ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR FCC CLASS B CERTIFICATION

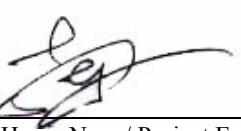
Test Report No.	**: E054R-087**
Applicant	**: NEWQ SYSTEM CO., LTD.**
Address	**: 3FL., Byucksan Valley, No. 212-16, Guro-3Dong, Guro-Ku, Seoul, Korea**
Manufacturer	**: WOO SHIN INDUSTRIAL CO., LTD.**
Address	**: 663, Kanap-Ri, Kwangjuk-Myun, Yangju-City, Kyunggi-Do, Korea**
Type of Equipment	**: LCD MONITOR**
FCC ID	**: POHNR170DT**
Model Name	**: NR170DT**
Multiple Model Name	**: NR170V, NR170VB**
Serial number	**: N/A**
Total page of Report	**: 13 pages (including this page)**
Date of Incoming	**: January 26, 2005**
Date of Issuing	**: April 26, 2005**

SUMMARY

The equipment complies with the regulation; ***PART 15 SUBPART B, Class B Computing Device Peripherals.***

This test report contains only the result 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: 
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EMC Div.
ONETECH Corp.

Reviewed by: 
Gea-Won, Lee / Chief Engineer
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1. VERIFICATION OF COMPLIANCE

APPLICANT	: NEWQ SYSTEM CO., LTD.
ADDRESS	: 3FL., Byucksan Valley, No. 212-16, Guro-3Dong, Guro-Ku, Seoul, Korea
CONTACT PERSON	: Mr. Yu-Sun, Baek / Associate Engineer
TELEPHONE NO	: +82-2-2107-2876
FCC ID	: POHNR170DT
MODEL NO/NAME	: NR170DT
SERIAL NUMBER	: N/A
DATE	: April 26, 2005

DEVICE TYPE	Peripheral Device for Class B Computing Device
E.U.T. DESCRIPTION	LCD MONITOR
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	ANSI C63.4: 2001
TYPE OF EQUIPMENT TESTED	PRE-PRODUCTION
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	CERTIFICATION
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	PART 15 SUBPART B, 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.

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2. GENERAL INFORMATION

2.1 Product Description

The NEWQ SYSTEM CO., LTD., Model NR170DT (referred to as the EUT in this report) is a LCD MONITOR. The verification report for the TV tuner part shall be issued with other test report number. 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)	24.576 MHz and 20.25 MHz on the Main Board
NUMBER OF LAYERS	2 Layers: Main Board and OSD Control Board
ELECTRICAL RATING	Input : AC100-240V, 50/60Hz, 1.5A, Output : DC 12V, 4.16A, 50W (AC/DC Adaptor)
TUNER M/N / MFR	TCMN3080DA29A(H) / SAMSUNG
EXTERNAL TERMINALS	DC In, DVI-D, D-SUB MINI-D, PC Audio In/Out, S-VHS In, Composite In, TV

2.2 Model Differences

The difference(s) compared to the EUT is as follows:

	Model Name	Model Differences
Basic Model	NR170DT	-
Multiple Model	NR170V	This model is same to basic model, but the TV function is not included.
	NR170VB	This model is same to basic model, but the TV function is not included and the type of composite input jack is BNC.

2.3 Related Submittal(s) / Grant(s)

Original submittal only

2.4 Test System Details

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

Model	Manufacturer	FCC ID	Description	Connected to
NR170DT	WOO SHIN INDUSTRIAL CO., LTD.	POHNR170DT	LCD MONITOR (EUT)	Notebook PC
LSE9901B1250	Li Shin International Enterprise	N/A	AC/DC Adaptor	EUT
PP05LC	Dell Computer Corp	DoC	Notebook PC	-
2225C	HP	DSI6XU2225	Printer	Notebook PC
020-0470	Cardinal	GDE0196	Modem	Notebook PC

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N/A	NEWQ	N/A	Speaker	EUT

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2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4: 2001. 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 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)

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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	NEWQ	NQADRT4.0	N/A
Inverter Board	FRONTEK	N/A	N/A
LCD Panel	SAMSUNG	LTM170EU-L11	N/A
Front Board	NEWQ	NQOSDRT 4.0	N/A
Tuner Board	NEWQ	NQTVRT1.0	N/A
Tuner	SAMSUNG	TCMN3080DA29A(H)	N/A

3.2 EUT exercise Software

The windows program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. This program was included into HOST. Once loaded, this program sequentially exercises each system component in turn. The sequence used is: (1) series of “H” characters are printed on the monitor until the screen is completely full, (2) copy series of “H” characters to mass storage device (if one is used), (3) print series of “H” characters to printer. The complete cycle is repeated continuously.

The test was performed about each resolution from minimum resolution to maximum resolution for getting maximum noise level and the investigated maximum resolution mode of the EUT was 1280 x 1024, 75Hz.

