SGS-CSTC Standards Technical Services Ltd.

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FCC REPORT

Application No. :	SZEM1203001160RF
Applicant:	NEW SUNNY TOYS INDUSTRIAL CO.,LTD.
Manufacturer:	NEW SUNNY TOYS INDUSTRIAL CO.,LTD.
Factory:	NEW SUNNY TOYS INDUSTRIAL CO.,LTD.
Product Name:	1:18 RC Baja Buggy
Model No.(EUT):	10187
Add Model No.:	9112A, 9112B, 9112C
FCC ID:	T9D-NST10187
Standards:	FCC CFR Title 47 Part 15 (2010)
Date of Receipt:	2012-03-20
Date of Test:	2012-03-21 to 2012-05-09
Date of Issue:	2012-05-10
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.

2 Test Summary

Test Item	Test Requirement	Test method	Result
Radiated Emission (30MHz to 1GHz)	FCC CFR Title 47 Part 15C Section 15.235	ANSI C63.10 (2009)	PASS
Occupied Bandwidth	FCC CFR Title 47 Part 15C Section 15.235	ANSI C63.10 (2009)	PASS

Remark:

Model No.: 10187, 9112A, 9112B, 9112C

Only the Model No. 10187 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for all above models. Only different on model number and color.

3 Contents

4 General Information

4.1 Client Information

Applicant:	NEW SUNNY TOYS INDUSTRIAL CO.,LTD.
Address of Applicant:	Fengxin 2nd Rd., Chenghai Shantou city, Guangdong, China
Manufacturer:	NEW SUNNY TOYS INDUSTRIAL CO.,LTD.
Address of Manufacturer:	Fengxin 2nd Rd., Chenghai Shantou city, Guangdong, China
Factory:	NEW SUNNY TOYS INDUSTRIAL CO.,LTD.
Address of Factory:	Fengxin 2nd Rd., Chenghai Shantou city, Guangdong, China

4.2 General Description of EUT

Name:	1:18 RC Baja Buggy
Model No.:	10187, 9112A, 9112B, 9112C
Sample Type:	Portable production
Operation Frequency:	49.860MHz
Antenna Type:	Integral
Power Supply:	3.0V DC (1.5V x 2 ″AA″ Size Batteries)
Test Voltage:	3.0V

4.3 Test Environment and Mode

Operating Environment:	
Temperature:	26.0 °C
Humidity:	51 % RH
Atmospheric Pressure:	1006mbar
Test mode:	
Transmitting mode:	Keep the EUT in transmitting mode continuously with modulated signal.

4.4 Description of Support Units

The EUT has been tested independent unit.

4.5 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.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.6 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.
- **VCCI**
  The 3m Semi-anechoic chamber, Full-anechoic Chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197, G-416, 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 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.: 4620C-1.

4.7 Deviation from Standards

None.

4.8 Abnormalities from Standard Conditions

None.

4.9 Other Information Requested by the Customer

None.

4.10 Test Instruments List

RE in Chamber					
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Due date (yyyy-mm-dd)**
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2012-06-10
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2012-05-26
3	EMI Test software	AUDIX	E3	SEL0050	N/A
4	Coaxial cable	SGS	N/A	SEL0028	2012-05-29
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2012-10-29
6	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2012-10-29
7	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2012-05-26

RF conducted					
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Due date (yyyy-mm-dd)**
1	Spectrum Analyzer	Rohde & Schwarz	FSP 30	SEL0154	2012-10-23
2	Coaxial cable	SGS	N/A	SEL0028	2012-05-29

General used equipment					
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Due date (yyyy-mm-dd)**
1	Humidity/ Temperature Indicator	Shanghai	ZJ1-2B	SEL0102 to SEL0103	2012-10-27
2	Humidity/ Temperature Indicator	Shanghai	ZJ1-2B	SEL0101	2012-10-27
3	Barometer	ChangChun	DYM3	SEL0088	2012-05-18

5 Test Result & Measurement Data

5.1 Antenna Requirement

Standard requirement:	FCC Part15 C Section 15.203

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

5.2 Radiated Emissions

Test Requirement:	FCC Part15 C Section 15.235
Test Method:	ANSI C63.10: 2009
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value

Limit: (Field strength of the fundamental signal)

Carrier frequency will not exceed 80dBuV/m AT 3m.

