



BUREAU  
VERITAS

Test Report No.: FC120717N027-2



Test Lab  
Cert 2951.01

# TEST REPORT

Applicant:	Jada Toys Co., Ltd
Address:	Unit 318, 3/F, Tower A, New Mandarin Plaza, No.14 Science Museum Road, TST East, Kowloon, HK

Factory or Supplier:	Jada Toys Co., Ltd	
Address:	Unit 318, 3/F, Tower A, New Mandarin Plaza, No.14 Science Museum Road, TST East, Kowloon, HK	
Product:	7.5" BTM RC	
Brand Name:	N/A	
Model:	83022	
Additional Models & Model Difference:	See Section 2.1	
Date of tests:	July 18, 2012~ July 24, 2012	

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 Glyn He Project Engineer / EMC Department	Approved by Sam Tung Manager/ EMC Department
	Date: July 24, 2012

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	July 24, 2012



# 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

<b>APPLIED STANDARD: FCC Part 15, Subpart B</b>			
<b>Standard Section</b>	<b>Test Item</b>	<b>Result</b>	<b>Remark</b>
15.107	Conducted Emission Test	N/A	N/A
15.109	Radiated Emission Test (30MHz ~ 1GHz)	PASS	Meets Class B Limit Minimum passing margin is -3.19dB at 429.32MHz

## 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.

<b>MEASUREMENT</b>	<b>FREQUENCY</b>	<b>UNCERTAINTY</b>
Conducted emissions	150kHz ~ 30MHz	+/-2.56 dB
Radiated emissions	30MHz ~ 1GHz	+/-3.58 dB



## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	7.5" BTM RC
<b>MODEL NO.</b>	83022, 84113
<b>FCC ID</b>	PWYJT49RX99009
<b>POWER SUPPLY</b>	RX:4.5V DC(Battery)
<b>DATA CABLE SUPPLIED</b>	N/A
<b>THE HIGHEST OPERATING FREQUENCY</b>	49.86MHz

**NOTE:**

1. Additional model 83022 is identical with the test model 84113 except the model number for marketing purpose.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was showed in test report.
3. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

### 2.2 DESCRIPTION OF TEST MODES

The EUT was tested under the following mode.

**For all tests:**

<b>Running</b>

### 2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	N/A	N/A	N/A	N/A	N/A



### 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)

FREQUENCY (MHz)	Class A (at 10m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
30 – 88	90	39.1	100	40.0
88 – 216	150	43.5	150	43.5
216 – 960	210	46.4	200	46.0
960 – 1000	300	49.5	500	54.0

#### 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

#### LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0

- Note: (1) The lower limit shall apply at the transition frequencies.  
(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).  
(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.  
(4) The emission above 1GHz was background, so no data about it.



### 3.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Spectrum Analyzer ROHDE & SCHWARZ	E4446A	MY46180622	May 02, 12	May 01, 13
Test Receiver ROHDE & SCHWARZ	ESVD	847398/003	May 15,12	May 14,13
Bilog Antenna TESEQ	CBL 6111D	27089	July 16,12	July 15,13
Horn Antenna EMCO	3117	00062558	Nov.07,11	Nov.07,12
10m Semi-anechoic Chamber ETS-LINDGREN	21.4m*12.1m*8.8m	NSEMC006	Mar 24,12	Mar 23,13
RF Cable IMRO	IMRO-400	10m Cable 1#10m	May 16,12	May 15,13
RF Cable IMRO	IMRO-400	10m Cable 2#3m	May 16,12	May 15,13
Signal Amplifier SONOMA	310N	186955	Mar. 14,12	Mar. 13,13
Signal Amplifier HP	8449B	3008A00409	May 31,12	May 30,13
RF Cable DRAKA	M06/25-RG102	10m Cable 2#	May 16,12	May 15,13
Test software ADT	ADT_Radiated_V7.6.15	N/A	N/A	N/A

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA.
  2. The test was performed in Dongguan Chamber 10m.
  3. The horn antenna are used only for the measurement of emission frequency above 1GHz if tested.



### 3.1.3 TEST PROCEDURE

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 3 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. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.
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

