



FCC PART 15 CLASS B
MEASUREMENT AND TEST REPORT

For

YMAX Communications Corp.

5700 Georgia Avenue, West Palm Beach, Florida, USA

FCC ID: Y79S1013
Model Number: S1013

This Report Concerns: EKRE Report	Equipment Type: Magicjack plus
Test Engineer: Bruce Wu <i>Bruce Wu</i>	
Report Number: RSC130322001M ₁	
Report Date: 2013-06-18	
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Note: This test report was 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. (Chengdu)

TABLE OF CONTENTS

DOCUMENT REVISION HISTORY3

1 - GENERAL INFORMATION.....4

1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)4

1.2 MECHANICAL DESCRIPTION OF EUT4

1.3 EUT PHOTO4

1.4 OBJECTIVE4

1.5 RELATED SUBMITTAL(S)/GRANT(S)5

1.6 TEST METHODOLOGY5

1.7 TEST FACILITY5

2 - SYSTEM TEST CONFIGURATION.....6

2.1 JUSTIFICATION6

2.2 EUT EXERCISE SOFTWARE6

2.3 SPECIAL ACCESSORIES6

2.4 EQUIPMENT MODIFICATIONS6

2.5 EQUIPMENT UNDER TEST (EUT) GENERAL DESCRIPTION6

2.6 LOCAL SUPPORT EQUIPMENT LIST AND DETAILS6

2.7 EXTERNAL I/O CABLE7

2.8 BLOCK DIAGRAM OF TEST SETUP8

3 - SUMMARY OF TEST RESULTS.....11

4 - FCC §15.107 CONDUCTED EMISSION TEST12

4.1 MEASUREMENT UNCERTAINTY12

4.2 EUT SETUP12

4.3 EMI TEST RECEIVER SETUP13

4.4 TEST PROCEDURE.....13

4.5 TEST EQUIPMENT LIST AND DETAILS13

4.6 TEST ENVIRONMENT CONDITIONS13

4.7 SUMMARY OF TEST RESULTS13

4.8 CONDUCTED EMISSION TEST DATA AND PLOTS14

5 - FCC §15.109 RADIATED EMISSION TEST17

5.1 MEASUREMENT UNCERTAINTY17

5.2 EUT SETUP17

5.3 EMI TEST RECEIVER SETUP18

5.4 TEST PROCEDURE.....18

5.5 CORRECTED AMPLITUDE & MARGIN CALCULATION.....19

5.6 TEST EQUIPMENT LIST AND DETAILS19

5.7 TEST SOFTWARE19

5.8 SUMMARY OF TEST RESULTS19

5.9 RADIATED EMISSION TEST DATA20

6 - FCC LABELING REQUIREMENTS24

6.1 AS PER FCC §15.19: LABELING REQUIREMENTS (A) (3)24

6.2 SUGGESTED LABEL LOCATION ON EUT24

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	RSC130322001	Original Report	2013-04-25
1	RSC130322001M ₁	E K RE Report	2013-06-18

Note: This is the E~~K~~RE report for the "j g"CE IFE"r qy gt adapter0

1 - GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

The **YMAX Communications Corp.**'s product, model number: **S1013** (FCC ID: **Y79S1013**) or the "EUT" as referred to in this report was the **Magicjack plus**, which has the plastic enclosure. The highest operating frequency was 160 MHz.

1.2 Mechanical Description of EUT

The EUT was measured approximately 90 mm L x 45 mm W x 25 mm H.
Rated input voltage: DC 5V.

AC Adapter:

Manufacture: YMAX Communications Corp.

Model number: K1103

Input: 100-240V ~ 50/60Hz 0.2A

Output: 5.0V ---1.0A

** All measurement and test data in this report was gathered from final production sample, serial number: 130322001 (Assigned by BACL, Chengdu), It may have deviation from other sample. The EUT supplied by the applicant was received on 2013-03-22, and the EUT was complied with test requirement.*

1.3 EUT Photo



Model number: S1013

1.4 Objective

The following Class B report was prepared on behalf of **YMAX Communications Corp.**, in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to demonstrate compliance with FCC Part 15 Class B limits.

1.5 Related Submittal(s)/Grant(s)

No Related Submittals.

1.6 Test Methodology

All measurements contained in this report are conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. All radiated and conducted emissions measurement is performed at BACL. The radiated testing is performed at an antenna-to-EUT distance of 3 Meters.

1.7 Test Facility

The test site used by BACL to collect test data is located in the 5040, HuiLongWan Plaza, No. 1, ShaWan Road, JinNiu District, ChengDu, China

Test site at BACL 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 July 31, 2009. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 560332. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

2 - SYSTEM TEST CONFIGURATION

2.1 Justification

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

2.2 EUT Exercise Software

N/A

2.3 Special Accessories

No special accessories were supplied by BACL.

2.4 Equipment Modifications

No modification to the EUT was made by BACL to make sure the EUT comply with applicable limits.

