



**CMA Testing  
and Certification  
Laboratories**  
廠商會檢定中心

## **TEST REPORT**

Report No. : AF010104-001 Date : 2005 June 7  
Application No. : LF206788(9)  
Applicant : Super Grand Enterprise Ltd.  
Room 509, North Tower, Concordia Plaza,  
No. 1 Science Museum Road, Tsim Sha Tsui East,  
Kowloon, Hong Kong.  
Sample Description : One(1) submitted sample stated to be R/C Micro Quad of Model No. 04042 and 60-4431.  
Rating : 2 x 1.2V rechargeable battery  
No. of submitted sample : Two (2) piece(s)\*\*\*  
Date Received : 2005 May 03  
Test Period : 2005 May 03 – 2005 May 13  
Test Requested : FCC Part 15 Certification  
Test Method : FCC Rules and Regulations Part 15 – July 2004  
ANSI C63.4 – 2003  
Test Result : See attached sheet(s) from page 2 to 11.  
Conclusion : The submitted sample was found to comply with requirement of FCC Part 15 Subpart B.  
Remark : All two models are the same in circuitry and components; and therefore model 04042 was chosen to be the representative of the test sample.

*For and on behalf of*  
CMA Testing and Certification Laboratories

Authorized Signature : \_\_\_\_\_

Daisy Chui  
EMC Engineer - EL. Division

Page 1 of 11

FCC ID : RV3-04042-RX49

This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing,  
Room 1302, Yan Hing Centre, 9-13 Wong Chuk Yeung St., Fo Tan, Shatin, Hong Kong.

Tel: (852) 2698 8198 Fax: (852) 2695 4177 E-mail: [info@cmatcl.com](mailto:info@cmatcl.com) Web Site: <http://www.cmatcl.com>



## **TEST REPORT**

Report No. : AF010104-001

Date : 2005 June 7

### **Table of Contents**

1	General Information .....	3
1.1	General Description .....	3
1.2	Location of the test site .....	4
1.3	List of measuring equipment .....	5
2	Description of the radiated emission test .....	6
2.1	Test Procedure .....	6
2.2	Test Result .....	6
2.3	Radiated Emission Measurement Data .....	7
3	Description of the Line-conducted Test .....	8
3.1	Test Procedure .....	8
3.2	Test Result .....	8
3.3	Graph and Table of Conducted Emission Measurement Data .....	8
4	Photograph .....	9
4.1	Photographs of the Test Setup for Radiated Emission and Conduction Emission .....	9
4.2	Photographs of the External and Internal Configurations of the EUT .....	9
5	Supplementary document .....	10
5.1	Bandwidth .....	10
5.2	Duty Cycle .....	10
6	Appendices .....	11



## **TEST REPORT**

Report No. : AF010104-001

Date : 2005 June 7

### **1 General Information**

#### **1.1 General Description**

The equipment under test (EUT) is a superregenerative receiver for R/C Micro Quad. Operating at 49.860MHz which is controlled by a LRC circuit. The EUT is powered by 2 x 1.2V rechargeable battery. When the internal battery charging is complete, it can receive a radio frequency and running to difference direction.

The brief circuit description is listed as follows :

- Q1, Q11 and associated circuit act as superregenerative circuit.
- AT3302R, Q10 and associated circuit act as decoder.
- Q2 ~ Q9 and associated circuit act as motor driving circuit.



## **TEST REPORT**

Report No. : AF010104-001

Date : 2005 June 7

### **1.2 Location of the test site**

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003. A Semi-Anechoic Chamber Testing Site is set up for investigation and located at :

Ground Floor, Yan Hing Centre,  
9 – 13 Wong Chuk Yeung Street,  
Fo Tan, Shatin,  
New Territories,  
Hong Kong.

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2003. A shielded room is located at :

Ground Floor, Yan Hing Centre,  
9 – 13 Wong Chuk Yeung Street,  
Fo Tan, Shatin,  
New Territories,  
Hong Kong.



