ELECTROMAGNETIC EMISSION COMPLIANCE REPORT
FOR FCC CLASS B CERTIFICATION

Test report file number	**: E043R-090**
Applicant	**: DECKTRON CO., LTD.**
Address	**: 187-3, Sinbong-Dong, Hungduk-Ku, Cheongju-Si, Chungcheongbuk-Do, 361-839, Korea**
Manufacturer	**: DECKTRON CO., LTD.**
Address	**: 187-3, Sinbong-Dong, Hungduk-Ku, Cheongju-Si, Chungcheongbuk-Do, 361-839, Korea**
Type of Equipment	**: MP3 PLAYER (Peripheral Device for Class B Computing Device)**
FCC ID	**: P42IMP2000A**
Model Name	**: IMP-2128**
Multiple Model Name	**: IMP-2256, IMP-3128, IMP-3256**
Serial Number	**: N/A**
Total page of Report	**: 12 pages (including this page)**
Date of Incoming	**: March 13, 2004**
Date of Issuing	**: March 30, 2004**

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: _____
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1. VERIFICATION OF COMPLIANCE

-. APPLICANT : DECKTRON CO., LTD.
-. ADDRESS : 187-3, Sinbong-Dong, Hungduk-Ku, Cheongju-Si, Chungcheongbuk-Do, 361-839, Korea
-. CONTACT PERSON : Mr. Jang-Hyuck, Ahn / Assistant Manager
-. TELEPHONE NO : +82-43-269-9671
-. FCC ID : P42IMP2000A
-. MODEL NAME : IMP-2128
-. SERIAL NUMBER : N/A
-. DATE : March 30, 2004

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: 2001
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 DECKTRON CO., LTD., Model IMP-2128 (referred to as the EUT in this report) is a MP3 PLAYER that is a personal computer peripheral with USB standard port and has functions of MP3 player. 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)	32.768 MHz on Main Board
POWER REQUIREMENTS	DC1.5V, AAA Type Battery
MWMORY MEDIUM	Built In Flash Memory
NUMBER OF LAYERS	Main Board : 4 Layers
EXTERNAL CONNECTOR	Earphone Jack, USB

2.2 Model Differences

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

		Model Differences
Basic Model	IMP-2128	-
Multiple Model	IMP-2256	Only type designation by a memory size of the EUT.
	IMP-3128, IMP-3256	Only type designation by a memory size and design of front panel.

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**
IMP-2128	DECKTRON CO., LTD.	P42IMP2000A	MP3 PLAYER (EUT)	NOTEBOOK PC
-	-	N/A	EARPHONE	EUT
S690	Samsung Elect.	DoC	NOTEBOOK PC	-
AD-6019(V)	Samsung Elect.	N/A	AC/DC ADAPTER	NOTEBOOK PC
P801	-	FSUGMZFT	MOUSE	NOTEBOOK PC
2225C	HP	DSI6XU2225	PRINTER	NOTEBOOK PC

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-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 Board	DECKTRON CO., LTD.	-	N/A

3.2 Operating Condition of The EUT

-. Play mode and Recording mode

-. After connecting the EUT to USB port of a notebook PC, data were continuously uploading and downloading from HDD of the notebook PC to the EUT.

- The EUT was tested on up/downloading mode as the worst case.

3.3 Cable Description

	Power Cord Shielded (Y/N)	I/O cable Shielded (Y/N)	Length (M)
MP3 PLAYER (EUT)	N/A	Y	1.2 (D)
EARPHONE	N/A	N	1.2 (D)
NOTEBOOK PC	N	-	1.0 (P)
AC/DC ADAPTER (Notebook PC)	N	N (DC OUT)	1.2(P), 1.0(D)
MOUSE	N/A	N	1.2(D)
PRINTER	N	Y	1.5(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
MP3 PLAYER (EUT)	Y	BOTH END(USB)	Y	BOTH END
EARPHONE	N	N/A	Y	EUT END
NOTEBOOK PC	-	-	-	-
AC/DC ADAPTER (Notebook PC)	Y	Notebook PC END	Y	Notebook PC END
MOUSE	N	N/A	Y	Notebook PC END
PRINTER	N	N/A	Y	BOTH END

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3.5 Equipment Modifications

-. None

3.6 Configuration of Test System

Line Conducted Test : The EUT was connected to notebook PC and the power cord of the notebook 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: 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.

