

TEST REPORT

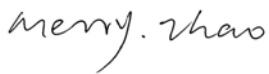
For

Archos SA

12 Rue Ampere Igny, France

FCC PART 15B

FCC ID: SOVA101C

Report Type: Original Report	Product Type: Home Tablet
Test Engineer: Sula Huang 	
Report Number: RSZ110620004-00	
Report Date: 2011-08-16	
Reviewed By: Merry Zhao  EMC Engineer	
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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

Product Description for Equipment under Test (EUT)

The Archos SA's product, model number: *A101C (FCC ID: SOVA101C)* (the "EUT") in this report is a *Home Tablet*, which measures approximately: 27.0 cm (L) x 15.2 cm (W) x 1.0 cm (H), rated input voltage: DC 5.0V adapter or DC 3.7 V battery.

Adapter information:

Model: KSAS0100500200D5

Input: AC 100-240V, 50/60 Hz

Output: DC 5.0V, 2.0A

** All measurement and test data in this report was gathered from production sample serial number: 1106056 (Assigned by BACL, Shenzhen). The EUT was received on 2011-06-20.*

Objective

This report is prepared on behalf of Archos SA 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.

Related Submittal(s)/Grant(s)

Part 15.247 DTS submissions with FCC ID: SOVA101C

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

Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

Test mode (1): Charging & downloading

Test mode (2): Charging & multimedia playing

EUT Exercise Software

N/A

Equipment Modifications

No modification was made to the unit tested.

Local Support Equipment List and Details

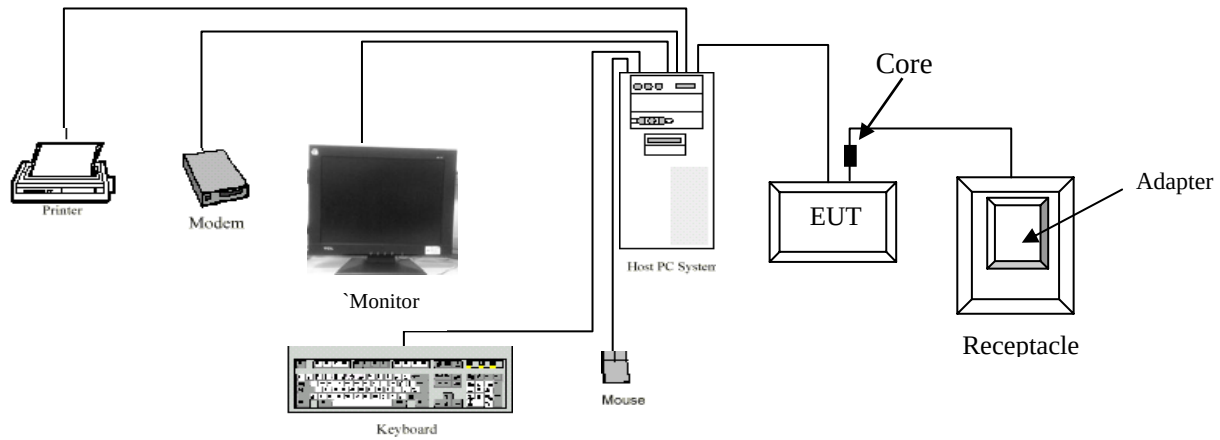
Manufacturer	Description	Model	Serial Number
DELL	System PC	1#	N/A
SAST	Modem	AEM-2100	0293
DELL	LCD Monitor	E178WFPC	CN-OWY564-64180-7C4-2SQH
FUJITSU	Printer	S510	N/A
DELL	Mouse	MOC5UO	G1B0096D
DELL	Keyboard	L100	CNORH656658907BL04TY
Kingston	Micro-SD Card	2GHz	N/A
Kingston	U-disk	2GHz	N/A
N/A	Earphone	N/A	N/A

External I/O Cable

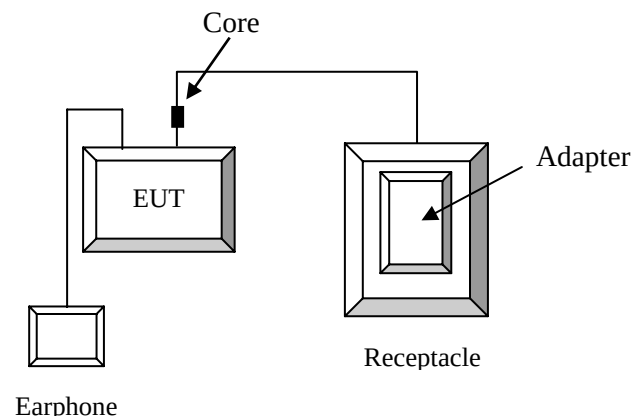
Cable Description	Length (m)	From/Port	To
Unshielded Undetachable DC Cable	1.4	EUT	Adapter
Shielded Detachable USB Cable with Core	1.0	PC	EUT
Shielded Detachable K/B Cable	1.5	K/B Port / PC	K/B
Shielded Detachable Mouse Cable	1.5	Mouse Port / PC	Mouse
Shielded Detachable VGA Cable	1.5	VAG Port / PC	Monitor
Shielded Detachable Serial Cable	1.2	Serial Port / PC	Modem
Shielded Detachable Printer Cable	1.2	Printer Port / PC	Printer
Unshielded Undetachable Adapter Cable with a core	1.5	Adapter	EUT
Unshielded Detachable USB Cable with a core	0.8	EUT	PC