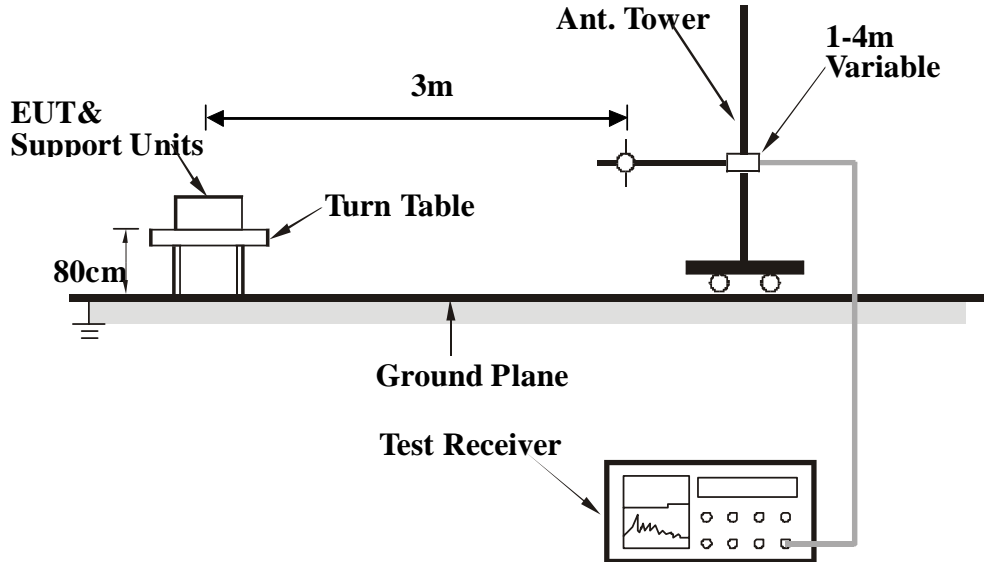
No deviation



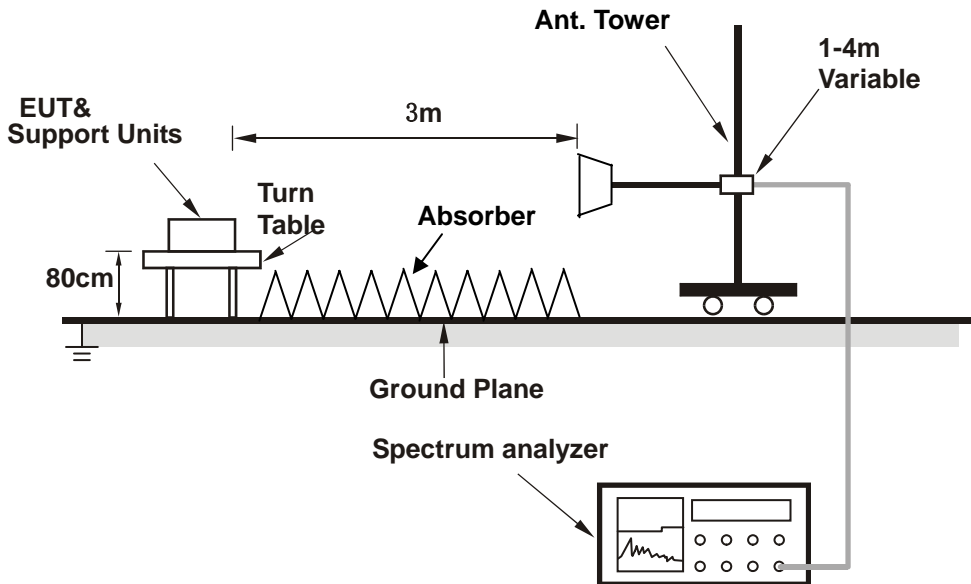


### 3.1.5 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



### 3.1.6 EUT OPERATING CONDITIONS

The test setup has been constructed as the normal use condition. Controlling software (provided by manufacturer) has been activated to set the EUT on specific status.

