ELECTROMAGNETIC EMISSION COMPLIANCE REPORT
FOR FCC CLASS B CERTIFICATION

Test report file number : E034R-024

Applicant : Infraworks Co., Ltd.
Address : 150-874 #5. eTronics 17-10, Yoido-Dong, Youngdeungpo-Gu, Seoul, Korea

Manufacturer : Infraworks Co., Ltd.
Address : 150-874 #5. eTronics 17-10, Yoido-Dong, Youngdeungpo-Gu, Seoul, Korea

Type of Equipment : Real-Time Digital Video Converter

FCC ID : P6UIW-PD02

Model Name : IW-PD02

Multiple Model Name : N/A

Serial number : N/A

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

Date of Incoming : February 04, 2003

Date of Issuing : April 04, 2003

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 : Infraworks Co., Ltd.
-. ADDRESS : 150-874 #5. eTronics 17-10, Yoido-Dong, Youngdeungpo-Gu, Seoul, Korea
-. CONTACT PERSON : Mr. K. Y. Kim / Engineer
-. TELEPHONE NO : +82-2-784-8209
-. FCC ID : P6UIW-PD02
-. MODEL NO/NAME : IW-PD02
-. SERIAL NUMBER : N/A
-. DATE : April 04, 2003

DEVICE TYPE	Peripheral Device for Class B Computing Device - Unintentional Radiator
E.U.T. DESCRIPTION	Real-Time Digital Video Converter
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	ANSI C63.4/1992
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.

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2. GENERAL INFORMATION

2.1 Product Description

The Infraworks Co., Ltd., Model IW-PD02 (referred to as the EUT in this report) is a Real-Time Digital Video Converter that is converting analogue output from VTR, Camcorder, TV and etc into DVD Digital output through the USB port. Product specification described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic (Shield Coating inside the EUT)
LIST OF EACH OSC. or CRY. FREQ.(FREQ.>=1MHz)	24.576MHz and 12MHz on Main Board
NUMBER OF LAYERS	4 Layers
EXTERNAL CONNECTOR	Video In, Audio In(L/R), Audio Out, S-Video In, USB Plug (A type)

Model Differences:

The difference(s) compared to the EUT is as follows: none

2.2 Related Submittal(s) / Grant(s)

Original submittal only

2.3 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
IW-PD02	Infraworks Co., Ltd.	P6UIW-PD02	Real-Time Digital Video Converter (EUT)	PC, VCR
EVO D310ST	Compaq Korea	DOC	PC	-
GH17US	Samsung Electronics	DOC	MONITOR	PC
AP04214	Anam Instruments	N/A	ADAPTOR	MONITOR
SDM4700P	Samsung	DOC	KEYBOARD	PC
M-S69	Logitech	JNZ211443	MOUSE	PC
GHV-S9990	GoldStar	DOC	VCR	EUT

2.4 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4/1992. Radiated testing was performed at a distance of 3 meters from EUT to the antenna.

2.5 Test Facility

The open area test site and conducted measurement facilities are located on at 426-1 Daessangryung-Ri, Chowol-Myun, Kwangju-Kun, Kyunggi-Do 464-080 Korea. Description details of test facilities were submitted to the Commission on January 18, 2002. (Registration Number: 92819)

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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 B'D	Infraworks Co., Ltd.	PideoDVD	N/A

3.2 EUT exercise Software

After connecting the EUT to PC and VCR, images were continuously recorded to the HDD from VCR through the EUT.

3.3 Cable Description

	Power Cord Shielded (Y/N)	I/O cable Shielded (Y/N)	Length (M)
Real-Time Digital Video Converter (EUT)	N/A	N	1.5(D), 12.(D)(USB)
PERSONAL COMPUTER	N	-	1.8(P)
LCD Monitor	N	Y	1.5(P), 1.5(D)
ADAPTER	N	N (DC OUT)	1.3 (P), 1.0 (D)
KEYBOARD	N/A	Y	1.5(D)
MOUSE	N/A	N	1.3 (D)
VCR	N	Y	1.8(P), 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
Real-Time Digital Video Converter (EUT)	Y	BOTH END	Y	BOTH END
PERSONAL COMPUTER	-	-	-	-
LCD Monitor	Y	BOTH END	Y	BOTH END
ADAPTER	N	MONITOR END	Y	MONITOR END
KEYBOARD	N	N/A	Y	PC END
MOUSE	N	N/A	Y	PC END
VCR	N	N/A	Y	BOTH END

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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 USB port of PC and the power line of PC 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 /1992 7.2.3 to determine the worse operating conditions.

