



# FCC PART 15.249

# MEASUREMENT AND TEST REPORT

For

# Vson Technology Co., Ltd.

5 Floor, A Building, Weixinda Xichen Industrial Park, Baoan District,

Shenzhen, Guangdong 518102, China

**FCC ID: T2DTT1100** 

Report Type: **Product Type:** 2.4 GHz Wireless Transmitter Original Report leon then **Test Engineer:** Leon Chen **Report Number:** RSZ10092801 **Report Date:** 2010-10-26 Merry Zhao merry, where **Reviewed By:** EMC Engineer **Prepared By:** Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008

**Note**: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Shenzhen). This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP\*, NIST, or any agency of the Federal Government.

\* This report may contain data that are not covered by the NVLAP accreditation and are marked with an asterisk "\*" (Rev.2)

# **TABLE OF CONTENTS**

GENERAL INFORMATION	4
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	
Objective	
RELATED SUBMITTAL(S)/GRANT(S)	
TEST METHODOLOGY	
TEST FACILITY	4
SYSTEM TEST CONFIGURATION	6
JUSTIFICATION	6
EQUIPMENT MODIFICATIONS	
HOST SYSTEM CONFIGURATION LIST AND DETAILS	
LOCAL SUPPORT EQUIPMENT LIST AND DETAILS	
EXTERNAL I/O CABLE	
CONFIGURATION OF TEST SETUP	
BLOCK DIAGRAM OF TEST SETUP	
SUMMARY OF TEST RESULTS	8
FCC §15.203 - ANTENNA REQUIREMENT	9
APPLICABLE STANDARD	
ANTENNA CONNECTOR CONSTRUCTION	
FCC §15.207 (A) – AC LINE CONDUCTED EMISSIONS	10
Applicable Standard	
MEASUREMENT UNCERTAINTY	
EUT SETUP.	
EMI TEST RECEIVER SETUP.	
TEST EQUIPMENT LIST AND DETAILS	
TEST PROCEDURE	
TEST RESULTS SUMMARY	11
TEST DATA	11
FCC §15.205(A), §15.209(A) & §15.249 - RADIATED EMISSIONS	14
APPLICABLE STANDARD	
MEASUREMENT UNCERTAINTY	
TEST EQUIPMENT SETUP	
TEST SETUP	
TEST EQUIPMENT LIST AND DETAILS	
TEST PROCEDURE	
CORRECTED AMPLITUDE & MARGIN CALCULATION	
TEST RESULTS SUMMARYTEST DATA	
120.12	
FCC §15.249(D) – OUT OF BAND EMISSIONS	
APPLICABLE STANDARD	-
TEST PROCEDURE	
TEST EQUIPMENT SETUP	
TEST EQUIPMENT SETUP  TEST EQUIPMENT LIST AND DETAILS.	
TEST DATA	

FCC §15,215(C) – 20 DB BANDWIDTH	21
APPLICABLE STANDARD	
TEST EQUIPMENT LIST AND DETAILS	
TEST PROCEDURE	2
TEST DATA	2

#### **GENERAL INFORMATION**

### **Product Description for Equipment under Test (EUT)**

The *Vson Technology Co., Ltd.* 's product, model *TT1100 (FCC ID: T2DTT1100)*, or the "EUT" as referred to in this report is a *Wireless tablet* which measures approximately: 21.5 cm (L) x 14.2 cm (W) x 1.5 cm (H), rated input voltage: DC 3V (1.5V\*2) battery or DC 5V from PC for charging.

\* All measurement and test data in this report was gathered from production sample serial number: 1009090 (Assigned by BACL, Shenzhen). The EUT was received on 2010-09-28.

### **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)**

N/A

### **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 Laboratories 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 Laboratories Corp. (Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories 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 21, 2007. 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 Laboratories 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 <a href="http://ts.nist.gov/Standards/scopes/2007070.htm">http://ts.nist.gov/Standards/scopes/2007070.htm</a>

## **SYSTEM TEST CONFIGURATION**

### **Justification**

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

## **Equipment Modifications**

No modifications were made to the unit tested.

