

**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: ZYPE860**

<b>Report Type:</b> Original Report	<b>Product Type:</b> GSM Mobile Phone
<b>Test Engineer:</b> Eros Du	<i>Eros Du</i>
<b>Report Number:</b> RDG110916006-00	
<b>Report Date:</b> 2011-10-20	
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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: *E860 (FCC ID: ZYPE860)* (the "EUT") in this report was a *GSM Mobile Phone*, which was measured approximately: 11.4 cm (L) x 4.7 cm (W) x 1.0 cm (H), rated input voltage: DC 3.7V battery or DC 5.2V from adapter for charging.

ADAPTADOR ca/cc

ENTRADA: 100-240Vca 50/60 Hz 120mA

SALIDA: 5.2Vcc 500mA

*\* All measurement and test data in this report was gathered from production sample serial number: 1108072 (Assigned by BACL, Shenzhen). The EUT was received on 2011-09-16.*

### 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 15 Class B.

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

FCC Part 15.247 and 22H&24E submissions with FCC ID: ZYPE860

### 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 manufacture.

### EUT Exercise Software

No exercise software

### Equipment Modifications

No modification was made to the EUT tested.

### Local Support Equipment List and Details

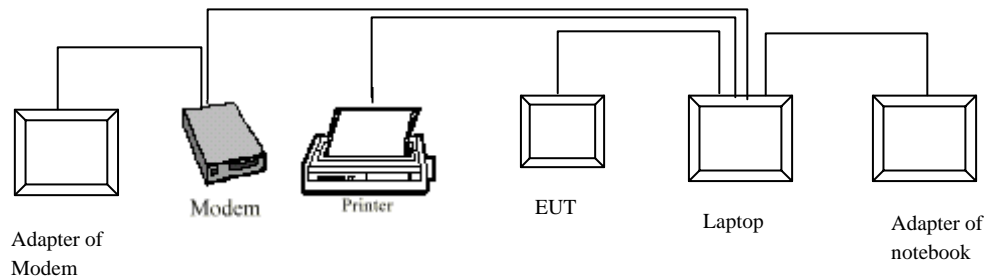
Manufacturer	Description	Model	Serial Number
DELL	Laptop	D600	85RF831
HP	Laser Jet5L	C3941A	JPTVOB2337
SAST	Modem	AEM-2100	0293

### External I/O Cable

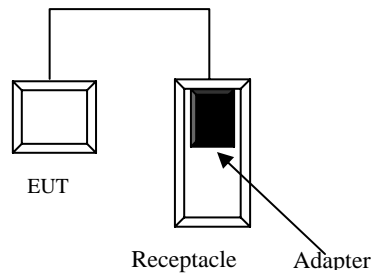
Cable Description	Length (m)	From/Port	To
Shielded Detachable Printer Cable	1.8	Parallel Port/Host	Printer
Shielded Detachable Serial Cable	1.8	Serial Port/Host	Modem
Shielded Detachable USB Cable	0.85	EUT	PC