2.5 Equipment under Test (EUT) General Description

Applicant	Description	Model Number	Serial Number
YMAX Communications Corp.	Magiejack plus	S1013	130322001

2.6 Local Support Equipment List and Details

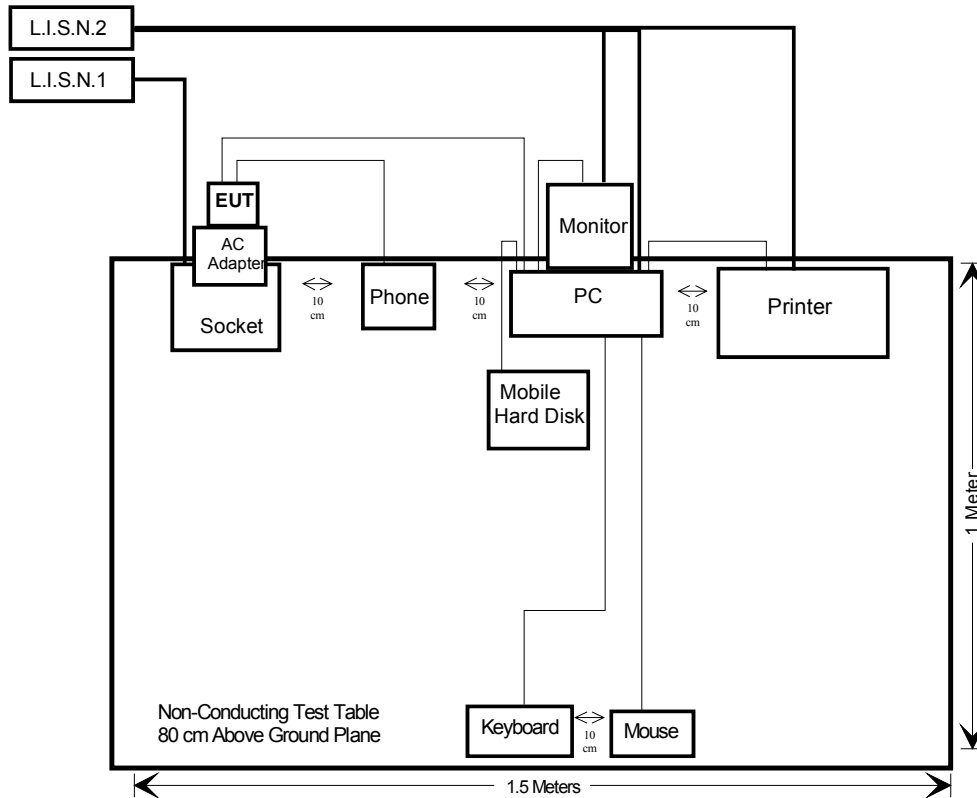
Manufacturer	Description	Model Number	Serial Number
IBM	PC	8176	None
DELL	Monitor	E157FPb	CN-OWH339-74261-894-3LOU
TOSHIBA	Mobile Hard Disk	V630700-A	1297FHOYSRE8
Genius	Keyboard	KM-110X	XBK133000993
Genius	Mouse	Netscroll 120	33C83137305720
ESPOON	Printer	STYLUS PHOTO R230	GXSK285854
BITTEL	Phone	HA9888(67)TSD-10S	1303A11246

2.7 External I/O Cable

Cable Description	Length (m)	From	To
For Adapter Mode			
Unshielded Detachable DC Power Cable	0.2	AC Adapter	EUT
Unshielded Detachable RJ45 Cable	1.5	EUT	PC
Unshielded Detachable RJ11 Cable	0.4	EUT	Phone
Unshielded Detachable VGA Cable	1.0	PC	Monitor
Unshielded Detachable USB Cable	1.0	PC	Printer
Unshielded Detachable Keyboard Cable	1.3	PC	Keyboard
Unshielded Detachable Mouse Cable	1.3	PC	Mouse
Unshielded Detachable USB Cable	0.5	PC	Mobile Hard Disk
For PC Mode			
Unshielded Detachable USB Cable	0.2	PC	EUT
Unshielded Detachable RJ11 Cable	0.4	EUT	Phone
Unshielded Detachable VGA Cable	1.0	PC	Monitor
Unshielded Detachable USB Cable	1.0	PC	Printer
Unshielded Detachable Keyboard Cable	1.3	PC	Keyboard
Unshielded Detachable Mouse Cable	1.3	PC	Mouse
Unshielded Detachable USB Cable	0.5	PC	Mobile Hard Disk

