



MOST TECHNOLOGY SERVICE CO., LTD.

Tel: (86) 755-86170306 Fax: (86) 755-86170310

Http:// www. szmost.com Email: szmost@szmost.com

Test Report

Product Name: Ultrasonic Remote Control LED Flashlight

FCC ID: VDDATICO01

MODEL NO. : A14C0606(559044)

Applicant:

ATICO INTERNATIONAL (ASIA) LTD.

G/F-2F Hunghom Bay Centre, 22-24 Hunghom Wan Street, Hunghom, Kowloon, Hong Kong

Date Received: 6/06/2007

Date Tested: 6/06/2007

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Cover Sheet



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EMC Equipment List

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	100492	Apr 06,2007	1 Year
LISN	ROHDE&SCHWARZ	ENV216	100093	Apr 06,2007	1Year
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	101202	Apr 06,2007	1 Year
50 Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Apr 06,2007	1 Year
Bilog Antenna	Sunol	JB3	A121206	Apr 06,2007	1 Year
50 Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Apr 06,2007	1 Year
Cable	Resenberger	N/A	NO.1	Apr 06,2007	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Apr 06,2007	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Apr 06,2007	1 Year
Single Phase Power Line Filter	Kikusui	LIN40MA-PC R-L	LM002352	Apr 06,2007	1Year
AC Power Source	Kikusui	AC40MA	LM003232	Apr 06,2007	1Year
Test analyzer	Kikusui	KHA1000	LM003720	Apr 06,2007	1Year
ESD Tester	Kikusui	KES4021	LM003537	Apr 08,2007	1 Year
Signal Generator	IFR	2032	203002/100	Apr 08,2007	1 Year
Amplifier	A&R	150W1000	301584	NCR	NCR
Dual Directional Coupler	A&R	DC6080	301508	Apr 06,2007	1 Year
Power Head	A&R	PH2000	301193	Apr 06,2007	1 Year
Power Meter	A&R	PM2002	302799	Apr 06,2007	1 Year
Field Monitor	A&R	FM5004	300329	Apr 06,2007	1 Year
Field Probe	A&R	FP5000	300221	Apr 06,2007	1 Year
EMC PRO System	EM Test	UCS-500-M4	V0648102026	Apr 06,2007	1 Year
EMC PRO System	EM Test	UCS-500-M4	V0648102026	Apr 06,2007	1 Year

Remark:

Test Firm Name: Most Technology Service Co., Ltd.

Test Firm Address:

No. 5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China

FCC Registered Test Site Number: 490827

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TEST PROCEDURE

GENERAL: This report shall NOT be reproduced except in full without the written approval of SHENZHEN MOST ELECTRONICS CO., LTD. The EUT was transmitting a test signal during the testing.

POWER LINE CONDUCTED INTERFERENCE: The test procedure used was ANSI Standard C63.4-2003 using a 50 UH LISN. Both Lines were observed. The bandwidth of the receiver was 10kHz with an appropriate sweep speed. The ambient temperature of the EUT was 25 with a humidity of 58%.

RADIATION INTERFERENCE: The test procedure used was ANSI Standard C63.4-2003 using a ANRITSU spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a micro volt at the output of the antenna. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3 MHz above 1 GHz. The ambient temperature of the EUT was 25 with a humidity of 58%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

Freq (MHz) METER READING + ACF = FS

33 20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

ANSI STANDARD C63.4-2003 10.1.7 MEASUREMENT PROCEDURES: The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

The situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSI Standard C63.4-2003 10.1.7 with the EUT 40 cm from the vertical ground wall.



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NAME OF TEST: RADIATION INTERFERENCE

RULES PART NUMBER: 15.231

REQUIREMENTS:

Fundamental Frequency MHz	Field Strength of Fundamental dBuV	Field Strength of Harmonics and Spurious Emissions (dBuV/m @ 3m)
40.66 to 40.70	67.04	47.04
70 to 130	61.94	41.94
130 to 174	61.94 to 71.48	41.94 to 51.48
174 to 260	71.48	51.48
260 to 470	71.48 to 81.94	51.48 to 61.94
470 and above	81.94	61.94

THE LIMIT FOR AVERAGE FIELD STRENGTH dBuV/m FOR THE FUNDAMENTAL FREQUENCY= 75.62 dBuV/m. NO FUNDAMENTAL IS ALLOWED IN THE RESTRICTED BANDS.

