FCC Part 15B
Measurement and Test Report

For

Shenzhen Wisky Technology Co., LTD.

5th Floor, W2-A Building, Hi-tech Park South 1st Road, Nanshan District,

Shenzhen

FCC ID: Y5KW009R

Test Standards:	FCC Part 15 Subpart B
Product Description:	MID
Tested Model:	W009R
Report No.:	STR13098277I-2
Tested Date:	2013-09-23 to 2013-10-17
Issued Date:	2013-10-18
Tested By:	Silin Chen / Engineer
Reviewed By:	Lahm Peng / EMC Manager
Approved & Authorized By:	Jandy so / PSQ Manager

Prepared By:

SEM.Test Compliance Service Co., Ltd
3/F, Jinbao Commerce Building, Xin'an Fanshen Road,
Bao'an District, Shenzhen, P.R.C.（518101）
Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Shenzhen Wisky Technology Co., LTD.
Address of applicant:	5th Floor, W2-A Building, Hi-tech Park South 1st Road, Nanshan District, Shenzhen
Manufacturer:	Shenzhen Wisky Technology Co., LTD.
Address of manufacturer:	5th Floor, W2-A Building, Hi-tech Park South 1st Road, Nanshan District, Shenzhen

General Description of EUT	
Product Name:	MID
Trade Name:	/
Model No.:	W009R
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Rated Voltage:	DC 3.7V
Power Adaptor:	Model:SAPB09018US
	Input 100-240V, 50/60Hz, Output DC 9V
Highest Internal Frequency:	1GHz
Lowest Internal Frequency:	32.768 kHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the Shenzhen Wisky Technology 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 15.205, 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, should be checked to ensure compliance has been maintained.

1.3 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.

1.4 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.

- **CNAS Registration No.: L4062**
  Shenzhen SEM.Test Electronics Service Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C (518101)

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List:

Test Mode	Description	Remark
TM1	Charging & Playing	1kHz Video playing
TM2	HDMI Output	1kHz Video playing
TM3	Downloading	Connect to PC

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	1.0	Shielded	With Ferrite
DC Cable	1.2	Unshielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
Earphone	1.0	Unshielded	Without Ferrite

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E23	/

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 15.107 (a)	Conducted Emissions	Compliant
§ 15.109 (a)	Radiated Emissions	Compliant

N/A: not applicable

3. Conducted Emissions

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 ± 2.88 dB.

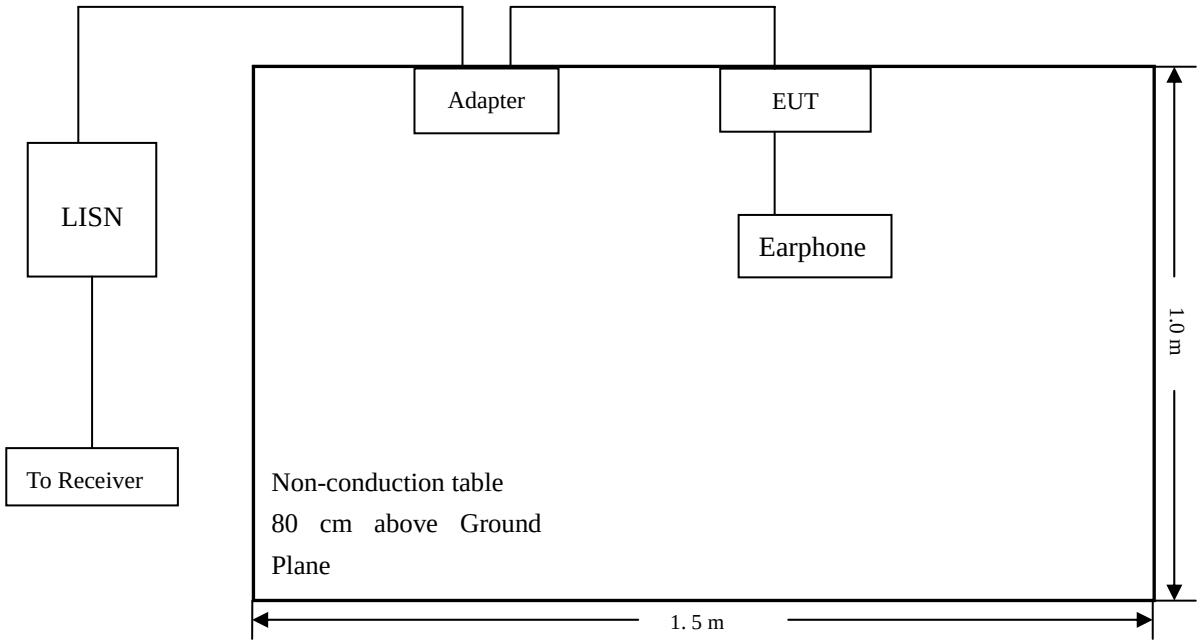
3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2013-05-07	2014-05-06
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2013-05-07	2014-05-06
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2013-05-07	2014-05-06

3.3 Test Procedure

Test is conducting under the description of 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.

