



EMC RESEARCH INSTITUTE

EMI TEST REPORT

Emission of electromagnetic disturbance

Test Report No. : ERI-FCC05-0021

Equipment : Data Management Server

Name of basic model : AIM-D00

Family model : None

Manufacturer : Samsung Electronics Co., Ltd.

Applicant : Samsung Electronics Co., Ltd..

Tested date : 2005. 3. 17

Issued date : 2005. 3. 29

Test results : PASS

Test Standards : FCC Part 15 Subpart B (Class B)
/ Class B digital devices, peripherals

Test Procedure and Items:

- AC Power line Conducted emissions measurement : ANSI C63.4-2003
- Radiated emissions measurement : ANSI C63.4-2003

A handwritten signature in black ink, appearing to read 'Kim Young-Sik', positioned above a horizontal line.

Tested by: KIM, YOUNG-SIK

A handwritten signature in black ink, appearing to read 'Choi Kee-Ho', positioned above a horizontal line.

Approved by: CHOI, KEE-HO

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 : Samsung Electronics Co., Ltd
Address : 416, Maetan-3 dong, Youngtong-Gu, Suwon-city,
Kyungki-do, Korea
Telephone : +82-31-218-5279
Contact : Kim, Min-chang / Assistant Engineer
S/W Group
System Appliance Division / Digital Appliance Business

2. LABORATORY INFORMATION

The 10m semi-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 : DMS(Data Management server)
Model name : AIM-D00
Brand name : NONE
Company : Samsung Electronics Co., Ltd
Address : 416, Maetan-3 dong, Youngtong-Gu, Suwon-city,
Kyungki-do, Korea
Telephone : +82-31-218-5279
Country of origin : KOREA
Rating : 120V, 60Hz

3.2 Additional information about the EUT

Class B

3.3 Peripheral equipment

Defined as equipment needed for correct operation of the EUT.

Description	Model No.	Serial No.	Manufacture
Note PC	S640	625991DR200269	Samsung
AC/DC adapter	AD-6019	none	"
Note PC	S640	625991CR200169	"
AC/DC adapter	AD-6019	none	"
Hub	RNSH500	RNSH5004BC0801 804	Reenet
Converter Board	none	none	Samsung
AC/DC adapter	AD-1005	none	"

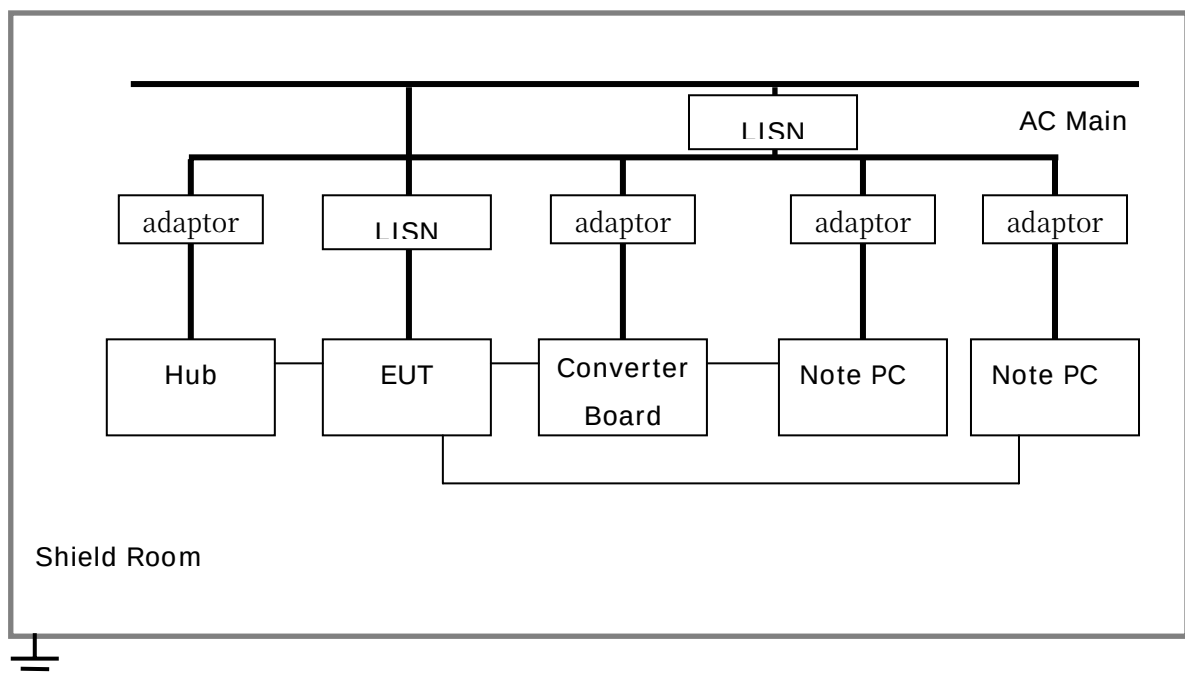
4. CONTINUOUS DISTURBANCE VOLTAGE, MAIN TERMINAL : Frequency range 0.15 MHz to 30 MHz

4.1 Operating environment

Temperature : 18.3 °C

Relative Humidity : 42.0 %

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 0.8m above the metallic, grounded floor. The distance to other metallic surface was at least 0.4m.

