SAMSUNG ELECTRONICS

EMC TEST REPORT

According to FCC Part 15B Class B

Project NO. : LBE020749

Product : DVD-ROM Drive

Model No. : SD-816

Date of test : September 09, 2002 - September 10, 2002

Issued Date : September 11, 2002

Tested by:

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1. General Information

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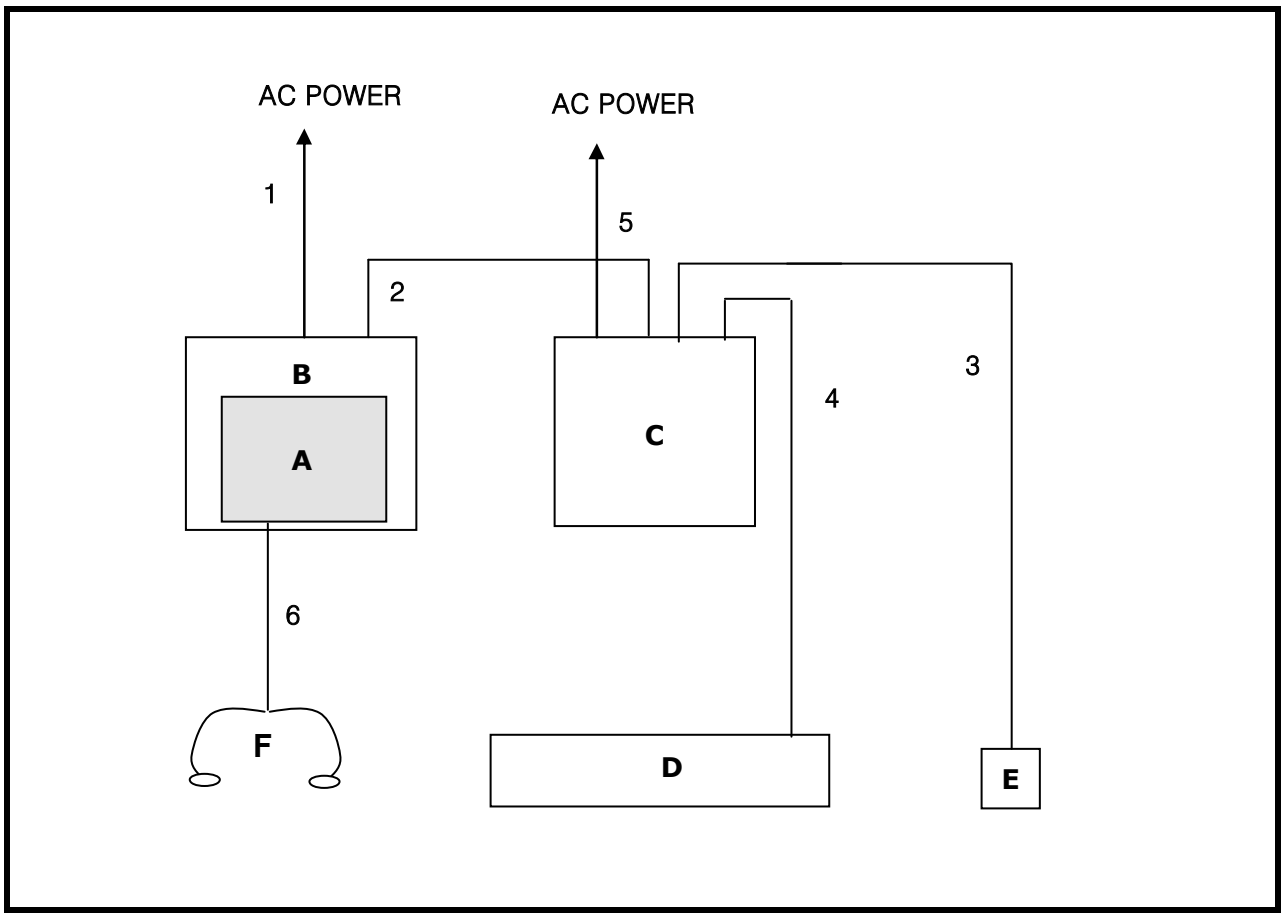
CONTACT PERSON	:	Ki Ho,Kim
REGULATION(S)	:	FCC Part 15B Class B
MODEL NUMBER	:	SD-816
SERIAL NUMBER	:	-
KIND OF PRODUCT	:	DVD-ROM Drive
TESTED DATE	:	September 09, 2002 - September 10, 2002
TEST SITE	:	SAMSUNG EMC TEST LAB. FCC Registration Number : 98856 Anechoic Chamber #1

