Lab Code: 200707-0

FCC PART 15.235

TEST REPORT

For

COLORFUL TOY INTERNATIONAL LIMITED

RM.67, 1/F., TOWER 2, SOUTH SEAS CENTRE, 75 MODY RD.,
T .S.T. EAST, KLN., HONG KONG

FCC ID: OL8SF49HY12T

Report Type:	Product Type:
Original Report	R/C VEHICLE

Test Engineer:	Tiger Ye
Report Number:	RSZ120629818-00
Report Date:	2012-07-20
Reviewed By:	Alvin Huang RF Leader
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *COLORFUL TOY INTERNATIONAL LIMITED'* s product, model number: *952 (FCC ID: OL8SF49HY12T)* or the "EUT" in this report is a transmitter of the *R/C VEHICLE,* which measures approximately: 10.0 cm (L) x 5.0 cm (W) x 3.5 cm (H), rated input voltage: DC 3V Battery.

Note: The series products, model 952, 953, 954, 955, 956, 920, 921, 922 and 923 are electrically identical, they are just different in model number, the model 952 was selected for fully testing, which was explained in the attached declaration letter.

** All measurement and test data in this report was gathered from production sample serial number: 1206291 (Assigned by BACL, Shenzhen). The EUT was received on 2012-06-29.*

Objective

This Type approval report is prepared on behalf of *COLORFUL TOY INTERNATIONAL LIMITED* in accordance with Part 2, Subpart J, and Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC rules, section 15.203, 15.205, 15.209 and 15.235 rules.

Related Submittal(s)/Grant(s)

Part 15B CYY transmitter submissions with FCC ID: OL8SF49HY12R

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2009. American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

The current scope of accreditations can be found at http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

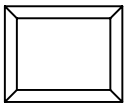
Justification

The system was configured for test mode.

Equipment Modifications

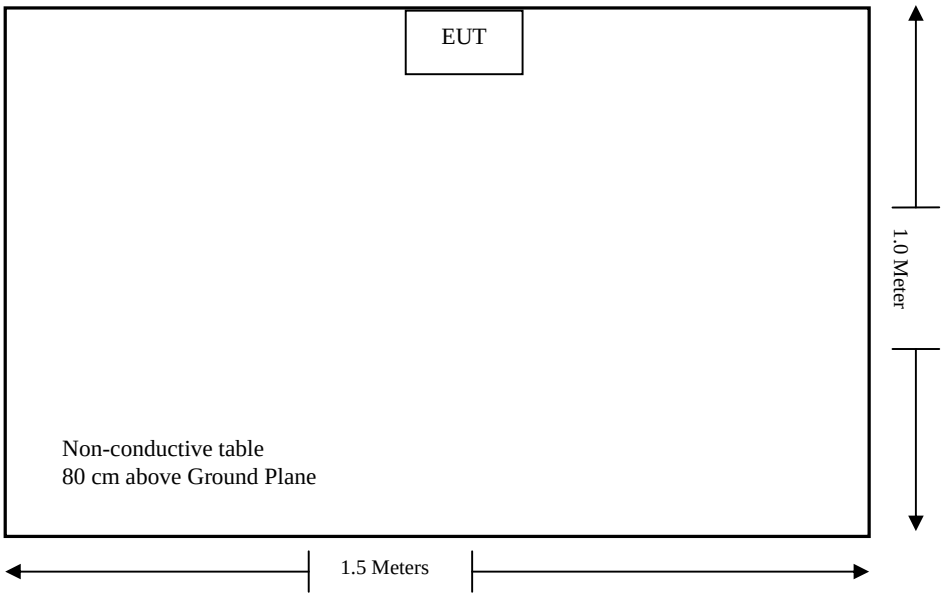
No modifications were made to the unit tested.

Configuration of Test Setup



EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna requirement	Compliance
§15.207(a)	AC Line Conducted Emissions	N/A*
§15.205; §15.209 §15.235	Radiated Emissions	Compliance
§15.235(b)	Band Edge Testing	Compliance

Note: N/A* EUT is battery operation.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

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 shall be considered sufficient to comply with the provisions of this section.

This product has a permanent antenna, fulfill the requirement of this section.

Result: Compliance.

Please refer to the EUT photos.

