PC

## Configuration of Test Setup

For downloading mode

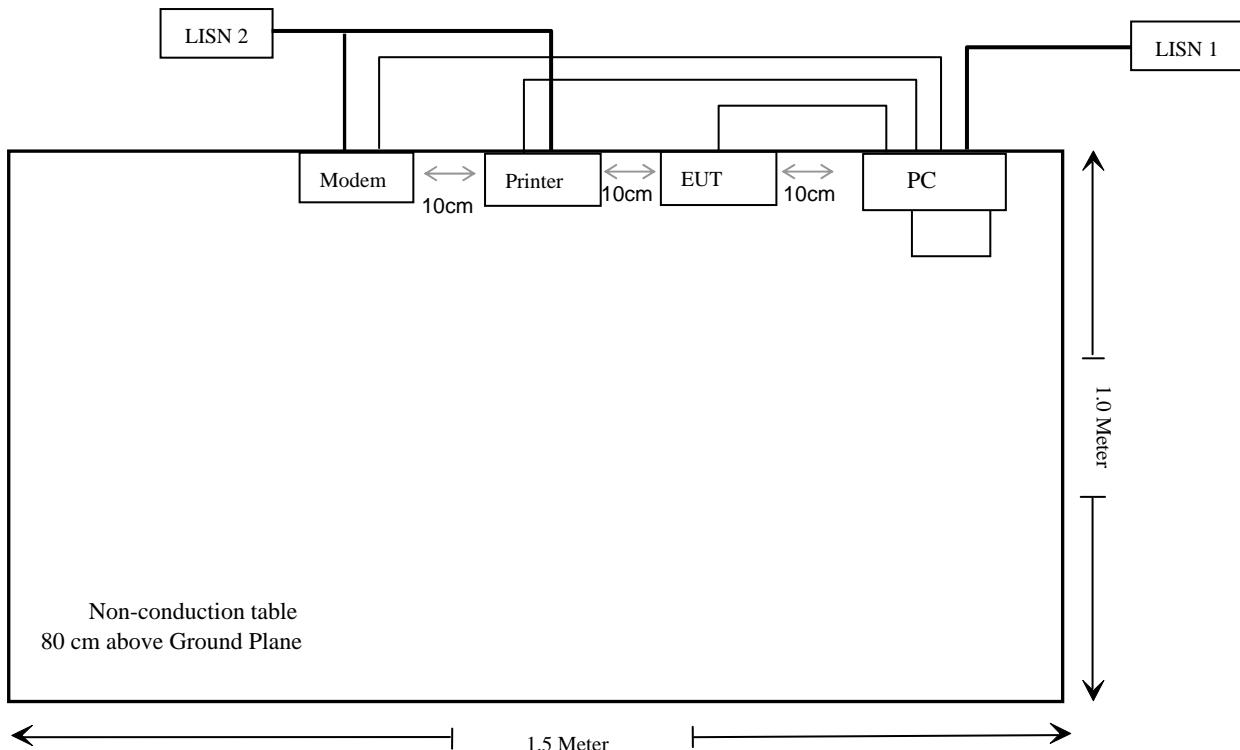


For Charging&multimedia playing mode

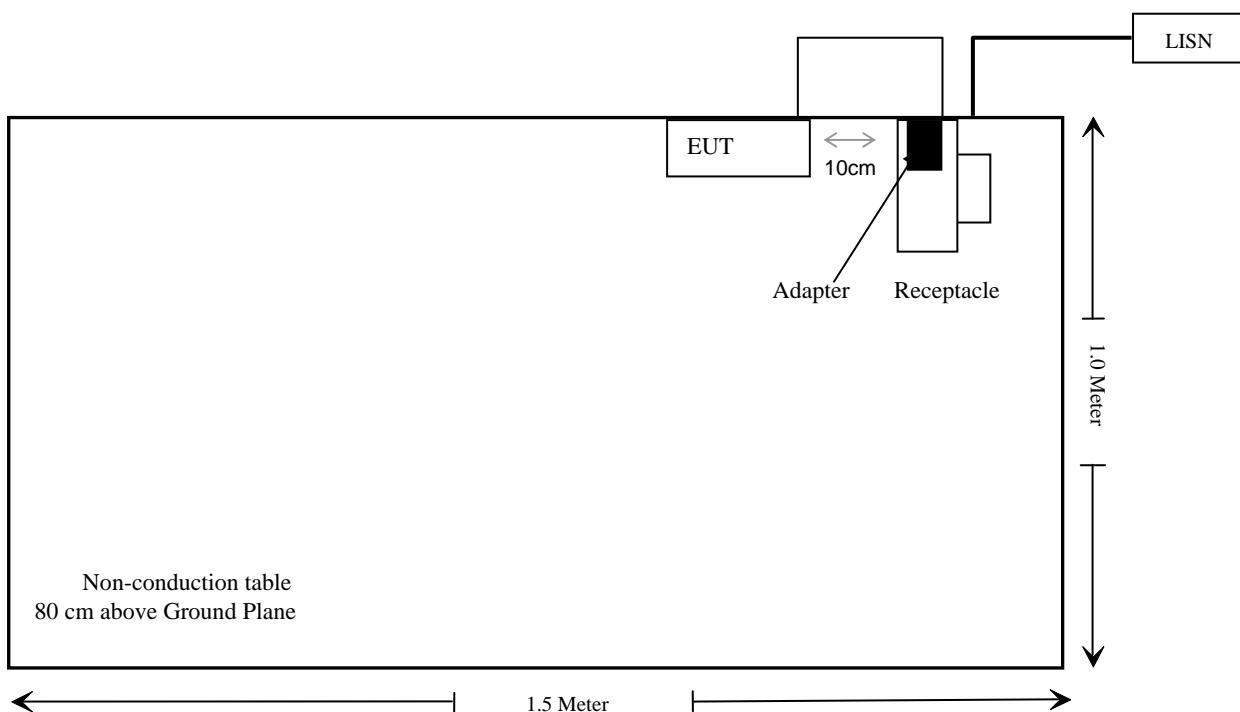


## Block Diagram of Test Setup

For downloading mode



For Charging&multimedia playing mode



**SUMMARY OF TEST RESULTS**

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

