



TESTING LABORATORY
CERTIFICATE#4323.01



FCC PART 15.227

TEST REPORT

For

HIGH HOPE JOLLYJOY TOYS CORP.LTD.

91 BAI XIA ROAD, NANJING, China

FCC ID: 2AWGJ666-7

Report Type: Original Report	Product Type: RC STUNT CYCLONE
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Report Number: RSHD200521002-00A	
Report Date: 2020-06-18	
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant	HIGH HOPE JOLLYJOY TOYS CORP.LTD.
Tested Model	666-7
Product Type	RC STUNT CYCLONE
Power Supply	DC 3V from batteries
RF Function	SRD
Operating Band/Frequency	27.145 MHz
Channel Number	1
Modulation Type	FSK
Antenna Type	Monopole antenna
Maximum Antenna Gain	4.0 dBi

**All measurement and test data in this report was gathered from production sample serial number: 20200521002. (Assigned by the BACL. The EUT supplied by the applicant was received on 2020-05-21)*

Objective

This test report is prepared on behalf of *HIGH HOPE JOLLYJOY TOYS CORP.LTD.* in accordance with Part 2- Subpart J, and Part 15-Subparts A and C of the Federal Communication Commission's rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, section 15.203, 15.205, 15.209, 15.215 and 15.227 rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10 - 2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

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

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19dB
RF conducted test with spectrum		0.9dB
Radiated emission	30MHz~1GHz	6.11dB
	1GHz~6GHz	4.45dB
	6GHz ~18GHz	5.23dB
Occupied Bandwidth		0.5kHz
Temperature		1.0°C
Humidity		6%

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) Lab is accredited to ISO/IEC 17025 by A2LA (Lab code: 4323.01) and the FCC designation No. CN1185 under the FCC KDB 974614 D01 and CAB identifier CN0004 under the ISED requirement. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

SYSTEM TEST CONFIGURATION

Justification

Channel List:

Channel	Frequency (MHz)
1	27.145

The system was configured for testing in a typical fashion (as normally used by a typical user).

EUT Exercise Software

No software was used during the test.

Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

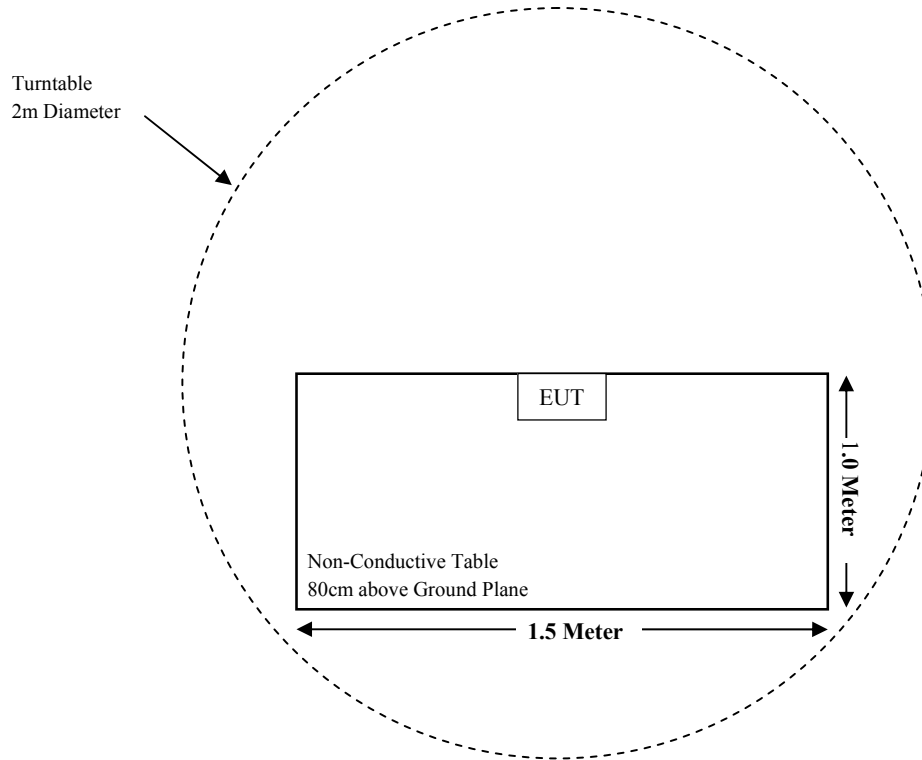
Manufacturer	Description	Model	Serial Number
/	/	/	/

