FCC PART 15B

MEASUREMENT AND TEST REPORT

FOR

CANDO(HONGKONG) TECHNOLOGY CO., LTD.

5F, Chuangye Industrial Park, Shangyousong Longhua, Bao An, Shenzhen

China

FCC ID: YXN800668

Report Concerns: Original Report	**Equipment Type:** Lcd Touch Screen Monitor
Model:	CA1543LB
Report No.:	STR10108226I
Test Date:	2010-11-01 to 2010-11-09
Issue Date:	2010-11-09
Tested By:	Seven Song / Engineer
Reviewed By:	Lahm Peng / EMC Manager
Approved & Authorized By:	Jandy so / PSQ Manager

Prepared By:

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TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	CANDO(HONGKONG)TECHNOLOGY CO., LTD.
Address of applicant:	5F, Chuangye Industrial Park, Shangyousong Longhua, Bao An, Shenzhen China
Manufacturer:	CANDO(HONGKONG)TECHNOLOGY CO., LTD.
Address of manufacturer:	5F, Chuangye Industrial Park, Shangyousong Longhua, Bao An, Shenzhen China

General Description of E.U.T

Items	Description
EUT Description:	Lcd Touch Screen Monitor
Trade Name:	CANDO
Model No.:	CA1543LB
Add Models:	CA080TA, CA070TA, CA1043TA, CA1043TB, CA1043TC, CA1243TA, CA1243TB, CA1243TC, CA1543LA, CA1743LA, CA1743LB, CA1943LA, CA1906L, CA2206L
Rated Voltage:	AC 120V/60Hz Adapter DC 12V
Rated Current:	3.3/4A
Packaging Size:	34.0X35.0X22.0 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. Test is carried out with CA1543LB since the other models listed in this report are different appearance without circuit and electronic construction changed, declared by the manufacture.

1.2 Test Standards

The following report is prepared on behalf of the CANDO(HONGKONG)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 15.107, 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.

LCD display setup information
** Set display at the high, middle, low resolution mode*
** Set the contrast control to maximum*
** Set the brightness control to maximum or at raster extinction if raster extinction occurs at less than maximum brightness.*

1.7 Accessories Equipment List and Details

Description	Manufacturer	Model	Serial Number
Adapter	DAJIANG	DJ-U48S-12	1204050100925
PC	DELL	DCSM1F	JX5HW2X

1.8 EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.0	Shielded	With Core
VGA Cable	1.2	Unshielded	With 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 ± 2.88 dB.

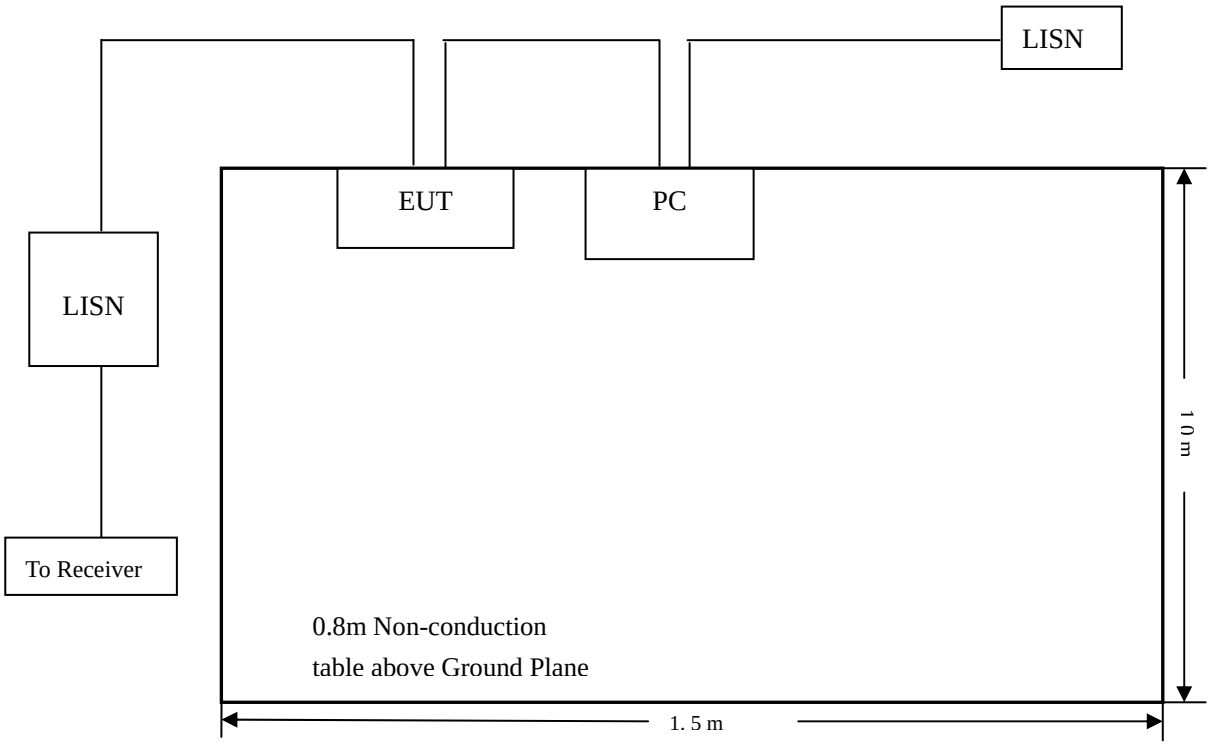
3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2010-08-12	2011-08-11
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2010-08-12	2011-08-11
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2010-08-12	2011-08-11