## Configuration of Test Setup

For downloading mode

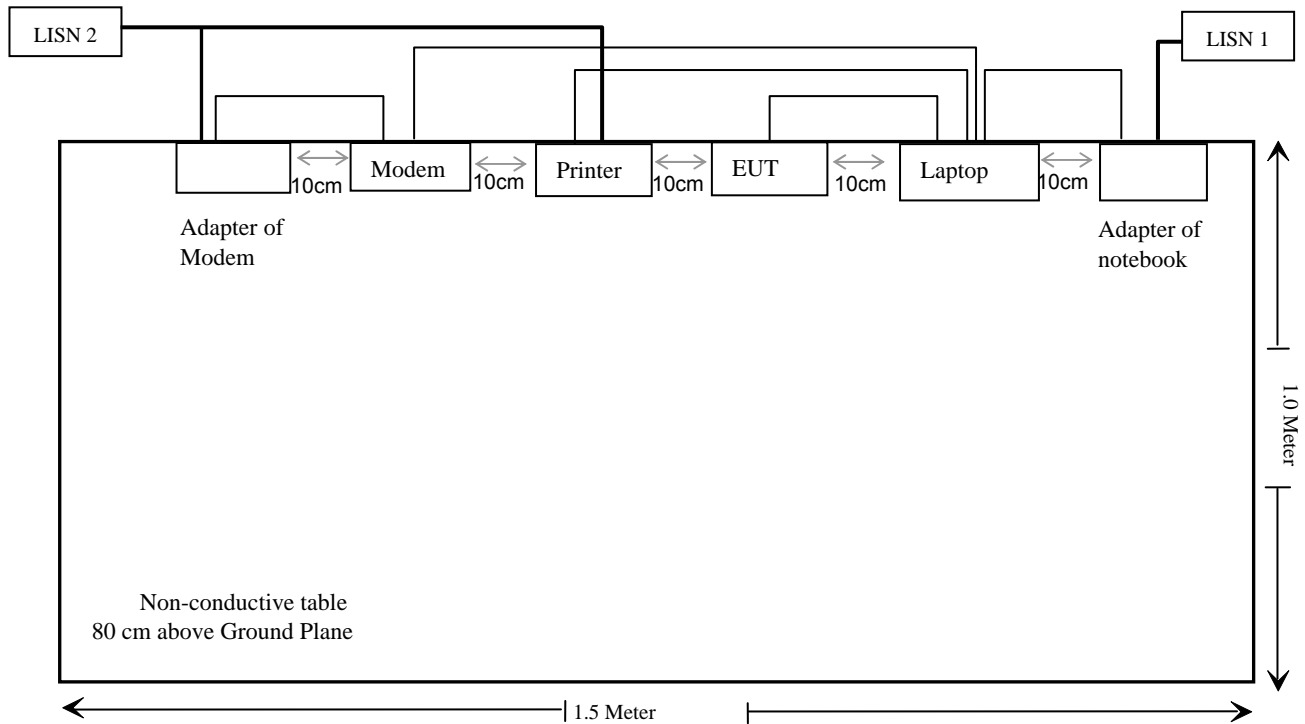


For Charging & media playing mode

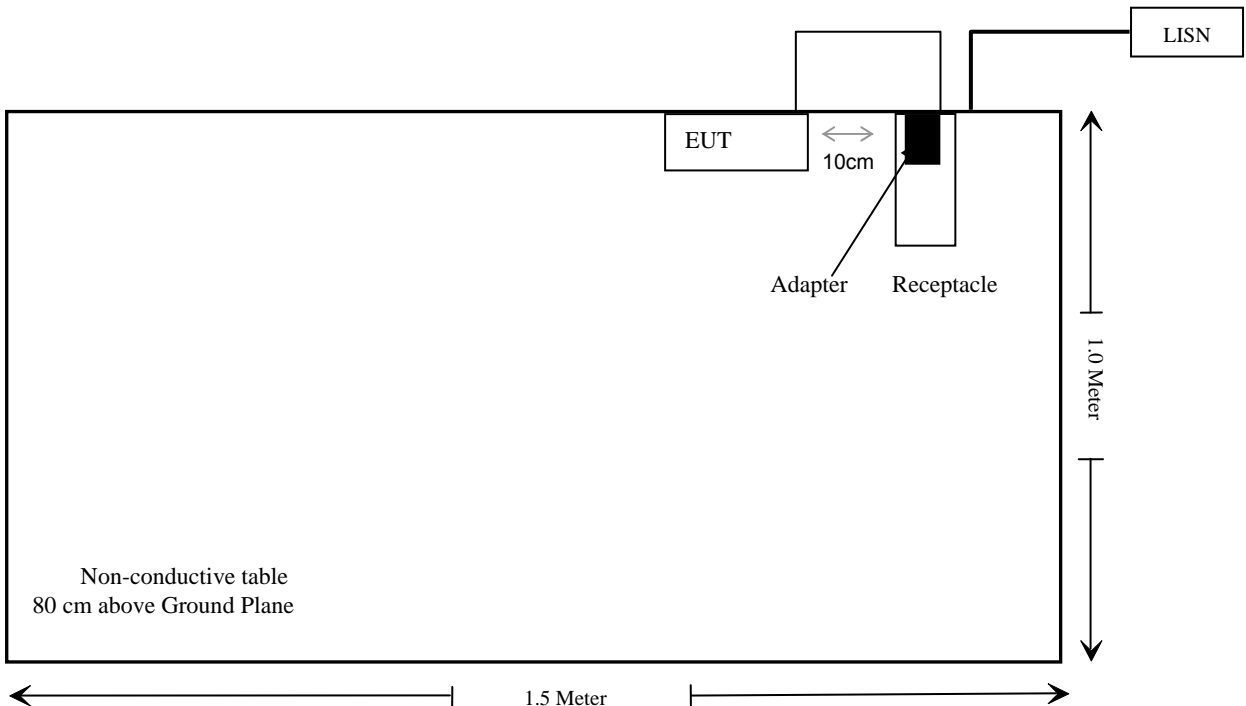


## Block Diagram of Test Setup

For downloading mode



For Charging & media playing mode



## SUMMARY OF TEST RESULTS

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

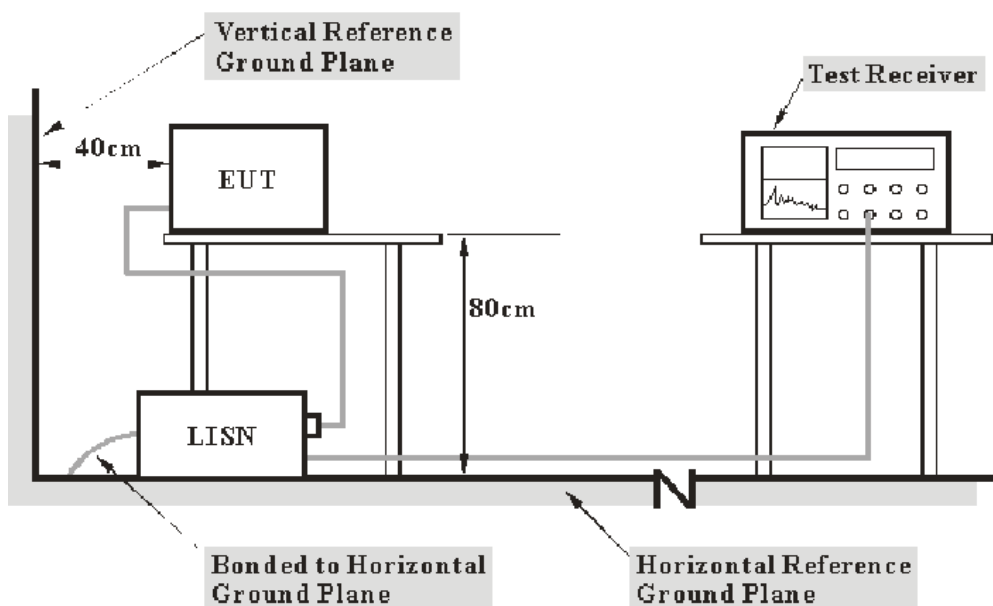
## FCC §15.107 – AC LINE CONDUCTED EMISSIONS

### 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 adapter of laptop 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 charging & media 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:

<u>Frequency Range</u>	<u>IF B/W</u>
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	2011-03-03	2012-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2011-03-09	2012-03-08
Com-Power	L.I.S.N.	LI-200	12005	N/A	N/A
Com-Power	L.I.S.N.	LI-200	12208	N/A	N/A

