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**FEDERAL COMMUNICATIONS COMMISSION**

Registration number: 282399

Report No.: GZEM110400126902

Page: 1 of 12

FCC ID: XHT10011-12-R49M

# TEST REPORT

<b>Application No.:</b>	GZEM1104001269RF
<b>Applicant:</b>	GUANGDONG YINRUN INDUSTRY CO., LTD.
<b>FCC ID:</b>	XHT10011-12-R49M
<b>Product Name:</b>	Tornado Tumbler
<b>Product Description:</b>	Radio toys with 49.860 MHz as a carrier
<b>Model No:</b>	10011, 10012 ♣
<b>♣</b>	Please refer to section 3 of this report for more details.
<b>Standards:</b>	FCC PART 15 SUBPART B:2010
<b>Date of Receipt:</b>	2011-05-04
<b>Date of Test:</b>	2011-05-23
<b>Date of Issue:</b>	2011-05-31
<b>Test Result :</b>	<b>Pass*</b>

\* In the configuration tested, the EUT complied with the standards specified above.

*Strong Yao*  
*2011 May*

**Strong Yao**  
**Manager**

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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## 2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2011-05-31		Original

Authorized for issue by:			
Tested By			
	(Storm Shu) /Project Engineer	2011-05-23	Date
Prepared By			
	(Millie Li) /Clerk	2011-05-31	Date
Checked By			
	(Strong Yao)/Reviewer	2011-05-31	Date



### 3 Test Summary

Electromagnetic Interference (EMI)				
Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (30 MHz to 1 GHz)	FCC PART 15 SUBPART B:2010	ANSI C63.4:2009	Class B	PASS
Radiated Emission above 1 GHz	FCC PART 15 SUBPART B:2010	N/A	Class B	N/A

**Remark :**  
**EUT:** In this whole report EUT means Equipment Under Test.  
**N/A:** Not applicable, please refer to section 7.2 of this report for details.  
**\* Model No.:** 10011, 10012  
According to the confirmation from the applicant, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, except for the Model No. for marketing requirement. Therefore only one model 10012 was tested in this report.



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## 5 General Information

### 5.1 Client Information

Applicant: GUANGDONG YINRUN INDUSTRY CO., LTD.  
Address of Applicant: YINRUN IND GARDEN, LAIMEI ZONE, CHENGHAI, SHANTOU CITY, GUANGDONG, CHINA

### 5.2 General Description of E.U.T.

Product Name: Tornado Tumbler  
Product Description: Radio toys with 49.860 MHz as a carrier  
Model No: 10011, 10012

### 5.3 Details of E.U.T.

Power Supply: DC 9V (6 x 1.5V size "AA" batteries)  
Power Cord: N/A

### 5.4 Description of Support Units

The EUT has been tested as an independent unit.

### 5.5 Deviation from Standards

None.

### 5.6 Abnormalities from Standard Conditions

None.

### 5.7 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory,  
198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District,  
Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

## 5.8 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP (Lab Code: 200611-0)**  
SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.
- **ACMA**  
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.
- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**  
Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.
- **CNAS (Lab Code: L0167)**  
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.
- **FCC (Registration No.: 282399)**  
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.
- **Industry Canada (Registration No.: 4620B-1)**  
The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.
- **VCCI (Registration No.: R-2460 and C-2584)**  
The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2460 and C-2584 respectively.
- **CBTL (Lab Code: TL129)**  
SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01:2006-10 and Rules of procedure IECEE 02:2006-10, and the relevant IECEE CB-Scheme Operational documents.



## 6 Equipment Used during Test

RE in Chamber					
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Due date
					(YYYY-MM-DD)
EMC0525	Compact Semi-Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	2011-09-06
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100283	2012-01-17
EMC0056	EMI Test Receiver	Rohde & Schwarz	ESCI	10036	2011-06-02
N/A	EMI Test Software	Audix	E3	N/A	N/A
EMC0514	Coaxial cable	SGS	N/A	N/A	2011-12-08
EMC2025	Trilog Broadband Antenna 30-3000MHz	SCHWARZBECK MESS-ELEKTRONIK	VULB 9163	9163-450	2011-10-28
EMC0524	Bi-log Type Antenna	Schaffner -Chase	CBL6112B	2966	2011-12-20
EMC0519	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	2011-12-20
EMC0518	Horn Antenna	Rohde & Schwarz	HF906	100096	2011-09-11
EMC0521	1-26.5 GHz Pre-Amplifier	Agilent	8449B	3008A01649	2012-01-17
EMC0049	Amplifier	Agilent	8447D	2944A10862	2012-04-21
EMC0075	310N Amplifier	Sonama	310N	272683	2011-10-25
EMC0523	Active Loop Antenna	EMCO	6502	42963	2011-11-17
EMC0530	10m Semi- Anechoic Chamber	ETS	N/A	N/A	2012-05-10