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:

-2.2 dBμV at 0.170 MHz in the **Line** mode**, QP** 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
0.170	62.78	QP	Line	64.96	-2.2
0.170	62.29	QP	Neutral	64.96	-2.7
0.194	60.88	QP	Neutral	63.86	-3.0
0.178	61.33	QP	Neutral	64.58	-3.2
0.194	60.19	QP	Line	63.86	-3.7
0.178	60.82	QP	Line	64.58	-3.8
0.190	48.77	Ave	Neutral	54.04	-5.3
0.182	48.50	Ave	Line	54.39	-5.9

Plot of Conducted Emissions Test Data

Conducted Disturbance

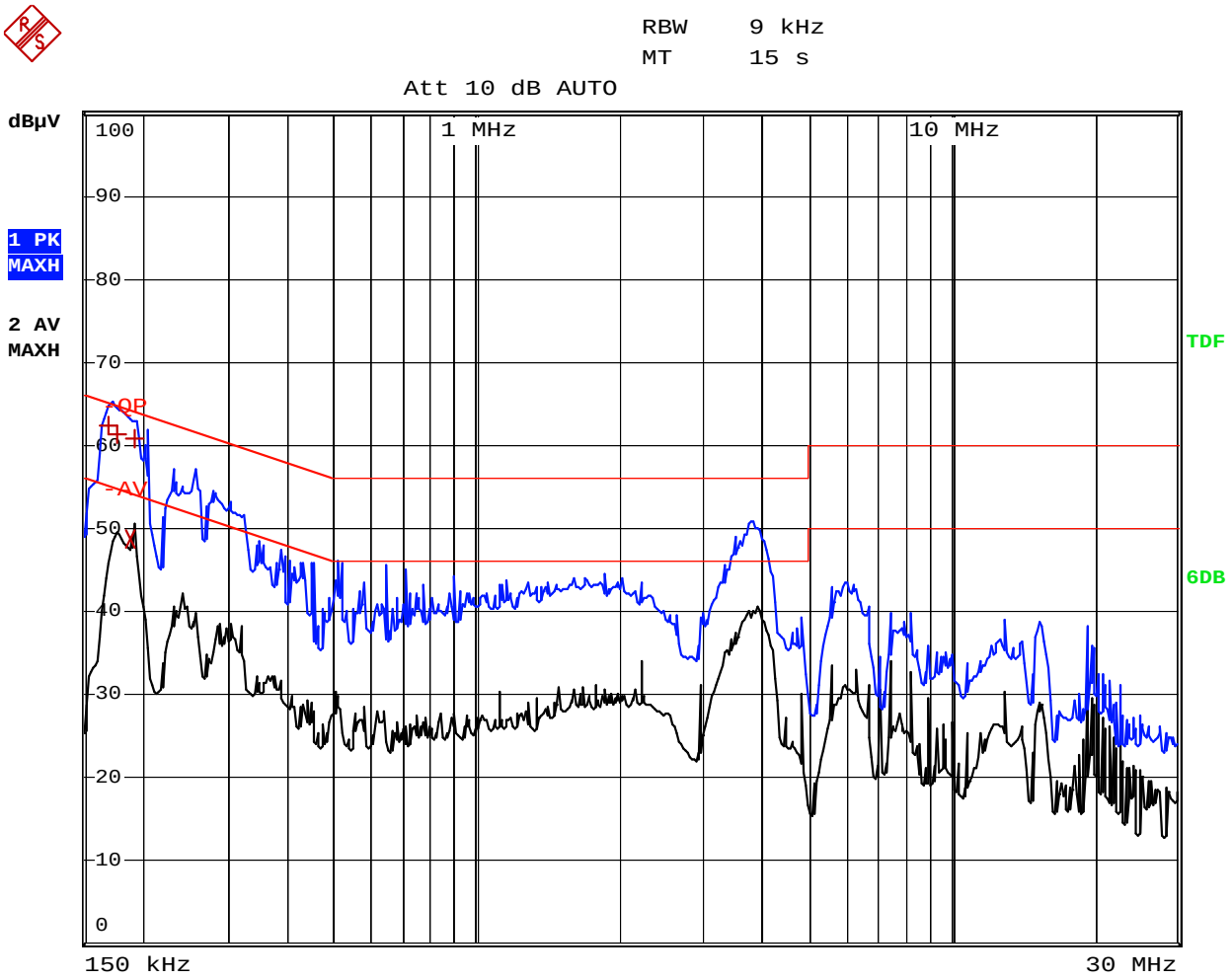
EUT: Lcd Touch Screen Monitor

M/N: CA1543LB

Operating Condition: Running "H"

