



ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR FCC CLASS B CERTIFICATION

Test Report No. : E057R-081

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 : Home CD Player

FCC ID : P3HCDP-NW10

Model Name : CDP-NW10

Serial number : N/A

Total page of Report : 11 pages (including this page)

Date of Incoming : May 14, 2005

Date of Issuing : July 26, 2005

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.

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1. VERIFICATION OF COMPLIANCE

- . APPLICANT : KI RYUNG ELECTRONICS CO., LTD.
- . ADDRESS : 219-6, Gasan-Dong, Kumchun-Ku, Seoul, 153-023, Korea
- . CONTACT PERSON : Ms. MinJi, Lee / Account Officer
- . TELEPHONE NO : +82-2-3282-2382
- . FCC ID : P3HCDP-NW10
- . MODEL NO/NAME : CDP-NW10
- . SERIAL NUMBER : N/A
- . DATE : July 26, 2005

EQUIPMENT CLASS	JBP - Peripheral Device for Class B Computing Device
E.U.T. DESCRIPTION	Home CD Player - Unintentional Radiator
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

- . This device has shown compliance with the conducted emissions limits in 15.107 adopted under FCC 02-107 (ET Docket 98-80). The device may be marketed after July 11, 2005 affected by the 15.37(j) transition provisions.
- . 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.



2. GENERAL INFORMATION

2.1 Product Description

The KI RYUNG ELECTRONICS CO., LTD., Model CDP-NW10 (referred to as the EUT in this report) is a Home CD Player that has a FM Broadcast Receiver and Peripheral Device for Class B Computing Device functions. This report is for the Peripheral Device for Class B Computing Device and the FM Broadcast Receiver function will be issued with other report number. Product specification described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic(Cover)
LIST OF EACH OSC. or CRY. FREQ.(FREQ.>=1MHz)	25 MHz, 14.576 MHz and 11.2896 MHz
POWER REQUIREMENT	DC 14V, 1.5A, DC 29V, 3A
NUMBER OF LAYERS	6 Layers
EXTERNAL CONNECTOR	Ethernet, Speaker, AM/FM Antenna, IR Remote In/Out

2.2 Model Differences

- 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
CDP-NW10	KI RYUNG ELECTRONICS CO., LTD.	P3HCDP-NW10	Home CD Player (EUT)	Host
PP01L	DELL COMPUTER CORP.	DoC	Notebook PC (Host)	EUT
AC-NW10	ORIENTECH CO., LTD.	DoC	Power Supply	EUT
N/A	N/A	N/A	Speaker	EUT

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 the EUT to the antenna.

2.6 Test Facility

The open area test site and conducted measurement facilities are located on at 426-1 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)



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	N/A	N/A	N/A
Roader Board	N/A	N/A	N/A
AMP Board	N/A	N/A	N/A
LCD Board	N/A	N/A	N/A
Tuner	N/A	ENG06812QF	N/A

3.2 EUT exercise Software

The following two modes were operated during compliance testing, but worst emissions were recorded in this report.

- The audio files of the notebook PC were played through the EUT during the test.
- The EUT was operated with CD play mode during the test.

3.3 Cable Description

	Power Cord Shielded (Y/N)	I/O cable Shielded (Y/N)	Length (M)
Home CD Player (EUT)	N	N	1.5(P), 1.5(D)
NOTEBOOK PC	-	-	-
POWER SUPPLY	N	N/A	1.5(P)
SPEAKER	N/A	N	1.5(D)

* The marked "(P)" means the Power Cable and "D" means the I/O Cable.

3.4 Noise Suppression Parts on Cable

	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
Home CD Player (EUT)	N	N/A	Y	BOTH END
NOTEBOOK PC	Y	NOTEBOOK PC END	N/A	-
POWER SUPPLY	Y	POWER SUPPLY END	Y	BOTH END
SPEAKER	N	N/A	Y	EUT END



3.5 Equipment Modifications

To achieve compliance to CLASS B levels, the following change(s) was made by ONETECH Corp. during compliance testing:

“There were no Modified items during EMI test”

3.6 Configuration of Test System

Line Conducted Test : The EUT was connected to the power supply and power supply 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.

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 (Please check one only)
The audio files of the notebook PC were played through the EUT during the test	X
CD Play Mode	

4.2 Radiated Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
The audio files of the notebook PC were played through the EUT during the test	X
CD Play Mode	



5. FINAL RESULT OF MEASUREMENT

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

5.1 Conducted Emission Test

Humidity Level : 41 % 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 -3.66 dB at 0.47 MHz under average mode

EUT : Home CD Player Date: June 22, 2005
 Operating Condition : The audio files of the notebook PC were played through the EUT during the test
 Detector : CISPR Quasi-Peak (6 dB Bandwidth: 9 kHz)

