

EMC TEST REPORT

According to FCC Part 15B Class B

Project NO. : LBE020379

Product : CD-R/RW Drive

Model No. : SW-248(VER:B)

Date of test : June 29, 2002 - July 03, 2002

Issued Date : July 04, 2002

Tested by:

Choon Kil, Kim / Test Engineer

Reviewed by:

Yang Soo, KIM / Technical Manager

Authorized by:

Kyu Baek, CHUNG / Chief of EMC Lab.

SAMSUNG ELECTRONICS Co., Ltd.

Suwon EMC Test Laboratory

416 Maetan-3 Dong, Paldal-Ku, Suwon City, Kyungki-Do, Korea, 442-742

Tel. : 81-31-200-2185 Fax. : 81-31-200-2189

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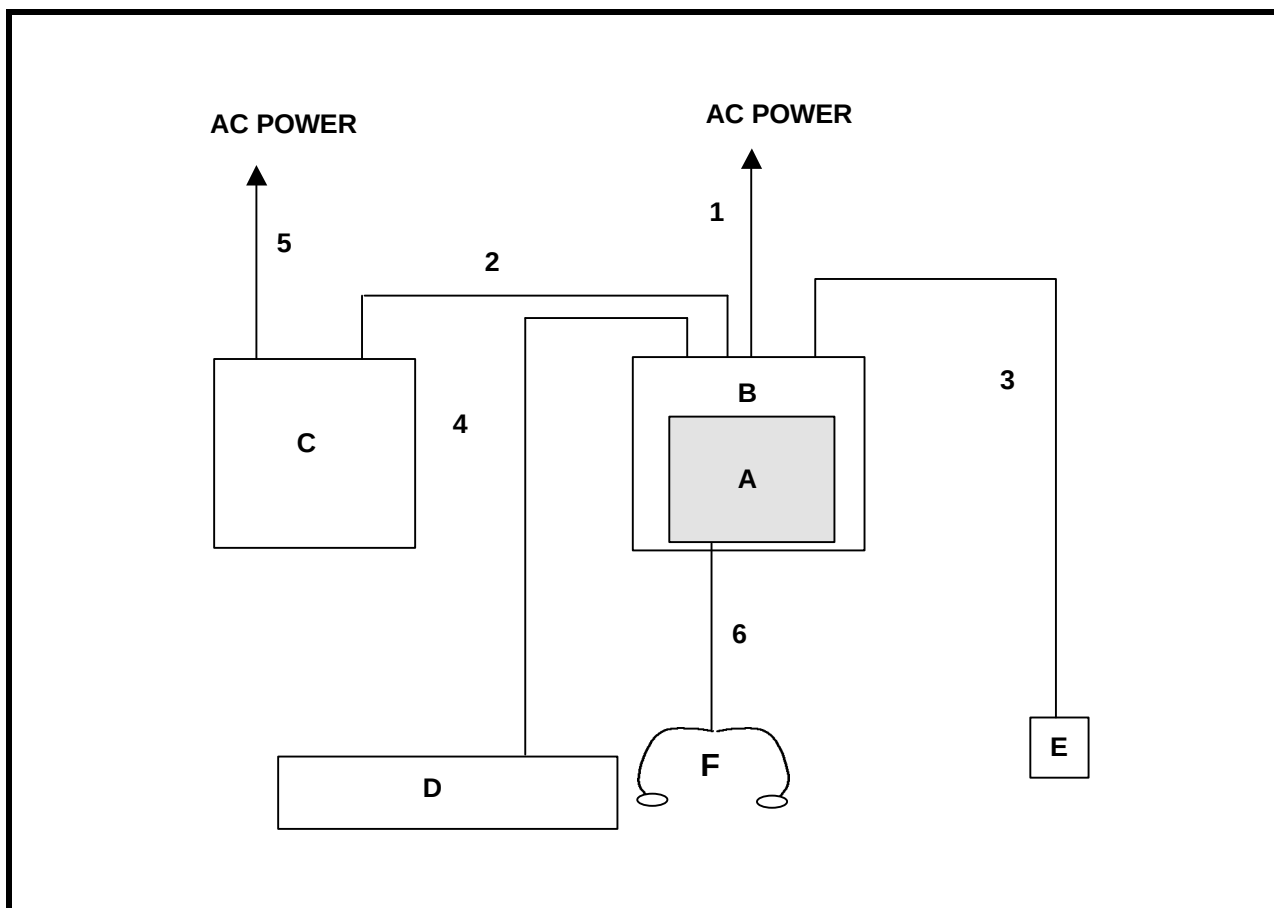
1. General Information