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3.3 Cable Description

	Power Cord Shielded (Y/N)	I/O cable Shielded (Y/N)	Length (M)
LCD MONITOR	N	Y	1.5(P), 1.5(D)
AC/DC Adaptor	N	N	1.5(P), 1.0(D)
Notebook PC	N	-	1.5(P)
Printer	N	Y	1.5(P), 1.5(D)
Modem	N	Y	1.5(P), 1.5(D)
Speaker	N	N	1.5(D)

* The marked "(P)" means the Power Cable and "(D)' means Signal Cable.

3.4 Noise Suppression Parts on Cable

	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
LCD MONITOR	Y	BOTH END	Y	BOTH END
AC/DC Adaptor	Y	EUT END	Y	EUT END
Notebook PC	-	-	-	-
Printer	N	N/A	Y	BOTH END
Modem	N	N/A	Y	BOTH END
Speaker	N	N/A	Y	BOTH END

3.5 Equipment Modifications

-. None

3.6 Configuration of Test System

Line Conducted Test: The power of the EUT was supplied by AC/DC adapter and the adapter 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: 2001 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: 2001 8.3.1.1 to determine the worse operating conditions. Final radiated emission test was conducted at 3 meters open area test site.

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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)
Resolution: 800 x 600	-
Resolution: 1024 x 768	-
Resolution: 1280 x 1024	X

4.2 Radiated Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
Resolution: 800 x 600	-
Resolution: 1024 x 768	-
Resolution: 1280 x 1024	X

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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

Humidity Level : 43 % Temperature: 20 °C

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

Type of Test : CLASS B

Result : PASSED BY –8.97 dB at 0.64 MHz under average mode

EUT : LCD MONITOR Date: March 21, 2005

Operating Condition : Continuously displayed "H" characters on the screen of the EUT

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

Resolution : 1280 x 1024, 75Hz

Frequency (MHz)	Line	Peak (dBuV)		Margin (dB)
		Emission level	Q.P Limits	
0.19	H	54.98	64.04	-9.06
0.26	H	48.21	61.43	-13.22
0.32	H	43.01	59.71	-16.70
0.58	N	39.21	56.00	-16.79
0.64	N	40.35	56.00	-15.65
24.65	H	43.50	60.00	-16.50
Frequency (MHz)	**Line**	**Average (dBuV)**		**Margin (dB)**
		Emission level	**Limits**	
0.19	H	40.13	54.04	-13.91
0.26	H	35.16	51.43	-16.27
0.58	N	36.29	46.00	-9.71
0.64	N	37.03	46.00	-8.97

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: Hyun-Suck, Lee / Test Engineer

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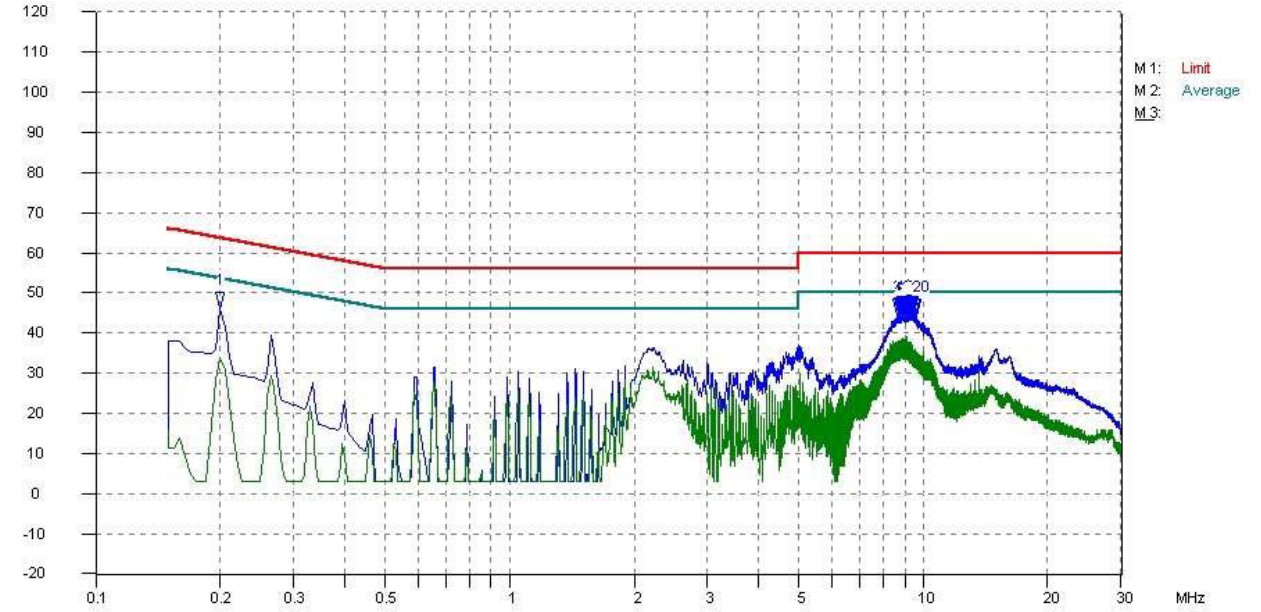
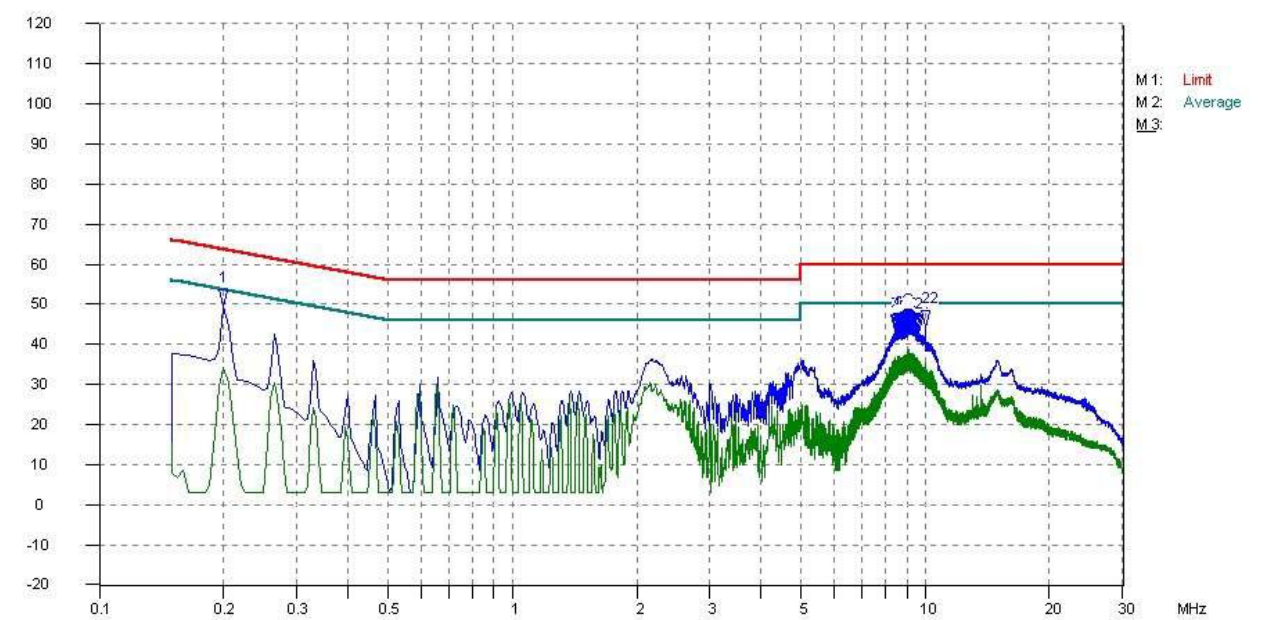


