Lab Code: 200707-0

FCC PART 15.249
EMI MEASUREMENT AND TEST REPORT

For

Vson Technology Co., Ltd.

5 Floor, A Building, Weixinda Xichen Industrial Park, Xixiang Town, Baoan District, Shenzhen, China

FCC ID: T2DVSR24

September 26, 2006

This Report Concerns:	**Equipment Type:**
☒ Original Report	Wireless remote / Wireless presenter

Test Engineer:	Deny Xiong
Report No.:	RSZ06091310
Test Date:	September 20, 2006
Reviewed By:	EMC Manager: Boni Baniqued
Prepared By:	Bay Area Compliance Lab Corp. (ShenZhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, Guangdong 518038, P.R.China Tel: +86-755-33320018 Fax: +86-755-33320008

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Vson Technology Co., Ltd* .'s product, model number: *Wireless presenter V-810* or the "EUT" as referred to in this report is a *Wireless remote / Wireless presenter.* The EUT is measured approximately 3.2 cm L x 8.7 cm W x 0.8 cm H, rated input voltage: DC 3V battery.

The series products, model: Wireless presenter V-810, Wireless presenter V-812, Wireless presenter V-3360, we select Wireless presenter V-810 to test, the all series model have same PCB layout, and have different appearance and software.

** The test data gathered are from production sample, serial number: 0609022 provided by the manufacturer, we received EUT on 2006-9-13.*

Objective

This Type approval report is prepared on behalf of *Vson Technology 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.

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

SYSTEM TEST CONFIGURATION

Justification

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

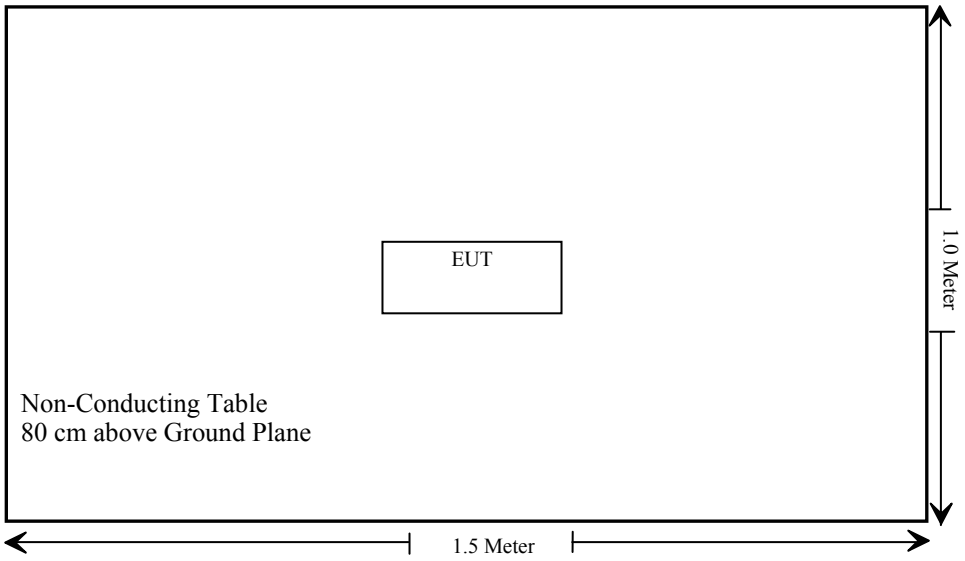
Equipment Modifications

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

Configuration of Test Setup

EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.203	Antenna Requirement	Compliant
§15.207(a)	Conduction Emission	N/A
§15.205(a), §15.209(a), §15.249(a)	Radiated Emission	Compliant
§15.249(d)	Out of band emission	Compliant

§15.203 - ANTENNA REQUIREMENT

Standard Applicable

For intentional device, according to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used.

Antenna Connector Construction

The EUT antenna is a permanently attached antenna, which in accordance to section 15.203, is considered sufficient to comply with the provisions of this section.