Frequency	Limit (dBuV/m @3m)	Remark
49.860MHz	80	Average Value
	100	Peak Value

Limit: (Spurious Emissions)

Out of band emissions shall not exceed:

Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Test Procedure:	a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. g. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.
Test Setup:	

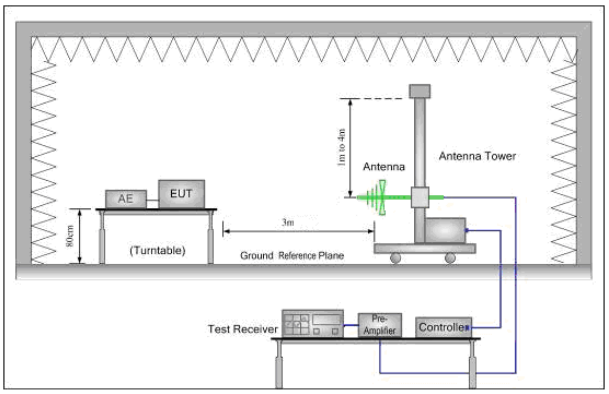


Figure 1. 30MHz to 1GHz

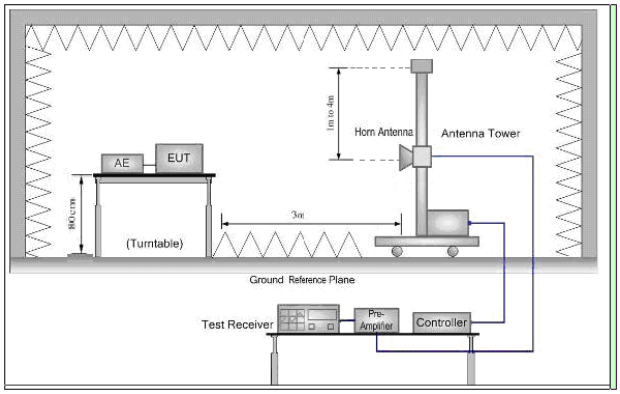


Figure 2. Above 1 GHz

Test Mode:	Transmitter mode
Test Instruments:	Refer to section 4.10 for details
Test Results:	Pass