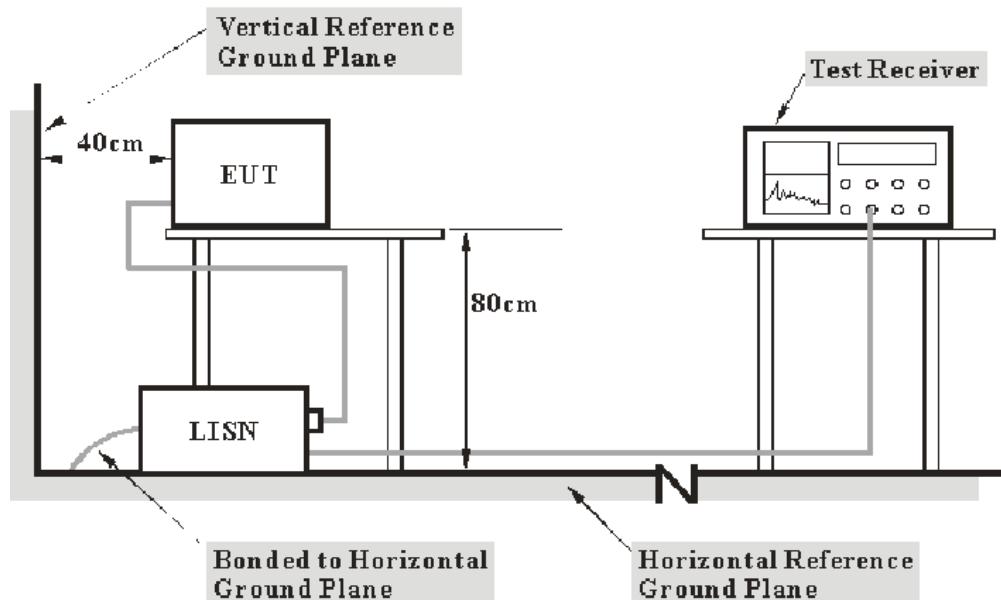
## FCC §15.107 – AC LINE CONDUCTED EMISSIONS

### 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 was connected to a 120 VAC/60 Hz power source for downloading mode.

The adapter was connected to a 120 VAC/60 Hz power source for multimedia playing mode.

