ELECTROMAGNETIC EMISSION COMPLIANCE REPORT
FOR FCC CLASS B CERTIFICATION

Test Report No.	**: E062R-023**
AGR No.	**: A061A-098**
Applicant	**: KI RYUNG ELECTRONICS CO., LTD.**
Address	**: 219-6, Gasan-Dong, Kumchun-Ku, Seoul, 153-023, Korea**
Manufacturer	**: KI RYUNG ELECTRONICS CO., LTD.**
Address	**: 219-6, Gasan-Dong, Kumchun-Ku, Seoul, 153-023, Korea**
Type of Equipment	**: Navigation (Peripheral Device for Class B Computing Device)**
FCC ID	**: P3HXNS701**
Model Name	**: XNS701**
Serial number	**: N/A**
Total page of Report	**: 14 pages (including this page)**
Date of Incoming	**: February 01, 2006**
Date of Issuing	**: February 23, 2006**

SUMMARY

The equipment complies with the requirements of **FCC CFR 47 PART 15 SUBPART B, Class B.**
This test report contains only the results of a single test of the sample supplied for the examination. It is not a general valid assessment of the features of the respective products of the mass-production.

Prepared by: Young-Min, Choi / Project Engineer
EMC Div.
ONETECH Corp.

Reviewed by: Y. K. Kwon / Director
EMC Div.
ONETECH Corp

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

CONTENTS

Page

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

1. VERIFICATION OF COMPLIANCE

-. APPLICANT : KI RYUNG ELECTRONICS CO., LTD.
-. ADDRESS : 219-6, Gasan-Dong, Kumchun-Ku, Seoul, 153-023, Korea
-. CONTACT PERSON : Mr. Won-Kyu, Choi / Q.C. Assistant Manager
-. TELEPHONE NO : +82-2-3282-2261
-. FCC ID : P3HXNS701
-. MODEL NAME : XNS701
-. BRAND NAME : XACT Communication, LLC
-. SERIAL NUMBER : N/A
-. DATE : February 23, 2006

EQUIPMENT CLASS	JBP - Peripheral Device for Class B Computing Device
E.U.T. DESCRIPTION	Navigation
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	ANSI C63.4: 2003
TYPE OF EQUIPMENT TESTED	PRE-PRODUCTION
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	CERTIFICATION
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15, SECTION 15.101
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	No
FINAL TEST WAS CONDUCTED ON	3 METER OPEN AREA TEST SITE

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

2. GENERAL INFORMATION

2.1 Product Description

The KI RYUNG ELECTRONICS CO., LTD., Model XNS701 (referred to as the EUT in this report) is a Navigation that has a function for transmitting of FM broadcasting frequency range and PC peripheral. This report covers PC peripheral and navigation functions. Product specification described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic
LIST OF EACH OSC. or CRY. FREQ.(FREQ.>=1MHz)	7.3728 MHz, 7.6 MHz, 24.5535 MHz and 32.768 MHz
NUMBER OF LAYERS	8 Layers
POWER REQUIREMENT	DC 12~24V from an AC/DC Adaptor
EXTERNAL CONNECTOR	Audio In/Out, FM Out, GPS, SIRIUS, DC In, USB

2.2 Model Differences

-. The difference(s) compared to the EUT is as follows: None

2.3 Related Submittal(s) / Grant(s)

-. Original submittal only

2.4 Test System Details

The model numbers for all the equipments that were used in the tested system is:

Model	Manufacturer	FCC ID	Description	Connected to
XNS701	KI RYUNG ELECTRONICS CO., LTD.	P3HXNS701	Navigation (EUT)	Notebook PC
PP05LC	DELL COMPUTER CORP.	DoC	Notebook PC	-
2225C	HP	DSI6XU2225	Printer	Notebook PC
N/A	MISROSOFT CORP.	N/A	Mouse	Notebook PC
SMS-015N	SUNGIL PRECISION	N/A	Speaker	Notebook PC

2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4: 2003. Radiated testing was performed at a distance of 3 meters from EUT to the antenna.