General used equipment					
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Due date
					(YYYY-MM-DD)
EMC0006	DMM	Fluke	73	70681569	2011-12-16
EMC0007	DMM	Fluke	73	70671122	2011-12-16



## 7 Emission Test Results

### 7.1 Radiated Emissions, 30MHz to 1GHz

Test Requirement: FCC Part15 B  
 Test Method: ANSI C63.4  
 Test Voltage: DC 9V  
 Test Date: 2011-05-23  
 Frequency Range: 30 MHz to 1 GHz  
 Measurement Distance: 3 m  
 Detector: Peak for pre-scan  
 Quasi-Peak if maximised peak within 6dB of limit  
 (120 kHz resolution bandwidth)  
 Class / Limit: Class B

Frequency range MHz	Quasi-peak limits dB (µV/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960	54

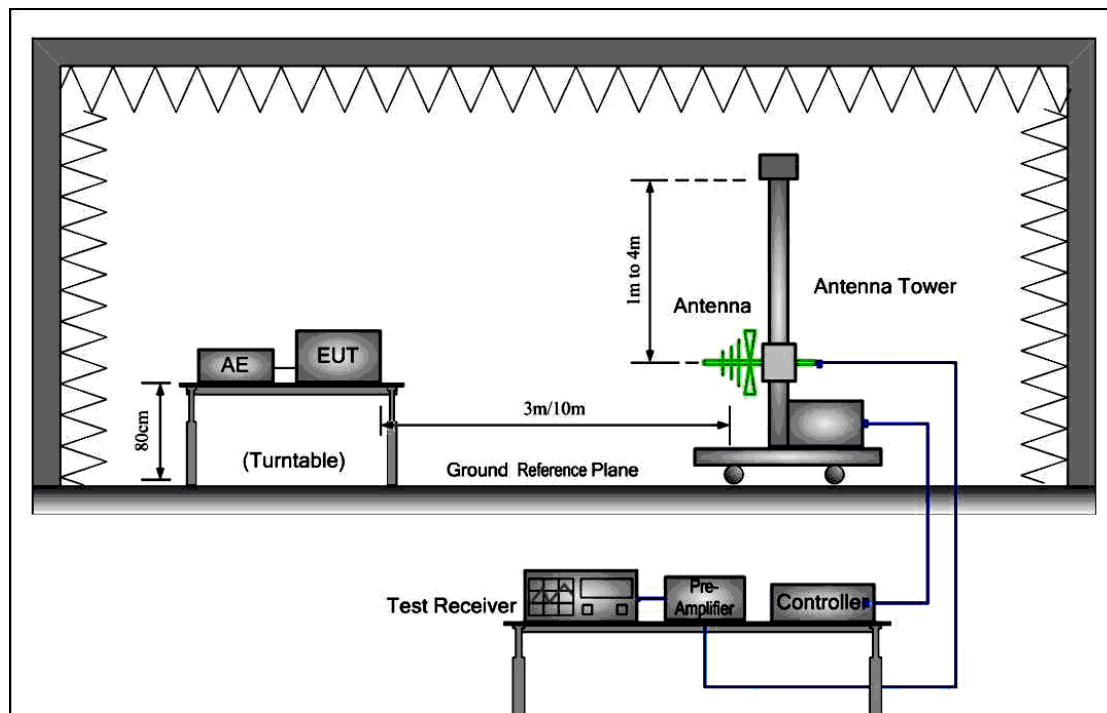
At transitional frequencies the lower limit applies.

#### 7.1.1 E.U.T. Operation

Operating Environment:  
 Temperature: 21.0 °C      Humidity: 55 %RH      Atmospheric Pressure: 1007 mbar  
 EUT Operation: Test the EUT in motor running mode.