## **Host System Configuration List and Details**

Manufacturer	Description	Model	Serial Number	FCC ID
Intel	Motherboard	D865GKD	11S19R1949ZJ1WCB46J1K8	DoC
IBM	Power	HIPRO-A2307F3T	11S49P2191ZJ1TAR472225	DoC
Maxtor	Hard Disk	6Y080L0	Y23QNXTE	DoC
ALPS	3.5' Floppy	06P5226	11S06P5226ZJ1W25373957	DoC
Lite-ON	CD-Rom	LTN-489S	11S71P7366ZJ1SYC130015	DoC
ProMOS	Memory	V826616J24SATG-C0	D61A2605H	N/A
Intel	CPU	Pentium4 2800MHz	N/A	N/A
Intel	Ethernet	PRO 10/100 VE	N/A	DoC

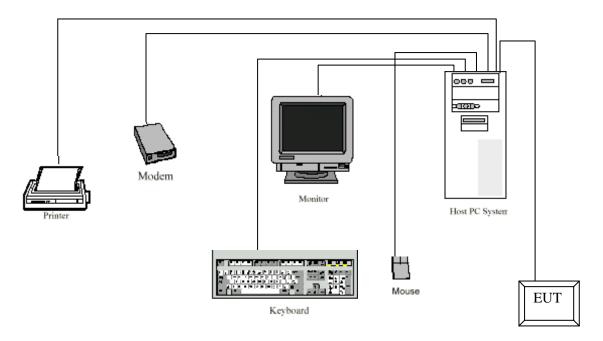
# **Local Support Equipment List and Details**

Manufacturer	Description	Model Serial Number		FCC ID
IBM	PC	ThinkCentre A50	99Y5469	DoC
DELL	Keyboard	L100	CNORH656658907BL05DC	DoC
DELL	Mouse	MOC5UO	G1900NKD	DoC
DELL	LCD Monitor	1505FP	CN-OY4287-71618-574-GBSH	DoC
HP	Laser Jet5L	C3941A	JPTVOB2337	DoC
SAST	Modem	AEM-2100	0293	DoC

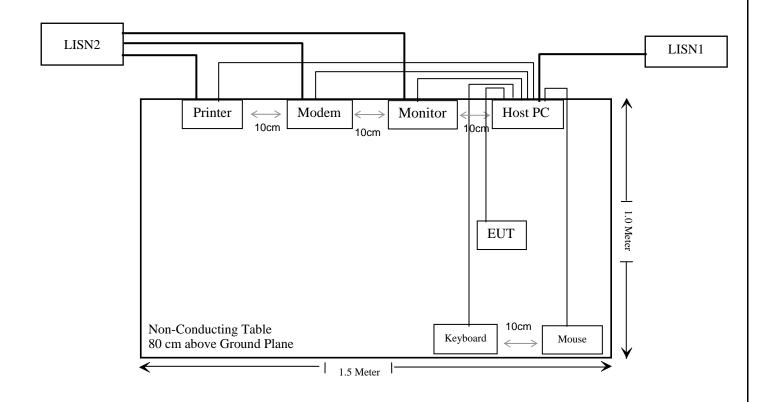
### **External I/O Cable**

Cable Description	Length (m)	From/Port	То
Shielded Detachable K/B Cable	1.50	K/B Port / Host	K/B
Shielded Detachable Mouse Cable	1.50	PS/2 Port / Host	Mouse
Shielded Detachable Printer Cable	1.20	Parallel Port / Host	Printer
Shielded Detachable VGA Cable	1.50	VGA Port / Host	Monitor
Shielded Detachable Serial Cable	1.20	Serial Port / Host	Modem
Shielded Detachable USB Cable	0.8	Host	EUT

# **Configuration of Test Setup**



# **Block Diagram of Test Setup**



# **SUMMARY OF TEST RESULTS**

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.207(a)	AC Line Conducted Emissions	Compliance
\$15.205(a), \$15.209(a), 15.249(a), \$15.249(c), \$15.35	Radiated Emissions	Compliance
§15.249(d)	Out of Band Emissions	Compliance
§15.215(c)	20dB Bandwidth	Compliance

# FCC §15.203 - ANTENNA REQUIREMENT

### **Applicable Standard**

For intentional device, according to FCC §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 has a printed antenna on PCB, which in accordance to section 15.203, is considered sufficient to comply with the provisions of this section.