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

Test configuration

1. If cables cannot be shortened to appropriate length, the excess shall be folded back and forth a bundle 30Cm to 40Cm long. If bundling is not possible, the cables shall be arranged in a serpentine fashion.
2. Excess mains cord shall be bundled in the centre or shortened to appropriate length.
3. EUT and cables shall be insulated (up to 15Cm) from the horizontal metal ground plane.

Operation condition: Normal operated

4.3 Test instrument

Instrument	Model No	Serial No.	Makers	Next cal.date	Used
Test receiver	ESCS30	830986-015	R&S	2005. 04. 08	X
L.I.S.N.	ESH3-Z5	82746/008	R&S	2005. 03. 31	X
	ESH3-Z5	831887/018	R&S	2005. 03. 31	X
Shield room	8 × 6 × 3.3m/H	-	-	-	X

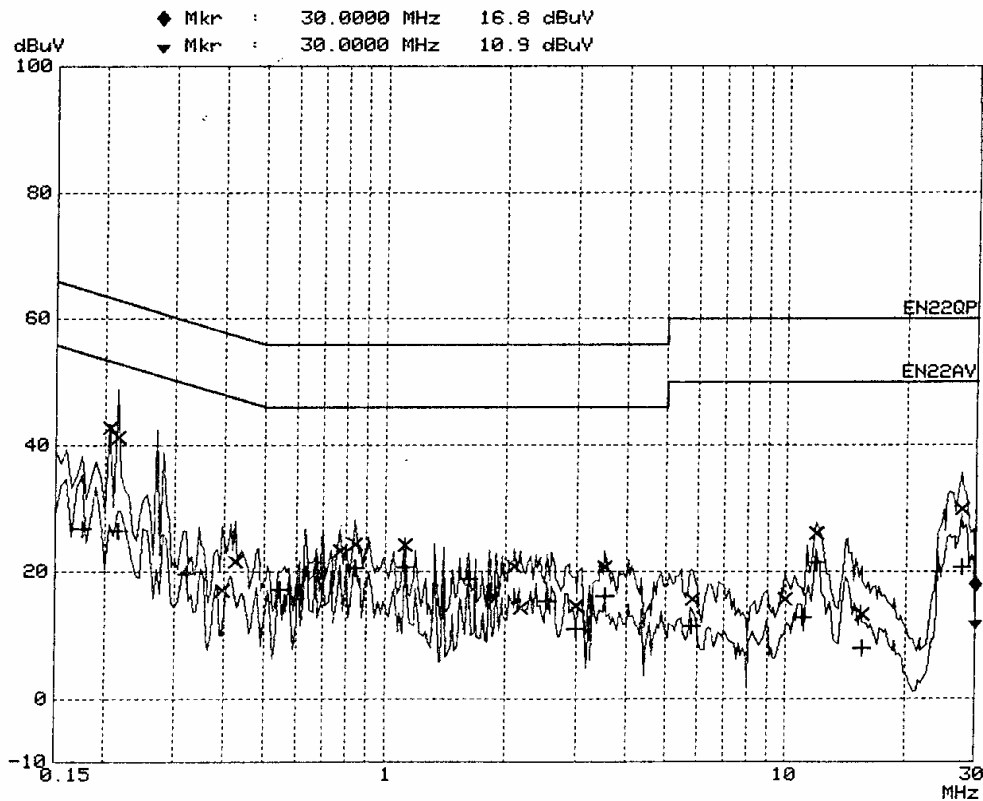
4.4 Test results

Date of test: Mar 17, 2005.

