FCC PART 15.109

MEASUREMENT AND TEST REPORT

FOR

Rapidmax Technology Corporation

3F, 531. Chung-Cheng Rd. Hsin-Tien. Taipei 23148, Taiwan R.O.C.

FCC ID: XMC509510

Report Concerns: Original Report	**Equipment Type:** 10/100M Fast Ethernet PCI Netwok Card

Model: 509510

Report No.: STR09078090I

Test/Witness Engineer: Susan Su

Test Date: 2009-07-23 to 2009-07-29

Issue Date: 2009-08-15

Prepared By:

SEM.Test Compliance Service Co., Ltd.
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Approved & Authorized By: Jandy So

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:	Rapidmax Technology Corporation
Address of applicant:	3F, 531. Chung-Cheng Rd. Hsin-Tien, Taipei 23148, Taiwan R.O.C.
Manufacturer:	ShenZhen Kingnet Technology Co., Ltd.
Address of manufacturer:	5/F, Block 4 Science & Technology Industrial Park of Private Enterprise Pingshan, XiLi, NanShan District, ShenZhen, GuangDong, China, PR

General Description of E.U.T

Items	Description
EUT Description:	10/100M Fast Ethernet PCI Network Card
Trade Name:	INTELLINET, KINGNET
Model No.:	509510
Adding Model:	KN-8139DS
Rated Voltage:	/
Packaging Size:	11.6X12.0X1.4 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. The other model listed in the report is the same sample of 509510 with different model No., declared by the manufacturer.

1.2 Test Standards

The following report is prepared on behalf of the Rapidmax Technology Corporation 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 15.107, and 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which results 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 susceptibility against the tested phenomena. The test modes were 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 EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the system components. The test software, provided by the customer, is started while the EUT is on to simulate the normal work. under the Windows XP terminal.

1.7 Accessories Equipment List and Details

Manufacturer	Description	Model	Serial Number
Lenovo	Display	LXM-L17AAB	4M0233274805856
Lenovo	Host	M2620V	N/A
Lenovo	Mouse	M028UOL	23-095827 077
Lenovo	Keyboard	LXB-CH0507	07G00501394D
TP-LINK	Modem	TM-EC5658V	KT99CTQC-508
Lenovo	Printer	3110	OD65133711480

1.8 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 ± 1.5 dB.

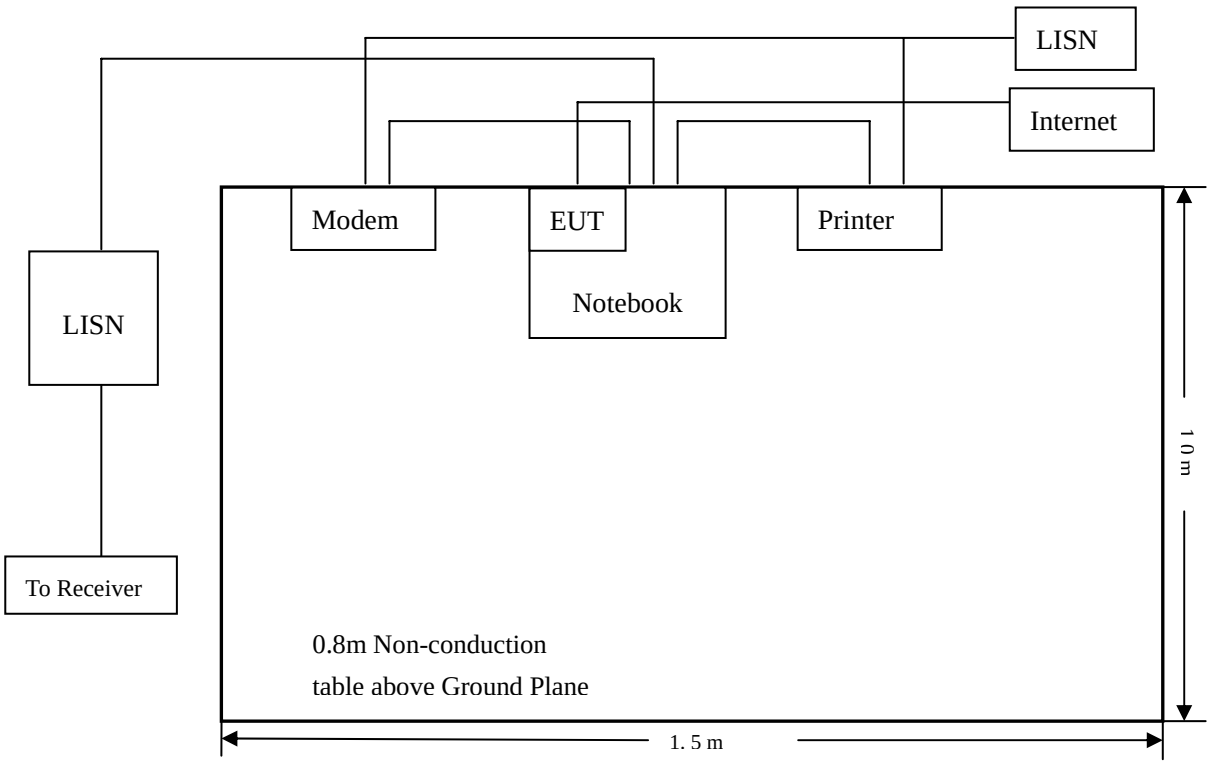
3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2009-07-08	2010-07-07
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2009-07-08	2010-07-07
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2009-07-08	2010-07-07
AMN	Rohde & Schwarz	ESH3-Z5	828304/014	2009-07-08	2010-07-07

