CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No. : AF019206-001 Date : 2005 August 17

Application No. : LF212370(4)

Client : Mattel Asia Pacific Sourcing Limited
13/F., South Tower, World Finance Centre,
Harbour City, Tsimshatsui, Kowloon, Hong Kong.

Sample Description : One(1) submitted sample stated to be Pound Puppies Mutt of Model No. J7205
Rating : 2 x 1.5V AAA size batteries
No. of submitted sample : Three (3) piece(s)***

Date Received : 2005 July 18

Test Period : 2005 July 18 – 2005 July 22

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 C.

For and on behalf of
CMA Testing and Certification Laboratories

Authorized Signature : _____

Danny Chui
EMC Engineer - EL. Division

FCC ID : PIYJ7205-05A4T

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 Web Site: http://www.cmatcl.com

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1 General Information

1.1 General Description

The equipment under test (EUT) is a transmitter for Pound Puppies Mutt. Operating at 49.860MHz which is controlled by a crystal. The EUT is powered by 2 x 1.5V AAA size battery. It has a control stick in the EUT. When the control stick pressed once, it will transmit difference radio signal to receiver unit.

The brief circuit description is listed as follows :
- X1, L1 and associated circuit act as oscillator.
- IC1 and associated circuit act as encoder.
- L3, L4 and associated circuit act as filter.

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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,
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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
Loop Antenna	EMCO	6502	00056620	49906

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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.

For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1 m above the ground.

The device was rotated through three orthogonal axes to determine which attitude and configuration produce the highest emission during measurement.

2.2 Test Result

Peak Detector data was measured unless otherwise stated.

* Emissions appearing within the restricted bands shall follow the requirement of section 15.205.

It was found that the EUT meet the FCC requirement.

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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 (dBμV/m)	Antenna and Cable factor (dB)	Average Factor (dB)	Field Strength (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
49.860	V	67.4	10.2	-6.0	71.6	80.0	-8.4
99.714	V	28.6	9.4	-	38.0	43.5	-5.5
149.552	V	26.7	11.9	-	38.6	43.5	-4.9
199.406	V	17.6	10.2	-	27.8	43.5	-15.7
* 249.260	H	21.4	10.2	-	31.6	46.0	-14.4
299.114	H	17.9	13.8	-	31.7	46.0	-14.3
348.968	H	17.6	15.2	-	32.8	46.0	-13.2
398.822	H	21.5	15.2	-	36.7	46.0	-9.3
448.676	H	17.7	18.1	-	35.8	46.0	-10.2
498.530	H	19.3	18.1	-	37.4	46.0	-18.2

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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

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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.

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5 Supplementary document

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

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

5.1 Bandwidth

The plot on saved in TestRpt2.pdf shows the fundamental emission is confined in the specified band. The field strength of any emission appearing between the band edges and up to 10 kHz above and below the band edges (49.81 and 49.91 MHz) is at least 26dB below the carrier level. It meets the requirement of Section 15.235(b).

5.2 Duty Cycle

The duty cycle is simply the on-time divided by the period :

The duration of one cycle = 35.05ms

Effective period of the cycle = (1.04 x 8)ms + (0.52 x 18)ms

= 17.68ms

Duty Cycle = 17.68ms / 35.05ms

= 0.504

Therefore, the average factor is found by $\underline{20 \log_{10}} 0.504$ = -6.0dB

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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	Bandwidth Plot	1 page
A6	Average Factor	2 pages
A7	Block Diagram	1 page
A8	Schematics	1 page
A9	User Manual	6 pages
A10	Operation Description	1 page

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

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