Result: Compliant.

Please refer to the EUT photos.

# FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

### **Applicable Standard**

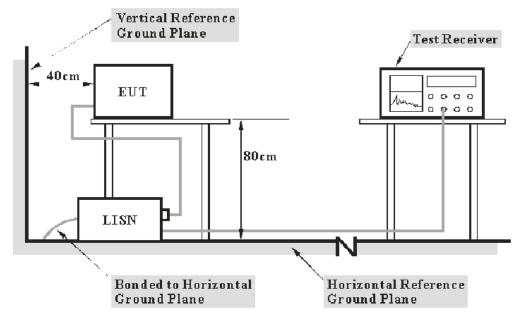
FCC §15.207

### **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 Laboratory Corp. (Shenzhen) is  $\pm 2.4$  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 PC was connected to a 120 VAC/60 Hz power source.

### **EMI Test Receiver Setup**

The EMI 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:

### **Test Equipment List and Details**

Manufacturer	cturer Description		Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245/006	2010-03-03	2011-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2010-03-09	2011-03-08

<sup>\*</sup> Statement of Traceability: Bay Area Compliance Laboratory 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 PC was connected to the 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.

### **Test Results Summary**

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

#### 13.02 dB at 0.650 MHz in the Line conductor mode

#### **Test Data**

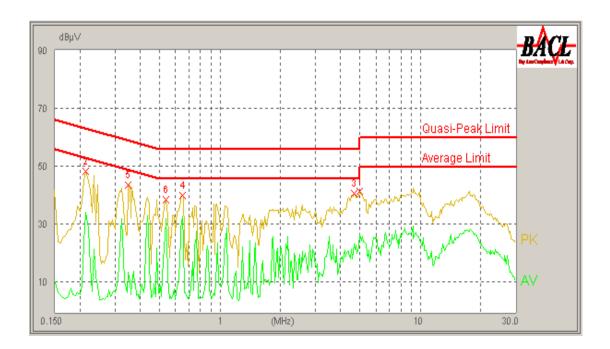
#### **Environmental Conditions**

Temperature:	25 ° C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Leon Chen on 2010-10-19.

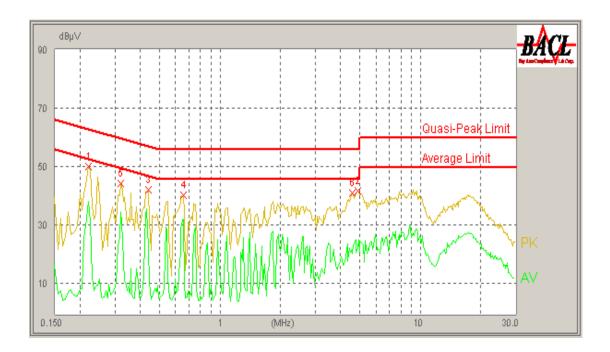
Test Mode: Transmitting & Charging

# 120 V, 60 Hz, Line:



Conducted Emissions			FCC Part 15.20	)7	
Frequency (MHz)	Correction Factor (dB)	Cord. Result (dВµV)	Limit (dBµV)	Margin (dB)	Remark (PK/QP/Ave.)
0.650	10.20	32.98	46.00	13.02	Ave
0.535	10.20	32.10	46.00	13.90	Ave
0.650	10.20	38.90	56.00	17.10	QP
0.215	10.10	46.27	64.14	17.87	QP
4.965	10.10	26.81	46.00	19.19	Ave
0.215	10.10	34.29	54.14	19.85	Ave
0.540	10.20	36.03	56.00	19.97	QP
4.690	10.10	23.61	46.00	22.39	Ave
4.690	10.10	32.90	56.00	23.10	QP
4.965	10.10	32.64	56.00	23.36	QP
0.350	10.00	32.70	60.29	27.59	QP
0.350	10.00	13.71	50.29	36.58	Ave

