

FCC PART 15.249 EMI MEASUREMENT AND TEST REPORT

For

Shenzhen Lian Yi Da Science Co., Ltd.

#2009A, Saige Building, HuaQiang Road North Shenzhen, China

FCC ID: RAWLYD802CWAS

November 21, 2005

This Report Concerns: ☒ Original Report	Equipment Type: Transmitter, Wireless Camera
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Report No.: RSZ05111401	
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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The Shenzhen Lian Yi Da Science Co., Ltd. 's product, model number: 802CWAS or the "EUT" as referred to in this report is a Transmitter of Wireless Camera. The EUT is measured approximately 5.5cm L x 5.8cm W x 13.5cm H. rated input voltage: DC 12V.

Adaptor: model: XP15-1205D, input: 100~240V-50/60Hz, output: 12 V--500 mA.

** The test data gathered are from production sample, serial number: LYD05111021 provided by the manufacturer, we received EUT on 2005-11-14.*

Objective

This Type approval report is prepared on behalf of *Shenzhen Lian Yi Da Science Co., Ltd.* in accordance with Part 2, Subpart J, and Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203,15.205,15.207,15.209 and 15.249 rules.

The objective is to determine compliance with FCC rules, sec 15.207, 15.209 and sec 15.249.

Related Submittal(s)/Grant(s)

No Related Submittals.

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.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Lab Corp. (ShenZhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Lab Corp. (ShenZhen) to collect radiated and conducted emission measurement data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, Guangdong 518038, P.R.China.

Test site at Bay Area Compliance Lab Corp. (ShenZhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Lab Corp. (ShenZhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0). The current scope of accreditations can be found at <http://ts.nist.gov/ts/htdocs/210/214/scopes/2007070.htm>

External I/O Cable

Cable Description	Length (M)	From/Port	To
Unshielded Detachable AV & DC Power Cable	0.3	EUT	Audio, Video, DC Power

SYSTEM TEST CONFIGURATION

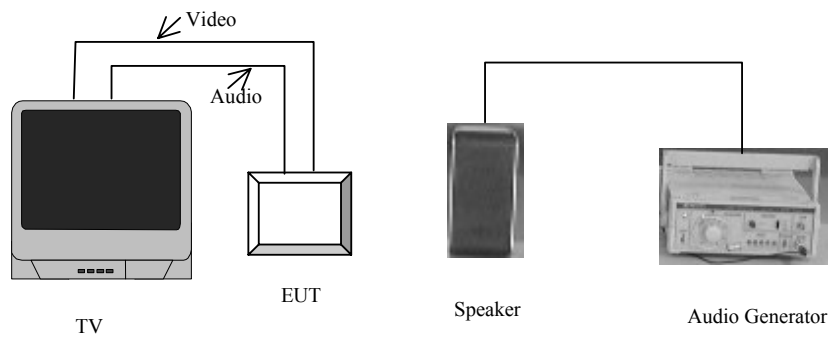
Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

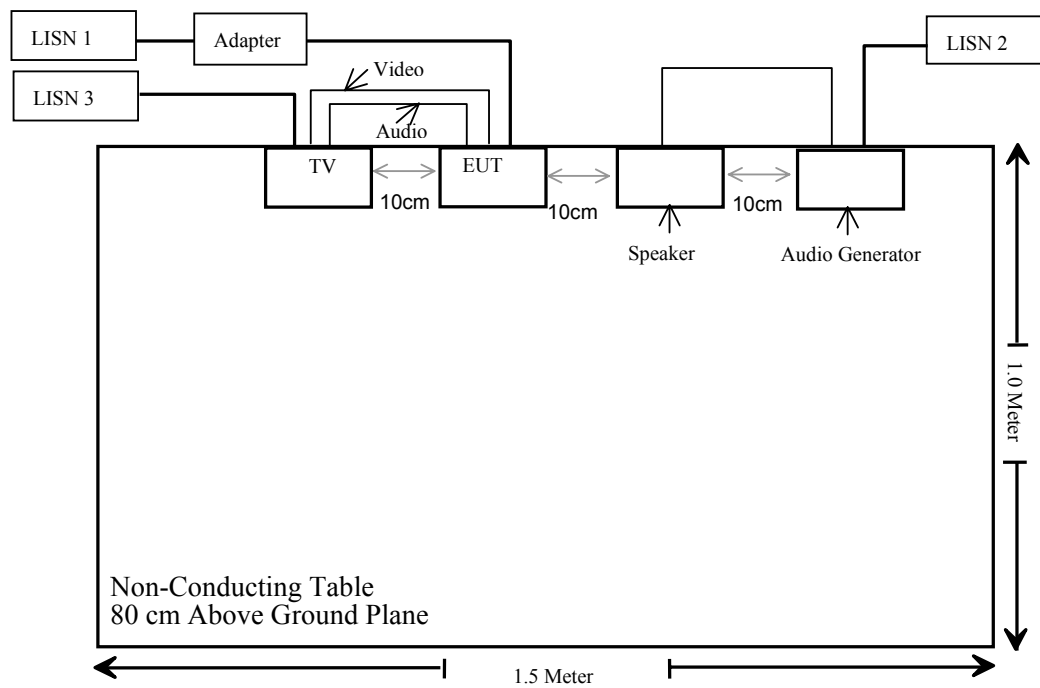
Equipment Modifications

Bay Area Compliance Lab Corp. (ShenZhen) has not done any modification on the EUT.

