FCC COMPLIANCE REPORT

Order No. : **STE-05-0408/E**
Reference No. : **F690501/LF-EMC001044**
Applicant : **CHUNGLAM DIGITAL CO., LTD.**
Address of Applicant : **#453-4, Yongdu-Ri, Gongdo-Eup, Ansuug-si, Kyunggi-do, Korea**
Manufacturer : **CHUNGLAM DIGITAL CO., LTD.**
Address of Manufacturer : **#453-4, Yongdu-Ri, Gongdo-Eup, Ansuug-si, Kyunggi-do, Korea**

Equipment Under Test (EUT) :

Name : Satellite radio
Model No. : XACT REGO
Serial No. : None

Standards : FCC Part 15, Subpart B, Class B/ Subpart C
ANSI C63.4:2003

Date of Receipt : **13 April 2005**
Date of Test : **24 May 2005 to 25 May 2005**
Date of Issue : **30 May 2005**

Test Result :	**PASS**

In the configuration tested, the EUT complied with the standards specified above.

Remarks :

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

Carl Lee
EMC DIV. Manager
SGS Testing Korea Co., Ltd.

Contents

1. General Information

1.1 Applicant & Manufacturer Information

Applicant : CHUNGLAM DIGITAL CO., LTD.
Address of Applicant : #453-4, Yongdu-Ri, Gongdo-Eup, Ansuug-si, Kyunggi-do, Korea
Manufacturer : CHUNGLAM DIGITAL CO., LTD.
Address of Manufacturer : #453-4, Yongdu-Ri, Gongdo-Eup, Ansuug-si, Kyunggi-do, Korea

1.2 General Description of EUT

Product Name : Satellite radio
Model No. : XACT REGO
Serial No : None

1.3 Details of EUT

Tested Power Supply : DC 12V
Port : DC IN, Headset, USB, Satellite
Description of Operating : MP3 Play, Satellite Receiving, FM Transmission, USB Storage

1.4 Description of Support Units

Product	Model No.	Serial No.	Manufacturer
PS/2 MOUSE	OK-520	N/A	TECH
Keyboard	SEM-DT35	05068271	SAMSUNG
LCD Monitor	TGL 170PX	FFSJ330232176	Trigem Computer
Personal Computer	DreamSys/J4TU	N/A	TriGerm Computer Inc.

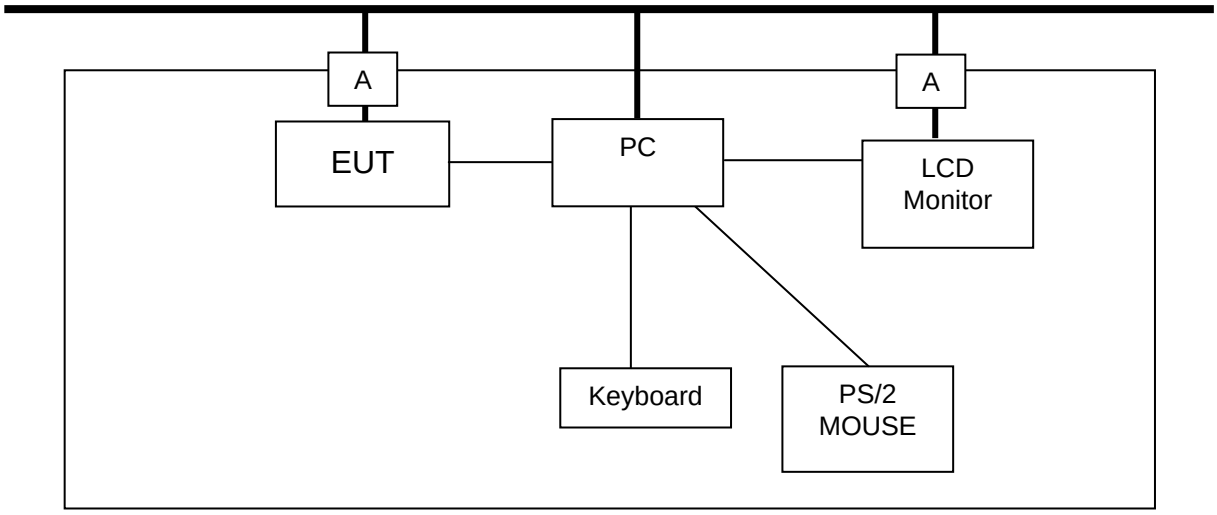
1.5 Cable List

Start		END		Cable Spec	
Name	I/O Port	Name	I/O Port	Length	Shield
EUT	USB	Personal Computer	USB	1.8	Shielded
	DC IN	AC Adapter	DC OUT	1.0	Unshielded
Adapter	DC OUT	EUT	DC IN	1.0	Unshielded
	AC IN	LISN	-	-	-
PC	RGB	LCD Monitor	-	1.8	Shielded
	USB	EUT	-	1.8	Shielded
	PS/2 Mouse	PS/2 Mouse	-	1.8	Shielded
	Keyboard	Keyboard	-	1.7	Shielded