Configuration of Test Setup

For charging & downloading mode:

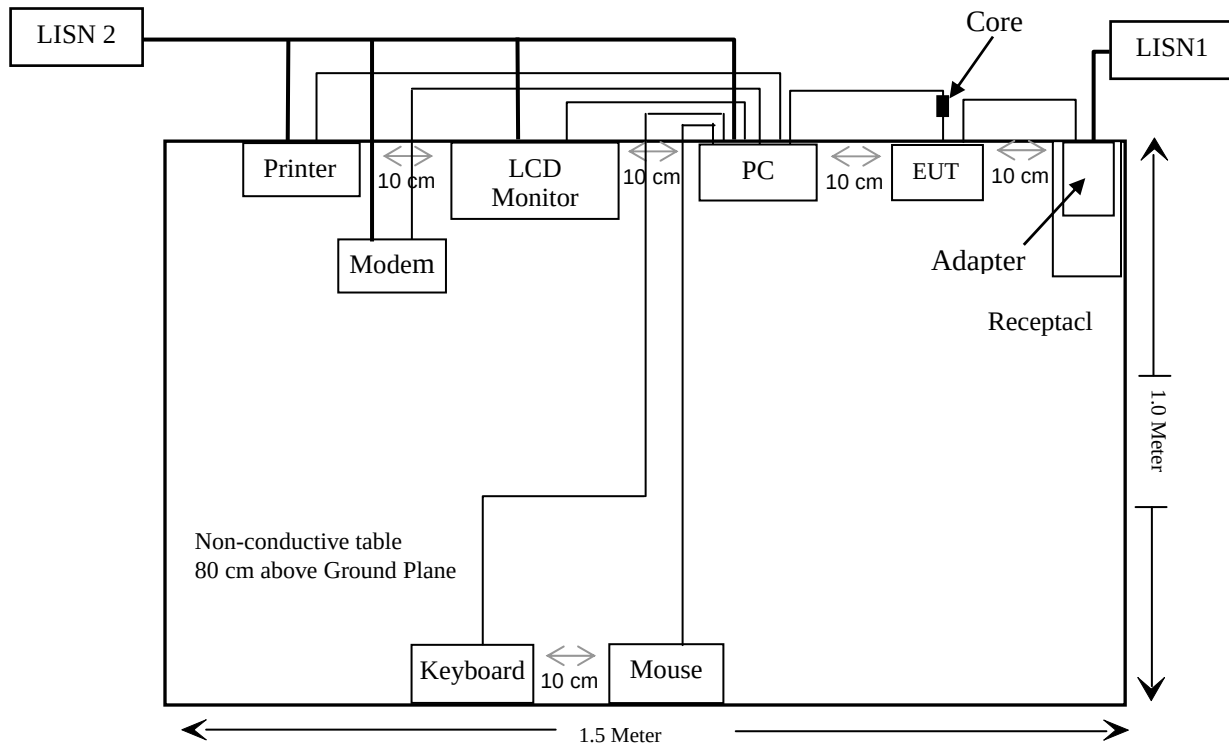


For charging & multimedia playing mode:

