



**BUREAU
VERITAS**

Test Report No.: FD130909N033



Test Lab
Cert 2951.01

TEST REPORT



Applicant	JINLIFENG TOYS FACTORY
Address	YUNER INDUSTRIAL AREA, LIANXIA TOWN, CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, CHINA

Manufacturer or Supplier	JINLIFENG TOYS FACTORY
Address	YUNER INDUSTRIAL AREA, LIANXIA TOWN, CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, CHINA
Product	telecar
Brand Name	N/A
Model	3388-48
Additional Model & Model Difference	3388-43, 3388-45, 3388-47 etc. See item 2.1
Date of tests	Sep. 09, 2013 ~ Sep. 17, 2013

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:2012**

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

Tested by Endy Li Project Engineer / EMC Department	Approved by Madison Luo Supervisor / EMC Department
	 Date: Sep. 23, 2013

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification



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Test Report No.: FD130909N033

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FD130909N033	Original release	Sep. 23, 2013



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD			
Standard Section	Test Item	Result	Remark
FCC Part 15, Subpart B, Class B	Radiated Emission Test (30MHz ~ 1GHz)	PASS	Meets Class B Limit Minimum passing margin is -3.42 dB at 249.22 MHz
	Radiated Emission Test (Above 1GHz)	N/A	For the highest operating frequency of the EUT is below 108MHz, so there is no need for this test.

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 ~ 1000MHz	+/-4.12 dB



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	telecar
MODEL NO.	3388-48
ADDITIONAL MODEL	3388-43、3388-45、3388-47、3388-44、3388-46、 3388-49、3388-50、3388-51、3388-52、3388-53、 3388-54、3388-55、3388-56、3388-57
POWER SUPPLY	TX: DC 3V(Battery) RX: DC 4.5V(Battery)
DATA CABLE SUPPLIED	N/A
THE HIGHEST OPERATING FREQUENCY	49MHz

NOTE:

1. For the EUT is powered by battery, so there is no need for conduction test.
2. Additional models 3388-43、3388-45、3388-47、3388-44、3388-46、3388-49、3388-50、3388-51、3388-52、3388-53、3388-54、3388-55、3388-56、3388-57 are identical with the test model 3388-48 except the appearance and model number for marketing purpose.
3. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
4. For the test results, the EUT had been tested with all conditions. But only the worst case was showed in test report.



2.2 DESCRIPTION OF TEST MODES

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

◆ FOR Radiated Emission Test:

Test Mode
RX On

Remark: To let the RX on, we could transmit a modulated signal to the RX by signal generator.

2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together without any other necessary accessories 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)

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.



3.1.2 TEST INSTRUMENTS

FOR FREQUENCY BELOW 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESVS10	841431/004	May 19, 2013	May 19, 2014
Bilog Antenna	Teseq	CBL 6111D	30643	Jul. 27, 2013	Jul. 26, 2014
EMI Test Receiver	Rohde&Schwarz	ESPI	100302	May 19, 2013	May 19, 2014
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	Mar. 24, 2013	Mar. 23, 2014
Signal Amplifier	Agilent	8447D	2944A10488	N/A	N/A
Test software	ADT	ADT_Radiate d_V7.5.4	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, GRGT/CHINA and NIM/CHINA.
2. The test was performed in Chamber 966.

FOR FREQUENCY ABOVE 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Horn Antenna	EMCO	3117	00062558	Oct.18, 2012	Oct.17, 2013
Spectrum Analyzer	Agilent	E4446A	MY46180622	April 24, 2013	April 23, 2014
Spectrum Analyzer (9KHz-25GHz)	Agilent	E7405A	MY45118807	May 14, 2013	May 13, 2014
Pre-Amplifier (100MHz-26.5GHz)	Agilent	8449B	3008A00409	May 14, 2013	May 13, 2014
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 04, 2012	Nov. 03, 2013
Test Software	ADT	ADT_Radiated_V 7.6.15	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, 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

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 3 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 (below 1GHz) and 3 meters (above 1GHz) 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. $\text{Emission level(dBuV/m)} = \text{Raw Value(dBuV)} + \text{Correction Factor(dB/m)}$
5. $\text{Correction Factor(dB/m)} = \text{Antenna Factor (dB/m)} + \text{Cable Factor (dB)}$
6. $\text{Margin value} = \text{Emission level} - \text{Limit value}.$

