CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No.	:	AJ028382-001	Date :	2007 October 11
Application No.	:	LJ221028(4)		
Applicant	:	UNICORN MANUFACTURING LTD. RM 2105, H.K. WORSTED MILLS IND. BUILDING, 31-39 WO TONG TSUI STREET, KWAI CHUNG, N.T., HONG KONG		
Sample Description	:	One(1) submitted sample(s) stated to be Model Name : Digital Photo Frame Model No. : DPV140 Rating : USB 5V for charging battery 1 x DC 3.7V rechargeable battery No. of submitted sample : Two (2) set(s) ***		
Date Received	:	2007 September 19		
Test Period	:	2007 September 19 – 2007 October 05		
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 12.		
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: UTF-DPV140

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1 General Information

1.1 General Description

The equipment under test (EUT) is a digital photo frame for displaying photos downloaded from personal computer. It operates at 4MHz (for fast clock and 32.768kHz for slow clock) and the oscillation of MCU is generated by 2 crystals. The EUT is power by a built-in DC3.7V rechargeable Lithium battery. This digital photo frame has three features:

1. Photo frame (which supports .JPEG and .BMP files)

2. Mass photo storage through USB1.1 interface for uploading and downloading files

3. Clock with alarm

The brief circuit description is listed as follows:

- IC U1 and its associated circuits act as USB connection and data processing.
- IC U2 and its associated circuit act as data storage.
- IC U3 and its associated circuit act as Low Drop Out voltage regulator.

A brief circuit description is saved with filename: OpDes.pdf

1.2 Related Submittal Grants

This is a single application for certification of a computer peripheral product.

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1.3 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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1.4 List of Measuring Equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibration Due Day
EMI Test Receiver	R&S	ESCS30	100001	2008 February 04
Bilog Antenna	Schaffner	CBL6112B	2718	2008 May 23
LISN	R&S	ESH3-Z5	100010	2008 January 25
LISN	R&S	ESH3-Z5	100038	2008 January 23

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1.5 List of Support Equipment

1. Intel CPU P4 2.8GHz / 512k cache / 533MHz bus
   Model: 9426A657
2. Intel Mother Board
   Model: Intel Type: D845EPI/D845GVSR
3. Seagate Hard-disk
   Model: ST340014A, 40GB
4. Proview LCD Monitor
   Model: 568
5. Logitech Mouse
   Model: M-S34
6. Hewlett Packard Keyboard
   Model: SK-2502C
7. Hewlett Packard LaserJet 2100TN
   Model: C4172A
8. PenPower Handwriting System
   Model: PP403N
9. USB cable
   (Provided by Applicant)

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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.

The device was rotated through three orthogonal to determine which attitude and configuration produce highest emission during measurement for Radiated Emission measurement.

2.2 Test Result

All modes had been tested. 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.

The emissions from 30MHz to 1000MHz were investigated. The highest emissions were presented in next pages.

Emissions with more than 20dB below the limit were not reported.

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

Mode: Stand alone (Photo Frame)

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)
33.429	H	7.0	18.5	25.5	40.0	-14.5
35.674	H	9.3	15.7	25.0	40.0	-15.0
41.386	H	12.1	13.0	25.1	40.0	-14.9
42.013	H	14.7	10.6	25.3	40.0	-14.7
56.420	H	17.4	8.4	25.8	40.0	-14.2
68.270	V	18.3	5.8	24.1	40.0	-15.9
69.023	H	19.0	5.8	24.8	40.0	-15.2
74.518	H	19.4	6.0	25.4	40.0	-14.6
80.339	H	17.4	7.3	24.7	40.0	-15.3
83.465	H	18.2	7.3	25.5	40.0	-14.5

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2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Mode: PC connected (USB)

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)
48.010	V	25.1	10.6	35.7	40.0	-4.3
51.200	V	20.2	8.4	28.6	40.0	-11.4
135.996	H	20.1	12.6	32.7	43.5	-10.8
192.018	H	30.1	9.5	39.6	43.5	-3.9
224.013	H	27.3	9.8	37.1	46.0	-8.9
232.015	H	27.7	9.8	37.5	46.0	-8.5
240.019	H	32.7	9.8	42.5	46.0	-3.5
276.024	H	27.7	13.9	41.6	46.0	-4.4
284.022	H	25.9	13.9	39.8	46.0	-6.2
300.024	H	19.1	14.9	34.0	46.0	-12.0

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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

The PC connected mode has been tested. The EUT is connected to PC with a USB cable in order to produce maximum emissions.

The measurement data was indicated in Appendix.

It was found that the EUT met the FCC requirement.

3.3 Graph and Table of Conducted Emission Measurement Data

For electronic filing, the documents are saved with filename TestRpt2.pdf.

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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 TSup5.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.

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

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6 Appendices

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A3.	Photos of External Configurations	1	page
A4.	Photos of Internal Configurations	1	page
A5.	ID Label/Location	1	page
A6.	Conducted Emission Measurement Data	2	pages
A7.	Block Diagram	1	page
A8.	Schematics Diagram	1	page
A9.	User Manual	6	pages
A10.	Operation Description	1	page

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

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