



TEST REPORT

Report No. : AG013164-001 Date : 2006 June 13

Application No. : LG211856(1)

Applicant : Mattel Asia Pacific Sourcing Limited
13/F., South Tower, World Finance Centre,
Harbour City, Tsim Sha Tsui,
Kowloon, Hong Kong

Sample Description : One(1) submitted sample(s) stated to be N. S. E. C. T
of Model No. J9863
Rating : 1 x 7.2V rechargeable battery
No. of submitted sample : Two (2) piece(s) ***

Date Received : 2006 June 01

Test Period : 2006 June 01 – 2006 June 07

Test Requested : FCC Part 15 Certification.

Test Method : 47 CFR Part 15 (10-1-05 Edition)
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.

For and on behalf of
CMA Industrial Development Foundation Limited

Authorized Signature : _____

Danny Chui
Deputy Manager - EL. Division

FCC ID: PIYJ9863-06A4R

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Test Result :

1 General Information

1.1 General Description

The equipment under test (EUT) is a super regenerative receiver for N. S. E. C. T. Operating at 49.860MHz which is controlled by LRC circuit. The EUT is powered by 1 X 7.2V rechargeable battery. When received forward, backward, turn left, turn right and others radio control signal, it will move forward, backward, turn left, turn right and other actions accordingly.

The brief circuit description is listed as follows:

- Q2 ~ Q4 and associated circuit act as super regenerative receiver.
- Q5, Q11, U1, U2 and associated circuit act as decoder.
- Q19, Q21 ~ Q26 and associated circuit act as M4 motor control.
- Q20, Q13 ~ Q18 and associated circuit act as M3 motor control.
- Q9, Q10, Q12 and associated circuit act as M2 motor control.
- Q6 ~ Q8 and associated circuit act as M1 motor control.
- Q1, ZD1 and associated circuit act as voltage control.



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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,
Fo Tan, Shatin,
New Territories,
Hong Kong.



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1.3 List of measuring equipment

| Equipment | Manufacturer | Model No. | Serial No. |
|-------------------|--------------|-----------|------------|
| EMI Test Receiver | R&S | ESCI | 100152 |
| Broadband Antenna | Schaffner | CBL6112B | 2692 |
| Signal Generator | IFR | 2023B | 202302/938 |



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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.

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

All other measurements are well below the limit. Thus, those highest emissions were presented in next page.

The emissions meeting the requirement of section 15.109 are based on measurements employing the CISPR quasi-peak detector below 1000MHz and average detector for frequencies above 1000MHz.

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 B

| Frequency (MHz) | Polarity (H/V) | Reading at 3m (dB μ V/m) | Antenna and Cable factor (dB) | Field Strength (dB μ V/m) | Limit at 3m (dB μ V/m) | Margin (dB) |
|-----------------|----------------|------------------------------|-------------------------------|-------------------------------|----------------------------|-------------|
| 49.516 | V | 23.7 | 10.3 | 34.0 | 40.0 | -6.0 |
| 50.206 | V | 26.3 | 8.1 | 34.4 | 40.0 | -5.6 |
| 50.389 | V | 25.8 | 8.1 | 33.9 | 40.0 | -6.1 |
| 52.456 | V | 26.4 | 8.1 | 34.5 | 40.0 | -5.5 |
| 52.626 | V | 26.2 | 8.1 | 34.3 | 40.0 | -5.7 |
| 96.217 | V | 9.1 | 9.2 | 18.3 | 43.5 | -25.2 |
| 96.747 | V | 10.8 | 9.2 | 20.0 | 43.5 | -23.5 |
| 101.828 | V | 7.0 | 11.0 | 18.0 | 43.5 | -25.5 |
| 143.677 | V | 5.1 | 11.9 | 17.0 | 43.5 | -26.5 |
| 150.650 | V | 6.1 | 11.9 | 18.0 | 43.5 | -25.5 |



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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 InPho4.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

N/A

5.2 Duty cycle

N/A

5.3 Transmission time

N/A



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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 | 2 pages |
| A4. | ID Label/Location | 1 page |
| A7. | Block Diagram | 1 page |
| A8. | Schematics Diagram | 1 page |
| A9. | User Manual | 4 pages |
| A10. | Operation Description | 1 Page |

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