CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No.	:	AG017416-001	Date :	2006 July 24

Application No. : LG213729(2)

Applicant : Nikko (NICS Engineering Ltd.)
Unit 2701 & 2710-19, 27/F.,
The Metropolis Tower, The Metropolis Drive,
Hunghom, Kowloon, Hong Kong

Sample Description : One(1) submitted sample(s) stated to be

Model name	Model No
Wild Cat	60-4455
Twin Truck	60-4456

Rating : 6 x 1.5V AA size batteries
No. of submitted sample : One(1) piece(s) ***

Date Received : 2006 July 10

Test Period : 2006 July 13 – 2006 July 20

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.

Remark : All two models are the same in circuitry and components; and therefore model 60-4456 was chosen to be the representative of the test sample.

For and on behalf of
CMA Industrial Development Foundation Limited

Authorized Signature : _____
Danny Chui
Deputy Manager - EL. Division

FCC ID: CVT1401RX-49-1

CMA Industrial Development Foundation Limited
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1 General Information

1.1 General Description

The equipment under test (EUT) is a superregenerative receiver for Twin Truck. It is operating at 49.86MHz which is controlled by a LRC circuit. The EUT is powered by 6 x 1.5V AA size batteries. When received forward, backward, turn left and turn right radio signal, it will run correspond direction.

The brief circuit description is listed as follows:

- Q1 and associated circuit act as RF receiver.
- Q2 and associated circuit act as voltage control.
- U1 and associated circuit act as decoder.
- Q3 – Q8 and associated circuit act as M1 motor control.
- Q9 – Q14 and associated circuit act as M2 motor 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,
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1.3 List of measuring equipment

Equipment	Manufacturer	Model No.	Serial No.
Spectrum Analyzer	R&S	FSP30	100628
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 (dBμV/m)	Antenna and Cable factor (dB)	Field Strength (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
48.632	V	12.6	10.3	22.9	40.0	-17.1
48.741	V	12.8	10.3	23.1	40.0	-16.9
48.832	V	12.9	10.3	23.2	40.0	-16.8
50.870	V	15.3	8.1	23.4	40.0	-16.6
50.980	V	15.4	8.1	23.5	40.0	-16.5
51.040	V	14.8	8.1	22.9	40.0	-17.1
99.270	V	13.6	9.2	22.8	43.5	-20.7
99.380	V	13.5	9.2	22.7	43.5	-20.8
148.818	V	10.9	11.9	22.8	43.5	-20.7
149.806	V	11.0	11.9	22.9	43.5	-20.6

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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

The appendices A1 shows the photo of emission test setup configuration

4.2 Photographs of the External and Internal Configurations of the EUT

The appendices A2 and A3 are show the photos of external and internal configuration.

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5 Supplementary document

The following document were submitted by applicant, and filing in the appendices as below:

Appendices	Document
A4	ID Label/Location
A5	Block Diagram
A6	Schematic Diagram
A7	Users Manual
A8	Operational Description

5.1 Bandwidth

N/A

5.2 Duty cycle

N/A

5.3 Transmission time

N/A

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6 Appendices

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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	4	pages
A8.	Operation Description	1	page

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

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