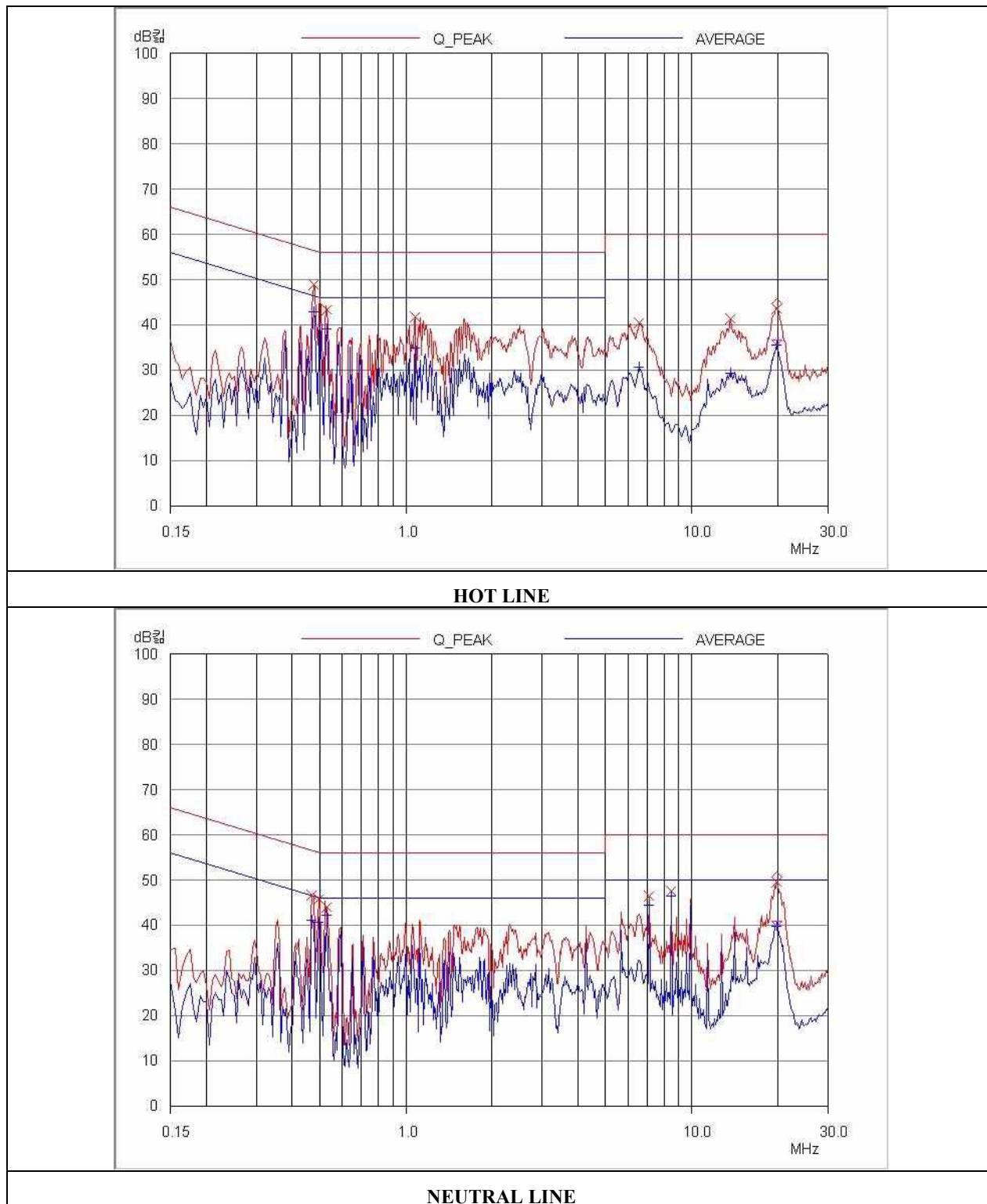
Frequency (MHz)	Line	Peak (dBuV)		Margin (dB)
		Emission level	Q.P Limits	
0.47	H	48.87	56.43	-7.56
0.49	N	45.80	56.08	-10.28
0.53	N	44.01	56.00	-11.99
7.05	N	46.50	60.00	-13.50
8.46	N	47.46	60.00	-12.54
19.81	N	49.64	60.00	-10.36
Frequency (MHz)	Line	Average (dBuV)		Margin (dB)
		Emission level	Limits	
0.47	H	42.77	46.43	-3.66
0.49	N	40.62	46.08	-5.46
0.53	N	42.20	46.00	-3.80
19.81	N	39.78	50.00	-10.22

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-Yong, Lee / Test Engineer





5.2 Radiated Emission Test

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

Humidity Level	: <u>44 %</u>	Temperature: <u>24 °C</u>
Limits apply to	: <u>FCC CFR 47, PART 15, SUBPART B, SECTION 15.109 (a)</u>	
Type of Test	: <u>CLASS B</u>	
Result	: <u>PASSED BY -4.05 dB at 127.13 MHz</u>	

EUT	: Home CD Player	Date: June 25, 2005
Operating Condition	: The audio files of the notebook PC were played through the EUT during the test	
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)
70.50	21.90	V	5.57	1.51	28.98	40.00	-11.02
127.13	23.73	H	13.60	2.14	39.47	43.52	-4.05
244.17	20.40	H	16.83	3.31	40.54	46.02	-5.48
270.03	20.22	H	17.76	3.48	41.46	46.02	-4.56
395.12	21.90	H	15.35	4.38	41.63	46.02	-4.39
665.68	11.73	H	19.67	5.92	37.32	46.02	-8.70

Radiated Emissions Tabulated Data

Tested by: Sue-Yong, Lee / Test Engineer



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)

**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/04	12MONTH	■
2.	Test receiver	R/S	ESHS 10	834467/007	MAY/05	12MONTH	■
3.	Spectrum analyzer	HP	85680B	3001A04955	APR/05	12MONTH	
4.	Spectrum analyzer	HP	8568B	3109A05456	MAR/05	12MONTH	■
5.	RF preselector	HP	85685A	3107A01264	MAR/05	12MONTH	■
6.	Quasi-Peak Adapter	HP	85650A	3107A01542	MAR/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	JAN/05		■
9.	Log Periodic antenna	EMCO	3146	9001-2614	FEB/05	12MONTH	
				9109-3217	MAY/04		
		Schwarzbeck	9108-A(494)	62281001	FEB/05		■
10.	LISN	EMCO	3825/2	9109-1867	JUL/05	12MONTH	
				9109-1869	JUL/05		■
		Schwarzbeck	NSLK8128	8126-216	JUN/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	■