Measurement Data

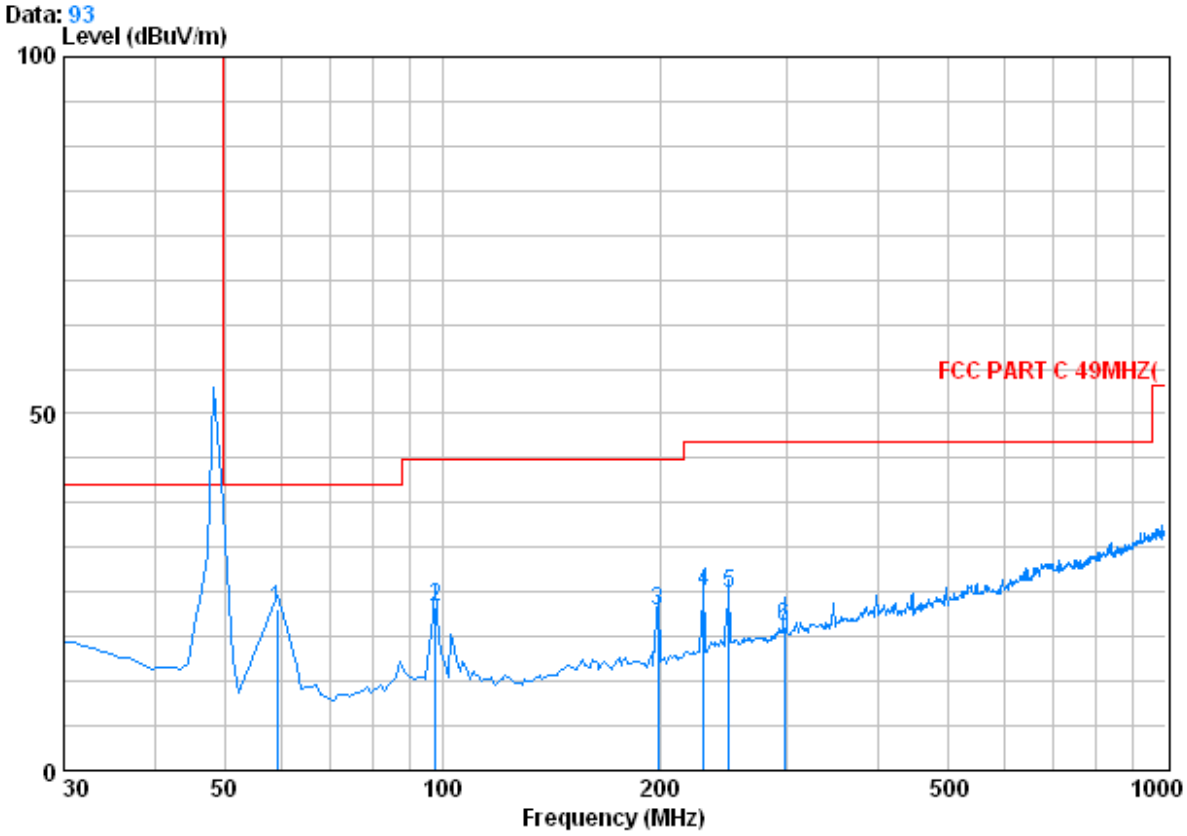
Intentional emission

Test Frequency (MHz)	Peak (dBμV/m)		Limits (dBμV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
49.860	53.41	29.56	100.0	46.59	70.44

Test Frequency (MHz)	Average (dBμV/m)		Limits (dBμV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
49.860	51.92	27.06	80.0	28.08	52.94

Other emissions (QP value)

