

FCC TEST REPORT

FCC ID. : QE844030RX49

Applicant : Interactive Toy Concepts Limited

Address : 7/F., Eu Yan San Tower, 11-15 Chatham Road South, Tsim Sha Tsui, Kowloon, Hong Kong

Equipment Under Test (EUT) :

Product Name : i-FLY DUCK HUNTER XTREME

Model No. : i-FLY DUCK HUNTER XTREME

Standards : FCC Part 15 Subpart B

Date of Test : May. 19, 2009

Test Engineer : Olic huang

Reviewed By : *Philo zhong*

Test Result :	PASS *
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* The sample detailed above has been tested to the requirements of Council Directives ANSI C63.4:2003. The test results have been reviewed against the Directives above and found to meet their essential requirements.

1 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (30MHz to 1GHz)	FCC PART 15, SUBPART B: 2007	ANSI C63.4: 2003	Class B	PASS
Conducted Emission (150KHz to 30MHz)	FCC PART 15, SUBPART B: 2007	ANSI C63.4: 2003	N/A	N/A

2 Contents

1 COVER PAGE	1
1 TEST SUMMARY.....	2
2 CONTENTS.....	3
3 GENERAL INFORMATION	4
3.1 CLIENT INFORMATION.....	4
3.2 GENERAL DESCRIPTION OF E.U.T.	4
3.3 DESCRIPTION OF SUPPORT UNITS	4
3.4 STANDARDS APPLICABLE FOR TESTING	4
3.5 TEST FACILITY	5
3.6 TEST LOCATION	5
4 EQUIPMENT USED DURING TEST	6
5 EMISSIONS TEST RESULTS	10
5.1 CONDUCTED EMISSION DATA	10
5.1.1 <i>E.U.T. Operation</i>	10
5.1.2 <i>EUT Setup</i>	10
5.1.3 <i>Conducted Emission Test Result</i>	11
5.2 RADIATION EMISSION DATA	12
5.2.1 <i>Measurement Uncertainty</i>	12
5.2.2 <i>EUT Setup</i>	12
5.2.3 <i>Spectrum Analyzer Setup</i>	13
5.2.4 <i>Test Procedure</i>	13
5.2.5 <i>Corrected Amplitude & Margin Calculation</i>	13
5.2.6 <i>Summary of Test Results</i>	14
5.2.7 <i>Photographs – Radiation Emission Test Setup</i>	16
6 PHOTOGRAPHS - CONSTRUCTIONAL DETAILS.....	17
6.1 EUT- FRONT VIEW	17
6.2 EUT – BACK VIEW	17
6.3 EUT- PCB-FRONT VIEW	18
6.4 EUT-PCB- BACK VIEW	18
7 FCC ID LABEL	19

3 General Information

3.1 Client Information

Applicant: Interactive Toy Concepts Limited
Address of Applicant: 7/F., Eu Yan San Tower, 11-15 Chatham Road South, Tsim Sha Tsui, Kowloon, Hong Kong

Manufacturer: Interactive Toy Concepts Limited
Address of Manufacturer: 7/F., Eu Yan San Tower, 11-15 Chatham Road South, Tsim Sha Tsui, Kowloon, Hong Kong

3.2 General Description of E.U.T.

Product Name: i-FLY DUCK HUNTER XTREME

Model No.: i-FLY DUCK HUNTER XTREME

Power Supply: 6.0 VDC Battery

3.3 Description of Support Units

The EUT has been tested as an independent unit.

3.4 Standards Applicable for Testing

The customer requested FCC tests for an i-FLY DUCK HUNTER XTREME. The standards used were FCC Part 15.109.

3.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **IC – Registration No.: IC7760**

Waltek Services(Shenzhen) Co., Ltd. has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration IC7760, July 24, 2008

- **FCC – Registration No.: 880581**

Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 880581, June 24, 2008.

3.6 Test Location

All Emissions tests were performed at:-

Waltek Services(Shenzhen) Co., Ltd. at 1/F, Fukangtai Building, West Baima Rd., Songgang Street, Baoan District, Shenzhen, China.