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.203	Antenna Requirement	Compliant
§15.205	Restricted Bands of Operation	Compliant
§15.207(a)	Conduction Emission	Compliant*
§15.209(a), §15.249(a)	Radiated Emission	Compliant*
§15.249(d)	Out of band emission	Compliant

* Within measurement uncertainty

§15.203 - ANTENNA APPLICATION

Standard Applicable

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

This product has a permanent antenna, fulfill the requirement of this section.

Test Result: Pass

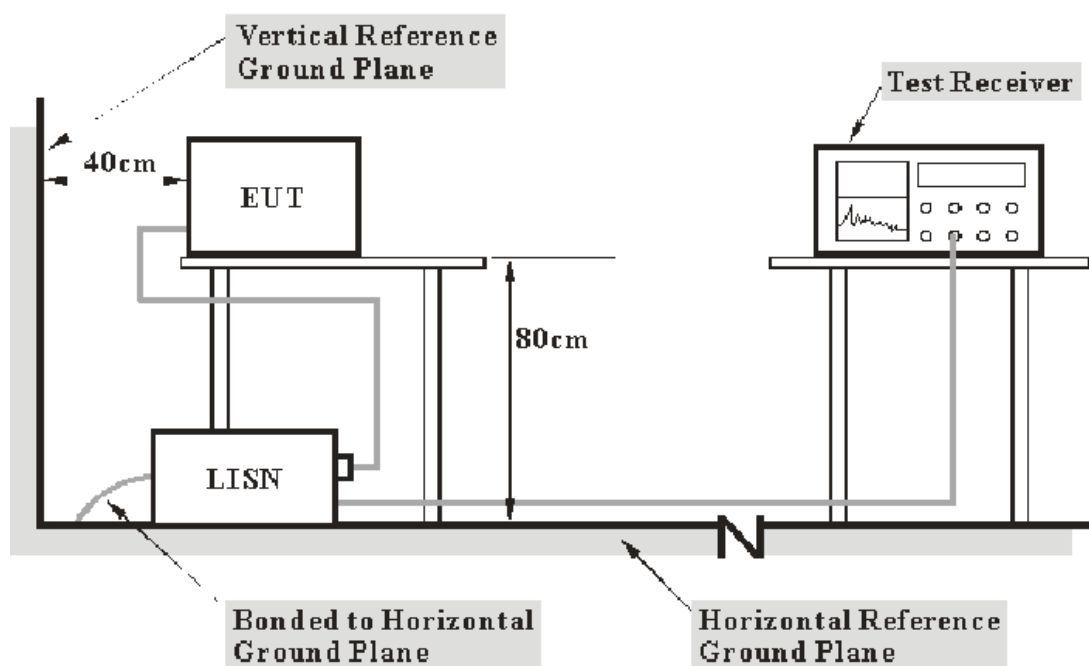
§15.207 - CONDUCTED EMISSION

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Lab Corp. (ShenZhen) is ± 2.4 dB.

EUT Setup



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15 .207 limits.

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.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

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

<i>Frequency Range</i>	<i>IFBW</i>
150 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Com-Power	L.I.S.N.	LI-200	12005	N/A	N/A
Com-Power	L.I.S.N.	LI-200	12008	N/A	N/A
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245/006	2005-1-26	2006-1-26
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2005-2-28	2006-2-28

* Com-Power's LISN were used as the supporting equipment.

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

During the conducted emission test, the adapter power cord was connected to the outlet of the first LISN, the audio generator power cord was connected to the outlet of the second LISN and the TV power cord was connected to the outlet of the third LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

From the audio generator connect to the speaker, the distance between the EUT and the microphone was 10 cm.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, with the worst margin reading of:

-1.64 dB at 0.355 MHz in the Line conductor mode.

Test Data**Environmental Conditions**

Temperature:	25 ° C
Relative Humidity:	55%
ATM Pressure:	1002mbar

The testing was performed by Lisa Zhu on 2005-11-16.

Test mode: Transmitting

LINE CONDUCTED EMISSIONS				FCC PART 15 .207	
Frequency MHz	Amplitude dBμV	Detector QP/AV	Phase Line/Neutral	Limit dBμV	Margin dB
0.355	47.20	AV	Line	48.84	-1.64*
0.295	48.40	AV	Line	50.38	-1.98*
0.355	56.50	QP	Line	58.84	-2.34*
0.295	57.50	QP	Line	60.38	-2.88
0.470	42.50	AV	Line	46.51	-4.01
0.355	54.50	QP	Neutral	58.84	-4.34
0.470	51.40	QP	Line	56.51	-5.11
0.355	40.80	AV	Neutral	46.00	-5.20
0.295	54.20	QP	Neutral	60.38	-6.18
2.415	49.10	QP	Line	56.00	-6.90
1.120	38.90	AV	Line	46.00	-7.10
1.755	48.80	QP	Line	56.00	-7.20
1.120	49.10	QP	Line	56.51	-7.41
2.415	38.30	AV	Line	46.00	-7.70
1.755	36.90	AV	Line	46.00	-9.10
0.295	41.20	AV	Neutral	50.38	-9.18
0.530	46.30	QP	Neutral	56.00	-9.70
0.470	46.20	QP	Neutral	56.51	-10.31
1.180	45.60	QP	Neutral	56.00	-10.40
0.650	45.40	QP	Neutral	56.00	-10.60
0.470	35.20	AV	Neutral	46.51	-11.31
0.530	33.20	AV	Neutral	46.00	-12.80
1.180	32.00	AV	Neutral	46.00	-14.00
0.650	25.30	AV	Neutral	46.00	-20.70

* Within measurement uncertainty

Plot(s) of Test Data

Plot(s) of Test Data is presented hereinafter as reference.

