CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No. : AF003383-002 Date : 2005 March 04

Application No. : LF200147(3)

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

Sample Description : One(1) submitted sample stated to be Home Weather Station of Model No.DG950
Rating : AC 120V/ DC 6V
No. of sample(s) : Two (2) piece(s) ***

Date Received : 2005 January 14.

Test Period : 2005 January 14 – 2005 February 22.

Test Requested : FCC Part 15 Certification

Test Method : FCC Rules and Regulations Part 15 – April 2004
ANSI C63.4 – 2001

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 : The following eighty-five models are the same in circuitry and components and construction, and therefore model DG950 was chosen to be the representative of the test sample:

HOME WEATHER STATION	:	DG950
TOWNE HALL	:	TW950, TW970, TW966, TW975, TW945, TW965, TW940, TW960, TW990, TW995, TW985, TW935, TW980, TW930
NEWHOUSE HOMES	:	NH950, NH970, NH966, NH957, NH945, NH965, NH940, NH960, NH990, NH995, NH985, NH935, NH980, NH930
R.S.V.P	:	RS950, RS970, RS966, RS975, RS945, RS965, RS940, RS960, RS990, RS995, RS985 RS935, RS980, RS930
OLDE YORK REPRODUCTIONS	:	OY950, OY970, OY966, OY975, OY945, OY965, OY940, OY960, OY990, OY995, OY985, OY935, OY980, OY930
BIOS WEATHER/METEO	:	BW950, BW965, BW966, BW975, BW945, BW965M, BW940, BW960, BW990, BW995, BW985, BW935, BW980, BW930
NATIONAL GEOGRAPHIC	:	IN950, IN970, IN955, IN975, IN945, IN965, IN940, IN960, IN990, IN995, IN985, IN935, IN980, IN930

For and on behalf of
CMA Testing and Certification Laboratories

Authorized Signature : _____

Danny Chui
EMC Engineer - EL. Division

FCC ID : S24DG950R

Room 1302, Yan Hing Centre, 9-13 Wong Chuk Yeung St., Fo Tan, Shatin, Hong Kong.
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TEST REPORT

Report No. : AF003383-002 Date : 2005 March 04

Test Result :

Table of Contents

Room 1302, Yan Hing Centre, 9-13 Wong Chuk Yeung St., Fo Tan, Shatin, Hong Kong.
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TEST REPORT

Report No. : AF003383-002 Date : 2005 March 04

Test Result :

1 General Information

1.1 General Description

The equipment under test (EUT) is a super regenerative receiver for Home Weather Station. Operating at 433.920 MHz which is controlled by a LRC circuit. The EUT is powered by AC 120V/ DC 6V adaptor. It has a LCD display and seven button keys in front of EUT. When it switched on it can measure indoor temperature, humidity and pressure by internal three difference sensor and receive out door transmitter signal indicated at LCD display.

The brief circuit description is listed as follows :
- Q1, U3 and associated circuit act as signal receiver
- U6 and associated circuit act as CPU
- Y1 and associated circuit act as oscillator for CPU
- U1 and associated circuit act as indoor temperature sensor
- U2 and associated circuit act as indoor humidity sensor
- D10, U1A & U1B and associated circuit act as pressure sensor
- LCD1 and associated circuit act as LCD

1.2 Related Submittal Grants

This is a single application for certification of a receiver. The transmitter for this receiver is authorized by Certification procedure.

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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 – 2001. 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 – 2001. A double shielded room is located at :

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9 – 13 Wong Chuk Yeung Street,
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TEST REPORT

Report No. : AF003383-002 Date : 2005 March 04

Test Result :

1.4 List of measuring equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibration Certification No.
EMI Test Receiver	R&S	ESCS30	100001	S21141
Spectrum Analyzer	R&S	FSP30	100416	20-102273
Broadband Antenna	Schaffner	CBL6113B	2718	AC1753
Signal Generator	IFR	2023B	202302/938	Nil
LISN	R&S	ESH3-Z5	100038	S21142
Pulse Limiter	R&S	ESH3-Z2	100001	20-73194
Biconical Antenna	R&S	HK116	837414/004	4000.7752.02
Horn Antenna	EMCO	3115	9002-3351	90023351

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TEST REPORT

Report No. : AF003383-002 Date : 2005 March 04

Test Result :

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 – 2001.

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.

A signal generator was used to radiate an unmodulated continuous wave (CW) signal to the EUT (super regenerative receiver) at its operating frequency in order to "cohere" the characteristic broadband emissions from the receiver.

2.2 Test Result

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

It was found that the EUT meet the FCC requirement.

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TEST REPORT

Report No. : AF003383-002 Date : 2005 March 04

Test Result :

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)
397.920	H	13.1	14.9	28.0	46.0	-18.0
400.915	H	10.4	17.7	28.1	46.0	-17.9
405.175	H	11.2	17.7	28.9	46.0	-17.1
411.943	H	11.1	17.7	28.8	46.0	-17.2
414.700	H	10.6	17.7	28.3	46.0	-17.7
763.145	H	8.9	21.6	30.5	46.0	-15.5
775.304	H	7.8	21.6	29.4	46.0	-16.6
789.945	H	7.2	21.6	28.8	46.0	-17.2
812.109	H	4.7	22.5	27.2	46.0	-18.8
825.347	H	4.8	22.5	27.3	46.0	-18.7

TEST REPORT

Report No. : AF003383-002 Date : 2005 March 04

Test Result :

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 – 2001. The EUT was setup as described in the procedures, and both lines were measured.

3.2 Test Result

All operation mode has been tested and the RF receiving mode was chosen to be representative testing mode. The EUT was fulfil part 15.107 requirement and the measurement data was indicated in Appendix.

3.3 Graph and Table of Conducted Emission Measurement Data

For electronic filing, the document are saved with file name Test Report2.pdf.

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TEST REPORT

Report No. : AF003383-002 Date : 2005 March 04

Test Result :

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.

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TEST REPORT

Report No. : AF003383-002 Date : 2005 March 04

Test Result :

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 The duty cycle is simply the on-time divided by the period :

N/A

5.3 Transmission Period

N/A

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TEST REPORT

Report No. : AF003383-002 Date : 2005 March 04

Test Result :

6 Appendices

A1.	Photos of the set-up of Radiated Emissions	1	page
A2.	Photos of the set-up of Conducted Emissions	2	pages
A3.	Photos of External Configurations	1	page
A4.	Photos of Internal Configurations	1	page
A5.	ID Label/Location	1	page
A6.	Conducted Emission Test Result	2	pages
A7.	Block Diagram	1	page
A8.	Schematics	1	page
A9.	User Manual	30	pages
A10.	Operation Description	1	page

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

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