FCC §15.205, §15.209 & §15.235 - RADIATED EMISSIONS

Applicable Standard

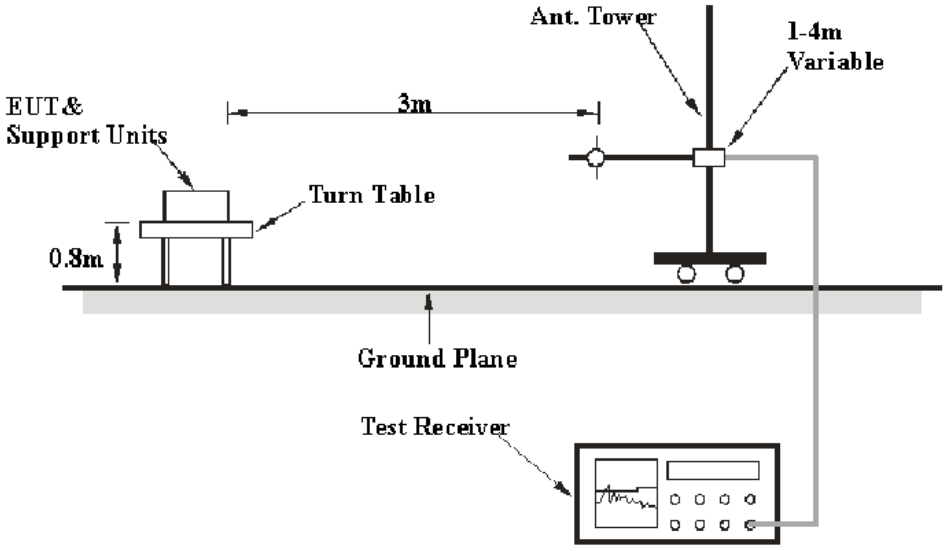
FCC Part 15.205, 15.209 and 15.235

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR 16-4-4, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratory Corp. (Shenzhen) is 4.0 dB (k=2, 95% level of confidence).

EUT Setup



The radiated emission tests were performed in the chamber B test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC part 15.205, 15.209 and 15.235 limits.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 1000 MHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***R B/W***	***Video B/W***	***IF B/W***
30 – 1000 MHz	100 kHz	300 kHz	120 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	8447E	1937A01046	2011-11-24	2012-11-23
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2011-11-17	2012-11-16
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2012-11-27
R&S	Auto test Software	Auto test Software	V6.30	N/A	N/A

*** Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All fundamental data was recorded in the Average and Peak detection mode.

All Spurious data was recorded in the Quasi-Peak detection mode.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the maximum limit. The equation for margin calculation is as follows:

Margin = Limit - Corrected Amplitude

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209 & 15.235, with the worst margin reading of:

0.4 dB at **99.718350 MHz** in the **Vertical** polarization

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

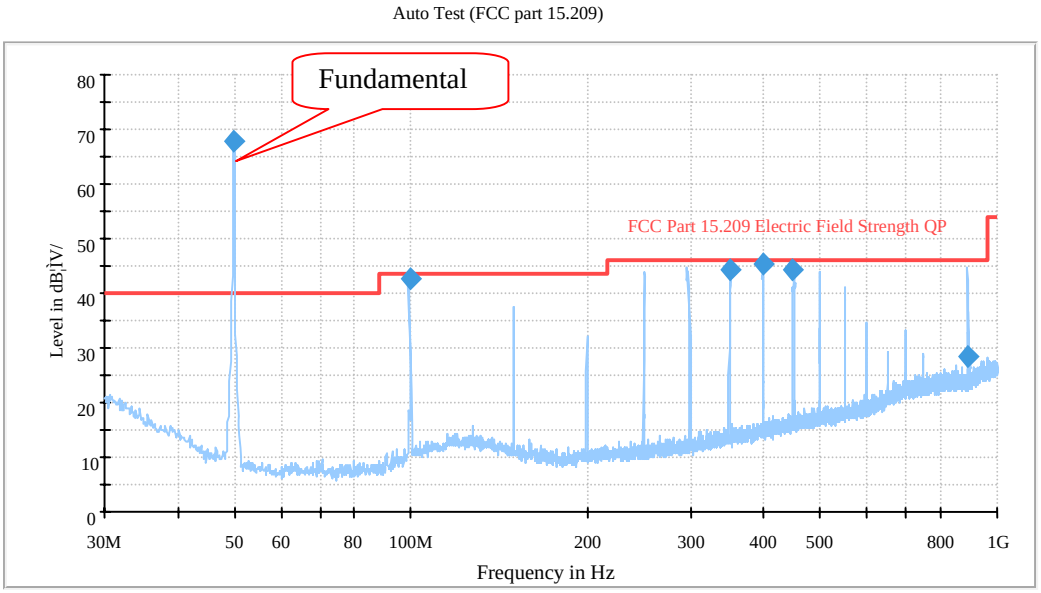
The testing was performed by Tiger Ye on 2012-07-13.