Radiated Emission Test : Preliminary radiated emission test was conducted using the procedure in ANSI C63.4/1992 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)
Images were recorded to the HDD from VCR through the EUT	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)
Images were recorded to the HDD from VCR through the EUT	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 : 49 % Temperature: 19 °C

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

Type of Test : CLASS B

Result : PASSED BY –19.66 dB at 28.12 MHz

EUT : Real-Time Digital Video Converter Date: March 24, 2003

Operating Condition : Images were recorded to the HDD from VCR through the EUT.

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

Frequency (MHz)	Line	Peak (dBuV)		Margin (dB)
		Emission level	Q.P Limits	
1.04	N	33.93	56.00	-22.07
1.25	H	34.00	56.00	-22.00
1.83	N	35.75	56.00	-20.25
3.58	N	36.19	56.00	-19.81
8.68	N	37.24	60.00	-22.76
28.12	H	40.34	60.00	-19.66
Frequency (MHz)	**Line**	**Average (dBuV)**		**Margin (dB)**
		Emission level	**Limits**	
-				
-				

Line Conducted Emission Tabulated Data

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

Average data was not measured, because Peak values were under the Average limit.

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

Tested by: Young-Min Choi / Project Engineer

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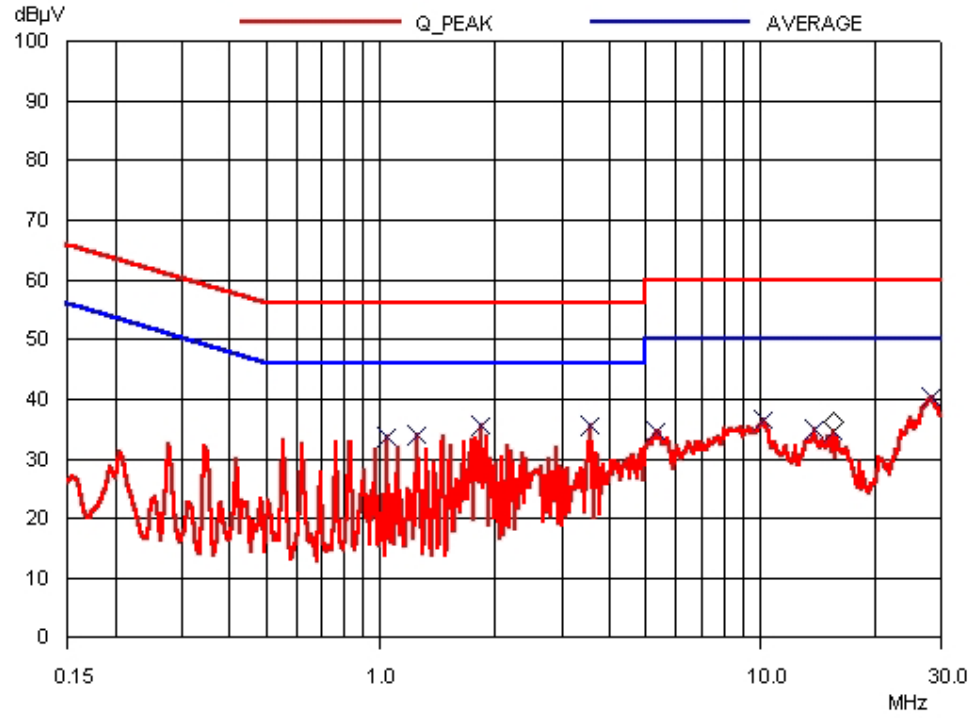
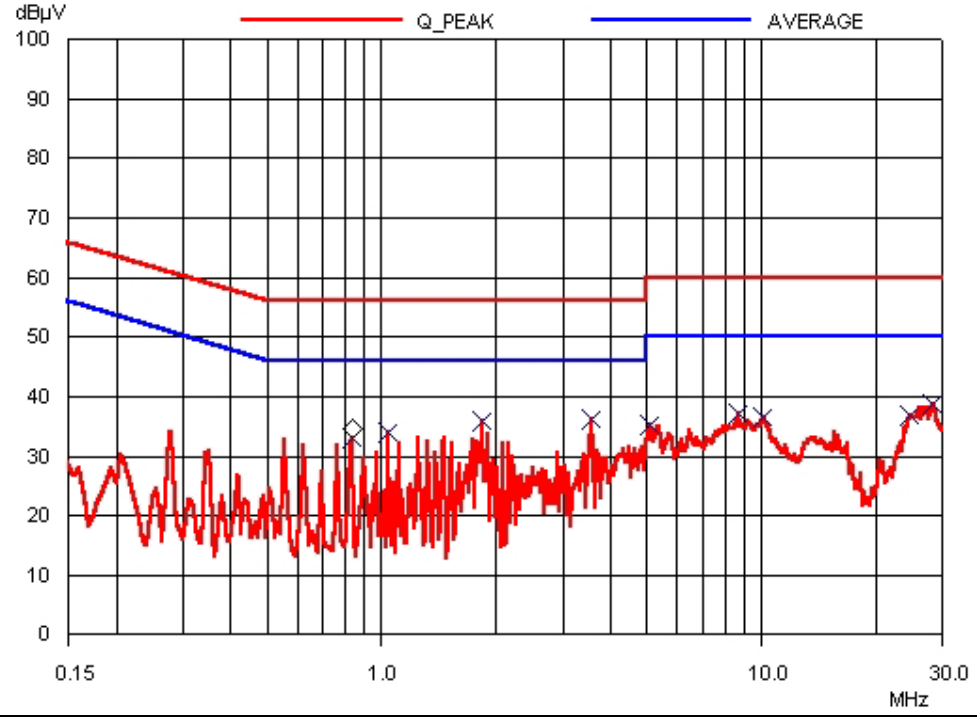