## 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, for downloading mode, the adapter of notebook 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 multimedia playing mode, 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 15.107](#), with the worst margin reading of:

**9.47 dB at 8.745 MHz** in the **Line** conducted mode for Downloading mode

## Test Data

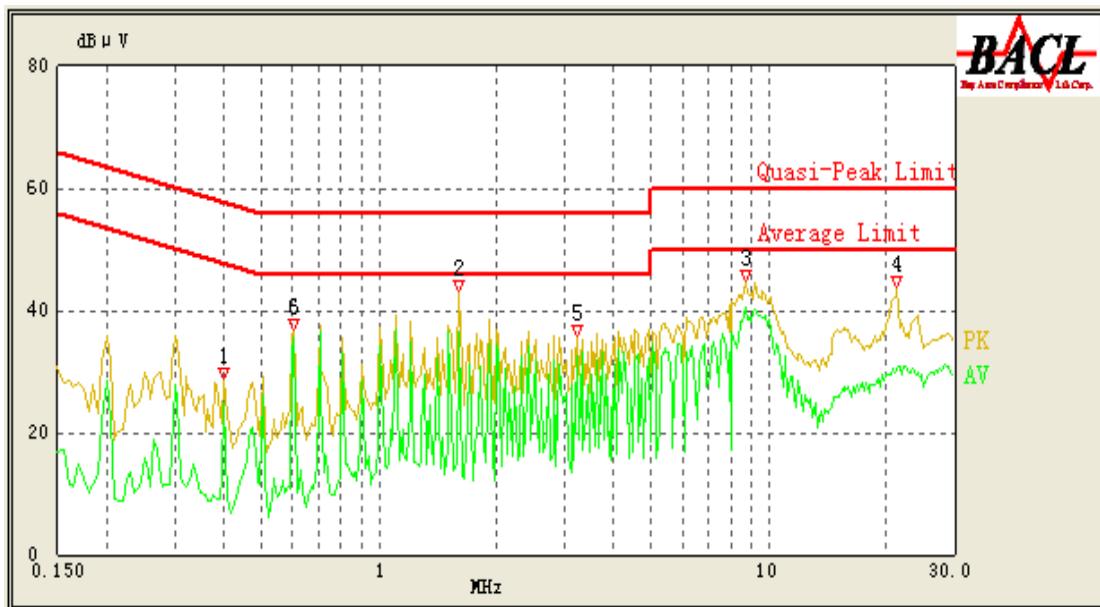
### Environmental Conditions

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

*The testing was performed by Allan An on 2011-10-09.*

*Test Mode: Downloading*

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



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Detector (PK/QP/Ave.)
8.745	40.53	10.10	50.00	9.47	Ave.
1.610	36.40	10.10	46.00	9.60	Ave.
0.605	35.45	10.10	46.00	10.55	Ave.
3.220	32.60	10.10	46.00	13.40	Ave.
1.610	41.11	10.10	56.00	14.89	QP
21.530	30.69	10.10	50.00	19.31	Ave.
0.605	35.09	10.10	56.00	20.91	QP
8.745	37.15	10.10	60.00	22.85	QP
3.220	32.98	10.10	56.00	23.02	QP
0.400	24.80	10.10	48.86	24.06	Ave.
21.330	32.64	10.10	60.00	27.36	QP
0.400	26.63	10.10	58.86	32.23	QP

