



FCC PART 15.109 MEASUREMENT AND TEST REPORT FOR

J&W TECHNOLOGY LIMITED

**Floor 13, Block B, Haisong Building, Tairan 9th Road, Futian District,
Shenzhen, China**

FCC ID: WMFJWHERON

Report Concerns: Original Report	Equipment Type: Motherboard
Model:	<u>JRS780ITX01</u>
Report No.:	<u>STR08088035I</u>
Test/Witness Engineer:	<u></u>
Test Date:	<u>2008-08-10-2008-08-15</u>
Issued Date:	2008-08-22
Prepared By:	<p>SEM.Test Compliance Service Co., Ltd. 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C. (518101)</p>
Approved & Authorized By:	<p><u></u> Jandy So /PSQ Manager</p>

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.

TABLE OF CONTENTS

1. GENERAL INFORMATION.....3

- 1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....3
- 1.2 TEST STANDARDS3
- 1.3 RELATED SUBMITTAL(S)/GRANT(S).....3
- 1.4 TEST METHODOLOGY3
- 1.5 TEST FACILITY4
- 1.6 ACCESSORIES EQUIPMENT LIST AND DETAILS4
- 1.7 EUT CABLE LIST AND DETAILS4

2. SUMMARY OF TEST RESULTS5

3. §15.107 (A)- CONDUCTED EMISSION6

- 3.1 MEASUREMENT UNCERTAINTY6
- 3.2 TEST EQUIPMENT LIST AND DETAILS6
- 3.3 TEST PROCEDURE.....6
- 3.4 BASIC TEST SETUP BLOCK DIAGRAM.....6
- 3.5 ENVIRONMENTAL CONDITIONS7
- 3.6 SUMMARY OF TEST RESULTS/PLOTS7
- 3.7 CONDUCTED EMISSIONS TEST DATA.....7

4. §15.109(A)- RADIATED EMISSION10

- 4.1 MEASUREMENT UNCERTAINTY10
- 4.2 TEST EQUIPMENT LIST AND DETAILS10
- 4.3 TEST PROCEDURE.....10
- 4.4 CORRECTED AMPLITUDE & MARGIN CALCULATION11
- 4.5 ENVIRONMENTAL CONDITIONS11
- 4.6 SUMMARY OF TEST RESULTS/PLOTS11

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: J&W TECHNOLOGY LIMITED
 Address of applicant: Floor 13,Block B, Haisong Building, Tairan 9th Road, Futian District, Shenzhen, China

Manufacturer: J&W TECHNOLOGY LIMITED
 Address of manufacturer: Floor 13,Block B, Haisong Building, Tairan 9th Road, Futian District, Shenzhen, China

General Description of E.U.T

Items	Description
EUT Description:	Motherboard
Trade Name:	JW
Model No.:	JRS780ITX01
Rate Power:	95W
Rate Voltage:	AC120V/60Hz Switching Power Supply
Size:	17.5 x17.6 x4.3 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 J&W TECHNOLOGY LIMITED 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

The 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 files which the Registration No.: **994117**. Measurement required was performed at laboratory of SEM.Test Compliance Service Co., Ltd. at 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C. (518101).

1.6 Accessories Equipment List and Details

Manufacturer	Description	Model	Serial Number
TP-LINK	Modem	TM-EC5658V	KT99CTQC-508
Lenovo	Printer	3110	OD65133711480
HUASHENG	Earphone	B12-3	200423154
Lenovo	Mouse	M-UAE119	LZ7300E00G2
Lenovo	Keyboard	LXB-CH0507	07G00500359D
Great wall	Switch power supply	ATX-350P4	2704101570
Seagate	Hard disk driver	320Gbytes	6QF3HWKM

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 $\pm 1.5\text{dB}$.