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:	52%
ATM Pressure:	1012 mbar

3.6 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency ..... 150 kHz
Stop Frequency..... 30 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth ..... 9 kHz
Quasi-Peak Adapter Mode ..... Normal

3.7 Summary of Test Results/Plots

According to the data in section 3.8, the EUT complied with the FCC 15B Conducted margin for a Class B device, with the *worst* margin reading of:

-5.14 dBμV at 0.210 MHz in the **Neutral** mode**, Ave** detector, **0.15-30MHz**

3.8 Conducted Emissions Test Data

LINE CONDUCTED EMISSIONS				FCC 15 CLASS B	
Frequency	Amplitude	Detector	Phase	Limit	Margin
MHz	dBμV	QP/Ave/Pk	Line/Neutral	dBμV	dB
0.210	48.06	Ave	Neutral	53.20	-5.14
1.990	39.59	Ave	Line	45.99	-6.40
0.338	42.21	Ave	Line	49.25	-7.04
1.990	38.53	Ave	Neutral	45.99	-7.46
2.654	37.68	Ave	Neutral	45.99	-8.31
0.210	54.71	Pk	Neutral	63.20	-8.49
2.654	37.15	Ave	Line	45.99	-8.84
0.434	37.09	Ave	Neutral	47.17	-10.08
0.438	36.45	Ave	Line	47.09	-10.64
11.990	39.20	Ave	Line	49.99	-10.79
11.990	38.28	Ave	Neutral	49.99	-11.71
0.434	44.24	Pk	Neutral	57.27	-12.93
1.990	43.01	Pk	Line	55.99	-12.98
0.382	45.19	Pk	Line	58.22	-13.03
0.310	46.84	Pk	Line	59.96	-13.12
4.202	41.44	Pk	Neutral	55.99	-14.55