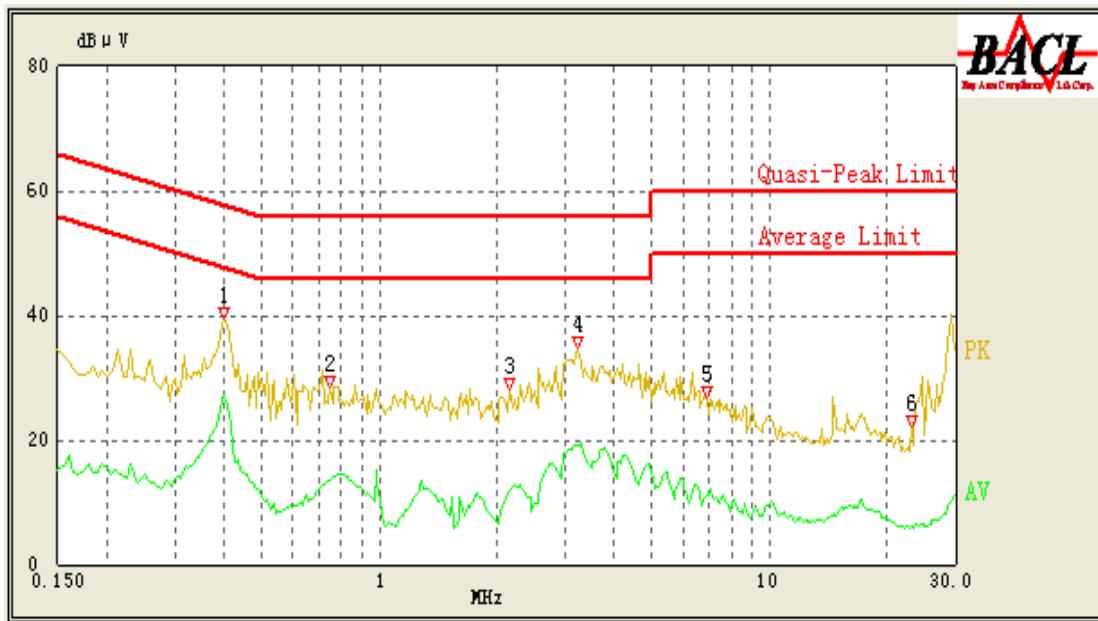
## AC 120V/60 Hz, Neutral



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Detector (PK/QP/Ave.)
0.200	39.58	10.10	54.57	14.99	Ave.
8.750	34.80	10.10	50.00	15.20	Ave.
3.620	26.35	10.10	46.00	19.65	Ave.
1.405	25.35	10.10	46.00	20.65	Ave.
0.200	41.85	10.10	64.57	22.72	QP
21.125	27.07	10.10	50.00	22.93	Ave.
8.745	35.00	10.10	60.00	25.00	QP
0.475	20.19	10.10	46.71	26.52	Ave.
3.620	29.15	10.10	56.00	26.85	QP
1.405	27.63	10.10	56.00	28.37	QP
0.475	23.70	10.10	56.71	33.01	QP
21.000	21.40	10.10	60.00	38.60	QP

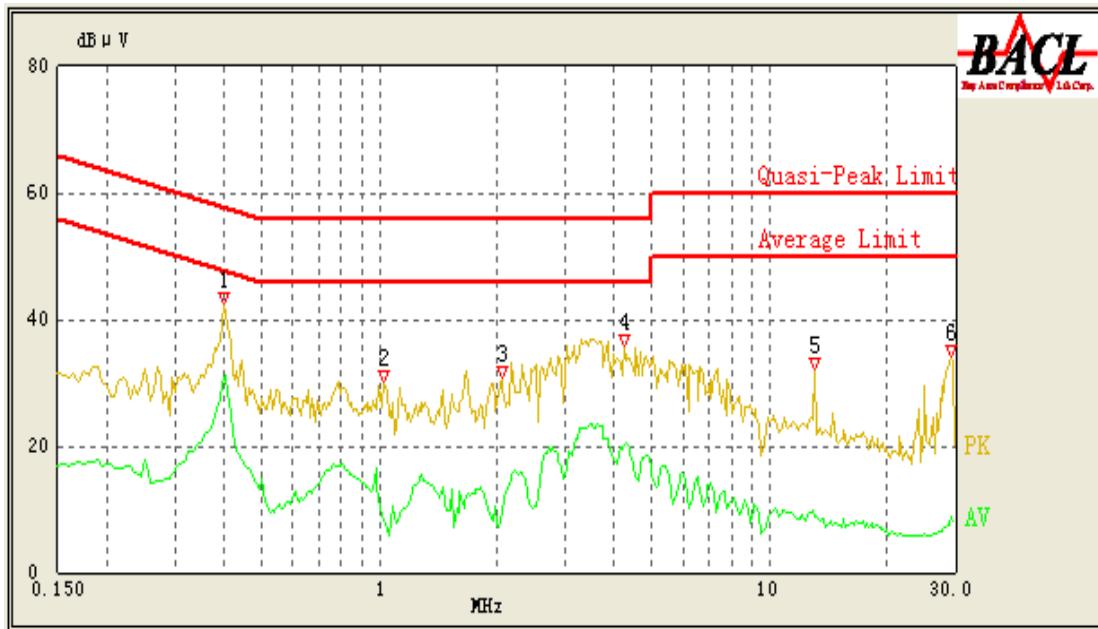
*Test Mode: Charging & Multimedia playing*

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



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Detector (PK/QP/Ave.)
0.400	27.11	10.10	48.86	21.75	Ave.
0.400	34.87	10.10	58.86	23.99	QP
3.235	19.24	10.10	46.00	26.76	Ave.
3.235	24.30	10.10	56.00	31.70	QP
0.745	13.57	10.10	46.00	32.43	Ave.
2.175	12.01	10.10	46.00	33.99	Ave.
0.750	19.93	10.10	56.00	36.07	QP
2.160	17.79	10.10	56.00	38.21	QP
6.865	10.91	10.10	50.00	39.09	Ave.
23.050	6.08	10.10	50.00	43.92	Ave.
6.890	14.99	10.10	60.00	45.01	QP
23.180	10.18	10.10	60.00	49.82	QP

