CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No.	:	AG027053-001	Date :	2006 December 11

Application No. : LG219636(5)

Client : Imperial International
2221 Niagara Falls Blvd.
Niagara Falls, New York. 14304

Sample Description : One(1) submitted sample(s) stated to be Home Weather Station for TV version of Model No. DG950TV
Radio Frequency : 433.920MHz Receiver
Rating : AC 120V to DC 6V adaptor
No. of submitted sample : One (1) piece(s) ***

Date Received : 2006 August 30

Test Period : 2006 August 30 – 2006 October 03

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: S24BW953

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1 General Information

1.1 General Description

The equipment under test (EUT) is a super regenerative receiver for Home Weather Station for TV version. It operates at 433.920MHz which is controlled by a LRC circuit. The EUT is powered by AC 120V to DC 6V adaptor. When it switched on, it can measure the Wind Speed, Rainfall, Temperature and Pressure. The build in receive can receive out door transmitter signal and display on TV or PC. There are single USB terminal for data storage in PC.

The brief circuit description is listed as follows:

- Q4, U9 and associated circuit act as RF receiver
- X1, U11, Q7, Q8 and associated circuit act as LCD controller
- Q5, U1, X7, U3, U13, Q1 and associated circuit act as controller
- U7, U10, U2 and associated circuit act as voltage controller
- U4, Y1 and associated circuit act as video controller

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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.
EMI Test Receiver	R&S	ESCI	100152
Spectrum Analyzer	R&S	FSP30	100628
Broadband Antenna	Schaffner	CBL6112B	2718
Signal Generator	IFR	2023B	202302/938
Horn Antenna	Schwarzbeck	9120D	9120D-531
Pre-amplify	Schwarzbeck	9718	9718-119

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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 qusai-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

Operation Mode: PC Connection

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)
48.014	V	19.7	10.6	30.3	40.0	-9.7
88.180	V	21.1	7.3	28.4	43.5	-15.1
144.404	V	18.7	12.0	30.7	43.5	-12.8
192.394	H	22.3	9.5	31.8	43.5	-11.7
275.494	H	19.1	13.9	33.0	46.0	-13.0
343.648	H	17.5	14.9	32.4	46.0	-13.6
425.166	H	15.7	17.9	33.6	46.0	-12.4
432.062	H	18.6	17.9	36.5	46.0	-9.5
459.038	H	16.5	17.9	34.4	46.0	-11.6
702.068	H	17.7	21.8	39.5	46.0	-6.5

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Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Operation Mode: Receiver Mode

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)
47.996	V	17.8	10.6	28.4	40.0	-11.6
96.004	V	20.5	9.5	30.0	43.5	-13.5
143.984	V	17.5	12.0	29.5	43.5	-14.0
189.022	V	25.1	9.5	34.6	43.5	-8.9
191.586	V	27.4	9.5	36.9	43.5	-6.6
405.044	H	16.4	17.9	34.3	46.0	-11.7
432.036	H	18.7	17.9	36.6	46.0	-9.4
459.044	H	17.9	17.9	35.8	46.0	-10.2
486.034	V	15.8	17.9	33.7	46.0	-12.3
702.064	H	15.5	21.8	37.3	46.0	-8.7

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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 had been tested. The EUT connecting with an USB cable and all accessories produced the maximum emission. The measurement data was indicated in Appendix.

The result showed that the EUT met the FCC requirement.

3.3 Graph and Table of Conducted Emission Measurement Data

For electronic filling, the documents are saved with filename TestRpt2.pdf for receiver operation mode and filename TestRpt3.pdf for PC connection mode.

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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 TSup10.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

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	2	Pages
A2.	Photos of the set-up of conducted Emissions	3	Pages
A3.	Photos of External Configurations	3	Pages
A4.	Photos of Internal Configurations	2	Pages
A5.	ID Label/Location	2	Pages
A6.	Conducted Emission Measurement Data	4	Pages
A7.	Block Diagram	1	Page
A8.	Schematics Diagram	4	Pages
A9.	User Manual	29	Pages
A10.	Operation Description	1	Pages

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

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