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)
Play mode	
Recording mode	
Data Up/Downloading mode	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)
Play mode	
Recording mode	
Data Up/Downloading mode	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 : 38 % 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 –7.03 dB at 0.16 MHz under peak detector mode

EUT : MP3 PLAYER Date: March 23, 2004

Operating Condition : Data Up/Downloading mode

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

Frequency (MHz)	Line	Peak (dBuV)		Margin (dB)
		Emission level	Q.P Limits	
0.16	H	58.70	65.73	-7.03
0.43	N	46.89	57.25	-10.36
0.59	N	43.48	56.00	-12.52
2.05	N	42.84	56.00	-13.16
4.20	N	43.30	56.00	-12.70
9.14	N	43.25	60.00	-16.75
13.05	H	39.87	60.00	-20.13
Frequency (MHz)	**Line**	**Average (dBuV)**		**Margin (dB)**
		Emission level	**Limits**	
0.43	N	39.53	47.25	-7.72
0.59	N	37.46	46.00	-8.54

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: Dong Yub, Lee / Test Engineer

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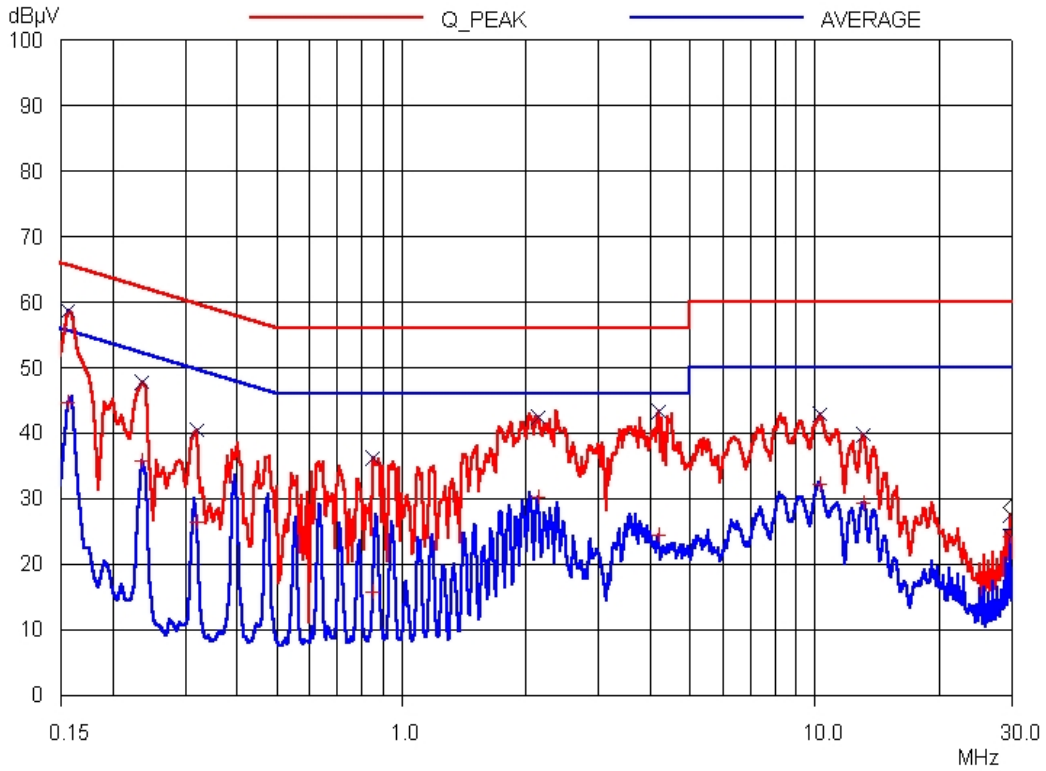
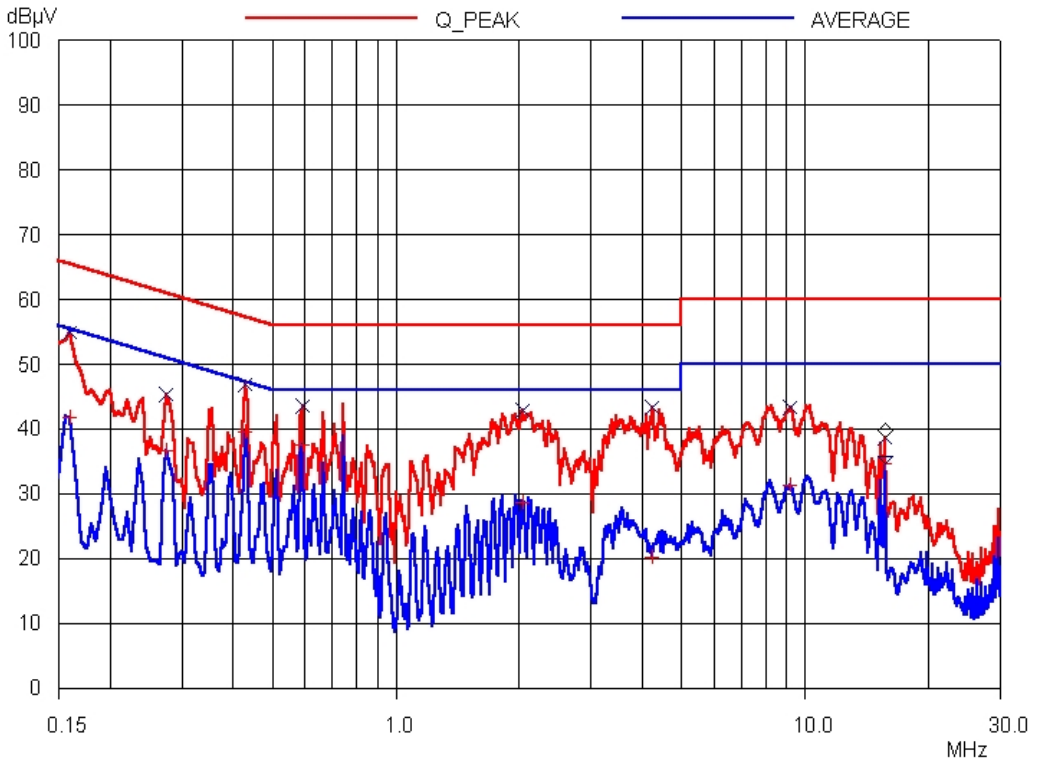


