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## FCC PART 15.227 TYPE APPROVAL TEST REPORT

APPLICANT	Planet Toys (Hk) Ltd.
Address	1107 Chinachem Golden Plaza 77 Mody Road, Tsimshatsui East Kowloon Hong Kong
FCC ID	SZ23555T27
MODEL NUMBER	3555T27
PRODUCT DESCRIPTION	Wireless R/C Toy
DATE SAMPLE RECEIVED	April 4, 2006
DATE TESTED	April 5, 2006
TESTED BY	JOSEPH SGOGLIO
APPROVED BY	Mario R. de Aranzeta
TIMCO REPORT NO.	686UT6TestReport
TEST RESULTS	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL

THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE  
WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.

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## **GENERAL INFORMATION**

### **DUT specification**

The test results relate only to the items tested.		
<b>FCC ID</b>	SZ3555T27	
<b>Model Number</b>	3555T27	
<b>Serial Number</b>	N/A	
<b>Product Description</b>	R/C Toy	
<b>Operating Frequency</b>	27 MHz	
<b>Max. output power</b>	N/A	
<b>Type of Modulation</b>	N/A	
<b>EUT Power</b>	<i>Primary Power</i>	Battery Exclusively
	<i>Secondary Power</i>	N/A
<b>Test Item</b>	<input checked="" type="checkbox"/> Prototype	
	<input type="checkbox"/> Pre-Production	
	<input type="checkbox"/> Production	
<b>Type of Equipment</b>	<input type="checkbox"/> Fixed	
	<input type="checkbox"/> Mobile	
	<input checked="" type="checkbox"/> Portable	

### **Rational for selecting test configuration(s)**

No deviation from technical specifications.

### **Modification to the DUT**

No modification was made to the DUT during testing.

### **Test exercise (e.g software description, test signal, etc.)**

The EUT was set in continuous transmit mode of operation.

### **Test standards**

FCC Part 15.227, ANSI C63.4-2003

**TEST EQUIPMENT LIST**

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3/10-Meter OATS	TEI	N/A	N/A	Listed 3/27/04	3/26/07
3-Meter OATS	TEI	N/A	N/A	Listed 1/11/06	1/10/09
Biconnical Antenna	Eaton	94455-1	1057	CAL 12/12/05	12/12/07
Biconnical Antenna	Eaton	94455-1	1096	CAL 8/17/04	8/17/06
Biconnical Antenna	Electro-Metrics	BIA-25	1171	CAL 4/29/05	4/29/07
Blue Tower Quasi-Peak Adapter	HP	85650A	2811A01279	CAL 4/13/05	4/13/07
Blue Tower RF Preselector	HP	85685A	2926A00983	CAL 9/5/05	9/5/07
Blue Tower Spectrum Analyzer	HP	8568B	2928A04729 2848A18049	CAL 4/13/05	4/13/07
LISN	Electro-Metrics	ANS-25/2	2604	CAL 8/27/04	8/27/06
LISN	Electro-Metrics	EM-7820	2682	CAL 4/28/05	4/28/07
Log-Periodic Antenna	Eaton	96005	1243	CAL 12/14/05	12/14/07
Passive Loop Antenna	EMC Test Systems	EMCO 6512	9706-1211	CAL 4/27/06	4/27/08

**Statement of Traceability:** All calibrations have been performed in accordance with ISO/IEC 17025 requirements.

## **TEST PROCEDURE**

**General:** This report shall NOT be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

**Radiation interference:** The test procedure used was ANSI STANDARD C63.4-2003 using a HEWLETT PACKARD spectrum analyzer with a pre-selector. The bandwidth of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz. The ambient temperature of the UUT was 80°C with a humidity of 76%.