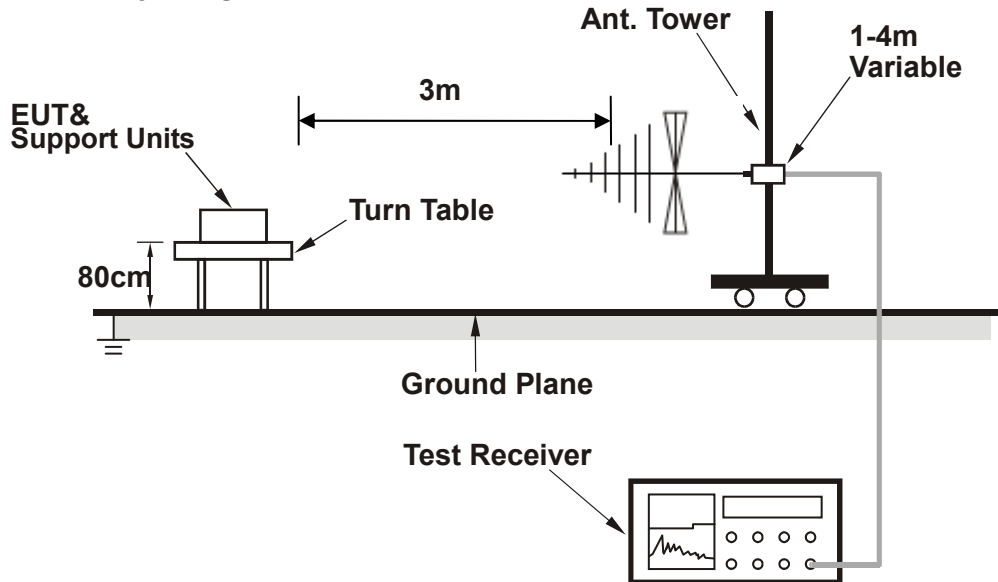
3.1.4 DEVIATION FROM TEST STANDARD

No deviation

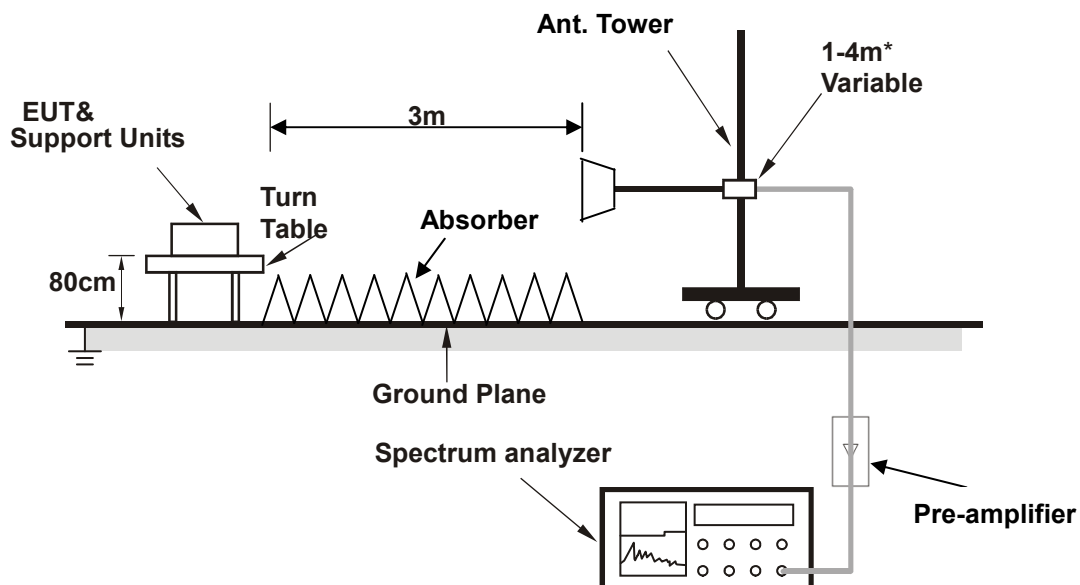


3.1.5 TEST SETUP

<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

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

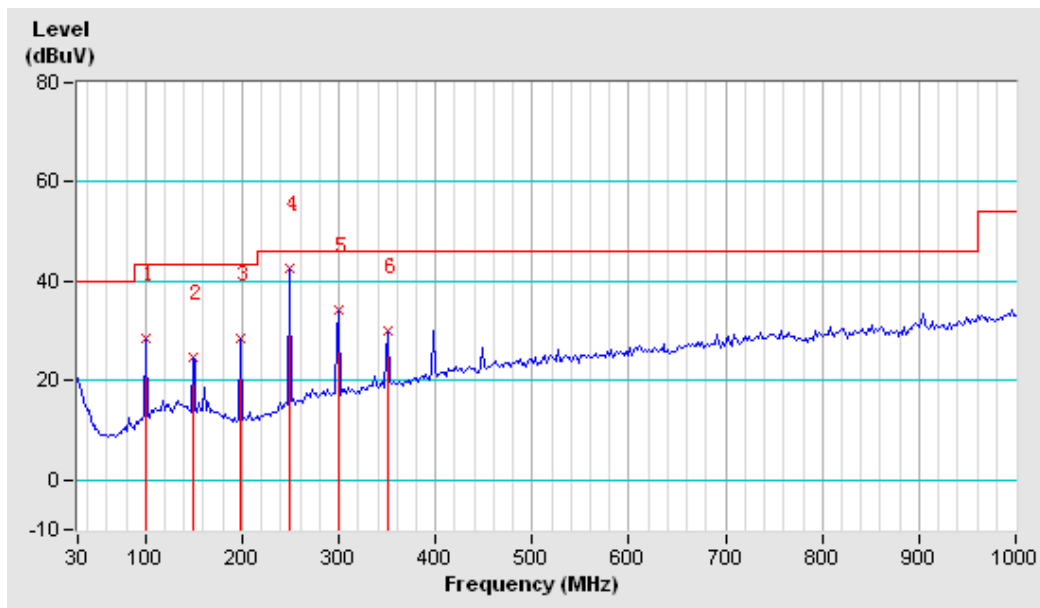


3.1.7 TEST RESULTS

TEST MODE	See item 2.2	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	RX : DC 4.5V	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	24deg. C, 59% RH	TESTED BY: Robert	

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	99.84	10.72	17.84	28.56	43.50	-14.94	233	124
2	148.34	12.65	12.14	24.79	43.50	-18.71	250	87
3	198.78	10.12	18.31	28.43	43.50	-15.07	202	170
4	249.22	14.00	28.58	42.58	46.00	-3.42	169	219
5	299.66	16.04	18.13	34.17	46.00	-11.83	141	263
6	350.10	17.49	12.68	30.17	46.00	-15.83	250	50

