



EMI TEST REPORT

Emission of electromagnetic disturbance

Test Report No. : ERI-FCC03-0059
Equipment : MP3 Player
Name of basic model : iGP-100
Family model : None
Manufacturer : AV CHASEWAY MFG.FTY.
Applicant : iRiver CO., LTD.
Tested date : 2003. 9. 22 – 9. 23
Issued date : 2003. 9. 24
Test results : PASS
Test Standards : FCC Part 15 Subpart B (Class B)
/digital devices & peripherals

Test Procedure and Items:

- AC Power line Conducted emissions measurement : ANSI C63.4-1992
- Radiated emissions measurement : ANSI C63.4-1992

Tested by: GWEON, HUR

Approved by: UK-CHO, RIM

The results in this report apply only to the sample tested.
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APPENDIX

(None)

1. CLIENT INFORMATION

The EUT has been tested by request of :

Company : iRiver CO., LTD.
Address : 8F Posgen VentureTower, 1586-7 Seocho-dong, Seocho-gu,
Seoul, Korea
Name of contact : H.J. Mun
Telephone : +82-2-3019-1723
Facsimile : +82-2-3019-1746

2. LABORATORY INFORMATION

The 10m full-anechoic chamber and/or EMC facilities are used for these testing.
These facilities were accredited by KOLAS, EK, MIC of Korea and FCC of USA.

Address

ELECTROMAGNETIC RESEARCH INSTITUTE.
66-6, JEIL-RI, YANGJI-MYUN, YOUNGIN-CITY, KYUNGGI-DO, KOREA
Telephone No. : +82-31-336-1186~7
Facsimile No. : +82-31-336-1184

Registered No.

KOLAS : 111
EK : J
MIC : KR0030
FCC Filing No. : 302567

3. EQUIPMENT UNDER TEST INFORMATION(EUT)

3.1 Identification of the EUT

Type of equipment : MP3 Player
Model name : iGP-100
Brand name : -
Manufacturer : AV CHASEWAY MFG.FTY.
Address : Langang Village, Chongguang Town, Baoan District,
Shenzhen City, Guangdong, China
Telephone : +86-755-708-4671
Facsimile : +86-755-708-5490
Country of origin : CHINA
Rating : 120V, 60Hz

3.2 Additional information about the EUT

Class B, Family Models List: None

3.3 Peripheral equipment

Defined as equipment needed for correct operation of the EUT.

Description	Model No.	Serial No.	Manufacture
AC/DC adaptor	SEA60N2-16.0	03502395C	SANKEN ELECTRIC CO., LTD.
Note PC	FPC02015C	464307211682	FUJITSU
AC/DC adaptor	-	-	-
Earphone	-	-	-
Keyboard	SDL2500	07035593	SAMSUNG Electronics Co., Ltd.