Plot of Conducted Emissions Test Data

Conducted Disturbance

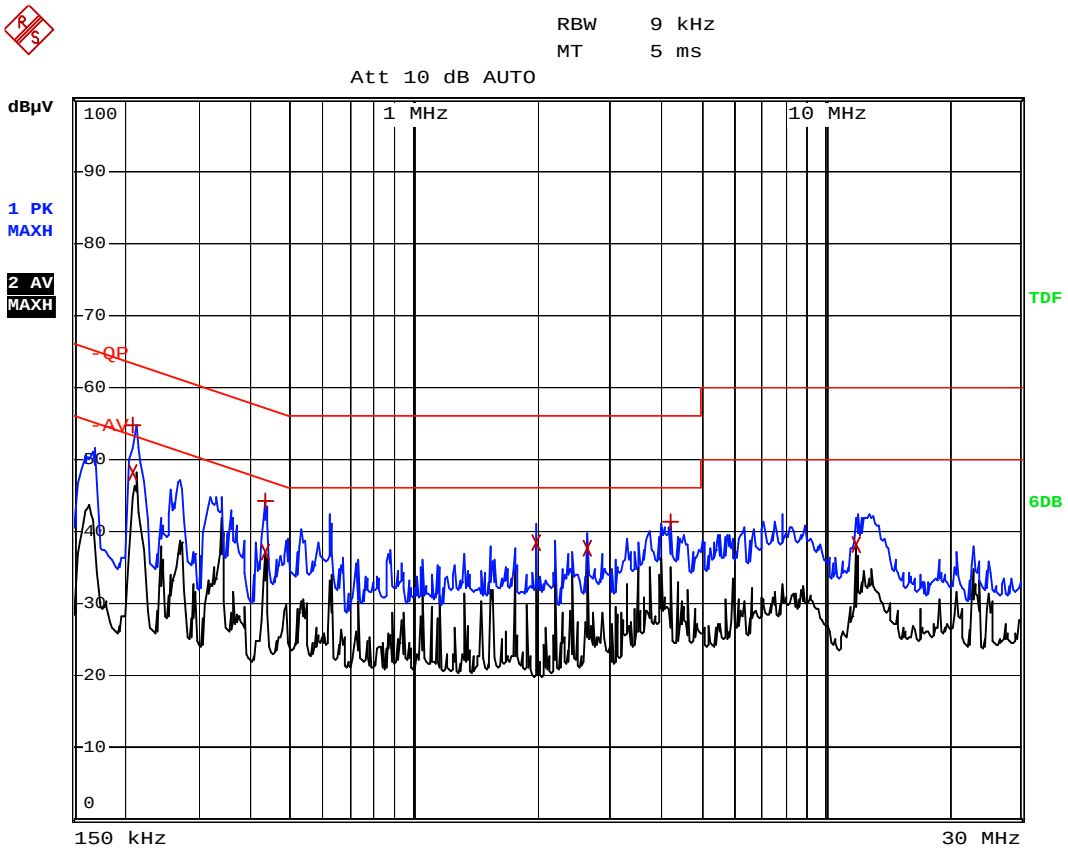
EUT: 10/100M Fast Ethernet PCI Network Card

M/N: 509510

Operating Condition: Running with Program

Test Specification: N

Comment: AC 120V/60Hz



Plot of Conducted Emissions Test Data

Conducted Disturbance

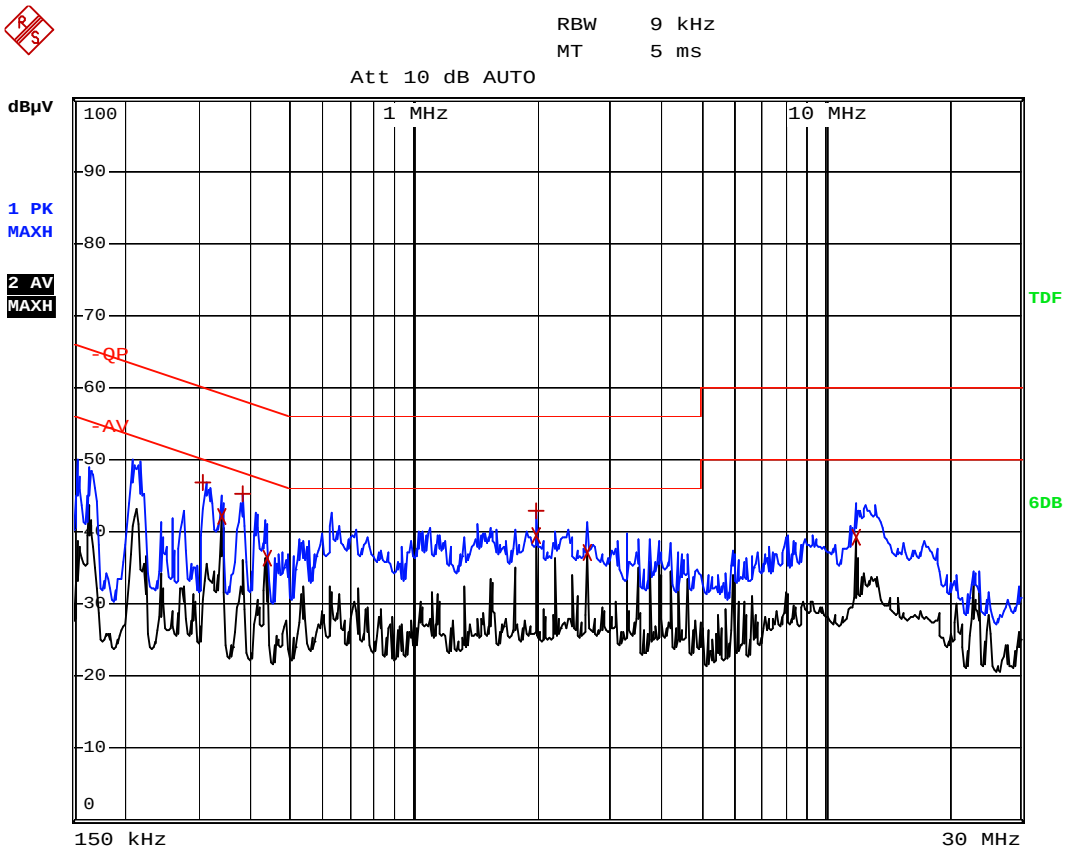
EUT: 10/100M Fast Ethernet PCI Network Card