\* **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 laptop 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 charging & media 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:

**10.48 dB at 0.605 MHz in the Line conducted mode for Downloading mode**

## Test Data

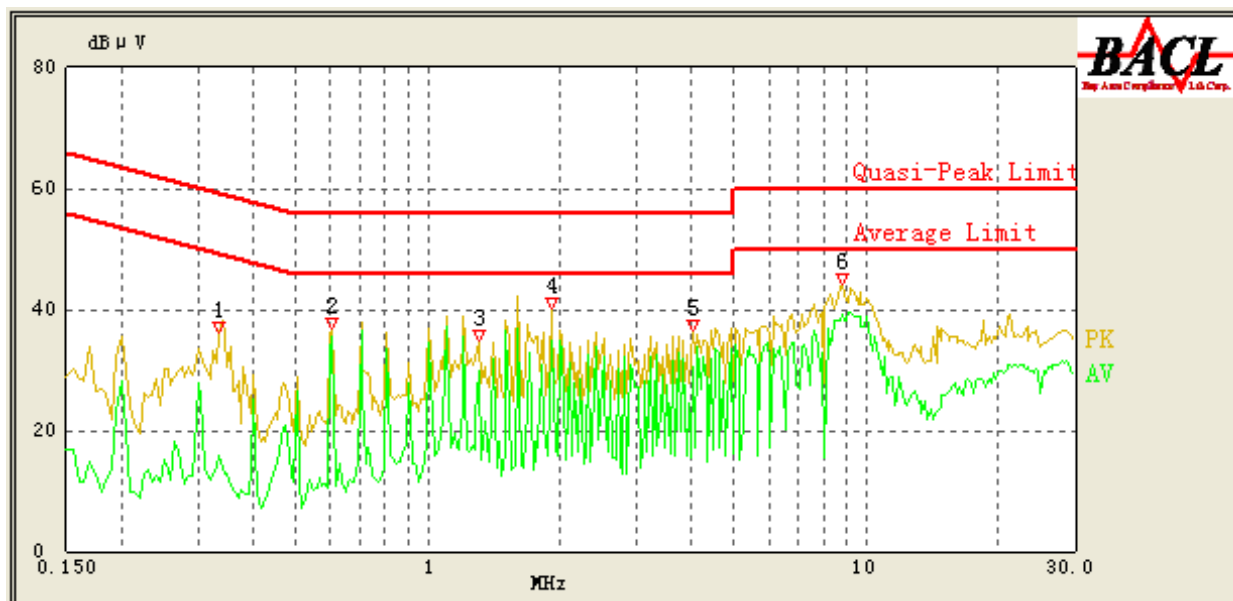
### Environmental Conditions

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

*The testing was performed by Eros Du on 2011-10-09.*

Test Mode: Downloading

AC 120V/60 Hz, Line



Frequency (MHz)	Corrected Amplitude (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/ QP/Ave.)
0.605	35.52	10.10	46.00	10.48	Ave
8.850	39.13	10.10	50.00	10.87	Ave
1.910	34.74	10.10	46.00	11.26	Ave
4.025	30.60	10.10	46.00	15.40	Ave
1.310	29.98	10.10	46.00	16.02	Ave
8.850	40.00	10.10	60.00	20.00	QP
0.605	35.33	10.10	56.00	20.67	QP
1.910	34.79	10.10	56.00	21.21	QP
1.310	31.28	10.10	56.00	24.72	QP
4.020	30.96	10.10	56.00	25.04	QP
0.335	15.71	10.10	50.71	35.00	Ave
0.335	24.90	10.10	60.71	35.81	QP