## 7.1.2 Test Setup and Procedure



1. The radiated emissions test was conducted in a semi-anechoic chamber.
2. Biconical and log periodic antenna was used for the frequency range from 30MHz to 1GHz
3. The EUT was connected to nominal power supply through a mains power outlet which was bonded to the ground reference plane; The mains cables were draped to the ground reference plane. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT.
5. The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.

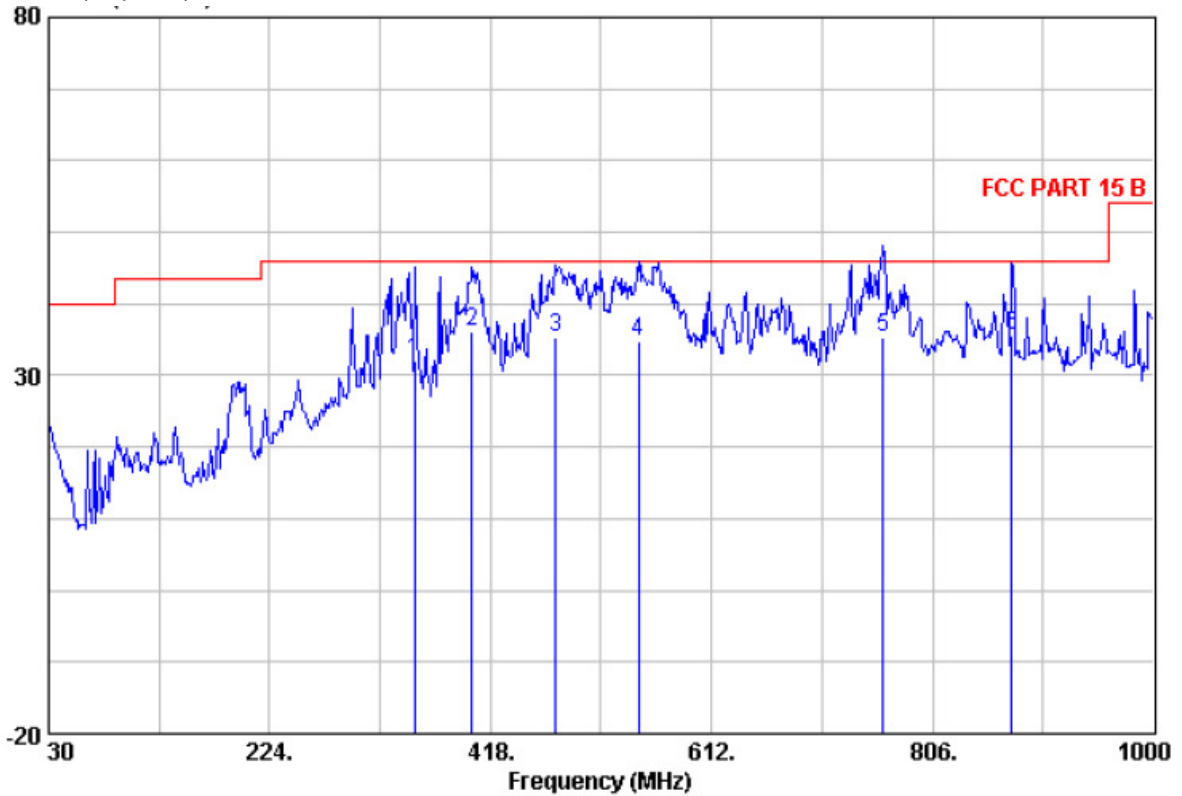


7.1.3 Measurement Data

Vertical:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

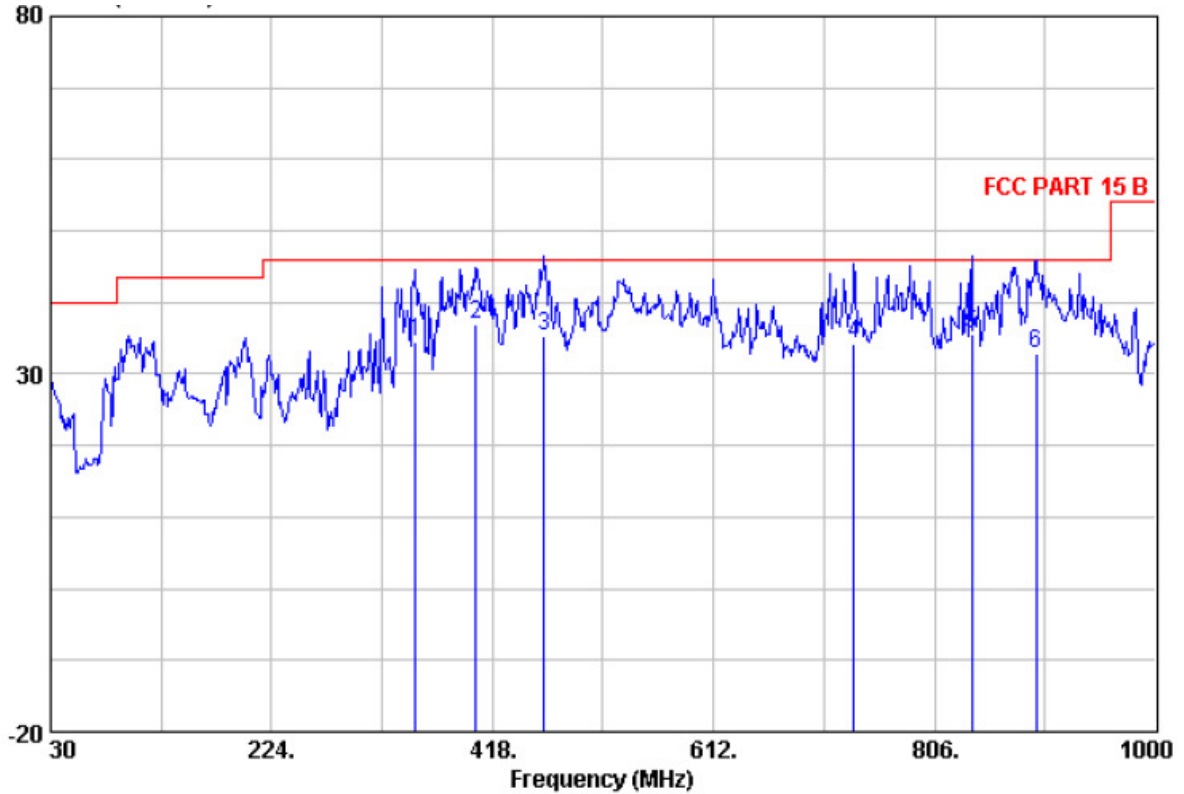
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBµV	dB/m	dB	dB	dBµV/m	dBµV/m	dB	
351.070	43.33	14.45	1.70	27.45	32.03	46.00	-13.97	QP
401.510	45.94	16.08	1.80	27.77	36.05	46.00	-9.95	QP
475.230	44.27	17.22	1.90	27.98	35.41	46.00	-10.59	QP
547.980	42.43	18.52	2.10	28.21	34.84	46.00	-11.16	QP
762.350	40.36	20.04	2.50	27.72	35.18	46.00	-10.82	QP
875.840	39.14	20.76	2.60	26.94	35.56	46.00	-10.44	QP

Level = Read Level + Antenna Factor + Cable Loss – Preamp Factor.



**Horizontal:**

Peak scan  
Level (dBµV/m)