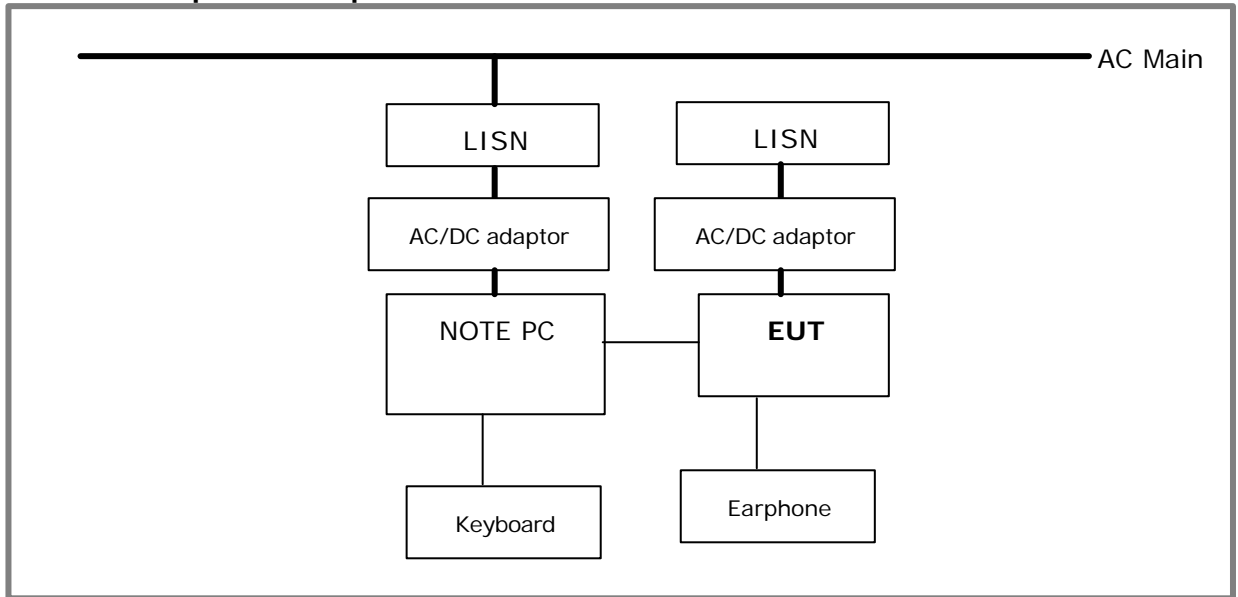
4. CONTINUOUS DISTURBANCE VOLTAGE, MAIN TERMINAL

: Frequency range 0.15 MHz to 30 MHz

4.1 Operating environment

Temperature : 22.0
Relative Humidity : 52.0 %

4.2 Test set-up and test procedures



The mains terminal disturbance voltage was measured with the equipment under test(EUT) in a shield room. The EUT was connected to an artificial mains network(LISN) placed on the floor. The EUT was placed on non-metallic table 0.4m above the metallic, grounded floor. The distance to other metallic surface was at least 0.8m.

Amplitude measurements were performed with a quasi-peak detector and an average detector.

4.3 Operation Conditions

Up & download mode, play mode

4.4 Test instrument

Instrument	Model No	Serial No.	Makers	Next cal.date	Used
Test receiver	ESCS30	100021	R&S	2004. 1. 24	
L.I.S.N.	ESH3-Z5	827246/008	R&S	2004. 3. 19	
	ESH3-Z5	831887/018	R&S	2004. 3. 19	
Shield room	8 × 6 × 3.3m/H	-	-	-	

4.5 Test results

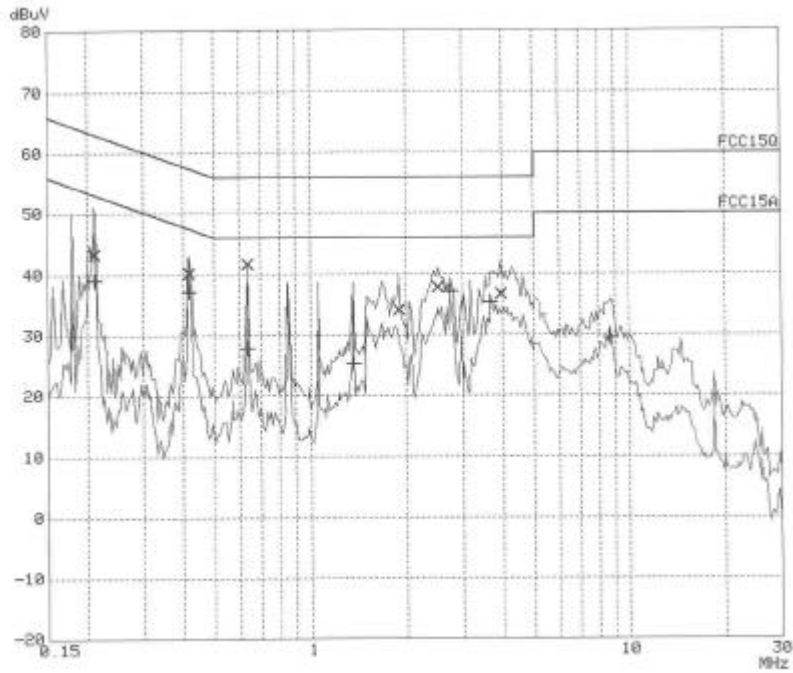
Date of test: Sep 22, 2003.

