ELECTROMAGNETIC EMISSION COMPLIANCE REPORT

Test report file number	**: E012R-036**
Applicant	**: CVC NETWORKS CO., LTD.**
Address	**: 10th floor, Hyundai-Coretel, 1125, Sanbon-Dong, Kunpo-City, Kyunggi-Do, 435-040, Korea**
Manufacturer	**: CVC NETWORKS CO., LTD.**
Address	**: 10th floor, Hyundai-Coretel, 1125, Sanbon-Dong, Kunpo-City, Kyunggi-Do, 435-040, Korea**
Type of Equipment	**: MP3 PLAYER (Peripheral Device for Class B Computing Device)**
FCC ID	**: PBDICPCAP**
Model / Type No.	**: ICP-2000**
Serial number	**: N/A**
Total page of Report	**: 13 pages (including this page)**
Date of Incoming	**: October 02, 2000**
Date of Issuing	**: February 22, 2001**

SUMMARY

The equipment complies with the regulation; FCC PART 15 SUBPART B, SECTION 15.101

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:

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EMC Dept.
ONETECH Corp.

Approved by:

S. S. Hong / Managing Director
ONETECH Corp.

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EMC Testing Dept : 426-1 Daessangryung-Ri, Chowol-Myun, Kwangju-Kun, Kyunggi-Do 464-860 Korea. (TEL: 82-31-765-8289 FAX: 82-31-766-2904)

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1. VERIFICATION OF COMPLIANCE

APPLICANT : CVC NETWORKS CO., LTD.
ADDRESS : 10th floor, Hyundai-Coretel, 1125, Sanbon-Dong, Kunpo-City, Kyunggi-Do, 435-040, Korea
CONTACT PERSON : Mr. Jung-Geun, Yang / Manager
TELEPHONE NO : +82-31-398-7933
FCC ID : PBDICPCAP
MODEL NO/NAME : ICP-2000
SERIAL NUMBER : N/A
DATE : February 22, 2001

DEVICE TYPE	Peripheral Device for Class B Computing Device - Unintentional Radiator
E.U.T. DESCRIPTION	MP3 PLAYER
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 (Class B)
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.

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2. GENERAL INFORMATION

2.1 Product Description

The CVC NETWORKS CO., LTD., Model ICP-2000 (referred to as the EUT in this report) is a MP3 PLAYER which can support multi format music files as MP3, AAC and WMA (without DRM). 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)	6 MHz, 11.2896 MHz, 16 MHz
POWER REQUIREMENT	DC 3V (2ea "AAA" Type), 85mA
NUMBER OF LAYERS	4 Layers
EXTERNAL CONNECTOR	USB Port, Headphone

Model Differences:

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

2.2 Related Submittal(s) / Grant(s)

Original submittal only

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2.3 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
ICP-2000	CVC NETWORKS CO., LTD.	PBDICPCAP	MP3 PLAYER (EUT)	NOTEBOOK PC
-	-	N/A	HEADPHONE	EUT
ADP-50SB	ASUSTEK COMPUTER UINC.	N/A	AC/DC ADAPTER	NOTEBOOK PC
emotion	SAMBO COMPUTER	DOC	NOTEBOOK PC	-
2225C	HP	DSI6XU2225	PRINTER	NOTEBOOK PC
020-0470	CARDINAL	GDE0196	MODEM	NOTEBOOK PC

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 12, 1999. (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	CVC NETWORKS CO., LTD.	ICP Series	N/A
MEMORY BOARD	CVC NETWORKS CO., LTD.	N/A	N/A

3.2 EUT exercise Software

The EUT is connected to USB port on a PC by the USB cable and the test is performed both downloading music files from PC and playing music files recorded in a memory card.

3.3 Cable Description

	Power Cord Shielded (Y/N)	I/O cable Shielded (Y/N)	Length (M)
MP3 PLAYER (EUT)	N/A	Y	1.5(D)
HEADPHONE	N/A	N	1.0(D)
NOTEBOOK PC	N	-	1.5(P)
AC/DC ADAPTER	N	N	1.5(P), 1.2(D)
MODEM	N	Y	1.5(P), 1.5(D)
PRINTER	N	Y	1.5(P), 1.5 (D)

* The marked "(P)" means the Power Cable.

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3.4 Noise Suppression Parts on Cable

	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
MP3 PLAYER (EUT)	Y	BOTH END	Y	BOTH END
AC/DC ADAPTER	Y	NOTEBOOK PC END	Y	NOTEBOOK PC END
HEADPHONE	N	N/A	Y	EUT END
NOTEBOOK PC	-	-	-	-
MODEM	N	N/A	Y	BOTH END
PRINTER	N	N/A	Y	BOTH 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 was no Modified items during EMI test"

3.6 Configuration of Test System

Line Conducted Test: The EUT was connected to 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.