4 Equipment Used during Test

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
EMC Analyzer	Agilent/ E7405A	MY451149 43	W2008 001	9k-26.5GHz	Aug-08	Aug-09	Wws20 081596	±1dB
Trilog Broadband Antenne 30-3000 MHz	SCHWARZB ECK MESS-ELEKTROM / VULB9163	336	W2008 002	30-3000 MHz	Aug-08	Aug-09		±1dB
Broad-band Horn Antenna 1-18 GHz	SCHWARZB ECK MESS-ELEKTROM / VULB9163	667	W2008 003	1-18GHz	Aug-08	Aug-09		f<10 GHz: ±1dB 10GHz<f< 18 GHz: ±1.5dB
Broadband Preamplifier 0.5-18 GHz	SCHWARZB ECK MESS-ELEKTROM / BBV 9718	9718-148	W2008 004	0.5-18GHz	Aug-08	Aug-09		±1.2dB
10m Coaxial Cable with N-male Connectors usable up to 18GHz,	SCHWARZB ECK MESS-ELEKTROM / AK 9515 H	-	-	-	Aug-08	Aug-09		-
10m 50 Ohm Coaxial Cable with N-plug,individual length,usable up to 3(5)GHz, Connector	SCHWARZB ECK MESS-ELEKTROM / AK 9513				Aug-08	Aug-09		
Positioning Controller	C&C LAB/ CC-C-IF				N/A	N/A		
Color Monitor	SUNSPO/ SP-14C				N/A	N/A		
Test Receiver	ROHDE&SC HWARZ/ ESPI	101155	W2005 001	9k-3GHz	Jul-08	Jul-09	Wws20 080942	±1dB
EMI Receiver	Beijingkehuan	KH3931		9k-1GHz	Aug-08	Aug-09		

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
Two-Line V-Network	ROHDE&SC HWARZ/ ENV216	100115	W2005 002	50Ω/50μ H	Jul-08	Jul-09	Wws20 080941	±10%
Absorbing Clamp	ROHDE&SC HWARZ/ MDS-21	100205	W2005 003	impandance 50Ω loss : 17 dB	Jul-08	Jul-09	Wws20 080943	±1dB
10m 50 Ohm Coaxial Cable with N-plug, individual length, usable up to 3(5)GHz, Connectors	SCHWARZB ECK MESS-ELEKTROM / AK 9514				Aug-08	Aug-09		
Digital Power Analyzer	Em Test AG/Switzerland/ DPA 500	V07451 03095	W2008 012	Power: 2000VA Vol-range: 0-300V Freq_range : 10-80Hz	Aug-08	Aug-09	Wwd2 008118 5	Voltage distinguish:0 .025% Power_freq distinguish:0 .02Hz
Power Source	Em Test AG/Switzerland/ ACS 500			Vol-range: 0-300V Power_freq : 10-80Hz				
Electrostatic Discharge Simulator	Em Test AG/Switzerland/DITO	V07451 03094	W2008 005	Contact discharge: 500V-10KV Air diacharge: 500V- 16.5KV	Aug-08	Aug-09	Wwc20 082400	7.5A current will be changed in V _m =1.5V
RF Generator	TESEQ GmbH/ NSG4070	25781	W2008 008	Fraq-range: 9K-1GHz RF voltage: -60 dBm- +10dBm	Aug-08	Aug-09	Wws20 081890	Power_freq distinguish0. 1Hz RFeleticity distinguish 0.1 B
CDN M-Type	TESEQ GmbH/ CDN M016	25112		Voltage correct factor 9.5 dB				