## AC 120V/60 Hz, Neutral



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Detector (PK/QP/Ave.)
0.400	31.62	10.10	58.86	27.24	QP
1.030	15.32	10.10	56.00	40.68	QP
1.025	8.07	10.10	46.00	37.93	Ave.
2.055	13.81	10.10	56.00	42.19	QP
2.055	9.43	10.10	46.00	36.57	Ave.
4.265	23.14	10.10	56.00	32.86	QP
4.265	20.30	10.10	46.00	25.70	Ave.
13.025	12.08	10.10	60.00	47.92	QP
13.025	8.69	10.10	50.00	41.31	Ave.
29.115	11.23	10.10	60.00	48.77	QP
29.110	8.98	10.10	50.00	41.02	Ave.
0.405	31.29	10.10	48.71	17.42	Ave.

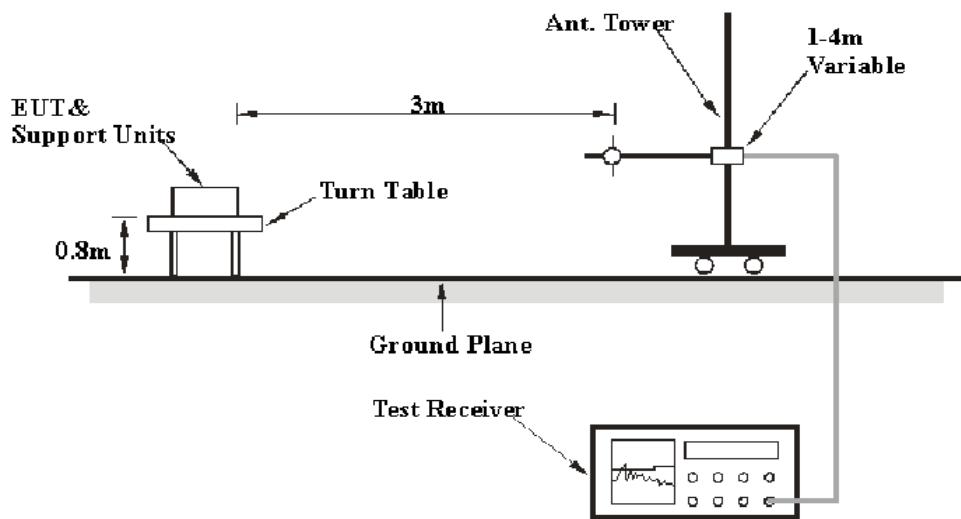
## FCC §15.109 - RADIATED EMISSIONS

### 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 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 PC was connected to a 120 VAC/60 Hz power source for downloading mode.

The adapter was connected to a 120 VAC/60 Hz power source for multimedia playing mode.

## 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:

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

## Test Procedure

During the radiated emissions test, for downloading mode, the PC and all the other relevant equipments were connected to AC floor outlet. For multimedia playing mode, 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.

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

## 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>
HP	Amplifier	HP8447E	1937A01046	2011-08-02	2012-08-02
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2010-11-11	2011-11-10
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2011-07-05	2012-07-04

\* **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.