1.6 System Configuration

Description	Model	Serial No.	Manufacturer
Mainboard	PDM04012-01G	N/A	N/A
Battery Board	PSS04017-01A	N/A	N/A
Keypad	N/A	N/A	N/A
Remocon	XACT	N/A	SIRIUS
AC Adapter	TSA11-050200WK	T12W041100010159	TECH-POWER ELECTRIC (SHEN ZHEN) CO., LTD.
Antenna	MAANAT0089	T089E043616214	SIRIUS
Battery	N/A	N/A	N/A
Cradle	N/A	N/A	N/A
DC Adapter	N/A	N/A	N/A
Speaker	N/A	N/A	N/A

1.7 Test Set-Up Configuration



1.8 Measurment Procedure

Conducted Emission Testing was performed according ANSI C63.4:2003 in a shielded room with peripherals placed on a table, 0.8m high over a metal floor. It was located more than required distance away from the shielded room wall.

Radiated Emission Testing was performed according to ANSI C63.4:2003 at the open field test site. The EUT was placed in a 0.8m high table along with the peripherals. The turn table was separated from the antenna distance 10meters. Cables were placed in a position to produce maximum emissions as determined by experimentation, and operation mode was selected for maximum.
The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities. Reported are maximized emission levels.

1.9 Standards Applicable for Testing

Table of tests to be carried out under FCC Part 15, Subpart B, Class B/ Subpart C

Test Standards	Status
FCC Part 15, Subpart B, Class B/ Subpart C	Applicable
Deviation from Standard	No Deviation

1.10 Summary of Results

The data collected shows that Model **XACT REGO** complies with of the FCC Part 15, Subpart B, Subpart C, CLASS B.
The highest emission level observed was at 0.23MHz Conducted emission with a margin of 13.8dB for Q/P value on MP3 mode and at 0.92 MHz with a margin of 19.1dB for A/V value on USB mode. The highest radiated emission level observed was at 699.38 MHz with a margin of 4.18 dB on USB mode.

Radio Disturbance

2.1 Test Results

	Results
Conducted Emission	**PASS**
Radiated Emission	**PASS**

2.2 Frequency Range

Conducted Emission : 150 kHz - 30 MHz
Radiated Emission : 30 MHz - 1000 MHz

2.3 Limits Of Conducted And Radiated Emission

2.3.1 Limit Of Conducted Emission Of FCC Part 15, Subpart B

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi - peak	Average	Quasi - peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Note : (1) The lower limit shall apply at the transition frequencies.
(2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.
(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected there to, shall not exceed the level of field strengths specified above.

2.3.2 Limit Of Radiated Emissions Of FCC Part 15, Subpart B

FREQUENCY (MHz)	Class A (at 10m)*	Class B (at 10m)*
	dBuV/m	dBuV/m
30-230	40	30
230-1000	47	37

* Detector Function : Quasi - Peak

2.3.3 Limit Of Radiated Emission Of FCC Part 15, Subpart C

2.3.1 Limit of any radiated emissions with the permitted 200KHz band

FREQUENCY (MHz)	At 3m uV/m
88-108	250

* Detector Function : Peak

2.3.2 Limit Of any Radiated Emissions Radiated on any Frequercy Outside Of The Specified 200KHz band

FREQUENCY (MHz)	At 3m uV/m
30-88	100
88-216	150
216-960	200
Abore-960	500

* Detector Function : Quasi - Peak

2.4.Test of Conducted Emission

2.4.1 Test Equipments

Equipment	Manufacturer	Model No.	Date of Calibration
Test Receiver	ESPC	R/S	Dec. 2004
LISN	3825/2	EMCO	Dec. 2004
LISN	3825/2	EMCO	Dec. 2004
Pulse Limiter	ESH3-Z2	R/S	Jul. 2004
Shielded Room	N/A	-	-

2.4.2 Test Site

Name and address : SGS Testing Korea Co., Ltd.
18-34, Sanbon-dong, Gunpo, Gyeonggi-do, Korea, 435-041

2.4.3 Operating Environment

Temperature : 22.1 degree C Humidity : 37.3 %RH
Atmospheric Pressure : 100.4 mBar

2.4.4 Measurement Data

Measurment Bandwidth : 9kHz

Date of Test : 24 May 2005

MODE : USB

FREQ.	LEVEL(dBμV)		LIMIT(dBμV)		MARGIN(dBμV)	
(MHz)	Q-Peak	Average	Q-Peak	Average	Q-Peak	Average
0.15	38.3	25.3	66.0	56.0	27.7	30.7
0.24	45.0	26.6	62.1	52.1	17.1	25.5
0.79	32.4	21.1	52.2	42.2	19.8	21.1
0.92	34.2	21.8	50.9	40.9	16.7	19.1
2.46	33.2	19.8	56.0	46.0	22.8	26.2
4.01	31.1	15.7	56.0	46.0	24.9	30.3

MODE : MP3

FREQ.	LEVEL(dBμV)		LIMIT(dBμV)		MARGIN(dBμV)	
(MHz)	Q-Peak	Average	Q-Peak	Average	Q-Peak	Average
0.23	48.6	33.2	62.4	52.4	13.8	19.2
0.34	38.3	26.5	59.2	49.2	20.9	22.7
0.93	31.9	16.5	56.0	46.0	24.1	29.5
2.79	6.0	10.0	56.0	46.0	50.0	36.0
5.20	27.4	12.3	60.0	50.0	32.6	37.7
7.37	25.4	13.0	60.0	50.0	34.6	37.0