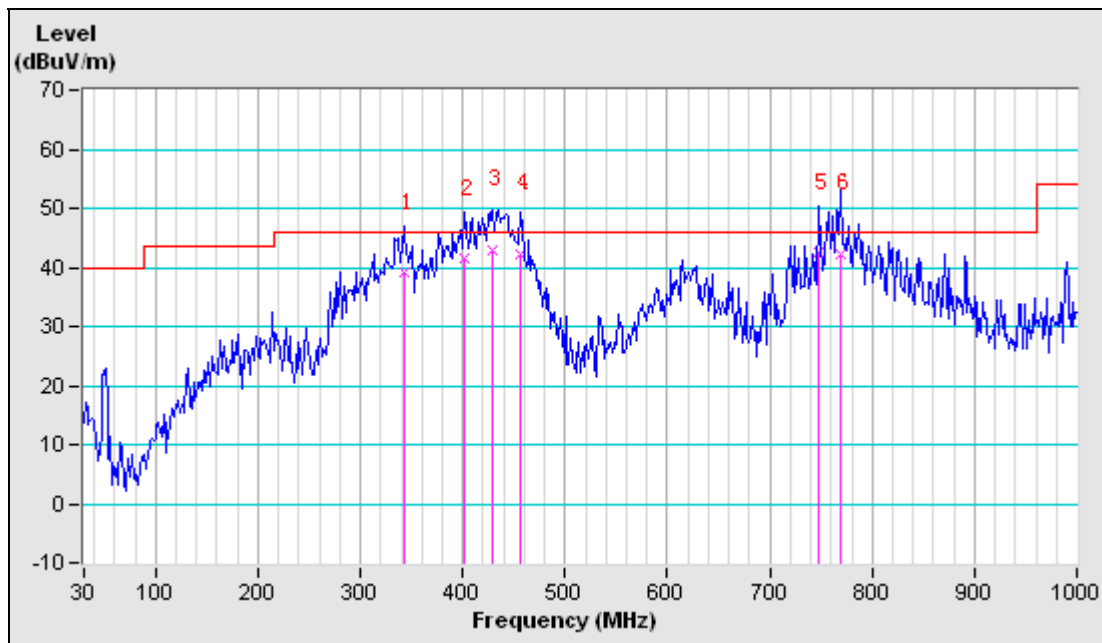


### 3.1.7 TEST RESULTS

<b>TEST MODE</b>	Running	<b>FREQUENCY RANGE</b>	30-1000MHz
<b>TEST VOLTAGE</b>	RX:4.5V DC(Battery)	<b>DETECTOR FUNCTION &amp; RESOLUTION BANDWIDTH</b>	Quasi-Peak, 120kHz
<b>ENVIRONMENTAL CONDITIONS</b>	25deg. C, 50% RH	<b>TESTED BY:</b> Glyn	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 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	342.02	16.16	22.85	39.01	46	-6.99	100	142
2	401.83	17.96	23.44	41.4	46	-4.60	100	114
3	429.32	18.71	24.1	42.81	46	-3.19	100	0
4	456.8	19.27	22.99	42.26	46	-3.74	100	79
5	747.8	25.25	17.19	42.44	46	-3.56	100	172
6	768.82	25.36	16.79	42.15	46	-3.85	100	60

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

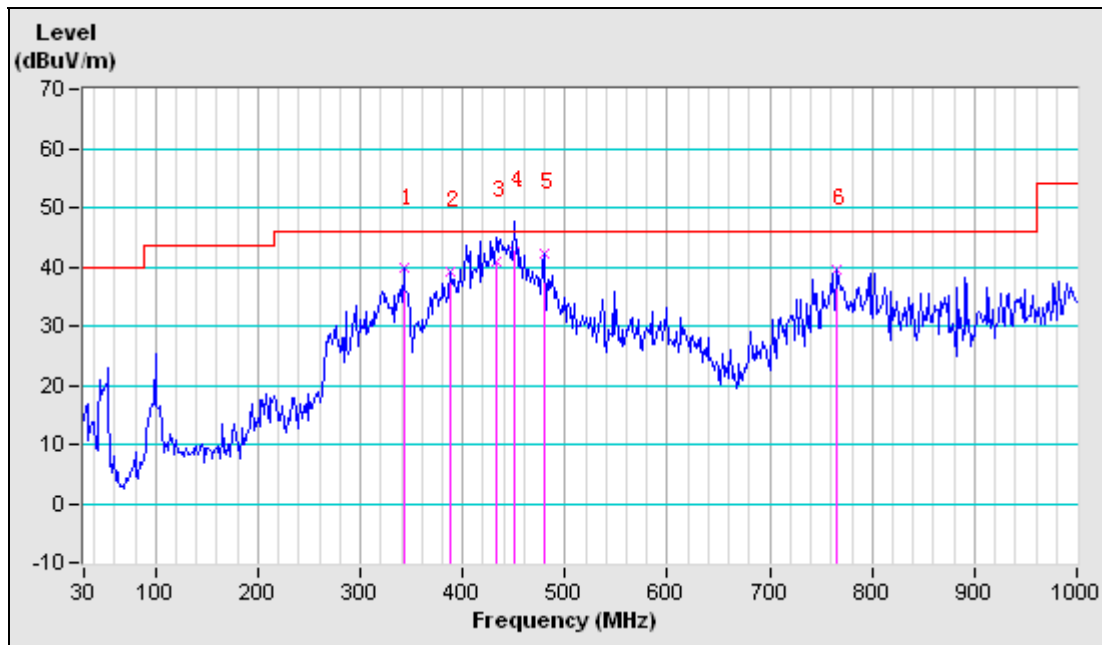




<b>TEST MODE</b>	Running	<b>FREQUENCY RANGE</b>	30-1000MHz
<b>TEST VOLTAGE</b>	RX:4.5V DC(Battery)	<b>DETECTOR FUNCTION &amp; RESOLUTION BANDWIDTH</b>	Quasi-Peak, 120kHz
<b>ENVIRONMENTAL CONDITIONS</b>	25deg. C, 50% RH	<b>TESTED BY:</b> Glyn	

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
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	342.02	16.16	23.57	39.73	46	-6.27	100	299
2	387.28	17.31	21.92	39.23	46	-6.77	100	137
3	432.55	18.75	22.03	40.78	46	-5.22	100	0
4	450.33	19.06	23.53	42.59	46	-3.41	100	0
5	479.43	19.9	22.29	42.19	46	-3.81	100	194
6	765.58	25.34	14.27	39.61	46	-6.39	100	162

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





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## 4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).



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## 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---