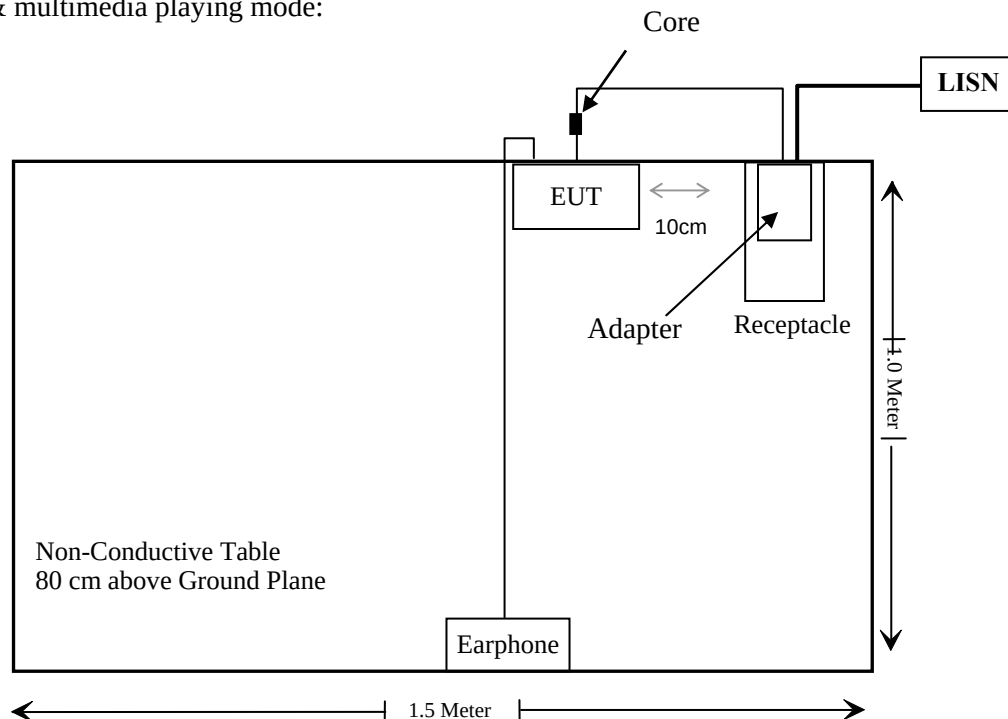


Block Diagram of Test Setup

For charging & downloading mode:



For charging & multimedia playing mode:



SUMMARY OF TEST RESULTS

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

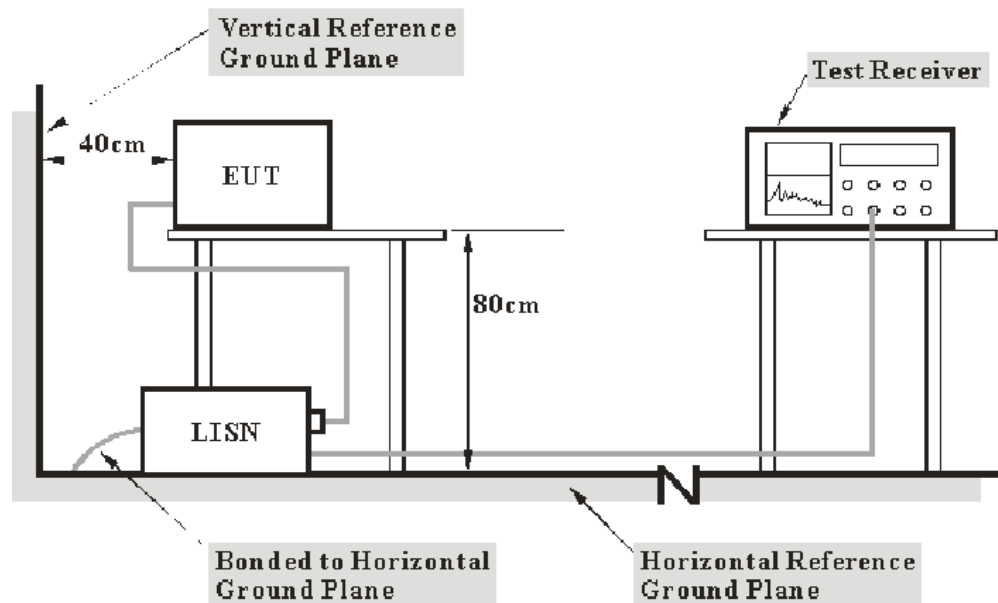
FCC §15.107 – AC LINE CONDUCTED EMISSIONS

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 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:

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

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the first LISN, and the other relevant equipments were connected to the outlet of 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	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 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:

11.34 dB at 8.300 MHz in the **Neutral** conducted mode for charging & downloading mode