HOT LINE



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: 18 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109 (a)
Type of Test : CLASS B
Result : PASSED BY -3.33 dB at 340.00 MHz

EUT : Real-Time Digital Video Converter Date: March 21, 2003
Operating Condition : Images were recorded to the HDD from VCR through the EUT.
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)
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)
36.85	21.90	V	11.12	0.81	33.83	40.00	-6.17
78.20	26.70	H	6.72	1.00	34.42	40.00	-5.58
135.00	14.40	H	12.76	1.29	28.45	43.50	-15.05
168.80	18.00	V	15.76	1.43	35.19	43.50	-8.31
202.90	23.00	H	10.93	1.59	35.52	43.50	-7.98
225.20	17.70	H	10.94	1.70	30.34	46.00	-15.66
239.80	24.70	H	11.61	1.78	38.09	46.00	-7.91
243.20	22.10	H	11.77	1.79	35.66	46.00	-10.34
324.00	23.10	H	14.20	2.14	39.44	46.00	-6.56
340.00	26.10	H	14.34	2.23	42.67	46.00	-3.33
360.40	19.70	H	14.52	2.33	36.55	46.00	-9.45
399.40	12.60	H	15.21	2.43	30.24	46.00	-15.76
432.00	15.50	H	15.89	2.50	33.89	46.00	-12.11
480.00	20.80	H	17.07	2.62	40.49	46.00	-5.51
600.60	10.00	V	18.76	2.90	31.66	46.00	-14.34
678.40	11.80	V	20.76	3.20	35.76	46.00	-10.24
960.80	12.80	H	23.45	4.12	40.37	54.00	-13.63

Radiated Emissions Tabulated Data

Tested by: Young-Min Choi / Project 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	ESVS 10	827864/005	OCT/02	12MONTH	■
2.	Test receiver	R/S	ESHS 10	834467/007	APR/02	12MONTH	■
3.	Spectrum analyzer	HP	8568B	3109A05456	APR/02	12MONTH	■
4.	RF preselector	HP	85685A	3107A01264	APR/02	12MONTH	■
5.	Quasi-Peak Adapter	HP	85650A	3107A01542	APR/02	12MONTH	■
6.	Biconical antenna	EMCO	3104C	9109-4441 9109-4443 9109-4444	APR/02	12MONTH	■
7.	Log Periodic antenna	EMCO	3146	9109-3213 9109-3214 9109-3217	APR/02	12MONTH	■
8.	LISN	EMCO	3825/2	9109-1867 9109-1869	AUG/02	12MONTH	■
11.	Position Controller	EMCO	1090	9107-1038	N/A	N/A	■
12.	Turn Table	EMCO	1080-1.21	9109-1576	N/A	N/A	■
13.	Antenna Master	EMCO	1070-1	9109-1624	N/A	N/A	■

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