3.4 Basic Test Setup Block Diagram



3.5 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

-3.77 dB at 2.818 MHz in the **Neutral** mode**, Average** detector, **0.15-30MHz**

3.7 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

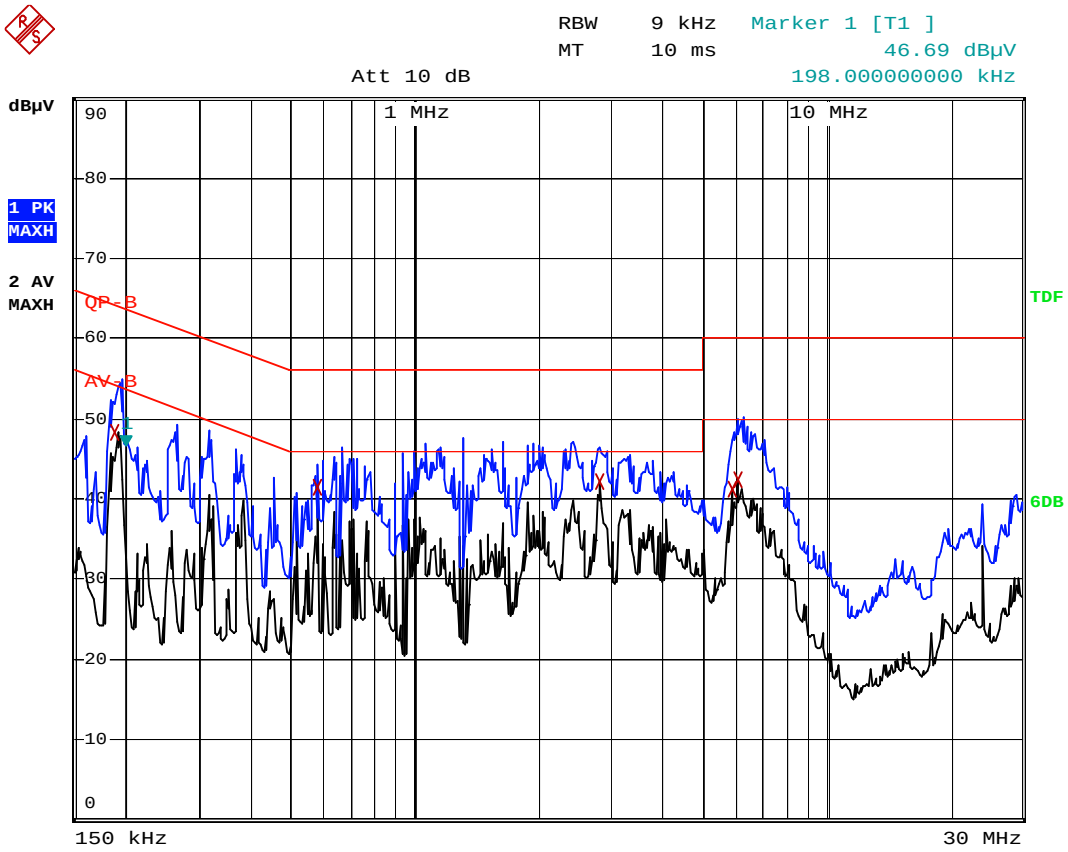
EUT: *MID*

Tested Model: *W009R*

Operating Condition: *Charging and Playing*

Comment: *Input AC 120V/60Hz, Output DC 9V*

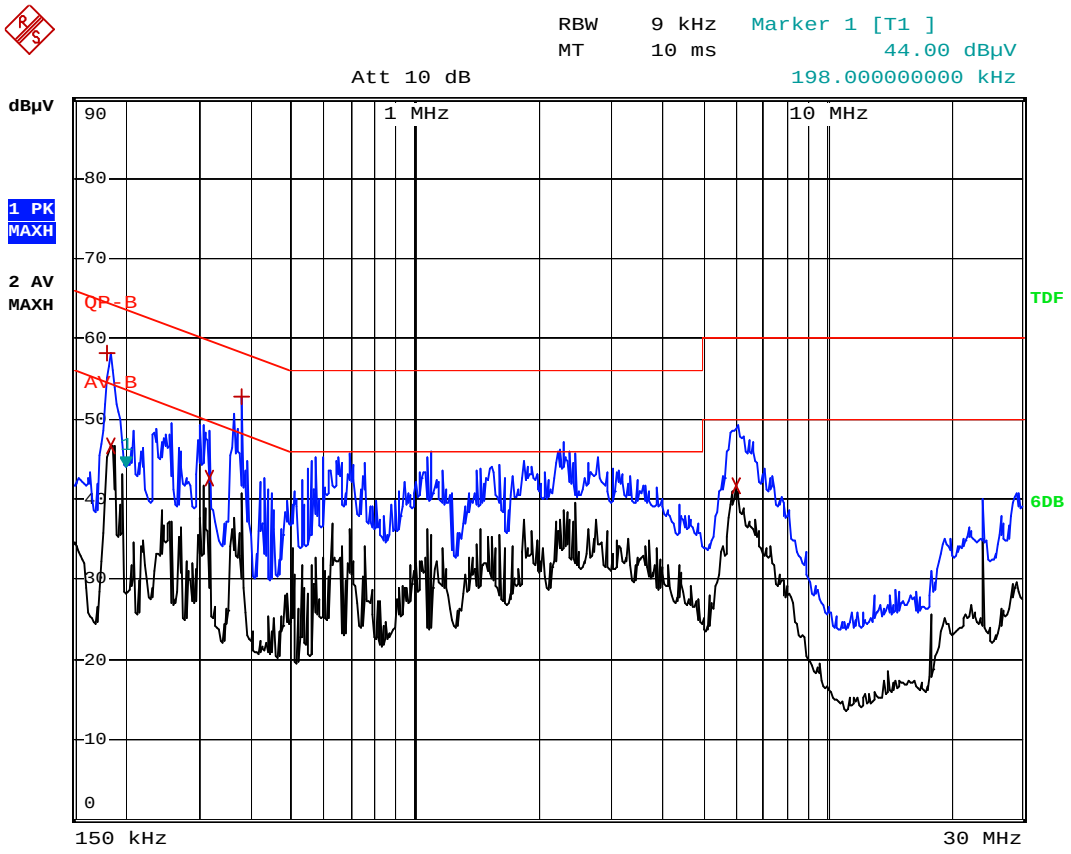
Test Specification: *Neutral*



EDIT PEAK LIST (Prescan Results)

Trace1:	QP-B		
Trace2:	AV-B		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
2 Average	190 kHz	48.23	-5.80
2 Average	578 kHz	41.41	-4.58
2 Average	2.818 MHz	42.22	-3.77
2 Average	5.942 MHz	41.19	-8.80
2 Average	6.134 MHz	42.31	-7.68

Test Specification: *Line*



EDIT PEAK LIST (Prescan Results)

Trace1:	QP-B