An overview sweep performed with peak detector & average detector are included in the report **as test reports**.

Frequency Range [MHz]	Tested Freq. [MHz]	LISN	Meter Reading		Limits		Margin	
			QP	AV	QP	AV	QP	AV
			[dBuV]		[dBuV]		[dBuV]	
0.15-30	0.195	N	45.3	37.7	63.8	53.8	18.5	16.1
	0.417	V	40.3	37.1	57.9	47.9	17.6	10.8
	0.636	V	41.6	27.9	56.0	46.0	14.4	18.1
	1.887	V	34.1	25.3	56.0	46.0	21.9	20.7
	2.499	V	37.8	37.1	56.0	46.0	18.2	8.9
	3.950	V	36.8	35.4	56.0	46.0	19.2	10.6

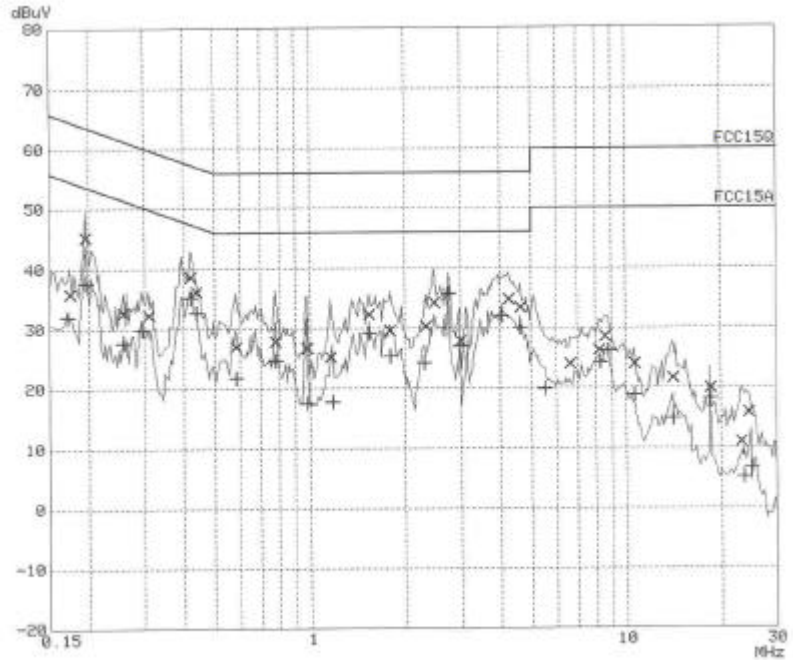
* <5 : mean less than 5dB

* Other frequency keep over 20dB margin.



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[Hot line]



PAGE 1

[Neutral line]

5. RADIATED DISTURBANCE : 30MHz - 1000MHz

5.1 Operating environment

Temperature : 23.0
Relative Humidity : 48.0 %

5.2 Test set-up

The frequency range investigated was 30 MHz to 1000 MHz.

All readings are quasi-peak unless stated otherwise.

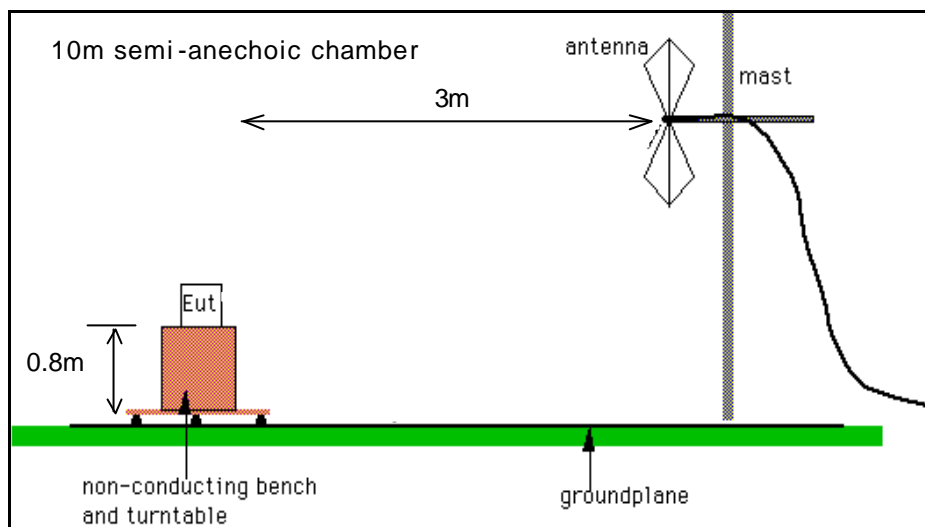
The half-wave dipole antenna was tuned to the frequency found during Preliminary radiated measurements. The EUT, support equipment and Interconnecting cables were re-configured to the set-up to the producing the Maximum emission for the frequency and were placed on top of a 0.8 meter High non-metallic 1 X 1.5 meter table. The EUT, support equipment, and interconnecting cables were re-arranged and manipulated to maximize each EME emission.

The turntable containing the system was rotated the antenna height was varied 1 to 4 meters

and stopped at the azimuth or height producing the maximum emission.

And this device(EUT) was tested in 3 orthogonal planes.

The antenna measured both horizontal and vertical polarization.



<General test set-up for radiated emissions>

5.3 Operation Conditions

Up & download mode, play mode

5.4 Test instrument

Instrument	Model No.	Serial No.	Makers	Next cal.date	Used
Test receiver	ESCS30	100021	R&S	2004. 1. 24	
L.I.S.N.	ESH3-Z5	827246/008	R&S	2004. 3. 19	
	ESH3-Z5	831887/018	R&S	2004. 3. 19	

5.5 Test results (Test mode: Up & download mode)

Date of test: Sep 23, 2003.

Freq (MHz)	Reading (dBuV/m)	Ant	AF (dB)	CL (dB)	Result (dBuV/m)	Limit (dB)	Margin (dB)
56.30	18.14	V	9.67	1.90	29.71	40.00	10.29
67.80	22.53	V	6.49	2.00	31.02	40.00	8.98
102.90	17.90	V	10.31	2.40	30.61	43.50	12.89
168.40	17.25	V	15.70	2.90	35.85	43.50	7.65
179.90	18.72	H	15.90	3.00	37.62	43.50	5.88
182.60	15.32	H	16.22	3.00	34.54	43.50	8.96
305.00	17.15	V	13.69	3.90	34.74	46.00	11.26
318.00	19.76	V	13.69	3.90	37.35	46.00	8.65
330.00	20.76	V	13.85	0.90	35.51	46.00	10.49
367.00	18.37	V	14.31	3.80	36.48	46.00	9.52
409.00	17.03	H	15.87	4.10	37.00	46.00	9.00
451.00	19.77	H	16.64	4.40	40.81	46.00	5.19

* Receiving Antenna Mode : **Horizontal, Vertical**

* <5 : mean less than 5dB

Note : Reading = Test Receiver meter, P= Polarization ≠ POL H = Horizontal POL V = Vertical A = Angle, AF = Antenna Factor CL = Cable Loss Result = Field Strength(AF + CL+ Reading)

Result: Pass

The measured emissions level of the EUT have found the below of the specified limit.

5.6 Test results (Test mode: Play mode)

Date of test: Sep 23, 2003.

Freq (MHz)	Reading (dBuV/m)	Ant	AF (dB)	CL (dB)	Result (dBuV/m)	Limit (dB)	Margin (dB)
131.30	8.77	V	13.86	2.60	25.23	43.50	18.27
149.50	7.92	V	14.70	2.70	25.32	43.50	18.18
158.90	7.60	V	15.30	2.90	25.80	43.50	17.70
168.40	13.40	H	15.70	2.90	32.00	43.50	11.50
173.80	8.67	V	15.76	3.00	27.43	43.50	16.07
216.30	5.70	V	16.50	3.20	25.40	46.00	20.60
337.00	19.48	H	13.85	0.90	34.23	46.00	11.77
409.00	6.01	V	15.87	4.10	25.98	46.00	20.02
433.00	3.88	V	16.27	4.30	24.45	46.00	21.55
610.00	8.25	H	18.88	5.20	32.33	46.00	13.67
622.00	6.74	H	18.88	5.20	30.82	46.00	15.18
633.00	5.75	H	19.18	5.40	30.33	46.00	15.67
131.30	8.77	V	13.86	2.60	25.23	43.50	18.27

* Receiving Antenna Mode : **Horizontal, Vertical**

* <5 : mean less than 5dB

Note : Reading = Test Receiver meter, P= Polarization \approx POL H = Horizontal POL V = Vertical A = Angle, AF = Antenna Factor CL = Cable Loss Result = Field Strength(AF + CL+ Reading)

Result: Pass

The measured emissions level of the EUT have found the below of the specified limit.

5.7 Test results < Test mode: FM tuner >

Date of test: Sep 23, 2003.

T.	Tested Frequency [MHz]	Meter Reading (quasi-peak)		Limits	Margins	
		H	V		H	V
		[dBuV/m]	[dBuV/m]		[dBuV/m]	[dBuV/m]
87.5	98.2	-	19.3	43.5	-	24.2
	196.4	-	25.4	43.5	-	18.1
	294.6	23.7	-	46.0	22.3	-
	392.8	26.2	-	46.0	19.8	-
	491.0	28.2	-	46.0	17.8	-
	589.2	-	32.8	46.0	-	13.2
	687.4	-	33.8	46.0	-	12.2
	785.6	-	34.6	46.0	-	11.4
	883.8	-	35.9	46.0	-	10.1
98.0	982.0	37.0	-	54.0	17.0	54.0
	108.7	-	21.7	43.5	-	21.8
	217.4	-	25.6	46.0	-	20.4
	326.1	-	24.2	46.0	-	21.8
	434.8	27.1	-	46.0	18.9	-
	543.5	31.6	-	46.0	14.4	-
	652.2	33.5	-	46.0	12.5	-
	760.9	-	34.5	46.0	-	11.5
	869.6	35.9	-	46.0	10.1	-
108.0	978.3	37.0	-	54.0	17.0	-
	118.7	-	23.0	43.5	-	20.5
	237.4	26.5	-	46.0	19.5	-
	356.1	-	25.1	46.0	-	20.9
	474.8	-	27.9	46.0	-	18.1
	593.5	-	33.0	46.0	-	13.0
	712.2	-	34.1	46.0	-	11.9
	830.9	35.2	-	46.0	10.8	-
	949.6	36.7	-	46.0	9.3	-

* Meter reading: **Loss include**
 * Margins : **[Limits] - [Meter reading]**
 * Receiving Antenna Mode: **Horizontal, Vertical**
 * 10m chamber
 * <5 : mean less than 5dB
 * **Measurement uncertainty (K=2)**
 30-300MHz : +3.96dB / -4.04dB
 300-1000MHz : +3.04dB / -3.00dB

Result: Pass

The measured emissions level of the EUT have found the below of the specified limit.