



## **TEST REPORT**

Report No. : AC000146

Date : 2002 January 11

Client : Tomy (Hong Kong) Limited  
Rooms 1207-1216, Star House,  
Kowloon, Hong Kong.

Sample Description : Sample stated to be :  
Description : Choo Choo Thomas 27MHz TX  
Model No. : Choo Choo Thomas 6570  
Rating : 1 x 9V battery  
No. of sample(s) : Two(2) pieces \*\*\*

Date Received : 2001 October 29.

Test Period : 2001 October 29 – 2001 November 23.

Test Requested : FCC Part 15 Certification

Test Method : FCC Rules and Regulations Part 15 – May 2001  
ANSI C63.4 – 1992

Test Result : See attached sheet(s) from page 2 to 10.

Conclusion : The submitted sample was found to comply with requirement of FCC  
Part 15 Subpart C.

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

Authorized Signature : 

Danny Chui  
EMC Engineer - EL. Division

FCC ID : OW26570THOMAS27TX

Page 1 of 10

This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing.

Room 1401-3, 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>

This report is restricted by the Terms and Conditions as stated on the back page of the application form or it can be provided on request.



## **TEST REPORT**

Report No. : AC000146

Date : 2002 January 11

### **Table of Contents**

1	General Information .....	3
1.1	General Description .....	3
1.2	Related Submittal Grants .....	3
1.3	Location of the test site .....	4
1.4	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 .....	9
5.1	Bandwidth .....	9
6	Appendices .....	10

FCC ID : OW26570THOMAS27TX

Page 2 of 10

This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing.

Room 1401-3, 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>

This report is restricted by the Terms and Conditions as stated on the back page of the application form or it can be provided on request.



## **TEST REPORT**

Report No. : AC000146

Date : 2002 January 11

### **1 General Information**

#### **1.1 General Description**

The equipment under test (EUT) is a transmitter for the remote control toy car operating at 27.145 MHz which is controlled by LC Oscillator. The EUT is powered by 9-volt battery. There are two buttons on the body of the transmitter. Push the right hand button to make the car turn to the right and push the left hand button to make it turn to the left.

The brief circuit description is listed as follows:

- Q1, L2, C1, C2 and associated circuit act as LC Oscillator
- Q2, Q3 and associated circuit act as Multivibrator

#### **1.2 Related Submittal Grants**

This is a single application for a transmitter.

The receiver for this transmitter is exempted from the Part 15 technical rules per 15.101(b).

FCC ID : OW26570THOMAS27TX

Page 3 of 10

**This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing.**

**Room 1401-3, 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>**

This report is restricted by the Terms and Conditions as stated on the back page of the application form or it can be provided on request.



## **TEST REPORT**

Report No. : AC000146

Date : 2002 January 11

### **1.3 Location of the test site**

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 1992. An Open Area Testing Site is set up for investigation and located at :

Top of the Roof, 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 – 1992. A double shielded room is located at :

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

FCC ID : OW26570THOMAS27TX

Page 4 of 10

**This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing.**

**Room 1401-3, 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>**

This report is restricted by the Terms and Conditions as stated on the back page of the application form or it can be provided on request.



## **TEST REPORT**

Report No. : AC000146

Date : 2002 January 11

### **1.4 List of measuring equipment**

Equipment	Manufacturer	Model No.	Serial No.	Calibration Certification No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESCS30	100001	20-69223	Mar. 21, 2001	Sept. 20, 2002
Broadband Antenna	Schaffner	CBL6113B	2718	AC1753	Dec. 15, 2000	Jun. 14, 2002
Signal Generator	IFR	2023B	202302/938	Nil	Oct. 23, 2000	Apr. 22, 2002
LISN	R&S	ESH3-Z5	100010	20-70405	Mar. 29, 2001	Sept. 28, 2002
Pulse Limiter	R&S	ESH3-Z2	100001	20-73194	May 2, 2001	Nov. 1, 2002
Biconical Antenna	R&S	HK116	837414/004	4000.7752.02	Oct. 23, 2000	Apr. 22, 2002

FCC ID : OW26570THOMAS27TX

Page 5 of 10

This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing.

Room 1401-3, 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>

This report is restricted by the Terms and Conditions as stated on the back page of the application form or it can be provided on request.



## **TEST REPORT**

Report No. : AC000146

Date : 2002 January 11

### **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 – 1992.

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.

#### **2.2 Test Result**

The Quasi-peak measurements were performed on the open area test site. It was found that the EUT meet the FCC requirement.

FCC ID : OW26570THOMAS27TX

Page 6 of 10

**This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing.**

**Room 1401-3, 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>**

This report is restricted by the Terms and Conditions as stated on the back page of the application form or it can be provided on request.



## **TEST REPORT**

Report No. : AC000146

Date : 2002 January 11

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

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

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)
27.145	V	43.0	18.9	61.9	80.0	-18.1
54.289	V	12.0	10.4	22.4	40.0	-17.6
81.435	V	17.0	10.0	27.0	40.0	-13.0
108.574	V	13.3	14.2	27.5	43.5	-16.0
135.726	V	11.0	15.5	26.5	43.5	-17.0
162.863	V	12.2	13.6	25.8	43.5	-17.7
190.009	V	11.6	13.4	25.0	43.5	-18.5
217.153	V	12.1	14.2	26.3	46.0	-19.7
244.295	V	14.3	14.2	28.5	46.0	-17.5
271.641	V	10.8	17.5	28.3	46.0	-17.7

FCC ID : OW26570THOMAS27TX

Page 7 of 10

This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing.

Room 1401-3, 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>

This report is restricted by the Terms and Conditions as stated on the back page of the application form or it can be provided on request.



## **TEST REPORT**

Report No. : AC000146

Date : 2002 January 11

### **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 – 1992. 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

FCC ID : OW26570THOMAS27TX

Page 8 of 10

**This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing.**

**Room 1401-3, 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>**

This report is restricted by the Terms and Conditions as stated on the back page of the application form or it can be provided on request.



## **TEST REPORT**

Report No. : AC000146

Date : 2002 January 11

### **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 ExtPho1 to ExtPho2 and IntPho1 to IntPho2

### **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	LabelSmpl.pdf
Block Diagram	BlkDia.pdf
Schematic Diagram	Schem.pdf
Users Manual	UserMan.pdf
Operational Description	OpDes.pdf

#### **5.1 Bandwidth**

For electronic filing, the bandwidth plot is saved with filename TestRpt.2.pdf which shows that the fundamental emission is confirmed in the specified band.

FCC ID : OW26570THOMAS27TX

Page 9 of 10

**This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing.**

**Room 1401-3, 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>**

This report is restricted by the Terms and Conditions as stated on the back page of the application form or it can be provided on request.



## **TEST REPORT**

Report No. : AC000146

Date : 2002 January 11

### **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.	Schematic Diagram	1 page
A7.	Users Manual	3 pages
A8.	Operational Description	1 page
A9.	Bandwidth	1 page

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

FCC ID : OW26570THOMAS27TX

Page 10 of 10

**This document shall not be reproduced either in full or in part except with written approval by the Authorized Representative of CMA Testing.**

**Room 1401-3, 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>**

This report is restricted by the Terms and Conditions as stated on the back page of the application form or it can be provided on request.