FCC PART 15.109
MEASUREMENT AND TEST REPORT
FOR

Shenzhen Sungworld Electronics Co., LTD.

4#, North District, Shangxue Industrial Park, Bantian, LongGang District,

Shenzhen, China

FCC ID: WI3SP80

Report Concerns: Original Report	**Equipment Type:** MP3 digital music player with SD memory slot

Model: SP80

Report No.: STR08128045I

Test/Witness Engineer: 

Test Date: 2008-11-20 to 2008-11-23

Issue Date: 2008-12-12

Prepared By:

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Approved & Authorized By: 

Jandy So /PSQ Manager

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd.

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Shenzhen Sungworld Electronics Co., LTD.
Address of applicant:	4#, North District, Shangxue Industrial Park, Bantian, LongGang District, Shenzhen, China
Manufacturer:	Shenzhen Sungworld Electronics Co., LTD.
Address of manufacturer:	4#, North District, Shangxue Industrial Park, Bantian, LongGang District, Shenzhen, China

General Description of E.U.T

Items	Description
EUT Description:	MP3 digital music player with SD memory slot
Trade Name:	PEACE OUT MUSICI/YOUTOPIALLC
Model No.:	SP80
Adding Model:	/
Rate Current:	/
Rate Voltage:	DC 1.5V
Rated Power:	/
Size:	9.0x3.7x1.7 cm
For more information refer to the circuit diagram form and the user's manual.	

The test data is gathered from a production sample, provided by the manufacturer.

1.2 Test Standards

The following report is prepared on behalf of the Shenzhen Sungworld Electronics Co., LTD. in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.107, and 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission/immunity, should be checked to ensure compliance has been maintained.

1.3 Related Submittal(s)/Grant(s)

No Related Submittal(s).

1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible immunity level. Test is carried with playing mode which worst case has been showed. Test setup was adapted accordingly in reference to the Operating Instructions.

1.5 Test Facility

- **FCC – Registration No.: 994117**
  SEM.Test Compliance Services Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 994117.

- **Industry Canada (IC) Registration No.: 7673A**
  The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.

1.6 Accessories Equipment List and Details

Manufacturer	Description	Model	Serial Number
IBM	Notebook	T22	/
TP-LINK	Modem	TM-EC5658V	KT99CTQC-508
Lenovo	Printer	3110	OD65133711480
SONY	Earphone	2116	/
Canon	SD Card	/	/

1.7 EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/
/	/	/	/

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107 (a) Conducted Emission	Compliant
§15.109(a) Radiated Emission	Compliant

3. §15.107 (a)- CONDUCTED EMISSION

3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 1.5dB.

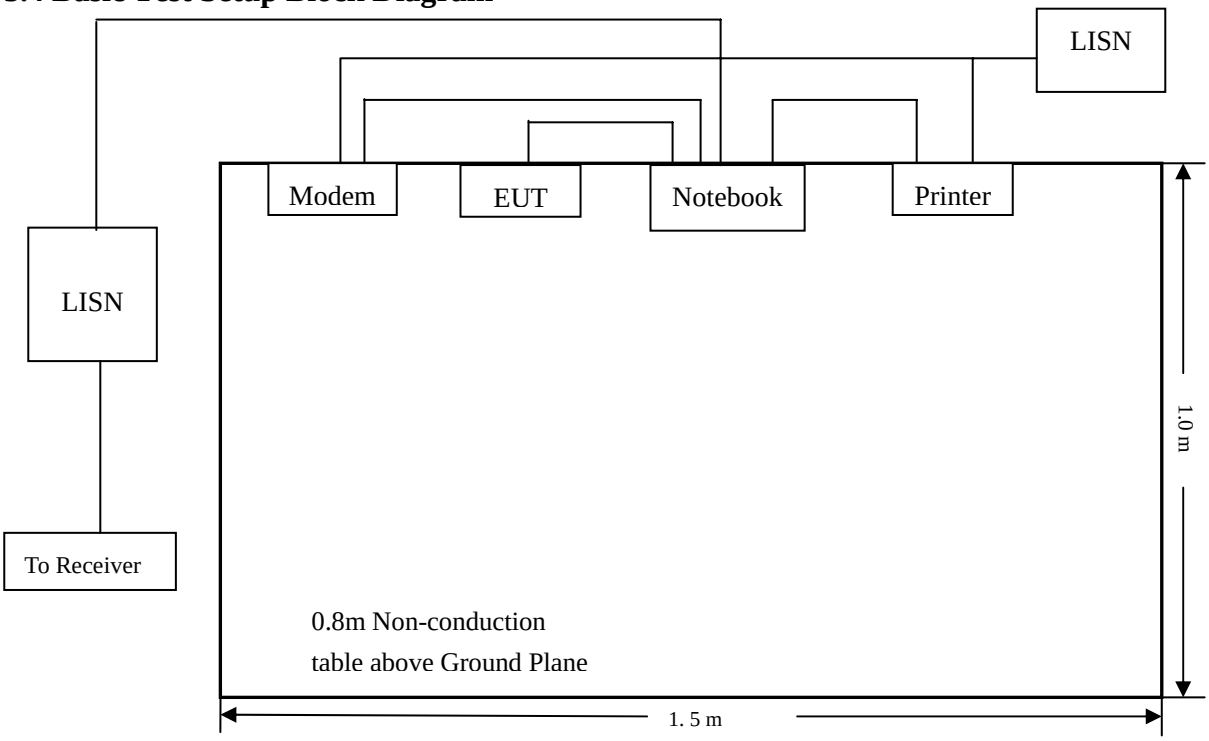
3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2008-01-25	2009-01-24
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2008-01-25	2009-01-24
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2008-01-25	2009-01-24
AMN	Rohde & Schwarz	ESH3-Z5	828304/014	2008-01-25	2009-01-24

3.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.107 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.

3.4 Basic Test Setup Block Diagram



3.5 Environmental Conditions

Temperature:	25° C
Relative Humidity:	55%
ATM Pressure:	1010 mbar

3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the FCC 15B Conducted margin for a Class B device, with the *worst* margin reading of:

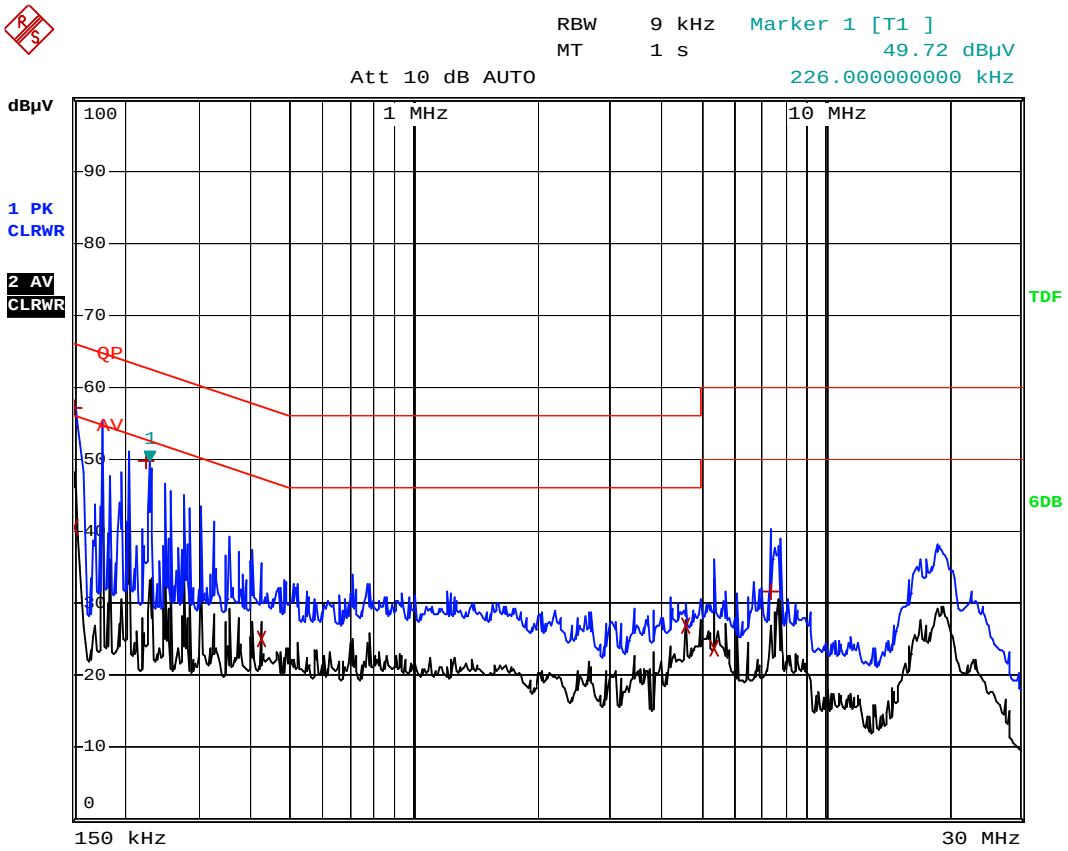
-8.9 dBμV at **0.15 MHz** in the **Line** mode**, 0.15-30MHz**

3.7 Conducted Emissions Test Data

LINE CONDUCTED EMISSIONS				FCC 15B CLASS B	
Frequency	Amplitude	Detector	Phase	Limit	Margin
MHz	dBμV	QP/Ave/Pk	Line/Neutral	dBμV	dB
0.15	57.1	QP	Line	66	-8.9
0.19	54.53	QP	Neutral	64.04	-9.5
0.22	49.72	QP	Line	62.82	-13.1
0.15	40.7	AV	Line	56	-15.3
0.17	49.02	QP	Neutral	64.96	-15.9
4.61	26.8	AV	Line	46	-19.2
7.73	29.1	AV	Neutral	50	-20.9
7.38	38.19	QP	Neutral	60	-21.8
0.43	25.1	AV	Line	47.25	-22.2
0.38	25.6	AV	Neutral	48.28	-22.7
0.16	31.6	AV	Neutral	55.46	-23.9
7.39	31.51	QP	Line	60	-28.5

Plot of Conducted Emissions Test Data

Conducted Disturbance
EUT: MP3 digital music player with SD memory slot
M/N: SP80
Operating Condition: Downloading
Test Specification: N
Comment: AC120V/60Hz USB 5V



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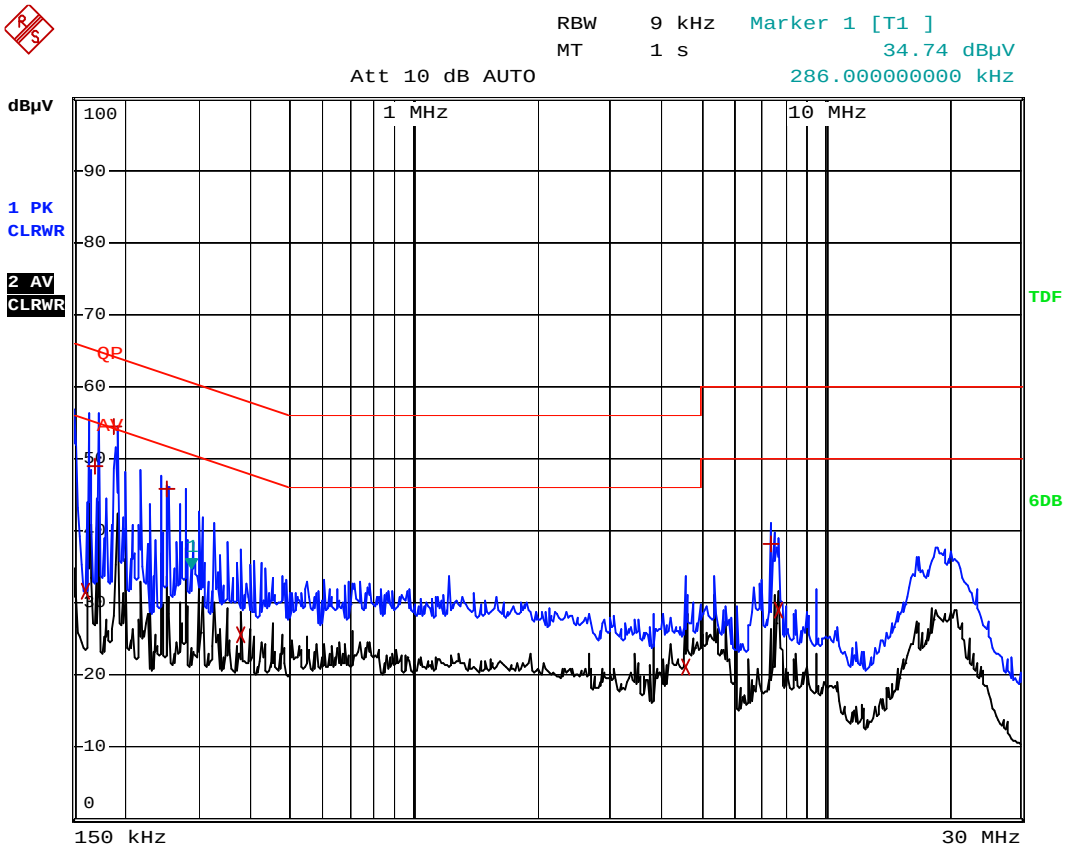
Plot of Conducted Emissions Test Data

Conducted Disturbance
EUT: MP3 digital music player with SD memory slot
M/N: SP80
Operating Condition: Downloading
Test Specification: L
Comment: AC120V/60Hz USB 5V



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4. §15.109(a)- RADIATED EMISSION

4.1 Measurement Uncertainty

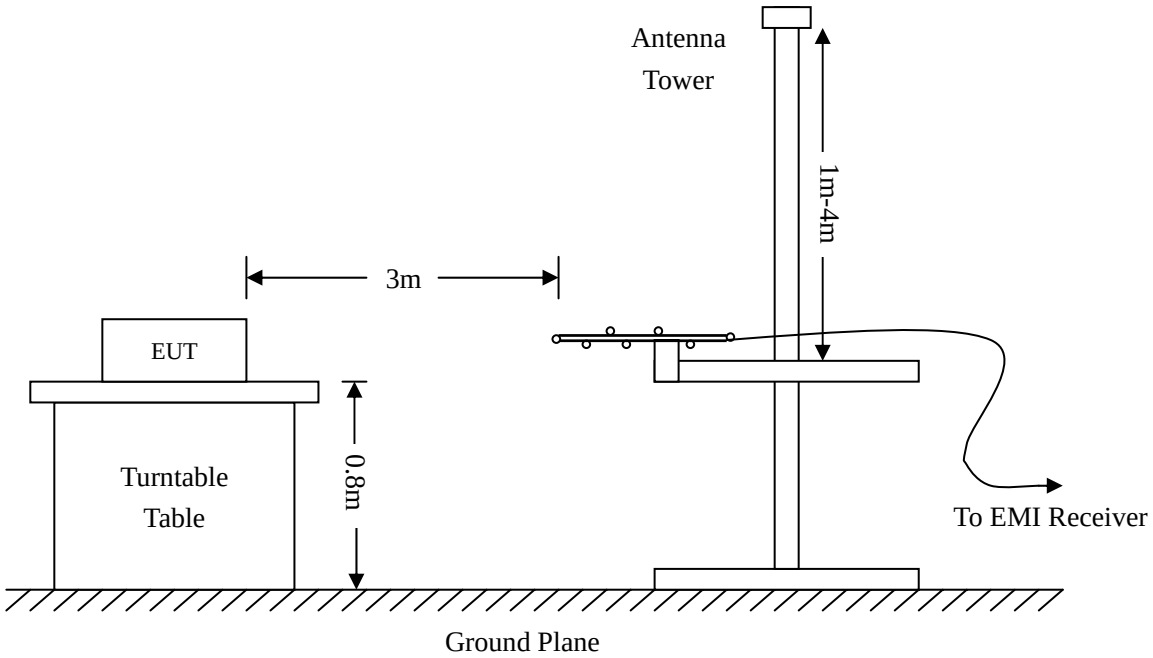
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 3.0 dB.

4.2 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	ROHDE&SCHWARZ	FSEA20	DE25181	2008-01-25	2009-01-24
Positioning Controller	C&C	CC-C-1F	N/A	2008-01-25	2009-01-24
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2008-01-25	2009-01-24
Horn Antenna	SCHWARZBECK	BBHX 9120	9120-426	2008-01-25	2009-01-24
RF Switch	EM	EMSW18	SW060023	2008-01-25	2009-01-24
Amplifier	Agilent	8447F	3113A06717	2008-01-25	2009-01-24
Coaxial Cable	SCHWARZBECK	AK9513	9513-10	2008-01-25	2009-01-24
EMI Test Receiver	ROHDE&SCHWARZ	ESPI	25498514	2008-01-25	2009-01-24

4.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.109 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.



4.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading – Corr. Factor

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15B Limit

4.5 Environmental Conditions

Temperature:	25° C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

4.6 Summary of Test Results/Plots

According to the data in section 4.6, the EUT complied with the FCC 15 Class B standards, and had the worst margin is:

-7.40 dBμV at **932.1405 MHz** in the **Downloading** mode, **Vertical** polarization, **30 MHz to 1 GHz, 3Meters**

-8.87 dBμV at **932.1405 MHz** in the **Playing** mode, **Horizontal** polarization, **30 MHz to 1 GHz, 3Meters**

Plot of Radiation Emissions Test Data

Radiated Disturbance

EUT: MP3 digital music player with SD memory slot

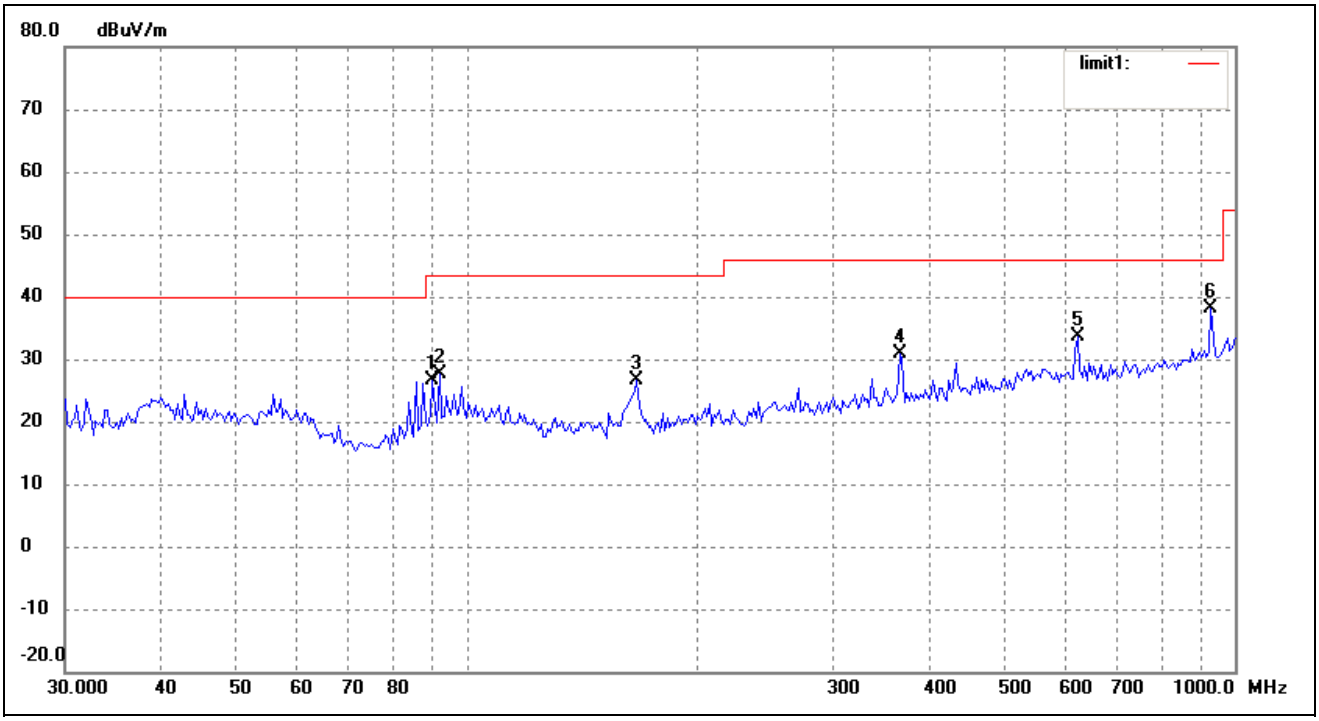
M/N: SP80

Operating Condition: Downloading

Test Specification: Horizontal & Vertical

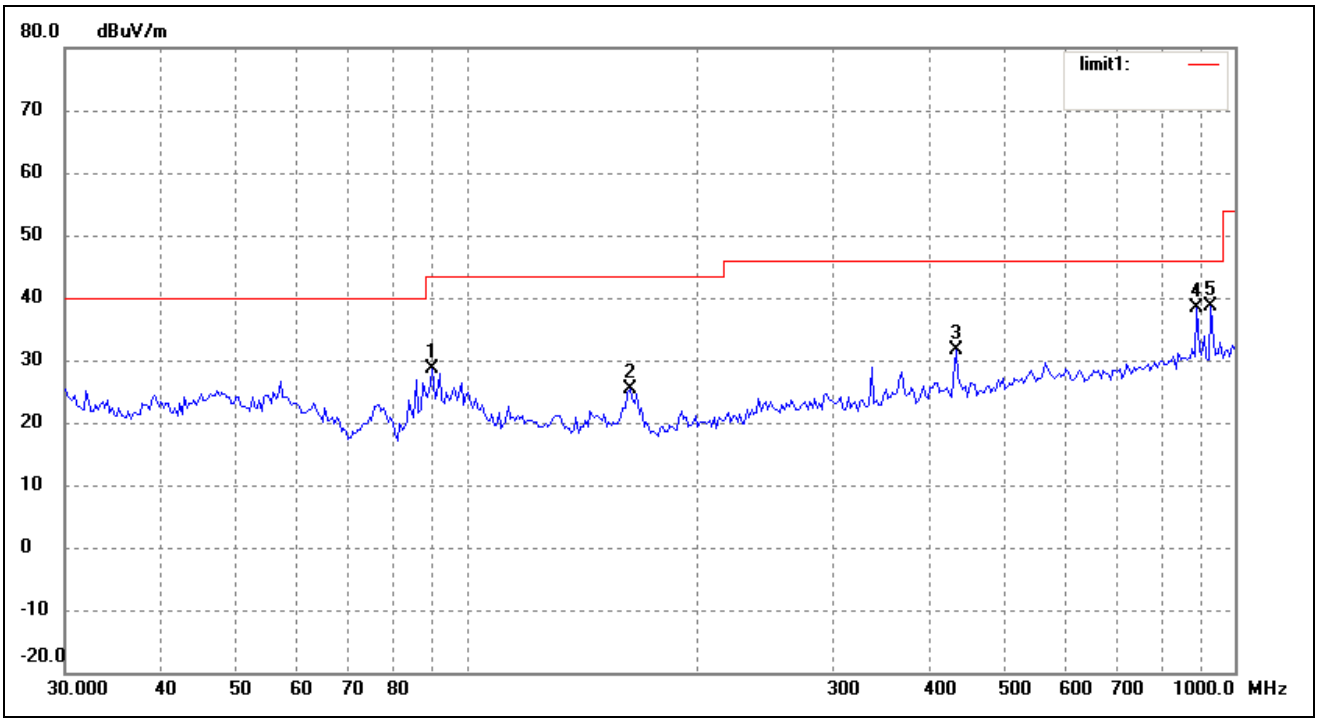
Comment: AC120V/60Hz USB 5V

Horizontal:



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	90.4198	20.05	6.61	26.66	43.50	-16.84	360	100	Peak
2	92.3462	20.58	6.97	27.55	43.50	-15.95	32	100	Peak
3	166.6385	22.77	3.95	26.72	43.50	-16.78	82	100	Peak
4	366.0866	21.20	9.73	30.93	46.00	-15.07	320	200	Peak
5	624.4897	21.07	12.56	33.63	46.00	-12.37	240	200	Peak
6	932.1405	22.94	15.19	38.13	46.00	-7.87	360	100	Peak

Vertical:



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	90.4198	22.00	6.61	28.61	43.50	-14.89	120	100	Peak
2	163.1623	21.54	3.84	25.38	43.50	-18.12	150	100	Peak
3	433.3397	20.99	10.54	31.53	46.00	-14.47	320	100	Peak
4	893.6557	23.55	14.72	38.27	46.00	-7.73	120	100	Peak
5	932.1405	23.41	15.19	38.60	46.00	-7.40	0	100	Peak

Plot of Radiation Emissions Test Data

Radiated Disturbance

EUT: MP3 digital music player with SD memory slot

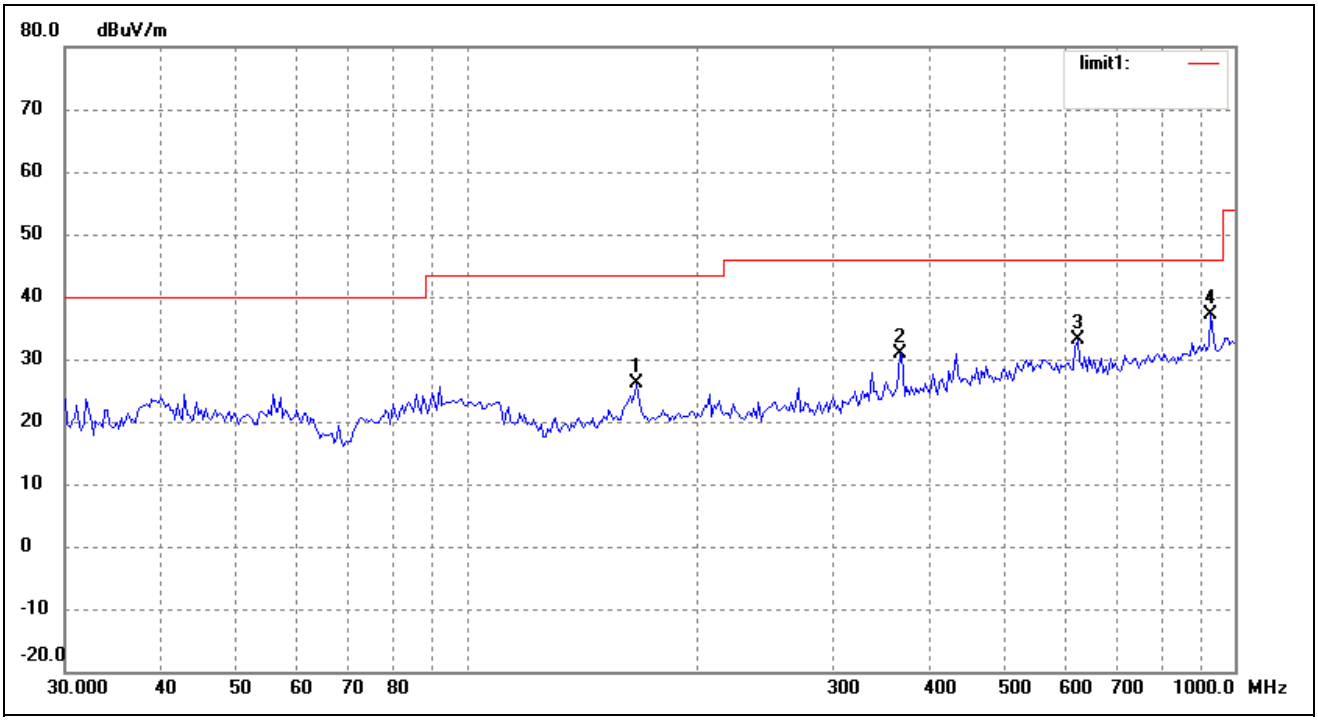
M/N: SP80

Operating Condition: Playing

Test Specification: Horizontal & Vertical

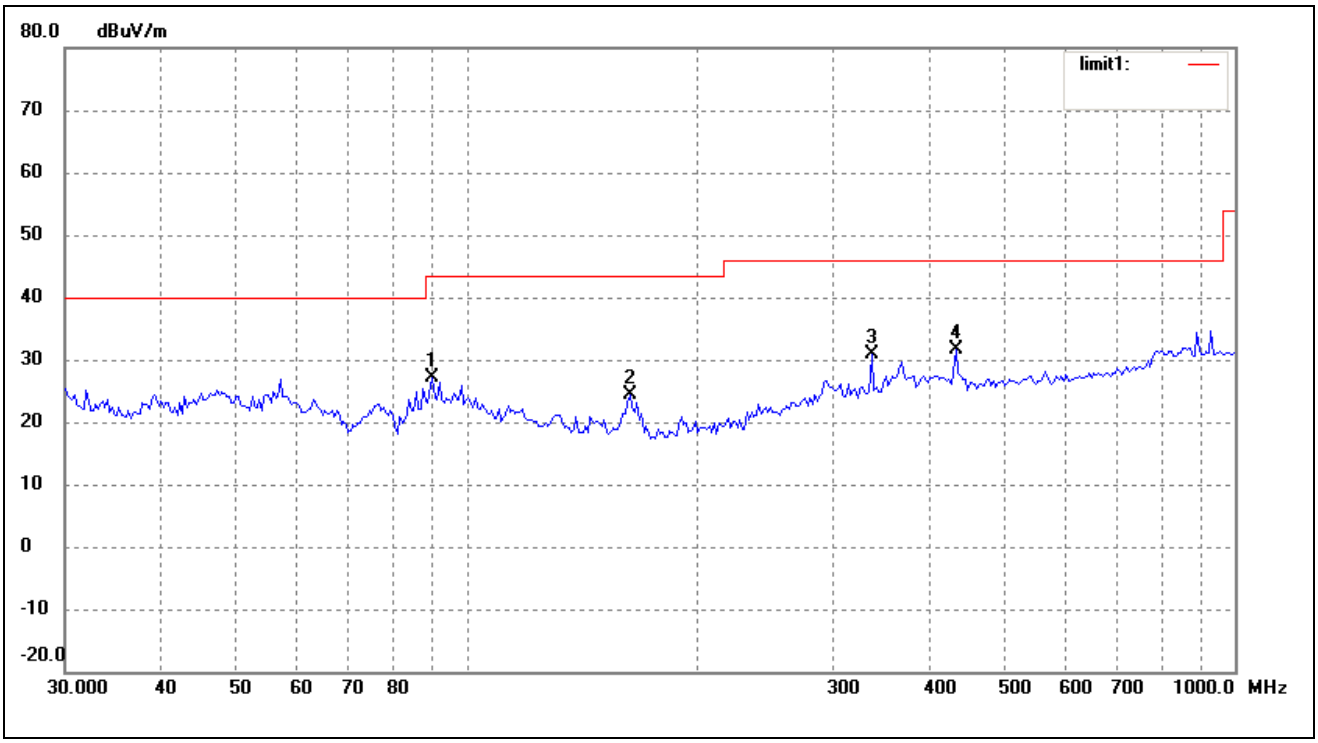
Comment:

Horizontal:



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	166.6385	22.27	3.95	26.22	43.50	-17.28	260	100	Peak
2	366.0866	21.20	9.73	30.93	46.00	-15.07	360	100	Peak
3	624.4897	20.57	12.56	33.13	46.00	-12.87	180	100	Peak
4	932.1405	21.94	15.19	37.13	46.00	-8.87	46	200	Peak

Vertical:



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	90.4198	20.50	6.61	27.11	43.50	-16.39	250	100	Peak
2	163.1623	20.54	3.84	24.38	43.50	-19.12	360	100	Peak
3	336.4817	21.66	9.16	30.82	46.00	-15.18	250	100	Peak
4	433.3397	20.99	10.54	31.53	46.00	-14.47	180	100	Peak

******* END OF REPORT *******