

www.gakkiku.com



Gakkiku Technology Company
3/F., Johnson Industrial Mansion,
340 Kwun Tong Road,
Kwun Tong, Kowloon,
Hong Kong
Tel: (852) 8113 2281
Fax: (852) 2797 0192
Email: info@gakkiku.com

Test Report

Applicant	Bear River International LLC
Address	1011 West 400 North, Suite 110, Logan, Utah 84321, United States
FCC ID Number	FCC ID: ZEZB1349R49
Brand Name(s)	None
Model Number(s)/ Item Number(s)	B1349
Product Description	Wireless Remote Control Toy - RX
Operating Frequency	49.860 MHz
Rules/Standards	Part 15.109 of the FCC Rules, RSS-310 Issue 3 and RSS-Gen Issue 4 of the Industry Canada
Received Date	3rd April, 2015
Tested Date	5th April, 2015
Approved by	Dick Chan (Director of Gakkiku)
Tested by	 Lahm Peng (Engineer of Shenzhen SEM.Test)
Signed by	 Jandy So (Manager of Shenzhen SEM.Test)
Report Number	GKK201504030B
Test Results	☒ PASSED ☐ FAILED

GENERAL

The report is written by Gakkiku Technology Company. The tested device complies with the general approval requirements of the FCC Rules and the Industry Canada as identified in this test report.

TEST LOCATION

The tested device was tested at the test site of the Shenzhen SEM.Test Technology Co., Ltd., 1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, 518101, Guangdong, China. The FCC Recognized 2.948 Listed Test Firm Registration Number is 934118. The Industry Canada IC OATS Filing Number/Assigned Code is 11464A.

TABLE OF CONTENTS

1. GENERAL INFORMATION 4

 1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)..... 4

 1.2 TEST STANDARDS 4

 1.3 TEST METHODOLOGY 4

 1.4 EUT EXERCISE SOFTWARE5

 1.5 ACCESSORIES EQUIPMENT LIST AND DETAILS.....5

 1.6 EUT CABLE LIST AND DETAILS5

2. SUMMARY OF TEST RESULTS..... 6

3. PART 15.109(A) & RSS-310 ISSUE 3 §3.1 - RADIATED EMISSION..... 7

 3.1 MEASUREMENT UNCERTAINTY7

 3.2 TEST EQUIPMENT LIST AND DETAILS.....7

 3.3 TEST PROCEDURE7

 3.4 TEST RECEIVER SETUP 8

 3.5 CORRECTED AMPLITUDE & MARGIN CALCULATION..... 8

 3.6 ENVIRONMENTAL CONDITIONS..... 8

 3.7 SUMMARY OF TEST RESULTS/PLOTS 8

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Bear River International LLC
Address of applicant: 1011 West 400 North, Suite 110,
Logan, Utah 84321, United States

Manufacturer: Bear River International LLC
Address of manufacturer: 1011 West 400 North, Suite 110,
Logan, Utah 84321, United States

General Description of EUT

Item	Description
Product Description:	Wireless Remote Control Toy - RX
Brand Name(s):	None
Model Number(s)/ Item Number(s):	B1349 [All Brand Name(s) and Model Number(s)/Item Number(s) are electrically identical]
Power Source:	DC 1.5V AA-Size Battery X 5 units
Rated Current:	/
For more information refer to the circuit diagram form and the user's manual.	

The test data is gathered from a production sample, provided by the manufacturer.

1.2 Test Standards

The following report is prepared on behalf of the Bear River International LLC in accordance with Part 2 Subpart J and Part 15 Subparts B of the FCC Rules.

The objective is to determine compliance with Part 15.109 of the FCC Rules and RSS-310 Issue 3 & RSS-Gen Issue 4 of the Industry Canada.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which results in lowering the emission/immunity, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI Standard C63.4-2014, American National Standard Institute for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 EUT Exercise Software

The EUT exercise program used during the testing was designed to exercise the system components. The test software is started while the whole system is on.

