Report No.: GZ10080003-1

TEST REPORT

Applicant Name & Address	:	Guangdong Yinrun Industry Co, Ltd. Yinrun Ind. Garden, Laimei Zone, Chenghai, Shantou city, Guangdong, China
Manufacturing Site		Same as applicant
Sample Description		
Product	:	TOY-R/C Bumper Car 1026
Model No.	:	1026-49M
Electrical Rating	:	3*AAA 1.5V battery
FCC ID	:	XHT1026-49MR
Date Received	:	19 July 2010
Date Test Conducted	:	19 July 2010
Test standards	:	**FCC Part 15, Subpart B: 2009**
Test Result	:	Pass
Conclusion	:	The submitted samples complied with the above rules/standards.
Remark		None.

**********End of Page**********

Prepared and Check By:

Maggie Xie

Maggie Xie
Project Engineer
Intertek Guangzhou

Approved By:

Signature

Carrie Chen
Sr. Project Engineer
Intertek Guangzhou
10 August 2010 *Date*

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Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD Guangzhou, China
Tel / Fax: 86-20-8213 9688/86-20-3205 7538

Table of Contents

1 General Description

1.1 Product Description

The equipment under test (EUT) is a superregenerative receiver for TOY-R/C Bumper Car tuned at 49.860 MHz. The EUT is powered by 3*AAA 1.5V battery.

Antenna Type: internal, Integral

For electronic filing, the brief circuit description is saved with filename: description .pdf.

1.2 Related Submittal(s) Grants

The transmitter for this receiver has been authorized by Certification procedure.

1.3 Test Methodology

Radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). Radiated Emission measurement was performed in a Semi-anechoic chamber. Preliminary scans were performed in the Semi-anechoic chamber only to determine worst case modes. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "Justification Section" of this Application.

1.4 Test Facility

The Semi-Anechoic Chamber facility used to collect the radiated data is Intertek Testing Services Shenzhen ltd. Kejiyuan Branch and located at 6F, Block D, Huahan Building, Langshan Road, Nanshan District Shenzhen, P.R.China. This test facility and site measurement data have been fully placed on file with File Number 242492.

2 System Test Configuration

2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2003).

The EUT was powered by 3 new AAA 1.5V batteries.

The EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

The unit was operated standalone and placed in the center of the turntable.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was placed on turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

2.2 EUT Exercising Software

There was no special software to exercise the device.

2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

2.4 Equipment Modification

No modification.

2.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

2.6 Support Equipment List and Description

N/A

3 Emission Results

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any), Average Factor (optional) from the measured reading. The basic equation with a sample calculation is as follows:
FS = RA + AF + CF - AG - AV
where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
AV = Average Factor in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:
FS = RR + LF
where FS = Field Strength in dBµV/m
RR = RA - AG - AV in dBµV
LF = CF + AF in dB

Assume a receiver reading of 52.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB are added. The amplifier gain of 29 dB and average factor of 5 dB are subtracted, giving a field strength of 27 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 52.0 dBµV/m
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
AV = 5.0 dB
RR = 18.0 dBµV
LF = 9.0 dB
FS = RR + LF
FS = 18 + 9 = 27 dBµV/m

Level in µV/m = Common Antilogarithm [(27 dBµV/m)/20] = 22.4 µV/m

3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission at 49.696 MHz
For electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.

3.3 Radiated and Spurious Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by -1.0 dB

Applicant: Guangdong Yinrun Industry Co, Ltd. Date of test: 19 July 2010
Model: 1026-49M

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
Vertical	49.046	46.7	20.0	10	-	36.7	40.0	-3.3
Vertical	49.206	47.3	20.0	10	-	37.3	40.0	-2.7
Vertical	49.366	48.2	20.0	10	-	38.2	40.0	-1.8
Vertical	49.537	48.9	20.0	10	-	38.9	40.0	-1.1
Vertical	49.696	49.0	20.0	10	-	39.0	40.0	-1.0
Vertical	50.027	47.7	20.0	9.8	-	37.5	40.0	-2.5
Vertical	106.060	35.7	20.0	9.3	-	25.0	43.5	-18.5

Notes:

1. Emission fulfil the requirement of Section 15.109. The corresponding limit as Section 15.109 is based on Quasi peak detector data for frequencies below 1000 MHz

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2. Negative value in the margin column shows emission below limit.

3. EUT was powered by 3 PCS new AAA 1.5V battery, and warmed up for 15 minutes prior to the test.

4. The frequency range from 30MHz to 1000MHz was searched for spurious emissions from the device. Only those emissions reported were detected. All other emissions were at least 20 dB below the applicable limits.

4 Equipment photo

For electronic filing, the photographs are saved with filename: external photos.pdf and internal photos.pdf.

5 Product Labelling

For electronics filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

6 Technical Specifications

For electronic filing, the block diagram and schematic of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

7 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.
This manual will be provided to the end-user with each unit sold/leased in the United States

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8 Miscellaneous Information

8.1 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of receiver operating under Part 15, Subpart B rules.
The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 - 2003.

Superregenerative receivers are stabilized prior to measurement by generating a signal well above the receiver threshold whose frequency is tuned until the emissions stabilize into a line spectrum. The signal is generated as unmodulated CW with a Aeroflex 2023A signal generator and an antenna.

The measurement was applied in a 3 m semi-anechoic chamber. The EUT was placed on a 0.8m high wooden turntable above the horizontal metal ground plane. The turn table rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on an antenna mask. The antenna moved up and down between from 1meter to 4 meters to find out the maximum emission level.

Broadband antenna was used as receiving antenna. Both horizontal and vertical polarization of the antenna was set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2003 requirement during radiated test. The bandwidth setting on R&S Test Receiver was 120 kHz. The frequency range from 30MHz to 1000MHz was checked

9 Equipment list

1) Radiated Emission test

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ061-03	BiConiLog Antenna	ETS	3142C	00066460	25-Nov-09	25-May-11
SZ185-01	EMI Receiver	R&S	ESCI	100547	08-Mar-10	08-Mar-11
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	18-Mar-10	18-Mar-11
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	31-Oct-09	31-Oct-10
SZ062-04	RF Cable	RADIALL	RG 213U	--	05-Nov-09	05-Nov-10
SZ062-06	RF Cable	RADIALL	0.04-26.5GHz	--	17-Aug-09	17-Aug-10
SZ180-02	Signal Generator	Aeroflex	2023A	202308/398	08-Mar-10	08-Mar-11