

EMI TEST REPORT

According to FCC Part 15B Class B

FCC ID: A3LSRT03

Product : DVD Multi Drive

Model No. : SR-T03

Date of test : October 10, 2002 - October 15, 2002

Issued Date : October 16, 2002

Tested by:

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The test report herein have been performed in accordance
with its terms of registration.



NVLAP Code: 200447

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1. General Information

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REGULATION(S) : FCC Part 15B Class B

MODEL NUMBER : SR-T03

FCC ID.: : A3LSRT03

KIND OF PRODUCT : DVD Multi Drive

TESTED DATE : October 10, 2002 - October 15, 2002

TEST SITE : SAMSUNG EMC TEST LAB.
FCC Registration Number : 98856
Anechoic Chamber #1

1.1 Product Description

MAX TRANSFER RATE FROM MEDIA

DIVIDE	CONTENT
DVD-RAM(4.7G)	WRITE/READ 2X
DVD-RAM(2.6G)	WRITE/READ 1X
DVD-R (4.7G)	WRITE/READ 2X / 6X
DVD-RW (4.7G)	WRITE/READ 1X / 6X
CD-R	WRITE/READ 12X / 32X
CD-RW	WRITE/READ 8X / 24X
DVD-ROM	READ 12X
CD-ROM/R	READ 32X

AVERAGE SEEK TIME

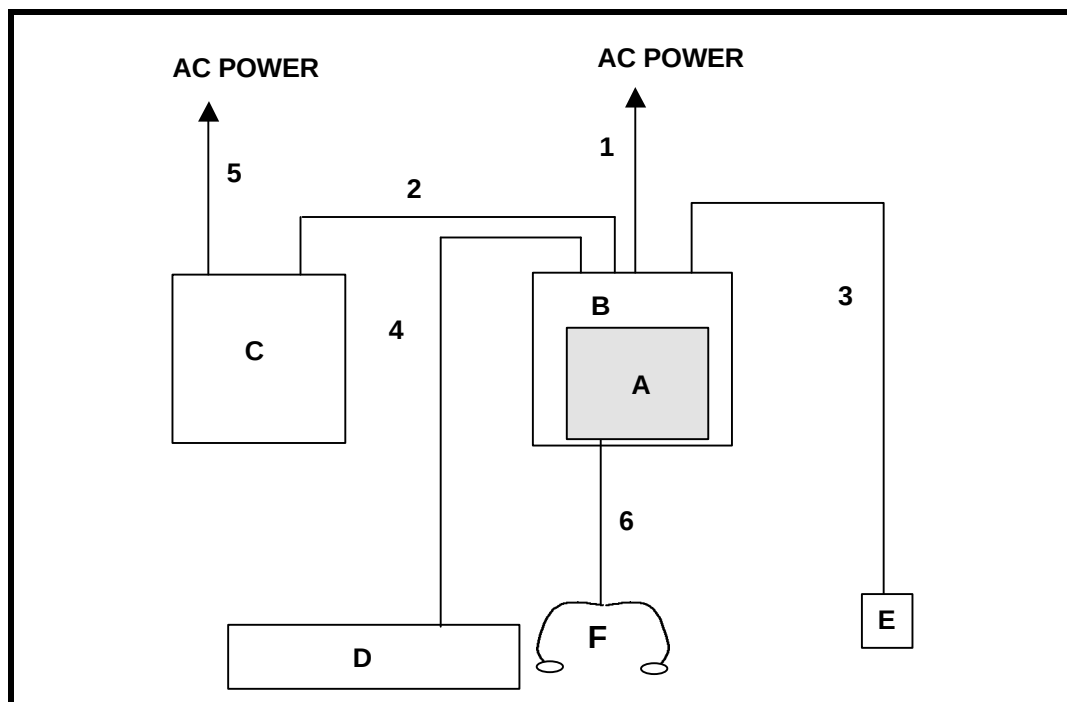
*DVD-RAM/RW : AVR 130msec (TYP 170msec)

*DVD-ROM/R : AVR 115msec (TYP 150msec)

*CD-ROM/R/RW : AVR 120msec (TYP 160msec)

Buffer 2MB
Interface ATA/ATAPI-5
Size 149(W) * 41.5(H) * 200(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-Rom Drive	SR-T03	-	Samsung	EUT
B	Computer	DHS	BQ08411	DELL	
C	LCD Monitor	CX-151S	N192H4LT105171	Samsung	
D	KeyBoard	RT7D00	025PGG	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	1.5	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)



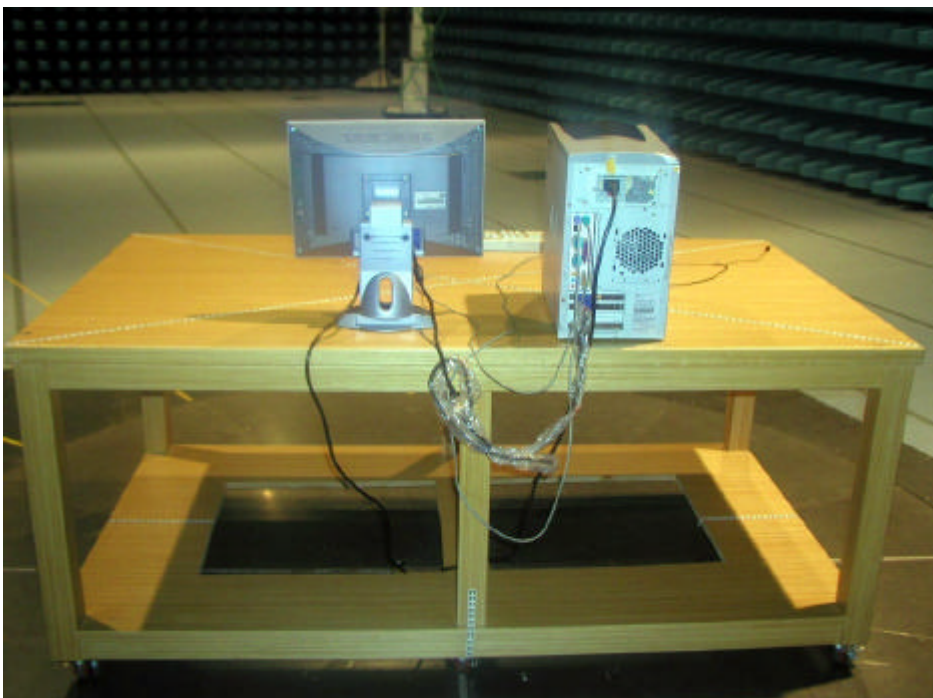
2)Conduction(Rear View)



3) Radiation(Front View)



4) Radiation(Rear View)



2.2 Operation Enviroment

	Conduction	Radiation
Temperature [centigrade] :	22	20
Humidity [%] :	52	37
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.

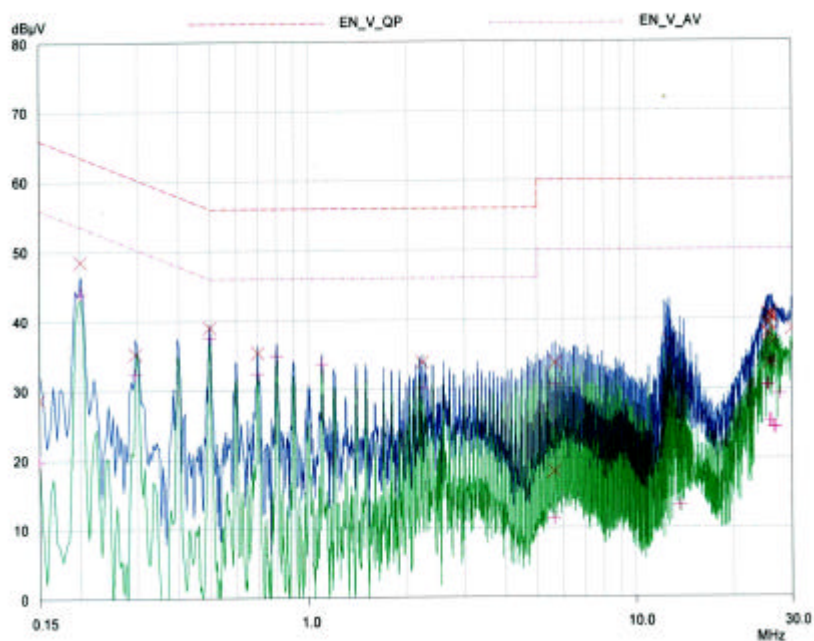
O Test Mode : L1 & N

Frequency [MHz]	Meter reading (a)		Total Loss (b) [dB]	Results (a) + (b)		Limits		Margin (Limits-Result)	
	QP	AV		QP	AV	QP	AV	QP	AV
	[dBuV]			[dBuV]		[dBuV]		[dB]	
0.150	28.7	19.8	0.6	29.3	20.4	66.0	56.0	36.7	35.6
0.154	26.4	7.9	0.6	27.1	8.5	65.8	55.8	38.7	47.3
0.197	50.0	43.4	0.6	50.7	44.0	63.7	53.7	13.1	9.8
0.201	48.5	43.9	0.6	49.1	44.5	63.6	53.6	14.5	9.1
0.294	35.2	32.4	0.5	35.7	32.9	60.4	50.4	24.7	17.5
0.498	39.0	37.5	0.6	39.6	38.1	56.0	46.0	16.4	7.9
0.697	35.3	32.4	0.6	36.0	33.0	53.0	43.0	17.1	10.0
2.189	36.5	33.6	0.6	37.1	34.2	54.0	44.0	16.9	9.8
2.224	33.9	30.2	0.6	34.5	30.8	55.0	45.0	20.6	14.2
2.291	37.4	30.3	0.6	38.0	30.9	56.0	46.0	18.0	15.1
5.673	33.8	30.6	0.9	34.6	31.5	60.0	50.0	25.4	18.5
13.650	30.8	13.3	1.3	32.2	14.6	60.0	50.0	27.9	35.4
25.365	40.7	30.4	1.9	42.6	32.3	60.0	50.0	17.4	17.7
25.670	40.6	34.0	2.2	42.8	36.2	60.0	50.0	17.2	13.8
26.068	40.2	33.6	2.3	42.6	36.0	60.0	50.0	17.5	14.0
26.076	36.5	23.3	2.3	38.9	25.7	60.0	50.0	21.1	24.4

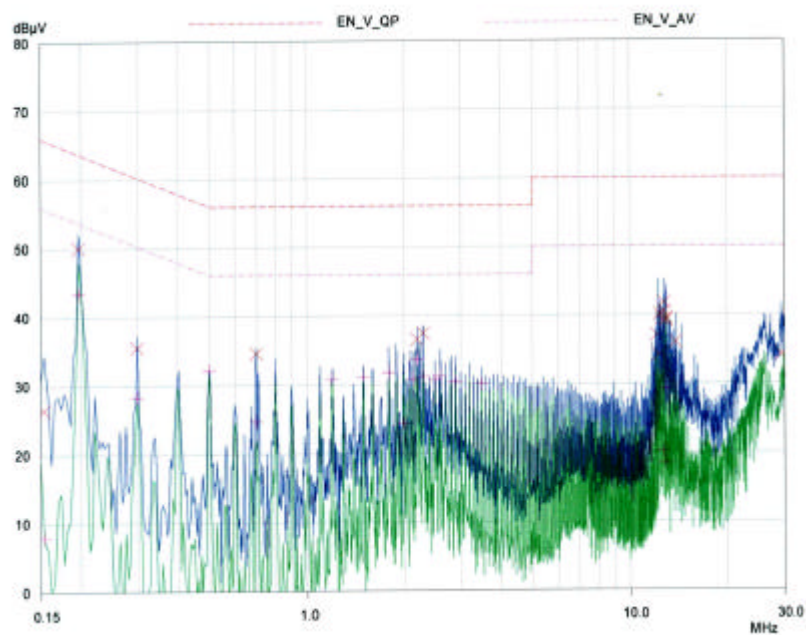
* Results = Meter Reading(QP) + Total Loss(LISN Insertion loss + Cable loss)

* Margin = Limits - Result

3.1 Conducted Emission Test Graph



<Live>



<Netural>

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

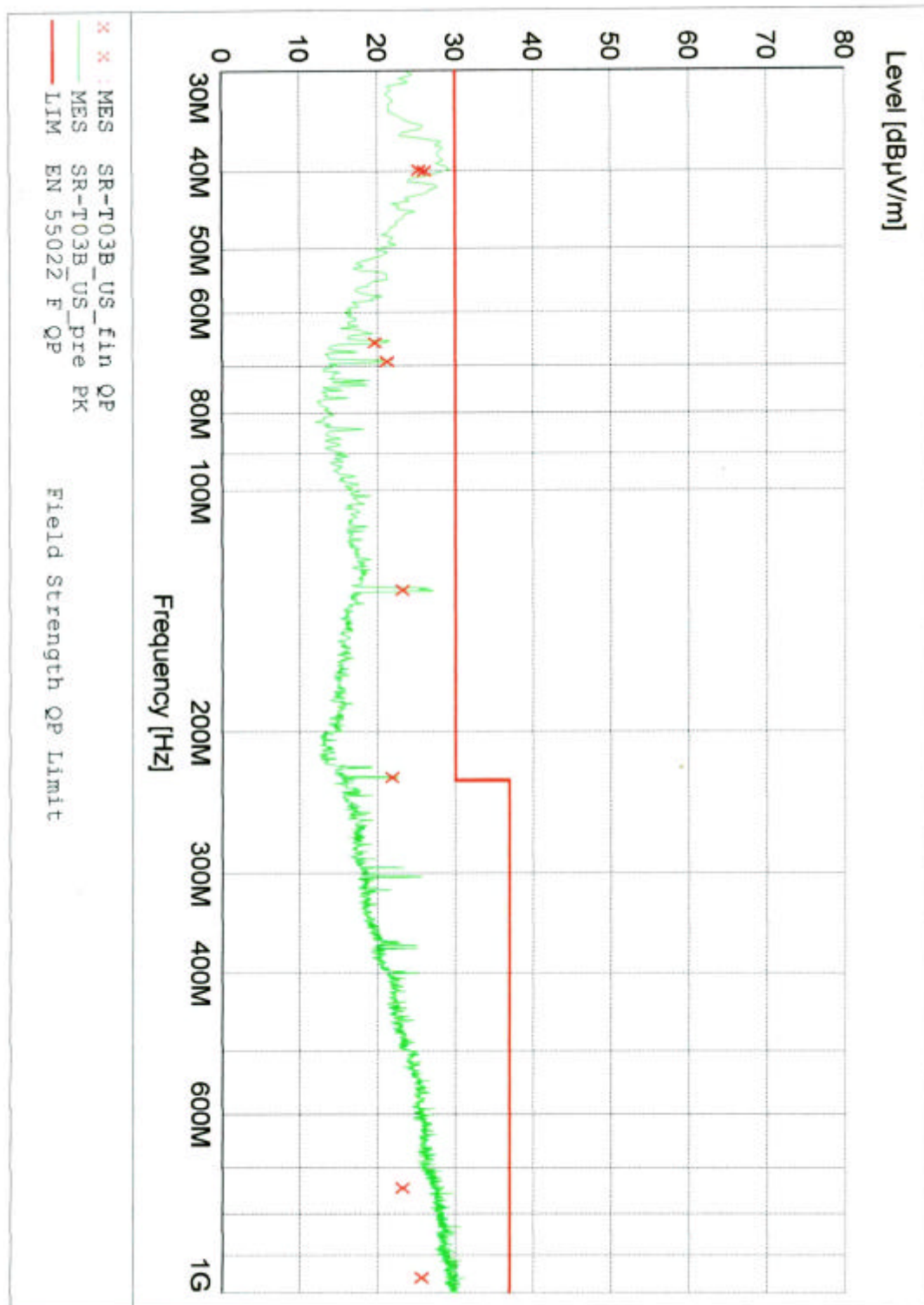
Frequency Range	Tested Frequency	ANT Pol.	Meter Reading [A]	Total Loss [B]	Antenna Height	Turn table Degree	Results [A+B]	Limits at 10m	Margin (Limit-Result)
[MHz]	[MHz]		[dBuV/m]	[dB]	[Cm]	[Deg]	[dBuV/m]	[dBuV/m]	[dB]
30 - 230	39.920	V	12.0	13.6	250	29	25.6	30.0	4.4
	39.995	V	12.7	13.6	150	16	26.3		3.7
	65.435	H	13.6	6.3	400	89	19.9		10.1
	69.085	H	14.9	6.6	394	94	21.5		8.5
	133.360	V	10.4	13.0	100	298	23.4		6.6
	228.025	V	10.5	11.6	100	120	22.1		7.9
230 - 1000	741.125	H	-1.0	24.4	258	79	23.4	37.0	13.6
	960.030	V	0.3	25.6	400	348	25.9		11.1

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

* Test distance : 10m

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

4.1 Radiated Emission Test Graph



5. Test Equipment Used

Equipment	Model No.	Makers	Serial No.	Calibration Last calibration and Interval
Field strength meter	ESCS30	R & S	830986/004	02/ 02/15, 12Months
	Firmware versions : Main 1.08, OTP 02.01, GRA 02.03			
Field strength meter	ESI	R & S	100010	02/ 05/04, 12Months
L.I.S.N	ESH2-Z5	R & S	831886/006	01/ 11/20, 12Months
L.I.S.N	3810/2	EMCO	2251	02/ 05/07, 12Months
Bi-Log Antenna	CBL6112B	SCHAFFNER	2804	02/04/19, 12Months