# 120V, 60 Hz, Neutral:



Co	<b>Conducted Emissions</b>		FCC Part 15.207		07
Frequency (MHz)	Correction Factor (dB)	Cord. Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/QP/Ave.)
0.655	10.20	32.12	46.00	13.88	Ave
0.220	10.10	38.36	54.00	15.64	Ave
0.320	10.00	34.69	51.14	16.45	Ave
0.655	10.20	37.40	56.00	18.60	QP
0.320	10.00	42.17	61.14	18.97	QP
0.220	10.10	43.46	64.00	20.54	QP
4.870	10.10	33.08	56.00	22.92	QP
4.875	10.10	22.73	46.00	23.27	Ave
4.550	10.10	32.46	56.00	23.54	QP
4.565	10.10	22.26	46.00	23.74	Ave
0.440	10.00	33.22	57.71	24.49	QP
0.440	10.00	22.43	47.71	25.28	Ave

# FCC §15.205(a), §15.209(a) & §15.249 - RADIATED EMISSIONS

### **Applicable Standard**

As per FCC §15.249 (a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Field strength of fundamental frequency (millivolts/meter)		Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

As per FCC §15.249 (c), Field strength limits are specified at a distance of 3 meters. (d) 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.

### **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 Laboratories Corp. (Shenzhen) is +4.0 dB.

### **Test Equipment Setup**

The spectrum analyzer or receiver is set as:

Below 1000 MHz:

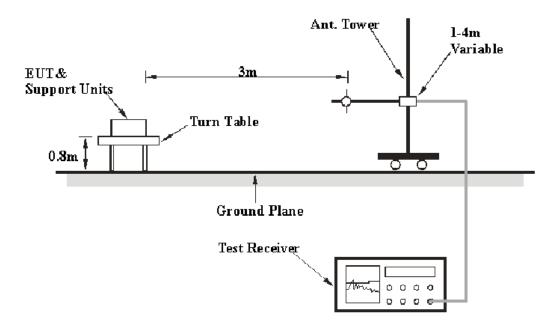
$$RBW = 100 \text{ kHz} / VBW = 300 \text{ kHz} / Sweep = Auto$$

Above 1000 MHz:

Peak: RBW = 1MHz / VBW = 1MHz / Sweep = Auto

Average: RBW = 1MHz / VBW = 10Hz / Sweep = Auto

### **Test 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.

## **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	8447E	1937A01046	2010-08-02	2011-08-01
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2009-11-24	2010-11-23
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2010-03-11	2011-03-11
HP	Amplifier	2VA-213+	T-E27H	2010-03-08	2011-03-07
Sunol Sciences	Horn Antenna	DRH-118	A052604	2010-05-05	2011-05-04
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2010-07-08	2011-07-07

<sup>\*</sup> **Statement of Traceability:** Bay Area Compliance Laboratories 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 PC and other support equipment 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.

The EUT is set 3 meter away from the testing antenna, which is varied from 1-4 mete, and the EUT is placed on a turntable, which is 0.8 meter above ground plane, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

### **Corrected Amplitude & Margin Calculation**

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

Corrected Amplitude = Meter Reading + Antenna Factor + 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 7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

### **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:

**0.81 dB** at **4936 MHz** in the Vertical polarization

#### **Test Data**

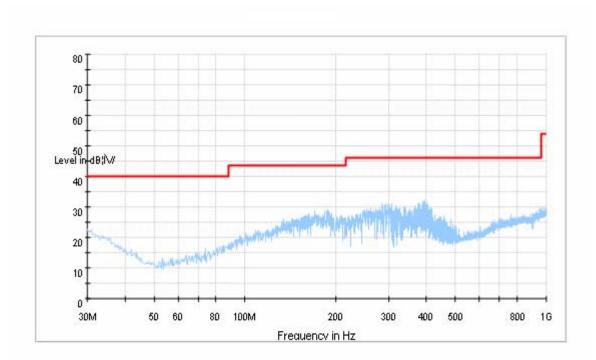
#### **Environmental Conditions**

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa

The testing was performed by Leon Chen on 2010-10-25.

**30-1000 MHz:** 

Test Mode: Transmitting



Indi	cated		Table	Test Antenna		Correction Factor		FCC 15.249/209				
Frequency (MHz)	Receiver Reading (dBµV)	Detector (PK/Ave.)	Angle	Height (m)	Polar (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBµV/m)	Limit (dBμV/m)	Margin (dB)	Comment
-	-	-	-	ı	-	-	-	-	-	-	-	-

Note: The data which below the limit 20 dB was not recorded.