APPLICANT	: SAMSUNG ELECTRONICS CO., LTD.
ADDRESS	: 416 Maetan 3 Dong, Paldal-Ku, Suwon City, Kyungki Do, Korea, 442-742
CONTACT ADDRESS	: 416 Maetan 3 Dong, Paldal-Ku, Suwon City, Kyungki Do, Korea, 442-742
CONTACT PERSON	: Ki Ho, Kim
REGULATION(S)	: FCC Part 15B Class B
MODEL NUMBER	: SW-248(VER:B)
SERIAL NUMBER	: -
KIND OF PRODUCT	: CD-R/RW Drive
TESTED DATE	: June 29, 2002 - July 03, 2002
TEST SITE	: SAMSUNG EMC TEST LAB. FCC Registration Number : 98856 Anechoic Chamber #1

1.1 Product Description

Speed	CD-R : 48X, CD-RW : 16X, CD-ROM:48X
Access Time	CD-ROM(110ms) , CD-RW(110ms)
Buffer	8MB
Interface	ATAPI (E-IDE)
Size	148.2(W) * 42(H) * 184(D) mm

1.2 System Block Diagram of Test Configuration



2.5.2 Configuration of EUT and peripherals

Mark	Item	Model No.	Serial No.	Manufacturer	Remark
A	CD-R/RW Drive	SW-248(VER:B)	-	Samsung	EUT
B	Computer	Vectra XE310	FR12634657	HP	
C	LCD Monitor	CX-151S	N192H4NT319256	Samsung	
D	KeyBoard	KB-9963	3892A569	Compaq	
E	Mouse	M-S09	3892D101	Compaq	
F	Ear Phone	-	-	-	

2.5.3 Used Cable Description

No.	Item	Length[m]	Shielded(Y/N)	Remark
1	AC Power Cable	1.7	N	
2	Video Cable	1.8	Y	
3	Mouse Cable	2.0	N	
4	Keyboard Cable	1.8	N	
5	AC Power Cable	1.7	N	
6	Ear Phone Cable	2.0	N	

2. System Test Configuration

2.1 Configuration of Radiated and Conducted Interference Measurement

* Cabling was taken into consideration and test data was taken under worse case conditions.

1)Conduction(Front View)



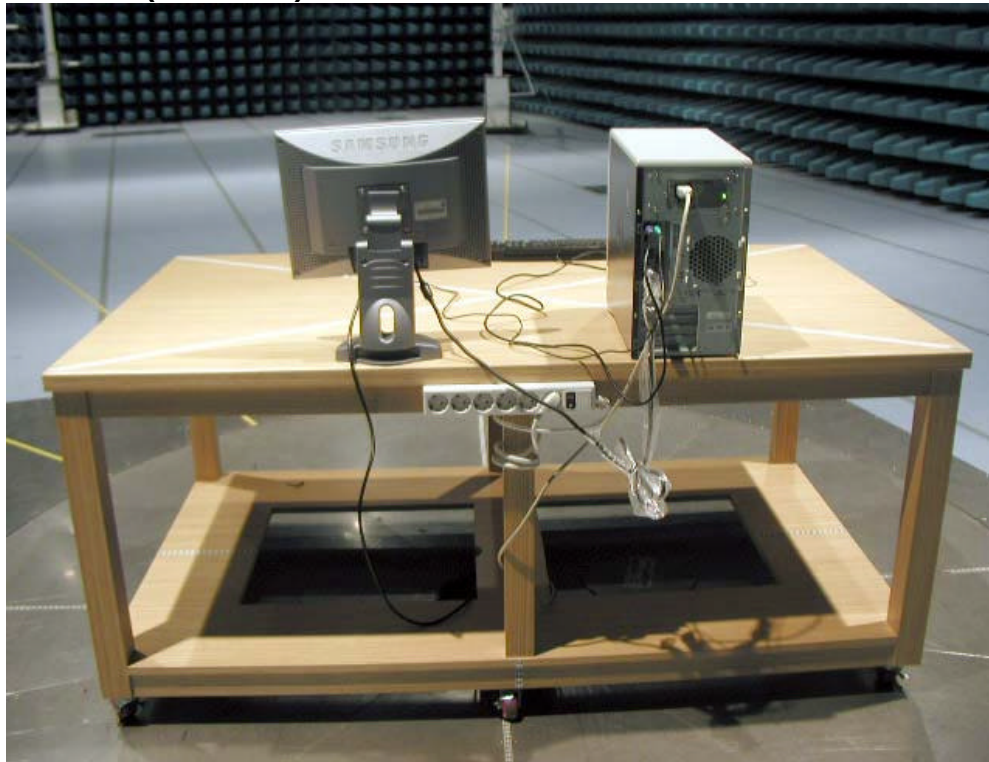
2)Conduction(Rear View)



