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**FEDERAL COMMUNICATIONS COMMISSION**

Registration number: 282399

Report No.: GLEMR071103562RFT

Page: 1 of 11

FCC ID: VUT13502710896

# TEST REPORT

**Application No. :** GLEMR071103562RF

**Applicant:** Dream Horse Toys Factory

**FCC ID:** VUT13502710896

**Fundamental  
Frequency :** 27.195MHz

**Equipment Under Test (EUT):**

Name: Helicopter Series

Model No.: XBM-02, 8093, XBM-01, XBM-03, XBM-05, XBM-06, XBM-07, XBM-08,  
XBM-09, XBM-10, XBM-11, XBM-12, XBM-13, XBM-14, XBM-15, XBM-  
16, XBM-17, XBM-18, XBM-19, XBM-20♣

♣

Please refer to section 2 of this report which indicates which item was  
actually tested and which were electrically identical.

**Standards:** FCC PART 15, SUBPART C : 2007 Section 15.227

**Date of Receipt:** Nov 23, 2007

**Date of Test:** Nov 29, 2007 – Dec 13, 2007

**Date of Issue:** Dec 17, 2007

<b>Test Result :</b>	<b>PASS *</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Stephen Guo  
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 Test Summary

Test	Test Requirement	Standard Paragraph	Result
Radiated Emission (30MHz to 1000MHz)	FCC PART 15 :2007	Section 15.227	PASS *
Occupied Bandwidth	FCC PART 15 :2007	Section 15.215	PASS

Remark:

This report is just for FCC part 15, Subpart C testing. Please refer to other report (GLEMR071103562RFV) for FCC part15, subpart B testing.

♣: Model: XBM-02, 8093, XBM-01, XBM-03, XBM-05, XBM-06, XBM-07, XBM-08, XBM-09, XBM-10, XBM-11, XBM-12, XBM-13, XBM-14,XBM-15, XBM-16, XBM-17, XBM-18, XBM-19, XBM-20

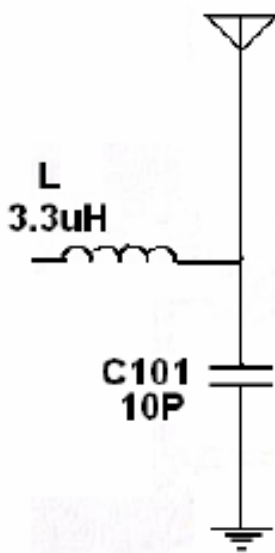
Only XBM-02 was tested , according to the confirmation from the applicant. Since the applicant declared electrical circuit design, layout, components used and internal wiring were identical for the above items, with only difference being the model no.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

\*: The EUT passed the tests test after modification. Please refer to the following information for further details.

1. Add one capacitor for the ANT (transmitter) as the following figure shown.



2. Adjust the parameter of T2 to produce minimum harmonic frequency.



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## **4 General Information**

### **4.1 Client Information**

Applicant Name: Dream Horse Toys factory  
Applicant Address: No. 70 East Mei Yuan Road, Pu Mei, Guangyi Area, ChengHai, Shantou, Guangdong, China.

### **4.2 Details of E.U.T.**

Name: Helicopter Series  
Model No.: XBM-02, 8093, XBM-01, XBM-03, XBM-05, XBM-06, XBM-07, XBM-08, XBM-09, XBM-10, XBM-11, XBM-12, XBM-13, XBM-14, XBM-15, XBM-16, XBM-17, XBM-18, XBM-19, XBM-20  
Power Supply: 12V DC (8 x1.5 'AA' Size Battery)  
Power Cord: N/A

### **4.3 Description of Support Units**

The EUT was tested as an independent unit: a 27.195MHz radio transmitter.

### **4.4 Test Location**

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town Economic& Technology Development District Guangzhou, China 510663

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

No tests were sub-contracted.

### **4.5 Other Information Requested by the Customer**

None.



#### **4.6 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.

- **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. With the above and NVLAP's accreditation, SGS-CSTC is an authorized test laboratory for the DoC process.



