SAMSUNG ELECTRONICS

EMC TEST REPORT

According to FCC Part 15B Class B

JOB NO. : SEMC634B

Product : MP3 DIGITAL PLAYER

Model No. : MY-MP200

FCC ID. : A3LMYMP200

Date of test : November 30 , 2000

Issued Date : December 5, 2000

Tested by: N. C. Park

No Cheon, PARK / Test Engineer

Reviewed by: S. K. Cha

Seung Kyu, CHA / Manager of EMC Lab.

Authorised by T. J. Shin

Taek Jeong, SHIN / 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

Table of Contents

1. General Information
1.1 Product Description
1.2 Tested System Details
1.3 Configuration of EUT and peripherals
1.4 Used Cable Description
1.5 System Block Diagram of Test Configuration

2. System Test Configuration
2.1 Configuration of Radiated and Conducted Interference Measurement
2.2 Operation Enviroment
2.3 Justification
2.4 EUT Exercise Soft ware
2.5 Test Procedure

3. Conducted Emission Test Data

4. Radiated Emission Test Data

5. Test Equipment Used

1. General Information

APPLICANT	:	Samsung Electronics Huizhou Co.,Ltd (SEHZ)
ADDRESS	:	Chenjiang Town Huizhou City, Guangdong Province, China
CONTACT PERSON	:	David Seo
CONTACT ADDRESS	:	416 Maetan 3 Dong, Paldal-Ku, Suwon City, Kyungki Do, Korea, 442-742
REGULATION(S)	:	FCC Part 15B Class B
MODEL NUMBER	:	MY-MP200 (Trade Name "SAMSUNG")
VARIANT MODEL NUMBER	:	-
SERIAL NUMBER	:	-
KIND OF PRODUCT	:	MP3 DIGITAL PLAYER
TESTED DATE	:	November 30 , 2000
TEST SITE	:	SAMSUNG EMC TEST LAB. FCC Registration Number: 90916 Anechoic Chamber #1

1.1 Product Description

Memory Size	32MByte
Signal/Noise Ratio	70dB
Frequency Range	20Hz~20KHz
Size	78 * 54 * 18 mm
Internal Clock	10MHz(Micom), 14.725MHz(DAC)

1.2 Tested System Details

	Makers Model	FCC ID	Product Serial Number	Remarks
(1)	SAMSUNG MY-MP200	A3LMYMP200	MP3 DIGITAL PLAYER	EUT
(2)	SAMSUNG S850	A3LS850	PERSONAL COMPUTER 383691AK700464	
(3)	LOGITECH M-U48a	JNZ211360	USB Mouse LZE94654004	
(4)	SAMSUNG NONE		Headphone NONE	
(5)	SAMSUNG AD-6019		AC ADAPTER NONE	

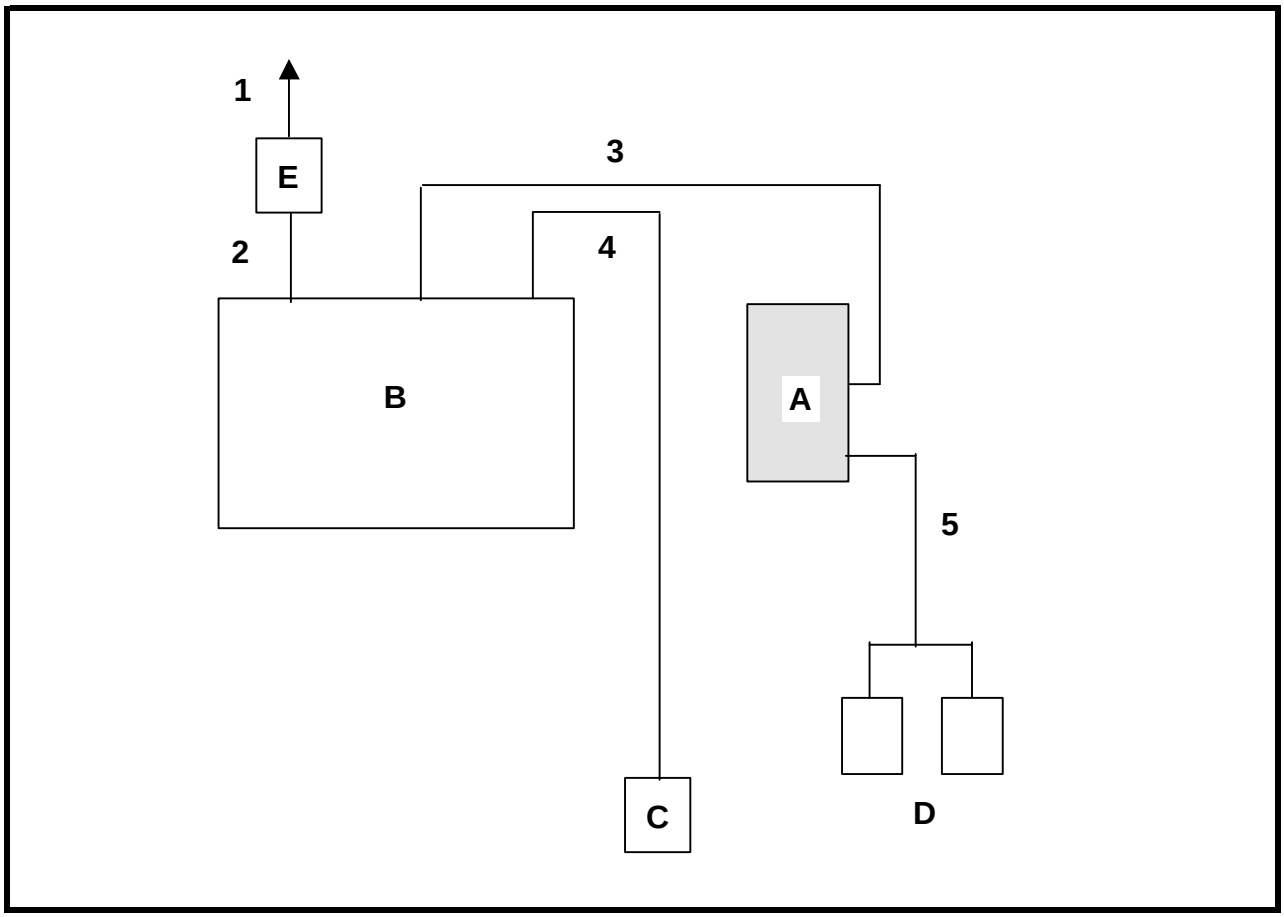
1.3 Configuration of EUT and peripherals

Mark	Item	Model No.	Serial No.	Manufacturer	Remark
A	MP3 DIGITAL PLAYER	MY-MP200	-	Samsung	EUT
B	Personal Computer	S850	383691AK700464	Samsung	
C	USB Mouse	M-U48a	LZE94654004	LOGITECH	
D	Headphone	-	-	Samsung	
E	AC Adapter	AD-6019	-	Samsung	

1.4 Used Cable Description

No.	Item	Length[m]	Shielded(Y/N)	Remark
1	AC Power cable	1.7	N	
2	DC Output Cable	1.79	N	
3	Data I/O Cable	0.12	Y	Connected PC Parallel port
4	Mouse Cable	1.5	N	
5	Headphone Cable	1.58	Y	

1.5 System Block Diagram of Test Configuration



2. System Test Configuration

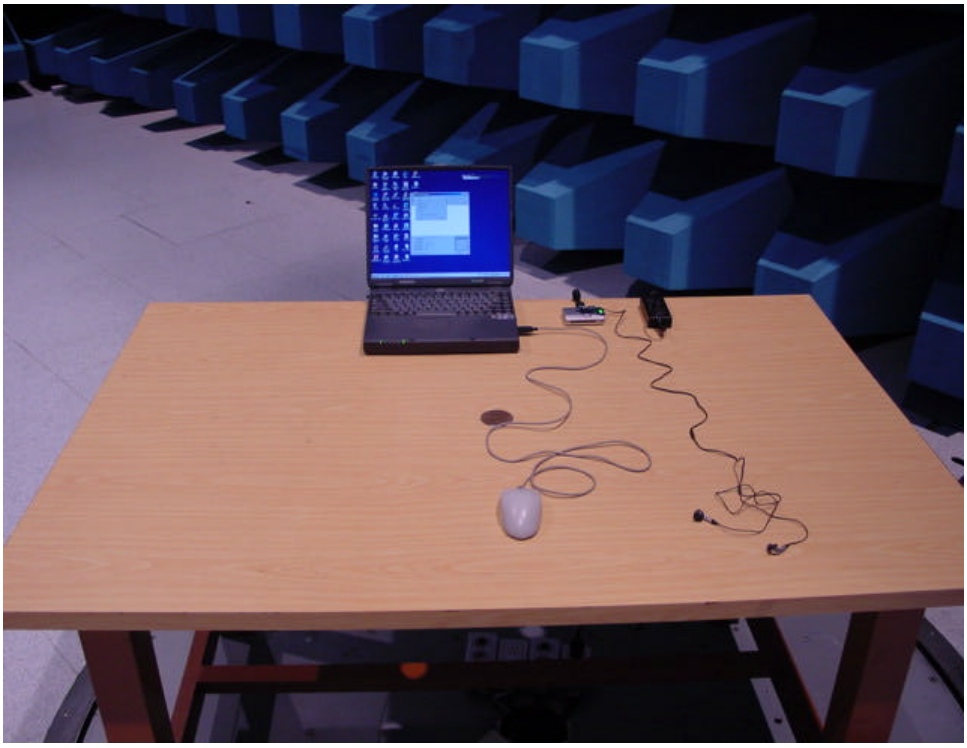
2.1 Configuration of Radiated and Conducted Interference Measurement

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

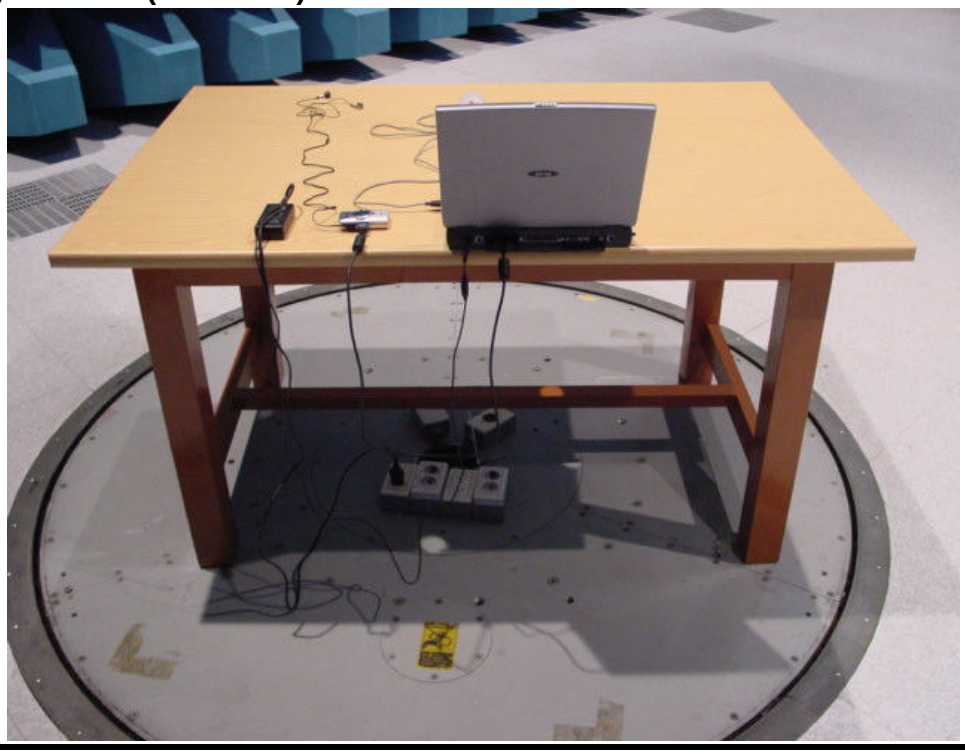
1)Conduction(Front View)

2)Conduction(Rear View)

3) Radiation(Front View)



4) Radiation(Rear View)



2.2 Operation Enviroment

	Conduction	Radiation
Temperature [centigrade] :	23	22
Humidity [%] :	37	38
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.

○ **Test Data Sheet**

Frequency	Meter reading(a)		Total Loss(b)	Results (a) + (b)	Limits	Margin
	LISN Port					
[MHz]	L1	L2	[dB]	[dBuV]	[dBuV]	[dB]
0.49	35.1	34.5	0.1	35.2	**48**	-12.8
0.7	35.4	38.4	0.1	38.5	**48**	-9.5
0.84	37.2	36.3	0.1	37.3	**48**	-10.7
1.33	35	34.2	0.1	35.1	**48**	-12.9
16.95	32.8	31.6	0.1	32.9	**48**	-15.1
19.48	35.2	34.9	0.1	35.3	**48**	-12.7
24.08	39.2	41.1	0.1	41.2	**48**	-6.8

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

* Margin = Result - Limits

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 :

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 (Result-Limit) [dB]
	47.9	V	17	11.7	101	189	28.7	**40**	-11.3
	54.9	V	17.4	10.74	101	192	28.14	**40**	-11.86
30 -	74.7	V	27.4	8.97	113	215	36.37	**40**	-3.63
88	79.8	V	25.6	8.82	117	213	34.42	**40**	-5.58
	82.2	V	22.8	8.82	100	195	31.62	**40**	-8.38
	143.7	V	23	9.73	113	201	32.73	**43.5**	-10.77
	167.2	H	19.2	11.2	118	198	30.4	**43.5**	-13.1
88 -	169.1	V	22.6	11.26	123	198	33.86	**43.5**	-9.64
216	200.1	H	23	12.12	131	212	35.12	**43.5**	-8.38
	221.8	H	23.1	12.3	121	195	35.4	**46**	-10.6
	261.2	H	23	14.6	118	187	37.6	**46**	-8.4
216 -	285.7	V	17.3	15.2	212	187	32.5	**46**	-13.5
960	326.6	H	26	16.86	225	233	42.86	**46**	-3.14
	391	V	22.7	19.2	236	241	41.9	**46**	-4.1
	457.2	V	19.6	20.2	228	239	39.8	**46**	-6.2
	999.2	H	7.1	28.45	118	242	35.55	**46**	-10.45
960-	1332	H	10.1	32	118	238	42.1	**46**	-3.9
	1399	V	9.1	32.5	123	238	41.6	**46**	-4.4
	1468	H	9.5	32.2	122	247	41.7	**46**	-4.3
	1533	H	7.4	34.24	107	250	41.64	**46**	-4.36
	1666	V	8.1	33.84	107	231	41.94	**46**	-4.06

** 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
Spectrum analyzer	8566B	3340A21744	H.P	00/ 3/15, 12Months
Spectrum analyzer	8563E	3623A05349	H.P	00/ 3/15, 12Months
Quasi-peak adapter	85650A	3303A01784	H.P	99/12/30, 12Months
RF Preselector	85685A	3506A01500	H.P	99/12/30, 12Months
Field strength meter	ESI	832692/002	R & S	00/ 6/13, 12Months
Field strength meter	ESS	844861/005	R & S	00/ 6/23, 12Months
Double Ridged Guide Antenna	3115	9505-4441	EMCO	00/ 5/23, 12Months
Biconilog Antenna	3142	1237	EMCO	99/12/21, 12Months