M/N: 509510

Operating Condition: Running with Program

Test Specification: L

Comment: AC 120V/60Hz



4. §15.109(a)- RADIATED EMISSION

4.1 Measurement Uncertainty

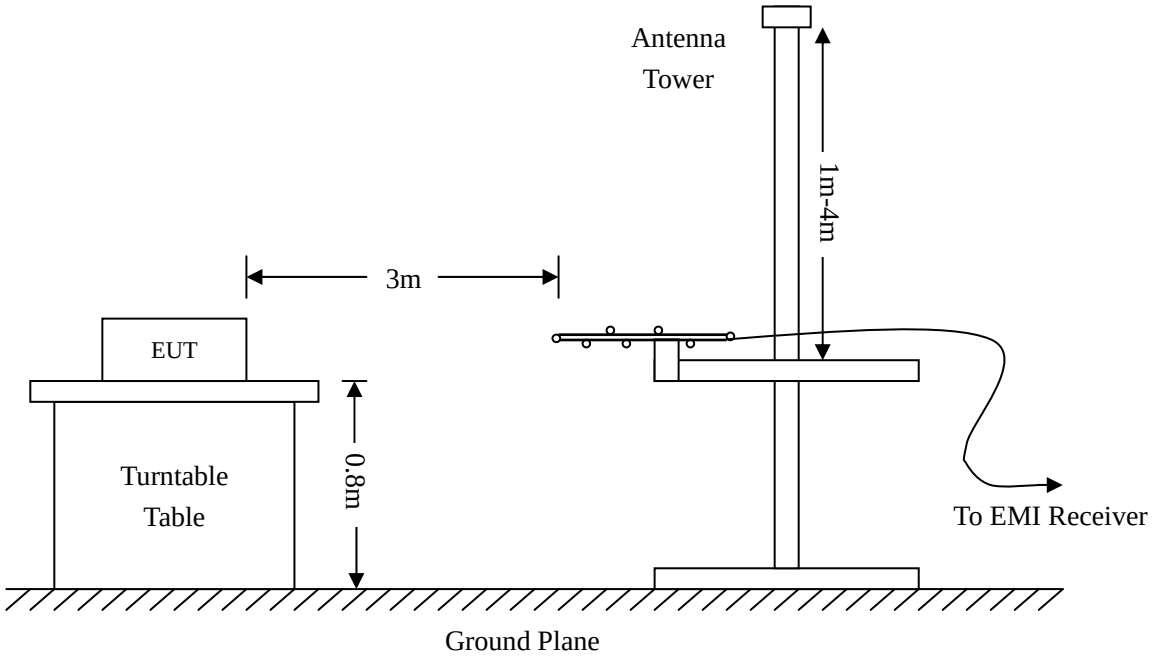
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 3.0 dB.