Trace2:	AV-B
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Max Peak	182 kHz	58.13	-6.25
2 Average	186 kHz	46.65	-7.55
2 Average	314 kHz	42.75	-7.11
1 Max Peak	378 kHz	52.86	-5.46
2 Average	6.026 MHz	41.73	-8.26

4. Radiated Emissions

4.1 Measurement Uncertainty

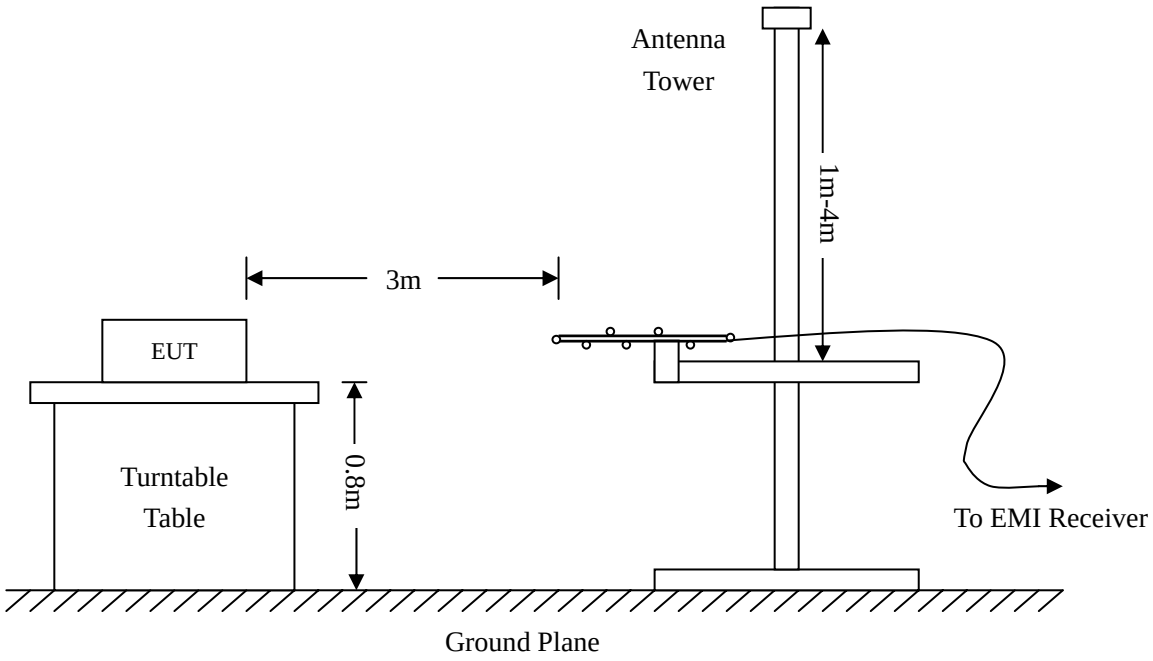
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2013-05-07	2014-05-06
EMI Test Receiver	R&S	ESVB	825471/005	2013-05-07	2014-05-06
Pre-amplifier	Agilent	8447F	3113A06717	2013-05-07	2014-05-06
Pre-amplifier	Compliance Direction	PAP-0118	24002	2013-05-07	2014-05-06
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2013-04-20	2014-04-19
Horn Antenna	ETS	3117	00086197	2013-04-20	2014-04-19
Loop Antenna	SCHWARZECK	HFRA 5165	9365	2013-04-20	2014-04-19

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.



Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

4.4 Test Receiver Setup

During the radiated emission test for above 1GHz, the test receiver was set with the following configurations:

For peak detector:
RBW = 1000kHz, VBW = 3000kHz, Sweep Time = Auto

For average detector:
RBW = 1000kHz, VBW = 10Hz, Sweep Time = Auto

4.5 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 a Class B device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15.109(a) Limit

4.6 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

4.7 Summary of Test Results/Plots

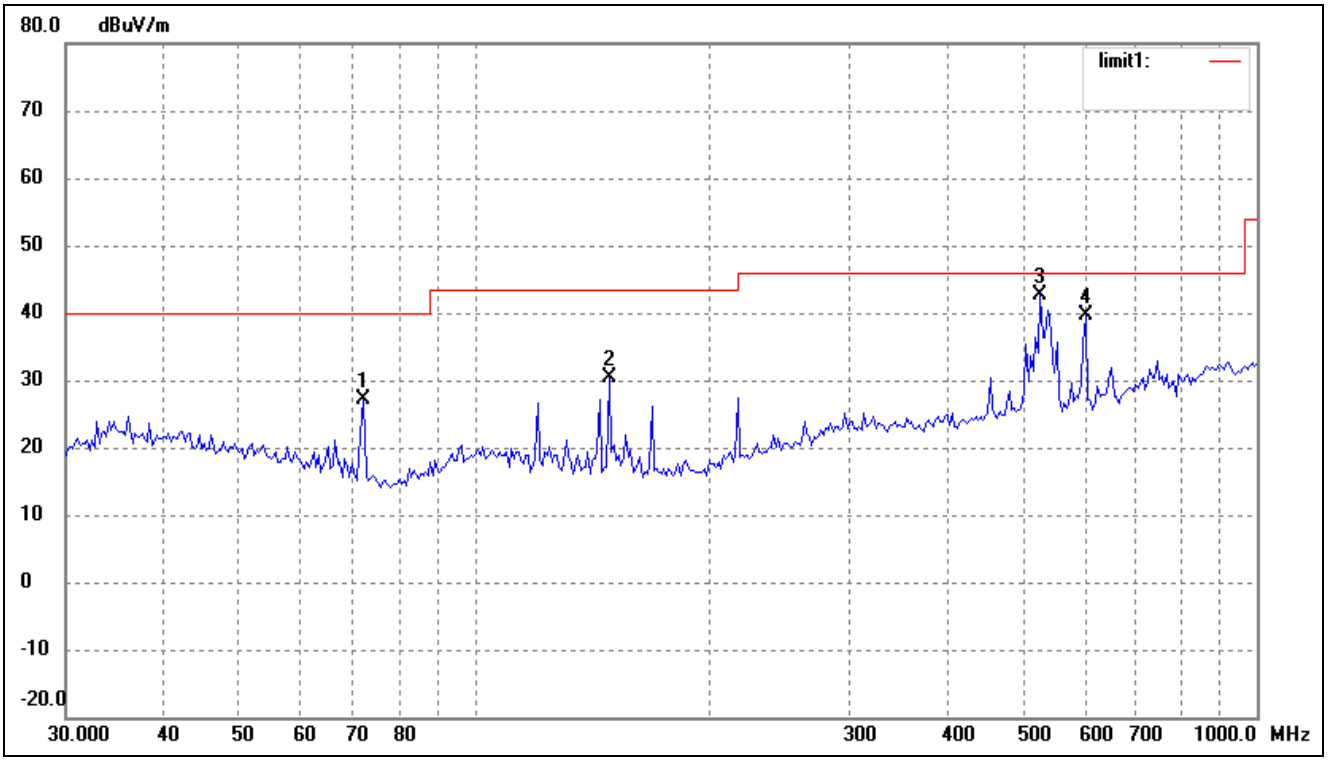
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-3.18 dB at **566.6401 MHz** in the **Horizontal** polarization, **Downloading** mode, **9 kHz** to **5 GHz**, **3Meters**