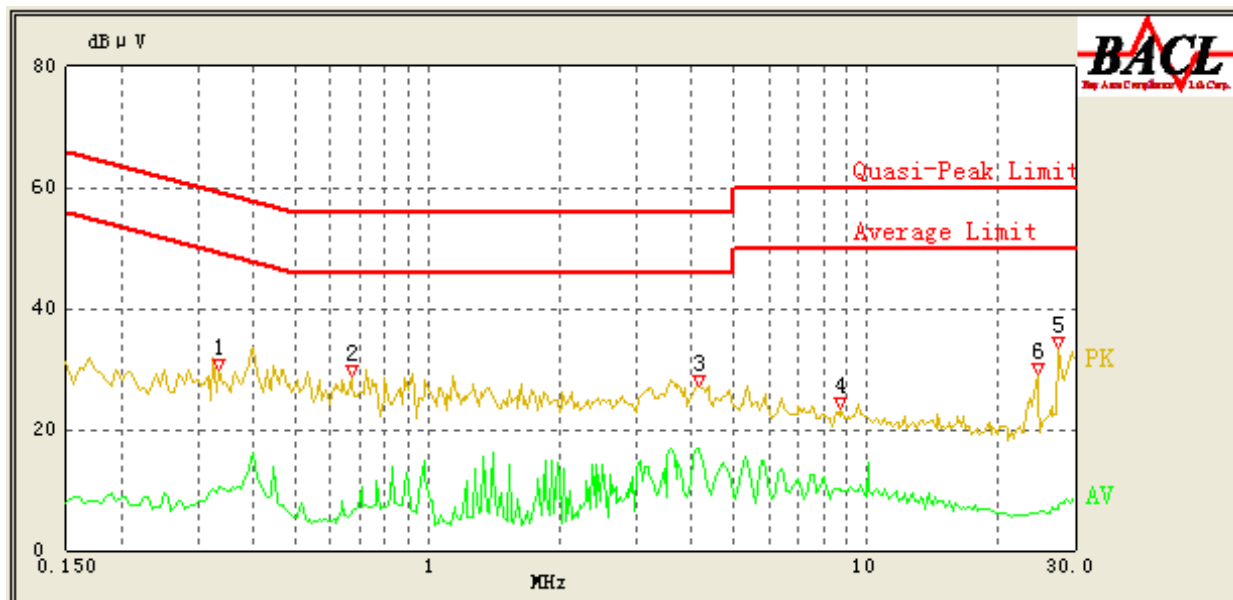
## AC 120V/60 Hz, Neutral



Frequency (MHz)	Corrected Amplitude (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/ QP/Ave.)
1.610	33.86	10.10	46.00	12.14	Ave
1.205	33.66	10.10	46.00	12.34	Ave
0.200	40.19	10.10	54.57	14.38	Ave
9.145	33.85	10.10	50.00	16.15	Ave
1.610	39.16	10.10	56.00	16.84	QP
0.300	34.80	10.10	51.71	16.91	Ave
1.205	33.87	10.10	56.00	22.13	QP
0.200	41.81	10.10	64.57	22.76	QP
24.040	24.21	10.10	50.00	25.79	Ave
0.300	35.10	10.10	61.71	26.61	QP
9.145	29.33	10.10	60.00	30.67	QP
24.135	25.74	10.10	60.00	34.26	QP