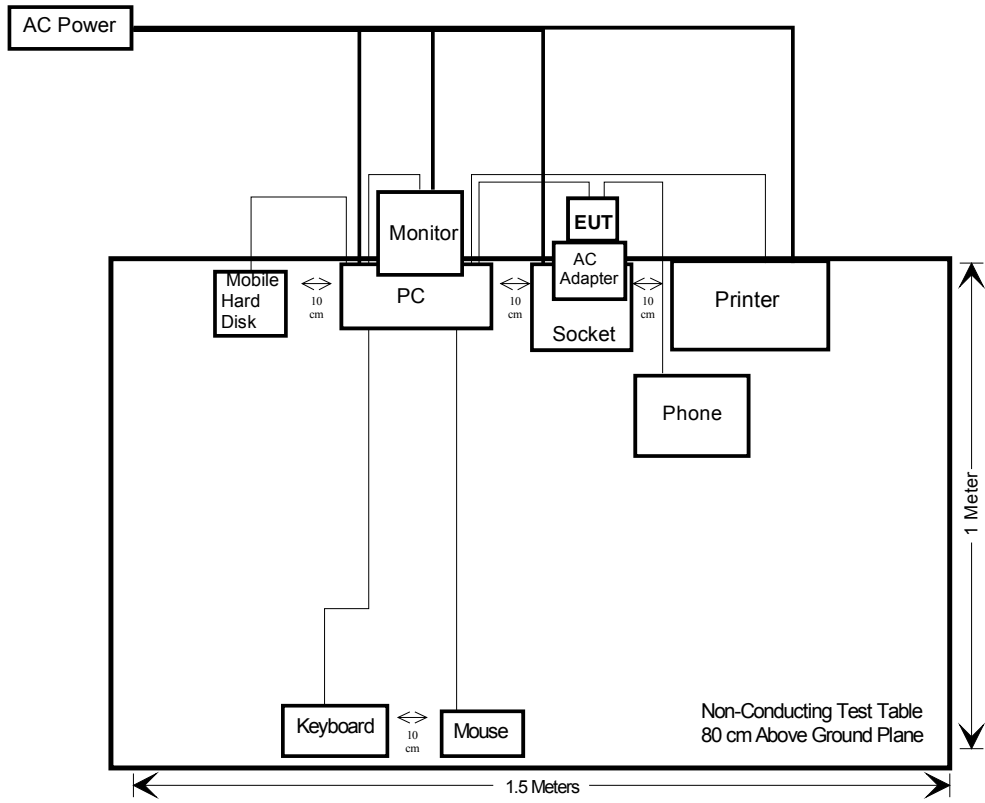
2.8 Block Diagram of Test Setup

Conducted emission:



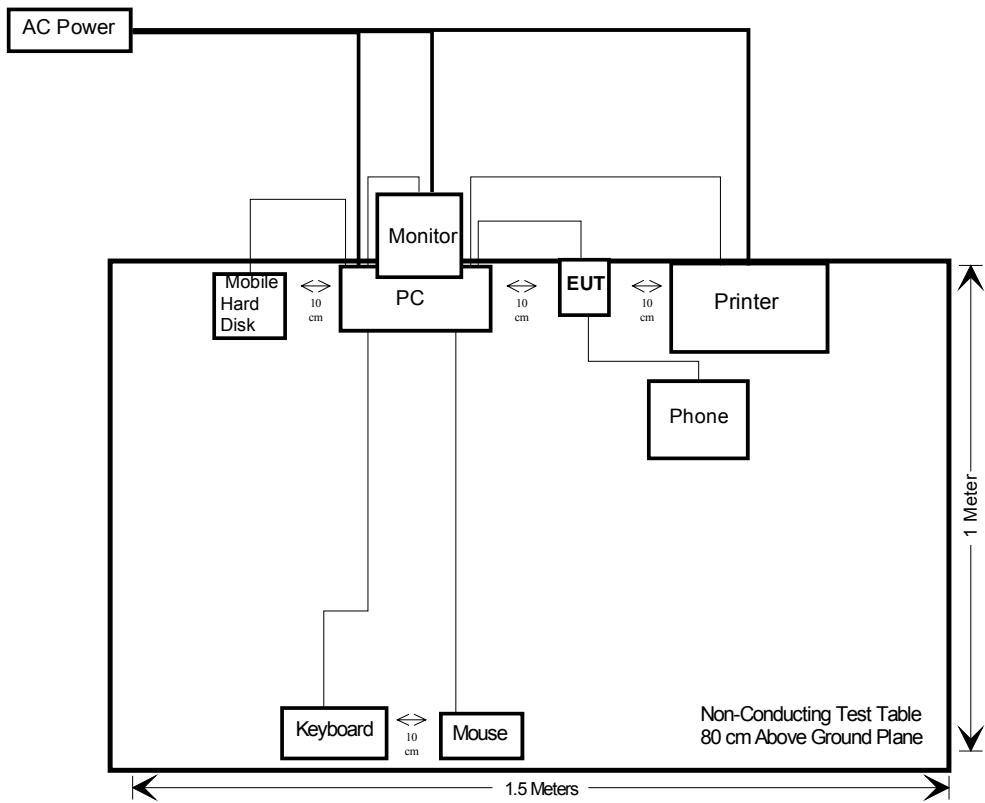
For Adapter Mode

Radiated emission:



For PC Mode

Radiated emission:



3 - SUMMARY OF TEST RESULTS

Standard	Description	Result
FCC §15.107	Conducted Emission	Compliance
FCC §15.109	Radiated Emission	Compliance