## 5 Test Results

### 5.1 Test Instruments

RE in Chamber/OATS						
No:	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
EMC0525	Compact Semi-Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	06-03-2007	06-03-2008
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100249	05-12-2007	05-12-2008
N/A	EMI Test Software	Audix	E3	N/A	N/A	N/A
EMC0514	Coaxial cable	SGS	N/A	N/A	04-12-2007	04-12-2008
EMC0524	Bi-log Type Antenna	Schaffner -Chase	CBL6112B	2966	12-08-2007	12-08-2008
EMC0519	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	12-08-2007	12-08-2008
EMC0517	Horn Antenna	Rohde & Schwarz	HF906	100095	12-08-2007	12-08-2008
EMC0040	Spectrum Analyzer	Rohde & Schwarz	FSP30	100324	05-12-2007	05-12-2008
EMC0520	0.1-1300 MHz Pre-Amplifier	HP	8447D OPT 010	2944A06252	28-03-2007	28-03-2008
EMC0521	1-26.5 GHz Pre-Amplifier	Agilent	8449B	3008A01649	28-03-2007	28-03-2008
EMC0523	Active Loop Antenna	EMCO	6502	00042963	09-08-2006	09-08-2008
EMC0530	10m Semi- Anechoic Chamber	ETS	N/A	N/A	10-08-2007	10-08-2008

General used equipment						
No:	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
EMC0050-EMC0053	Temperature, & Humidity	ZHENGZHOU BO YANG	WSB	N/A	05-12-2007	05-12-2008
EMC0054	Temperature, & Humidity	Shenzhen Tai Kong	THG-1	N/A	04-01-2007	04-01-2008
EMC0006	DMM	Fluke	73	70681569	27-09-2007	27-09-2008
EMC0007	DMM	Fluke	73	70671122	27-09-2007	27-09-2008

## 5.2 E.U.T. Operation

Input voltage:	12V DC (8 x1.5 'AA' Size Battery)
Operating Environment:	
Temperature:	25,0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1011 mbar
EUT Operation:	Test the EUT in transmitting mode.

## 5.3 Test Procedure & Measurement Data

### 5.3.1 Radiated Emissions

<b>Test Requirement:</b>	FCC Part15 C Section 15.227
<b>Test Method:</b>	ANSI C63.4 section 8 & 13
<b>Test Date:</b>	Dec 13, 2007
<b>Measurement Distance:</b>	3m (Semi-Anechoic Chamber and OATS)
<b>Requirements:</b>	Carrier frequency will not exceed 80dBuV/m at 3m. Out of band emissions shall not exceed: 40.0 dB $\mu$ V/m between 30MHz & 88MHz 43.5 dB $\mu$ V/m between 88MHz & 216MHz 46.0 dB $\mu$ V/m between 216MHz & 960MHz 54.0 dB $\mu$ V/m above 960MHz
<b>Detector:</b>	Peak Scan (120kHz resolution bandwidth)

Test Procedure: The procedure used was ANSI Standard C63.4-2003. The receive was scanned from 30MHz to 1000MHz. When an emission was found, the table was rotated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. The worst case emissions were reported.

An initial pre-scan was performed in the 3m chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Active loop antenna and Bilog antenna with 2 orthogonal polarities

The following measurements were performed on the EUT on 29 May 2007.

Test the EUT in transmitting mode.