Conducted Emission Test FCC Part 15

EUT: Wireless Camera M/N: 802CWAS
Manuf: LIAN YI DA
Op Cond: Transmitting
Operator: Lisa
Test Spec: AC 120V/60Hz N
Comment: Temp:25
Humi:55%
Date: 16. Nov 05 13:13

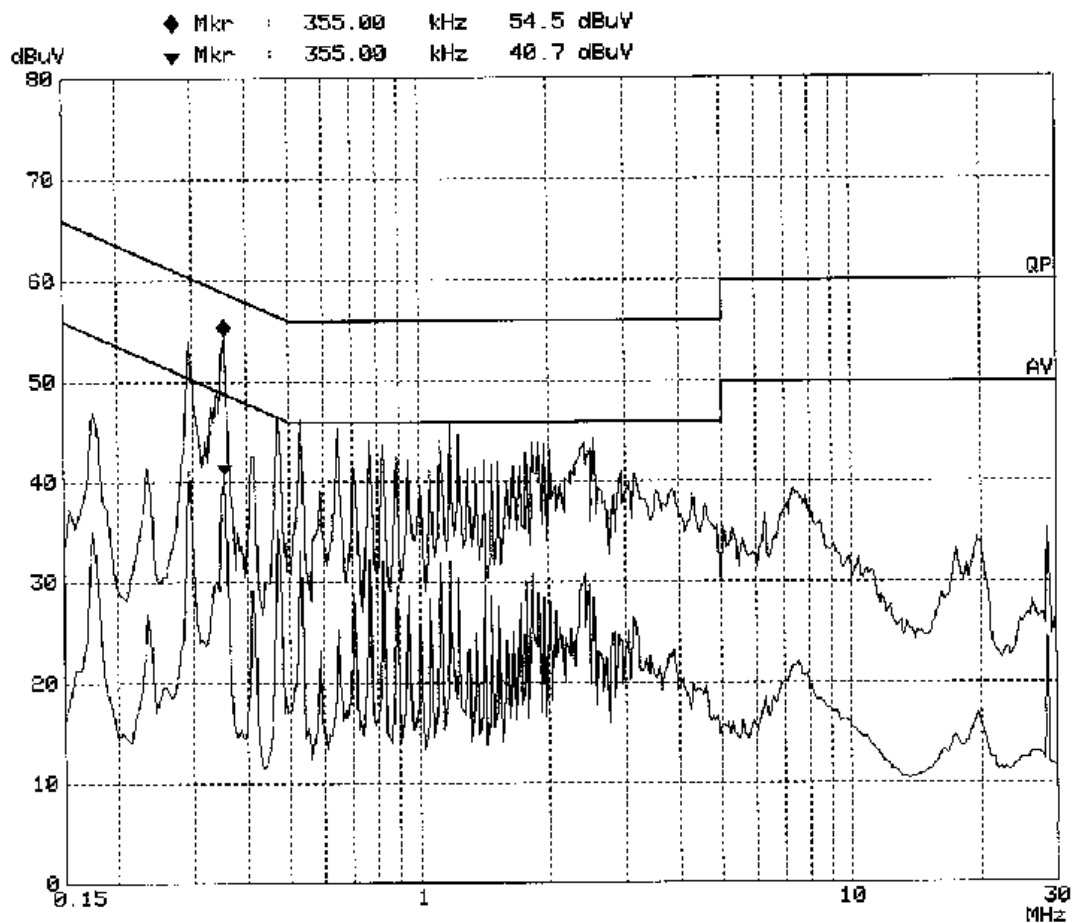
Scan Settings (1 Range)

----- Frequencies -----			----- Receiver Settings -----				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamplifier
150k	30M	5k	9k	PK+AV	20ms	AUTO LN	OFF

Transducer No.	Start	Stop	Name
1	9k	30M	FACTOR

Final Measurement: x QP / + AV

Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB



Conducted Emission Test FCC Part 15

EUT: Wireless Camera M/N: 802CWAS
Manuf: LIAN YI DA
Op Cond: Transmitting
Operator: Lisa
Test Spec: AC 120V/60Hz L
Comment: Temp:25
Humi:55%
Date: 16. Nov 05 13:28