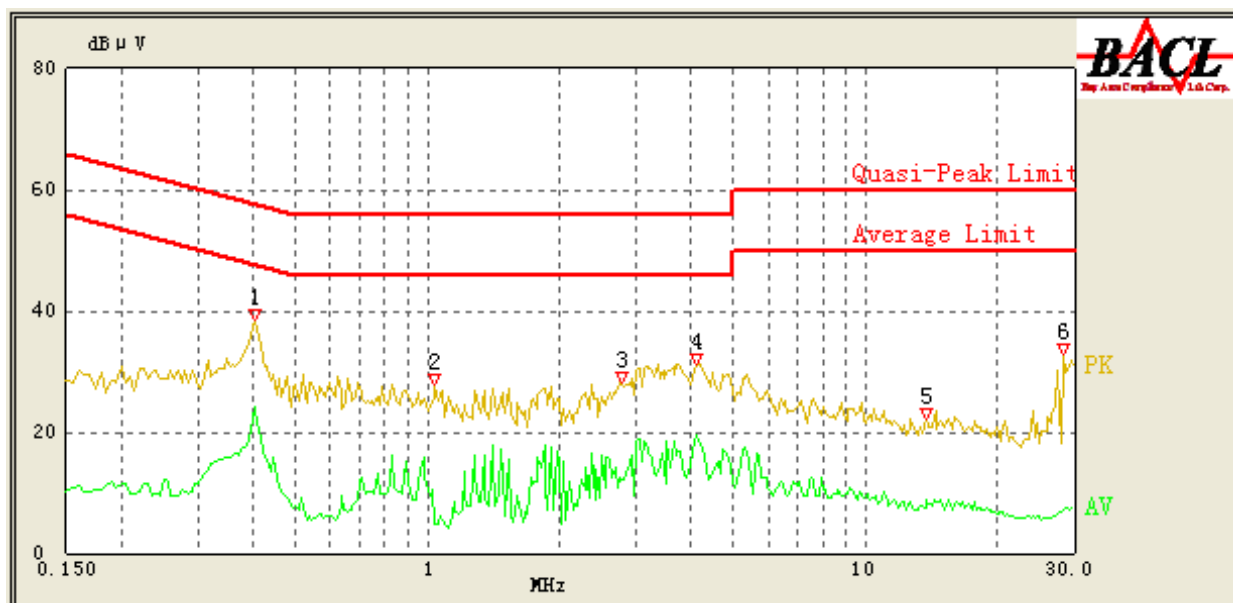
Test Mode: Charging & media playing

AC 120V/60 Hz, Line



Frequency (MHz)	Corrected Amplitude (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/ QP/Ave.)
4.155	16.78	10.10	46.00	29.22	Ave
4.155	20.22	10.10	56.00	35.78	QP
0.670	16.75	10.10	56.00	39.25	QP
0.335	20.83	10.10	60.71	39.88	QP
0.670	6.07	10.10	46.00	39.93	Ave
8.755	9.90	10.10	50.00	40.10	Ave
0.335	10.37	10.10	50.71	40.34	Ave
27.485	7.63	10.10	50.00	42.37	Ave
24.310	6.14	10.10	50.00	43.86	Ave
8.755	14.83	10.10	60.00	45.17	QP
27.375	11.00	10.10	60.00	49.00	QP
24.560	10.48	10.10	60.00	49.52	QP

## AC 120V/60 Hz, Neutral



Frequency (MHz)	Corrected Amplitude (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/ QP/Ave.)
0.405	24.04	10.10	48.71	24.67	Ave
0.405	32.40	10.10	58.71	26.31	QP
4.120	19.66	10.10	46.00	26.34	Ave
2.780	12.04	10.10	46.00	33.96	Ave
2.780	21.79	10.10	56.00	34.21	QP
4.125	19.21	10.10	56.00	36.79	QP
1.040	4.92	10.10	46.00	41.08	Ae
1.040	14.39	10.10	56.00	41.61	QP
13.715	7.47	10.10	50.00	42.53	Ave
28.450	7.31	10.10	50.00	42.69	Ave
28.350	12.67	10.10	60.00	47.33	QP
13.730	12.21	10.10	60.00	47.79	QP