Test Data

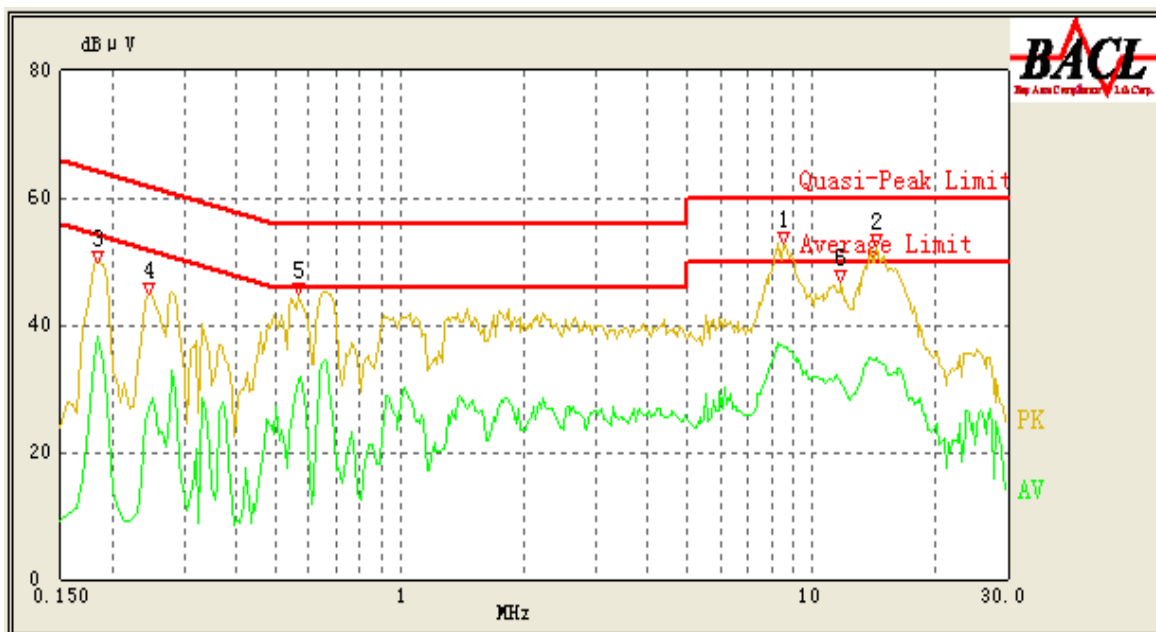
Environmental Conditions

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

The testing was performed by Sula Huang on 2011-07-08.

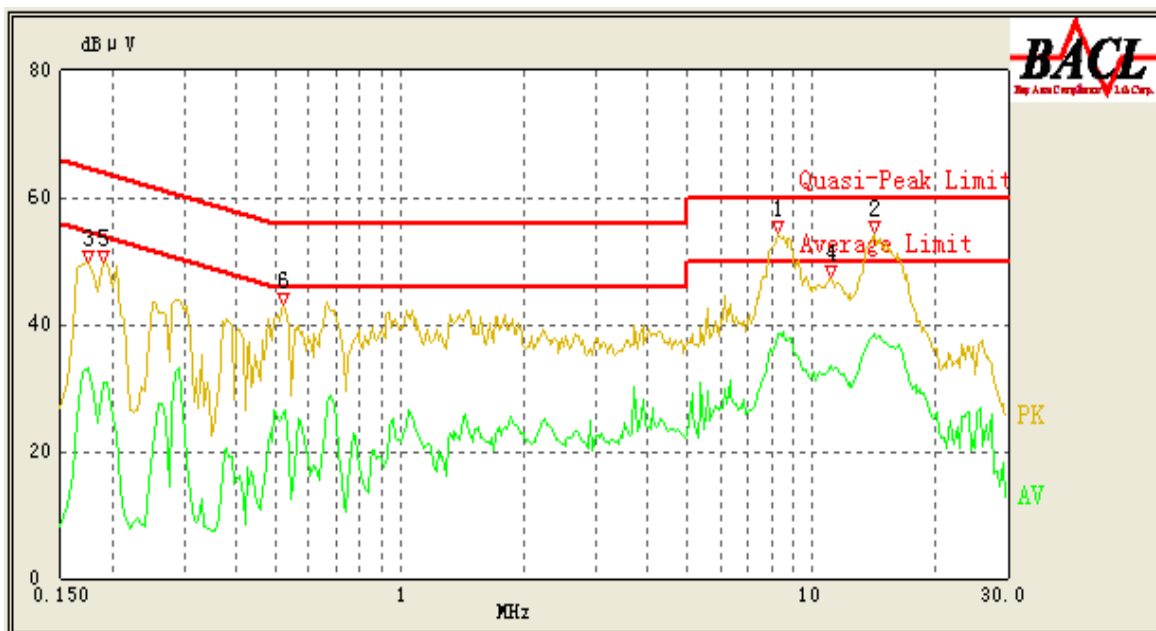
Test mode: charging & downloading

120 V, 60 Hz, Line:



Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Result (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Remark (PK/ QP/Ave.)
0.185	38.22	10.10	55.00	16.78	Ave.
0.245	37.78	10.10	63.29	25.51	QP
0.245	26.98	10.10	53.29	26.31	Ave.
11.750	35.68	10.20	60.00	24.32	QP
11.750	31.13	10.20	50.00	18.87	Ave.
8.565	36.41	10.20	50.00	13.59	Ave.
0.565	41.57	10.10	56.00	14.43	QP
0.565	31.50	10.10	46.00	14.50	Ave.
14.330	34.76	10.20	50.00	15.24	Ave.
8.550	41.64	10.20	60.00	18.36	QP
0.185	45.84	10.10	65.00	19.16	QP
14.330	39.93	10.20	60.00	20.07	QP