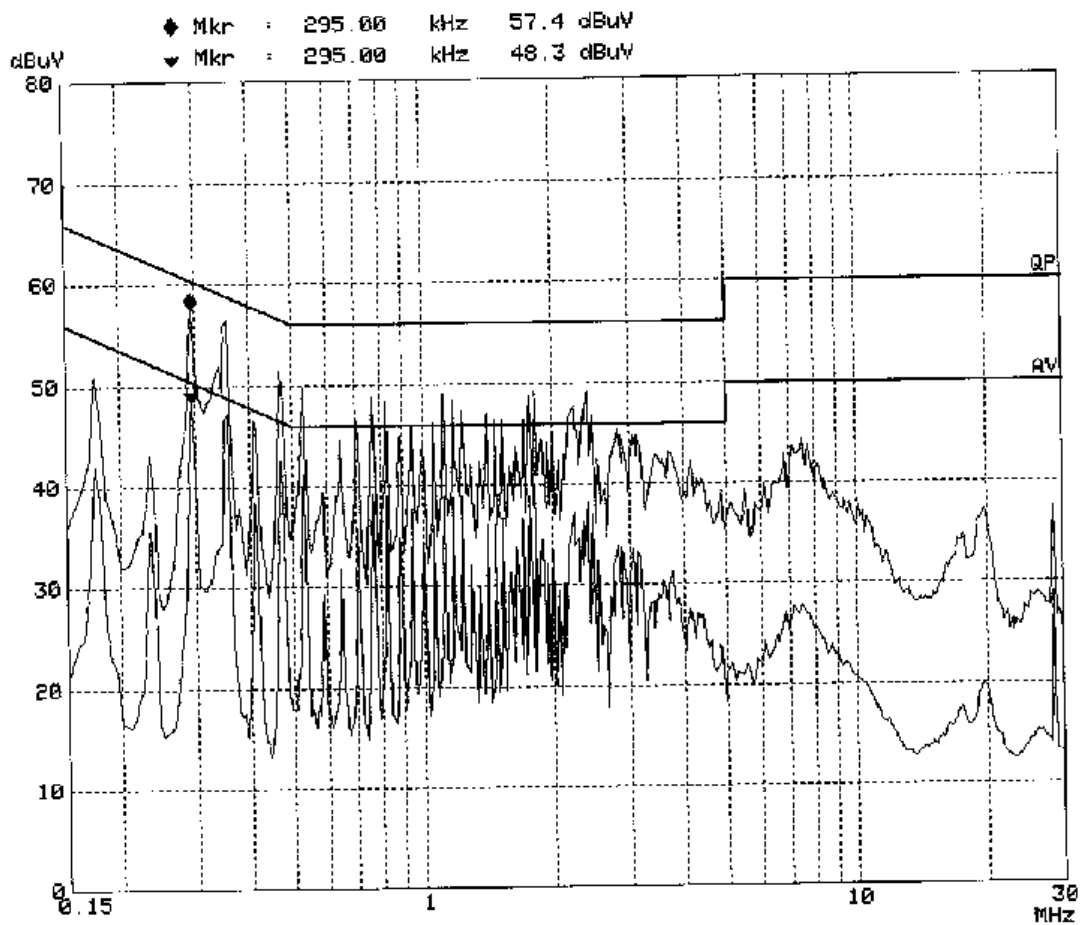
Scan Settings (1 Range)

----- Frequencies -----			----- Receiver Settings -----			
Start	Stop	Step	IF BW	Detector	M-Time	Atten Preamp
150k	30M	5k	9k	PK+AV	20ms AUTO	LN OFF

Transducer No.	Start	Stop	Name
1	9k	30M	FACTOR

Final Measurement: x QP / + AV

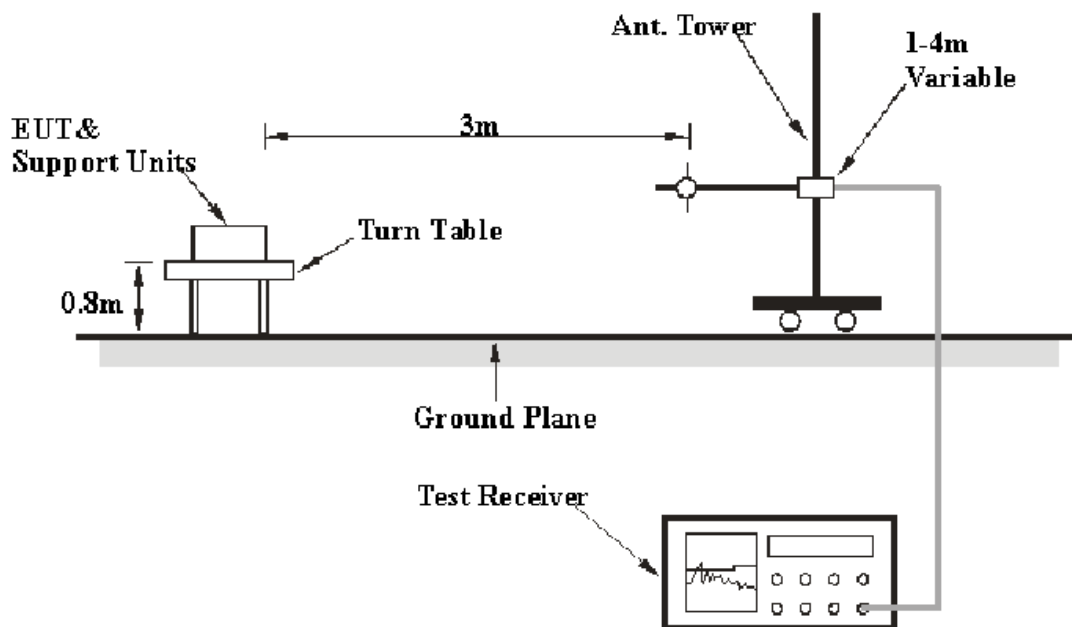
Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB



§15.205 §15.209(a) §15.249(a) - RADIATED EMISSION**Measurement Uncertainty**

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Lab Corp. (ShenZhen) is ± 4.0 dB.

EUT Setup

The radiated emission tests were performed in the 3-meter Chamber, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.209 and FCC 15.249 limits.

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.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 25000 MHz.

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

<i>Frequency Range</i>	<i>RBW</i>	<i>Video B/W</i>
30 – 1000 MHz	100 kHz	300 kHz
1000 MHz – 25000 MHz	1MHz	3 MHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	8447D	2944A09795	2005-8-17	2006-8-17
Rohde & Schwarz	EMI Test Receiver	ESCI	100028	2005-8-17	2006-8-17
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2005-4-28	2006-4-28
HP	Spectrum analyzer	8593A	2919A00242	2005-2-28	2006-2-28
HP	Preamplifier	8449B	3008A00277	2005-8-17	2006-8-17
SUNOL SCIENCES	Horn Antenna	DRH-118	A052604	2005-7-20	2006-7-20

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

For the radiated emissions test, the adapter power cords were connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Quasi-peak detection mode.