Plot of Radiated Emissions Test Data

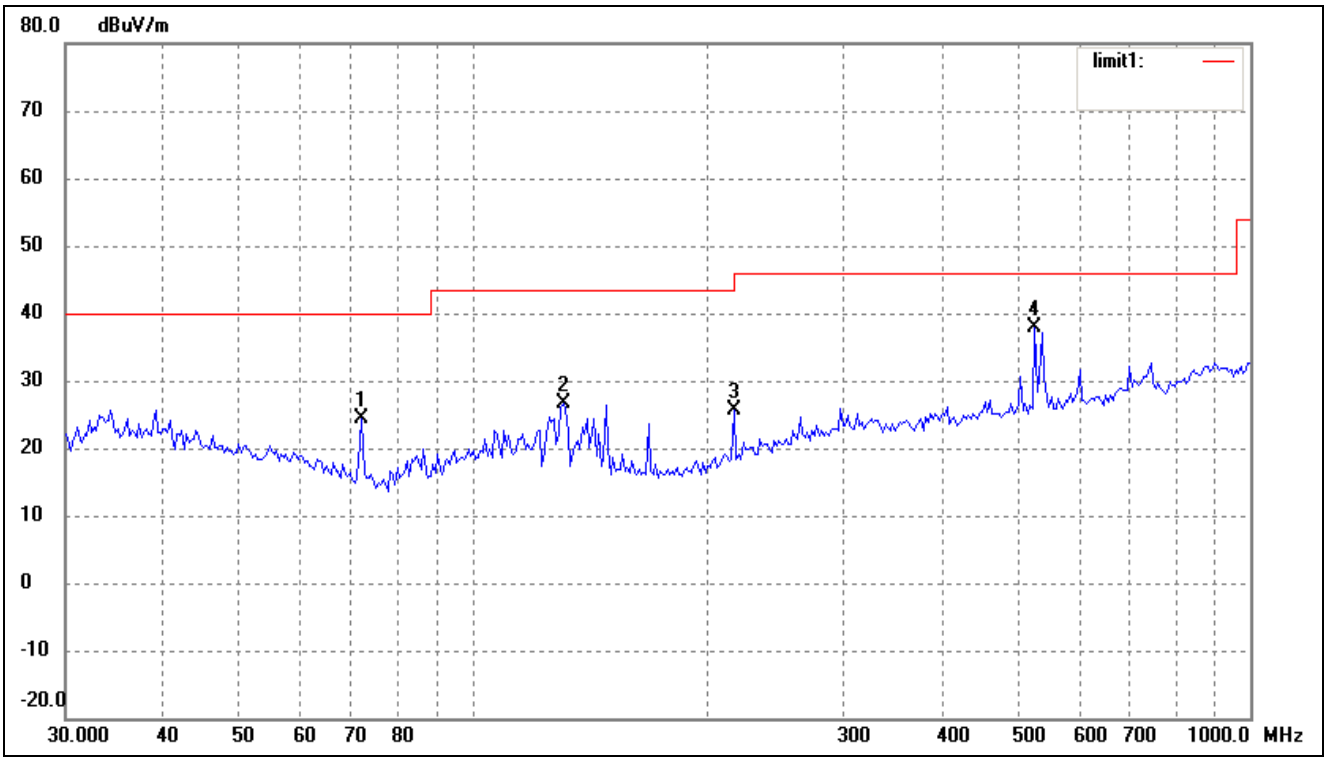
EUT: *MID*
Tested Model: *W009R*
Operating Condition: *Charging and Playing*
Comment: *AC 120V/60Hz; Adapter DC 9V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	72.0812	25.17	1.94	27.11	40.00	-12.89	100	100	peak
2	148.3158	27.86	2.49	30.35	43.50	-13.15	100	100	peak
3	528.23425	30.93	11.35	42.28	46.00	-3.72	100	100	peak
4	603.4256	26.38	13.06	39.44	46.00	-6.56	100	100	peak

