CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No.	:	AM008609-001	Date :	2010-03-12
Application No.	:	LM213320(0)		
Client	:	NANDA HOME INC. 116 KERBY ROAD, GROSSE POINTE FARMS, MI 48236		
Sample Description	:	One(1) submitted sample(s) stated to be Tocky of Model No. V2b Rating : 3 x1.5V AAA size batteries No. of submitted sample : Two (2) piece(s)		
Date Received	:	2010-01-30.		
Test Period	:	2010-02-05 to 2010-02-26.		
Test Requested	:	FCC Part 15 Certification.		
Test Method	:	47 CFR Part 15 (10-1-08 Edition) ANSI C63.4 – 2003		
Test Result	:	See attached sheet(s) from page 2 to 13.		
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 : _____

Mr. Wong Lap-pong, Andrew
Assistant Manager
Electrical Division

FCC ID: XZTTOCK1

CMA Industrial Development Foundation Limited
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

CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

Table of Contents

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

1 General Information

1.1 General Description

The equipment under test (EUT) is a Tocky. It is operated at 24MHz and the oscillation of MCU is generated by an oscillator. The EUT is powered by 3 x 1.5V AAA size batteries. When it is connected to a PC by an USB cable, it will become a portable hard driver. .

The brief circuit description is listed as follows:

- U1, U5, Y1, Y2 and associated circuit act as a main processer.
- U2 and associated circuit act as a touch sensitivity controller.
- U6 and associated circuit act as a flash IC.
- U4 and associated circuit act as a motor driver.
- U3 and associated circuit act as an audio amplifier

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

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.

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

1.3 List of measuring equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibration Due Date
EMI Test Receiver	R&S	ESCI	100152	2010 Dec 23
Broadband Antenna	Schaffner	CBL6112B	2718	2010 Aug 04
LISN	R&S	ESH3-Z5	100038	2010 May 11

Support equipment (provided by CMA)

- Intel CPU P4 2.8GHz / 512k cache / 533MHz bus
  Model: 9426A657
- Intel Mother Board
  Model: Intel Type: D845EPI/D845GVSR
- Seagate Hard-disk
  Model: ST380011A, 80GB
- Proview LCD Monitor
  Model: 568
- Logitech Mouse
  Model: M-S34
- Hewlett Packard Keyboard
  Model: SK-2502C
- Hewlett Packard LaserJet 2100TN
  Model: C4172A
- PenPower Handwriting System
  Model: PP403N

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

1.4 Measurement Uncertainty

The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%.

Radiated emissions

Frequency	Uncertainty (U_{lab})
30MHz ~ 200MHz (Horizontal)	4.63dB
30MHz ~ 200MHz (Vertical)	4.64dB
200MHz ~1000MHz (Horizontal)	4.65dB
200MHz ~1000MHz (Vertical)	4.64dB

Conducted emissions

Frequency	Uncertainty (U_{lab})
150kHz ~ 30MHz	3.04dB

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

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

The frequencies from 30MHz to 1000MHz were investigated, and emissions more 20dB below limited were not reported. Thus, those higher emissions were presented in next page (section 2.3)

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.

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Environmental conditions:

Parameter	Recorded value	
Ambient temperature:	18	° C
Relative humidity:	62	%

Mode: Stand Alone

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dBμV)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
239.332	H	7.4	10.3	17.7	46.0	-28.3
284.049	H	11.3	14.1	25.4	46.0	-20.6
336.588	H	11.6	15.9	27.5	46.0	-18.5
443.220	H	8.8	19.4	28.2	46.0	-17.8
590.661	H	5.4	20.5	25.9	46.0	-20.1
773.176	H	5.4	22.5	27.9	46.0	-18.1
877.803	H	6.2	23.6	29.8	46.0	-16.2

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Environmental conditions:

Parameter	Recorded value	
Ambient temperature:	18	° C
Relative humidity:	62	%

Mode: PC Connected with Data Transferring

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dBμV)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
215.486	V	17.5	10.3	27.8	43.5	-15.7
345.896	V	16.8	15.9	32.7	46.0	-13.3
570.091	V	8.6	20.5	29.1	46.0	-16.9
750.788	H	9.3	22.5	31.8	46.0	-14.2
816.140	H	14.3	23.6	37.9	46.0	-8.1
864.139	V	13.6	23.6	37.2	46.0	-8.8
912.143	V	13.7	24.6	38.3	46.0	-7.7
960.158	V	18.9	24.6	43.5	54.0	-10.5

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

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

The PC connected mode has been tested. The EUT was tested under a data transferring mode.

It was found that the EUT met the FCC requirement.

3.3 Graph and Table of Conducted Emission Measurement Data

For electronic filling, the document is saved with filename TestRpt2.pdf.

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

4 Photograph

4.1 Photographs of the Test Setup for Radiated Emission and Conducted Emission

For electronic filing, the photos are saved with filename TSup1.jpg to TSup7.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.

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

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

Not Applicable

5.2 Duty cycle

Not Applicable

5.3 Transmission time

Not Applicable

CMA Industrial Development Foundation Limited
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

TEST REPORT

Report No. : AM008609-001 Date : 2010-03-12

6 Appendices

A1	Photos of the set-up of Radiated Emissions	2	pages
A2	Photos of the set-up of Conducted Emissions	2	pages
A3	Photos of External Configurations	1	page
A4	Photos of Internal Configurations	2	pages
A5	ID Label/Location	1	page
A6	Conducted Emission Measurement Data	2	pages
A7	Block Diagram	1	page
A8	Schematics	4	pages
A9	User Manual	1	page
A10	Operation Description	1	page

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

CMA Industrial Development Foundation Limited
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