External I/O Cable

Cable Description	Length (m)	From Port	To
/	/	/	/

Block Diagram of Test Setup

For Radiated Emissions(Below&Above 30MHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207(a)	Conducted Emissions	Not applicable (See Note)
§15.205, §15.209, §15.227(a), §15.227(b)	Field Strength and Restricted Band Emissions	Compliant
§15.215 (c)	20dB Emission Bandwidth	Compliant

Note: The EUT is powered by battery.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test(Chamber 1#)					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2019-12-14	2020-12-13
Sunol Sciences	Broadband Antenna	JB3	A090413-1	2017-12-26	2020-12-25
Sonoma Instrunent	Pre-amplifier	310N	171205	2019-08-14	2020-08-13
Rohde & Schwarz	Auto test Software	EMC32	100361	/	/
MICRO-COAX	Coaxial Cable	Cable-8	008	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-9	009	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-10	010	2019-08-15	2020-08-14
Radiated Emission Test(Chamber 2#)					
Sonoma Instrunent	Pre-amplifier	310N	185700	2019-08-14	2020-08-13
Rohde & Schwarz	EMI Test Receiver	ESU40	100207	2020-04-01	2021-03-31
ETS-LINDGREN	LOOP Antenna	6512	00108100	2019-04-25	2022-04-24
Rohde & Schwarz	Auto test Software	EMC32	100361	/	/
MICRO-COAX	Coaxial Cable	Cable-6	006	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-11	011	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-12	012	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-13	013	2019-08-15	2020-08-14

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

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.

Antenna Connected Construction

The EUT has a monopole antenna which was permanently attached and the antenna gain is 4.0 dBi; fulfill the requirement of this section. Please refer to EUT photos.

Result: Compliant.

FCC §15.205, §15.209, §15.227(a), §15.227(b) - Field Strength and Restricted Band Emissions

Applicable Standard

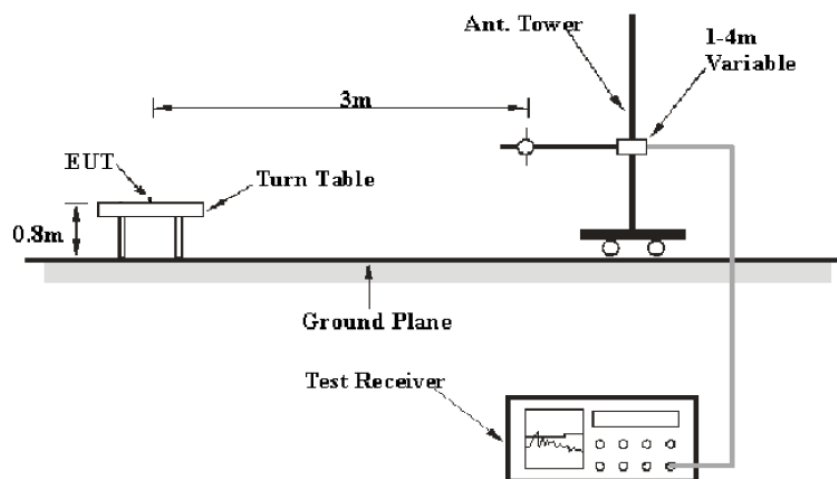
As per FCC Part 15.227

(a) The field strength of any emission within this band shall not exceed 10,000 microvolts/meter at 3 meters.

(b) The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in §15.209.

EUT Setup

Below 1GHz:



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC Part 15.205, 15.209, and FCC 15.227 limits.

EMI Test Receiver Setup

The system was investigated from 9 kHz to 1000 MHz.

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

Frequency Range	RBW	Video B/W	IF B/W	Detector
9 kHz – 150 kHz	200 Hz	1 kHz	/	QP/Average
150 kHz –30 MHz	9 kHz	30 kHz	/	QP/Average
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP

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 (dB μ V/m) = Meter Reading (dB μ V) + Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

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

Margin (dB) = Limit (dB μ V/m) – Corrected Amplitude (dB μ V/m)

Test Results Summary

According to the data in the following table, the EUT complied with the FCC §15.205, §15.209, §15.227 (a), §15.227(b).