See Appendix A (Test Data of Hot Line) for USB mode
See Appendix B (Test Data of Neutral Line) for USB mode
See Appendix C (Test Data of Hot Line) for MP3 mode
See Appendix D (Test Data of Neutral Line) for MP3 mode

* *Measurements using CISPR quasi-peak mode*

See - Ho, Lee / Test Engineer

2.5 Test of Radiated Emission

2.5.1 Test Instruments

Description	Manufacturer	Model No.	Date of Calibration
Test Receiver	ESVS30	R & S	Jan. 2005
Bilog Antenna	CBL6111C	Schaffner	Apr. 2004
RF Select s/w	CX-210N	DIAMOND ANTENNA	-
Open Site	N/A	N/A	Feb. 2005

2.5.2 Test Site

Name and address : SGS Testing Korea Co., Ltd.
18-34, Sanbon-dong, Gunpo, Gyeonggi-do, Korea, 435-041

2.5.3 Operating Environment

Temperature : 22.1 degree C Humidity : 31.5 %RH
Atmospheric Pressure : 100.3 mBar

2.5.4 Measurement Data

Measurment Bandwidth : 120kHz

Date of Test : 25 May 2005

MODE : USB

FREQ. (MHz)	LEVEL (dBμV)	POL (H/V)	AF (dB)	CL (dB)	F/S (dBμV/m)	LIMIT (dBμV/m)	MARGIN (dBμV)
208.16	11.6	H	9.22	2.10	22.92	30.0	7.08
278.41	15.2	H	12.74	2.27	30.21	37.0	6.79
349.25	13.6	H	14.50	2.65	30.74	37.0	6.26
419.08	12.4	H	16.14	2.98	31.52	37.0	5.48
559.86	8.8	H	19.24	3.42	31.46	37.0	5.54
699.38	7.9	H	20.83	4.10	32.82	37.0	4.18

** AF = Antenna Factor. ** CL = Cable Loss. *** Margin=Each Frequency Limit Level(dBuV)-(Level+AF+CL)*

MODE : MP3

FREQ. (MHz)	LEVEL (dBμV)	POL (H/V)	AF (dB)	CL (dB)	F/S (dBμV/m)	LIMIT (dBμV/m)	MARGIN (dBμV)
210.02	14.3	H	9.36	2.10	25.76	30.0	4.24
280.61	10.6	H	12.77	2.28	25.66	37.0	11.34
420.21	9.5	H	16.17	2.98	28.65	37.0	8.35
489.92	10.6	H	17.85	3.26	31.71	37.0	5.29
560.46	10.1	H	19.25	3.42	32.78	37.0	4.22
700.08	7.8	H	20.83	4.10	32.73	37.0	4.27

** AF = Antenna Factor. ** CL = Cable Loss. *** Margin=Each Frequency Limit Level(dBuV)-(Level+AF+CL)*

MODE : FM Radio

FREQ. (MHz)	LEVEL (dBμV)	POL (H/V)	AF (dB)	CL (dB)	F/S (dBμV/m)	LIMIT (dBμV/m)	MARGIN (dBμV)
88.10	28.6	V	8.80	1.30	38.70	48.0	9.30
98.10	28.7	V	9.83	1.38	39.91	48.0	8.09
107.90	28.7	V	10.62	1.40	40.72	48.0	7.28
176.20	15.2	V	9.09	1.85	26.14	43.5	17.36
196.20	15.5	V	8.65	2.08	26.23	43.5	17.27
215.80	15.1	V	9.78	2.10	26.98	43.5	16.52

** AF = Antenna Factor. ** CL = Cable Loss. *** Margin=Each Frequency Limit Level(dBuV)-(Level+AF+CL)*

See Appendix E,F (Test Data According to 15.239(a) of FCC Part 15 Subpart C)