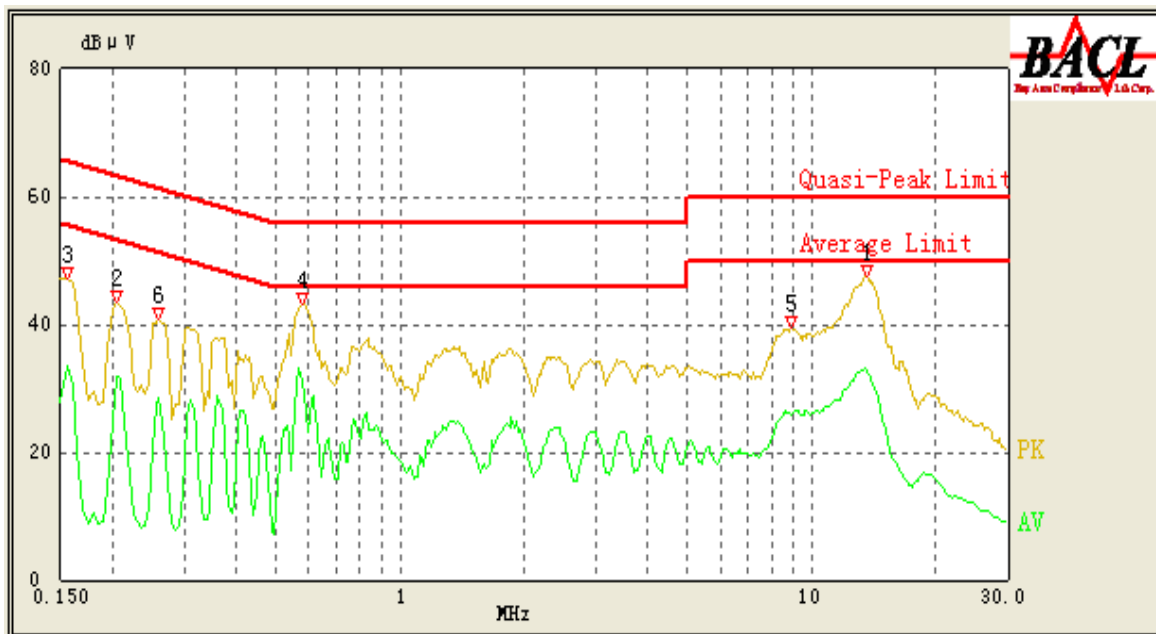
120 V, 60 Hz, Neutral:



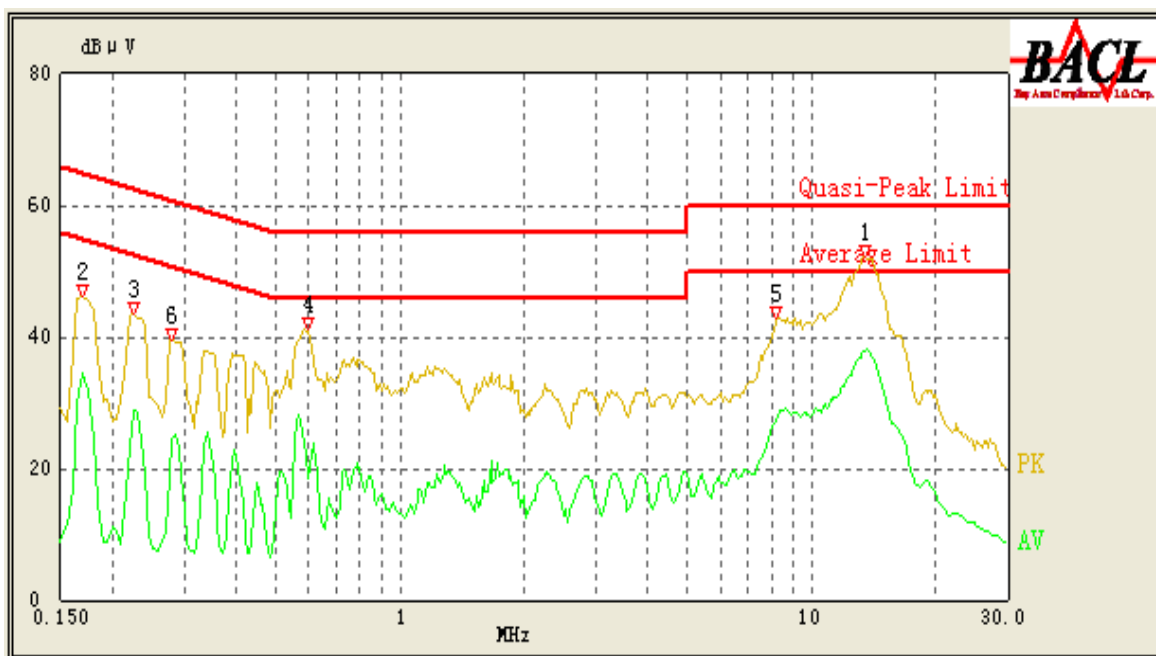
Conducted Emissions			FCC Part 15.107 Class B		
Frequency (MHz)	Corrected Result (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Remark (PK/ QP/Ave.)
8.300	38.66	10.20	50.00	11.34	Ave.
14.250	38.51	10.20	50.00	11.49	Ave.
8.295	46.85	10.20	60.00	13.15	QP
14.140	45.26	10.20	60.00	14.74	QP
11.165	33.36	10.20	50.00	16.64	Ave.
0.190	46.31	10.10	64.86	18.55	QP
11.150	40.18	10.20	60.00	19.82	QP
0.520	25.97	10.10	46.00	20.03	Ave.
0.175	33.03	10.10	55.29	22.26	Ave.
0.175	41.71	10.10	65.29	23.58	QP
0.190	30.81	10.10	54.86	24.05	Ave.
0.520	31.40	10.10	56.00	24.60	QP