Quasi-peak measurement

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBµV	dB/m	dB	dB	dBµV/m	dBµV/m	dB	
350.100	45.88	14.40	1.70	27.45	34.53	46.00	-11.47	QP
403.450	46.77	16.16	1.80	27.78	36.95	46.00	-9.05	QP
463.590	44.73	16.74	1.90	27.95	35.42	46.00	-10.58	QP
735.190	39.87	19.88	2.40	27.79	34.36	46.00	-11.64	QP
838.980	39.90	20.40	2.50	27.27	35.53	46.00	-10.47	QP
895.240	36.59	20.40	2.60	26.76	32.83	46.00	-13.17	QP

**Level = Read Level + Antenna Factor + Cable Loss – Preamp Factor.**



## 7.2 Radiated Emissions above 1 GHz

Test Requirement: FCC Part15 B  
Frequency Range: 1GHz to 40GHz  
Measurement Distance: 3 m  
Class / Limit: Class B  
Test Date: N/A: See Remark Below

**Remark:**

There is no need for Radiated Emissions (above 1G) test to be performed on this product in accordance with FCC Part 15: 2010 because the highest internal source is less than 108 MHz. For further details, please refer to Subject B section 15.33 (b) (1)of FCC Part 15 which states: The spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement Range (MHz)
Below 1.705	30
1.705 to 108	1000
108 to 500	2000
500 to 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

--End of Report--