3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B-ESA	US41192821	2008-01-25	2009-01-24
EMI Test Receiver	ROHDE&SCHW ARZ	ESPI	101206	2008-01-25	2009-01-24
L.I.S.N.	SCHWARZBEC K	NSLK8126	8126-224	2008-01-25	2009-01-24
L.I.S.N.	EMCO	3825/2	11967C	2008-01-25	2009-01-24

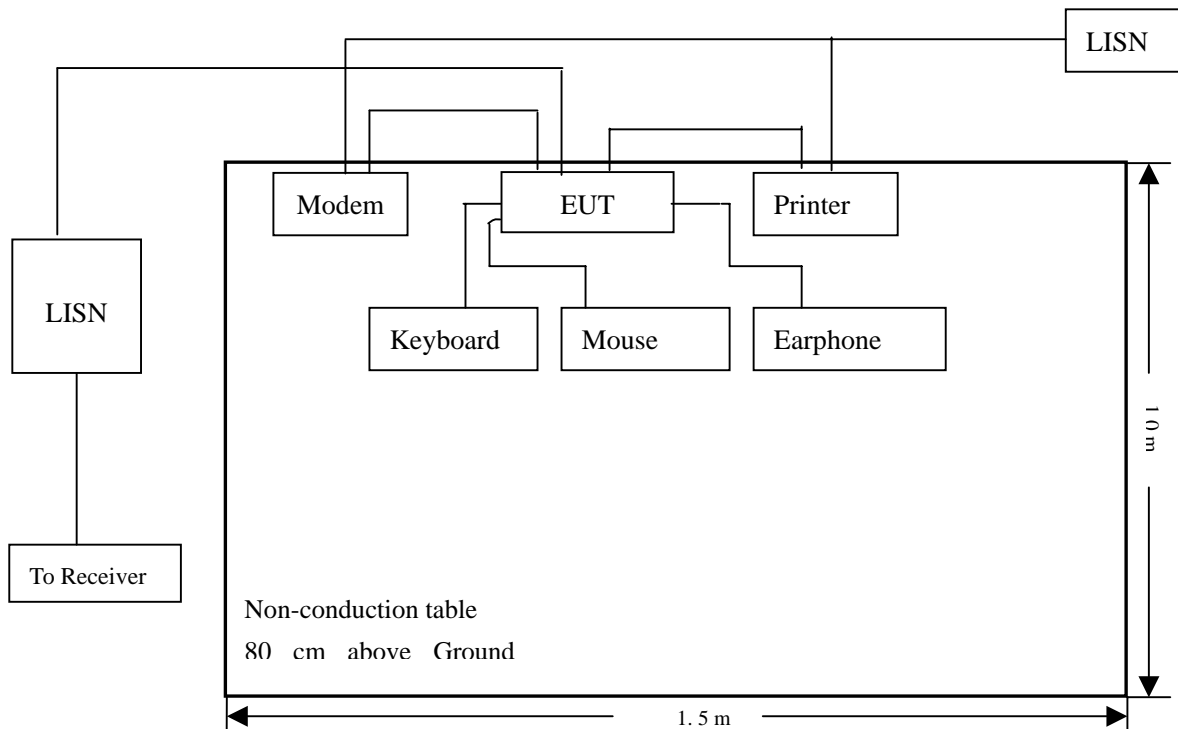
3.3 Test Procedure

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:

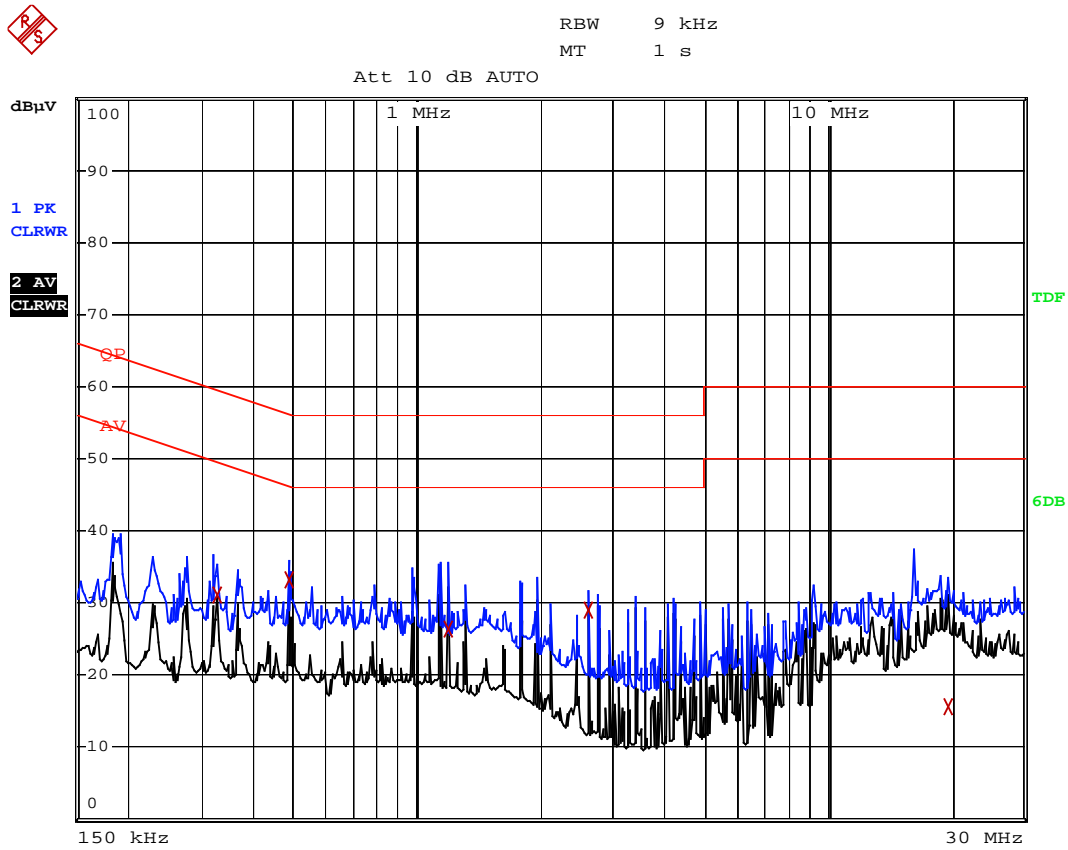
-11.1 dB μ V at 0.49 MHz in the Neutral mode, Average detector, 0.15-30MHz