For FM Radio Mode

Appendix E : 200KHz Band Plotting for Lowest Operation Frequency

Appendix F : 200KHz Band Plotting for Highest Operation Frequency

See – Ho, Lee / Test Engineer

3. Photographs of Test

- **Front View of Conducted Emission**

- **Rear View of Conducted Emission**

- **Front View of Radiated Emission**

- **Rear View of Radiated Emission**

- **Front View of Radiated Emission (FM Radio)**

- **Rear View of Radiated Emission (FM Radio)**

4. Photographs of Product

- **Front View of Product**

- **Rear View of Product**

- **Inside View of Product**

- **Front View of AC Adapter**

- **Rear View of AC Adapter**

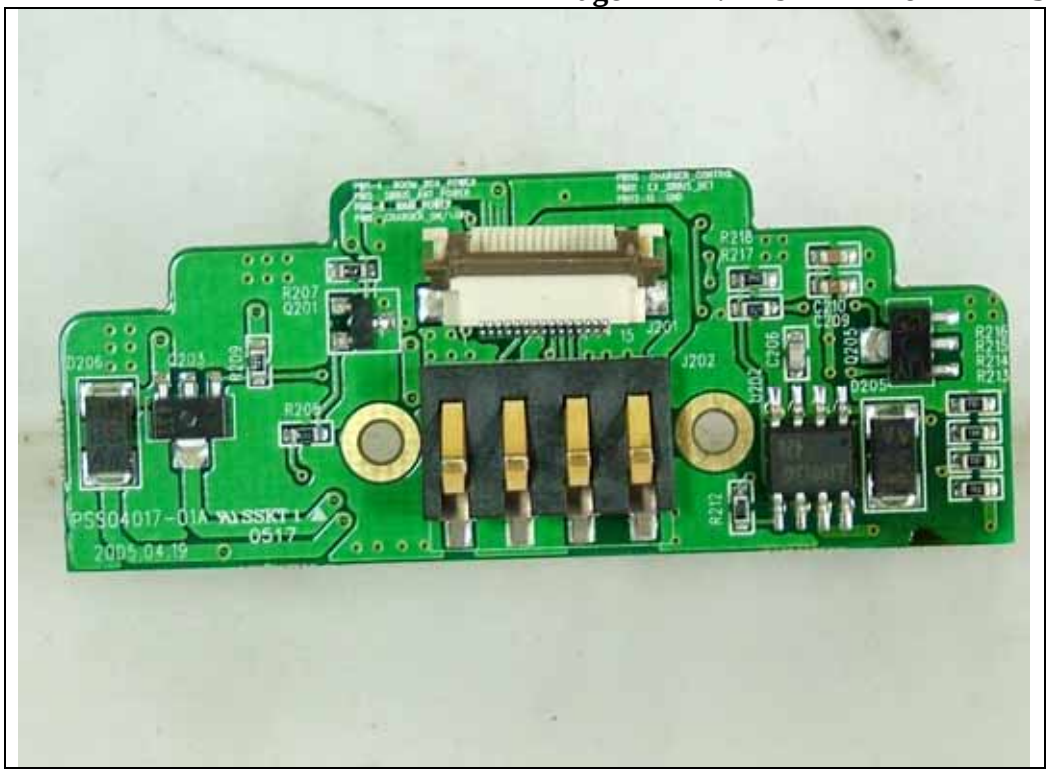
- **Front View of Antenna**

- **Rear View of Antenna**

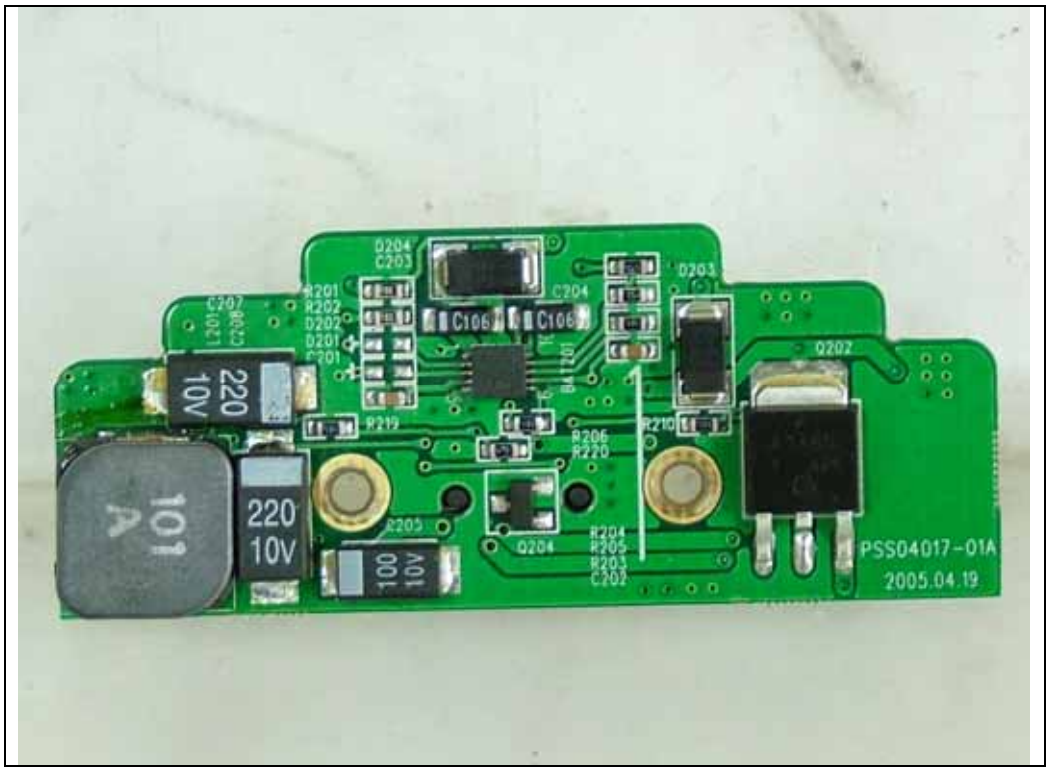
- **Front View of Battery**

- **Rear View of Battery**

- **Front View of Battery Board**



- **Rear View of Battery Board**



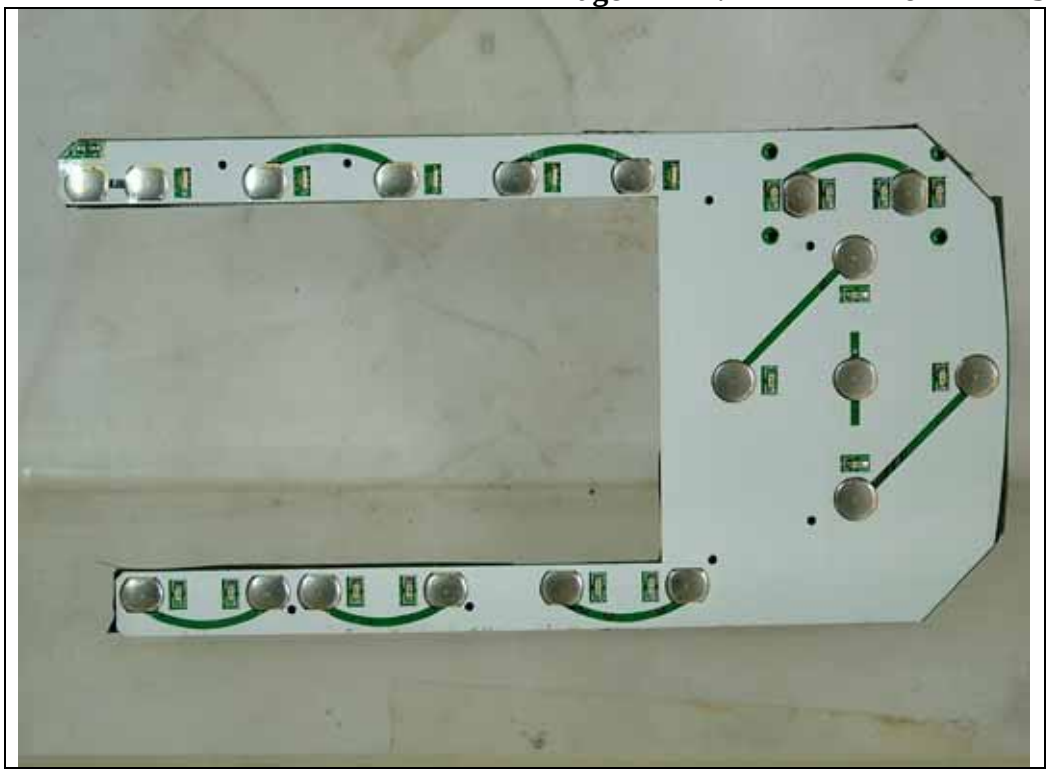
- **Front View of Cradle**

- **Rear View of Cradle**

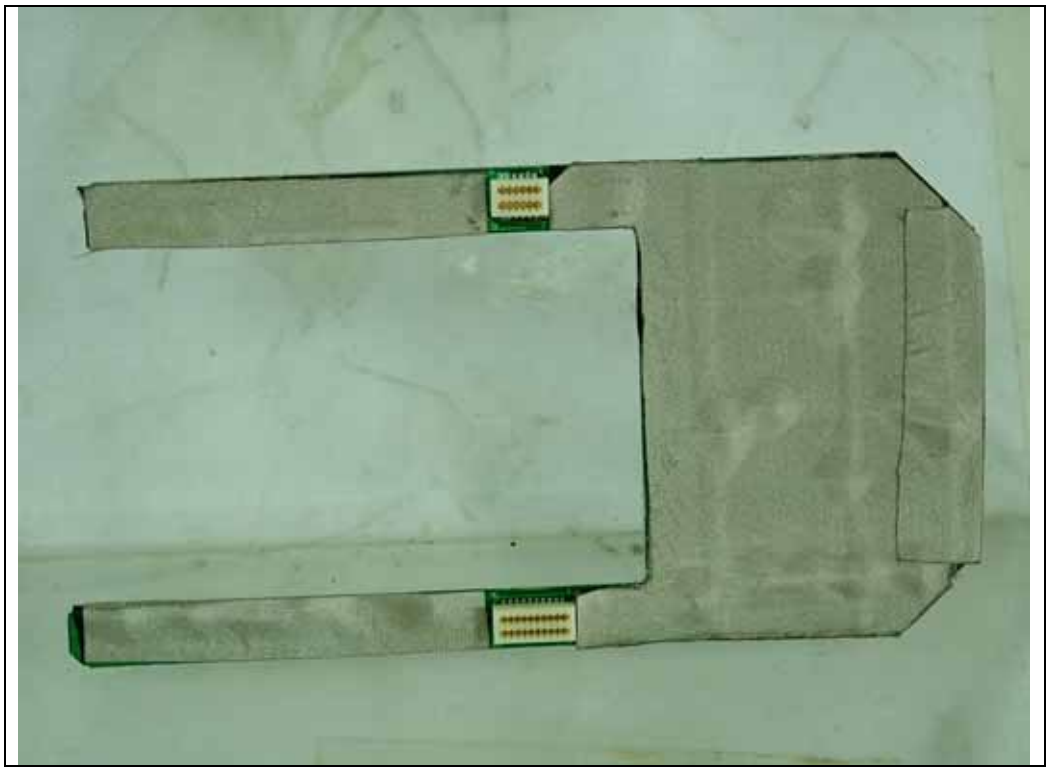
- **Front View of DC Adapter**

- **Rear View of DC Adapter**