Test Specification: *Vertical*

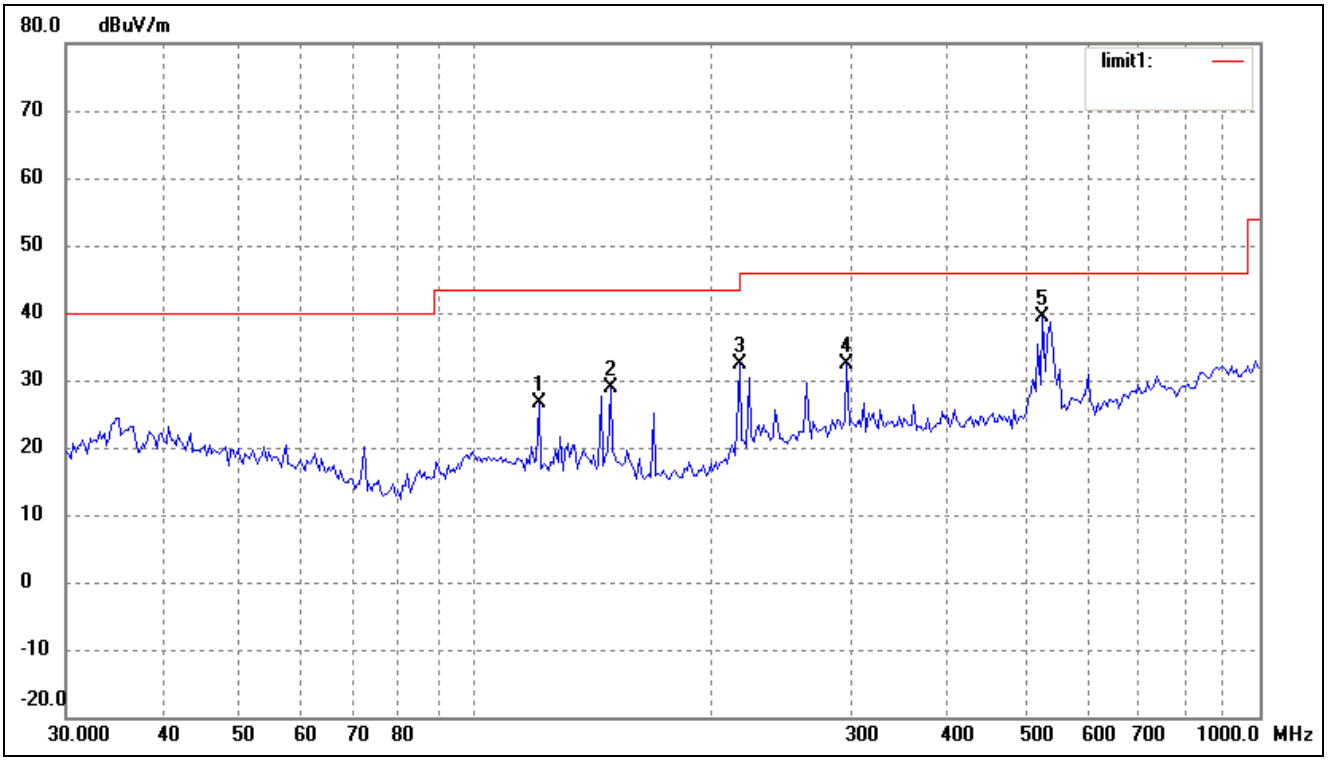


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	72.0442	22.20	1.94	24.14	40.00	-15.86	10	100	peak
2	130.8412	23.27	3.15	26.42	43.50	-17.08	10	100	peak
3	216.7752	20.54	4.88	25.42	46.00	-20.58	10	100	peak
4	528.2951	26.37	11.35	37.72	46.00	-8.28	10	100	peak

Plot of Radiated Emissions Test Data

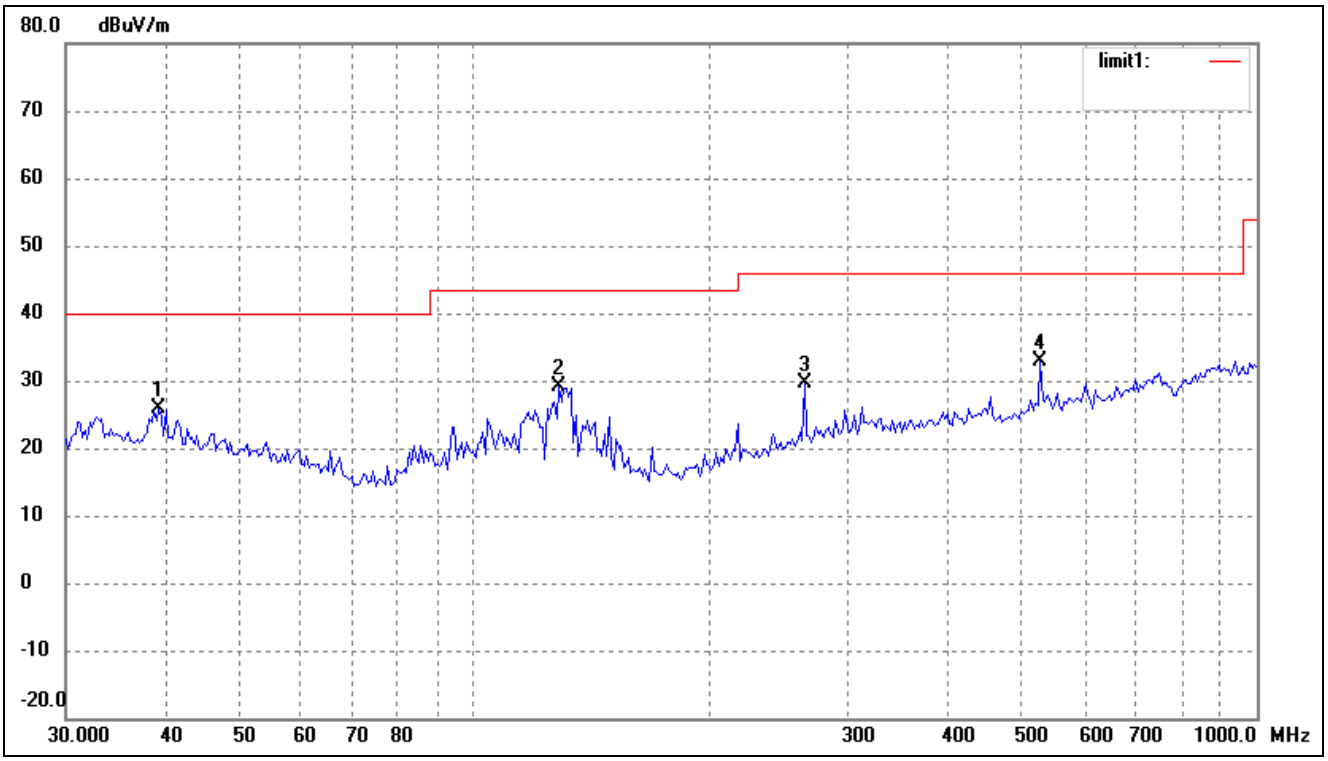
EUT: *MID*
Tested Model: *W009R*
Operating Condition: *HDMI Output*
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	120.1145	22.14	4.00	26.14	43.50	-17.36	100	100	peak
2	148.4145	25.76	2.49	28.25	43.50	-15.25	100	100	peak
3	216.7424	27.79	4.88	32.67	46.00	-13.33	100	100	peak
4	297.2211	23.26	9.06	32.32	46.00	-13.68	100	100	peak
5	528.2400	27.87	11.35	39.22	46.00	-6.78	100	100	peak

