



FCC PART 15B, CLASS B

MEASUREMENT AND TEST REPORT

For

Atomic Monkey Products Ltd.

Room 811, 8/F., Corporation Park, No.11 On Lai Street, Shatin, N.T., HongKong

FCC ID: 2AB4XAMP10519R

Report Type: Original Report	Product Name: Roll-in Spy Bug
Test Engineer: Sean Zhao	<i>Sean Zhao</i>
Report Number: RSZ140416830-00	
Report Date: 2014-04-25	
Reviewed By: Dick Zhang EMC Leader	<i>Dick Zhang</i>
Prepared By: Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn	

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.

TABLE OF CONTENTS

GENERAL INFORMATION	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	3
OBJECTIVE	3
RELATED SUBMITTAL(S)/GRANT(S).....	3
TEST METHODOLOGY	3
TEST FACILITY	3
SYSTEM TEST CONFIGURATION (FCC §15.27)	4
JUSTIFICATION	4
EUT EXERCISE SOFTWARE	4
SPECIAL ACCESSORIES.....	4
EQUIPMENT MODIFICATIONS	4
EXTERNAL I/O CABLE.....	4
BLOCK DIAGRAM OF TEST SETUP	4
SUMMARY OF TEST RESULTS	5
FCC§15.109 - RADIATED EMISSIONS	6
APPLICABLE STANDARD	6
MEASUREMENT UNCERTAINTY	6
EUT SETUP	6
EMI TEST RECEIVER SETUP.....	7
TEST PROCEDURE	7
TEST EQUIPMENT LIST AND DETAILS.....	7
CORRECTED AMPLITUDE & MARGIN CALCULATION	8
TEST RESULTS SUMMARY	8
TEST DATA	8

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Atomic Monkey Products Ltd.*'s product, model number: *10519 (FCC ID: 2AB4XAMP10519R)* or the "EUT" in this report is a *Roll-in Spy Bug*, which was measured approximately: 7.8 cm (L) x 6.5cm (W) x 3.0 cm (H), input power: DC 3V battery. The highest operating frequency is 106.1MHz.

** All measurement and test data in this report was gathered from production sample serial number: 14041601 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2014-04-16.*

Objective

This report is prepared on behalf of *Atomic Monkey Products Ltd.* 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 determine the compliance of EUT with FCC Part 15B.

Related Submittal(s)/Grant(s)

FCC Part 15.239 DXX submissions with FCC ID: 2AB4XAMP10519T.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2009, 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 was performed at Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

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.

SYSTEM TEST CONFIGURATION (FCC §15.27)

Justification

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

EUT Exercise Software

No exercise software was used.

Special Accessories

No special accessory was used.

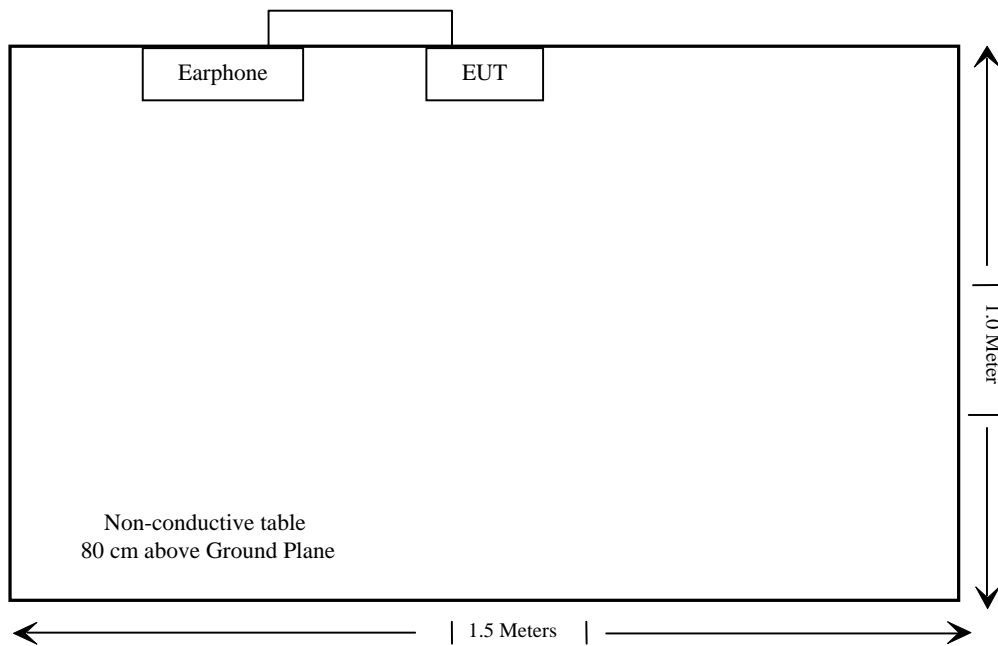
Equipment Modifications

No modification was made to the EUT tested.