HOT LINE



NEUTRAL LINE

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5.2 Radiated Emission Test

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

Humidity Level : 44 % Temperature: 20 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109(a)
Type of Test : CLASS B
Result : PASSED BY –4.98dB at 382.40MHz

EUT : LCD MONITOR Date: March 25, 2005
Operating Condition : Continuously displayed "H" characters on the screen of the EUT
Frequency range : 30MHz – 1000MHz
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)
Distance : 3 Meter
Resolution : 1280 x 1024, 75Hz

Radiated Emission		Ant	Correction Factors		Total	FCC	
Freq. (MHz)	Amp. (dBuV)	Pol.	Ant. (dBuV/m)	Cable (dB)	Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
240.10	21.70	H	16.78	2.30	40.78	46.02	-5.24
284.20	18.30	H	20.04	2.61	40.95	46.02	-5.07
382.40	22.50	H	15.07	3.47	41.04	46.02	-4.98
460.60	19.20	H	16.86	3.12	39.18	46.02	-6.84
663.80	16.40	H	19.62	3.79	39.81	46.02	-6.21
729.50	14.00	H	20.97	4.48	39.45	46.02	-6.57

Tested by: Hyun-Suck, Lee / Test Engineer

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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)

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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	Schwarzbeck	FCKL 1528	1528-170	JUN/04	12MONTH	■
3.	Spectrum analyzer	HP	8566B	3407A08547	JUL/04	12MONTH	
4.	Spectrum analyzer	HP	8568B	3109A05456	JUL/04	12MONTH	■
5.	RF preselector	HP	85685A	3107A01264	MAR/05	12MONTH	■
6.	Quasi-Peak Adapter	HP	85650A	3107A01542	JUL/04	12MONTH	■
7.	TRILOG Broadband Antenna	Schwarzbeck	VULB9163	VULB9163 166	FEB/05	12MONTH	
8.	Biconical antenna	EMCO	3104C	9109-4443	MAY/04	12MONTH	■
		Schwarzbeck	VHA9103	91031852	JAN/05		
9.	Log Periodic antenna	EMCO	3146	9109-3213	FEB/05	12MONTH	■
				9109-3217	MAY/04		
		Schwarzbeck	9108-A(494)	62281001	JAN/05		
10.	LISN	EMCO	3825/2	9109-1867	JUL/04	12MONTH	■
				9109-1869	OCT/04		
		Schwarzbeck	NSLK 8126	8126-404	MAY/04		■
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	■

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