1.5 Accessories Equipment List and Details

Description	Manufacturer	Model	Serial Number
/	/	/	/

1.6 EUT Cable List and Details

Cable Description	Length (M)	Shielded/ Unshielded	With Core/ Without Core
/	/	/	/

2. SUMMARY OF TEST RESULTS

Description of Test	Result
Part 15.107(a)/15.207(a) Conducted Emission	N/A
Part 15.109(a) Radiated Emission, RSS-310 Issue 3 §3.1	Compliant

3. Part 15.109(a) & RSS-310 Issue 3 §3.1 - RADIATED EMISSION

3.1 Measurement Uncertainty

Base on NIS 81, the Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

3.2 Test Equipment List and Details

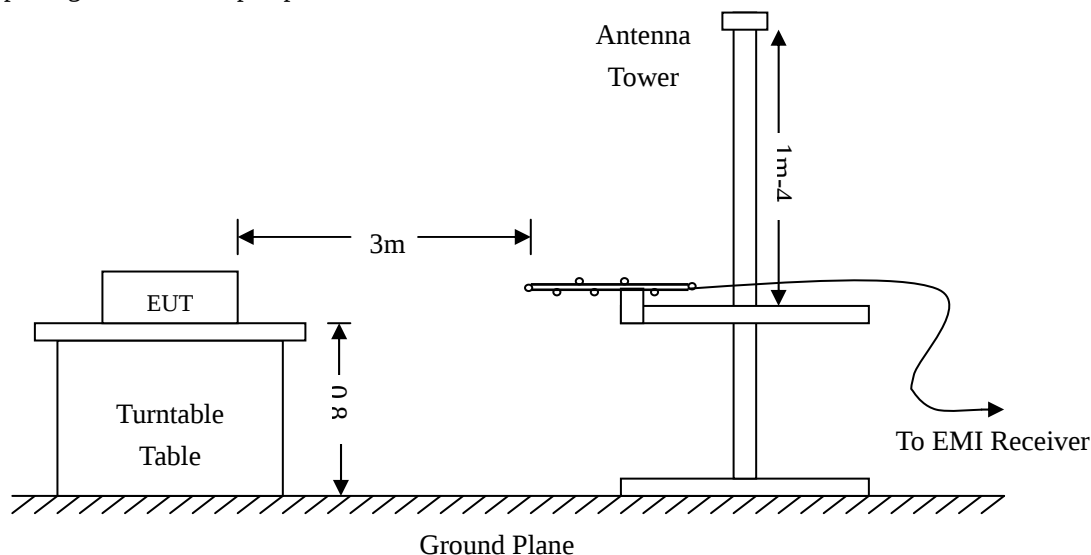
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2014-05-28	2015-05-27
EMI Test Receiver	R&S	ESVB	825471/005	2014-05-28	2015-05-27
Positioning Controller	C&C	CC-C-1F	N/A	2014-05-28	2015-05-27
RF Switch	EM	EMSW18	SW060023	2014-05-28	2015-05-27
Pre-amplifier	Agilent	8447F	3113A06717	2014-05-28	2015-05-27
Pre-amplifier	Compliance Direction	PAP-0118	24002	2014-05-28	2015-05-27
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2014-05-24	2015-05-23
Horn Antenna	ETS	3117	00086197	2014-05-24	2015-05-23
Signal Generator	HP	8648A	3642U01277	2014-05-24	2015-05-23

3.3 Test Procedure

The setup of EUT is according with ANSI Standard C63.4-2014 measurement procedure. The specification used was with the limits of Part 15.109 & 15.205 of the FCC Rules.

According to ANSI Standard C63.4-2014 § 12.1.1.1 (SUPERREGENERATIVE RECEIVER): A Signal Generator was set to the unit under test operating frequency. An unmodulated continuous wave (CW) signal was radiated at the superregenerative receiver operating frequency to cohere the characteristic broadband emissions from the receiver.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.