## **Above 1 GHz:**

Indic	ated		Table	Test An	itenna	Corr	ection F	actor	FCC 15.249/209			
Frequency (MHz)	S.A. Reading (dBµV)	Detector (PK/Ave)	Angle Degree	Height (m)	Polar (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre- Amp. (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Comment
					Lov	w Chann	el					
4834	40.23	Ave	115	1.2	Н	34.0	4.30	26.77	51.76	54	2.24*	Harmonic
4834	39.28	Ave	238	1.6	V	34.3	4.30	26.77	51.11	54	2.89*	Harmonic
4834	55.67	PK	115	1.2	Н	34.0	4.30	26.77	67.20	74	6.80	Harmonic
4834	55.36	PK	238	1.6	V	34.3	4.30	26.77	67.19	74	6.81	Harmonic
2417	72.01	Ave	54	1.0	Н	28.8	3.03	26.85	76.99	94	17.01	Fund.
2417	66.58	Ave	233	1.1	V	29.0	3.03	26.85	71.76	94	22.24	Fund.
2417	85.43	PK	54	1.0	Н	28.8	3.03	26.85	90.41	114	23.59	Fund.
2417	80.05	PK	233	1.1	V	29.0	3.03	26.85	85.23	114	28.77	Fund.
					Mido	ile Chan	nel					
4882	41.29	Ave	131	1.3	Н	34.0	4.30	26.77	52.82	54	1.18*	harmonic
4882	39.67	Ave	97	2.0	V	34.3	4.30	26.77	51.50	54	2.50*	harmonic
4882	56.66	PK	131	1.3	Н	34.0	4.30	26.77	68.19	74	5.81	harmonic
4882	54.53	PK	97	2.0	V	34.3	4.30	26.77	66.36	74	7.64	harmonic
2441	71.26	Ave	360	1.9	Н	28.8	3.03	26.85	76.24	94	17.76	Fund.
2441	64.37	Ave	176	1.3	V	29.0	3.03	26.85	69.55	94	24.45	Fund.
2441	84.18	PK	360	1.9	Н	28.8	3.03	26.85	89.16	114	24.84	Fund.
2441	79.89	PK	176	1.3	V	29.0	3.03	26.85	85.07	114	28.93	Fund.
					Hig	h Chann	el					
4936	41.36	Ave	64	1.5	V	34.3	4.30	26.77	53.19	54	0.81*	harmonic
4936	40.02	Ave	186	1.3	Н	34.0	4.30	26.77	51.55	54	2.45*	harmonic
4936	56.42	PK	246	1.7	V	34.3	4.30	26.77	68.25	74	5.75	harmonic
4936	55.52	PK	186	1.3	Н	34.0	4.30	26.77	67.05	74	6.95	harmonic
2468	69.83	Ave	117	1.0	Н	28.8	3.03	26.85	74.81	94	19.19	Fund.
2468	64.15	Ave	64	1.5	V	29.0	3.03	26.85	69.33	94	24.67	Fund.
2468	83.14	PK	117	1.0	Н	28.8	3.03	26.85	88.12	114	25.88	Fund.
2468	77.65	PK	64	1.5	V	29.0	3.03	26.85	82.83	114	31.17	Fund.

 $<sup>*</sup>With \ measurement \ uncertainty!$ 

### FCC §15.249(d) – OUT OF BAND EMISSIONS

### **Applicable Standard**

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**

The EUT is set 3 meter away from the testing antenna, which is varied from 1-4 mete, and the EUT is placed on a turntable, which is 0.8 meter above ground plane, the table shall be rotated for 360 degrees to find out the highest emission at the band edge. The receiving antenna should be changed the polarization both of horizontal and vertical.