## **TEST REPORT**

Report No. : AF010104-001

Date : 2005 June 7

### **1.3 List of measuring equipment**

Equipment	Manufacturer	Model No.	Serial No.	Calibration Certification No.
EMI Test Receiver	R&S	ESCS30	100001	S43284
Broadband Antenna	Schaffner	CBL6112B	2692	CA3025
Signal Generator	IFR	2023B	202302/938	S43098
LISN	R&S	ESH3-Z5	100038	S43377
LISN	R&S	ESH3-Z5	100010	S43101
Pulse Limiter	R&S	ESH3-Z2	100001	S43325
Biconical Antenna	R&S	HK116	837414/004	2GB05000535-0001



## **TEST REPORT**

Report No. : AF010104-001

Date : 2005 June 7

### **2 Description of the radiated emission test**

#### **2.1 Test Procedure**

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

A signal generator was used to radiate an unmodulated continuous wave (CW) signal to the EUT (superregenerative receiver) at its operating frequency in order to “cohere” the characteristic broadband emissions from the receiver.

#### **2.2 Test Result**

The emissions meeting the requirement of section 15.109 are based on measurements employing the CISPR quasip-peak detector.

It was found that the EUT meet the FCC requirement.



## **TEST REPORT**

Report No. : AF010104-001

Date : 2005 June 7

### **2.3 Radiated Emission Measurement Data**

**Radiated emission  
pursuant to  
the requirement of FCC Part 15 subpart B**

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB $\mu$ V/m)	Antenna and Cable factor (dB)	Field Strength (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
50.084	V	16.8	8.1	24.9	40.0	-15.1
50.305	V	17.5	8.1	25.6	40.0	-14.4
50.529	V	16.7	8.1	24.8	40.0	-15.2
99.494	V	18.2	9.2	27.4	43.5	-16.1
99.945	V	19.1	9.2	28.3	43.5	-15.2
100.388	V	16.0	11.0	27.0	43.5	-16.5
100.392	V	18.6	11.0	29.6	43.5	-13.9
100.835	V	17.1	11.0	28.1	43.5	-15.4
150.740	V	14.6	11.9	26.5	43.5	-17.0
151.142	V	15.8	11.9	27.7	43.5	-15.8



## **TEST REPORT**

Report No. : AF010104-001

Date : 2005 June 7

### **3 Description of the Line-conducted Test**

#### **3.1 Test Procedure**

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2003. The EUT was setup as described in the procedures, and both lines were measured.

#### **3.2 Test Result**

No measurement is required as the EUT is a battery-operated product.

#### **3.3 Graph and Table of Conducted Emission Measurement Data**

Not Applicable





## **TEST REPORT**

Report No. : AF010104-001

Date : 2005 June 7

### **4 Photograph**

#### **4.1 Photographs of the Test Setup for Radiated Emission and Conduction Emission**

For electronic filing, the photos are saved with filename TSup1.jpg to TSup2.jpg

#### **4.2 Photographs of the External and Internal Configurations of the EUT**

For electronic filing, the photos are saved with filename ExPho1.jpg to ExPho2.jpg and InPho1.jpg to InPho2.jpg.



## **TEST REPORT**

Report No. : AF010104-001

Date : 2005 June 7

### **5 Supplementary document**

The following document were submitted by applicant, and for electronic filing, the document are saved with the following filenames:

<b>Document</b>	<b>Filename</b>
ID Label/Location	LabelSmp.jpg
Block Diagram	BlkDia.pdf
Schematic Diagram	Schem.pdf
Users Manual	UserMan.pdf
Operational Description	OpDes.pdf

#### **5.1 Bandwidth**

N/A

#### **5.2 Duty Cycle**

N/A



## **TEST REPORT**

Report No. : AF010104-001

Date : 2005 June 7

### **6 Appendices**

A1	Photos of the set-up of Radiated Emissions	1 page
A2	Photos of External Configurations	1 page
A3	Photos of Internal Configurations	1 page
A4	ID Label/Location	1 page
A5	Block Diagram	1 page
A6	Schematics Diagram	1 page
A7	User Manual	1 page
A8	Operation Description	1 page

\*\*\*\*\* End of Report \*\*\*\*\*