Test mode: charging & multimedia playing

120 V, 60 Hz, Line:



Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Result (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Remark (PK/QP/Ave.)
0.580	31.19	10.10	46.00	14.81	Ave.
0.580	39.54	10.10	56.00	16.46	QP
13.555	32.68	10.20	50.00	17.32	Ave.
13.560	39.17	10.20	60.00	20.83	QP
0.155	33.44	10.10	55.86	22.42	Ave.
0.205	31.82	10.10	54.43	22.61	Ave.
8.870	25.83	10.20	50.00	24.17	Ave.
0.260	28.52	10.10	52.86	24.34	Ave.
0.155	40.49	10.10	65.86	25.37	QP
0.205	38.83	10.10	64.43	25.60	QP
8.935	30.68	10.20	60.00	29.32	QP
0.260	26.86	10.10	62.86	36.00	QP

120V, 60 Hz, Neutral:

Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Result (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Remark (PK/QP/Ave.)
13.495	37.90	10.20	50.00	12.10	Ave.
13.545	43.58	10.20	60.00	16.42	QP
0.595	36.82	10.10	56.00	19.18	QP
0.170	34.61	10.10	55.43	20.82	Ave.
8.285	27.72	10.20	50.00	22.28	Ave.
0.225	28.70	10.10	53.86	25.16	Ave.
8.205	34.42	10.20	60.00	25.58	QP
0.595	18.38	10.10	46.00	27.62	Ave.
0.280	24.64	10.10	52.29	27.65	Ave.
0.170	33.77	10.10	65.43	31.66	QP
0.225	30.01	10.10	63.86	33.85	QP
0.280	24.84	10.10	62.29	37.45	QP

FCC §15.109 - RADIATED SPURIOUS EMISSIONS

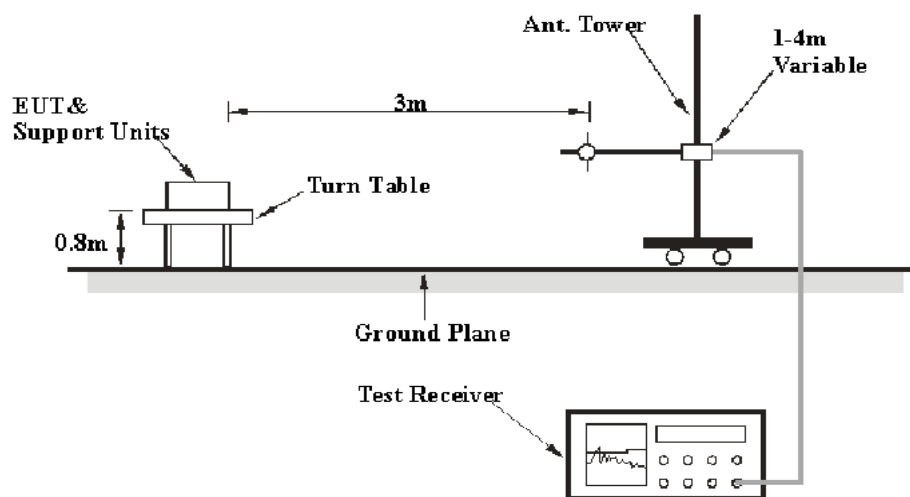
Measurement Uncertainty

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.