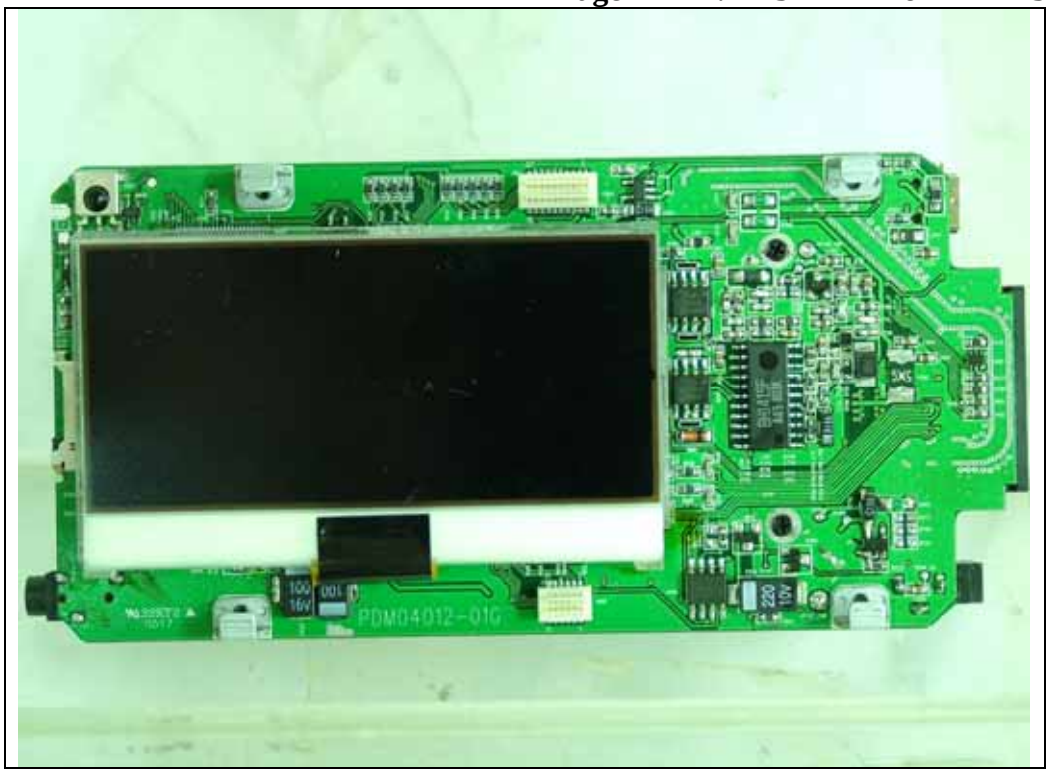
- **Front View of Keypad**



- **Rear View of Keypad**



- **Front View of Main Board**



- **Rear View of Main Board**

- **Front View of Remocon**

- **Rear View of Remocon**

- **Front View of Speaker**

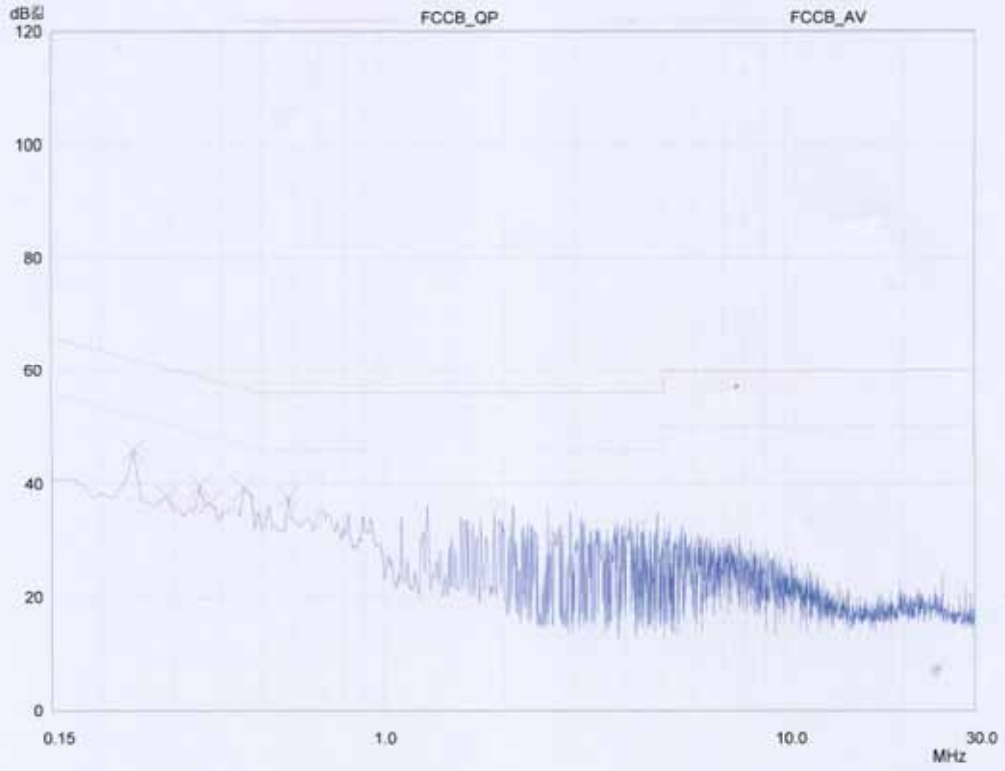
- **Rear View of Speaker**

Appendix A : Mains Terminal Continuous Disturbance Voltage Test Data

CHUNGLAM DIGITAL CO., LTD.
XACT REGO

EUT:	Satellite radio
Manuf:	CHUNGLAM DIGITAL CO., LTD.
Op Cond:	HOT
Operator:	S.H.LEE
Test Spec:	FCC Part 15
