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**FEDERAL COMMUNICATIONS COMMISSION**  
Registration number: 282399

Report No.: GLEMO060401053RFI  
Page: 1 of 11  
FCC ID: TAXKY251

## **TEST REPORT**

**Application No. :** GLEMO060401053RF

**Applicant:** KAYA TOYS ENTERPRISES LIMITED

**FCC ID:** TAXKY251

**Fundamental Frequency :** 27.145MHz

**Equipment Under Test (EUT):**

Name: DRAGON FLY

Model No.: 251、252、249、262、265、266、263、271、272、276

**Standards:** FCC PART 15, SUBPART C : 2004  
Section 15.227

**Date of Receipt:** 12 May 2006

**Date of Test:** 19 May to 05 June 2006

**Date of Issue:** 06 June 2006

<b>Test Result :</b>	<b>PASS *</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Jerry Chen  
Manager

This report refers to the General Conditions for Inspection and Testing Services, printed overleaf  
This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

All test results in this report can be traceable to National or International Standards.

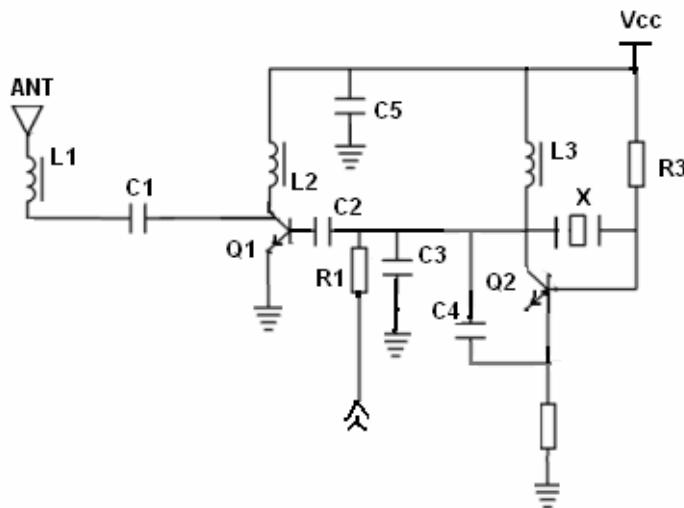
## 2 Test Summary

Test	Test Requirement	Standard Paragraph	Result
Radiated Emission (30MHz to 1000MHz)	FCC PART 15 :2004	Section 15.227	PASS①
Occupied Bandwidth	FCC PART 15 :2004	Section 15.215	PASS②

Remark:

① ② The EUT passed the Radiated Emission test and Occupied Bandwidth after modification, please refer to the following information for further details.

Changed the circuit diagram as the following figure shown:



C1: 150pF; C2, C3, C4: 47 pF; C5: 0.1μF;

L1: 5.6μH, L2, L3: 2.2μH;

R1: 10kΩ; R2: 100Ω; R3: 47 kΩ;

Q1: C9016 NPN; Q2: C945 NPN.

Item No.: 251、252、249、262、265、266、263、271、272、276

Only the item 251 was tested, since the circuit design, PCB layout, electrical parts and internal wiring of items 252、249、262、265、266、263、271、272、276 were identical to the basic item 251.

### **3 Contents**

	Page
<b>1 COVER PAGE</b> .....	1
<b>2 TEST SUMMARY</b> .....	2
<b>3 CONTENTS</b> .....	3
<b>4 GENERAL INFORMATION</b> .....	<b>4</b>
4.1 CLIENT INFORMATION .....	4
4.2 DETAILS OF E.U.T. .....	4
4.3 DESCRIPTION OF SUPPORT UNITS .....	4
4.4 TEST LOCATION .....	4
4.5 OTHER INFORMATION REQUESTED BY THE CUSTOMER .....	4
4.6 TEST FACILITY.....	5
<b>5 TEST RESULTS</b> .....	<b>6</b>
5.1 TEST INSTRUMENTS.....	6
5.2 E.U.T. OPERATION .....	7
5.3 TEST PROCEDURE & MEASUREMENT DATA.....	7
5.3.1 <i>Radiated Emissions</i> .....	7
5.3.2 <i>Occupied Bandwidth</i> .....	10-11

## 4 General Information

### 4.1 Client Information

Applicant Name: KAYA TOYS ENTERPRISES LIMITED  
Applicant Address: 7/F., Kin On Commercial Building, 49-51 Jervois Street, Sheung Wan, Hong Kong.