HOT LINE



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 : 45 % Temperature: 15 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109 (a)
Type of Test : CLASS B
Result : PASSED BY –4.15 dB at 311.20 MHz

EUT : MP3 PLAYER Date: March 15, 2004
Operating Condition : Files Up/Downloading mode.
Frequency range : 30MHz – 1000MHz
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)
35.80	18.30	H	11.23	0.80	30.33	40.00	-9.67
47.40	19.40	V	10.80	0.90	31.10	40.00	-8.90
132.80	19.60	V	12.86	1.28	33.74	43.50	-9.76
222.80	24.50	H	10.93	1.69	37.12	46.00	-8.88
266.40	24.70	H	12.62	1.87	39.19	46.00	-6.81
311.20	25.10	H	14.68	2.07	41.85	46.00	-4.15
320.80	24.80	H	14.32	2.12	41.24	46.00	-4.76
325.60	21.90	H	14.17	2.15	38.22	46.00	-7.78
400.20	20.20	H	15.22	2.43	37.85	46.00	-8.15
444.80	17.90	H	16.18	2.54	36.62	46.00	-9.38
700.60	12.90	V	20.81	3.31	37.02	46.00	-8.98

Radiated Emissions Tabulated Data

Tested by: Dong-Yub, 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	ESVS 10	827864/005	NOV/03	12MONTH	■
2.	Test receiver	R/S	ESHS 10	834467/007	APR/03	12MONTH	■
3.	Spectrum analyzer	HP	8566B	3407A08547	AUG/03	12MONTH	
4.	Spectrum analyzer	HP	8568B	3109A05456	MAY/03	12MONTH	■
5.	RF preselector	HP	85685A	3107A01264	MAY/03	12MONTH	■
6.	Quasi-Peak Adapter	HP	85650A	3107A01542	MAY/03	12MONTH	■
7.	TRILOG Broadband Antenna	Schwarzbeck	VULB9163	VULB9163 166	FEB/04	12MONTH	
8.	Biconical antenna	EMCO	3104C	9109-4443	MAY/03	12MONTH	■
				9109-4444	JUL/03	12MONTH	
		Schwarzbeck	VHA9103	91031852	JAN/04	12MONTH	
9.	Log Periodic antenna	EMCO	3146	9109-3213	FEB/04	12MONTH	
				9109-3214	JUL/03	12MONTH	■
				9109-3217	MAY/03	12MONTH	
		Schwarzbeck	9108-A(494)	62281001	JAN/04	12MONTH	
10.	LISN	EMCO	3825/2	9109-1867	AUG/03	12MONTH	■
				9109-1869	OCT/03	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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