THE LIMIT FOR AVERAGE FIELD STRENGTH dBuV/m FOR THE HARMONICS AND SPURIOUS FREQUENCIES = 55.62 dBuV/m. SPURIOUS IN THE RESTRICTED BANDS MUST BE LESS THAN 54dBuV/m OR 15.209

Fundamental Radiation Interference Data:

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart C Limit (dBuV/m)
315.00	Horizontal	60.10	75.62
315.00	Vertical	53.15	75.62
630.00	Horizontal	44.70	55.62
630.00	Vertical	43.25	55.62
945.00	Horizontal	41.00	55.62
945.00	Vertical	38.15	55.62
1260.00	Horizontal	36.80	55.62
1260.00	Vertical	31.66	55.62

SAMPLE CALCULATION OF LIMIT @ 303 MHz:

$(470 - 260)\text{Mhz} = 210\text{ MHz}$
 $(12500 - 3750)\text{uV/m} = 8750\text{ uV/m}$
 $8750\text{uV/m}/210\text{MHz} = 41.67\text{ uV/m/MHz}$
 $(303-260)\text{MHz} = 43\text{ MHz}$
 $43\text{ MHz} * 41.67\text{ uV/m/MHz} = 1791.81\text{ uV/m}$
 $(1791.81 + 3750)\text{uV/m} = 5541.81\text{ uV/m limit @ 303 MHz}$

TEST RESULTS: The unit DOES meet the FCC requirements.

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NAME OF TEST: Occupied Bandwidth

RULES PART NUMBER: 15.231(C)

REQUIREMENTS: The bandwidth of the emission shall be no wider than .25% of the center frequency for devices operating between 70 and 900 MHz. Bandwidth is determined at the points 20 dB down from the modulated carrier.

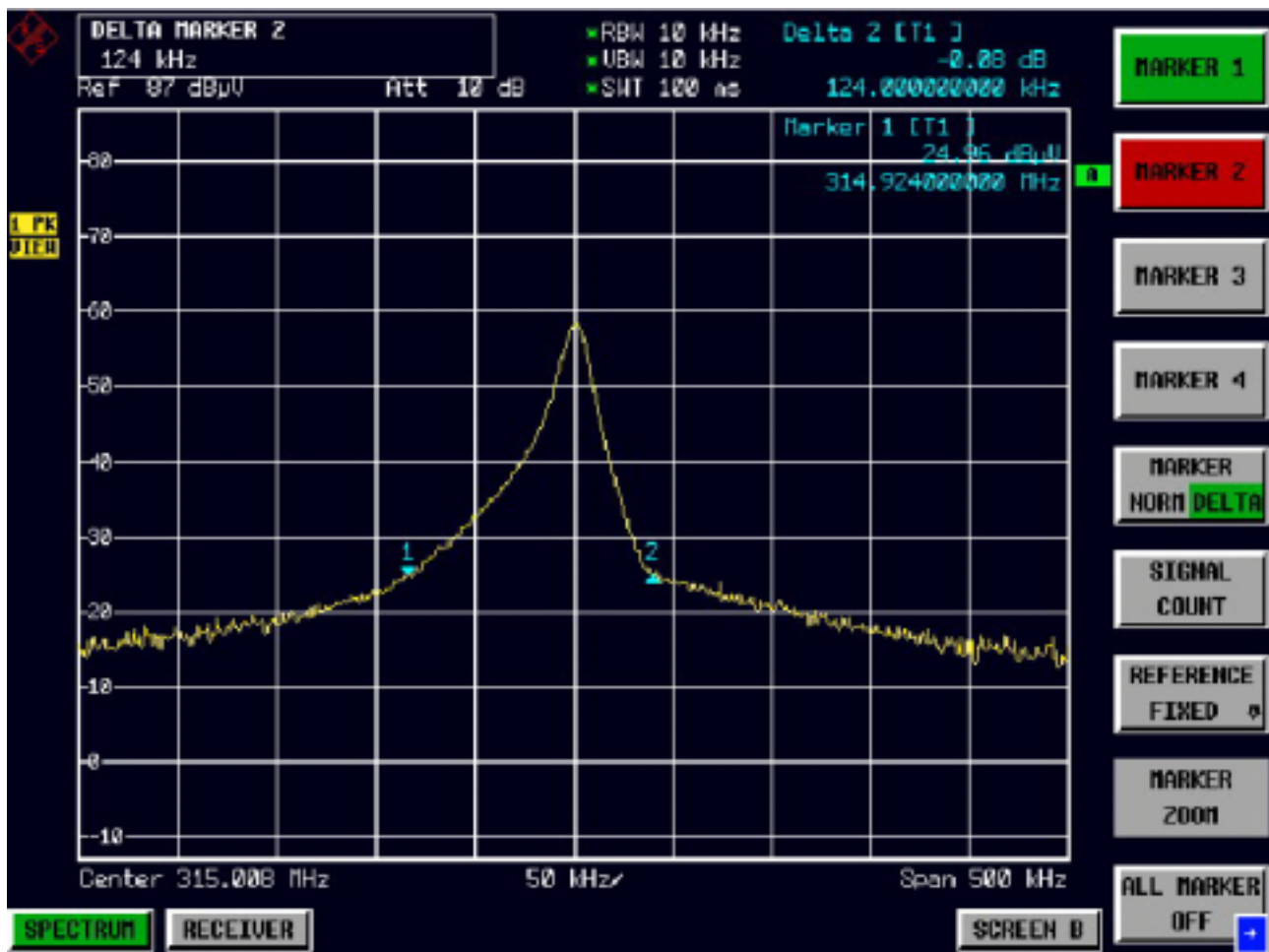
$$\begin{aligned} 315.00 \text{ MHz} * 0.0025 &= 0.7875 \text{ MHz} \\ 0.7875 \text{ MHz} / 2 &= +/- 393.75 \end{aligned}$$

METHOD OF MEASUREMENT: METHOD OF MEASUREMENT: A small sample of the transmitter output was fed into the spectrum analyzer and the plot in next page was generated. The vertical scale is set to 10 dB per division: the horizontal scale is set to 6 MHz per division.

TEST RESULTS: The unit DOES meet the FCC requirements.



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NAME OF TEST: DUTY CYCLE

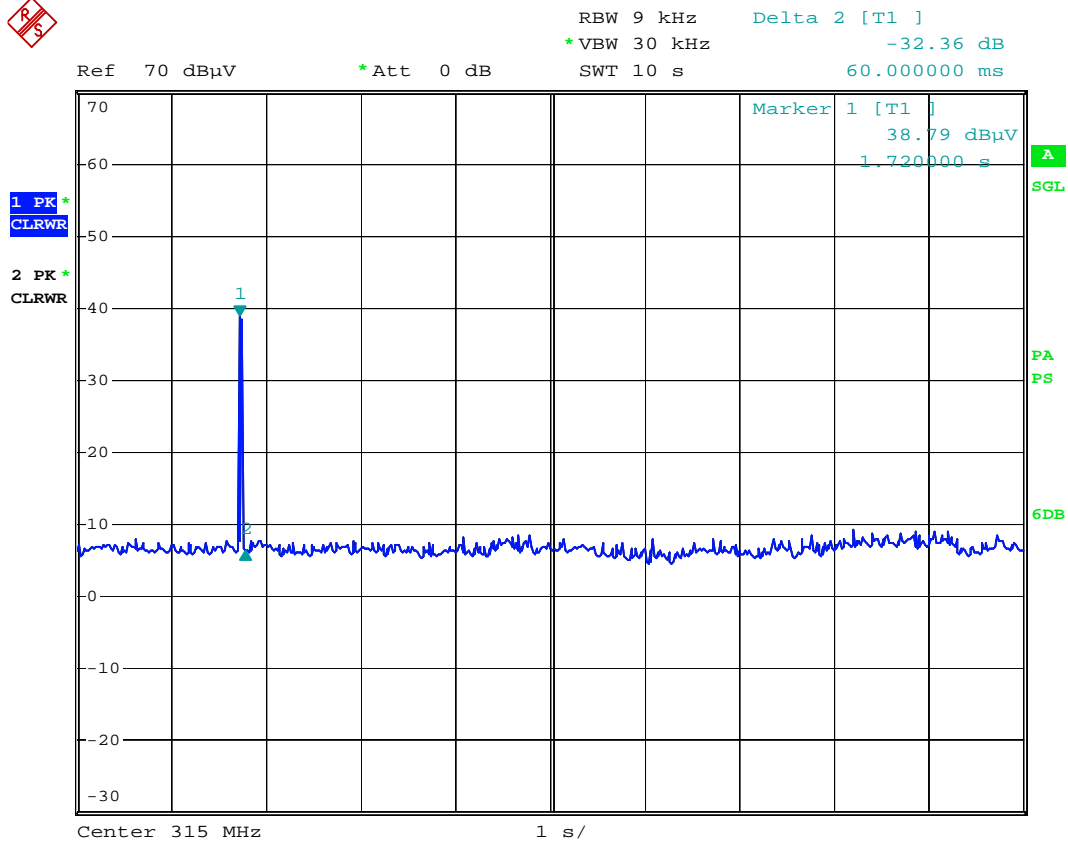
RULES PART NUMBER: 15.231

This device transmits manually. After push the switch to turn the light on, when take off the switch, the transmission will cease immediately after took off the switch.

TEST RESULTS: The unit DOES meet the FCC requirements.



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Date: 13.JUN.2007 04:48:14