Test Specification: *Vertical*

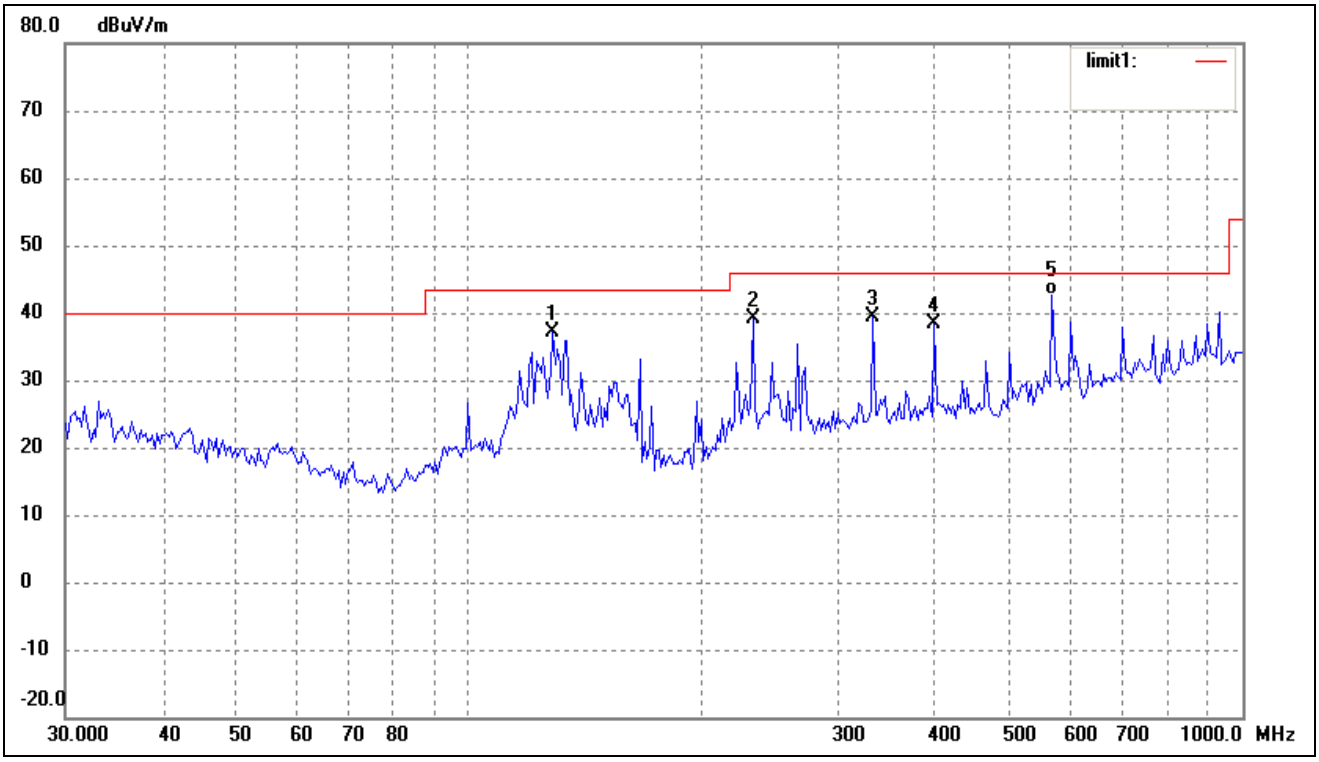


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	39.3459	16.73	9.16	25.89	40.00	-14.11	10	100	peak
2	128.1025	25.87	3.37	29.24	43.50	-14.26	10	100	peak
3	263.80214	21.86	7.29	29.15	46.00	-16.85	10	100	peak
4	528.2333	20.90	11.35	32.25	46.00	-13.75	10	100	peak