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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)
Playing music files	
Downloading music files from PC	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)
Playing music files	
Downloading music files from PC	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

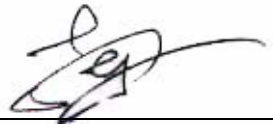
5.1 Conducted Emission Test

Humidity Level : 56 % Temperature : 18 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.107
Type of Test : CLASS B
Result : PASSED BY -15.43 dB at 1.75 MHz

EUT : MP3 PLAYER Date: January 12, 2001
Operating Condition : Downloading music files from PC
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 9 kHz)

Power Line Conducted Emission			FCC CLASS B	
Frequency (MHz)	**Amplitude (dBuV)**	**Conductor**	**Limit (dBuV)**	**Margin (dB)**
1.75	32.57	NEUTRAL	48.00	-15.43
4.35	29.60	HOT	48.00	-18.40
5.89	31.38	HOT	48.00	-16.62
6.26	28.84	NEUTRAL	48.00	-19.16
12.18	30.05	HOT	48.00	-17.95
12.99	31.05	NEUTRAL	48.00	-16.95

Line Conducted Emission Tabulated Data



Measuring by: Seung Hyun, Nam / Test Engineer

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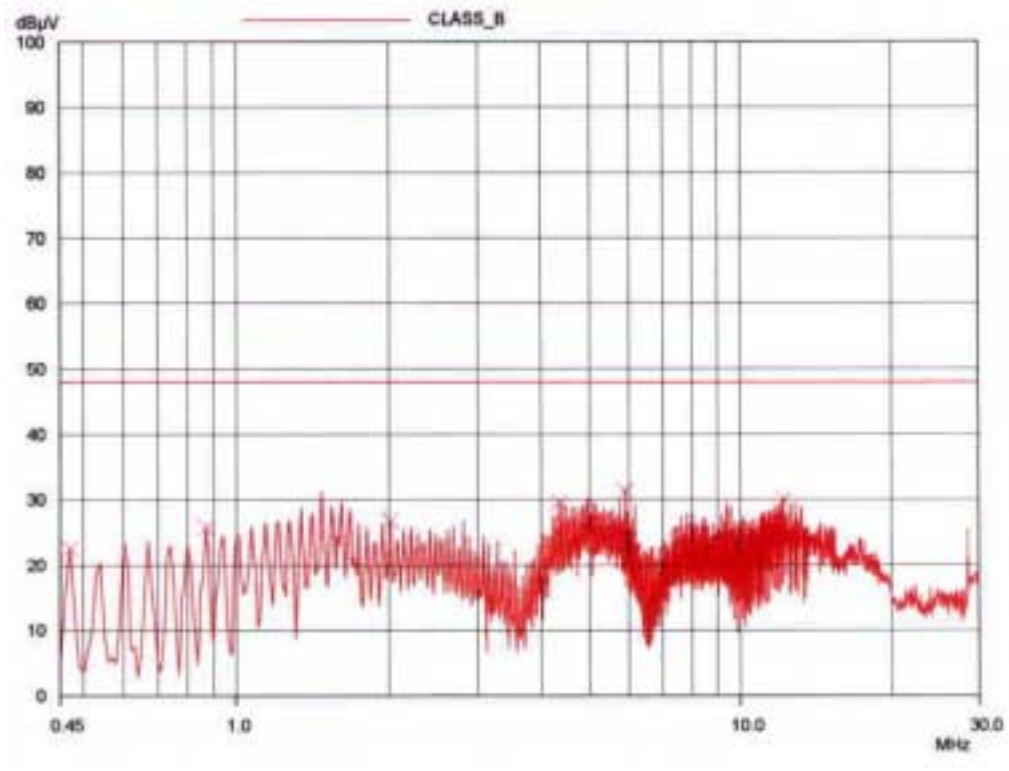
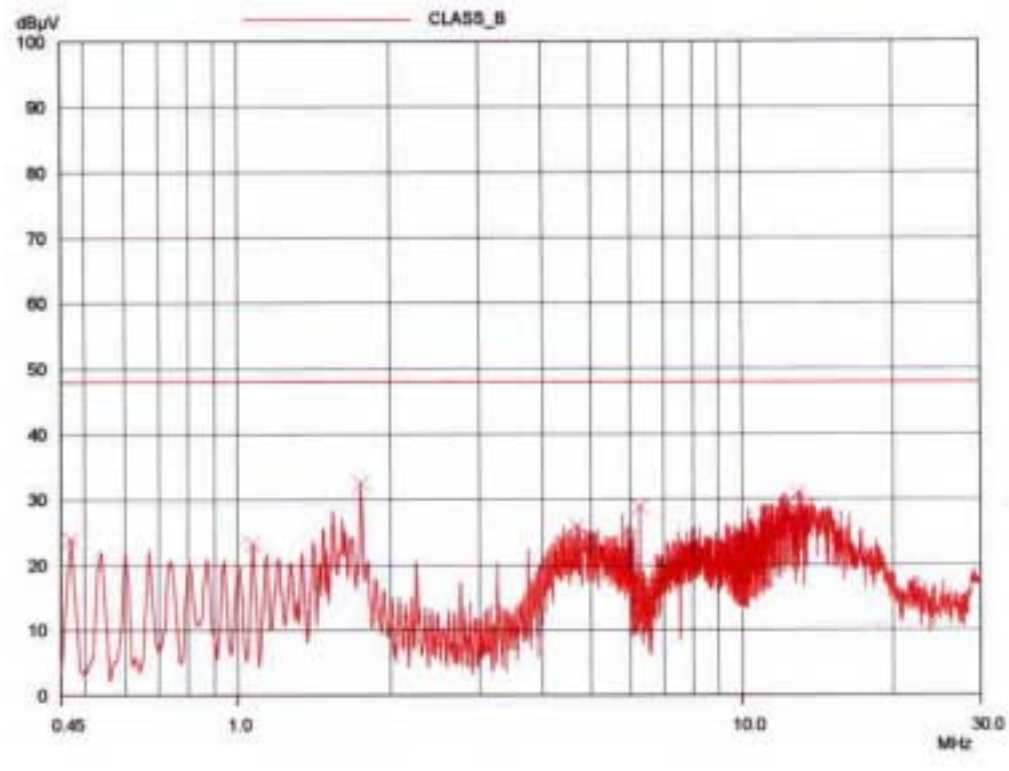