### 4.2 Details of E.U.T.

Name: DRAGON FLY  
Model No.: 251、252、249、262、265、266、263、271、272、276  
Power Supply: 12.0V DC (8 x 'AA' Size Batteries)  
Power Cord: N/A-

### 4.3 Description of Support Units

The EUT was tested as an independent unit: a 27MHz radio transmitter.

### 4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town Economic& Technology Development District Guangzhou, China 510663

Tel: +86 20 82155555      Fax: +86 20 82075059

No tests were sub-contracted.

### 4.5 Other Information Requested by the Customer

None.

## 4.6 Test Facility

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

- **NVLAP – Lab Code: 200611-0**  
SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0. Effective through December 31, 2006.
- **ACA**  
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.
- **VCCI**  
The 3m Semi-anechoic chamber and Shielded Room (11.5m x 4m x 4m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1599 and C-1706 respectively.  
Date of Registration: June 01, 2005. Valid until February 22, 2008
- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**  
Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.
- **CNAL – LAB Code: L0141**  
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of Testing Laboratories.
- **FCC – Registration No.: 282399**  
SGS-CSTC Standards Technical Services 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 282399, May 31, 2002. With the above and NVLAP's accreditation, SGS-CSTC is an authorised test laboratory for the DoC process.
- **Industry Canada (IC)**  
The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5169.

## 5 Test Results

### 5.1 Test Instruments

RE in Chamber/OATS						
No:	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
EMC0525	Impact Semi-Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	06-03-2006	06-03-2007
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100249	05-12-2005	05-12-2006
N/A	EMI Test Software	Audix	E3	N/A	N/A	N/A
EMC0514	Coaxial cable	SGS	N/A	N/A	04-12-2005	04-12-2006
EMC0524	Bi-log Type Antenna	Schaffner -Chase	CBL6112B	2966	31-10-2005	31-10-2006
EMC0519	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	16-01-2006	16-01-2007
EMC0518	Horn Antenna	Rohde & Schwarz	HF906	100096	10-05-2005	09-05-2006
EMC0040	Spectrum Analyzer	Rohde & Schwarz	FSP30	100324	05-12-2005	05-12-2006
EMC0520	0.1-1300 MHz Pre-Amplifier	HP	8447D OPT 010	2944A0625 2	06-03-2006	06-03-2007
EMC0521	1-26.5 GHz Pre-Amplifier	Agilent	8449B	3008A0164 9	06-03-2006	06-03-2007
EMC0523	Active Loop Antenna	EMCO	6502	00042963	14-01-2006	14-01-2007
EMC0529	10m Open Site	ZhongYu	N/A	N/A	26-12-2005	26-12-2006

## 5.2 E.U.T. Operation

Input voltage: 9V DC (1 x '6F 22' Size Battery)  
Operating Environment:  
Temperature: 25.0 °C  
Humidity: 53 % RH  
Atmospheric Pressure: 1009 mbar  
EUT Operation: Test the EUT in transmitting mode.