4 - FCC §15.107 CONDUCTED EMISSION TEST

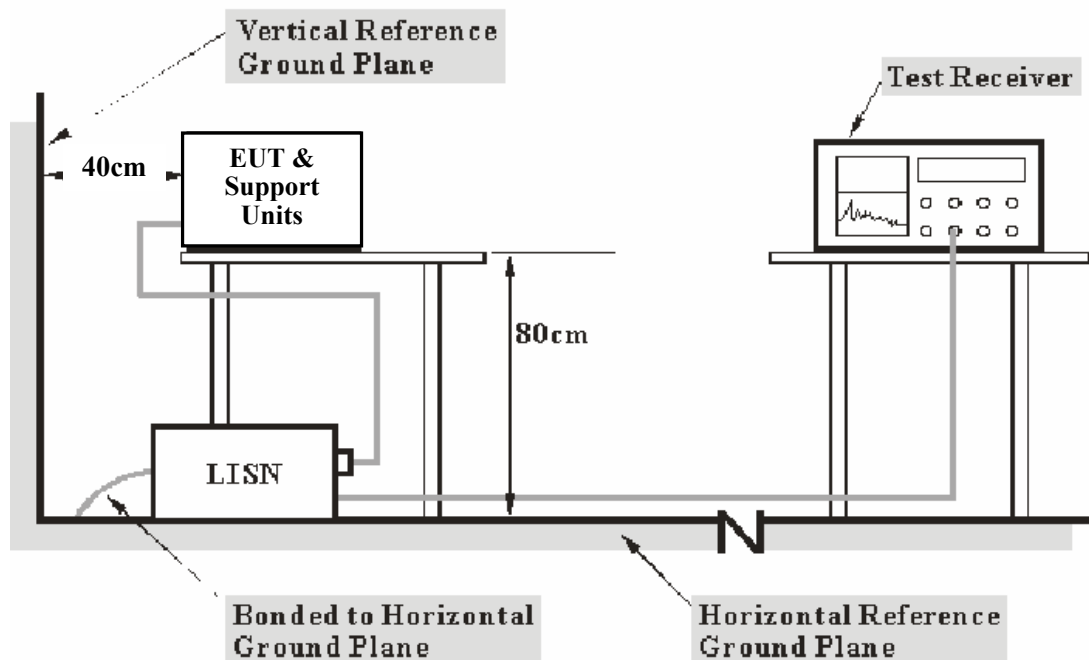
4.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMI. The factors contributing to uncertainties are EMI Test Receiver, cable loss, and L.I.S.N.

Based on CISPR 16-4-2, the Treatment of Uncertainty in EMI Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratories Corp. (Chengdu) is ± 3.17 dB.

4.2 EUT Setup

The setup of EUT was in accordance with ANSI C63.4-2003 measurement procedure. The specification used was the FCC Part 15 Class B limits.



- 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 power cables and excess cables shall be folded at the cable center into a bundle no longer than 40 cm.

The spacing between the peripherals unit & EUT was 10 cm.

A DC 5V power source was provided to EUT.

4.3 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

4.4 Test Procedure

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combination.

All data are recorded in the Quasi-peak and Average detection mode. Quasi-peak readings are distinguished with a "QP". Average readings are distinguished with an "AV".

The EUT is in the normal operating mode during the final qualification test to represent the worst cases results.

4.5 Test Equipment List and Details

Manufacturer	Description	Model Number	Serial Number	Calibration Date	Calibration Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	10028	2013-05-24	2014-05-23
L.I.S.N.	Rohde & Schwarz	ENV216	3560.6550.06	2012-07-31	2013-07-31
AMN	SOLAR	9252-50-R-24-BNC	984412	N/A	N/A

4.6 Test Environment Conditions

Temperature:	30°C
Relative Humidity:	62%
ATM Pressure:	100.2 kPa

The testing was performed by Bruce Wu on 2013-06-17

4.7 Summary of Test Results

According to the data in the following, the EUT complied with the FCC Part 15 for a Class B device, with the *worst* margin reading of:

Adapter Mode

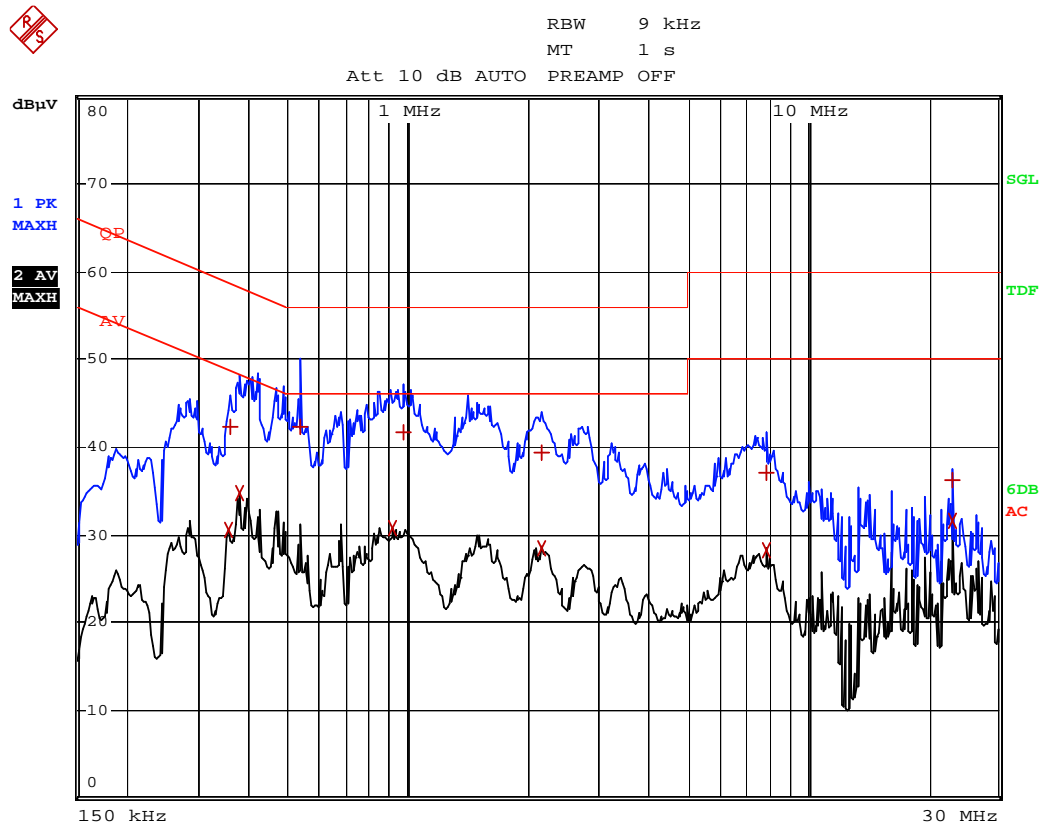
13.51 dB at 0.378 MHz in the **Line** conductor mode

