



# FCC PART 15 CLASS B MEASUREMENT AND TEST REPORT

For

# **ZTE Corporation**

ZTE Plaza, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.of China

FCC ID: Q78-ZXDSL831II

Report Type: Product Type:

Original Report (ADSL CPE)ITE

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**Report Number:** RSZ10071402

**Report Date:** 2010-08-20

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## **GENERAL INFORMATION**

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

The ZTE Corporation's product, model number: ZXDSL 831 II, ZXDSL 831A II (FCC ID: Q78-ZXDSL831II) or the "EUT" as referred to in this report is a ADSL CPE, which measures approximately 10.8 cm (L) x 4.2 cm (W) x 9.6 cm (H). Input voltage: DC 12V adapter.

Adapter 1 information Manufacturer: HuntKey; Model: HKA00612005-2E;

Input: AC 100-240V 50/60 Hz 0.25A;

Output: DC 12V 0.5A.

Adapter 2 information Manufacturer: RUIDE;

Model: RD1200500-C55-8MG;

Input: AC 100-240V 50/60 Hz 250mA;

Output: DC 12V 500mA.

## **Objective**

This Type approval report is prepared on behalf of *ZTE Corporation* in accordance with Part 2, Subpart J, Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to determine compliance with FCC Part 15 Class B.

## 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 emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

<sup>\*</sup> All measurement and test data in this report was gathered from production sample serial number: 1007048 (Assigned by BACL, Shenzhen). The EUT was received on 2010-07-14.

## **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 http://ts.nist.gov/Standards/scopes/2007070.htm

# **SYSTEM TEST CONFIGURATION**

## Justification

The system was configured for testing in a manufacturer testing fashion.

## **EUT Exercise Software**

WINTHRAX.EXE

# **Equipment Modifications**

No modification was made to the unit tested.

# **Host System Configuration List and Details**

Manufacturer	Device Name	Model	Serial Number	FCC ID
DELL	Motherboard	OWC297	CN-OWC297-70821-566-02BR	DOC
DELL	Power	NPS-250KB D	CN-0H2678-17972-56E8NBM	DOC
Seagate	Hard Disk	ST340014A	5JXK3NAD	DOC
DELL	3.5' Floppy	N/A	CN-0N8893-69802-54Q-02OZ	DOC
Lite-ON	CD-Rom	LTN-489S	N/A	DOC
Intel	CPU	Celeron D-2533	N/A	N/A
ProMOS	Memory	V826632K24SATG-C0	0525-K1933700	N/A
Intel	Ethernet	PRO 10/100 VE	N/A	DOC

# **Local Support Equipment List and Details**

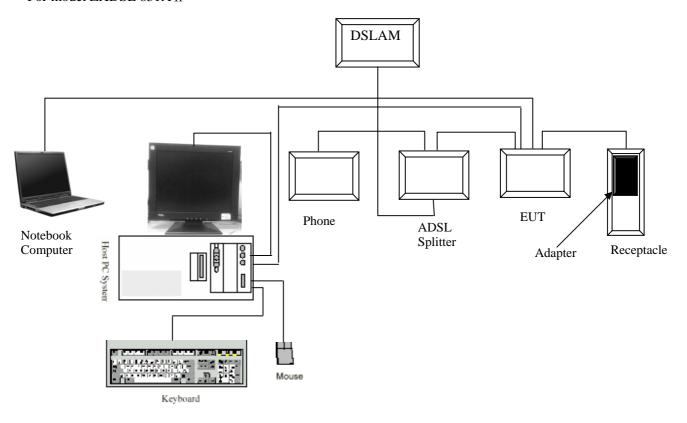
Manufacturer	Description	Model	Serial Number	FCC ID
DELL	PC	1#	N/A	DOC
DELL	Keyboard 1#	L100	CNORH656658907BL04TY	DOC
DELL	Mouse 1#	MOC5UO	G1B0096D	DOC
DELL	LCD 1#	E178WFPC	CN-OWY564-64180-7C4-2SQH	DOC
TIAONIAO	Phone	TL2201	N/A	N/A
COMPAQ	Notebook Computer	N610C	N/A	DOC
SAGEM	DSLAM	N/A	N/A	N/A