3.4 Test Receiver Setup

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

Start Frequency 30 MHz
Stop Frequency..... 1000 MHz
Sweep Speed Auto
IF Bandwidth..... 100 kHz
Quasi-Peak Adapter Bandwidth 120 kHz
Quasi-Peak Adapter Mode Normal

3.5 Corrected Amplitude & Margin Calculation

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

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB μ V means the emission is 6dB μ V below the maximum limit for Part 15. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Limit of Part 15 (RSS-310 Issue 3)}$$

3.6 Environmental Conditions

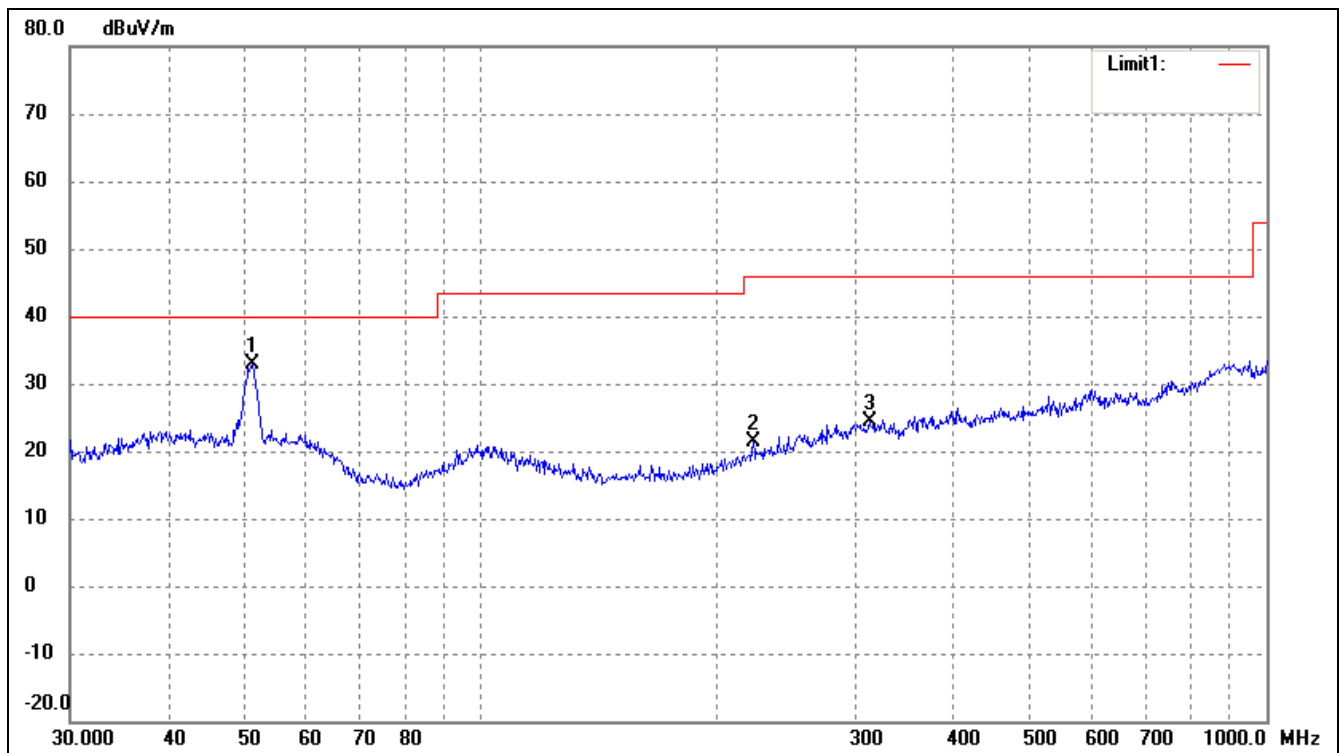
Temperature:	25 °C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

3.7 Summary of Test Results/Plots

According to the data, the EUT is complied with the standards under Part 15.109 of the FCC Rules and RSS-310 Issue 3 of the Industry Canada, and had the worst margin of:

-1.51 dB at 51.6615 MHz in the Vertical polarization, Receiving mode,
30 MHz to 1 GHz, 3 Meters