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
EM-Clamp	TESEQ GmbH/ KEMZ 801	25453	W2008 010	Freq_range : 0.15-1000 MHz	Aug-08	Aug-09	Wwc20 082397	0.3-400 MHz: ±4dB Other freq: ±5dB
Attenuator 6dB	TESEQ GmbH/ ATN6050	25365			Aug-08	Aug-09	Wws20 081597	
All Modules Generator	SCHAFFNE R/6150	34579	W2008 006	voltage:200 V-4.4KV Pulse current: 100A-2.2KA	Aug-08	Aug-09	Wwc20 082401	voltage: ±10% Pulse current: ±10%
Capacitive Coupling Clamp	SCHAFFNE R/ CDN 8014	25311			Aug-08	Aug-09	Wwc20 082398	-
Signal and Data Line Coupling Network	SCHAFFNE R/ CDN 117	25627	W2008 011	1.2/50μS	Aug-08	Aug-09	Wwc20 082399	-
AC Power Supply	TONGYUN/ DTDGC-4				Aug-08	Aug-09	Wws20 080944	-
Exposure Level Tester ELT-400	Narda Safety TEST Solutions/230 4/03	M-0155	w20080 22	Test freq range: 1—400kHz	Aug-08	Aug-09	Wwd2 008119 1	Test uncertainly : 1—120kHz:±1.83%, 120 kHz-400 kHz: ±4.06%
Magnetic Field Probe 100cm ²	Narda Safety TEST Solutions/230 0/90.10	M-1070	w20080 21	Test freq range: 1—400kHz				Test uncertainly : 1Hz-10Hz: ±16.2%, 10Hz - 120kHz:±2.2%, 120 kHz-400 kHz: ±4.7%
Active Loop Antenna Charger 10kHz-30MHz	Beijing Dazhi / ZN30900A	-	-	10kHz-30MHz	Aug-08	Aug-09		±1dB

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
MP3 player	iPod/A1285	5K85004U 3R0			Aug-08	Aug-09	-	±0.5dB -
FM generator	JUNG JIN	SG-1501	-	-	Aug-08	Aug-09	-	±1dB

5 Emissions Test Results

5.1 Conducted Emission Data

Test Requirement:	FCC Part 15.107
Test Method:	Based on ANSI C63.4:2003
Test Date:	----
Frequency Range:	150kHz to 30MHz
Class:	Class B
Limit:	66-56 dB μ V between 0.15MHz & 0.5MHz 56 dB μ V between 0.5MHz & 5MHz 60 dB μ V between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximised peak within 6dB of Average Limit

5.1.1 E.U.T. Operation

Operating Environment:	
Temperature:	25.5 °C
Humidity:	51 % RH
Atmospheric Pressure:	1012 mbar

EUT Operation :

The EUT was tested according to ANSI C63.4:2003. The frequency spectrum from 150kHz to 30MHz was investigated.

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

5.1.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.4:2003, The specification used in this report was the FCC Part 15.107 limits.

5.1.3 Conducted Emission Test Result

An initial pre-scan was performed on the live and neutral lines.

Owing to the EUT was using the battery,so the test was not performed in the report

5.2 Radiation Emission Data

Test Requirement:	FCC Part 15.109
Test Method:	Based on ANSI C63.4:2003
Test Date:	May. 19, 2009
Frequency Range:	30MHz to 1GHz
Measurement Distance:	3m
Class:	Class B
Limit:	40.0 dB μ V/m between 30MHz & 88MHz 43.5 dB μ V/m between 88MHz & 216MHz 46.0 dB μ V/m between 216MHz & 960MHz 54.0 dB μ V/m above 960MHz
Detector:	Peak for pre-scan (120kHz resolution bandwidth) Quasi-Peak if maximised peak within 6dB of limit

5.2.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the 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 ANSI C63.4:2003, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Waltek EMC lab is ± 5.03 dB.

5.2.2 EUT Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4:2003, The specification used in this report was the FCC Part 15.109 Class B limits.

the EUT was working in continuously receiving mode.

5.2.3 Spectrum Analyzer Setup

According to FCC Part 15.109 Rules, the system was tested 30 to 1000MHz.