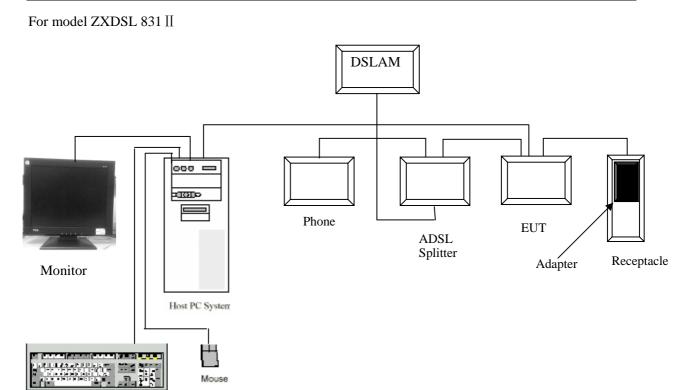
# **External I/O Cable**

Cable Description	Length (m)	From/Port	То
Shielded Detachable K/B Cable	1.5	K/B Port/Host	K/B
Shielded Detachable Mouse Cable	1.5	Mouse Port/Host	Mouse
Shielded Detachable VGA Cable	1.5	VGA Port/Host	Monitor
Unshielded Detachable RJ11 Cable	1.5	EUT	ADSL Splitter
Unshielded Detachable RJ11 Cable	1.5	ADSL Splitter	Phone
Unshielded Detachable RJ45 Cable	1.5	EUT	PC Host
Unshielded Detachable USB Cable	1.5	EUT	Notebook Computer
Unshielded Undetachable DC Cable	1.9	EUT	Adapter 1
Unshielded Undetachable DC Cable	1.5	EUT	Adapter 2

# **Configuration of Test Setup**

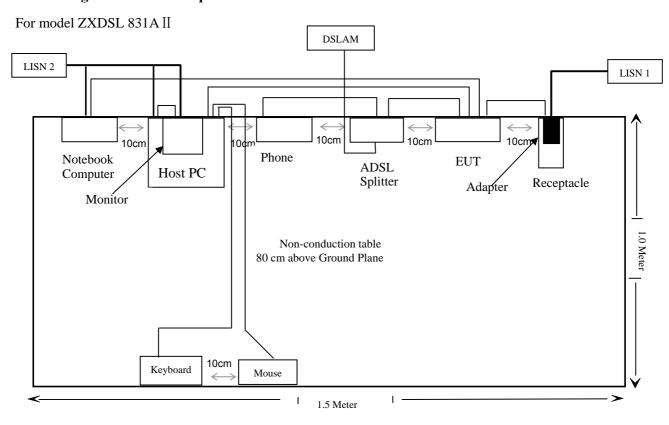
For model ZXDSL 831A II



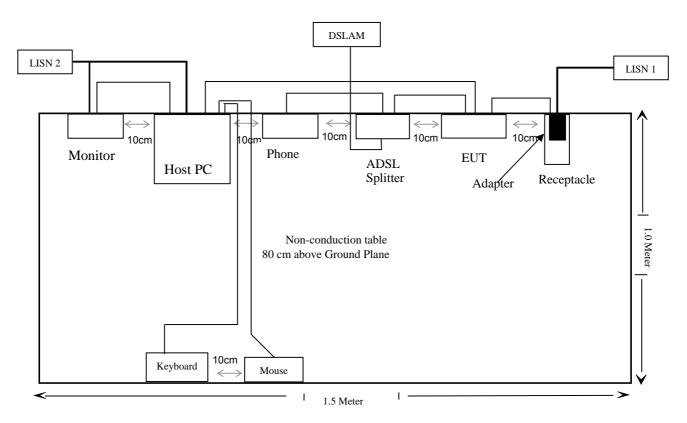


# **Block Diagram of Test Setup**

Keyboard



## For model ZXDSL 831 II



# SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	Conducted Emissions	Compliance
§15.109	Radiated Emissions	Compliance

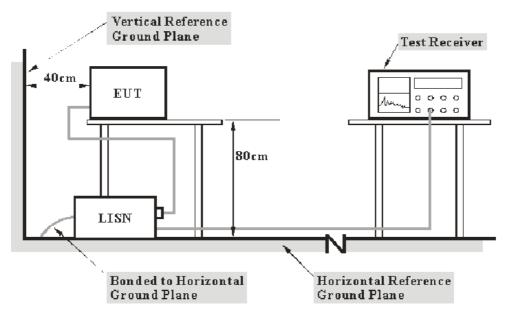
# FCC §15.107 – AC LINE CONDUCTED EMISSIONS

#### **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 Laboratories Corp. (Shenzhen) is  $\pm 2.4$  dB.

#### **EUT Setup**



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMIN) 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 15.107 limits.