Plot of Radiated Emissions Test Data

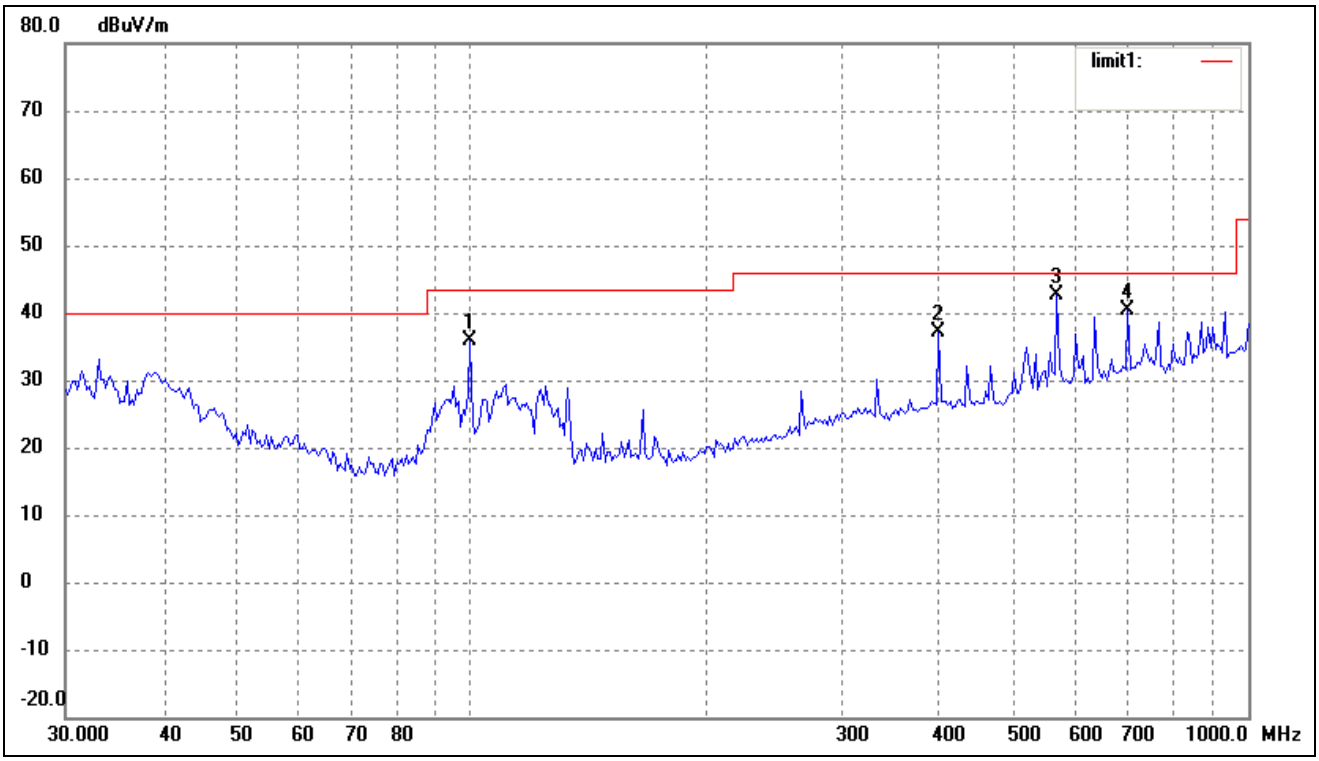
EUT: *MID*
Tested Model: *W009R*
Operating Condition: *Downloading*
Comment: *Connected to PC*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	128.1100	33.17	4.27	37.44	43.50	-6.06	58	150	peak
2	232.5311	33.46	6.59	40.05	46.00	-5.95	326	100	peak
3	332.5187	29.16	10.24	39.40	46.00	-6.60	29	120	peak
4	399.0142	26.54	11.50	38.04	46.00	-7.96	209	100	peak
5	566.6401	29.24	13.58	42.82	46.00	-3.18	359	200	QP

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	99.5281	28.69	6.72	35.41	43.50	-8.09	51	100	peak
2	399.0302	25.92	11.50	37.42	46.00	-8.58	308	100	peak
3	566.6223	29.12	13.58	42.70	46.00	-3.30	120	100	peak
4	699.3046	24.43	15.73	40.16	46.00	-5.84	359	100	peak

Note: Testing is carried out with frequency rang 9kHz to 5GHz, which above 9kHz to 30MHz and above 1GHz spurious are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

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