1.1 Product Description

Speed	CD-R : 48X, DVD-R :16X
Access Time	CD(100ms) , DVD(95ms)
Buffer	512KB
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	DVD-ROM Drive	SD-816	-	Samsung	EUT
B	Computer	Vectva XE310	FR12634657	HP	
C	LCD Monitor	CX-151S C	N192H4NT319256	Samsung	
D	KeyBoard	RT7D00	TH-025PGG-37171-13A-5201	DELL	
E	Mouse	M-S34	LNA10104642	Logitech	
F	Ear Phone	-	-	-	

2.5.3 Used Cable Description

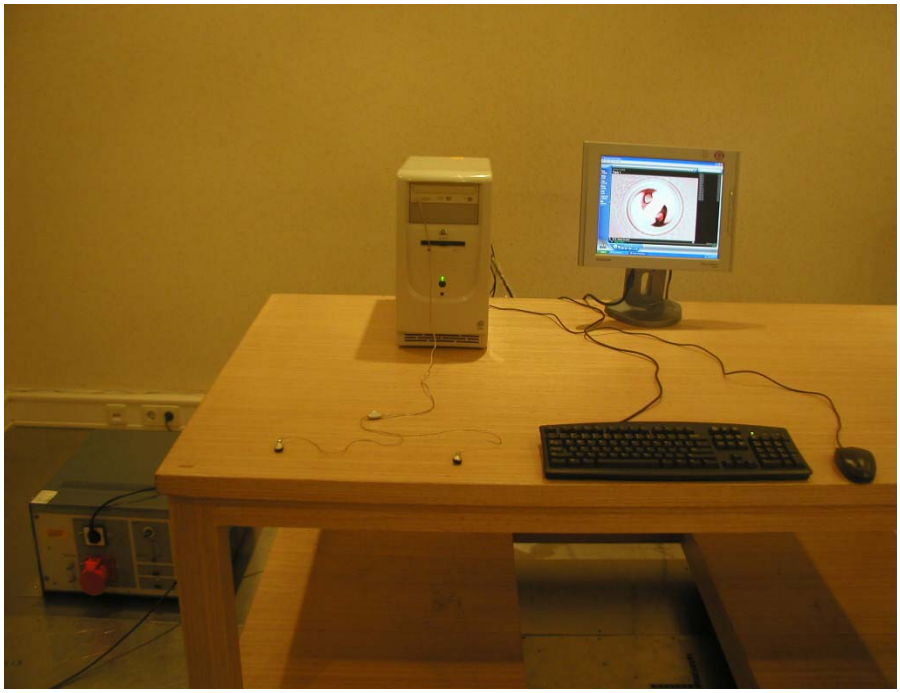
No.	Item	Length[m]	Shielded(Y/N)	Remark
1	AC Power Cable	1.7	N	
2	Video Cable	1.8	Y	
3	Mouse Cable	2.0	N	
4	Keyboard Cable	1.8	N	
5	AC Power Cable	1.7	N	
6	Ear Phone Cable	2.0	N	

2. System Test Configuration

2.1 Configuration of Radiated and Conducted Interference Measurement

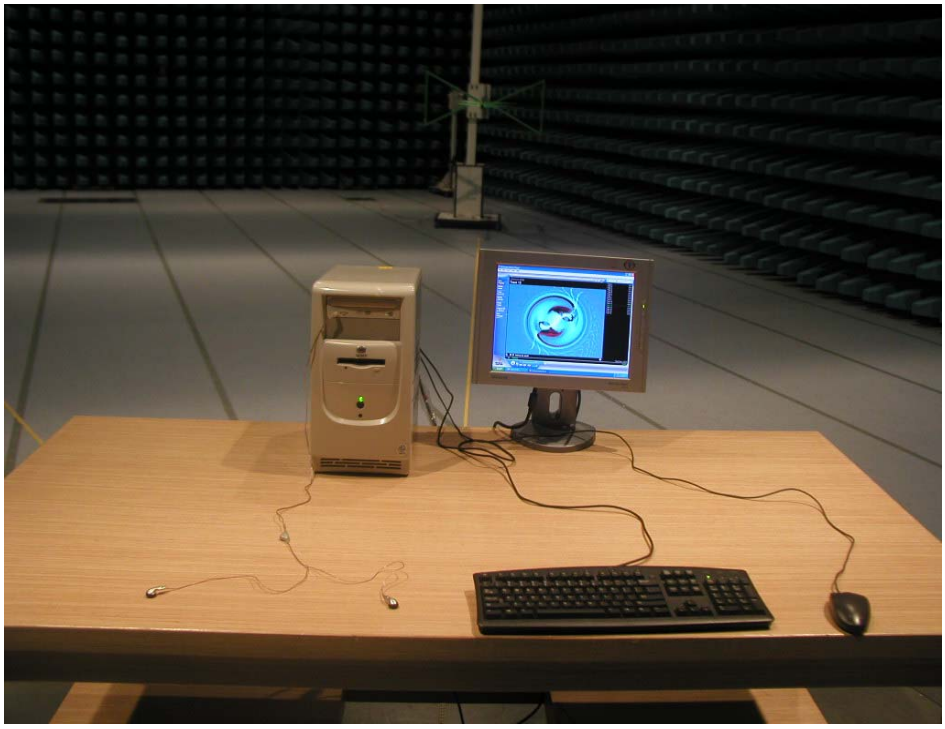
* Cabling was taken into consideration and test data was taken under worse case conditions.

1)Conduction(Front View)

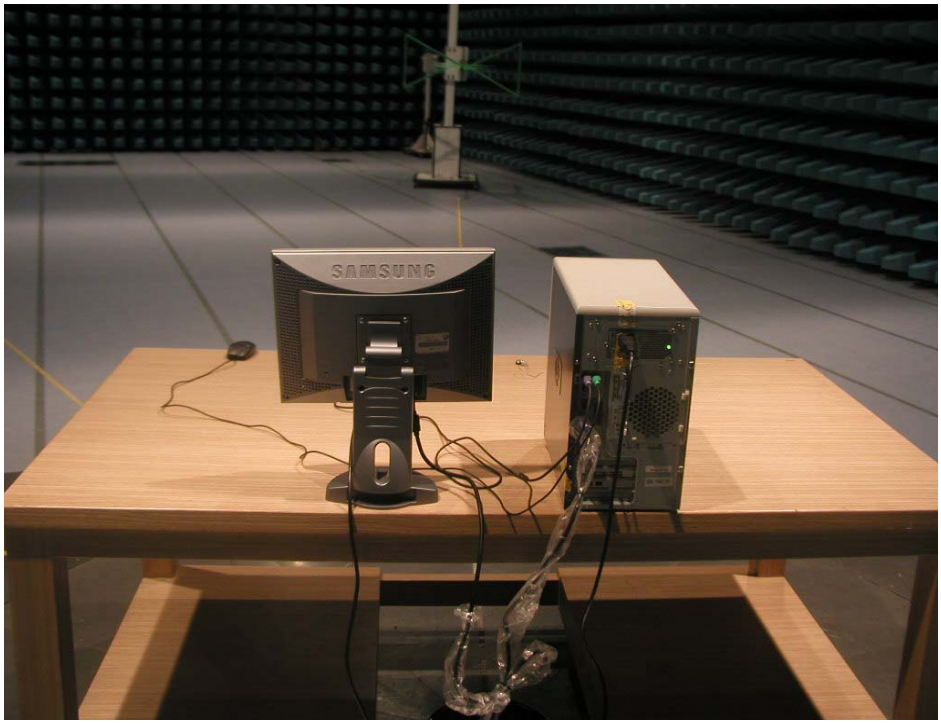


2)Conduction(Rear View)

3) Radiation(Front View)



4) Radiation(Rear View)



2.2 Operation Enviroment

	Conduction	Radiation
Temperature [centigrade] :	22	21.5
Humidity [%] :	59	51
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)		Phase	Total Loss	Limits		Result	
	QP	AV		(b)	QP	AV	QP	AV
[MHz]	[dBuV]			[dB]	[dBuV]		[dBuV]	
0.201	49.7		L1	0.5	**63.3**	**53.3**	**50.2**	
0.798	34.0		N	0.5	**56.0**	**46.0**	**34.5**	
2.298	39.8		N	0.6	**56.0**	**46.0**	**40.3**	
12.295	39.5		L1	1.2	**60.0**	**50.0**	**40.6**	
12.494	40.3		N	1.2	**60.0**	**50.0**	**41.5**	
12.595	36.8		L1	1.3	**60.0**	**50.0**	**38.0**	
12.693	40.0		N	1.3	**60.0**	**50.0**	**41.2**	
29.884	32.5		L1	2.7	**60.0**	**50.0**	**35.2**	

※Quasi-peak value is less 10dB than Average limits.

* 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	30.200	V	-1.8	18.7	100	282	16.9	**40.0**	23.1
	84.000	V	12.4	9.0	150	295	21.4	**40.0**	18.6
88 - 216	99.400	H	5.7	11.8	302	311	17.5	**43.5**	26.0
	160.800	H	8.6	11.6	390	198	20.2		
	165.700	V	7.9	11.3	178	263	19.2		
216 - 960	299.900	V	12.5	15.9	100	160	28.4	**46.0**	17.6
	497.000	V	5.7	21.0	264	0	26.7	**46.0**	19.3
	988.120	V	-0.4	25.8	310	0	25.4	**46.0**	20.6

** 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	02/ 08/06, 12Months
Bi-Log Antenna	CBL6112B	2804	Schaffner	02/04/23, 12Months