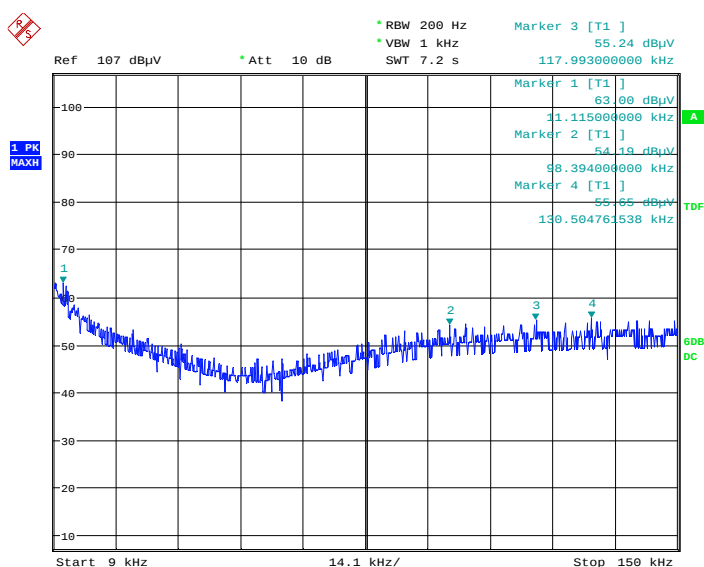
Test Data**Environmental Conditions**

Temperature:	24.7~25.3 °C
Relative Humidity:	48~50 %
ATM Pressure:	101.1~103.6 kPa

The testing was performed by Carry Cai from 2020-06-13 to 2020-06-17.

Test mode: Transmitting

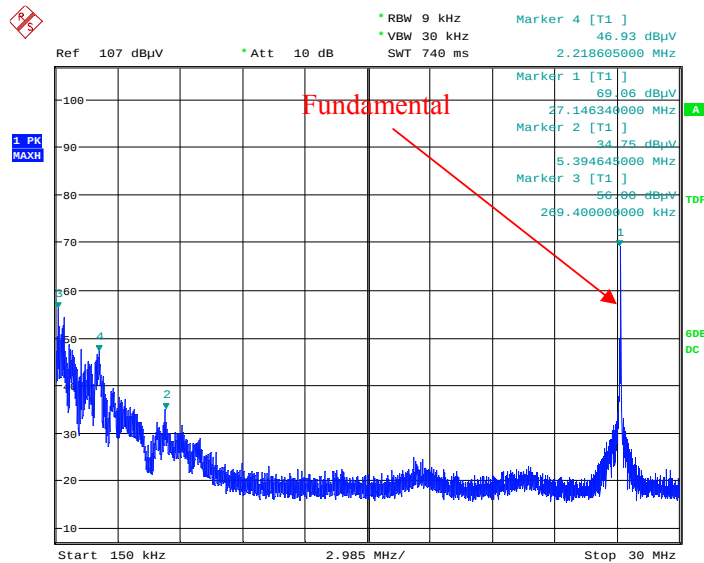
1) Spurious Emissions (9 kHz~150 kHz):



Date: 17.JUN.2020 03:16:03

Frequency (MHz)	Corrected Amplitude (dBμV/m)@3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	FCC Part 15.227/15.209	
				Limit (dBμV/m) @3m	Margin (dB)
0.01111	63.00	PK	55.65	126.69	63.69
0.09839	54.19	PK	49.93	107.75	53.56
0.11799	55.24	PK	50.45	106.17	50.93
0.13050	55.65	PK	50.62	105.29	49.64

2) Spurious Emissions (150 kHz~30 MHz):