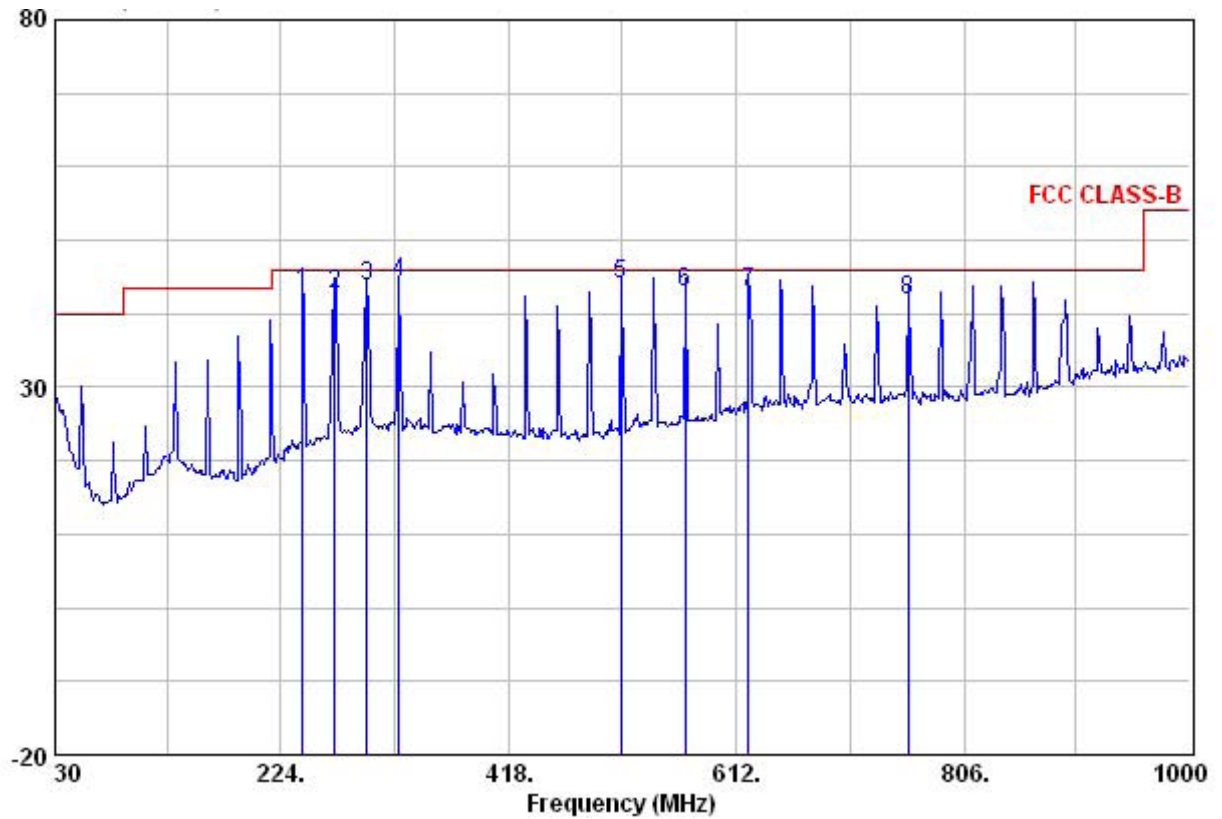
Intentional emission

Test Frequency (MHz)	Peak (dB $\mu$ V/m)		Limits (dB $\mu$ V/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
27.195	66.7	56.8	100.0	33.3	43.2

Test Frequency (MHz)	Average (dB $\mu$ V/m)		Limits (dB $\mu$ V/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
27.195	63.6	52.1	80.0	16.4	27.9