3) Radiation(Front View)



4) Radiation(Rear View)



2.2 Operation Enviroment

	Conduction	Radiation
Temperature [centigrade] :	23	23
Humidity [%] :	52	43
Power supply :	AC120V/60Hz	AC120V/60Hz

2.3 Justification

The system was configured in typical fashion(as a customer would normally use it) for testing.

2.4 EUT Exercise Soft ware

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to typical use.

2.5 Test Procedure

2.5.1 Conducted Emissions

Eut was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting ground plane.

The rear of EUT,including peripherals was aligned and flush with rear of tabletop. All other surfaces of tabletop was at least 80cm from any other grounded conducting surface. I/O cables and AC cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane.

Each EUT current-carrying power lead,except the ground(safety) lead, were individually connected through a LISN to the input power source.

All unused 50 ohm connectors of the LISN were resistively terminated in 50 ohm when not connected to the measuring equipment.

2.5.2 Radiated Emissions

Eut was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane.

The rear of EUT, including peripherals was aligned and flush with rear of tabletop. I/O cables that were connected to the peripherals were bundle in center.

They were folded back and forth forming a bundle 30cm to 40cm long and were hanged 40cm height to the ground plane.

Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

3. Conducted Emission Test Data

The initial step in collecting conducted data was to perform a quasi-peak scan over the measurement range using a receiver.

The final data represents worst-case emissions.

O Test Mode :

Frequency	Meter reading(a)	Total	Results	Limits	Margin
[MHz]	Line(L1)	Loss(b)	(a) + (b)	[dBuV]	[dB]
		[dB]	[dBuV]		
5.747	36.5	0.9	37.4	48.0	10.6
29.071	36.9	2.3	39.2	48.0	8.8
29.489	37.5	2.3	39.8	48.0	8.2
29.583	35.9	2.7	38.6	48.0	9.4
29.692	35.4	2.3	37.7	48.0	10.3
29.766	34.8	2.7	37.5	48.0	10.5
29.888	35.4	2.3	37.7	48.0	10.3
29.915	34.0	2.3	36.3	48.0	11.7

* Results = Meter Reading(QP) + Total Loss(LISN Insertion loss + Cable loss)

* Margin = Limits - Result

4. Radiated Emission Test Data

The initial step in collecting radiated data was to perform a quasi-peak scan over the measurement range using a receiver.

All modes of operation were investigated and the worst-case emission are reported.

All other emission are non-significant.

The minimum margin to the limit is as follows :

O Test Mode : Random Read

Frequency Range [MHz]	Tested Frequency [MHz]	ANT Pol.	Meter Reading [A] [dBuV/m]	Total Loss [B] [dB]	Antenna Height [Cm]	Turn table Degree [Deg]	Results [A+B] [dBuV/m]	Limits at 3m [dBuV/m]	Margin (Limit-Result) [dB]
30 - 88	30.000	V	-3.5	20.4	150	70	16.9	40.0	23.1
	35.400	V	-3.4	17.8	123	117	14.4	40.0	25.6
88 - 216	180.600	H	-1.3	10.2	173	227	8.9	43.5	34.6
216 - 960	654.400	H	-1.2	22.3	159	154	21.1	46.0	24.9
	682.400	V	-1.1	22.5	153	235	21.4	46.0	24.6
	720.200	V	-1.2	23.3	113	163	22.1	46.0	23.9
	945.000	H	-0.1	26.0	117	14	25.9	46.0	20.1

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

* Test distance : 3m

* Results = Meter Reading + Total Loss(Antenna factor + Cable loss)

5. Test Equipment Used

Equipment	Model No.	Serial No.	Makers	Calibration Last calibration and Interval
Field strength meter	ESCS30	830986/004	R & S	02/ 02/15, 12Months
	Firmware versions : Main 1.08, OTP 02.01, GRA 02.03			
Field strength meter	ESI	100010	R & S	02/ 05/04, 12Months
L.I.S.N	ESH2-Z5	831886/006	R & S	01/ 11/20, 12Months
L.I.S.N	ESH3-Z5	831887/0004	R & S	01/ 07/27, 12Months
Bi-Log Antenna	HL562	100005	R & S	01/08/02, 12Months