4.8 Conducted Emission Test Data and Plots

Test mode: operating mode

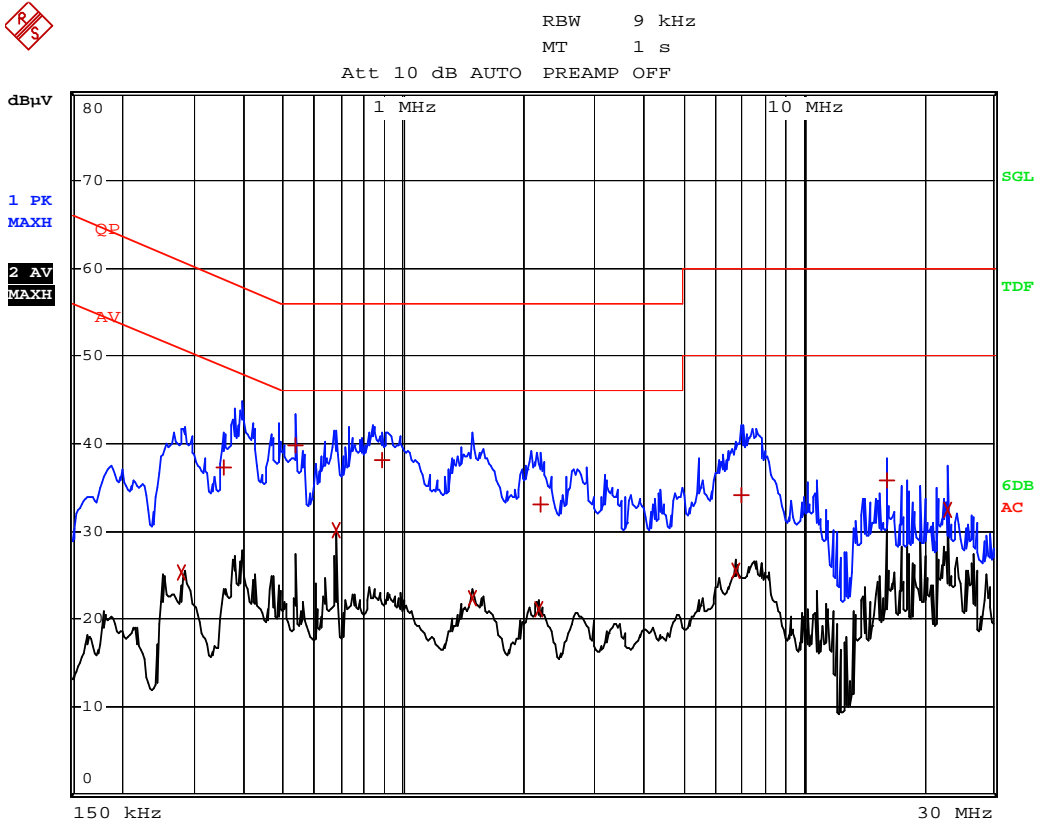
LINE CONDUCTED EMISSIONS				FCC PART 15 CLASS B	
Frequency	Amplitude	Detector	Phase	Limit	Margin
MHz	dB μ V	QP/Ave/Peak	Line/Neutral	dB μ V	dB
0.358	42.33	QP	Line	58.77	16.44
0.534	42.34	QP	Line	56.00	13.66
0.978	41.70	QP	Line	56.00	14.30
2.154	39.31	QP	Line	56.00	16.69
7.926	36.95	QP	Line	60.00	23.05
23.130	36.11	QP	Line	60.00	23.89
0.354	30.59	AV	Line	48.87	18.28
0.378	34.81	AV	Line	48.32	13.51
0.914	30.69	AV	Line	46.00	15.31
2.154	28.44	AV	Line	46.00	17.56
7.926	28.22	AV	Line	50.00	21.78
23.130	31.66	AV	Line	50.00	18.34
0.354	37.20	QP	Neutral	58.87	21.67
0.534	39.83	QP	Neutral	56.00	16.17
0.882	38.13	QP	Neutral	56.00	17.87
2.202	33.12	QP	Neutral	56.00	22.88
7.046	34.03	QP	Neutral	60.00	25.97
16.230	35.72	QP	Neutral	60.00	24.28
0.282	25.35	AV	Neutral	50.76	25.41
0.678	30.15	AV	Neutral	46.00	15.85
1.498	22.41	AV	Neutral	46.00	23.59
2.194	21.16	AV	Neutral	46.00	24.84
6.778	25.55	AV	Neutral	50.00	24.45
23.130	32.40	AV	Neutral	50.00	17.60

120 V/60 Hz, Line



Date: 17.JUN.2013 02:12:03

120 V/60 Hz, Neutral



Date: 17.JUN.2013 02:16:26

5 - FCC §15.109 RADIATED EMISSION TEST

5.1 Measurement Uncertainty

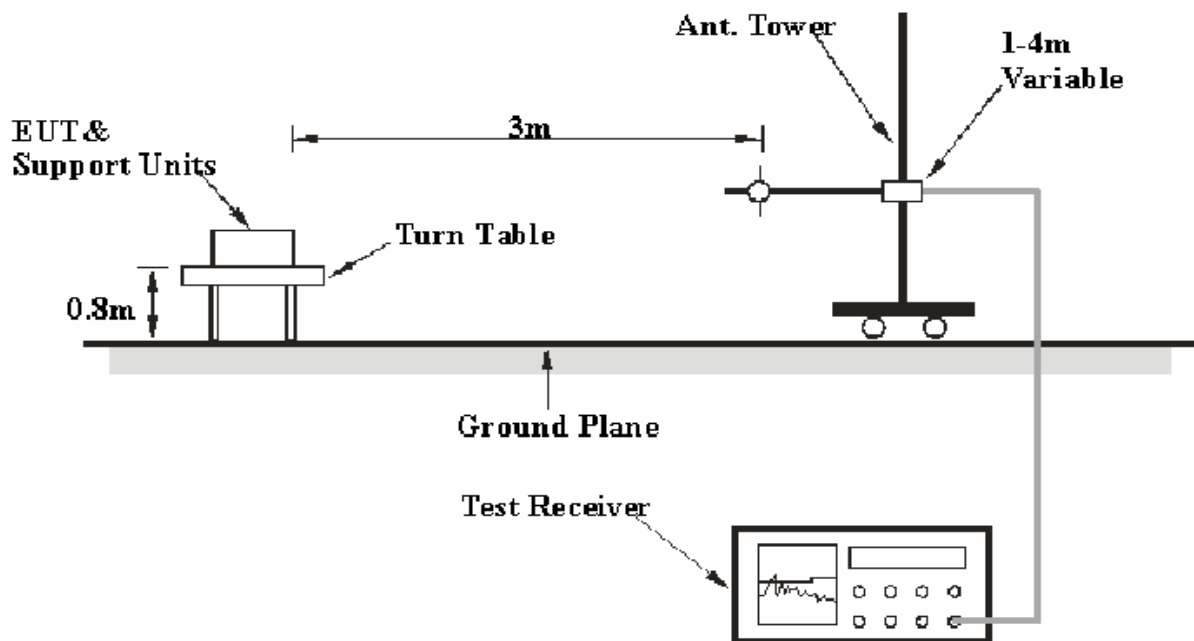
All measurements involve certain levels of uncertainties, especially in the field of EMI. The factors contributing to uncertainties are EMI Test Receiver, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

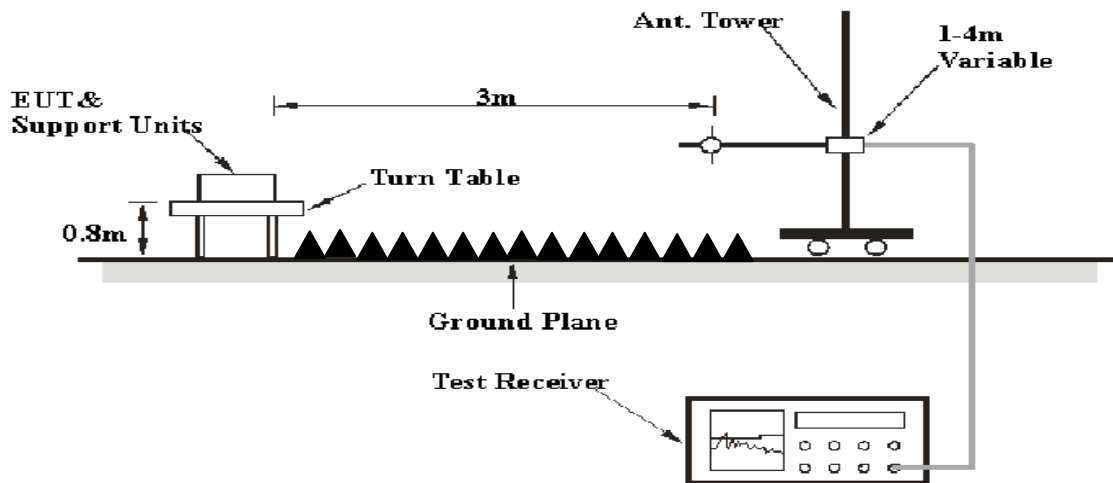
Based on CISPR 16-4-2, the Treatment of Uncertainty in EMI Measurements, the best estimate of the uncertainty of a radiation emissions measurement at BACL is 30M~200MHz: 5.0 dB; 200M~1GHz: 6.2 dB; 1G~6GHz: 4.45 dB

5.2 EUT Setup

The radiated emission tests were performed in the 3 meter Semi Anechoic Chamber, using the setup in accordance with the ANSI C63.4-2003. The specification used was the FCC Part 15 Class B limits.

Below 1GHz:



Above 1GHz:

The excess cables shall be folded at the cable center into a bundle no longer than 40 cm.

The spacing between the peripherals unit & EUT was 10 cm.

A DC 5V power source was provided to EUT.

5.3 EMI Test Receiver Setup

According to FCC Rules, the highest frequency in the device is 160 MHz, so the frequency range to be tested from 30 MHz to 2000 MHz.