Comment:	USB Mode
File:	E0408UH.dat : New Measurement

Prescan Measurement:	X PK	
	Meas Time:	see scan settings
	Peaks:	8
	Acc Margin:	25 dB

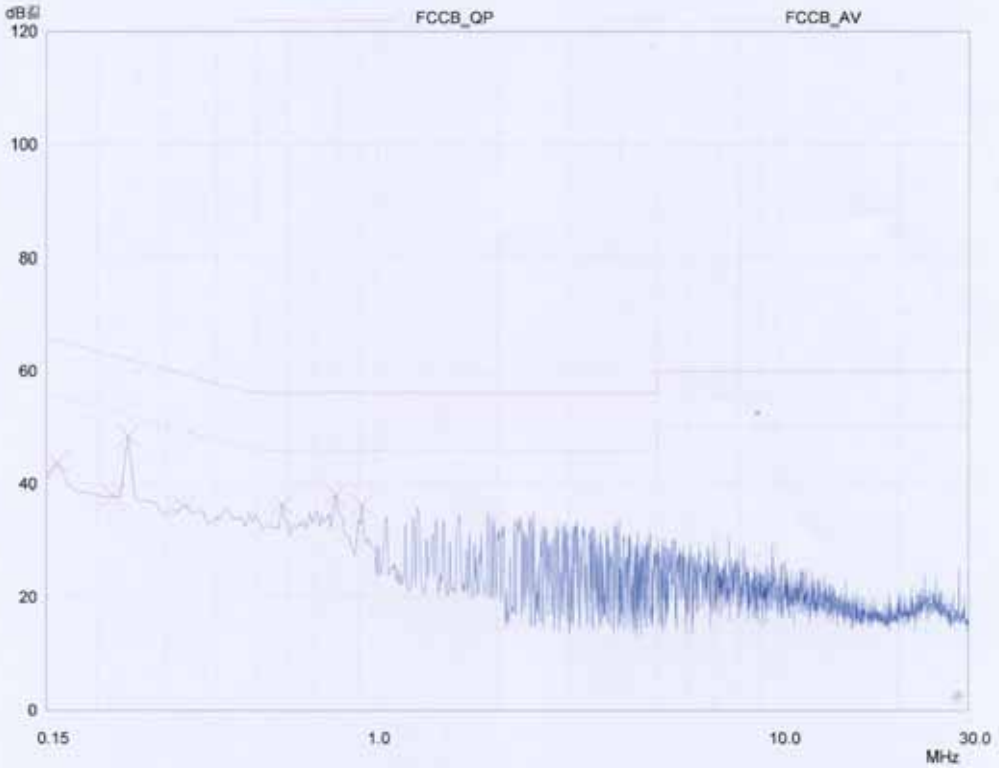


Appendix B : Mains Terminal Continuous Disturbance Voltage Test Data

CHUNGLAM DIGITAL CO., LTD.
XACT REGO

EUT:	Satellite radio
Manuf:	CHUNGLAM DIGITAL CO., LTD
Op Cond:	NEUTRAL
Operator:	S.H.LEE
Test Spec:	FCC Part 15
Comment:	USB Mode
File:	E0408UN.dat : New Measurement

Prescan Measurement: X PK
Meas Time: see scan settings
Peaks: 8
Acc Margin: 25 dB

