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RF Exposure Evaluation Report

Application No.: SZEM1601000130CR (SGS SZ No.:T51510270125EM)

Applicant: KID GALAXY INC

Product Name: 2.4G Claw Climber RC tiger, 2.4G Claw Climber RC cheetah, 2.4G Claw

Climber RC rhino

Model No.(EUT): 10300

Add Model No.: 10301, 10302 **FCC ID:** QEA-T689-24GR

Standards: 47 CFR Part 1.1307 (2015)

47 CFR Part 1.1310 (2015)

Date of Receipt: 2016-01-08

Date of Test: 2016-02-02 to 2016-03-02

Date of Issue: 2016-03-04

Test Result : PASS*

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Jack Zhang EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. 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.

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Report No.: SZEM160100013004

Page: 2 of 8

2 Version

Revision Record					
Version	Chapter	Date	Modifier	Remark	
00		2016-03-04		Original	

Authorized for issue by:		
Tested By	Peter Geng) /Project Engineer	2016-03-02 ————————————————————————————————————
Prepared By	Iris Zhou	2016-03-04 Date
Checked By	(Iris Zhou) /Clerk Eyi C Fu (Eric Fu) /Reviewer	2016-03-04 Date



Report No.: SZEM160100013004

Page: 3 of 8

3 Contents

		Page
1	COVER PAGE	1
2	P VERSION	2
3	CONTENTS	3
4	GENERAL INFORMATION	4
	4.1 CLIENT INFORMATION. 4.2 GENERAL DESCRIPTION OF EUT. 4.3 TEST LOCATION. 4.4 TEST FACILITY. 4.5 DEVIATION FROM STANDARDS. 4.6 ABNORMALITIES FROM STANDARD CONDITIONS. 4.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER.	
5		
	5.1 RF EXPOSURE COMPLIANCE REQUIREMENT. 5.1.1 Limits	7 7
	4.1.3 EUT RF EXPOSURE EVALUATION	8



Report No.: SZEM160100013004

Page: 4 of 8

4 General Information

4.1 Client Information

Applicant:	KID GALAXY INC.
Address of Applicant:	150 Dow Street, Tower 2, Unit 425B, Manchester, New Hampshire 03101 U.S.A

4.2 General Description of EUT

Product Name:	2.4G Claw Climber RC tiger, 2.4G Claw Climber RC cheetah, 2.4G Claw Climber RC rhino
Model No.:	10300
Country of Origin:	CHINA
Request Age Grading:	5+
Operation Frequency:	2.4GHz Wireless (2405MHz, 2415MHz, 2428MHz, 2442MHz, 2458MHz, 2468MHz)
Modulation Type:	GFSK
Number of Channel:	6 (declared by the client)
Sample Type:	Mobile production
Antenna Type	Integral
Antenna Gain	0dBi
Power Supply:	9.0V DC (6 x 1.5V "AA" Size Battery)

Remark:

Model No.: 10300, 10301, 10302

Only the model 10300 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for all above models. Only different on shape and color.



Report No.: SZEM160100013004

Page: 5 of 8

4.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.4 Test Facility

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

• CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• FCC - Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen 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 No.: 556682.

Industry Canada (IC)

The 3m Semi-anechoic chambers and the 10m Semi-anechoic chambers of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-2, 4620C-3.

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

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Report No.: SZEM160100013004

Page: 6 of 8

4.7 Other Information Requested by the Customer

None.



Report No.: SZEM160100013004

Page: 7 of 8

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

Table 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)			
(A) Limits for Occupational/Controlled Exposures							
0.3–3.0	614 1842/f	1.63 4.89/f 0.163	*(100) *(900/f²)	6 6			
30–300 300–1500 1500–100,000	61.4	0.163	1.0 f/300 5	6			
(B) Limits for General Population/Uncontrolled Exposure							
0.3–1.34 1.34–30 30–300	614 824/f 27.5	1.63 2.19/f 0.073	*(100) *(180/f²) 0.2	30 30 30			
300–1500			f/1500 1.0	30 30			

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4* Pi * R 2)

Where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

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Report No.: SZEM160100013004

Page: 8 of 8

4.1.3 EUT RF Exposure Evaluation

Antenna Gain: 0dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency	Max Conducted	Output Power	Power Density	Limit	Result
	(MHz)	Peak Output	to Antenna	at R = 20 cm		
		Power (dBm)	(mW)	(mW/cm ²)		
Middle	2442	-17.49	0.033	0.0000066	1.0	PASS

Note: Refer to report No. SZEM160100013003 for EUT test Max Conducted Peak Output Power value.

The distance r (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.