During the radiated emission test, the EMI test receiver is set with the following configurations:

<i>Frequency Range</i>	<i>RBW</i>	<i>Video B/W</i>	<i>Detector</i>
30 MHz – 1000 MHz	120 kHz	300 kHz	QP
1 GHz – 2 GHz	1MHz	3MHz	AV

5.4 Test Procedure

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combinations.

All data were recorded in the quasi-peak detection mode.

The EUT was in the normal operating mode during the final qualification test to represent the worst case results.

5.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

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 7 dB μ V/m below the maximum limit for FCC Part 15 Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{FCC Part 15 Class B Limit} - \text{Corr. Ampl.}$$

5.6 Test Equipment List and Details

Description	Manufacturer	Model Number	Serial Number	Calibration Date	Calibration Due Date
Amplifier	Agilent	8447D	2944A10442	2013-05-24	2014-05-23
EMI Test Receiver	Rohde & Schwarz	ESCI	10028	2013-05-24	2014-05-23
Broadband Antenna	Sunol Sciences	JB3	A101808	2013-04-10	2014-04-09
Spectrum Analyzer	Rohde & Schwarz	FSL18	100180	2012-07-31	2013-07-30
Horn Antenna	EM TEST	3115	0036076	2013-04-09	2014-04-08
Amplifier	HP	8449B	3008A00277	2013-05-24	2014-05-23
Semi-Anechoic Chamber	EMCT	966	N/A	2012-06-25	2015-06-25

5.7 Test Software

Description	Manufacturer	Version
EMC32	R&S	V 8.52.0

5.8 Summary of Test Results

According to the data in the following, the EUT complied with the FCC Part 15 Class B standards, and had the worst margin of:

For Adapter Mode

1.9 dB at 120.007500 MHz in the **Vertical** polarization for Normal Operating Mode, 30 MHz to 1000 MHz, 3 meters

For PC Mode

2.7 dB at 149.997500 MHz in the **Horizontal** polarization for Normal Operating Mode, 30 MHz to 1000 MHz, 3 meters

5.9 Radiated Emission Test Data

Test Environment Conditions

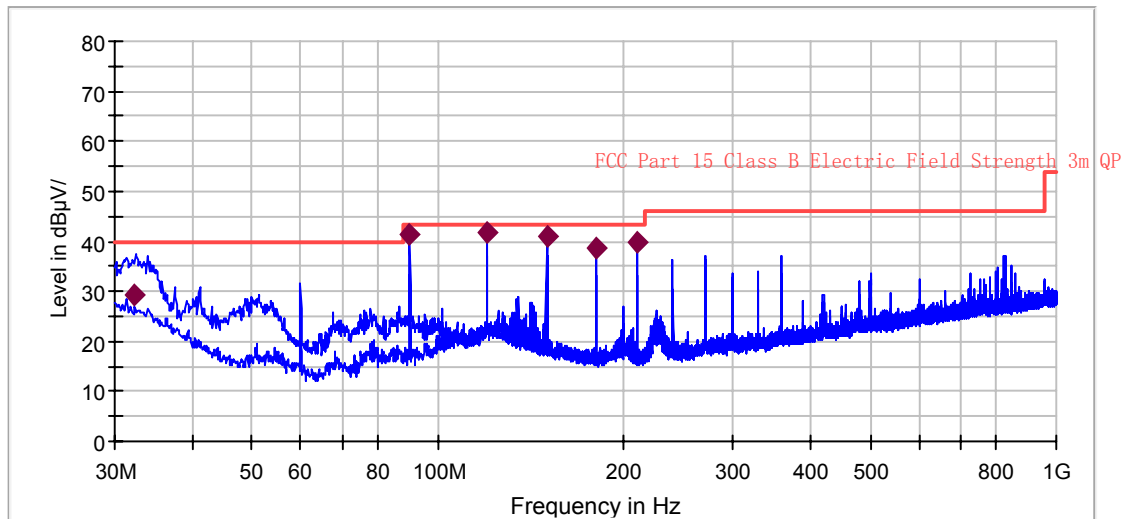
Temperature:	29°C
Relative Humidity:	59%
ATM Pressure:	99.8kPa

The testing was performed by Bruce Wu on 2013-06-19.

For Adapter Mode

Below 1 GHz:

Electric Field Strength with AutoTest-RE



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna Height (cm)	Polarization (H/V)	Corrected Factor (dB)	Limit (dBµV/m)	Margin (dB)
32.265000	29.4	200.0	120.000	125.0	V	-5.8	40.0	10.6
90.018750	41.4	200.0	120.000	125.0	V	-18.6	43.5	*2.1
120.007500	41.6	200.0	120.000	100.0	V	-11.5	43.5	*1.9
149.997500	40.9	200.0	120.000	100.0	V	-14.2	43.5	*2.6
180.026250	38.8	200.0	120.000	100.0	V	-15.8	43.5	*4.7
210.015000	39.8	200.0	120.000	100.0	V	-15.7	43.5	*3.7