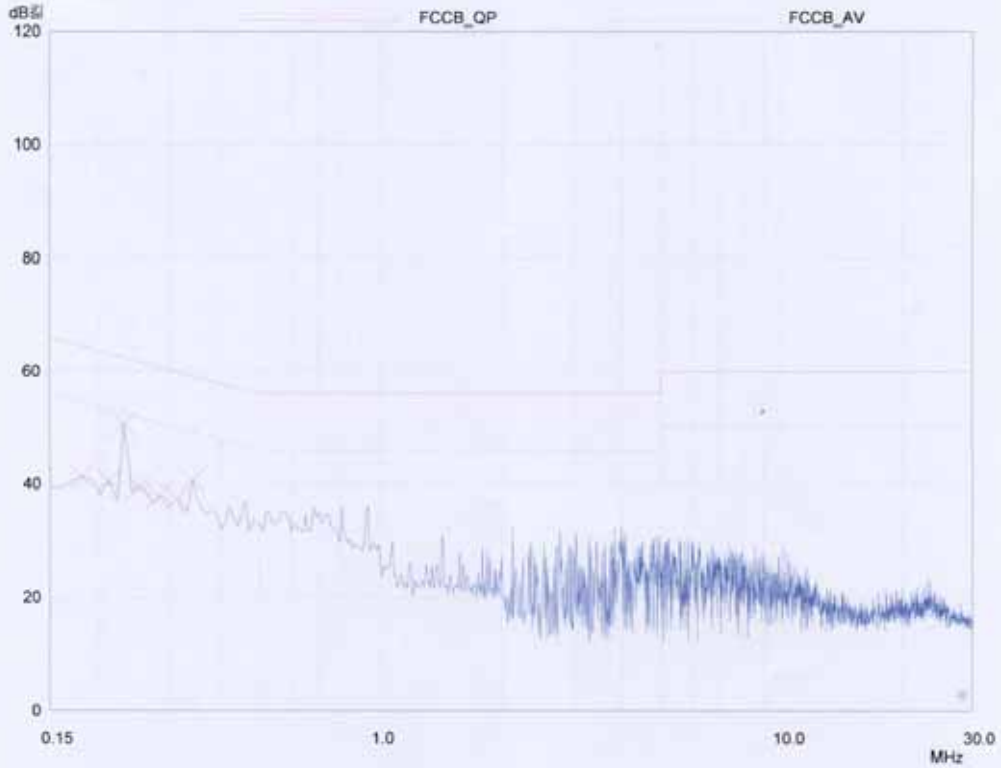


Appendix C : Mains Terminal Continuous Disturbance Voltage Test Data

CHUNGLAM DIGITAL CO., LTD.
XACT REGO

EUT:	Satellite radio
Manuf:	CHUNGLAM DIGITAL CO., LTD.
Op Cond:	HOT
Operator:	S.H.LEE
Test Spec:	FCC Part 15
Comment:	MP3 Mode
File:	E0408MH.dat : New Measurement

Prescan Measurement:	X PK	
	Meas Time:	see scan settings
	Peaks:	8
	Acc Margin:	25 dB

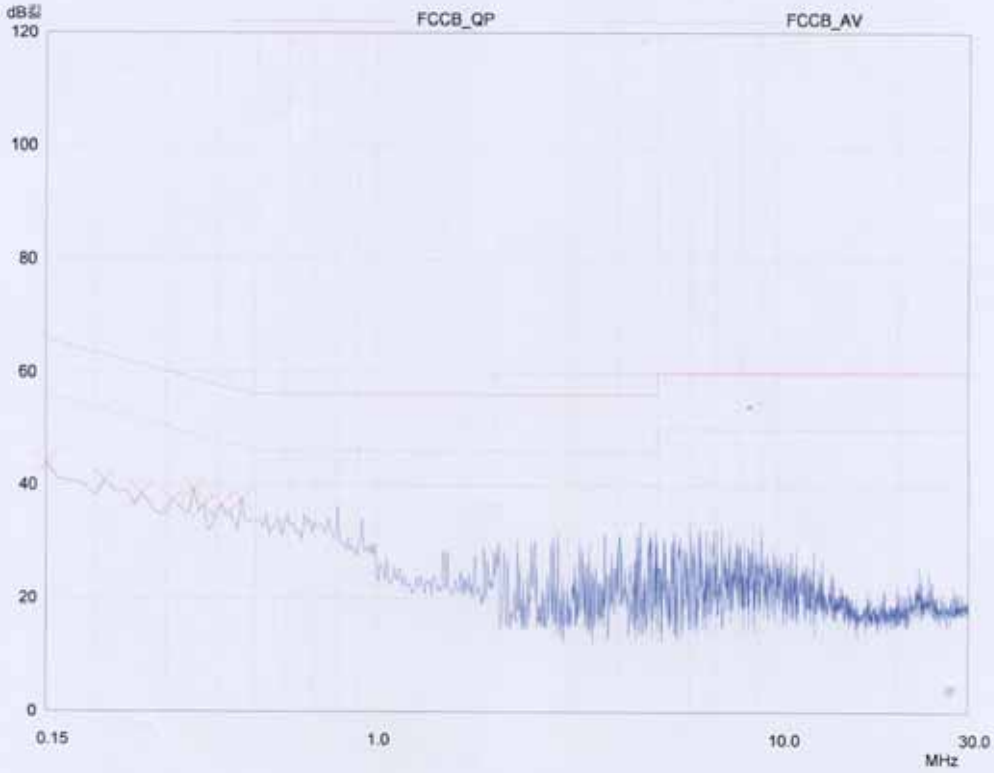


Appendix D : Mains Terminal Continuous Disturbance Voltage Test Data

CHUNGLAM DIGITAL CO., LTD.
XACT REGO

EUT:	Satellite radio
Manuf:	CHUNGLAM DIGITAL CO., LTD.
Op Cond:	NEUTRAL
Operator:	S.H.LEE
Test Spec:	FCC Part 15
Comment:	MP3 Mode
File:	E0408MN.dat : New Measurement

Prescan Measurement: X PK
Meas Time: see scan settings
Peaks: 8
Acc Margin: 25 dB



Appendix E : 200KHz Band Plotting for Lowest Operation Frequency

Appendix F : 200KHz Band Plotting for Highest Operation Frequency