Test Lab
Cert 2951.01

TEST REPORT

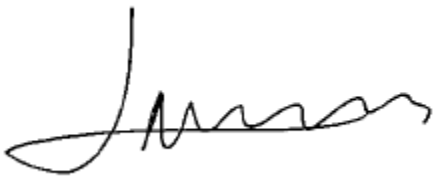
Applicant	Playmates Toys Inc.
Address	22/F, The Toy House, 100 Canton Road, Tsim Sha Tsui, Kowloon, Hong Kong

Manufacturer or Supplier	GuangDong XIN YU Grafts & Toys CO., Ltd.
Address	North of Xing Ye Road, Lai Mei Industrial District, Shan Tou, China
Product	Radio Control Patrol Buggy
Brand Name	Playmates
Model	94338
Additional Model & Model Difference	94335, see item 2.1NOTE
Date of tests	May 15, 2014 ~ May 25, 2014

The submitted sample of the above equipment has been tested for according to the requirements of the following standards:

☒ **FCC Part 15 Subpart B Class B**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Breeze Jiang Project Engineer / EMC Department	Approved by Madison Luo Supervisor / EMC Department
	 Date: May 26, 2014

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FV140513N004	Original release	May 26, 2014

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1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15 Subpart B Class B			
Standard Section	**Test Item**	**Result**	**Remark**
FCC Part 15 Subpart B, Class B	Radiated emission test (30MHz ~ 1GHz)	PASS	Meet the requirement of limit. Minimum passing margin is -5.41dB at 789.77MHz.

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

MEASUREMENT	FREQUENCY	UNCERTAINTY
Radiated emissions	30MHz ~ 1GHz	+/- 4.36 dB

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Radio Control Patrol Buggy
MODEL NO.	94338
ADDITIONAL MODEL	94335
FCC ID	2AAVF-94335R
POWER SUPPLY	DC 4.5 from battery
CABLE SUPPLIED	N/A
THE HIGHEST OPERATING FREQUENCY	49MHz

NOTE:

1. For a more detailed features description, please refer to the product specifications or the User's Manual.

2. For the test results, the EUT had been tested with all conditions, and only the worst case was shown in this test report.

3. Additional model 94335 is identical with the test model 94338 except the model number for marketing purpose.

4. Please refer to the EUT photo document (Reference No.:140513N004) for detailed product photo.

2.2 DESCRIPTION OF TEST MODES

The EUT was tested under the following modes. The final worst mode were marked in boldface and recorded in this report.

◆ **FOR RADIATED TEST:**

Test Mode	Test Voltage
Receiving Mode	**DC 4.5 from battery**

2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit without any other necessary accessory or support units.

3 EMISSION TEST

3.1 RADIATED EMISSION MEASUREMENT

3.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

TEST STANDARD: FCC Part 15, Subpart B (Section: 15.109)

Emissions radiated outside of the specified bands, shall be according to the general radiated limits as following:

Radiated Emissions Limits at 10 meters (dBμV/m)				
Frequencies (MHz)	**FCC 15B/ ICES-003, Class A**	**FCC 15B / ICES-003, Class B**	**CISPR 22, Class A**	**CISPR 22, Class B**
30-88	39	29.5	40	30
88-216	43.5	33.1		
216-230	46.4	35.6		
230-960			47	37
960-1000	49.5	43.5		
1000-3000	Avg: 49.5 Peak: 69.5	Avg: 43.5 Peak: 63.5	Not defined	Not defined
Above 3000			Not defined	Not defined

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	**Range (MHz)**
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

Radiated Emissions Limits at 3 meters (dBμV/m)				
Frequencies (MHz)	**FCC 15B / ICES-003, Class A**	**FCC 15B / ICES-003, Class B**	**CISPR 22, Class A**	**CISPR 22, Class B**
30-88	49.5	40	50.5	40.5
88-216	54	43.5		
216-230	56.9	46		
230-960			57.5	47.5
960-1000	60	54		
1000-3000	Avg: 60 Peak: 80	Avg: 54 Peak: 74	Avg: 56 Peak: 76	Avg: 50 Peak: 70
Above 3000			Avg: 60 Peak: 80	Avg: 54 Peak: 74