Start Frequency.....	30 MHz
Stop Frequency.....	1 GHz
Sweep Speed Auto	
IF Bandwidth.....	120KHz
Video Bandwidth.....	100KHz
Quasi-Peak Adapter Bandwidth	120 KHz
Quasi-Peak Adapter Mode	Normal
Resolution Bandwidth	100kHz

5.2.4 Test Procedure

The radiated emissions test.

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

All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB μ V of specification limits), and are distinguished with a "Qp" in the data table.

The EUT was under normal mode during the final qualification test and the configuration was used to represent the worst case results.

ANSI STANDARD C63.4-2003 12.1.1.1 SUPERREGENERATIVE RECEIVER: A signal Generator was set to the unit under test operating frequency. An un- Modulated continuous wave (CW) signal was radiated at the super-regenerative receiver operating frequency to cohere the characteristic broadband emissions from the receiver.

5.2.5 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 μ V means the emission is 7dB μ V below the maximum limit for Class B. The equation for margin calculation is as follows:

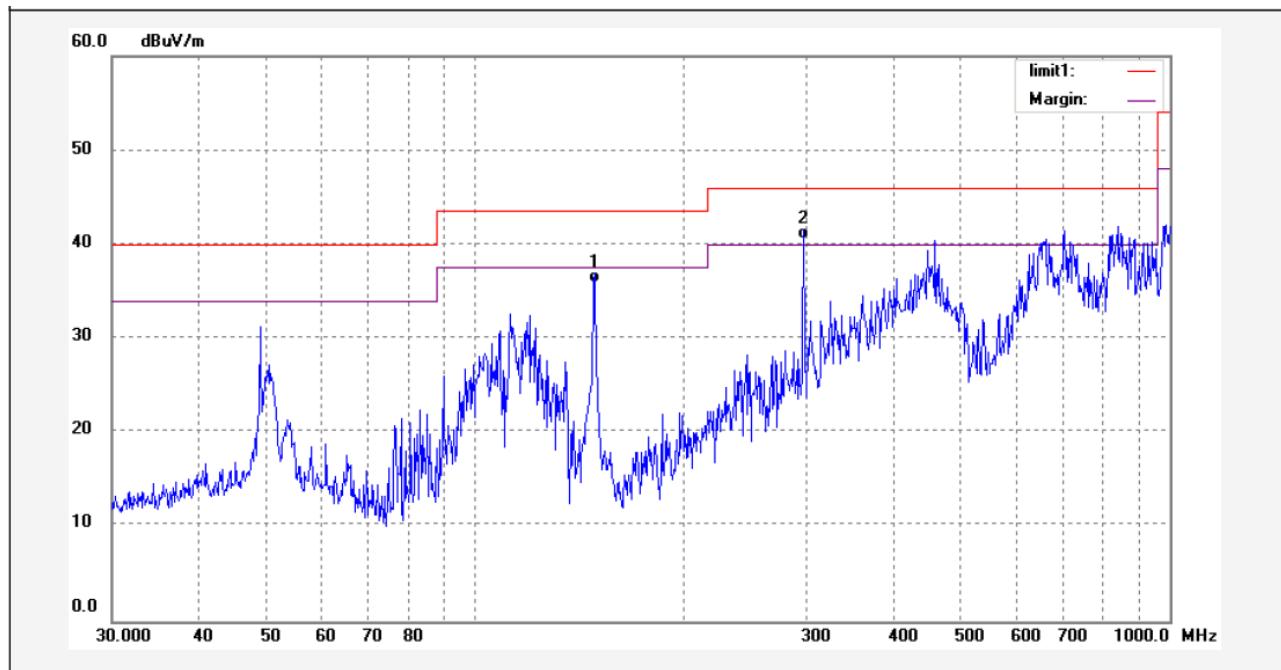
$$\text{Margin} = \text{Corr. Ampl.} - \text{Class B Limit}$$

5.2.6 Summary of Test Results

According to the data in this section, the EUT complied with the FCC Part 15.109 standards.