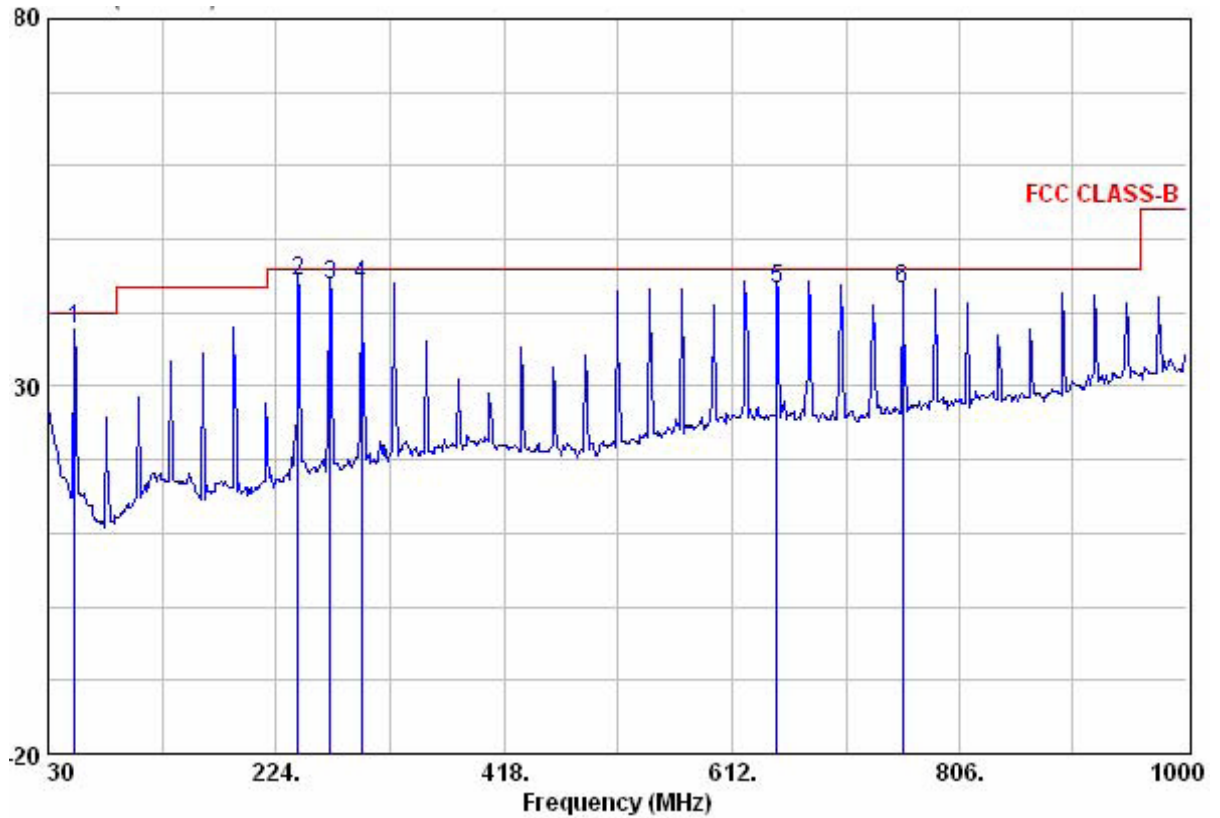
Other emissions

Horizontal:



Freq	ReadAntenna	Cable	Preamp		Limit	Over	
Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
242.430	50.71	14.86	1.83	24.43	42.97	46.00	-3.03 QP
269.590	48.88	16.31	2.00	24.40	42.79	46.00	-3.21 QP
297.720	48.56	17.60	2.10	24.40	43.86	46.00	-2.14 QP
324.880	49.14	17.40	2.20	24.56	44.19	46.00	-1.81 QP
514.030	50.51	16.62	2.84	25.88	44.08	46.00	-1.92 QP
568.350	47.79	18.02	3.00	25.83	42.99	46.00	-3.01 QP
622.670	46.37	19.17	3.10	25.78	42.86	46.00	-3.14 QP
758.470	44.21	19.88	3.50	25.64	41.95	46.00	-4.05 QP

Vertical:



Freq	ReadAntenna	Cable	Preamp	Limit	Over			
MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
52.310	50.49	11.77	0.84	25.25	37.85	40.00	-2.15	QP
242.430	54.64	12.27	1.83	24.43	44.31	46.00	-1.69	QP
269.590	52.88	13.34	2.00	24.40	43.82	46.00	-2.18	QP
296.750	51.72	14.38	2.10	24.40	43.80	46.00	-2.20	QP
649.830	46.23	19.54	3.20	25.75	43.22	46.00	-2.78	QP
758.470	45.27	20.07	3.50	25.64	43.20	46.00	-2.80	QP

Remark:

According to 15.35 (b) When average radiated emission measurements are specified in the regulations, including emission measurements below 1000 MHz, there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules, e.g., see Section 15.255.