Test Mode: Transmitting

1) Fundamental:

Frequency (MHz)	Receiver		Turn Table Degree	Rx Antenna			Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBuV/m)	FCC Part 15.235	
	Reading (dBµV)	Detector (PK/QP/Ave)		Height (m)	Polar (H/V)	Factor (dB)				Limit (dBuV/m)	Margin (dB)
49.86	95.55	PK	236	1.1	V	7.7	0.21	26.54	76.92	100	23.08
49.86	92.92	Ave.	236	1.1	V	7.7	0.21	26.54	74.29	80	5.71

2) Spurious Emissions:



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Test Antenna		Turntable position (degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
		Height (cm)	Polarity (H/V)				
49.862800	67.5	105.0	V	201.0	-17.3	/	/
99.718350	43.1	106.0	V	283.0	-14.8	43.5	0.4*
399.208900	45.5	137.0	V	116.0	-10.2	46.0	0.5*
449.036800	44.4	127.0	V	117.0	-9.4	46.0	1.6*
349.266800	44.2	164.0	V	328.0	-11.3	46.0	1.8*
893.456200	20.4	104.0	V	126.0	-1.4	46.0	25.6

*Within measurement uncertainty.

FCC §15.235(b) - BAND EDGES TESTING

Applicable Standard

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 unmodulated carrier or to the general limits in §15.209, whichever permits the higher emission levels. The field strength of any emissions removed by more than 10 kHz from the band edges shall not exceed the general radiated emission limits in §15.209. All signals exceeding 20 microvolts/meter at 3 meters shall be reported in the application for certification.

Test Procedure

With the EUT's antenna attached, the EUT's radiated emission power was received by the test antenna which was connected to the test receiver setup with the START and STOP frequencies set to the EUT's operation band.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2011-11-17	2012-11-16
HP	Amplifier	8447E	1937A01046	2011-11-24	2012-11-23
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2012-11-27

*** Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

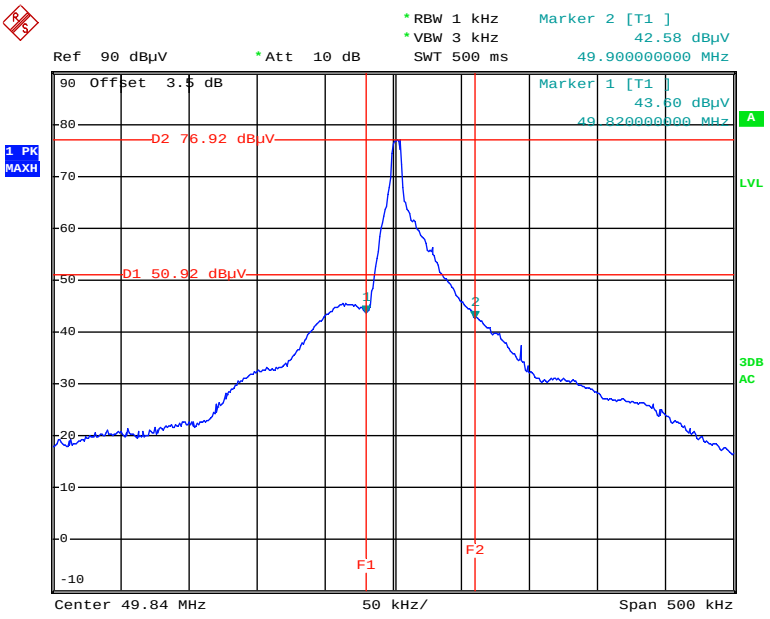
The testing was performed by Tiger Ye on 2012-07-20.

Test Mode: Transmitting

Frequency (MHz)	Emission Level (dBµV/m)	Peak power (dBµV/m)	Attenuation (dB)	Limit (dB)	Result
49.82	43.60	76.92	33.32	26	Compliance
49.90	42.58	76.92	34.34	26	Compliance

Result: Compliance, please refer to the plot attached.

Plot of Band Edge



Date: 20.JUL.2012 13:43:23

DECLARATION LETTER

Product Similarity Declaration

To Whom It May Concern:

We COLORFUL TOY INTERNATIONAL LIMITED ., hereby declare that our R/C VEHICLE for Receiver and Transmitter parts ,we would like to list 9 models on reports, The models are 952、953 、954、955、956、920、921、922、923 . We COLORFUL TOY INTERNATIONAL LIMITED authorize BACL make the 952 as the primarily test model. All the models have the same PCB Schematics, and the same function, the only difference is appearance of color, And the Transmitter have the same PCB Schematics, same function, and the same appearance. It will use for different models (953 、954、955、956、920、921、922、923)!

Please contact me if you have any question.

Sincerely.

For and on behalf of
COLORFUL TOY INTERNATIONAL LIMITED
華 美 玩 具 國 際 有 限 公 司

Signature:

.....
Authorized Signature(s)

President: Jingqing Chen

COLORFUL TOY INTERNATIONAL LIMITED

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Date：18-July-2012

******* END OF REPORT *******