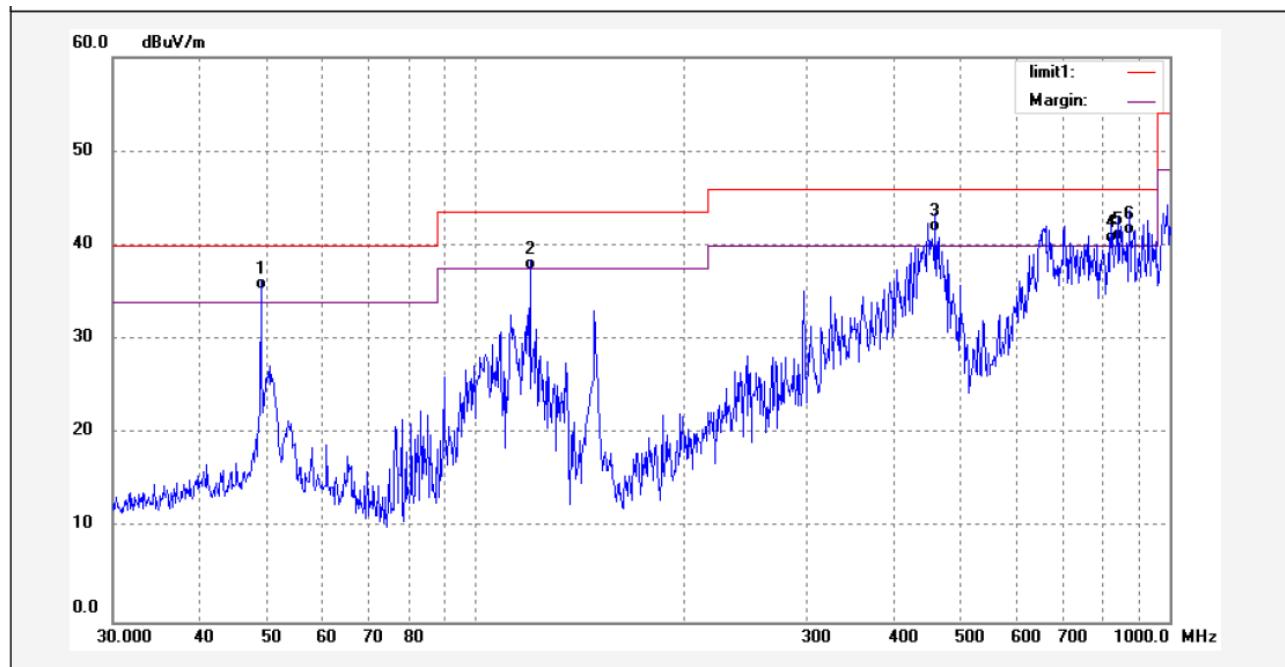
Mode:Receive Mode

Antenna Polarization: Vertical



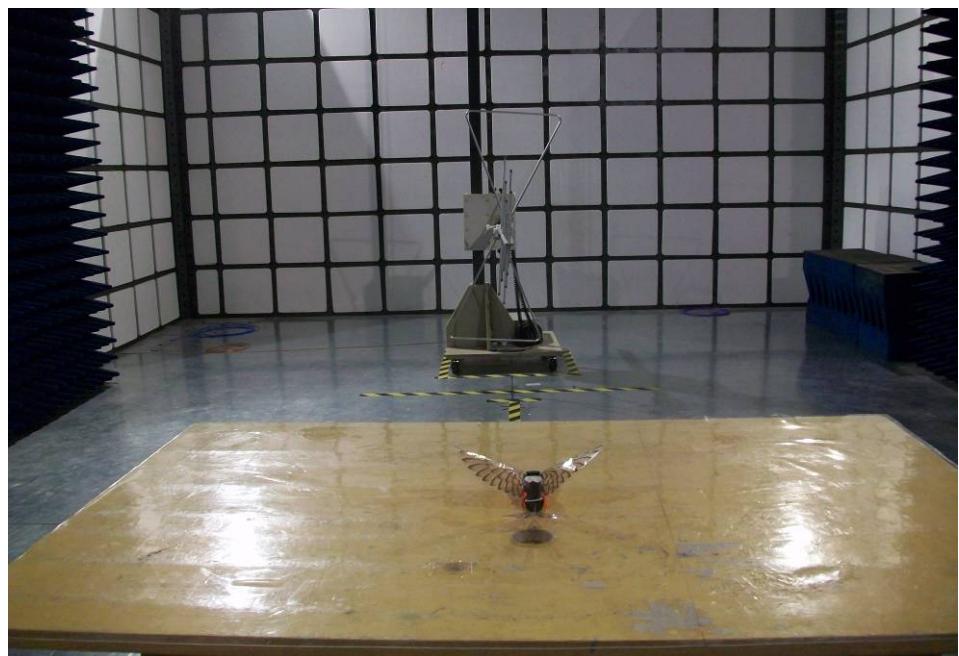
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	148.9173	25.77	10.14	35.91	43.50	-7.59	QP	
2	297.5457	24.53	16.09	40.62	46.00	-5.38	QP	

Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	49.0627	20.57	14.73	35.30	40.00	-4.70	QP	
2	119.7672	25.39	12.11	37.50	43.50	-6.00	QP	
3	460.0122	21.88	19.60	41.48	46.00	-4.52	QP	
4	824.2782	14.58	25.70	40.28	46.00	-5.72	QP	
5	841.8397	14.65	25.87	40.52	46.00	-5.48	QP	
6	875.0133	14.77	26.39	41.16	46.00	-4.84	QP	

5.2.7 Photographs – Radiation Emission Test Setup



6 Photographs - Constructional Details

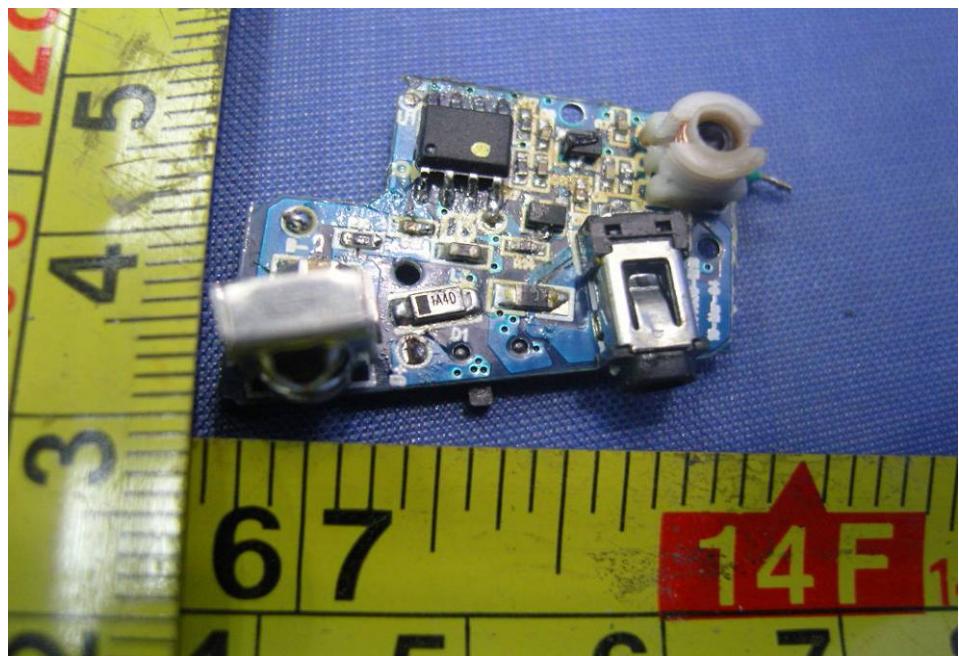
6.1 EUT- Front View



6.2 EUT – Back View



6.3 EUT- PCB-Front View



6.4 EUT-PCB- Back View



7 FCC ID Label

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.

The Label must not be a stick-on paper. The Label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Proposed Label Location on EUT

EUT Bottom View/proposed FCC Mark Location