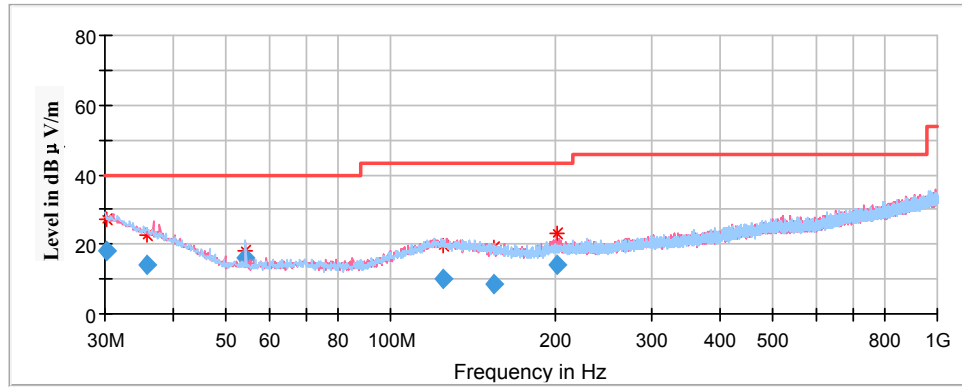
Date: 17.JUN.2020 03:10:26

Frequency (MHz)	Corrected Amplitude (dBμV/m)@3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	FCC Part 15.227/15.209	
				Limit (dBμV/m) @3m	Margin (dB)
0.26940	56.00	PK	35.73	99.00	43.00
2.21860	46.93	PK	13.48	69.54	22.61
5.39464	34.75	PK	7.86	69.54	34.79
26.9600	30.98	PK	5.39	69.54	38.56
27.1450	69.06	PK	5.28	80.00	10.94
27.2800	30.43	PK	5.22	69.54	39.11

Note: If the spurious emissions maximized peak measured value complies with the average limit, it is unnecessary to perform an Average measurement.

30MHz-1GHz

(Pre-scan in the X,Y and Z axes of orientation, the worst case **Y-axis of orientation** was recorded.)



Frequency (MHz)	Quasi-Peak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
30.209100	17.99	40.00	22.01	200.0	H	89.0	-4.5
35.788300	13.86	40.00	26.14	200.0	V	189.0	-8.3
54.300400	16.33	40.00	23.67	100.0	V	336.0	-18.1
124.347300	9.83	43.50	33.67	100.0	H	39.0	-11.8
154.860750	8.44	43.50	35.06	200.0	V	268.0	-13.0
202.191350	14.08	43.50	29.42	200.0	V	99.0	-12.8

FCC §15.215(c) - 20dB EMISSION BANDWIDTH TESTING

Applicable Standard

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

Test Procedure

1. With the EUT's antenna attached, the waveform was received by the test antenna which was connected to the spectrum analyzer, plot the 20 dB bandwidth

Test Data**Environmental Conditions**

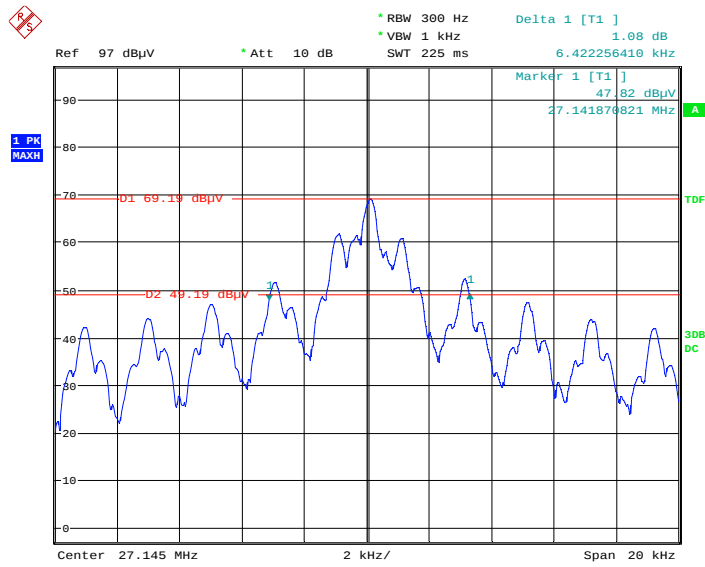
Temperature:	24.7 °C
Relative Humidity:	49 %
ATM Pressure:	101.9 kPa

The testing was performed by Carry Cai on 2020-06-17.

Test Mode: Transmitting

FL(MHz)	FH(MHz)	Permitted frequency range(MHz)	Result
27.1419	27.1483	26.96-27.28	Compliant

20 dB Emission Bandwidth



Date: 17.JUN.2020 03:24:31

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