NOTE: 1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

3.1.2 TEST INSTRUMENTS

FOR FREQUENCY BELOW 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Agilent	E4446A	MY46180622	April 24,14	April 23,15
EMI Test Receiver	Rohde&Schwarz	ESVD	847398/003	May 14,13	May 13, 14
Bilog Antenna	Teseq	CBL 6111D	27089	Jul. 27, 13	Jul. 26, 14
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-554	Dec. 03, 13	Dec. 02, 14
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-555	Dec. 03, 13	Dec. 02, 14
10m Semi-anechoic Chamber	CHANGLING	21.4m*12.1m*8.8m	NSEMC006	Jun. 11, 13	Jun. 10, 14
Amplifier (9kHz-1GHz)	SONOMA	310D	186955	Mar. 05,14	Mar. 04, 15
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A

FOR FREQUENCY ABOVE 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Agilent	E4446A	MY46180622	April 24,13	April 23,14
Pre-Amplifier (100MHz-26.5GHz)	Agilent	8449B	3008A00409	May 14,13	May 13,14
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 04,13	Nov. 03,14
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
Horn Antenna	ETS-Lindgren	3117	00062558	Oct. 18,12	Oct. 17,14

NOTE: 1. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 10m Chamber.
3. The FCC Site Registration No. is 502831

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Horn Antenna	ETS-Lindgren	3117	00062558	Oct. 18,12	Oct. 17,14

NOTE: 1. The calibration interval of the above test instruments is 24 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 10m Chamber.
3. The FCC Site Registration No. is 502831

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170242	Feb. 13,14	Feb. 12,17

NOTE: 1. The calibration interval of the above test instruments is 36 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 10m Chamber.
3. The FCC Site Registration No. is 502831

3.1.3 TEST PROCEDURE

A signal generator, not the matching transmitter, shall be used to radiate an unmodulated CW signal to a superregenerative receiver at its operating frequency in order to “cohere” or to resolve the individual components of the characteristic broadband emissions from such a receiver. The level of the signal may need to be increased for this to occur.If a superregenerative receiver is tested for radiated emissions with a resistive termination instead of an antenna connected to the antenna input terminals, apply the unmodulated signal at a level of approximately –60 dBm to the antenna terminals, using an impedance-matching network if necessary, to “cohere” the emissions. It may be necessary to adjust the signal level to accomplish this.

The basic test procedure was in accordance with ANSI C63.4:2009 (section 12).

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meters Semi-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.

NOTE:

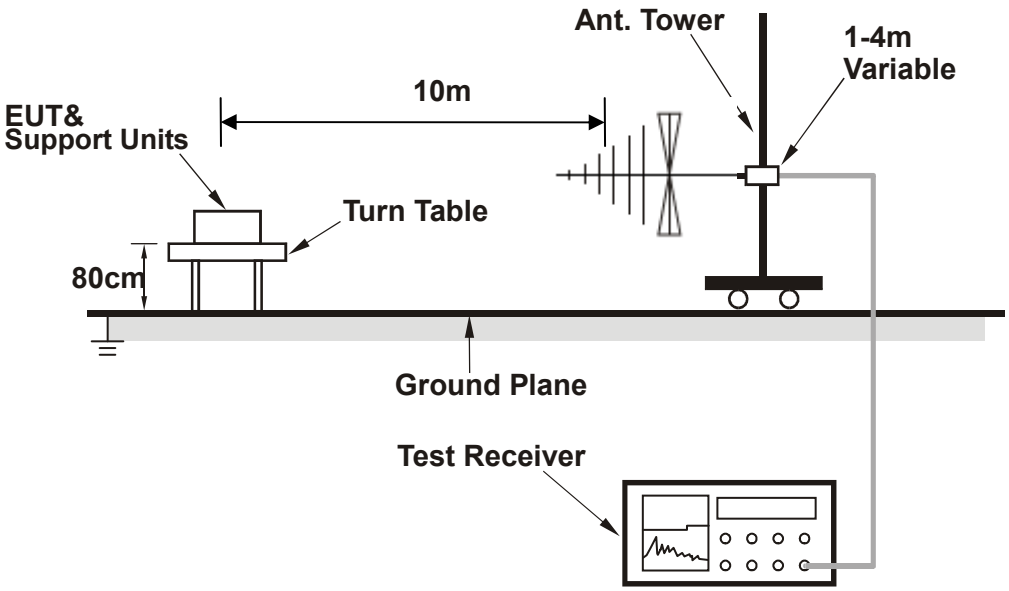
1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. For measurement above 1GHz, the test receiver/spectrum analyzer resolution bandwidth is 1MHz and video bandwidth is 3MHz for Peak detection. For Average measurement, the resolution bandwidth was set to 1MHz and video bandwidth was set to10Hz.
3. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the receiver antenna.
4. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
5. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
6. Margin value = Emission level – Limit value.