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

### **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 Laboratories Corp. (Shenzhen) is  $\pm 4.0 \text{ dB}$ .

### **Test Equipment Setup**

The spectrum analyzer or receiver is set as:

Above 1000 MHz:

Peak: RBW = 1MHz / VBW = 3MHz / Sweep = Auto Average: RBW = 1MHz / VBW = 10Hz / Sweep = Auto

### **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2009-11-24	2010-11-23
HP	Amplifier	2VA-213+	T-E27H	2010-03-08	2011-03-07
Sunol Sciences	Horn Antenna	DRH-118	A052604	2010-05-05	2011-05-04

<sup>\*</sup> Statement of Traceability: Bay Area Compliance Laboratories 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:	56 %
ATM Pressure:	100.2 kPa

<sup>\*</sup>The testing was performed by Leon Chen on 2010-10-25

Test Result: Compliance

Please refer to the following table.

Test Mode: Transmitting

F	S.A.	Detecte	D't'	Test Antenna			Cable	Pre-	Cord.	FCC 15	5.209
Freq. (MHz)	Reading (dBμV/m)	Detector PK/Ave	TI : 14 D I E 4 OSS 12mp		Amp. (dBμV/m)	Limit (dBµV/m)	Margin (dB)				
				Frequ	ency In	Low Cha	ınnel				
2399.62	47.78	PK	58	1.1	Н	28.8	3.03	26.85	52.76	54	1.24
2391.54	42.85	PK	230	1.7	V	29.0	3.03	26.85	48.03	54	5.97
	Frequency In High Channel										
2483.53	46.58	PK	126	1.3	Н	29.1	3.15	26.85	51.98	54	2.02
2483.53	41.93	PK	104	1.8	V	29.1	3.15	26.85	47.33	54	6.67

Note: The peak radiated emission level is below the AV limit 54 dB $\mu$ V/m, so AV radiated emission is not necessary.

## FCC §15.215(c) – 20 dB BANDWIDTH

### **Applicable Standard**

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in FCC §15.217 through §15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

### **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date	
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2009-11-24	2010-11-23	

<sup>\*</sup> **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

#### **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 it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
- 3. Measure the frequency difference of two frequencies that indicated 20dB bandwidth.
- 4. Repeat above procedures until all frequencies measured were complete.

#### **Test Data**

#### **Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.2 kPa

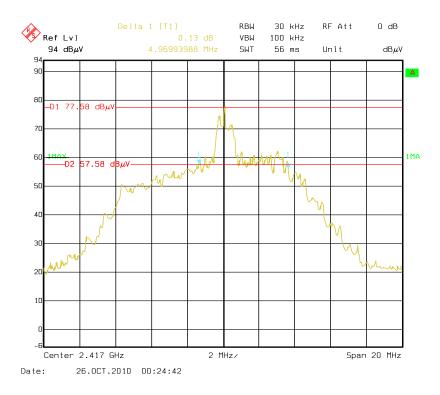
<sup>\*</sup>The testing was performed by Leon Chen on 2010-10-25 to 2010-10-26

Test Mode: Transmitting

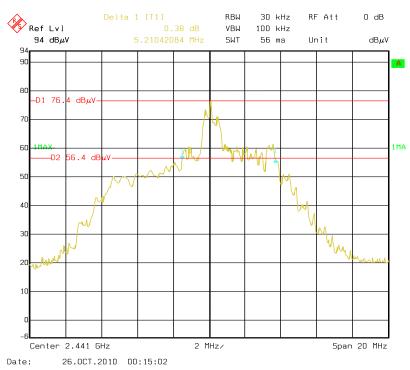
Pleas refer to the plot and tabular data sheet attached.

Channel Frequency (MHz)	20 dB Bandwidth (kHz)
2417	4969.9
2441	5120.4
2468	3366.7

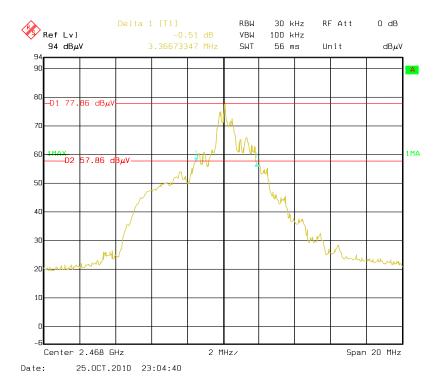
### **Low Channel**



### Middle Channel



## **High Channel**



### \*\*\*\*\* END OF REPORT \*\*\*\*\*