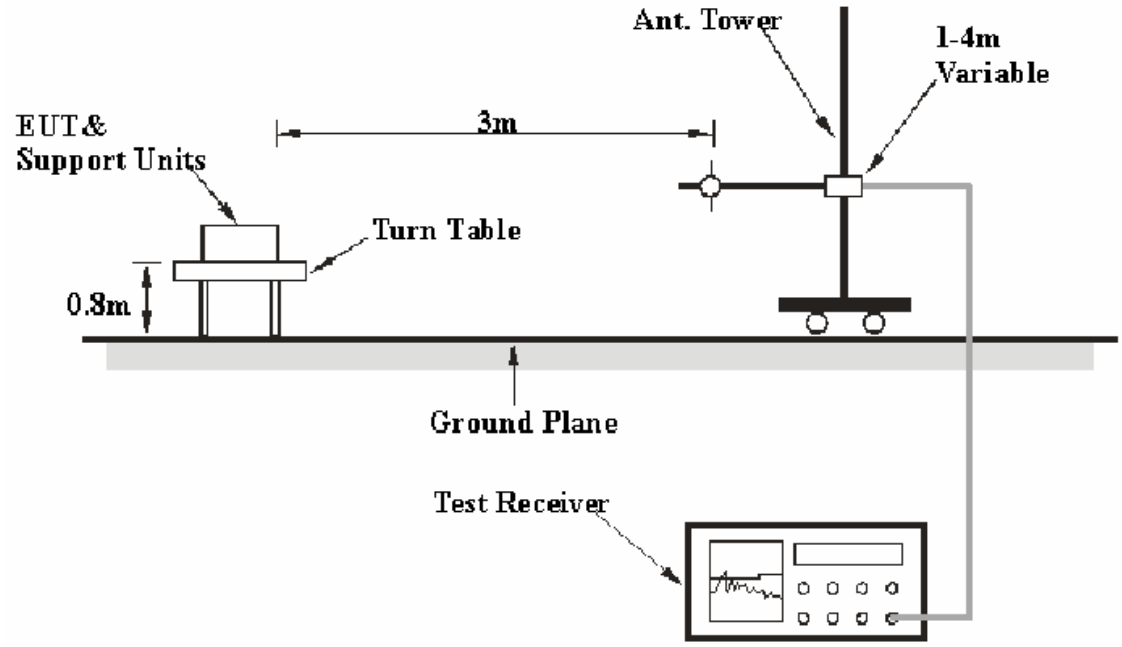
§15.205 §15.209(a) §15.249(a) - RADIATED EMISSION

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 and out of band emission tests were performed in the 3 meters chamber B, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.209 and FCC 15.249 limits.

The EUT is powered by DC 3V battery.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 25000 MHz.

During the radiated emission and out of band emission test, the test receiver was set with the following configurations:

Frequency Range	***RBW***	***Video B/W***
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
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2006-1-26	2007-1-26
HP	Amplifier	HP8447E	1937A01046	2006-8-17	2007-8-17
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2006-4-28	2007-4-28
Agilent	Spectrum Analyzer	8564E	3943A01781	2005-12-8	2006-12-8
HP	Preamplifier	8449B	3008A00277	2006-8-17	2007-8-17
SUNOL SCIENCES	Horn Antenna	DRH-118	A052604	2006-7-20	2007-7-20

*** 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

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

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

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:

Corr. Ampl. = Meter Reading + Antenna Loss + Cable Loss - 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:

Margin = Corr. Ampl. - Limit

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209 & 15.249, with the worst margin reading of:

30-1000MHz: 18.9 dB at **958.298175 MHz** in the **Vertical** polarization.
Above 1GHz: -10.76 dB at **4804.2 MHz** in the **Vertical** polarization.

Test Data

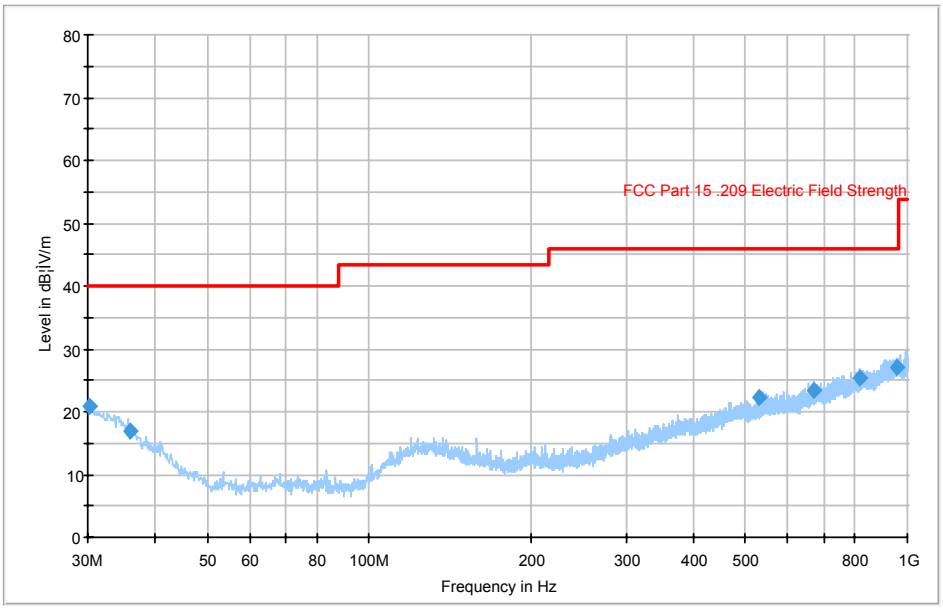
Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	53%
ATM Pressure:	1000mbar