* Within Measurement Uncertainty

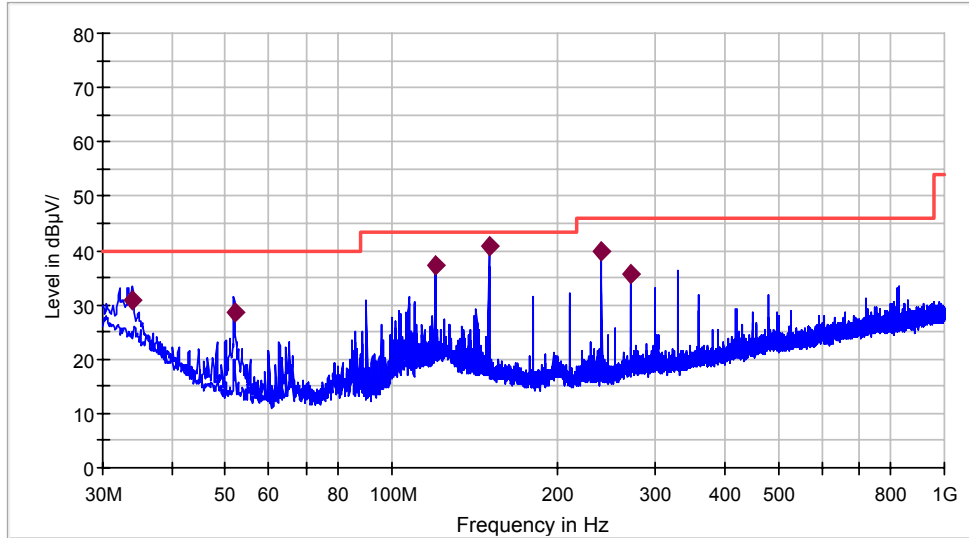
Above 1 GHz:

Frequency	Reading Value	Polarity	Detector	Corrected Factor	Corrected Amplitude	Limit	Antenna Height	Turntable Position	Margin
MHz	(dBuV/m)	V/H	(PK / Ave.)	(dB)	(dBμV/m)	(dBμV/m)	(cm)	(deg.)	(dB)
1223.600	56.65	V	PK	0.53	57.18	74	105	32	16.82
1223.600	38.68	V	AV	0.53	39.21	54	105	32	14.79
1225.260	55.69	H	PK	0.53	56.22	74	100	120	17.78
1225.260	34.61	H	AV	0.53	35.14	54	100	120	18.86
1991.600	53.140	V	PK	3.1	56.24	74	112	320	17.76
1991.600	32.090	V	AV	3.1	35.19	54	112	320	18.81

For PC Mode

Below 1 GHz:

Electric Field Strength with AutoTest-RE



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna Height (cm)	Polarization (H/V)	Corrected Factor (dB)	Limit (dBµV/m)	Margin (dB)
34.001250	30.8	200.0	120.000	100.0	V	-6.8	40.0	9.2
51.945000	28.6	200.0	120.000	100.0	V	-18.6	40.0	11.4
120.007500	37.3	200.0	120.000	225.0	H	-11.5	43.5	6.2
149.997500	40.8	200.0	120.000	188.0	H	-14.2	43.5	*2.7
240.005000	39.8	200.0	120.000	125.0	H	-14.7	46.0	6.2
270.033750	35.5	200.0	120.000	121.0	H	-13.3	46.0	10.5

* Within Measurement Uncertainty

Above 1 GHz:

Frequency	Reading Value	Polarity	Detector	Corrected Factor	Corrected Amplitude	Limit	Antenna Height	Turntable Position	Margin
MHz	(dBuV/m)	V/H	(PK / Ave.)	(dB)	(dBμV/m)	(dBμV/m)	(cm)	(deg.)	(dB)
1224.620	57.59	V	PK	0.53	58.12	74	108	28	15.88
1224.620	42.43	V	AV	0.53	42.96	54	108	28	11.04
1225.670	56.50	H	PK	0.53	57.03	74	110	35	16.97
1225.670	36.71	H	AV	0.53	37.24	54	110	35	16.76
1992.360	54.050	V	PK	3.1	57.15	74	100	84	16.85
1992.360	33.180	V	AV	3.1	36.28	54	100	84	17.72

Test Result: Pass

6 - FCC LABELING REQUIREMENTS

6.1 As per FCC §15.19: Labeling Requirements (a) (3)

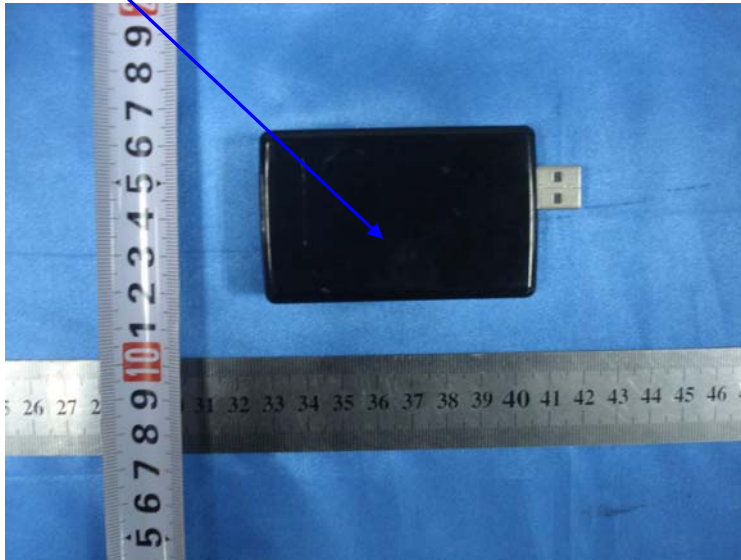
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

"

FCC ID: Y79S1013

6.2 Suggested Label Location on EUT



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