From the audio generator connect to the speaker, the distance between the EUT and the microphone was 10 cm.

Corrected Amplitude & Margin Calculation

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

$$\text{Corr. Ampl.} = \text{Meter Reading} + \text{Antenna Loss} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Standard Limit}$$

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.249, with the worst margin reading of:

30-1000MHz (Low channel): **-7.6 dB** at **30.01 MHz** in the **Vertical** polarization.
 30-1000MHz (Middle channel): **-2.5 dB** at **30.85 MHz** in the **Vertical** polarization.
 30-1000MHz (High channel): **-2.2 dB** at **30.21 MHz** in the **Horizontal** polarization.
 1-25 GHz (Low channel): **-2.4 dB** at **6978.86 MHz** in the **Vertical** polarization.
 1-25 GHz (Middle channel): **-2.1 dB** at **4864.00 MHz** in the **Vertical** polarization.
 1-25 GHz (High channel): **-1.8 dB** at **6978.60 MHz** in the **Horizontal** polarization.

Test Data

Environmental Conditions

Temperature:	27 ° C
Relative Humidity:	55%
ATM Pressure:	1000mbar

The testing was performed by Louise Lu on 2005-10-27.

Test mode: Transmitting

Frequency	Meter Reading	Detector	Direction	Height	Polar	Antenna Loss	Cable loss	Amplifier Gain	Corr. Ampl.	FCC Part 15.249		
MHz	dBuV/m	PK/QP/AV	Degree	Meter	H / V	dB	dB	dB	dBuV/m	Limit dBuV/m	Margin dB	Commend
30-1000MHz (Low Channel)												
30.01	36.5	QP	45	1.2	V	24.1	0.6	28.8	32.4	40.0	-7.6	Spurious
30.85	35.0	QP	180	1.0	V	24.1	0.6	28.8	30.9	40.0	-9.1	Spurious
57.19	49.3	PK	60	1.0	V	7.9	0.7	28.7	29.2	40.0	-10.8	Spurious
66.73	49.4	PK	120	1.0	V	8.5	0.8	28.7	30.0	40.0	-10.0	Spurious
143.32	17.1	PK	60	1.0	V	13.8	1.1	28.5	3.5	43.5	-40.0	Spurious
171.99	42.3	PK	90	1.2	V	12.3	1.2	28.2	27.6	46.0	-18.4	Spurious
30.85	36.6	PK	45	1.0	H	24.1	0.6	28.8	32.5	40.0	-7.5	Spurious
66.73	38.5	PK	180	1.0	H	8.5	0.8	28.7	19.1	40.0	-20.9	Spurious
143.32	45.9	PK	270	1.2	H	13.8	1.1	28.5	32.3	43.5	-11.2	Spurious
171.99	37.8	PK	270	1.0	H	12.3	1.2	28.2	23.1	43.5	-20.4	Spurious
200.69	39.7	PK	45	1.2	H	12.6	1.3	28	25.6	43.5	-17.9	Spurious
305.67	37.5	PK	360	1.2	H	13.9	1.6	27.7	25.3	46.0	-20.7	Spurious

Frequency	Meter Reading	Detector	Direction	Height	Polar	Antenna Loss	Cable loss	Amplifer Gain	Corr. Ampl.	FCC Part 15.249		
MHz	dBuV/m	PK/QP/AV	Degree	Meter	H / V	dB	dB	dB	dBuV/m	Limit dBuV/m	Margin dB	Commend
30-1000MHz (Middle Channel)												
30.85	41.6	PK	180	1.0	V	24.1	0.6	28.8	37.5	40.0	-2.5*	Spurious
30.21	39.9	QP	45	1.2	V	24.1	0.6	28.8	35.8	40.0	-4.2	Spurious
30.01	38.8	PK	45	1.0	H	24.1	0.6	28.8	34.7	40.0	-5.3	Spurious
30.85	36.8	PK	180	1.0	H	24.1	0.6	28.8	32.7	40.0	-7.3	Spurious
38.07	40.2	PK	60	1.0	V	17.7	0.6	28.8	29.7	40.0	-10.3	Spurious
893.85	35.6	PK	90	1.2	V	22.6	3.5	28.1	33.6	46.0	-12.4	Spurious
66.73	43.6	PK	120	1.0	V	8.5	0.8	28.7	24.2	40.0	-15.8	Spurious
143.32	39.6	PK	60	1.0	V	13.8	1.1	28.5	26.0	43.5	-17.5	Spurious
143.32	38.7	PK	270	1.2	H	13.8	1.1	28.5	25.1	43.5	-18.4	Spurious
303.54	38.1	PK	360	1.2	H	13.9	1.6	27.7	25.9	46.0	-20.1	Spurious
171.99	37.5	PK	45	1.2	H	12.3	1.2	28.2	22.8	43.5	-20.7	Spurious
162.61	35.8	PK	270	1.0	H	12.7	1.1	28.3	21.3	43.5	-22.2	Spurious
30-1000MHz (High Channel)												
30.21	41.9	PK	45	1.0	H	24.1	0.6	28.8	37.8	40.0	-2.2*	Spurious
31.07	40.9	PK	180	1.0	H	24.1	0.6	28.8	36.8	40.0	-3.2*	Spurious
31.07	39.9	QP	45	1.2	V	24.1	0.6	28.8	35.8	40.0	-4.2	Spurious
893.85	43.0	PK	90	1.2	V	22.6	3.5	28.1	41.0	46.0	-5.0	Spurious
66.73	47.4	PK	60	1.0	V	8.5	0.8	28.7	28.0	40.0	-12.0	Spurious
57.19	47.7	PK	180	1.0	V	7.9	0.7	28.7	27.7	40.0	-12.3	Spurious
143.32	43.8	PK	60	1.0	V	13.8	1.1	28.5	30.2	43.5	-13.3	Spurious
143.32	42.1	PK	270	1.2	H	13.8	1.1	28.5	28.5	43.5	-15.0	Spurious
114.51	42.1	PK	120	1.0	V	12.2	1.0	28.5	26.8	43.5	-16.7	Spurious
158.11	38.8	PK	270	1.0	H	12.8	1.1	28.4	24.3	43.5	-19.2	Spurious
171.99	38.3	PK	45	1.2	H	12.3	1.2	28.2	23.6	43.5	-19.9	Spurious
307.83	38.2	PK	360	1.2	H	13.9	1.6	27.7	26.0	46.0	-20.0	Spurious