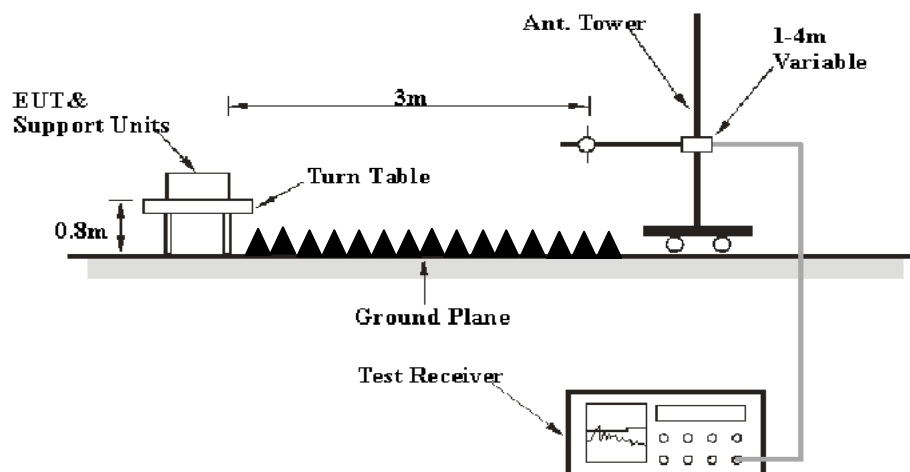
Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is ± 4.0 dB. ($k=2$, 95% level of confidence)

EUT Setup

Below 1 GHz:



Above 1 GHz:



The radiated emission tests were performed in the 3 meters chamber 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 connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 6 GHz.

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
Above 1 GHz	1MHz	3 MHz	Peak
Above 1 GHz	1MHz	10 Hz	Ave

Test Procedure

For the radiated emissions test, the adapter and 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, Peak and average detection mode above 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 7 dB means the emission is 7 dB below the 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	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	2011-07-05	2012-07-04
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2011-07-08	2012-07-08
Mini-Circuits	Pre-amplifier	ZVA-213+	N/A	2010-09-12	2011-09-11
Sunol Sciences	Horn Antenna	DRH-118	A052604	2011-05-05	2012-05-04

* **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 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:

0.4 dB at 36.25050 MHz in the Vertical polarization for Charging & downloading mode

Test Data

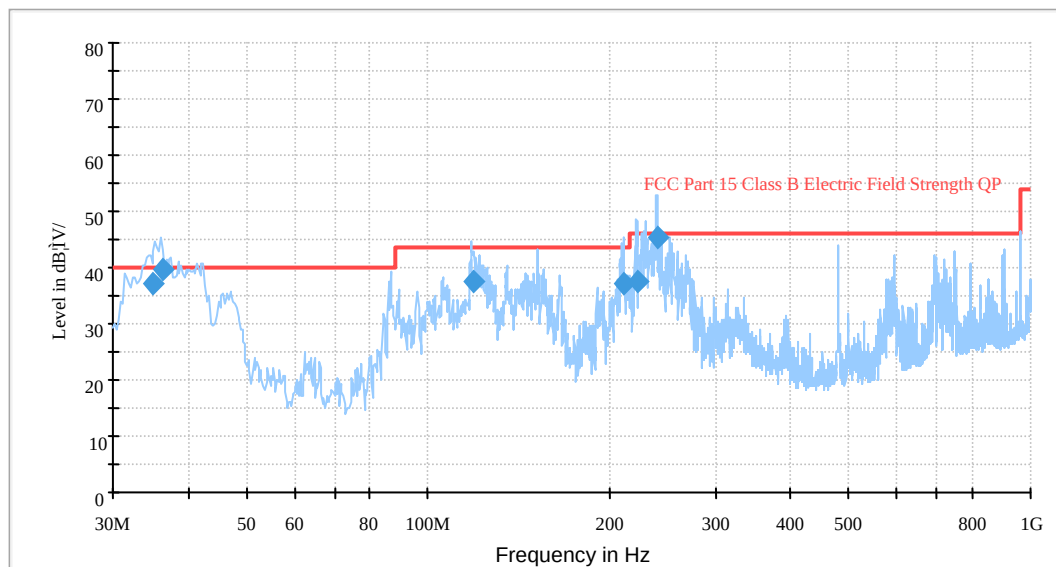
Environmental Conditions

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

The testing was performed by Sula Huang on 2011-07-18.