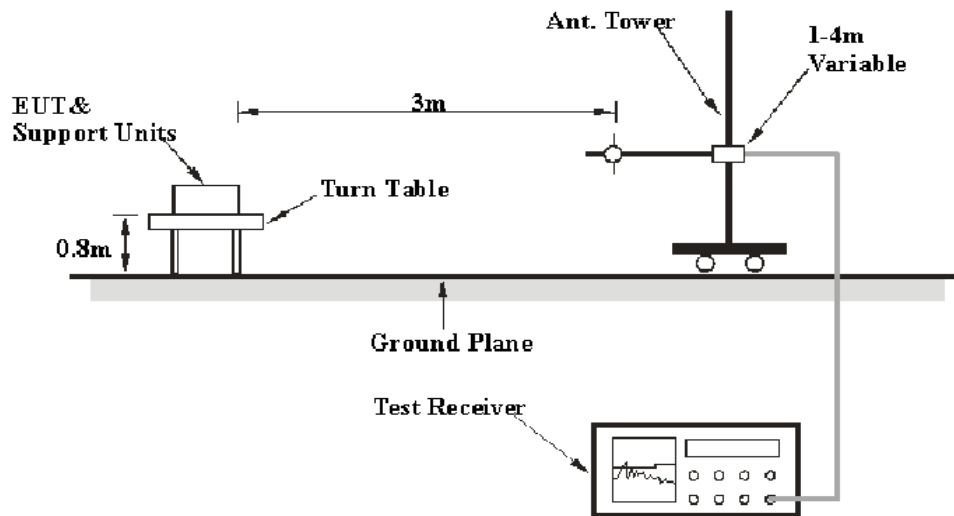
## FCC §15.109 - RADIATED EMISSIONS

### 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 adapter of laptop 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 charging&media 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:

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

## Test Procedure

During the radiated emissions test, for downloading mode, the laptop and all the other relevant equipments were connected to AC floor outlet. For charging & media 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:

**3.6 dB at 40.481500 MHz** in the **Vertical** polarization for Charging & media playing

## Test Data

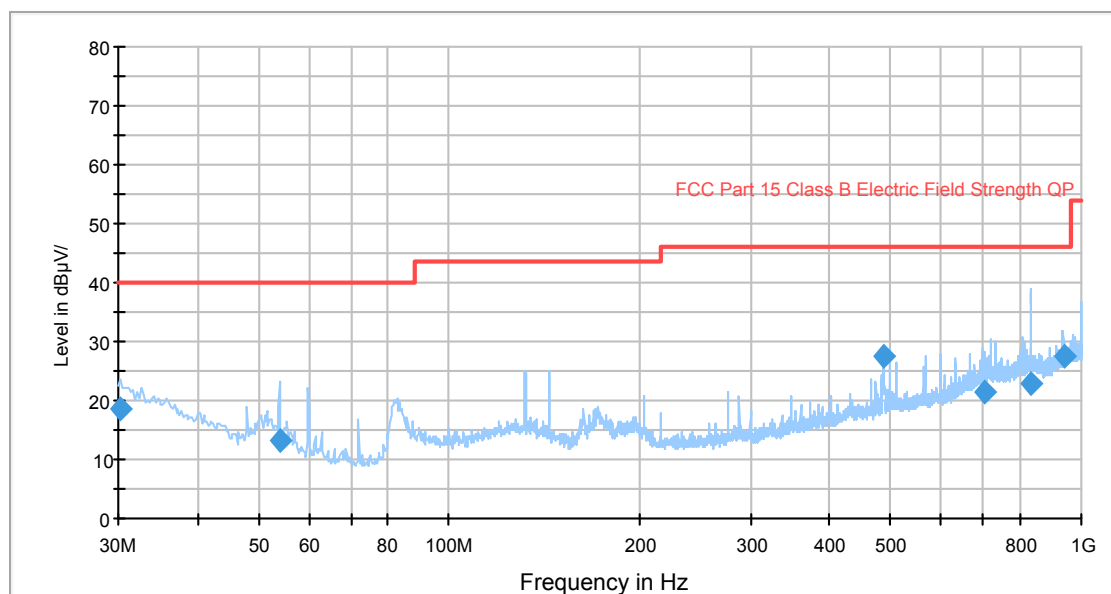
### Environmental Conditions

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

The testing was performed by Eros Du on 2011-10-09.

Test Mode: Downloading

Auto Test(FCC 15 Class B)

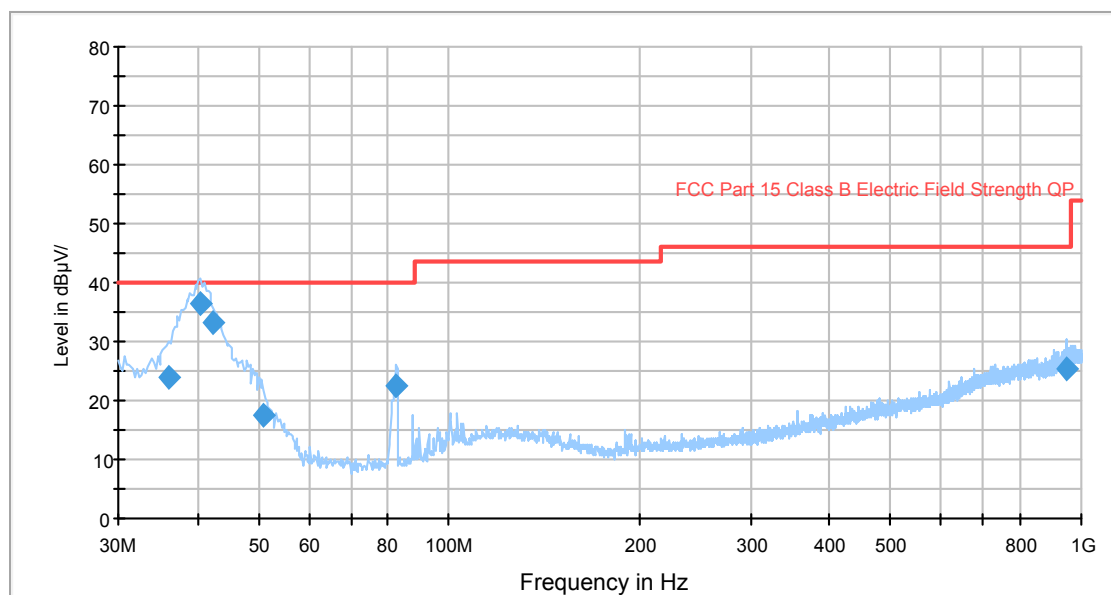


Frequency (MHz)	Corrected Amplitude (dBμV/m)	Test Antenna		Turntable Position (degree)	Correction Factor (dB)	Limit (dBμV/m)	Margin (dB)
		Height (cm)	Polarity (H/V)				
937.061750	27.6	224.0	H	7.0	0.3	46.0	18.4
486.009750	27.5	107.0	H	59.0	-8.6	46.0	18.5
30.186182	18.8	114.0	V	264.0	-5.5	40.0	21.2
833.005000	23.0	343.0	H	214.0	-1.3	46.0	23.0
700.638000	21.5	191.0	H	305.0	-3.1	46.0	24.5
53.975250	13.3	101.0	V	217.0	-17.9	40.0	26.7



Test Mode: Charging & media playing

Auto Test(FCC 15 Class B)



Frequency (MHz)	Corrected Amplitude (dBμV/m)	Test Antenna		Turntable Position (degree)	Correction Factor (dB)	Limit (dBμV/m)	Margin (dB)
		Height (cm)	Polarity (H/V)				
40.481500	36.4	101.0	V	166.0	-12.4	40.0	3.6
42.248750	33.1	102.0	V	194.0	-13.5	40.0	6.9
36.042000	23.8	102.0	V	0.0	-9.5	40.0	16.2
82.451500	22.5	400.0	H	75.0	-18.0	40.0	17.5
947.997500	25.5	123.0	H	25.0	0.6	46.0	20.5
50.808750	17.3	101.0	V	162.0	-17.4	40.0	22.7

\*Within measurement uncertainty.

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