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



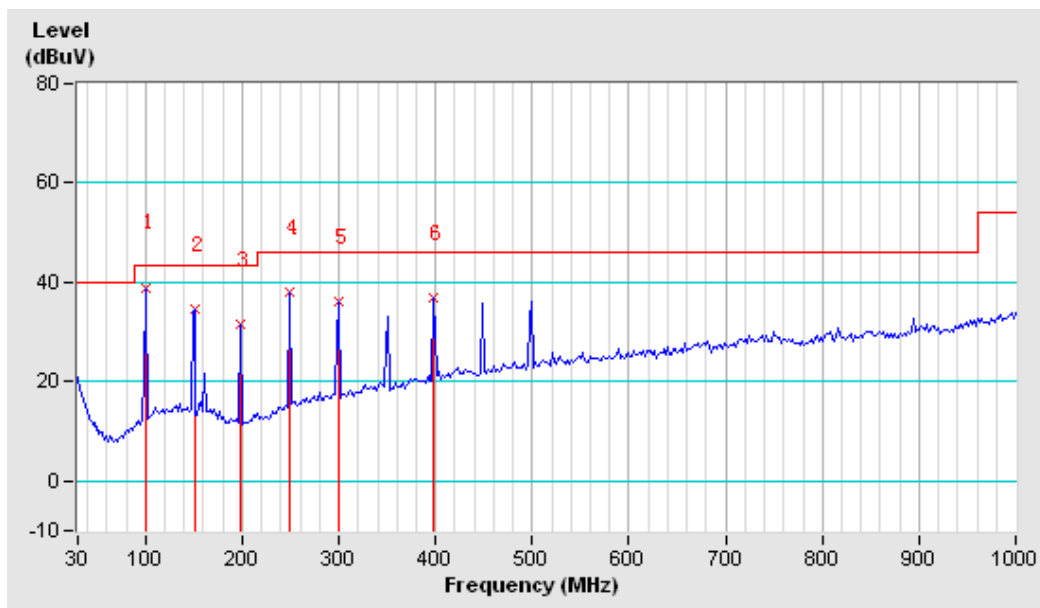


TEST MODE	See item 2.2	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	RX : DC 4.5V	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	24deg. C, 59% RH	TESTED BY: Robert	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL 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	99.84	10.72	28.27	39.00	43.50	-4.50	238	46
2	150.28	12.62	21.82	34.44	43.50	-9.06	211	87
3	198.78	10.12	21.54	31.66	43.50	-11.84	177	137
4	249.22	14.00	23.90	37.90	46.00	-8.10	145	185
5	299.66	16.04	20.14	36.18	46.00	-9.82	104	246
6	398.60	19.20	17.66	36.86	46.00	-9.14	100	285

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 attached file (Test Setup Photo).

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---