2.6 Test Facility

The open area test site and conducted measurement facilities are located on at 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-080, Korea. Description details of test facilities were submitted to the Commission on April 04, 2003. (Registration Number: 340658)

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

3. SYSTEM TEST CONFIGURATION

3.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
MAIN BOARD	KI RYUNG ELECTRONICS CO., LTD.	USE NAVI Rev.D	N/A
SUB BOARD	KI RYUNG ELECTRONICS CO., LTD.	USE_Sub Rev.D	N/A
GPS BOARD	KI RYUNG ELECTRONICS CO., LTD.	SNA-300 Rev.D	N/A
LCD	N/A	LTP400WQ-F01-00R	N/A
HDD	SEAGATE	ST64022 FX	N/A

3.2 EUT exercise Software

After connecting the EUT to a notebook PC using the USB cable, the data were continuously read and written from the personal computer to the EUT and the EUT was also operated with navigation mode during the test.

3.3 Cable Description for the EUT

Ports Name	Shielded	Ferrite Bead	Metal Hood	Length (m)	Connected to
Audio In/Out	N	N	BOTH END	1.5	Monitor
DC In	N	EUT END	EUT END	1.2	AC/DC Adaptor
USB	Y	N	BOTH END	1.5	PC
FM Out	N	N	EUT END	1.2	-

3.4 Equipment Modifications

-. None

3.5 Configuration of Test System

Line Conducted Test : The EUT was connected to AC/DC adaptor and AC/DC adaptor was connected to LISN. All supporting equipments were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.4: 2003 7.2.3 to determine the worse operating conditions.

Radiated Emission Test : Preliminary radiated emission test was conducted using the procedure in ANSI C63.4: 2003 8.3.1.1 to determine the worse operating conditions. Final radiated emission test was conducted at 3 meters open area test site.

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

4. PRELIMINARY TEST

4.1 AC Power line Conducted Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The Worse operating condition
Data were continuously read and write by USB Port	X
Navigation Mode	X

4.2 Radiated Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The Worse operating condition
Data were continuously read and write by USB Port	X
Navigation Mode	X

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

5. FINAL RESULT OF MEASURMENT

Preliminary test was done in normal operation mode. And the final measurement was selected for the maximized emission level

5.1 Conducted Emission Test

5.1.1 Operating Condition: Data were continuously read and written.

Humidity Level : 42 % Temperature: 21 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.107 (a)

Type of Test : CLASS B

Result : PASSED BY –8.72 dB at 0.18 MHz under peak mode

EUT : Navigation Date: February 15, 2006

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 9 kHz)

Frequency (MHz)	Line	Peak (dBuV)		Margin (dB)
		Emission level	Q.P Limits	
0.18	N	55.54	64.26	-8.72
0.19	H	54.93	63.82	-8.89
2.83	H	42.06	56.00	-13.94
7.70	H	47.69	60.00	-12.31
8.04	N	48.45	60.00	-11.55
8.70	N	48.79	60.00	-11.21
Frequency (MHz)	**Line**	**Average (dBuV)**		**Margin (dB)**
		Emission level	**Limits**	
0.18	N	43.93	54.26	-10.33
0.19	H	42.71	53.82	-11.11
8.04	N	28.60	50.00	-21.40
8.70	N	27.73	50.00	-22.27

Line Conducted Emission Tabulated Data

Remark : "H": Hot Line, "N": Neutral line

Tested by: Sue-Young, Lee/ Test Engineer

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

5.1.2 Operating Condition: Navigation Mode

Humidity Level : 42 % Temperature: 21 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.107 (a)

Type of Test : CLASS B

Result : PASSED BY –7.04 dB at 0.20 MHz under average mode

EUT : Navigation Date: February 15, 2006

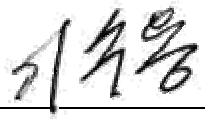
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 9 kHz)