4.2 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	ROHDE&SCHWARZ	FSEA20	DE25181	2009-07-08	2010-07-07
Positioning Controller	C&C	CC-C-1F	N/A	2009-07-08	2010-07-07
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2009-07-08	2010-07-07
Horn Antenna	SCHWARZBECK	BBHX 9120	9120-426	2009-07-08	2010-07-07
RF Switch	EM	EMSW18	SW060023	2009-07-08	2010-07-07
Amplifier	Agilent	8447F	3113A06717	2009-07-08	2010-07-07
Coaxial Cable	SCHWARZBECK	AK9513	9513-10	2009-07-08	2010-07-07
EMI Test Receiver	ROHDE&SCHWARZ	ESPI	25498514	2009-07-08	2010-07-07

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 15.205 and 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 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency ..... 30 MHz
Stop Frequency..... 1000 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth ..... 120 kHz
Quasi-Peak Adapter Mode ..... Normal

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

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

4.6 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	49 %
ATM Pressure:	1011 mbar

4.7 Summary of Test Results/Plots

According to the data, the EUT complied with the FCC 15B Class B standards, and had the worst margin of:

-1.47 dBμV at **945.3336 MHz** in the **Horizontal** polarization, **30 MHz to 1 GHz, 3Meters**

Plot of Radiation Emissions Test Data

Radiated Disturbance

EUT: 10/100M Fast Ethernet PCI Network Card

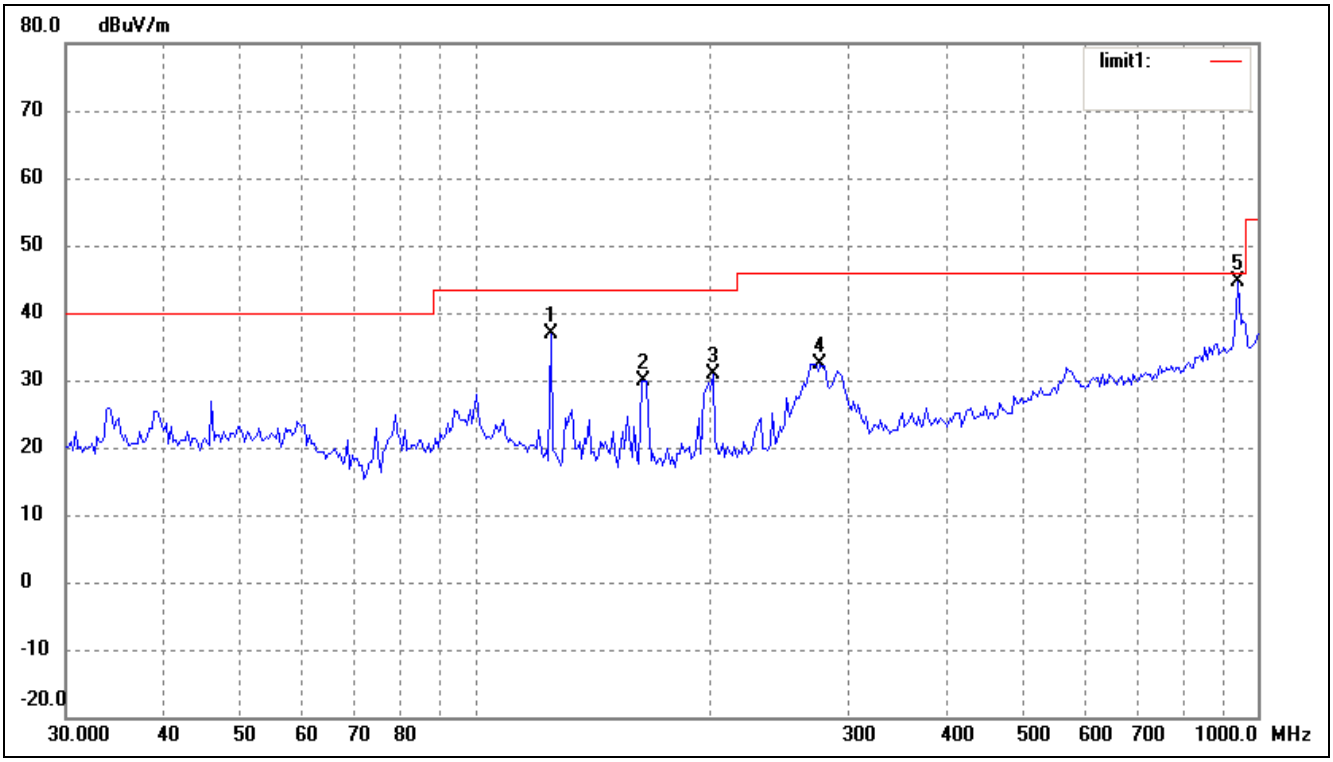
M/N: 509510

Operating Condition: Running with Program

Test Specification: Horizontal & Vertical

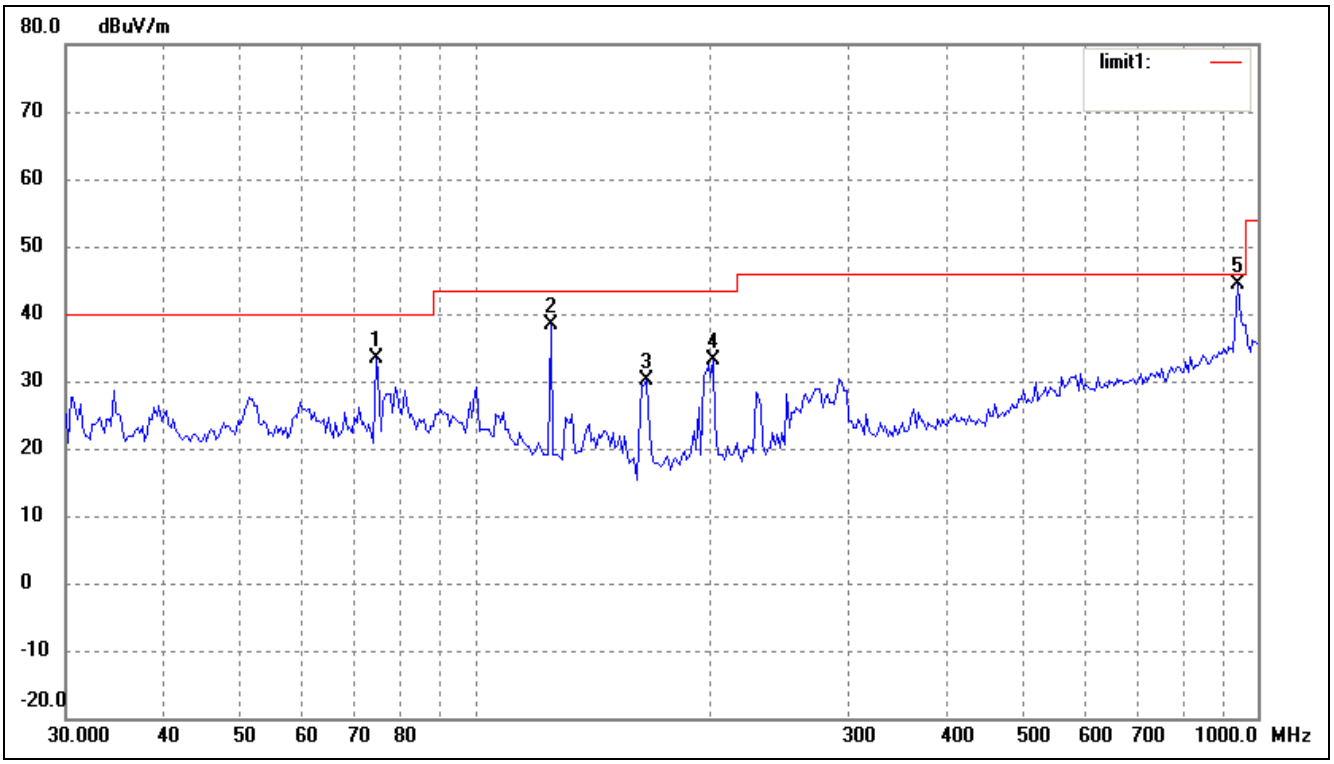
Comment: AC 120V/60Hz

Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	124.9249	32.27	4.57	36.84	43.50	-6.66	153	200	peak
2	164.3129	26.09	3.88	29.97	43.50	-13.53	175	100	peak
3	201.4539	25.11	5.73	30.84	43.50	-12.66	156	100	peak
4	276.3818	24.09	8.36	32.45	46.00	-13.55	102	100	peak
5	945.3336	24.96	19.57	44.53	46.00	-1.47	33	100	QP

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	74.7934	30.96	2.44	33.40	40.00	-6.60	253	200	peak
2	124.9249	33.73	4.57	38.30	43.50	-5.20	61	100	QP
3	165.4716	26.15	3.92	30.07	43.50	-13.43	57	100	peak
4	201.4539	27.36	5.73	33.09	43.50	-10.41	187	100	peak
5	945.3336	24.71	19.57	44.28	46.00	-1.72	150	200	QP

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