The testing was performed by Deny Xiong on 2006-9-20.

Auto Test (FCC 15.209)

30-1000MHz:



Final Measurement Detector 1

Frequency (MHz)	Quasi Peak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity
30.250960	20.8	3000.000	120.000	348.0	H
35.835275	16.8	3000.000	120.000	394.0	H
530.854525	22.3	3000.000	120.000	146.0	H
670.788400	23.4	3000.000	120.000	392.0	V
816.545550	25.3	3000.000	120.000	336.0	V
958.298175	27.1	3000.000	120.000	386.0	V

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)	Comment
30.250960	156.0	-5.5	19.2	40.0	
35.835275	47.0	-9.5	23.2	40.0	
530.854525	331.0	-6.3	23.7	46.0	
670.788400	299.0	-3.9	22.6	46.0	
816.545550	131.0	-1.5	20.7	46.0	
958.298175	193.0	1.4	18.9	46.0	

Above 1GHz:

Frequency	Meter Reading	Detector	Direction	Height	Polar	Antenna Loss	Cable loss	Amplifier Gain	Corr. Ampl.	FCC Part 15.209 & 15.249		
MHz	dBuV/m	PK/ AV	Degree	Meter	H / V	dB	dB	dB	dBuV/m	Limit dBuV/m	Margin dB	Comment
4804.0	60.70	PK	250	1.0	V	31.3	4.64	33.4	63.24	74	-10.76	Harmonic
9608.0	33.70	AV	60	1.8	H	37.6	5.35	34.1	42.55	54	-11.45	Harmonic
9608.0	33.70	AV	90	1.2	V	37.6	5.35	34.1	42.55	54	-11.45	Harmonic
4804.0	59.70	PK	49	1.2	H	31.3	4.64	33.4	62.24	74	-11.76	Harmonic
7206.0	35.70	AV	120	1.2	V	35.4	4.51	33.7	41.91	54	-12.09	Harmonic
7206.0	35.20	AV	261	1.0	H	35.4	4.51	33.7	41.41	54	-12.59	Harmonic
7206.0	52.70	PK	56	1.5	V	35.4	4.51	33.7	58.91	74	-15.09	Harmonic
4804.0	34.03	AV	270	1.6	H	31.3	4.64	33.4	36.57	54	-17.43	Harmonic
4804.0	33.57	AV	180	1.6	V	31.3	4.64	33.4	36.11	54	-17.89	Harmonic
7206.0	49.70	PK	180	1.3	H	35.4	4.51	33.7	55.91	74	-18.09	Harmonic
9608.0	45.37	PK	180	1.0	V	37.6	5.35	34.1	54.22	74	-19.78	Harmonic
9608.0	45.20	PK	254	1.5	H	37.6	5.35	34.1	54.05	74	-19.95	Harmonic
2402.0	84.87	PK	20	1.2	H	27.4	3.61	35.0	80.88	114	-33.12	Fundamental
2402.0	83.87	PK	18	1.6	V	27.4	3.61	35.0	79.88	114	-34.12	Fundamental
2402.0	56.37	AV	263	1.4	H	27.4	3.61	35.0	52.38	94	-41.62	Fundamental
2402.0	56.20	AV	45	1.0	V	27.4	3.61	35.0	52.21	94	-41.79	Fundamental

§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

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Spectrum Analyzer	8564E	3943A01781	2005-12-8	2006-12-8

*** 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 Deny Xiong on 2006-9-20.

Test Result: Pass

Test Mode: Transmitting

Frequency (MHz)	Reading (dBuV/M)	Antenna Factor (dB)	Cable loss (dB)	Amplifier (dB)	Correct Amplitude (dBuV/M)	Limit	Margin
2399.9	47.33	27.4	3.61	35.0	43.34	54	-10.66
2483.6	36.0	27.4	3.61	35.0	32.01	54	-21.99