**Formula of conversion factors:** The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.

**Example:**

Freq (MHz) METER READING + ACF = FS  
33            20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

**ANSI standard C63.4-2003 10.1.7 measurement procedures:** The unit under test was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

## **RADIATION INTERFERENCE**

**RULES PART NO.:** 15.227

**REQUIREMENTS:** CARRIER FREQUENCY WILL NOT EXCEEDS 80 dBuV/m AT 3M.  
OUT-OF-BAND EMISSIONS SHALL NOT EXCEED:

30 - 88 MHz	40.0 dBuV/M MEASURED AT 3 METERS
88 - 216 MHz	43.5 dBuV/M
216 - 960 MHz	46.0 dBuV/m
ABOVE 960 MHz	54.0 dBuV/m

**TEST PROCEDURE:** The procedure used was ANSI STANDARD C63.4-2003. The spectrum was scanned from 30 MHz to 1000 MHz. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported. The UUT was tested in 3 orthogonal planes.

**TEST DATA:**

Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
27.1	27.10	17.0	V	9.75	50.35	77.10	2.90

SAMPLE CALCULATION: FSdBuV/m = MR (dBuV) + ACFdB.

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

No emissions were found after the 1<sup>st</sup> harmonic.

## **OCCUPIED BANDWIDTH**

**RULES PART NO.:** 15.227

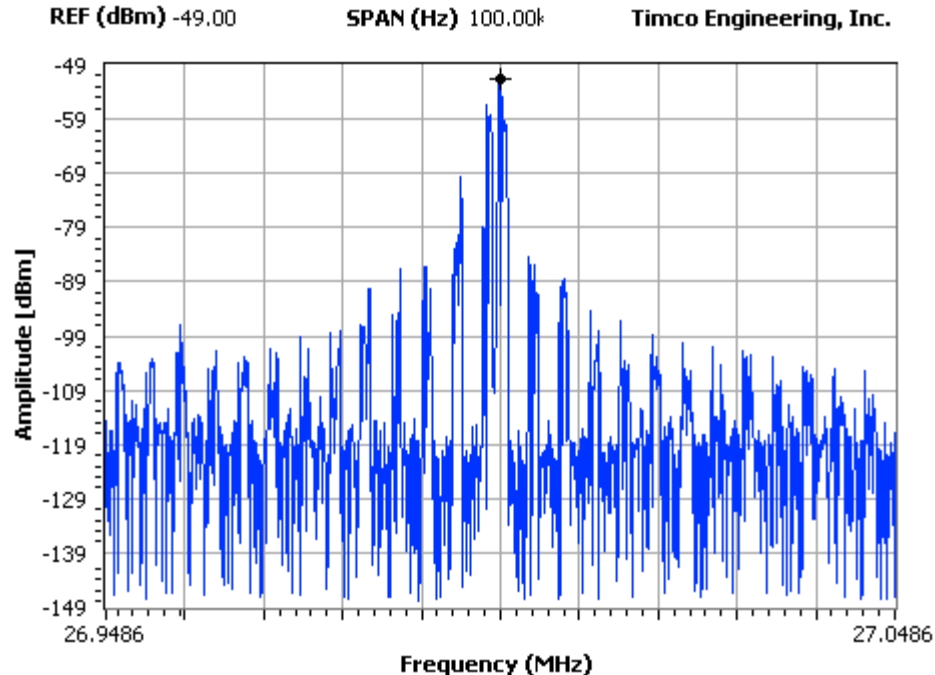
**REQUIREMENTS:** The field strength of any emissions appearing between the band edges and up to 10 kHz above and below the band edges shall be attenuated to the general limits of 15.209.

**TEST PROCEDURE:** A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was taken. The vertical scale is set to 10 dB per division.

**TEST DATA:** THE GRAPH ON THE NEXT PAGE REPRESENTS THE EMISSIONS TAKEN FOR THE DEVICE.

**NOTES:**

686ut6 occupied bandwidth



**RBW**      **VBW**      **ST (sec)**  
 300 Hz      100 kHz      2

**Center Frequency (Hz)** 26.999M

**Marker Delta (Hz)** 0.00

Peak	26.999	-51.40	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MKR2	0.000	0.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MKR3	0.000	0.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HWMK	23.076	6.27	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



**TEST SET UP PHOTO**