Frequency (MHz)	Line	Peak (dBuV)		Margin (dB)
		Emission level	Q.P Limits	
0.20	N	53.73	63.61	-9.88
0.40	N	44.16	57.85	-13.69
0.81	N	44.09	56.00	-11.91
1.41	H	44.85	56.00	-11.15
2.01	H	43.91	56.00	-12.09
3.90	H	41.14	56.00	-14.86
Frequency (MHz)	**Line**	**Average (dBuV)**		**Margin (dB)**
		Emission level	**Limits**	
0.20	N	46.57	53.61	-7.04
0.81	N	34.44	46.00	-11.56
1.41	H	30.85	46.00	-15.15
2.01	H	29.29	46.00	-16.71

Line Conducted Emission Tabulated Data

Remark : "H": Hot Line, "N": Neutral line

See next page for an overview sweep performed with peak and average detector.

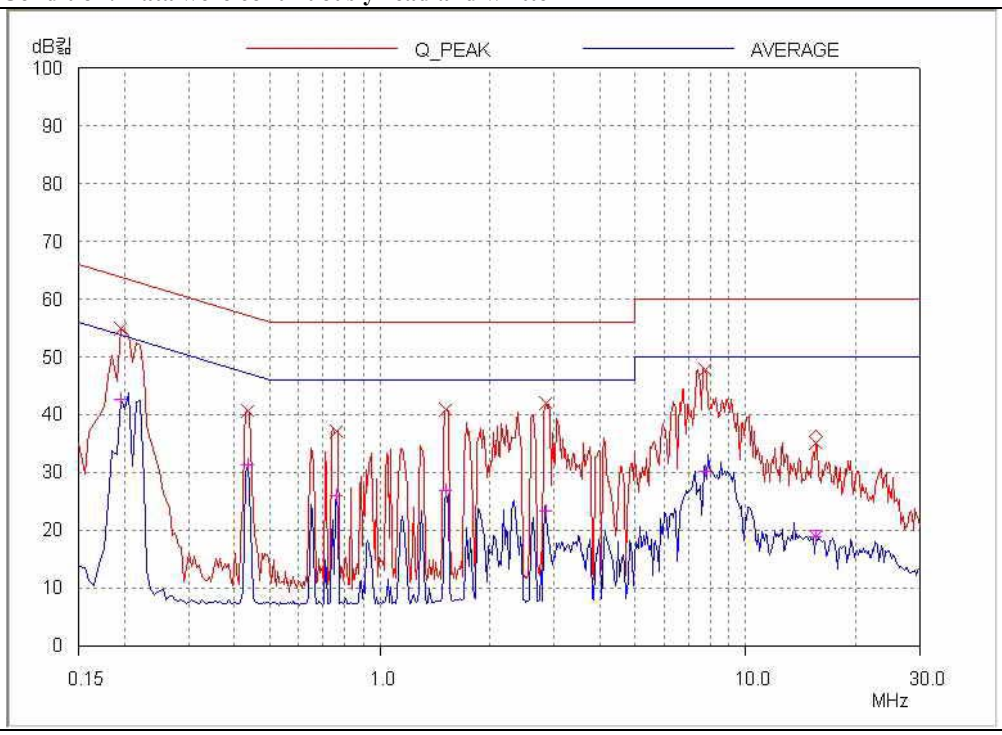


Tested by: Sue-Young, Lee/ Test Engineer

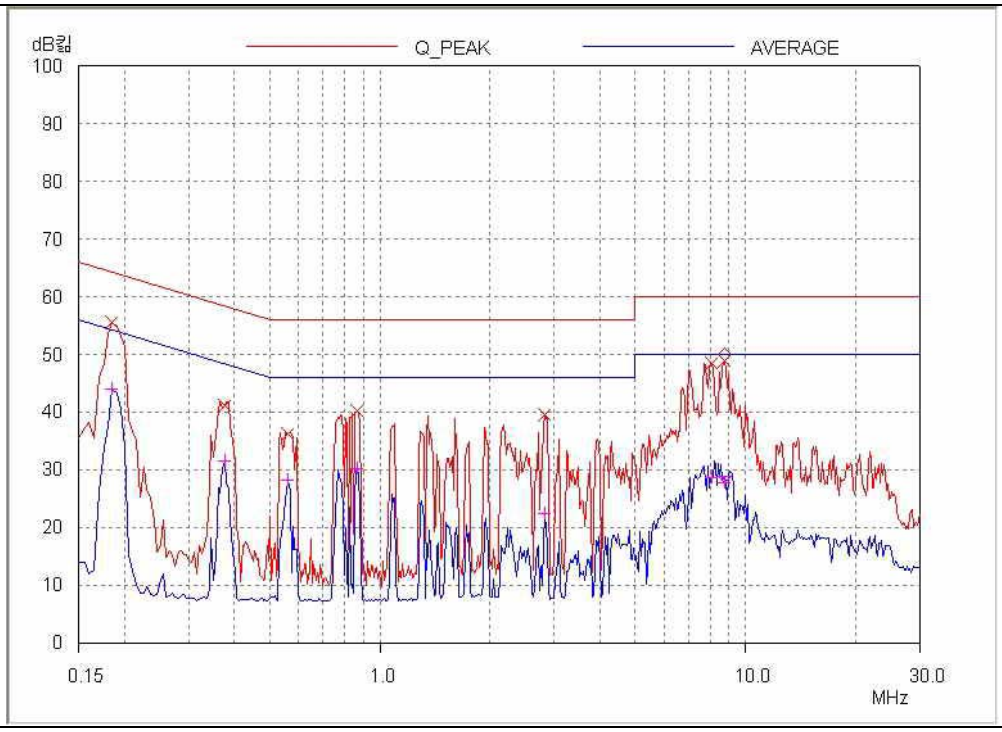
HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)

EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

Operating Condition: Data were continuously read and written



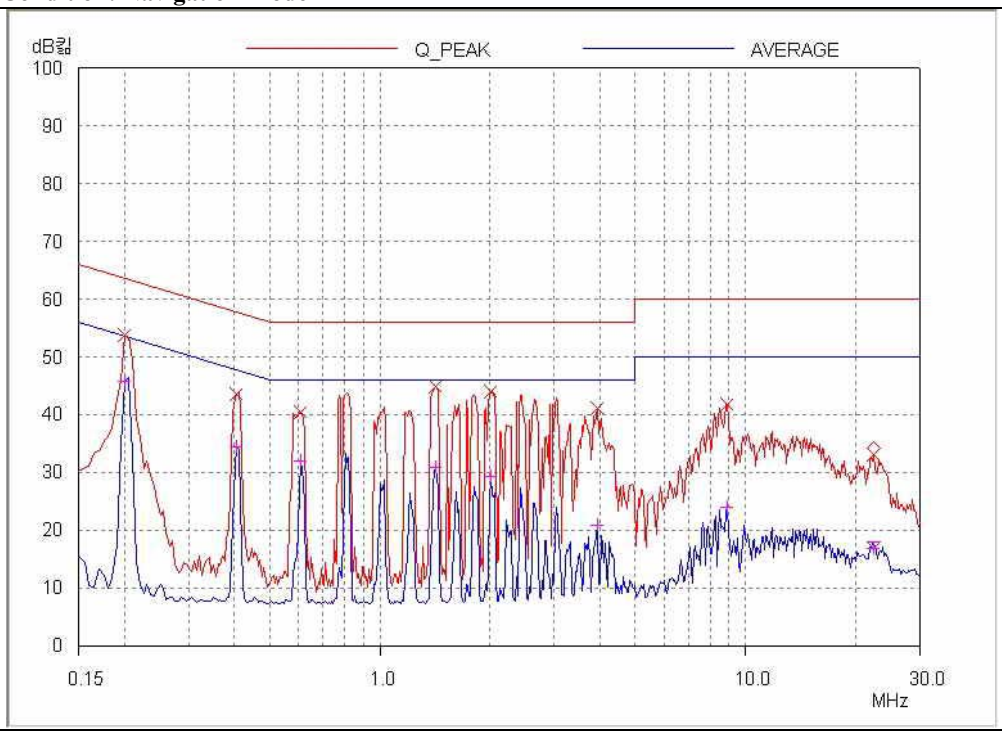
HOT LINE



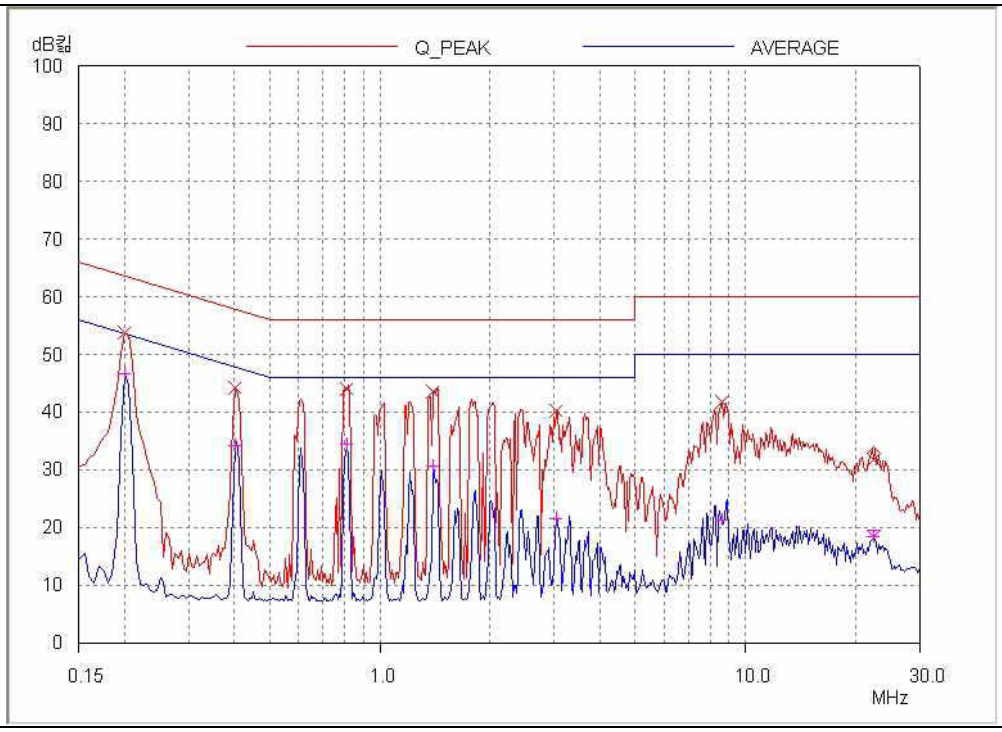
NEUTRAL LINE

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

Operating Condition: Navigation Mode



HOT LINE



NEUTRAL LINE

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

5.2 Radiated Emission Test

The following table shows the highest levels of radiated emission on both polarizations of horizontal and vertical.

5.2.1 Operating Condition: Data were continuously read and written

Humidity Level : 39 % Temperature: 18 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109 (a)

Type of Test : CLASS B

Result : PASSED BY -6.45 dB at 816.40 MHz

EUT : Navigation Date: February 06, 2006

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

Frequency Range : 30 MHz – 1000 MHz

Distance : 3 Meter

Radiated Emissions		Ant	Correction Factors		Total	FCC CLASS B	
Freq. (MHz)	Amp. (dBuV)	Pol.	Ant. (dBuV/m)	Cable (dB)	Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
83.32	20.10	H	7.03	1.77	28.90	40.00	-11.10
117.21	21.14	V	12.86	1.97	35.97	43.52	-7.55
164.86	18.46	V	15.76	2.40	36.62	43.52	-6.90
203.46	17.30	V	16.73	2.83	36.86	43.52	-6.66
245.33	14.20	H	18.04	3.33	35.57	46.02	-10.45
405.00	15.30	H	15.40	4.41	35.11	46.02	-10.91
816.40	10.70	H	21.70	7.17	39.57	46.02	-6.45