## 5.3 Test Procedure & Measurement Data

### 5.3.1 Radiated Emissions

**Test Requirement:** FCC Part15 C Section 15.227  
**Test Method:** ANSI C63.4 section 8 & 13  
**Test Date:** 19 May 2006 (Initial test)  
05 June 2006 (Test after modification)  
**Measurement Distance:** 3m (Semi-Anechoic Chamber and OATS)  
**Requirements:** Carrier frequency will not exceed 80dB<sub>u</sub>V/m at 3m.  
Out of band emissions shall not exceed:  
40.0 dB<sub>u</sub>V/m between 30MHz & 88MHz  
43.5 dB<sub>u</sub>V/m between 88MHz & 216MHz  
46.0 dB<sub>u</sub>V/m between 216MHz & 960MHz  
54.0 dB<sub>u</sub>V/m above 960MHz  
**Detector:** Peak Scan (120kHz resolution bandwidth)

Test Procedure: For testing performed with the loop antenna, testing was performed in accordance to ANSI C63.4 section 8.2.1. The center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane.

**Intentional emission:****Horizontal.**

<b>Test Frequency (MHz)</b>	<b>Peak (dB<math>\mu</math>V/m)</b>			<b>Limits</b>	<b>Margin (dB)</b>		
	X	Y	Z	(dB $\mu$ V/m)	X	Y	Z
27.145	59.7	58.7	58.0	100.0	40.3	41.3	42.0

<b>Test Frequency (MHz)</b>	<b>Average (dB<math>\mu</math>V/m)</b>			<b>Limits</b>	<b>Margin (dB)</b>		
	X	Y	Z	(dB $\mu$ V/m)	X	Y	Z
27.145	54.8	55.8	53.5	80.0	25.2	24.2	26.5

**Vertical.**

<b>Test Frequency (MHz)</b>	<b>Peak (dB<math>\mu</math>V/m)</b>			<b>Limits</b>	<b>Margin (dB)</b>		
	X	Y	Z	(dB $\mu$ V/m)	X	Y	Z
27.145	73.7	73.1	75.4	100.0	26.3	26.9	24.6

<b>Test Frequency (MHz)</b>	<b>Average (dB<math>\mu</math>V/m)</b>			<b>Limits</b>	<b>Margin (dB)</b>		
	X	Y	Z	(dB $\mu$ V/m)	X	Y	Z
27.145	69.4	68.1	69.8	80.0	10.6	11.9	10.2

Y: EUT as per photograph in section 5.3.3 of this report.

X: As Y, but rotate EUT by 90° clockwise.

Z: As X, but rotate EUT by 90° vertically.

**Other emissions**

Vertical:

Freq	ReadAntenna		Cable Preamp		Limit	Over	Remark	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1 Max	54.290	53.75	6.70	0.70	25.21	35.94	40.00	-4.06 QP
2 Max	81.435	53.04	6.94	0.80	25.12	35.67	40.00	-4.33 QP
3 Max	108.580	51.62	10.60	0.94	25.10	38.06	43.50	-5.44 QP
4	135.725	34.94	10.98	1.05	25.10	21.87	43.50	-21.63 QP
5	162.870	34.29	9.27	1.16	24.88	19.83	43.50	-23.67 QP
6	190.015	44.85	11.00	1.26	24.70	32.41	43.50	-11.09 QP
7	217.160	29.54	10.99	1.37	24.53	17.38	46.00	-28.62 QP
8	244.305	44.15	10.95	1.48	24.42	32.15	46.00	-13.85 QP
9	271.450	34.80	12.57	1.54	24.40	24.52	46.00	-21.48 QP

Horizontal:

Freq	ReadAntenna		Cable Preamp		Limit	Over	Remark	
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1 Max	54.290	48.47	9.93	0.70	25.21	33.89	40.00	-6.11 QP
2	81.435	39.89	9.47	0.80	25.12	25.04	40.00	-14.96 QP
3	108.580	33.73	12.51	0.94	25.10	22.08	43.50	-21.42 QP
4	135.725	30.72	11.88	1.05	25.10	18.55	43.50	-24.95 QP
5	162.870	32.07	9.84	1.16	24.88	18.19	43.50	-25.31 QP
6	190.015	32.15	8.93	1.26	24.70	17.64	43.50	-25.86 QP
7	217.160	33.78	10.56	1.37	24.53	21.19	46.00	-24.81 QP
8	244.305	27.94	12.35	1.48	24.42	17.34	46.00	-28.66 QP
9	271.450	25.18	12.65	1.54	24.40	14.97	46.00	-31.03 QP

**Remark:**

According to 15.35 (b) When average radiated emission measurements are specified in the regulations, including emission measurements below 1000 MHz, there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules, e.g., see Section 15.255.