Frequency MHz	Meter Reading	Detector	Direction	Height	Polar	Antenna Loss	Cable loss	Amplifier Gain	Corr. Ampl.	FCC Part 15.249		
	dBuV/m	PK/QP/AV	Degree	Meter	H / V	dB	dB	dB	dBuV/m	Limit dBuV/m	Margin dB	Commend
1-25 GHz (Low Channel)												
6978.86	44.3	AV	45	1.2	V	34.8	6.0	33.50	51.6	54	-2.4*	Spurious
9656.00	41.36	AV	45	1.2	V	37.6	7.3	34.72	51.5	54	-2.5*	Harmonic
9656.00	39.4	AV	45	1.2	H	37.6	7.3	34.72	49.6	54	-4.4	Harmonic
4828.00	44.38	AV	60	1.0	V	31.3	5.2	33.00	47.9	54	-6.1	Harmonic
6978.86	40.6	AV	45	1.2	H	34.8	6.0	33.50	47.9	54	-6.1	Spurious
4828.00	43.92	AV	60	1.0	H	31.3	5.2	33.00	47.4	54	-6.6	Harmonic
6978.86	46.99	PK	45	1.2	V	34.8	6.0	33.50	54.3	74	-19.7	Spurious
9656.00	41.82	PK	180	1.2	V	37.6	7.3	34.72	52.0	74	-22.0	Harmonic
9656.00	40.97	PK	180	1.2	H	37.6	7.3	34.72	51.1	74	-22.9	Harmonic
4828.00	45.76	PK	45	1.0	V	31.3	5.2	33.00	49.3	74	-24.7	Harmonic
6978.86	41.95	PK	45	1.2	H	34.8	6.0	33.50	49.2	74	-24.8	Spurious
4828.00	44.73	PK	45	1.0	H	31.3	5.2	33.00	48.2	74	-25.8	Harmonic
2414.00	63.85	AV	180	1.2	V	27.4	3.7	35.16	59.8	94	-34.2	Fundamental
2414.00	56.13	AV	180	1.2	H	27.4	3.7	35.16	52.1	94	-41.9	Fundamental
2414.00	64.24	PK	45	1.0	V	27.4	3.7	35.16	60.2	114	-53.8	Fundamental
2414.00	56.68	PK	45	1.0	H	27.4	3.7	35.16	52.6	114	-61.4	Fundamental

Frequency	Meter Reading	Detector	Direction	Height	Polar	Antenna Loss	Cable loss	Amplifier Gain	Corr. Ampl.	FCC Part 15.249		
MHz	dBuV/m	PK/QP/AV	Degree	Meter	H / V	dB	dB	dB	dBuV/m	Limit dBuV/m	Margin dB	Commend
1-25 GHz (Middle Channel)												
4864.00	48.35	AV	60	1.0	V	31.3	5.2	33.00	51.9	54	-2.1*	Harmonic
6978.86	43.93	AV	45	1.2	V	34.8	6.0	33.50	51.2	54	-2.8*	Spurious
9728.00	40.70	AV	45	1.2	H	37.6	7.3	34.72	50.9	54	-3.1*	Harmonic
9304.30	41.58	AV	45	1.2	V	36.3	7.0	35.17	49.7	54	-4.3	Spurious
4864.00	45.28	AV	60	1.0	H	31.3	5.2	33.00	48.8	54	-5.2	Harmonic
6978.86	40.90	AV	45	1.2	H	34.8	6.0	33.50	48.2	54	-5.8	Spurious
6978.86	45.35	PK	45	1.2	V	34.8	6.0	33.50	52.7	74	-21.4	Spurious
4864.00	48.95	PK	45	1.0	V	31.3	5.2	33.00	52.5	74	-21.6	Harmonic
9728.00	42.03	PK	180	1.2	H	37.6	7.3	34.72	52.2	74	-21.8	Harmonic
9304.30	43.77	PK	180	1.2	V	36.3	7.0	35.17	51.9	74	-22.1	Spurious
6978.86	43.28	PK	45	1.2	H	34.8	6.0	33.50	50.6	74	-23.4	Spurious
4864.00	46.00	PK	45	1.0	H	31.3	5.2	33.00	49.5	74	-24.5	Harmonic
2432.00	60.96	AV	180	1.2	V	27.4	3.7	35.16	56.9	94	-37.1	Fundamental
2432.00	57.87	AV	180	1.2	H	27.4	3.7	35.16	53.8	94	-40.2	Fundamental
2432.00	61.32	PK	45	1.0	V	27.4	3.7	35.16	57.3	114	-56.7	Fundamental
2432.00	58.15	PK	45	1.0	H	27.4	3.7	35.16	54.1	114	-59.9	Fundamental
1-25 GHz (High Channel)												
6978.60	44.92	AV	45	1.2	H	34.8	6.0	33.50	52.2	54	-1.8*	Spurious
6978.60	44.69	AV	45	1.2	V	34.8	6.0	33.50	52.0	54	-2.0*	Spurious
9872.00	41.5	AV	45	1.2	H	37.6	7.3	34.72	51.7	54	-2.3*	Harmonic
4936.00	48.08	AV	60	1.0	V	31.3	5.2	33.00	51.6	54	-2.4*	Harmonic
9872.00	41.21	AV	45	1.2	V	37.6	7.3	34.72	51.4	54	-2.6*	Harmonic
4936.00	44.34	AV	60	1.0	H	31.3	5.2	33.00	47.8	54	-6.2	Harmonic
4936.00	51.21	PK	45	1.0	V	31.3	5.2	33.00	54.7	74	-19.3	Harmonic
9872.00	43.38	PK	180	1.2	V	37.6	7.3	34.72	53.6	74	-20.4	Harmonic
6978.60	46.22	PK	45	1.2	V	34.8	6.0	33.50	53.5	74	-20.5	Spurious
9872.00	43.03	PK	180	1.2	H	37.6	7.3	34.72	53.2	74	-20.8	Harmonic
6978.60	45.65	PK	45	1.2	H	34.8	6.0	33.50	53.0	74	-21.1	Spurious
4936.00	45.66	PK	45	1.0	H	31.3	5.2	33.00	49.2	74	-24.8	Harmonic
2468.00	66.88	AV	180	1.2	V	27.4	3.7	35.16	62.8	94	-31.2	Fundamental
2468.00	59.03	AV	180	1.2	H	27.4	3.7	35.16	55.0	94	-39.0	Fundamental
2468.00	67.52	PK	45	1.0	V	27.4	3.7	35.16	63.5	114	-50.5	Fundamental
2468.00	59.75	PK	45	1.0	H	27.4	3.7	35.16	55.7	114	-58.3	Fundamental