3.1.4 DEVIATION FROM TEST STANDARD

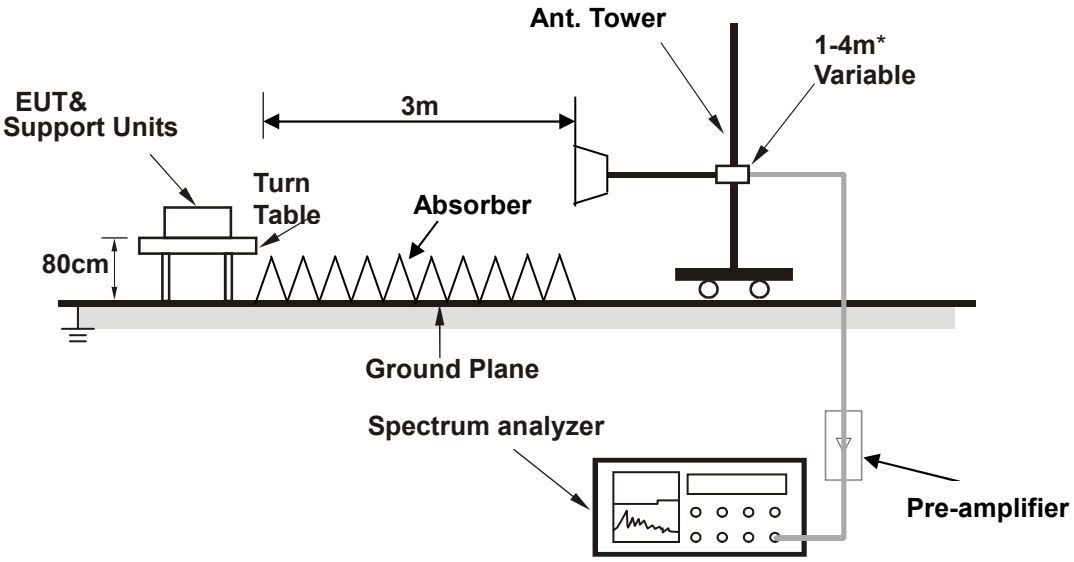
No deviation

3.1.5 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



* : depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

3.1.6 EUT OPERATING CONDITIONS

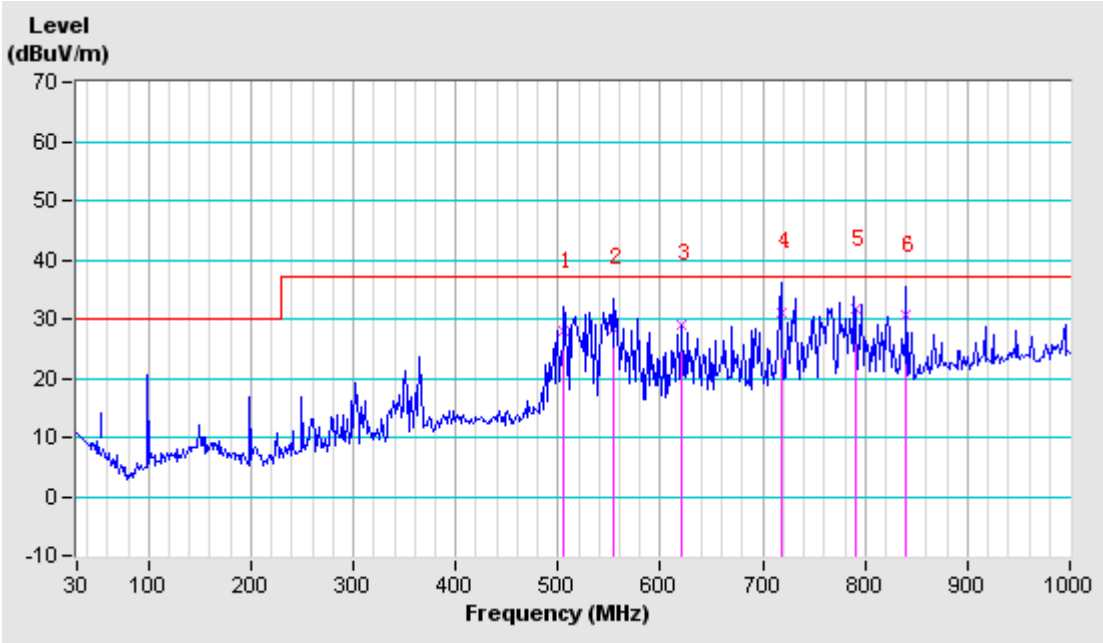
a. Turned on the power of all equipment.
b. EUT was operated according to the type description in manufacturer's specifications or the User's Manual.