**Test Results: The unit does meet the FCC Part 15 C Section 15.227 requirements.**

### **5.3.2 Occupied Bandwidth**

Test Requirement: FCC Part 15 C Section 15.215 (C)

Test Method: ANSI C63.4 section 13 & FCC Part 2.1049

Operation within the band 26.960 – 27.280 MHz

Test Date: 19 May 2006 (Initial test)

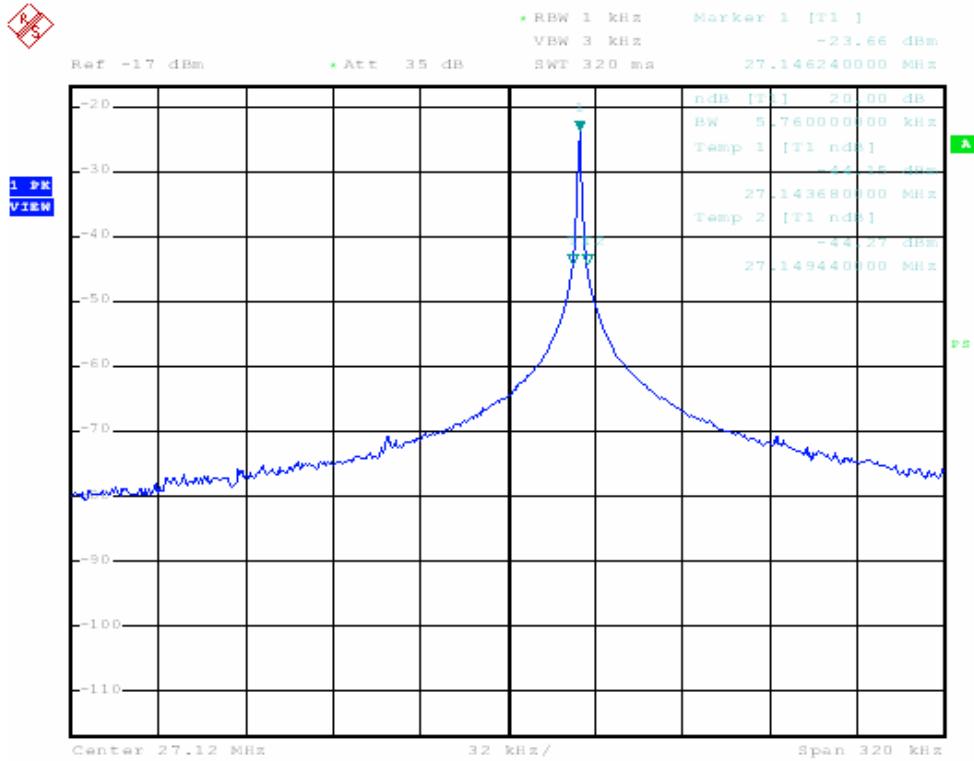
05 June 2006 (Test after modification)

Requirements: Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the 20 dB bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Test procedure: Supply the EUT with nominal ac voltage, or install a new or a fully charged battery in the EUT. Turn on the EUT, and set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the specified bandwidth or -26dB. Adjust the spectrum analyzer resolution bandwidth, sweep rate, and frequency scan with consideration to the frequency used for modulation , so that the display is calibrated.

Method of measurement: The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector. The vertical Scale is set to 10dB per division. The horizontal scale is set to 32KHz per division.

The graph as below, represents the emissions take for this device.



Date: 5.JUN.2006 18:05:30

The results: The unit does meet the FCC Part 15 C Section 15.215 requirements.