

FCC PART 15B
MEASUREMENT AND TEST REPORT

For

Zonda Corporation, S.A. de C.V

Schiller 329 Street, Chapultepec Morales, Zip code 11560, Mexico City, Mexico

FCC ID: YAUZMCK885

Report Type: Original Report	Product Type: GSM Mobile Telephone
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Report Number: RSZ11021509	
Report Date: 2011-03-07	
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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

Product Description for Equipment under Test (EUT)

The *Zonda Corporation, S.A. de C.V*'s product, model number: ZMCK885 (FCC ID: YAUZMCK885) or the "EUT" as referred to in this report is a *GSM Mobile Telephone*, which measures approximately: 11.1cm (L) x 5.8cm (W) x 1.1cm (H), rated input voltage: DC 3.7V battery.

Adapter information:

Model: ETPCA-050050UYU7

Input: 100-240 VAC 50/60 Hz 0.2A

Output: DC 5.0 V 500 Ma

** All measurement and test data in this report was gathered from production sample serial number: 1102031 (Assigned by BACL, Shenzhen). The EUT was received on 2011-02-15.*

Objective

This Type approval report is prepared on behalf of *Zonda Corporation, S.A. de C.V* 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 15B, Class B limits.

Related Submittal(s)/Grant(s)

FCC Part 22H&24E and FCC Part 15.247 submission with FCC ID: YAUZMCK885.

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.

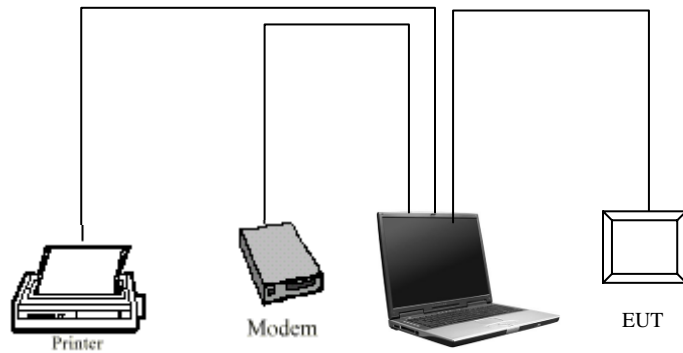
Local Support Equipment List and Details

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

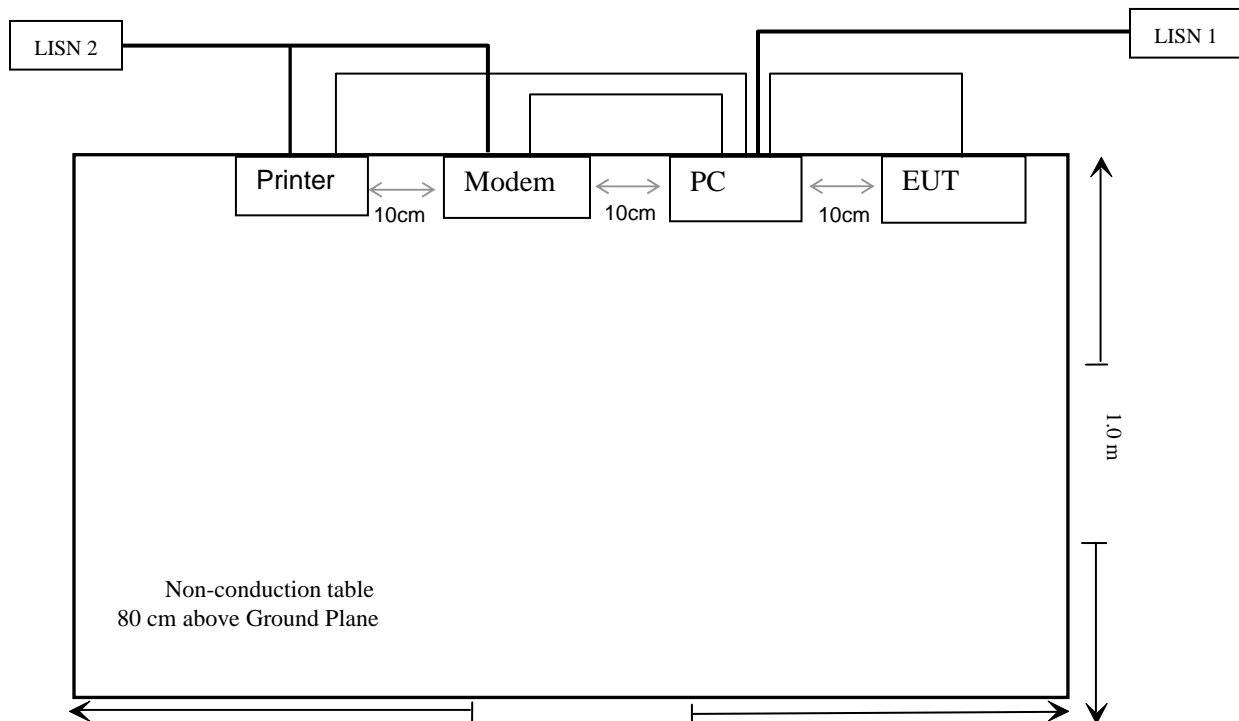
External I/O Cable

Cable Description	Length (m)	From/Port	To
Unshielded Detachable DC Cable	1.5	EUT	Adapter
Unshielded Detachable USB Cable	0.7	EUT	PC
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



SUMMARY OF TEST RESULTS

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

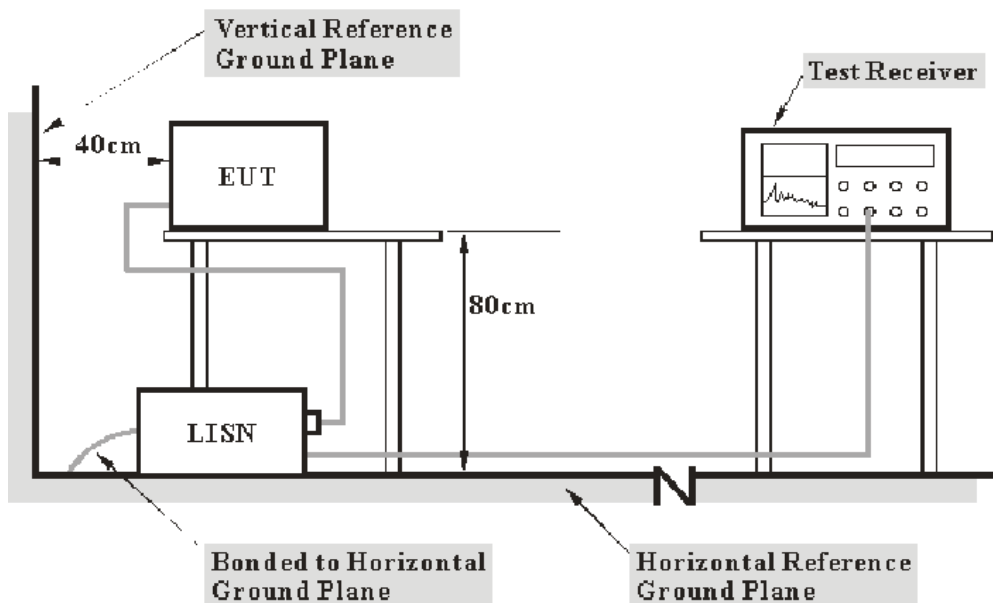
FCC §15.107 – AC LINE CONDUCTED EMISSIONS

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 ± 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 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:

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

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 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	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 Data

Environmental Conditions

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

The testing was performed by Jimmy Xiao on 2011-02-28.

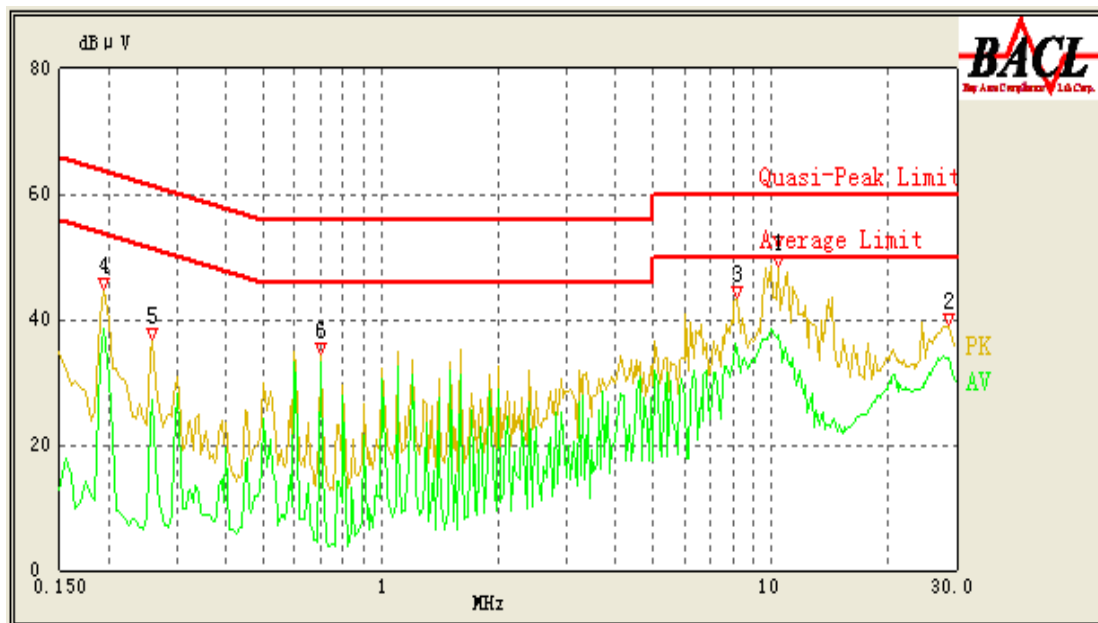
Test Results Summary

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:

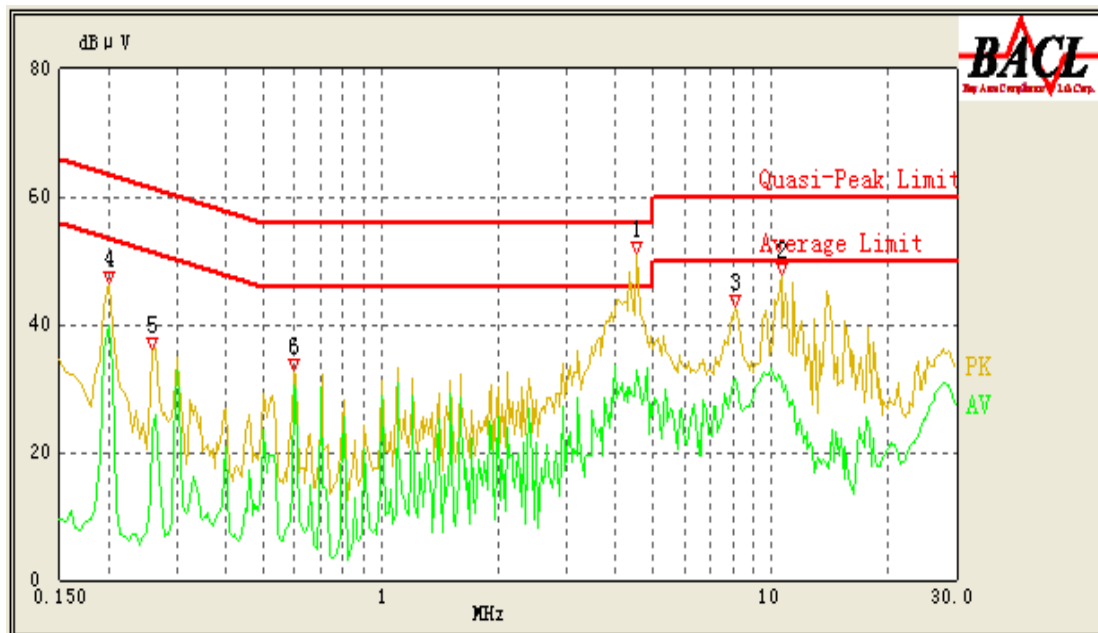
12.48 dB at 10.430 MHz in the **Line** conductor mode, Ave

Test Mode: Data Trasfer (Downloading)

120 V, 60 Hz, Line:



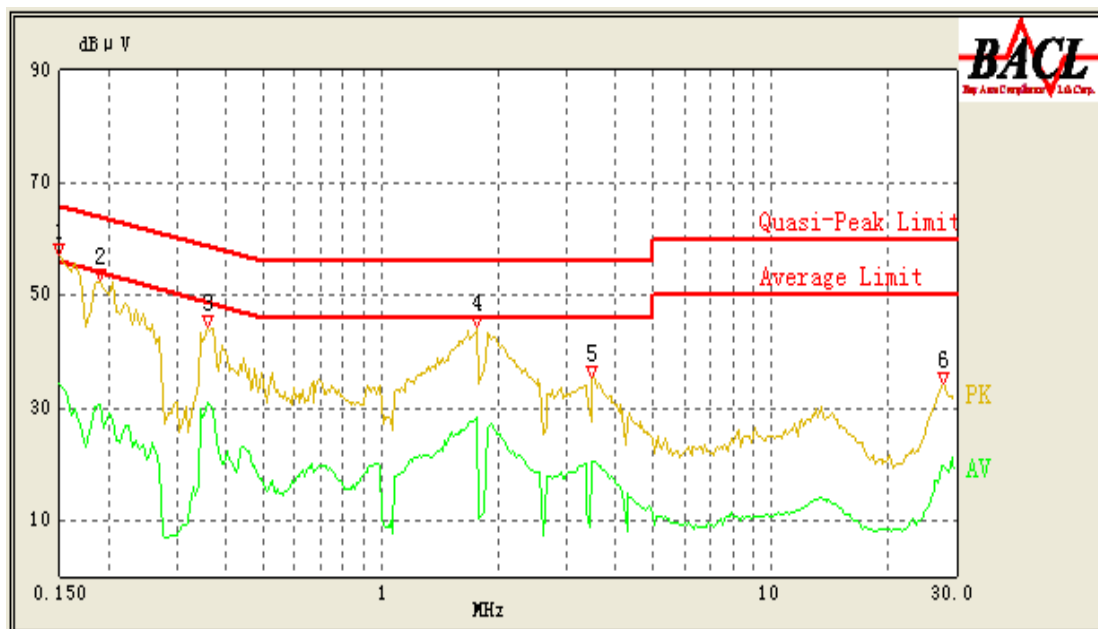
Conducted Emissions			FCC Part 15.107		
Frequency (MHz)	Correction Factor (dB)	Cord. Result (dBμV)	Limit (dBμV)	Margin (dB)	Remark (PK/QP/Ave.)
10.430	10.10	37.52	50.00	12.48	Ave.
0.700	10.16	33.05	46.00	12.95	Ave.
8.225	10.10	35.48	50.00	14.52	Ave.
28.485	10.12	33.92	50.00	16.08	Ave.
0.195	10.07	38.42	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:

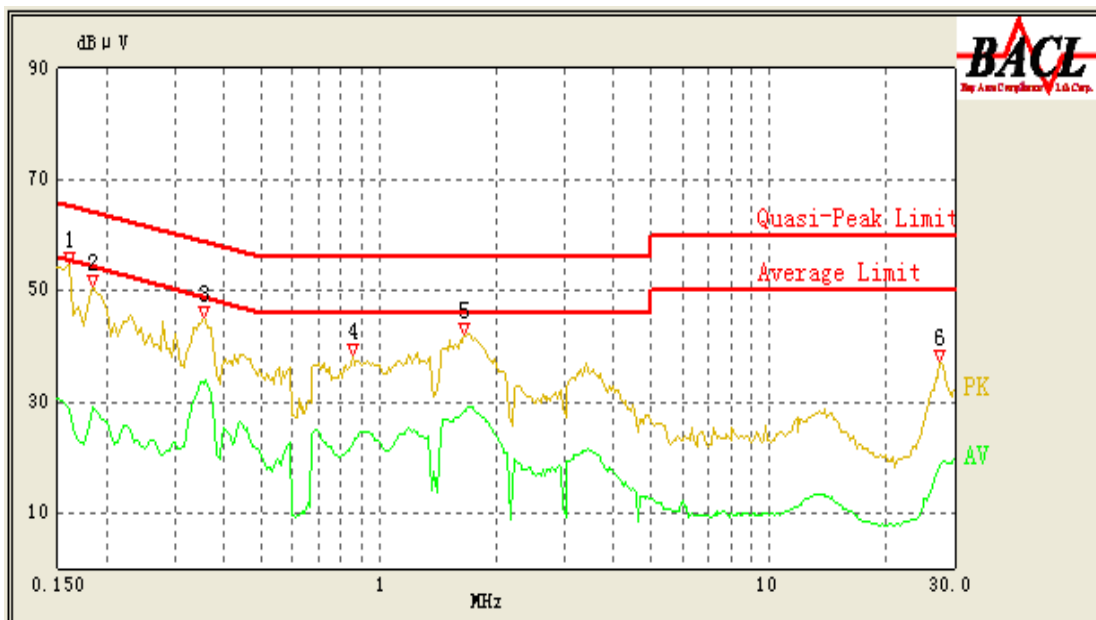
Conducted Emissions			FCC Part 15.107		
Frequency (MHz)	Correction Factor (dB)	Cord. Result (dBμV)	Limit (dBμV)	Margin (dB)	Remark (PK/QP/Ave.)
4.540	10.10	32.75	46.00	13.25	Ave.
4.535	10.10	42.73	56.00	13.27	QP
0.200	10.07	39.71	54.57	14.86	Ave.
0.600	10.18	30.66	46.00	15.34	Ave.
10.540	10.11	31.97	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
0.600	10.18	32.03	56.00	23.97	QP
0.200	10.07	40.53	64.57	24.04	QP
8.090	10.10	33.09	60.00	26.91	QP
0.260	10.03	34.86	62.86	28.00	QP
0.260	10.03	23.56	52.86	29.30	Ave.

Test Mode: Media Playing & charging

120 V, 60 Hz, Line:



Conducted Emissions			FCC Part 15.107		
Frequency (MHz)	Corrected Factor (dB)	Cord. Result (dBμV)	Limit (dBμV)	Margin (dB)	Remark (PK/QP/Ave.)
1.770	10.18	39.76	56.00	16.24	QP
1.770	10.18	28.45	46.00	17.55	Ave.
0.150	10.10	48.05	66.00	17.95	QP
0.360	10.06	31.00	50.00	19.00	Ave.
0.360	10.06	39.20	60.00	20.80	QP
0.150	10.10	34.28	56.00	21.72	Ave.
0.190	10.07	43.09	64.86	21.77	QP
0.190	10.07	30.43	54.86	24.43	Ave.
3.480	10.13	20.37	46.00	25.63	Ave.
3.490	10.13	28.84	56.00	27.16	QP
27.550	10.12	19.59	50.00	30.41	Ave.
27.570	10.12	22.36	60.00	37.64	QP

120V, 60 Hz, Neutral:

Conducted Emissions			FCC Part 15.107		
Frequency (MHz)	Correction Factor (dB)	Cord. Result (dBμV)	Limit (dBμV)	Margin (dB)	Remark (PK/QP/Ave.)
0.355	10.06	33.33	50.14	16.81	Ave.
1.670	10.17	28.78	46.00	17.22	Ave.
0.355	10.06	41.15	60.14	18.99	QP
1.650	10.16	36.49	56.00	19.51	QP
0.160	10.09	44.09	65.71	21.62	QP
0.185	10.08	42.64	65.00	22.36	QP
0.860	10.13	22.27	46.00	23.73	Ave.
0.855	10.13	31.59	56.00	24.41	QP
0.185	10.08	28.96	55.00	26.04	Ave.
0.160	10.09	28.83	55.71	26.88	Ave.
27.635	10.12	18.84	50.00	31.16	Ave.
27.480	10.13	27.88	60.00	32.12	QP

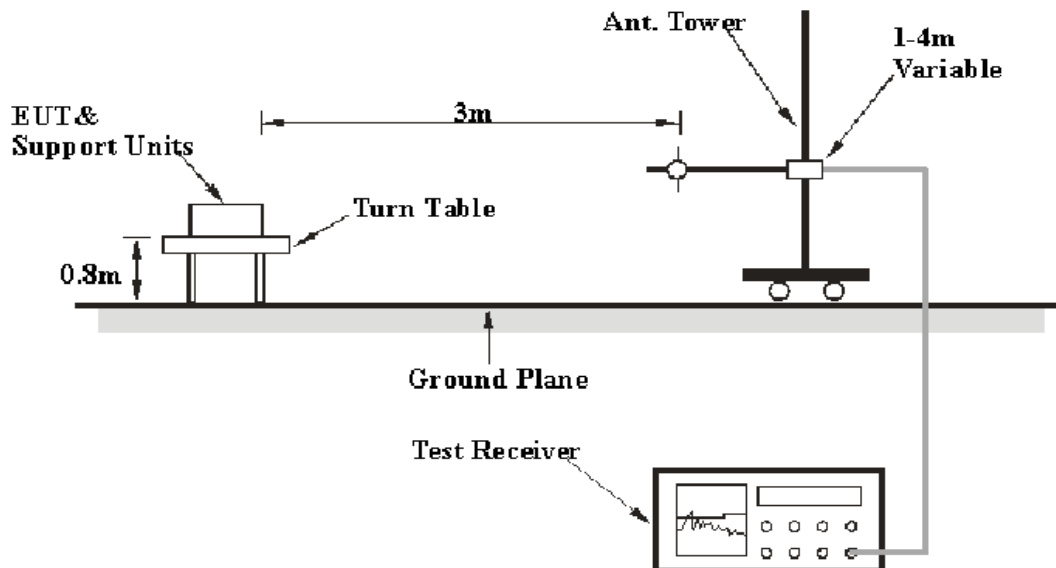
FCC §15.109 – RADIATED SPURIOUS EMISSIONS

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 ± 4.0 dB. (k=2, 95% level of confidence)

EUT Setup



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 adaptor 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:

<i>Frequency Range</i>	<i>RBW</i>	<i>Video B/W</i>	<i>Detector</i>
30MHz – 1000 MHz	100 kHz	300 kHz	QP

Test Procedure

For the radiated emissions test, the adaptor or PC 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 7 dB means the emission is 7 dB below the Class B 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
HP	Pre-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 Data

Environmental Conditions

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

The testing was performed by Jimmy Xiao on 2011-03-03.

Test Results Summary

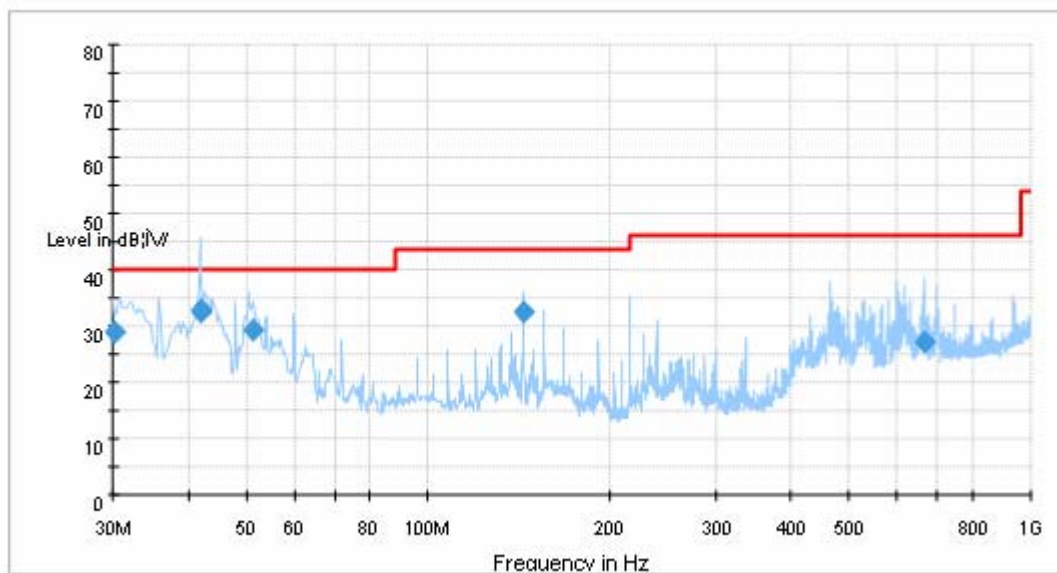
According to the data in the following table, the EUT complied with the FCC §15.109 Class B, with the worst margin reading of:

30 -1000 MHz:

7.2dB at 42.151500 MHz in the Horizontal polarization.

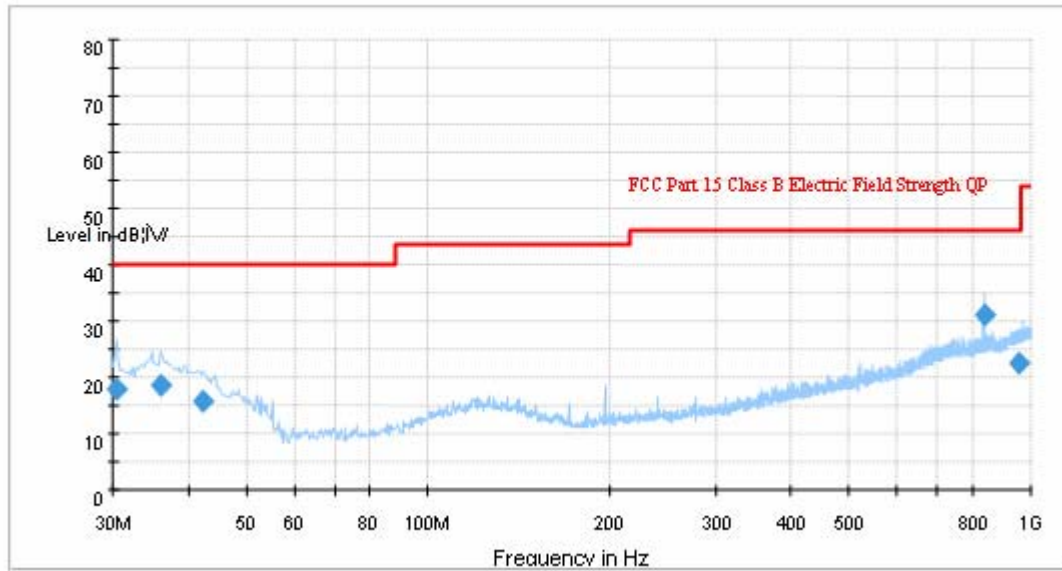
Test Data and Plots

Test Mode: Data Trasfer (Downloading)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
42.151500	32.8	105.0	H	188.0	-13.4	40.0	7.2
42.114500	32.3	102.0	H	206.0	-13.4	40.0	7.7
51.381000	29.4	104.0	H	149.0	-17.5	40.0	10.6
30.178125	29.1	124.0	H	192.0	-5.5	40.0	10.9
143.989250	32.5	205.0	V	281.0	-13.5	43.5	11.0
664.115000	27.2	228.0	V	0.0	-4.3	46.0	18.8

Test Mode: *Media Playing & Charging*



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
836.656750	31.2	334.0	H	95.0	-1.3	46.0	14.8
36.090250	18.5	173.0	V	0.0	-9.5	40.0	21.5
30.576471	17.9	105.0	V	44.0	-5.8	40.0	22.1
954.563500	22.5	203.0	H	77.0	0.7	46.0	23.5
42.178500	15.8	102.0	V	95.0	-13.5	40.0	24.2

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