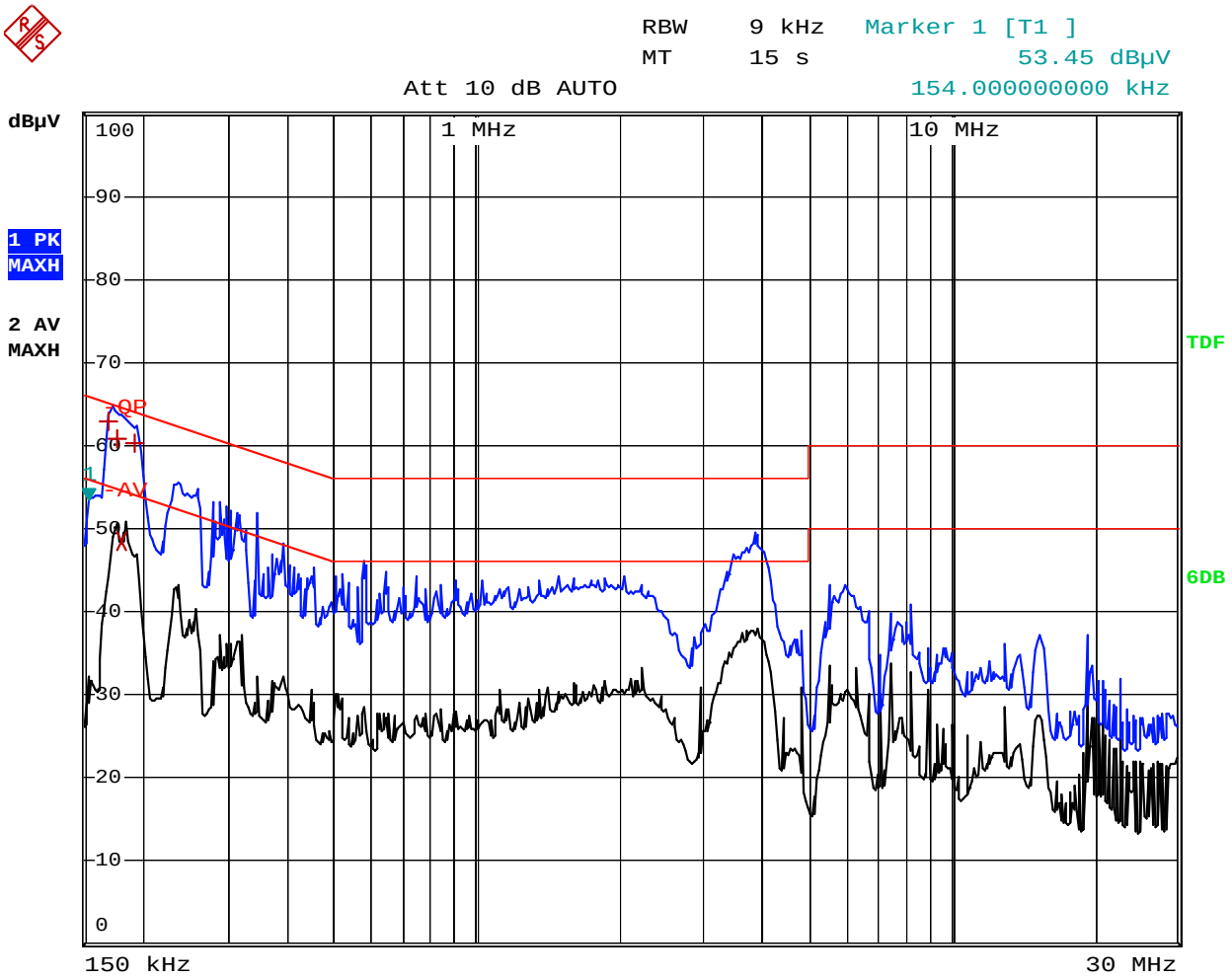
Test Specification: N

Comment: AC 120V/60Hz Adapter DC 12V



Plot of Conducted Emissions Test Data

Conducted Disturbance
EUT: Lcd Touch Screen Monitor
M/N: CA1543LB
Operating Condition: Running "H"
Test Specification: L
Comment: AC 120V/60Hz Adapter DC 12V



4. §15.109(a)- RADIATED EMISSION

4.1 Measurement Uncertainty

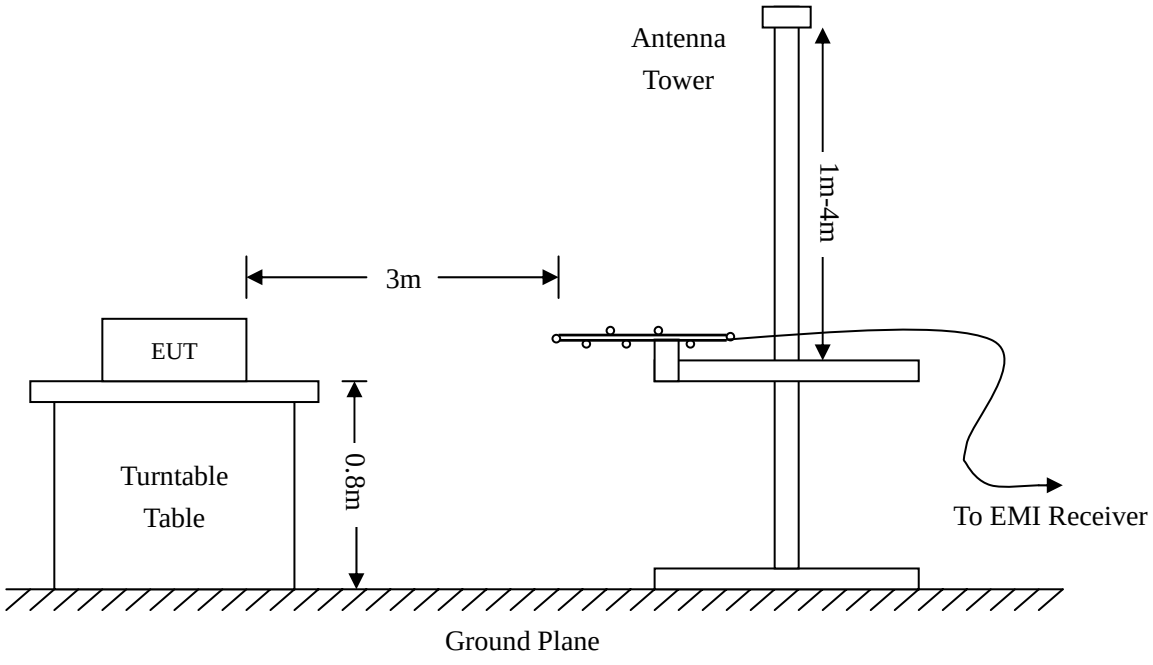
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2010-04-16	2011-04-15
EMI Test Receiver	R&S	ESVB	825471/005	2010-08-12	2011-08-11
Positioning Controller	C&C	CC-C-1F	N/A	2010-08-12	2011-08-11
RF Switch	EM	EMSW18	SW060023	2010-08-12	2011-08-11
Pre-amplifier	Agilent	8447F	3113A06717	2010-08-12	2011-08-11
Pre-amplifier	Compliance Direction	PAP-0118	24002	2010-08-12	2011-08-11
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2010-07-21	2011-07-20
Horn Antenna	ETS	3117	00086197	2010-07-21	2011-07-20