**Test Results: The unit does meet the FCC Part 15 C Section 15.227 requirements.**



### **5.3.2 Occupied Bandwidth**

Test Requirement: FCC Part 15 C Section 15.215 (C)

Test Method: ANSI C63.4 section 13 & FCC Part 2.1049

Operation within the band 26.960 – 27.280 MHz

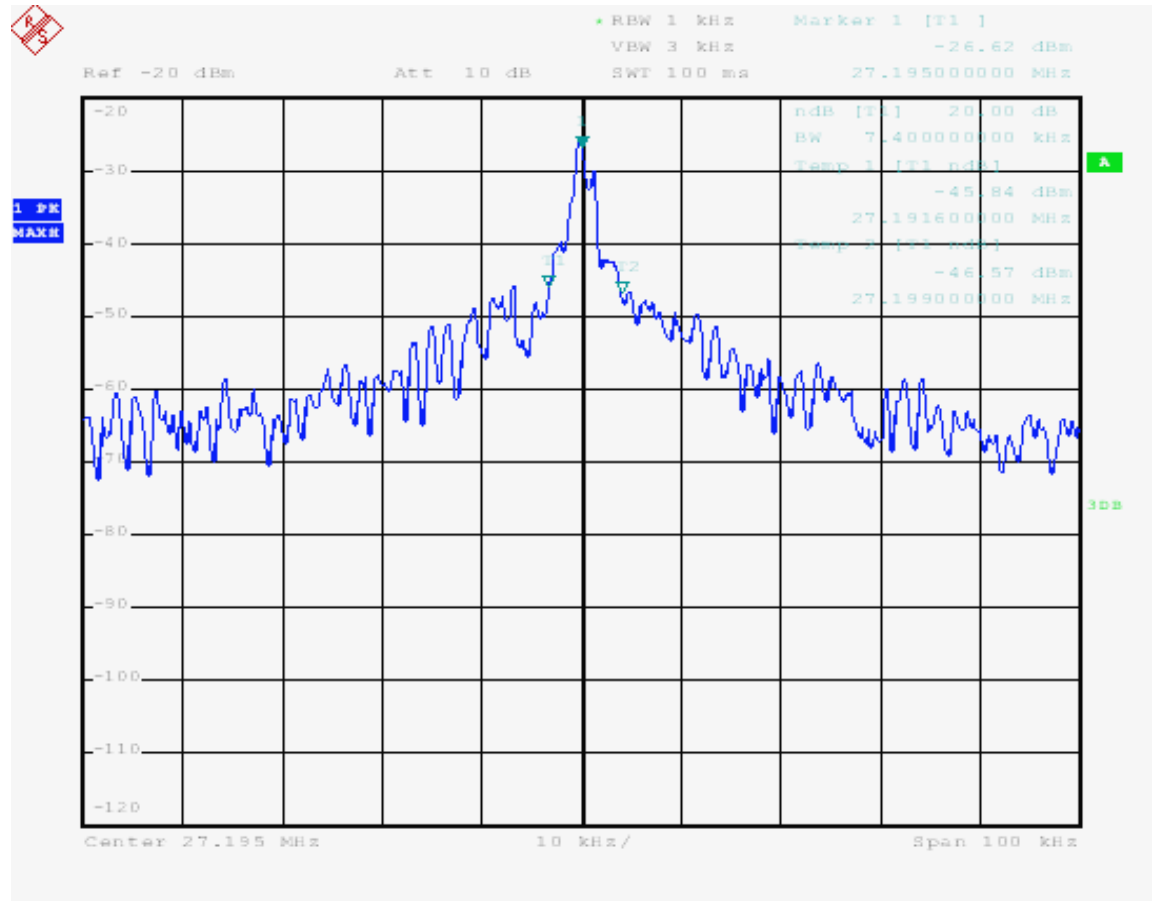
Test Date: Dec 13, 2007

Requirements: 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 is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the 20 dB bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Method of measurement: The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector. The vertical Scale is set to 10dB per division. The horizontal scale is set to 10KHz per division.

20dB Bandwidth: 7,4kHz (27.1916MHz to 27.1990MHz)

The graph as below, represents the emissions take for this device.



**The results: The unit does meet the FCC Part 15 C Section 15.215 requirements.**