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

Result: Pass

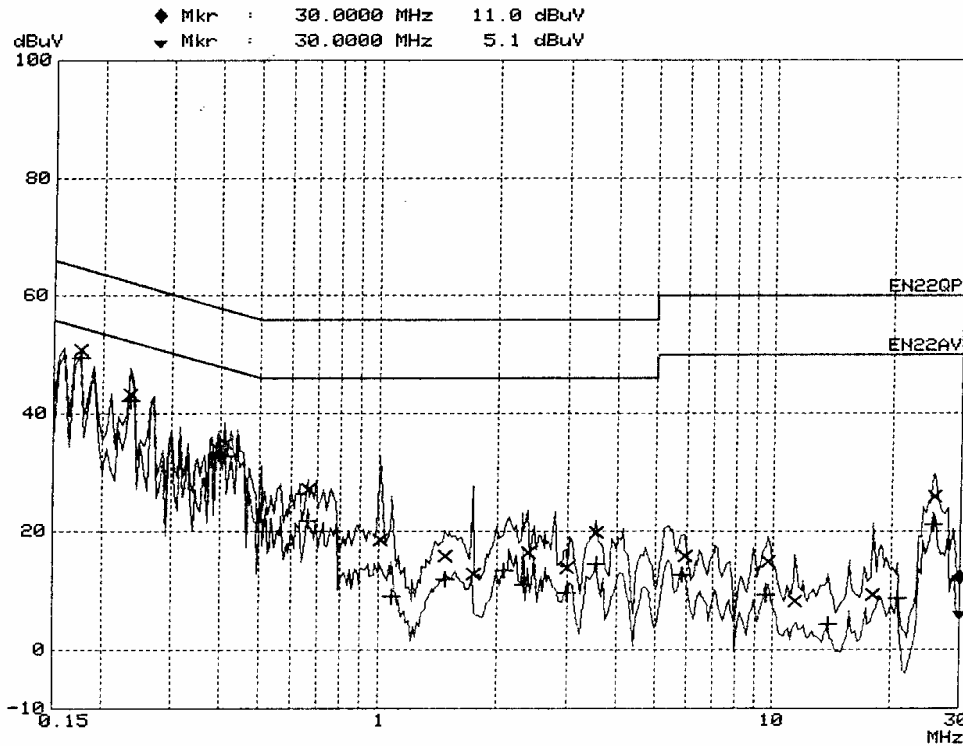
The measured emissions level of the EUT have found the below of the specified limit.



Frequency MHz	QP Level dBuV	Delta Limit dB	Phase	PE
0.20500	42.8	-36.1	L1	gnd
0.21500	41.3	-37.6	L1	gnd
0.39500	17.0	-61.9	L1	gnd
0.42500	21.7	-57.2	L1	gnd
0.77000	23.4	-49.5	N	gnd
0.84000	24.4	-48.5	N	gnd
1.12000	24.2	-48.7	N	gnd
2.10000	20.9	-52.1	L1	gnd
2.17500	14.3	-58.6	N	gnd
2.98000	14.7	-58.2	L1	gnd
3.51000	20.8	-52.1	L1	gnd
5.82000	15.7	-57.2	N	gnd
9.90000	15.8	-57.1	L1	gnd
11.86500	26.0	-46.9	L1	gnd
15.51000	13.3	-59.6	N	gnd
27.55500	29.8	-43.1	N	gnd

Frequency MHz	AV Level dBuV	Delta Limit dB	Phase	PE
0.17500	26.8	-39.1	L1	gnd
0.21500	26.6	-39.3	L1	gnd
0.32000	19.7	-46.2	N	gnd
0.54500	17.3	-42.6	N	gnd
0.67000	21.5	-38.4	N	gnd
0.84000	20.6	-39.3	N	gnd
1.12000	20.8	-39.1	N	gnd
1.61000	19.0	-41.0	L1	gnd
2.52500	15.4	-44.5	L1	gnd
2.98000	11.0	-48.9	N	gnd
3.51000	16.2	-43.7	L1	gnd
5.80500	11.4	-48.5	N	gnd
10.90500	12.9	-47.0	N	gnd
11.86500	21.5	-38.4	N	gnd
15.51000	8.0	-51.9	N	gnd
27.55500	20.8	-39.1	N	gnd

[Live line]



Frequency MHz	QP Level dBuV	Delta Limit dB	Phase -	PE -
0.17500	50.9	-13.8	N	gnd
0.23500	43.2	-19.0	L1	gnd
0.39500	33.9	-24.0	N	gnd
0.41000	34.9	-22.8	N	gnd
0.66000	27.2	-28.8	L1	gnd
1.01000	18.7	-37.2	N	gnd
1.47500	15.9	-40.0	N	gnd
1.73000	12.9	-43.1	N	gnd
2.38000	16.4	-39.5	L1	gnd
2.99000	14.0	-41.9	L1	gnd
3.54000	19.8	-36.1	N	gnd
5.94000	15.9	-44.0	N	gnd
9.69000	15.0	-44.9	L1	gnd
11.37000	8.3	-51.6	L1	gnd
17.91000	9.3	-50.6	L1	gnd
25.60500	25.9	-34.0	N	gnd