4.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2009 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 radiated emission test, the test receiver was set with the following configurations:

Start Frequency ..... 30 MHz
Stop Frequency..... 1000 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 100 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:	54%
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:

-3.73 dBμV at **63.1857MHz** in the **Vertical** polarization, **30 MHz to 1 GHz, 3Meters**

Note: this EUT was tested in all resolution display mode and the worst case data was reported.

Plot of Radiation Emissions Test Data

Radiated Disturbance

EUT: Lcd Touch Screen Monitor

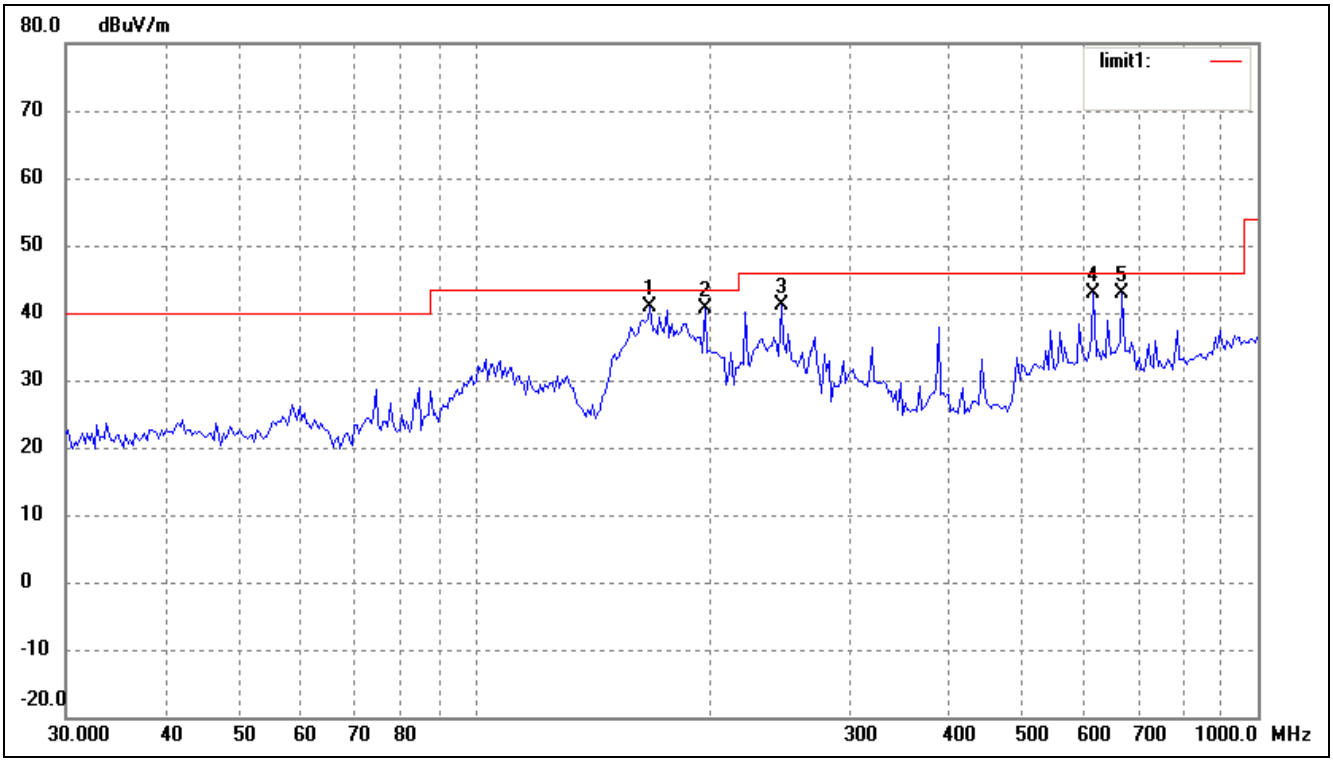
M/N: CA1543LB

Operating Condition: Running "H"