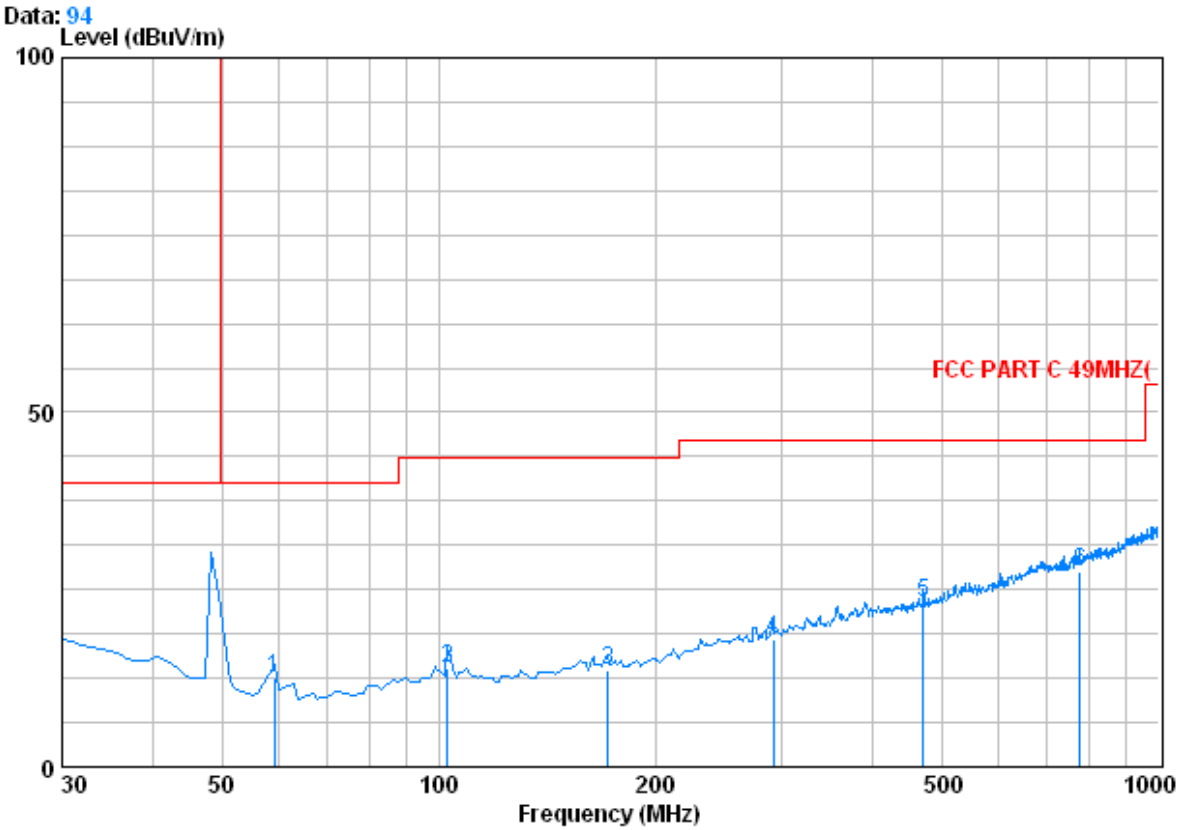
Vertical



Condition : FCC PART C 49MHZ(3m 0042673 VERTICAL
Job No. : 1160RF
Mode : TX ON

	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 @	59.100	0.80	7.27	27.27	41.86	22.65	40.00	-17.35
2	97.900	1.18	9.02	27.20	39.92	22.92	43.50	-20.58
3	198.780	1.40	10.19	26.70	37.57	22.45	43.50	-21.05
4	229.820	1.57	11.64	26.59	38.55	25.17	46.00	-20.83
5	249.220	1.67	12.27	26.54	37.35	24.76	46.00	-21.24
6	296.750	1.88	13.76	26.41	31.00	20.24	46.00	-25.76

Horizontal



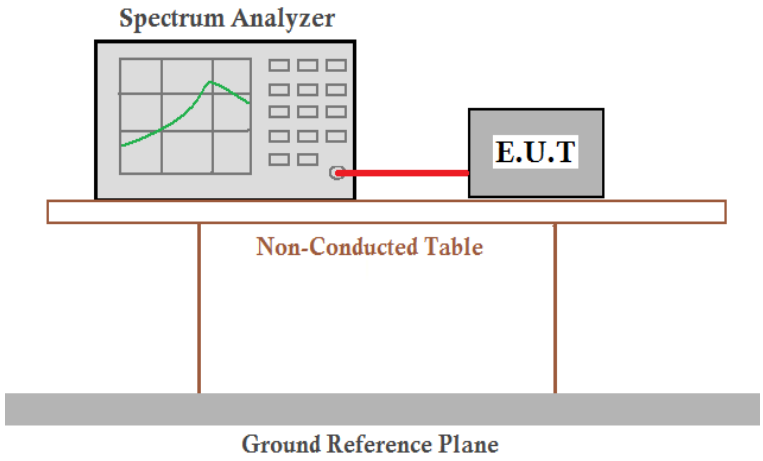
Condition : FCC PART C 49MHZ(3m 0042673 HORIZONTAL
Job No. : 1160RF
Mode : TX ON

	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	59.100	0.80	7.31	27.27	31.58	12.42	40.00	-27.58
2	102.750	1.21	8.97	27.18	30.88	13.87	43.50	-29.63
3	171.620	1.36	9.55	26.81	29.59	13.69	43.50	-29.81
4	291.900	1.86	13.53	26.42	29.08	18.06	46.00	-27.94
5	471.350	2.49	17.67	27.56	30.54	23.14	46.00	-22.86
6	776.900	3.13	22.01	27.32	29.59	27.41	46.00	-18.59

Note:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

5.3 Occupied Bandwidth

Test Requirement:	FCC Part15 C Section 15.235
Test Method:	ANSI C63.10: 2009
Limit::	The field strength of any emissions appearing between the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 26 dB below the level of the un-modulated carrier or to the general limits in Section 15.209, whichever permits the higher emission levels.
Test Setup:	
Test Mode:	Transmitter mode
Instruments Used:	Refer to section 4.10 for details
Test Results:	Pass

Test plot as follows: