



EMC RESEARCH INSTITUTE



EMI TEST REPORT

Emission of electromagnetic disturbance

Test Report No. : ERI-FCC04-0043
Equipment : Portable Multimedia Player
Name of basic model : PMP-140
Family model : PMP-120
Family ID : QDMPMP140
Manufacturer : AV CHASEWAY MFG.FTY.
Applicant : ReignCom Limited.
Tested date : 2004. 6. 11 – 6. 12
Issued date : 2004. 6. 16
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: YOUNG-SIK, KIM

Approved by: SANG-KYU, LEE

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

This test report shall not be reproduced except in full, without the written approval of **ERI Laboratory**.

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APPENDIX

(None)

1. CLIENT INFORMATION

The EUT has been tested by request of :

Company : ReignCom Limited.
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 : Portable Multimedia Player
Model name : PMP-140
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:

Basic Model	Variant Model	Differential point	Memory size
PMP-140 (40G)	PMP-120	Memory size	20G

3.3 Peripheral equipment

Defined as equipment needed for correct operation of the EUT.

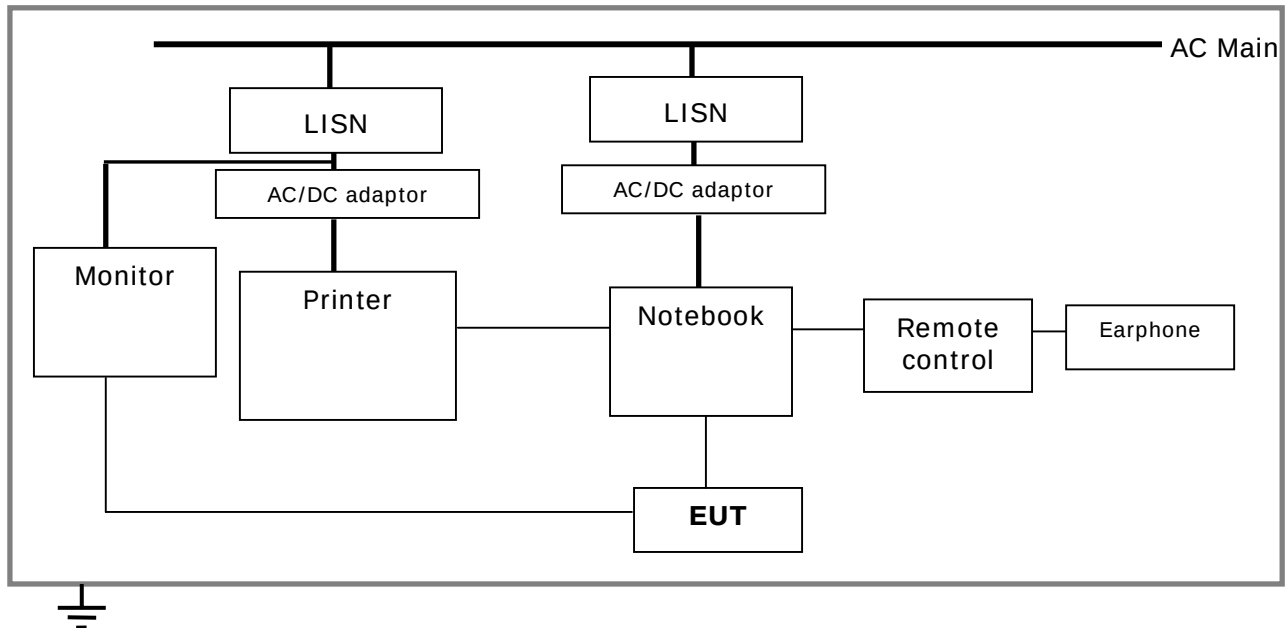
Description	Model No.	Serial No.	Manufacture
Notebook	Life Book P Series	464307 211 682	FUJITSU LIMITED.
AC/DC adaptor	CA01007-0750	03502395C	PT SANKEN INDONESIA
AC/DC adaptor	SW10-S050-10	-	Dongguan Qiaozi Santai Electrical Appliances Co., Ltd.
Printer	C6247A	CN13V1B1RY	HP
Monitor	CCM-144	-	Commax Co., Ltd.

4. CONTINUOUS DISTURBANCE VOLTAGE, MAIN TERMINAL : Frequency range 0.15 MHz to 30 MHz

4.1 Operating environment

Temperature : 24.0 °C
Relative Humidity : 47.0 %

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

Play mode

4.4 Test instrument

Instrument	Model No	Serial No.	Makers	Next cal.date	Used
Test receiver	ESCS30	100022	R&S	2004. 06. 16	x
L.I.S.N.	ESH3-Z5	100029	R&S	2004. 11. 11	x
	ESH3-Z5	100031	R&S	2005. 01. 06	x
Shield room	8 × 6 × 3.3m/H	-	-	-	x

4.5 Test results (Play mode)

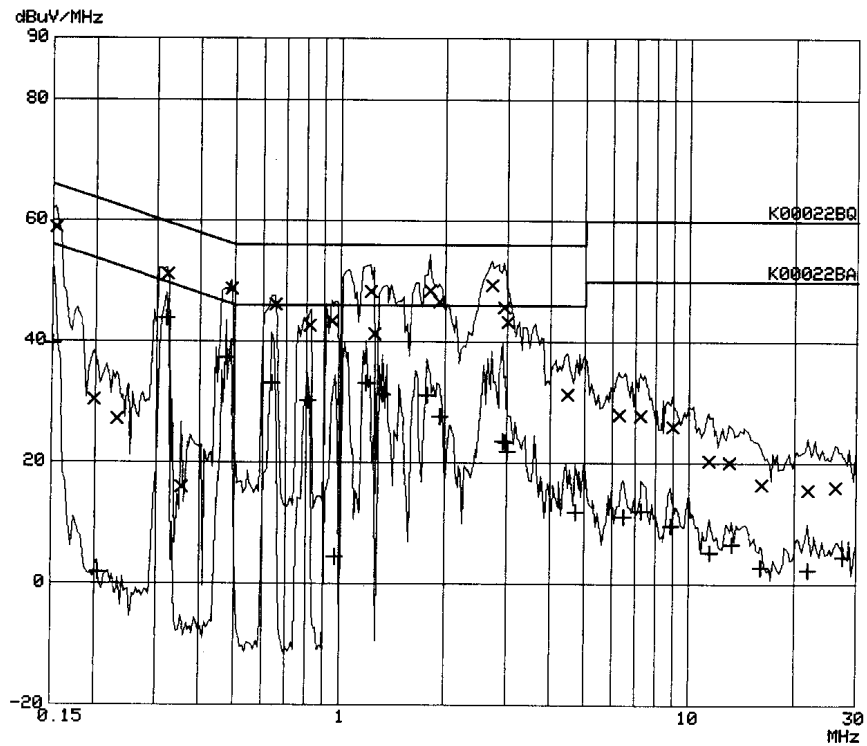
Date of test: Jun 12, 2004.

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

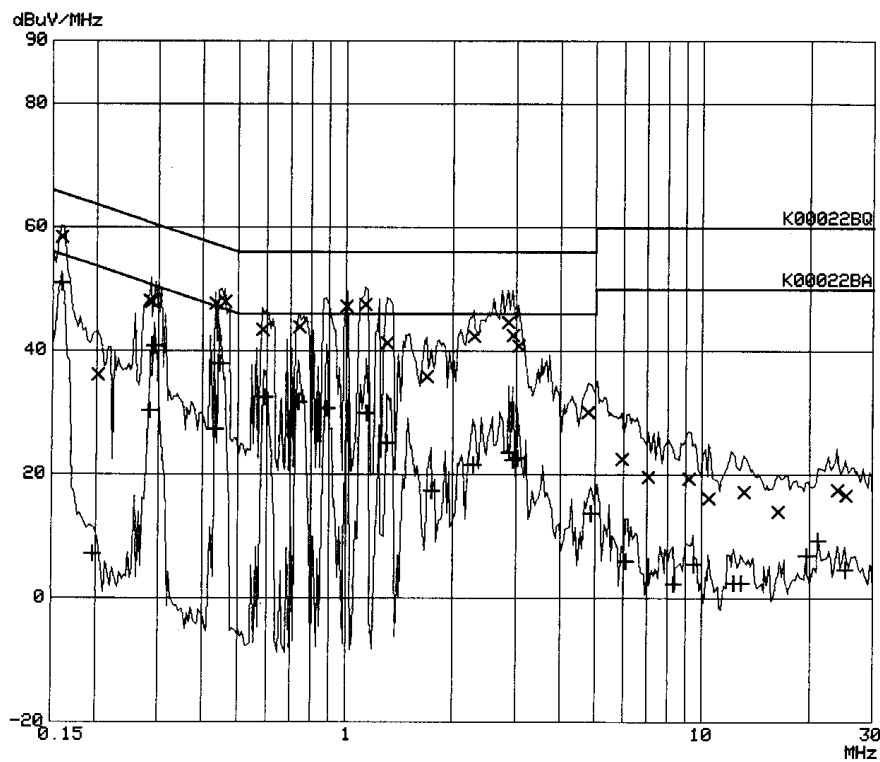
Frequency Range [MHz]	Tested Freq. [MHz]	LISN	Meter Reading		Limits		Margin	
			QP	AV	QP	AV	QP	AV
			[dBuV]		[dBuV]		[dBuV]	
0.15-30	0.153	H	58.9	39.6	65.8	55.8	6.9	16.2
	0.282	N	48.1	30.4	60.8	50.8	12.7	20.4
	0.285	N	48.0	40.8	60.7	50.7	12.7	9.9
	0.321	H	51.1	43.9	59.7	49.7	8.6	5.8
	0.432	N	47.6	27.4	57.3	47.3	9.7	19.9
	0.489	H	48.7	37.4	56.2	46.2	7.5	8.8
	0.651	H	46.2	33.1	56.0	46.0	9.8	12.9
	1.221	H	48.2	33.1	56.0	46.0	7.8	12.9
	1.800	H	48.4	31.1	56.0	46.0	7.6	14.9
	1.911	H	46.6	27.7	56.0	46.0	9.4	18.3

* <5 : mean less than 5dB

* Other frequency keep over 20dB margin.



[Live line]



[Neutral line]

5. RADIATED DISTURBANCE : 30MHz – 1000MHz

5.1 Operating environment

Temperature : 23.0 °C
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.

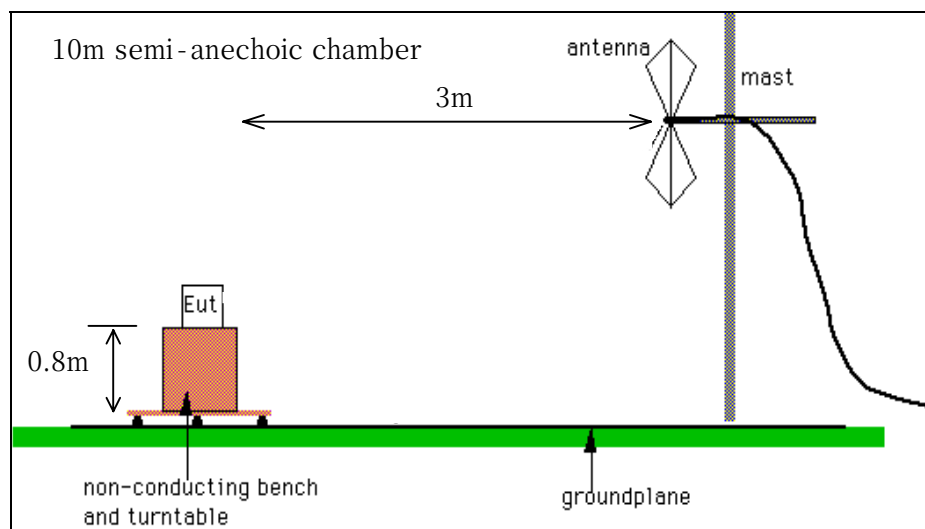
The half-wave dipole antenna was tuned to the frequency found during Preliminary radiated measurements. The EUT, support equipment and Interconnecting cables were re-configured to the set-up to the producing the Maximum emission for the frequency and were placed on top of a 0.8 meter High non-metallic 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&down load mode, play mode, tuner mode

5.4 Test instrument

Instrument	Model No.	Serial No.	Makers	Next cal.date	Used
Test receiver	ESCS30	100021	R&S	2005. 02.06	x
Biconical Antenna	VHA9103	91031950	Schwarzbeck	2005. 02.04	x
Log-Periodic Antenna	UHALP9108A	0392	Schwarzbeck	2005. 02.04	x
Antenna Mast	MA240	N/A	HD	-	x
Turn Table	DT430S	N/A	HD	-	x

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

Date of test: Jun 11, 2004.

Freq (MHz)	Reading (dBuV / m)	Ant	AF (dB)	CL (dB)	Result (dBuV / m)	Limit (dB)	Margin (dB)
247.40	15.20	H	17.10	3.50	35.80	46.00	10.20
270.30	14.50	H	18.00	3.60	36.10	46.00	9.90
300.10	19.01	H	13.69	3.90	36.60	46.00	9.40
311.20	17.71	V	13.69	3.90	35.30	46.00	10.70
440.00	20.33	H	16.27	4.30	40.90	46.00	5.10
452.20	17.66	V	16.64	4.40	38.70	46.00	7.30
480.10	16.94	H	17.06	4.60	38.60	46.00	7.40
528.30	15.81	V	17.69	4.80	38.30	46.00	7.70

* 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: Jun 11, 2004.

Freq (MHz)	Reading (dBuV / m)	Ant	AF (dB)	CL (dB)	Result (dBuV / m)	Limit (dB)	Margin (dB)
209.60	14.31	H	16.29	3.20	33.80	43.50	9.70
426.10	19.03	V	16.27	4.30	39.60	46.00	6.40
438.50	19.53	H	16.27	4.30	40.10	46.00	5.90
465.90	18.46	H	16.64	4.40	39.50	46.00	6.50
536.80	15.91	H	17.69	4.80	38.40	46.00	7.60

* 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.

5.7 Test results < Test mode: FM tuner >

Date of test: Jun 11, 2004.

T.	Tested	Meter Reading (quasi-peak)		Limits	Margins	
Frequency	Frequency	H	V		H	V
[MHz]	[MHz]	[dBuV/m]	[dBuV/m]		[dBuV/m]	[dBuV/m]
87.5	98.2	15.9	-	43.5	27.6	-
	196.4	19.4	-	43.5	24.1	-
	294.6	-	-	46.0	-	-
	392.8	-	-	46.0	-	-
	491.0	-	-	46.0	-	-
	589.2	-	-	46.0	-	-
	687.4	-	-	46.0	-	-
	785.6	-	-	46.0	-	-
	883.8	-	-	46.0	-	-
	982.0	-	-	46.0	-	-
98.0	108.7	17.0	-	43.5	26.5	-
	217.4	22.0	-	46.0	24.0	-
	326.1	-	-	46.0	-	-
	434.8	-	-	46.0	-	-
	543.5	-	-	46.0	-	-
	652.2	-	-	46.0	-	-
	760.9	-	-	46.0	-	-
	869.6	-	-	46.0	-	-
	978.3	-	-	46.0	-	-
108.0	118.7	16.2	-	43.5	27.3	-
	237.4	20.5	-	46.0	25.5	-
	356.1	22.1	-	46.0	23.9	-
	474.8	-	-	46.0	-	-
	593.5	-	-	46.0	-	-
	712.2	-	-	46.0	-	-
	830.9	-	-	46.0	-	-
	949.6	-	-	46.0	-	-
Others	182.6	32.1	-	43.5	11.4	-
	229.8	33.6	-	40.0	12.4	-
	243.3	33.5	-	46.0	12.5	-
	445.2	38.2	-	46.0	7.8	-
	452.1	41.8	-	46.0	4.2	-
* Meter reading: Loss include * Margins : [Limits] - [Meter reading] * Receiving Antenna Mode: Horizontal, Vertical * 10m chamber * <5 : mean less than 5dB						

Result: Pass

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