Test Specification: Horizontal & Vertical

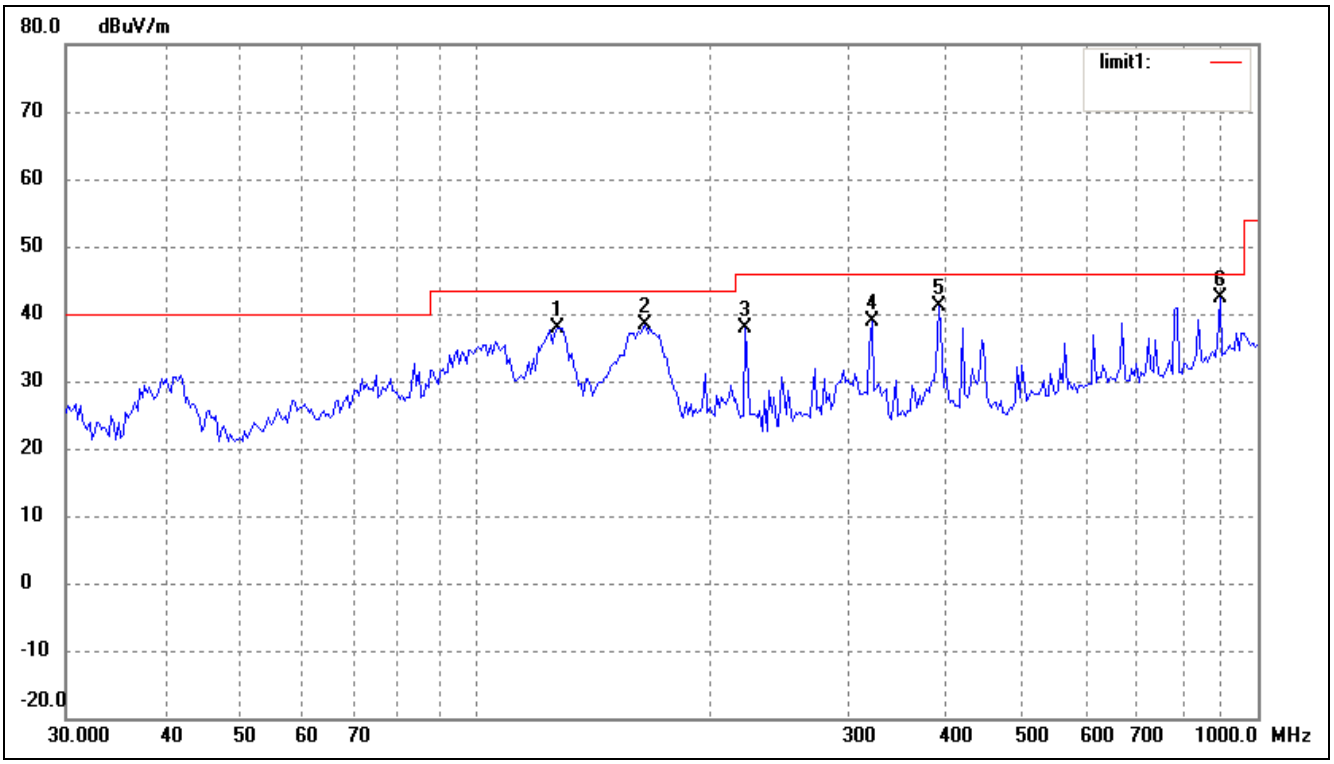
Comment: AC 120V/60Hz Adapter DC 12V

Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	167.2367	36.94	3.97	40.91	43.50	-2.59	136	100	QP
2	196.5098	34.88	5.67	40.55	43.50	-2.95	294	200	QP
3	245.9508	33.64	7.58	41.22	46.00	-4.78	240	100	QP
4	616.3718	27.76	15.13	42.89	46.00	-3.11	183	110	QP
5	670.4892	27.38	15.50	42.88	46.00	-3.12	100	100	QP

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	127.2176	33.71	4.24	37.95	43.50	-5.55	294	100	peak
2	164.9075	34.41	3.90	38.31	43.50	-5.19	267	110	peak
3	221.3921	31.59	6.41	38.00	46.00	-8.00	155	100	peak
4	321.0608	30.11	8.85	38.96	46.00	-7.04	310	100	peak
5	390.7226	31.17	10.01	41.18	46.00	-4.82	200	100	peak
6	893.8567	23.71	18.69	42.40	46.00	-3.60	92	100	peak

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