External I/O Cable

Cable Description	Length (m)	From/Port	To
Unshielding Undetachable Audio Cable	0.8	EUT	Earphone

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	AC Line Conducted Emissions	Not Applicable
§15.109	Radiated Emissions	Compliance

Note: the EUT was powered by battery only!

FCC§15.109 - RADIATED EMISSIONS

Applicable Standard

FCC §15.109

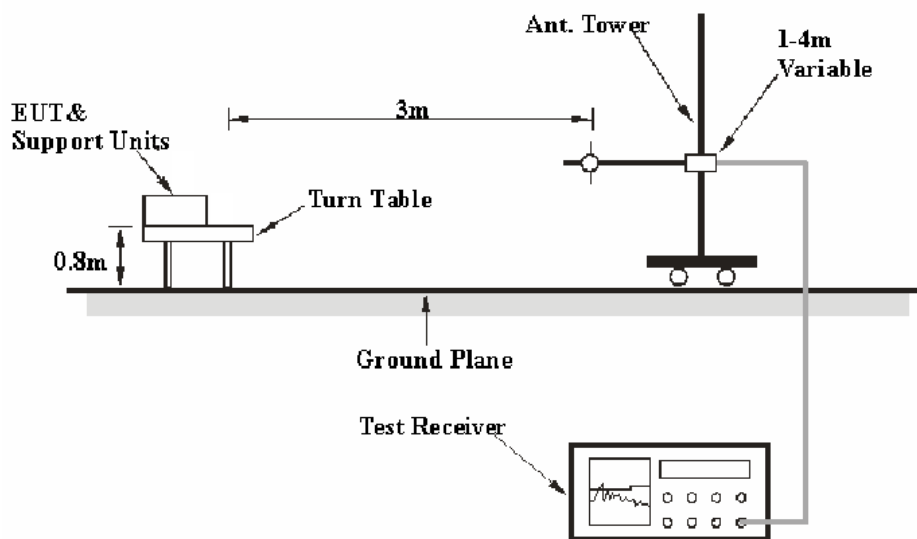
Measurement Uncertainty

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 CISPR 16-4-2:2011, the expended combined standard uncertainty of radiation emissions at Bay Area Compliance Laboratories Corp. (Shenzhen) is shown in below table. And the uncertainty will not be taken into consideration for the test data recorded in the report

Frequency	Polarity	Expanded Measurement uncertainty
30MHz~200MHz	Horizontal	4.62 dB (k=2, 95% level of confidence)
	Vertical	4.54 dB (k=2, 95% level of confidence)
200MHz~1GHz	Horizontal	4.84 dB (k=2, 95% level of confidence)
	Vertical	5.91 dB (k=2, 95% level of confidence)
1 GHz~6 GHz	Horizontal/Vertical	4.68 dB (k=2, 95% level of confidence)
Above 6 GHz	Horizontal/Vertical	4.92 dB (k=2, 95% level of confidence)

EUT Setup



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2009. The related limit was specified in FCC Part 15B.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

EMI Test Receiver Setup

According to FCC 15.33 requirements, the EUT system was measured from 30 MHz to 1 GHz.

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

Frequency Range	RBW	Video B/W	IF B/W	Detector
30MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All final data was recorded in the Quasi-peak detection mode for below 1 GHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447E	1937A01046	2013-09-30	2014-09-30
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2013-11-12	2014-11-12
TDK	Chamber	Chamber A	2#	2012-10-15	2015-10-15
Sunol Sciences	Bi-log Antenna	JB1	A040904-2	2011-11-28	2014-11-27

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

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

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

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, the worst margin reading as below:

8.83 dB at 70.012500 MHz in the Horizontal polarization

Test Data

Environmental Conditions

Temperature:	22°C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Sean Zhao on 2014-04-24.

Test mode: Receive

30 MHz~1 GHz

Frequency (MHz)	Corrected Amplitude (dB μ V/m)	Antenna Height (cm)	Antenna Polarity	Turntable Position (Degree)	Correction Factor (dB/m)	Limit (dB μ V/m)	Margin (dB)
30.121250	27.62	122.0	H	103.0	-6.0	40.00	12.38
70.012500	31.17	165.0	H	304.0	-19.6	40.00	8.83
308.753750	35.13	100.0	V	144.0	-12.2	46.00	10.87
347.311250	32.72	100.0	H	157.0	-12.0	46.00	13.28
833.887500	29.86	147.0	V	163.0	-4.0	46.00	16.14

Note:

- 1) Correction Factor = Antenna Factor + Cable Loss - Amplifier Gain
- 2) Corrected Amplitude = Meter Reading + Correction Factor
- 3) Margin = Limit - Corrected Amplitude
- 4) The data which is 20dB below the limit was not recorded.

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