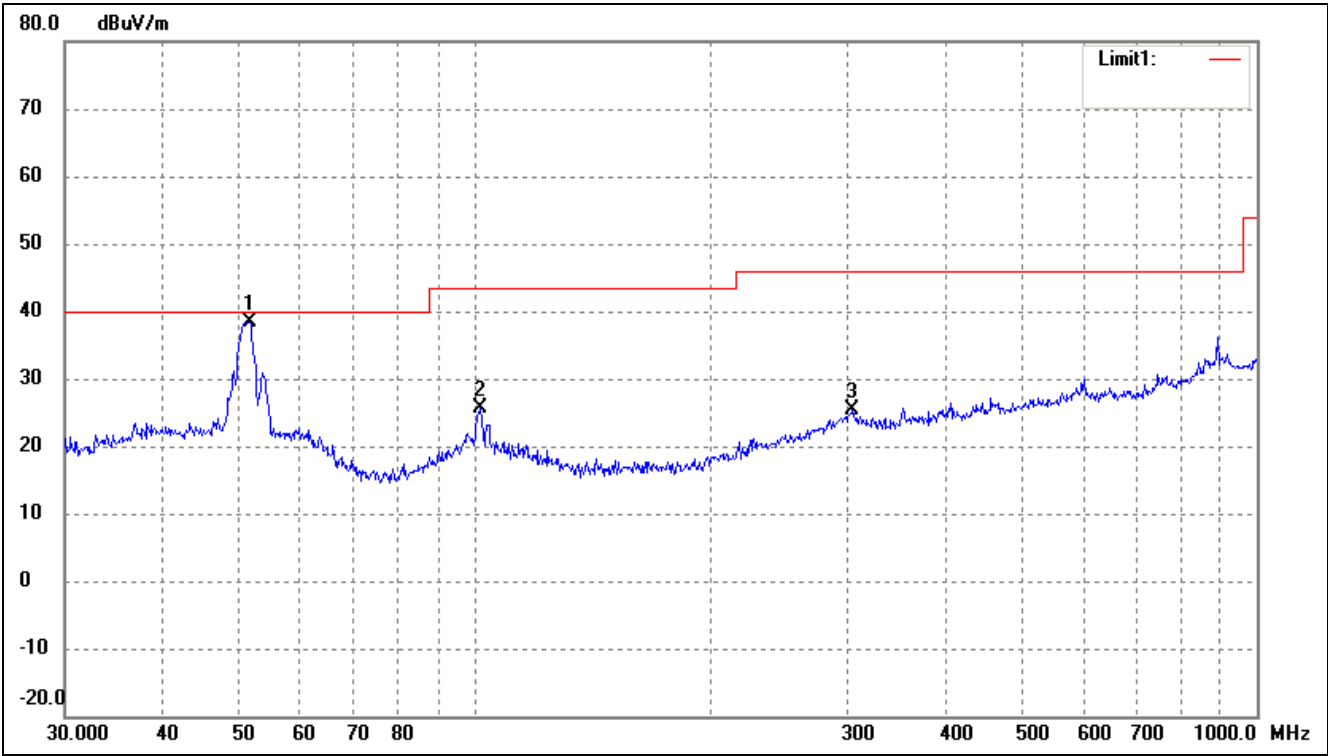
***Note:** This EUT was tested in 3 orthogonal positions and the worst case position data was reported.*

Plot of Radiated Emissions Test Data*Radiated Disturbance**Product Description: Wireless Remote Control Toy - RX**Model Number(s)/Item Number(s): B1349**Operating Condition: Receiving**Test Specification: Horizontal & Vertical**Power Source: DC 1.5V AA-Size Battery X 5 units**Horizontal:*

No.	Frequency	Reading	Correction Factor	Result	Limit	Margin	Degree	Height	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	°	cm	
1	51.3004	25.61	7.28	32.89	40.00	-7.11	253	100	Peak
2	222.1698	16.02	5.24	21.26	46.00	-24.74	69	100	Peak
3	312.1794	15.23	9.24	24.47	46.00	-21.53	47	100	Peak

Note: Emissions attenuated more than 20 dB below the permissible value are not reported.

Vertical:



No.	Frequency	Reading	Correction Factor	Result	Limit	Margin	Degree	Height	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	°	cm	
1	51.6615	32.04	6.45	38.49	40.00	-1.51	152	100	Peak
2	101.6443	19.67	5.95	25.62	43.50	-17.88	36	100	Peak
3	304.6099	16.25	9.19	25.44	46.00	-20.56	247	100	Peak

Note: Emissions attenuated more than 20 dB below the permissible value are not reported.

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