Frequency MHz	AV Level dBuV	Delta Limit dB	Phase -	PE -
0.17500	49.5	-5.2	L1	gnd
0.23500	42.2	-10.0	N	gnd
0.39500	33.2	-14.7	N	gnd
0.41000	32.8	-14.9	N	gnd
0.66000	21.8	-24.1	N	gnd
1.08000	9.1	-36.8	N	gnd
1.47000	11.9	-34.0	L1	gnd
2.07000	13.5	-32.4	L1	gnd
2.32000	11.0	-34.9	L1	gnd
2.99000	9.7	-36.2	L1	gnd
3.54000	14.5	-31.4	L1	gnd
5.83500	12.7	-37.2	N	gnd
9.58500	9.3	-40.6	L1	gnd
13.78500	4.4	-45.5	N	gnd
20.76000	8.7	-41.2	L1	gnd
25.47000	21.3	-28.6	N	gnd

[Neutral line]

5. RADIATED DISTURBANCE

5.1 Operating environment

Temperature : 21.0 °C
Relative Humidity : 43.0 %

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

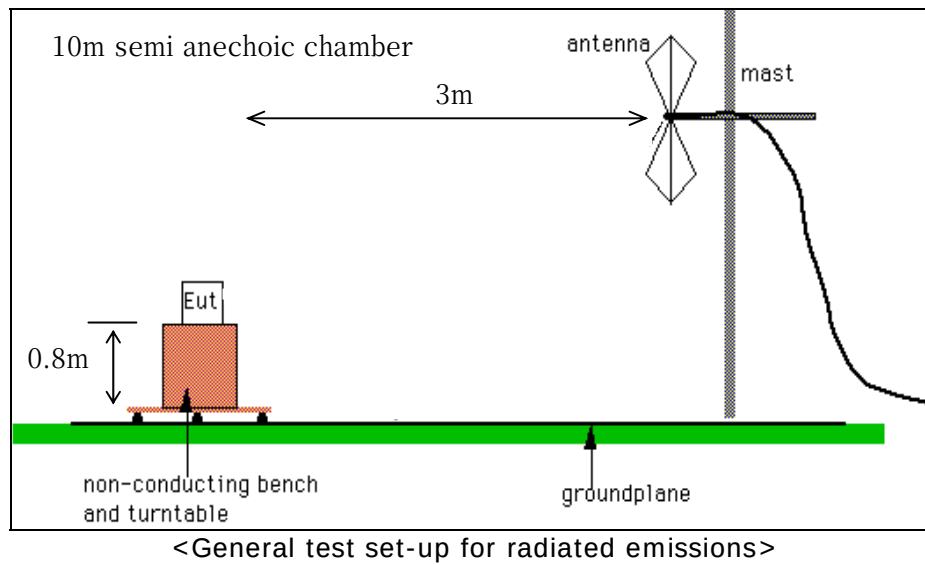
and stopped at the azimuth or height producing the maximum emission.

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

The antenna measured both horizontal and vertical polarization.



Radiated Disturbance



5.3 Operation Conditions

Networking mode

5.4 Test instrument

Instrument	Model No.	Serial No.	Makers	Next cal.date	Used
Test receiver	ESCS30	100022	R&S	2005. 05.30	x
Biconical Antenna	VHA9103	91031951	Schwarzbeck	2005. 06.01	x
Log-Periodic Antenna	UHALP9108A	393	Schwarzbeck	2005. 05.31	x
Antenna Mast	MA240	N/A	HD	-	x
Turn Table	DT430S	N/A	HD	-	x

5.5 Test results

Date of test: Mar 17, 2005.

Freq (MHz)	Reading (dBuV / m)	Ant	AF (dB)	CL (dB)	Result (dBuV / m)	Limit (dB)	Margin (dB)
56.32	45.67	V	9.67	1.50	34.50	40.00	5.50
108.30	48.40	V	11.00	2.00	35.40	43.50	8.10
200.10	53.19	V	16.29	2.80	34.10	43.50	9.40
406.00	51.67	V	15.87	4.20	31.60	46.00	14.40
433.32	55.07	V	16.27	4.20	34.60	46.00	11.40
467.20	55.34	H	16.64	4.20	34.50	46.00	11.50
860.00	63.71	H	21.51	6.10	36.10	46.00	9.90

* 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)

6. PRODUCT PHOTOGRAPHS

6.1 Front Photograph of EUT



6.2 Rear Photograph of EUT



6.3 Inner Photograph of EUT