3.7 Conducted Emissions Test Data

LINE CONDUCTED EMISSIONS				FCC 15B CLASS B	
Frequency	Amplitude	Detector	Phase	Limit	Margin
MHz	dB μ V	QP/Ave/Pk	Line/Neutral	dB μ V	dB
0.49	35.10	Ave	Neutral	46.17	-11.1
1.95	32.50	Ave	Neutral	46	-13.5
3.42	30.50	Ave	Line	46	-15.5
8.79	32.70	Ave	Line	50	-17.3
0.27	30.00	Ave	Neutral	51	-21.0
0.395	36.58	QP	Neutral	57.96	-21.4
0.39	36.20	QP	Line	58.06	-21.9
1.138	33.50	QP	Neutral	56	-22.5
1.31	31.20	QP	Neutral	56	-24.8
20.51	20.20	Ave	Line	50	-29.8
6.71	29.10	QP	Line	60	-30.9
5.41	28.90	QP	Line	60	-31.1

Plot of Conducted Emissions Test Data

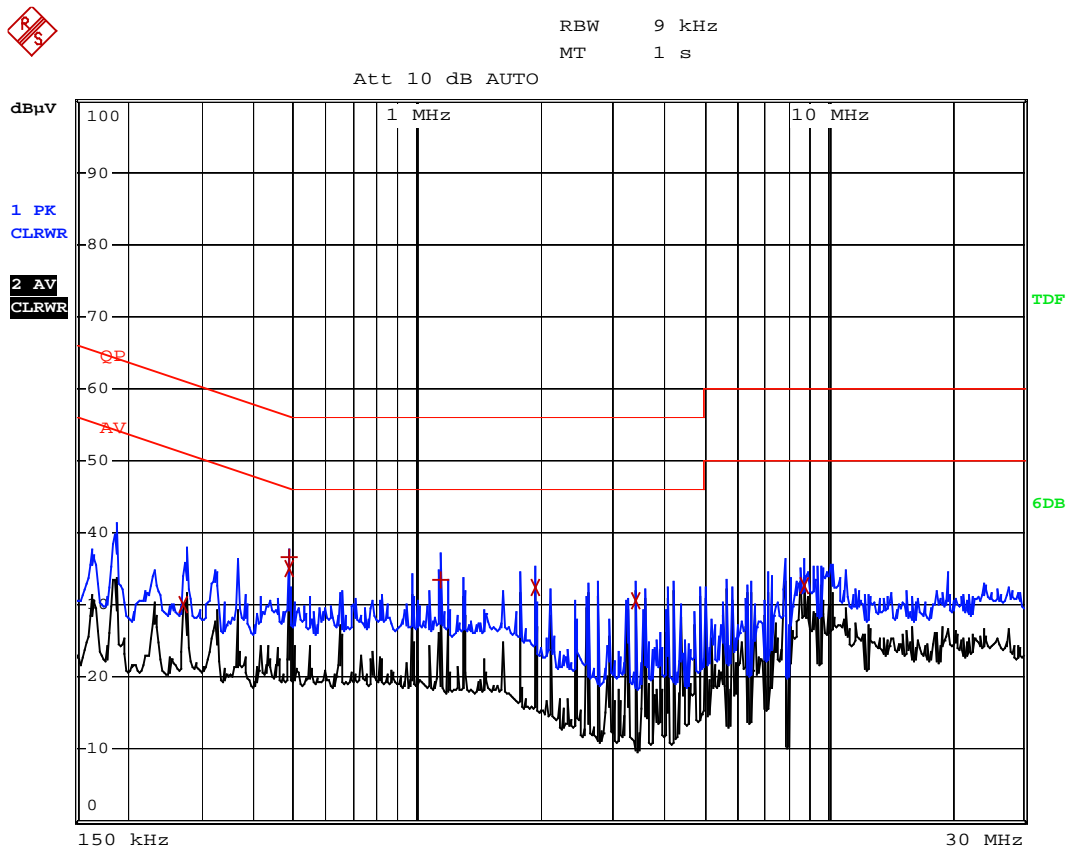
Conducted Disturbance
EUT: Motherboard
M/N: JRS780ITX01
Operating Condition: Running
Test Specification: L
Comment: AC120V/60Hz Switch Power Supply