Radiated Emissions Tabulated Data

Tested by: Sue-Young, Lee/ Test Engineer

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)

EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

5.2.2 Operating Condition: Navigation Mode

Humidity Level : 39 % Temperature: 18 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109 (a)

Type of Test : CLASS B

Result : PASSED BY -4.89 dB at 289.63 MHz

EUT : Navigation Date: February 06, 2006

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

Frequency Range : 30 MHz – 1000 MHz

Distance : 3 Meter

Radiated Emissions		Ant	Correction Factors		Total	FCC CLASS B	
Freq. (MHz)	Amp. (dBuV)	Pol.	Ant. (dBuV/m)	Cable (dB)	Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
78.45	26.70	H	6.33	1.67	34.70	40.00	-5.30
113.34	20.36	V	12.26	1.93	34.55	43.52	-8.97
151.12	16.35	V	15.38	2.31	34.04	43.52	-9.48
176.36	17.58	V	16.02	2.65	36.25	43.52	-7.27
232.33	19.33	H	17.73	3.12	40.18	46.02	-5.84
289.63	17.41	H	20.04	3.68	41.13	46.02	-4.89
332.34	20.66	H	14.66	4.06	39.38	46.02	-6.64

Radiated Emissions Tabulated Data

Tested by: Sue-Young, Lee/ Test Engineer

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)

EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

6. FIELD STRENGTH CALCULATION

Meter readings are compared to the specification limit correcting for antenna and cable losses

+	Meter reading	(dBuV)
+	Cable Loss	(dB)
+	Antenna Factor (Loss)	(dB/meter)
=	Corrected Reading	(dBuV/meter)
-	Specification Limit	(dBuV/meter)
=	dB Relative to Spec	(+/- dB)

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

7. LIST OF TEST EQUIPMENT

No.	EQUIPMENTS	MFR.	MODEL	SER. NO.	LAST CAL	DUE CAL	USE
1.	Test receiver	R/S	ESVS10	827864/005	DEC/05	12MONTH	■
2.	Test receiver	R/S	ESHS 10	834467/007	MAY/05	12MONTH	■
3.	Spectrum analyzer	HP	8566B	3407A08547	JUL/05	12MONTH	
4.	Spectrum analyzer	HP	8568B	3109A05456	APR/05	12MONTH	■
5.	RF preselector	HP	85685A	3107A01264	APR/05	12MONTH	■
6.	Quasi-Peak Adapter	HP	8574B	2811A01432	APR/05	12MONTH	■
7.	TRILOG Broadband Antenna	Schwarzbeck	VULB9163	VULB9163 166	APR/05	12MONTH	
8.	Biconical antenna	EMCO	3110	9003-1121	FEB/05	12MONTH	
		Schwarzbeck	VHA9103	91031852	FEB/06		■
9.	Log Periodic antenna	EMCO	3146	9001-2614	FEB/05	12MONTH	
		Schwarzbeck	9108-A(494)	62281001	FEB/06		■
10.	LISN	EMCO	3825/2	9109-1867	JUL/05	12MONTH	■
				9109-1869	JUL/05		
		Schwarzbeck	NSLK 8126	8126-404	AUG/05		■
11.	Position Controller	HD GmbH	HD100	N/A	N/A	N/A	■
12.	Turn Table	HD GmbH	DS420S	N/A	N/A	N/A	■
13.	Antenna Master	HD GmbH	MA240	N/A	N/A	N/A	■

HEAD OFFICE : #505 SK APT. Factory 223-28, Sangdaewon 1 Dong, Jungwon-Gu, Seongnam-City, Kyunggi-Do, 462-705, Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)
EMC Testing Dept : 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-860, Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)