3.1.7 TEST RESULTS

TEST MODE	Receiving	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	DC 4.5 from battery	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 54% RH	TESTED BY: Blue	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	505.87	21.33	6.54	27.87	37.00	-9.13	400	255
2	553.44	22.60	5.73	28.33	37.00	-8.67	400	267
3	620.96	24.32	4.73	29.05	37.00	-7.95	355	336
4	717.64	25.99	5.18	31.17	37.00	-5.83	400	278
5	**789.77**	**27.20**	**4.39**	**31.59**	**37.00**	**-5.41**	**372**	**321**
6	840.41	27.73	2.82	30.55	37.00	-6.45	394	302

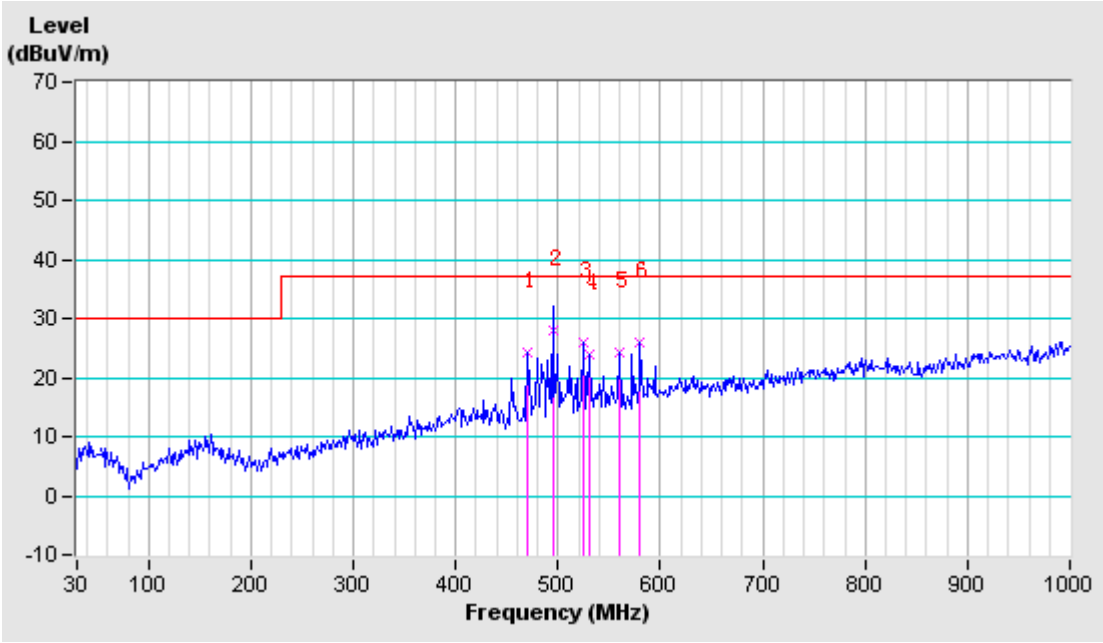
REMARKS: The emission levels of other frequencies were very low against the limit.



TEST MODE	Receiving	**FREQUENCY RANGE**	30-1000MHz
TEST VOLTAGE	DC 4.5 from battery	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 54% RH	**TESTED BY**: Blue	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	469.92	20.66	3.72	24.38	37.00	-12.62	100	178
2	494.79	21.08	7.02	28.10	37.00	-8.90	100	152
3	524.33	21.82	4.17	25.99	37.00	-11.01	100	140
4	530.54	21.98	2.08	24.06	37.00	-12.94	100	207
5	560.08	22.81	1.59	24.40	37.00	-12.60	100	190
6	580.29	23.42	2.65	26.07	37.00	-10.93	100	68

REMARKS: The emission levels of other frequencies were very low against the limit.



4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the test photo document (Reference No.:140328N024)

5 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications were made to the EUT by the lab during the test.

---END---