Date: 13.AUG.2008 18:11:55

Plot of Conducted Emissions Test Data

Conducted Disturbance
EUT: Motherboard
M/N: JRS780ITX01
Operating Condition: Running
Test Specification: N
Comment: AC120V/60Hz Switch Power Supply



Date: 13.AUG.2008 18:10:41

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

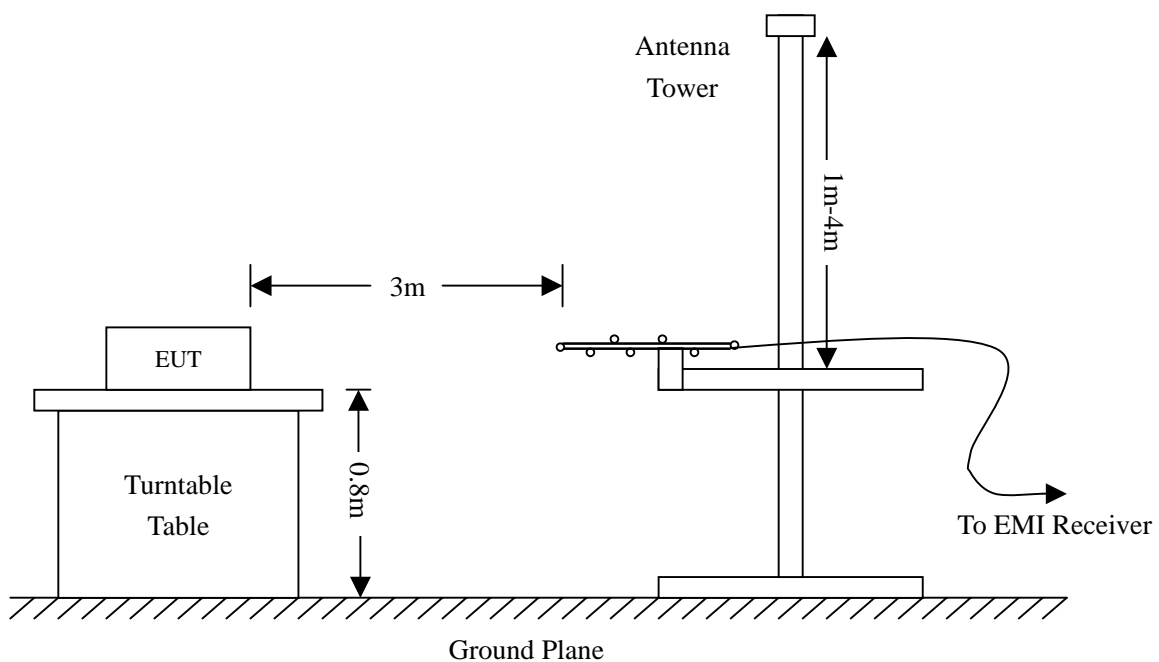
Manufacturer	Description	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	ROHDE&SCHWARZ	FSEA20	DE25181	2008-01-25	2009-01-24
Positioning Controller	C&C	CC-C-1F	N/A	2008-01-25	2009-01-24
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2008-01-25	2009-01-24
Horn Antenna	SCHWARZBECK	BBHX 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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