Test Mode: Charging & downloading

1) Below 1 GHz:



Frequency (MHz)	Corrected Amplitude (dBμV/m)	Test Antenna		Turntable Position (degree)	Correction Factor (dB)	Limit (dBμV/m)	Margin (dB)
		Height (cm)	Polarity (H/V)				
36.250500	39.6	113.0	V	264.0	-9.7	40.0	0.4*
240.086750	45.1	113.0	H	35.0	-13.7	46.0	0.9*
34.996250	37.1	156.0	V	165.0	-8.8	40.0	2.9*
118.623000	37.6	100.0	V	4.0	-12.5	43.5	5.9
211.709000	37.2	115.0	H	41.0	-14.1	43.5	6.3
222.515500	37.5	100.0	H	30.0	-14.0	46.0	8.5

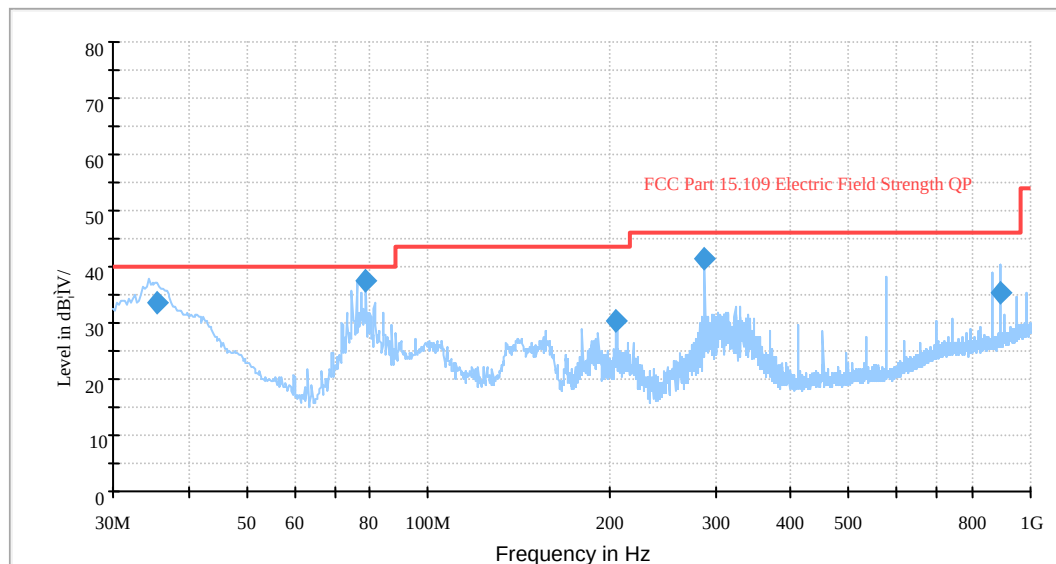
*Within measurement uncertainty!

Above 1 GHz:

Frequency (MHz)	S.A. Reading (dBμV)	Detector (PK/QP/Ave.)	Turntable Direction (Degree)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Amp. (dBμV/m)	FCC 15.109	
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)
1200.1	66.38	PK	128	1.0	V	23.8	2.03	26.45	65.76	74	8.24
1200.1	61.58	PK	74	1.0	H	25.1	2.03	26.45	62.26	74	11.74
1200.1	34.78	Ave.	128	1.0	V	23.8	2.03	26.45	34.16	54	19.84
1200.1	30.94	Ave.	74	1.0	H	25.1	2.03	26.45	31.62	54	22.38

Test Mode: Charging & multimedia playing

1) Below 1 GHz:



Frequency (MHz)	Corrected Amplitude (dBμV/m)	Test Antenna		Turntable Position (degree)	Correction Factor (dB)	Limit (dBμV/m)	Margin (dB)
		Height (cm)	Polarity (H/V)				
78.965000	37.5	400.0	H	126.0	-18.1	40.0	2.5*
287.992000	41.3	101.0	H	50.0	-12.6	46.0	5.7
35.383750	33.4	100.0	V	350.0	-9.1	40.0	6.6
205.700000	30.5	126.0	H	129.0	-14.2	43.5	9.5
890.575750	35.3	273.0	H	305.0	-1.2	46.0	11.7

*Within measurement uncertainty!

Above 1 GHz:

Frequency (MHz)	S.A. Reading (dBμV)	Detector (PK/QP/Ave.)	Turntable Direction (Degree)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Amp. (dBμV/m)	FCC 15.109	
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)
1441.0	46.40	AV	334	1.0	H	26.5	2.24	26.49	48.65	54	5.35
1981.13	42.69	AV	319	1.0	V	29.7	2.53	26.83	48.09	54	5.91
1441.0	5.73	PK	334	1.0	H	26.5	2.24	26.49	53.98	74	20.02
1981.13	48.14	PK	319	1.0	V	29.7	2.53	26.83	53.54	74	20.46

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