## 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:

**7.4 dB at 62.567750 MHz in the Vertical polarization for Downloading mode**

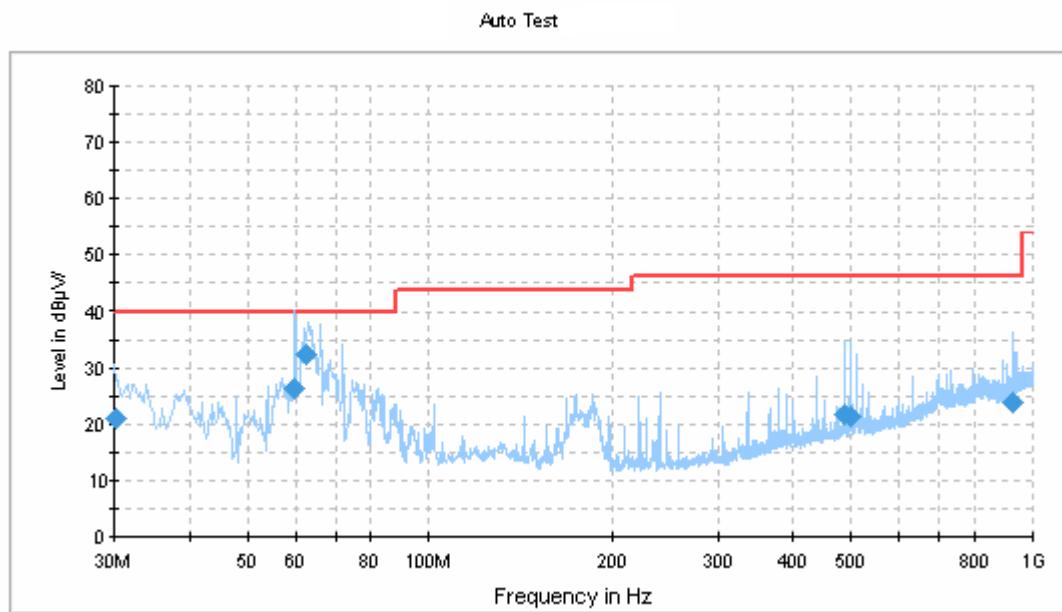
## Test Data

### Environmental Conditions

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

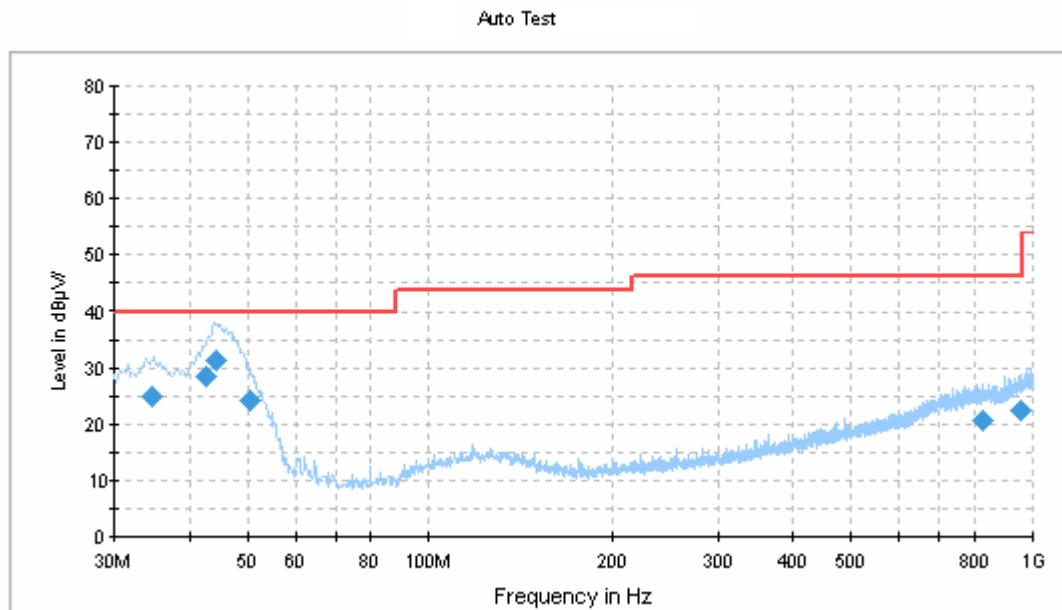
The testing was performed by Allan An on 2011-10-09.

Test Mode: Downloading



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)				
62.567750	32.6	101.0	V	166.0	-18.6	40.0	7.4
59.897250	26.5	102.0	V	192.0	-18.7	40.0	13.5
30.118500	21.0	107.0	V	257.0	-5.5	40.0	19.0
929.440250	23.8	220.0	H	35.0	0.1	46.0	22.2
486.612750	22.0	102.0	V	172.0	-8.6	46.0	24.0
498.294500	21.3	101.0	V	200.0	-8.4	46.0	24.7

Test Mode: Charging & Multimedia playing



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)				
44.210000	31.5	102.0	V	5.0	-14.7	40.0	8.5
42.777250	28.7	102.0	V	12.0	-13.8	40.0	11.3
34.784000	25.1	122.0	V	122.0	-8.7	40.0	14.9
50.366750	24.3	101.0	V	18.0	-17.3	40.0	15.7
958.633500	22.5	306.0	V	93.0	0.8	46.0	23.5
828.587750	20.8	210.0	V	288.0	-1.4	46.0	25.2

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