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

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15B Limit}$$

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:

-3.41 dB μ V at 1416.834 MHz in the, Vertical polarization, 30 MHz to 18 GHz, 3Meters

Plot of Radiation Emissions Test Data

Radiated Emission

EUT: Motherboard

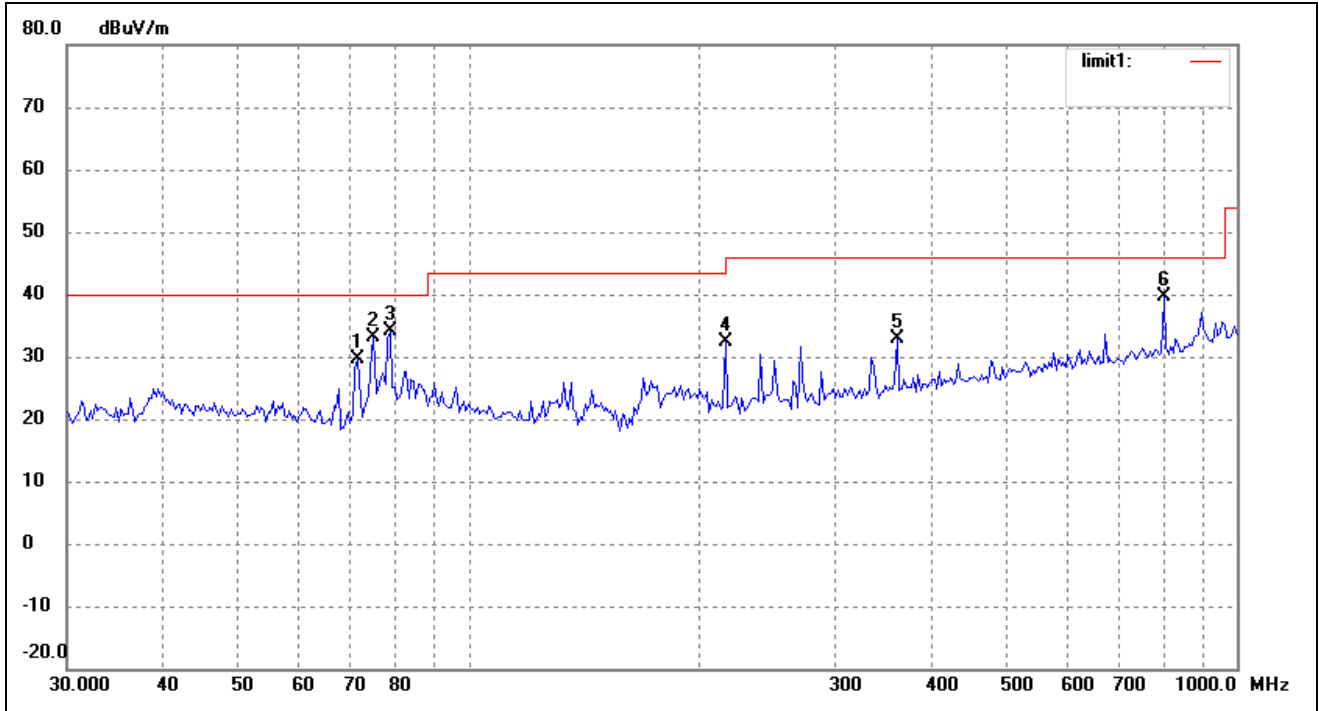
M/N: JRS780ITX01

Operating Condition: Running

Test Specification: Horizontal & Vertical

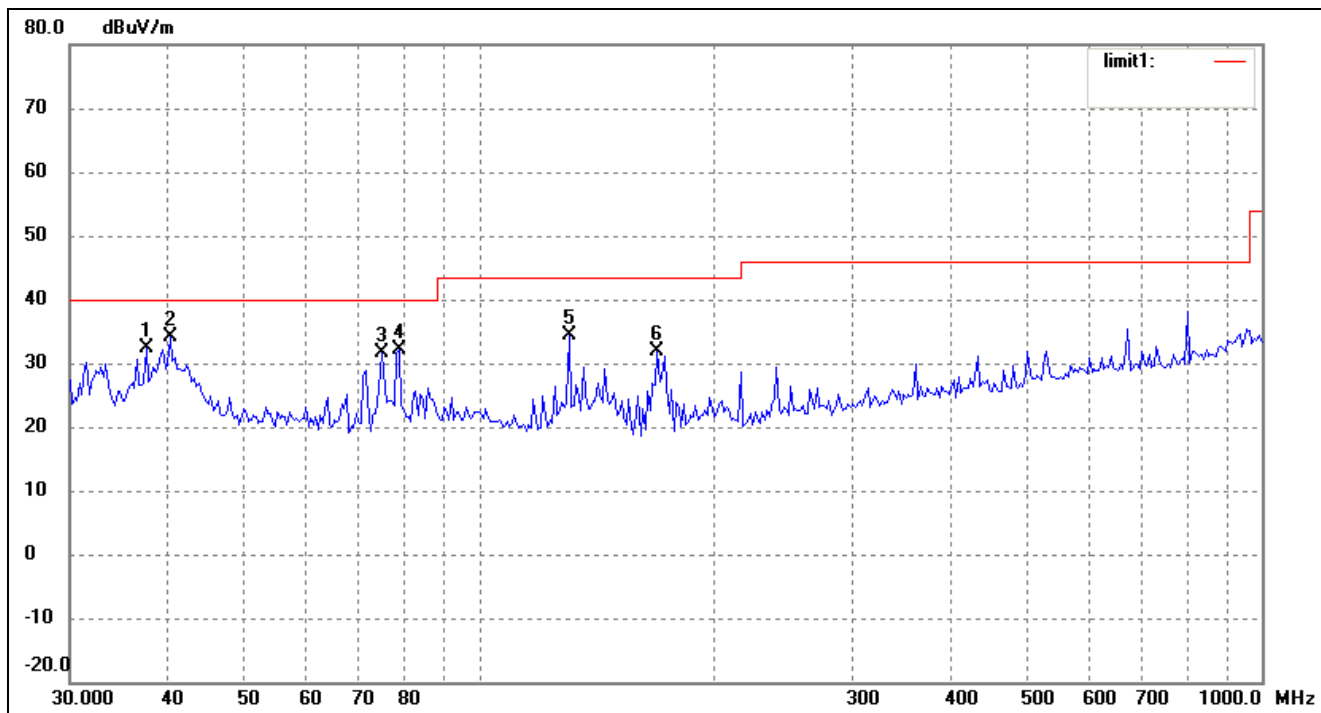
Comment: AC120V/60Hz Switch Power Supply

Horizontal:



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	71.7054	26.22	3.35	29.57	40.00	-10.43	45	100	peak
2	75.3208	30.16	2.90	33.06	40.00	-6.94	39	120	peak
3	79.1185	30.54	3.48	34.02	40.00	-5.98	162	114	QP
4	216.1197	25.34	7.15	32.49	46.00	-13.51	320	146	peak
5	360.9775	21.92	10.90	32.82	46.00	-13.18	225	112	peak
6	804.2523	23.96	15.57	39.53	46.00	-6.47	98	121	peak

Vertical:



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	37.5648	24.95	7.48	32.43	40.00	-7.57	360	120	peak
2	40.2995	26.04	8.15	34.19	40.00	-5.81	15	109	QP
3	75.3208	28.79	2.90	31.69	40.00	-8.31	26	113	peak
4	79.1185	28.74	3.48	32.22	40.00	-7.78	21	100	peak
5	130.3048	29.81	4.54	34.35	43.50	-9.15	64	110	peak
6	168.9970	26.95	4.85	31.80	43.50	-11.70	200	100	peak

Radiation Emission (Above 1GHz)

Pol.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
V	1064.128	31.86	16.32	48.18	54.00	-5.82	360	100	peak
V	1416.834	31.88	18.71	50.59	54.00	-3.41	150	100	peak
H	1629.258	25.58	20.48	46.06	54.00	-7.94	243	100	peak
V	1829.659	27.36	22.39	49.75	54.00	-4.25	222	100	peak
H	2130.260	23.66	23.94	47.60	54.00	-6.40	16	100	peak
V	2659.319	20.56	28.03	48.59	54.00	-5.41	120	100	peak

Note: For above 1GHz frequency radiated emission testing, the emissions are close base noise not report.

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