* Within measurement uncertainty

§15.249(d) – OUT OF BAND EMISSION

Standard Applicable

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

Test Procedure

With the EUT's antenna attached, the EUT's radiated emission power was received by the test antenna which was connected to the spectrum analyzer with the START and STOP frequencies set to the EUT's operation band.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	8447E	1937A01046	2005-8-17	2006-8-17
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2005-8-17	2006-8-17
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2005-4-28	2006-4-28
HP	Amplifier	8447D	2994A09795	2005-8-17	2006-8-17
Rohde & Schwarz	EMI Test Receiver	ESCI	100028	2005-8-17	2006-8-17
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2005-4-28	2006-4-28

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) Corp. attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	55%
ATM Pressure:	1016mbar

The testing was performed by Louise Lu on 2005-11-16.

The result has been complied with the 15.249(d), see the following plot:

Channel Low/Middle/High	Frequency MHz	Emission dBμV/m	Limit dBμV/m
Low Channel	2400.0	36.80	54
High Channel	2483.5	36.10	54

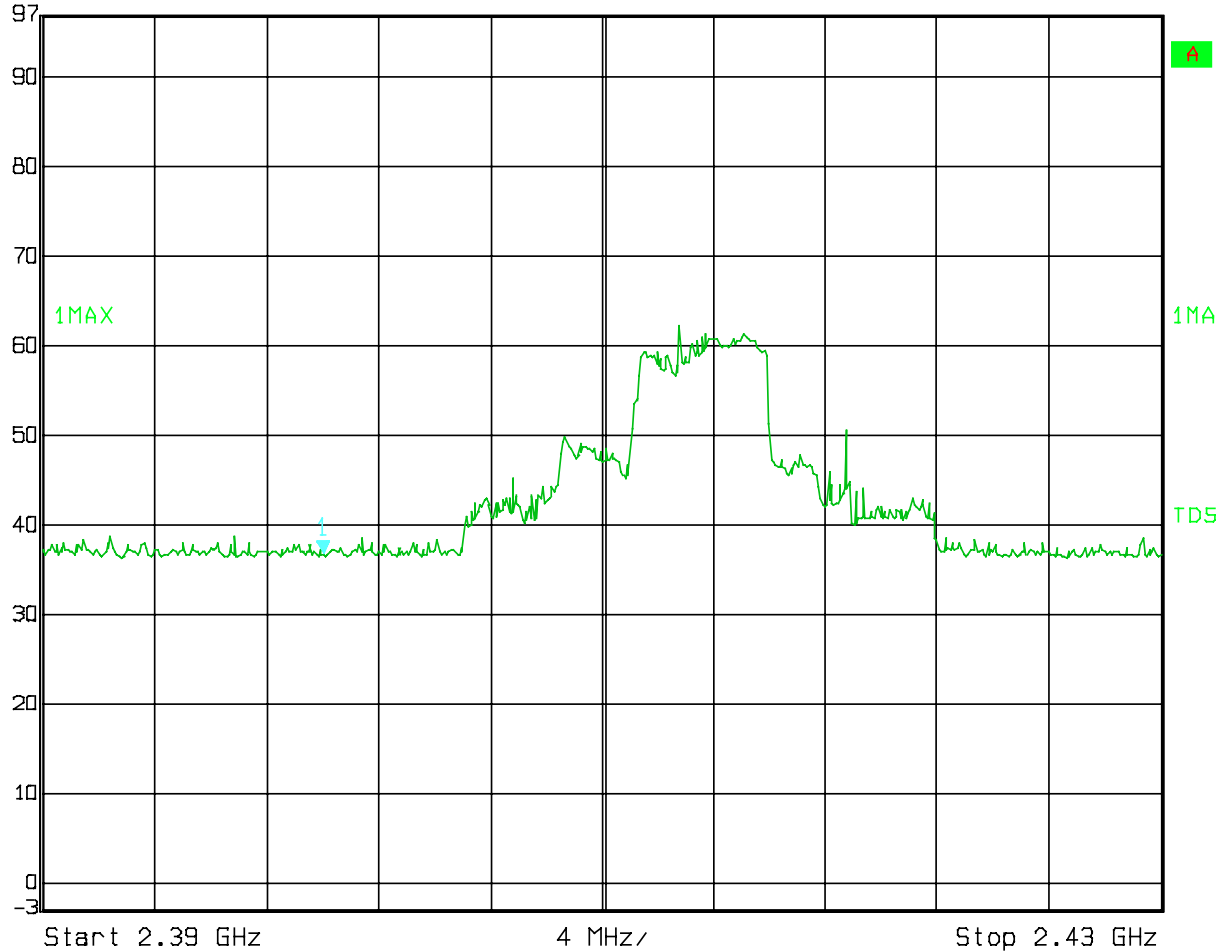
Test Result: Pass



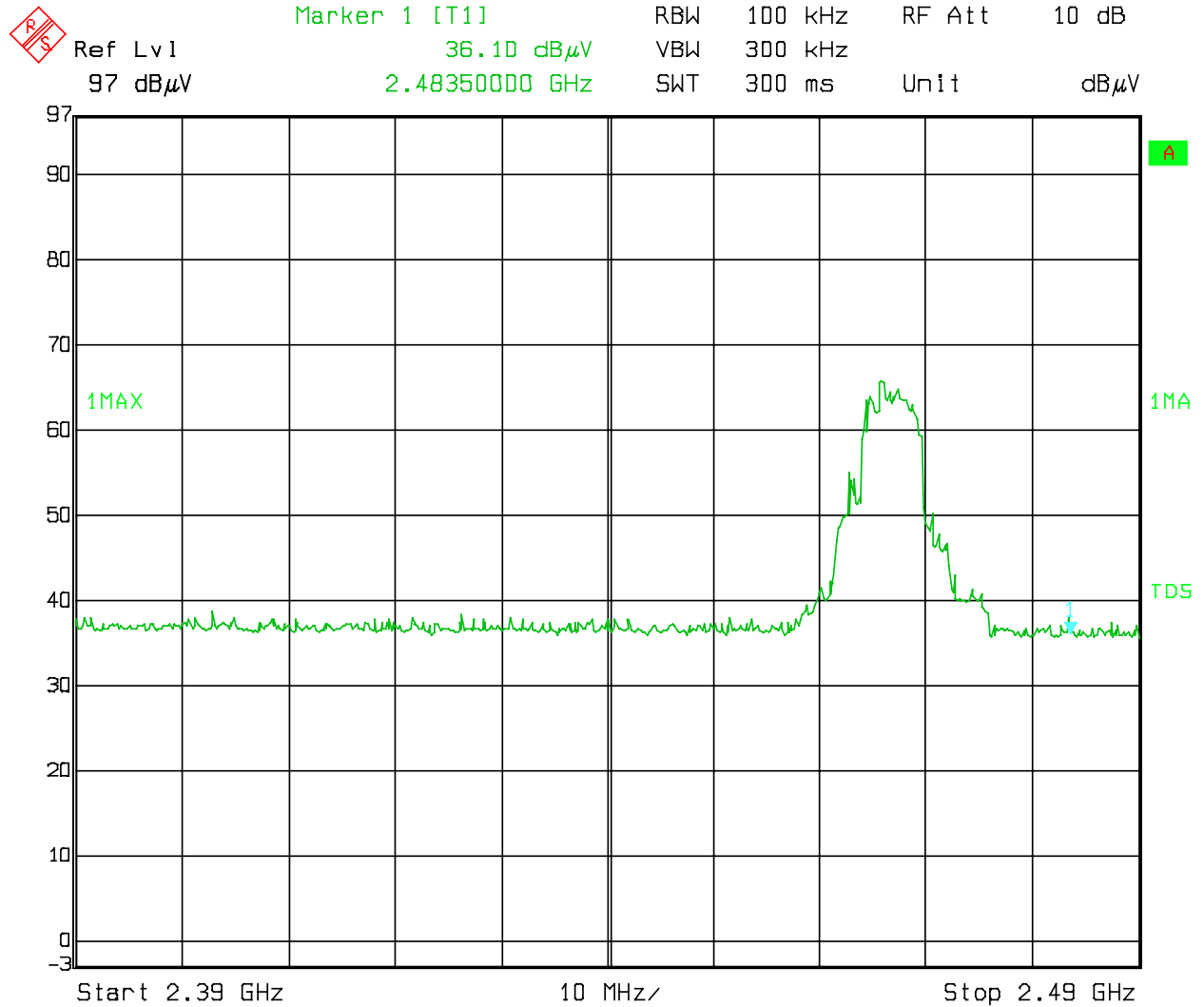
Ref Lvl
97 dB μ V

Marker 1 [T1]
36.80 dB μ V
2.40000000 GHz

RBW 100 kHz RF Att 10 dB
VBW 300 kHz
SWT 300 ms Unit dB μ V



Date: 16.NOV.2005 15:05:41



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