HOT LINE



NEUTRAL LINE

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5.2 Radiated Emission Test

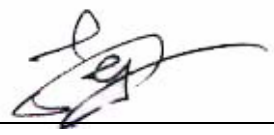
The following table shows the highest levels of radiated emission on both polarizations of horizontal and vertical.

Humidity Level : 54 % Temperature : 15 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109
Type of Test : CLASS B
Result : PASSED BY –3.24 dB at 420.80 MHz

EUT : MP3 PLAYER Date: January 11, 2001
Operating Condition : Downloading music files from PC
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)
71.90	21.40	H	6.92	1.00	29.32	40.00	-10.68
113.95	11.20	V	12.89	1.22	25.31	43.50	-18.19
119.92	22.50	H	13.33	1.23	37.06	43.50	-6.44
144.00	21.40	H	12.96	1.33	35.69	43.50	-7.81
168.00	20.00	H	14.92	1.42	36.34	43.50	-7.16
174.17	8.50	V	15.53	1.44	25.47	43.50	-18.03
288.00	19.50	H	14.70	1.95	36.15	46.00	-9.85

Radiated Emissions Tabulated Data



Measuring by: Seung Hyun, Nam / 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	ESVS 10	827864/005	SEP/00	12MONTH	■
2.	Test receiver	R/S	ESHS10	834467/007	APRIL/00	12MONTH	■
3.	Spectrum analyzer	HP	8568B	3026A0226	SEP/00	12MONTH	■
4.	RF preselector	HP	85685A	3107A01264	SEP/00	12MONTH	■
5.	Quasi-Peak Adapter	HP	85650A	3107A01542	SEP/00	12MONTH	■
6.	Dipole Antenna	EMCO	3121C	9107-745	JUN/00	12MONTH	
7.	Biconical antenna	EMCO	3104C	9109-4441 9109-4443 9109-4444	MAR/00	12MONTH	■
8.	Log Periodic antenna	EMCO	3146	9109-3213 9109-3214 9109-3217	MAR/00	12MONTH	■
9.	LISN	EMCO	3825/2	9109-1867 9109-1869	JUN/00	12MONTH	■
10.	RF Amplifier	HP	8447F	3113A04554	JUN/00	N/A	
11.	Spectrum Analyzer	HP	8591A	3131A02312	APR/00	12MONTH	
12.	Computer System Hard disk drive	HP	98581C 9153C	98543A CMC762Z9153	N/A N/A	N/A N/A	■ ■
13.	Plotter	HP	7475A	30052 22986	N/A	N/A	■
14.	Position Controller	EMCO	1090	9107-1038	N/A	N/A	■
15.	Turn Table	EMCO	1080-1.21	9109-1576	N/A	N/A	■
16.	Antenna Master	EMCO	1070-1	9109-1624	N/A	N/A	■

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