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 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:

Frequency Range	IF B/W
150 kHz = 30 MHz	9 kHz

## **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245/006	2010-03-03	2010-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2009-03-09	2010-03-08

<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 adapter was connected to the outlet of the first LISN, and the other relevant support equiement were connected to seconed 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 15.107</u>, with the worst margin reading of:

16.15 dB at 0.490 MHz in the Line conductor mode for Model ZXDSL 831A II with adapter 1
12.06 dB at 0.490 MHz in the Neutral conductor mode for Model ZXDSL 831A II with adapter 1
15.76 dB at 0.540 MHz in the Line conductor mode for Model ZXDSL 831 II with adapter 1
10.53 dB at 0.430 MHz in the Neutral conductor mode for Model ZXDSL 831 II with adapter 1
1.47 dB at 0.340 MHz in the Line conductor mode for Model ZXDSL 831A II with adapter 2
0.97 dB at 0.330 MHz in the Neutral conductor mode for Model ZXDSL 831A II with adapter 2
4.29 dB at 0.340 MHz in the Line conductor mode for Model ZXDSL 831 II with adapter 2
1.46 dB at 0.340 MHz in the Neutral conductor mode for Model ZXDSL 831 II with adapter 2

#### **Test Data**

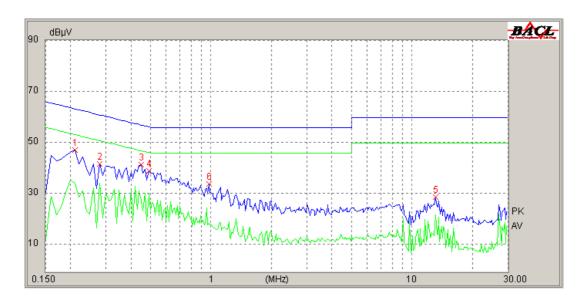
#### **Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	48 %
ATM Pressure:	100.0 kPa

The testing was performed by Jessica He on 2010-08-18.

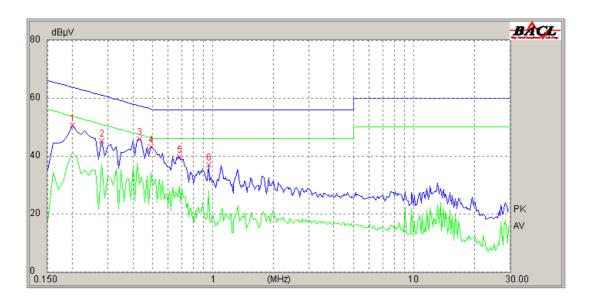
Test Mode: Running

# 120V/60 Hz, Line (Model ZXDSL 831A II with adapter 1)



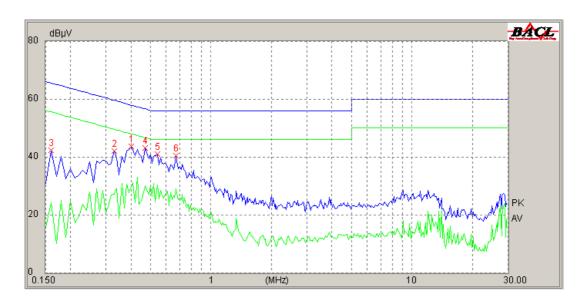
Co	Conducted Emissions			FCC Part 15.107		
Frequency (MHz)	Correction Factor (dB)	Corrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/ QP/Ave)	
0.490	10.10	30.06	46.21	16.15	Ave	
0.280	10.10	34.26	50.83	16.57	Ave	
0.450	10.10	39.69	56.98	17.29	QP	
0.210	10.10	34.30	53.25	18.95	Ave	
0.450	10.10	27.40	46.98	19.58	Ave	
0.210	10.10	42.31	63.25	20.94	QP	
0.490	10.10	34.96	56.21	21.25	QP	
0.280	10.10	38.06	60.83	22.77	QP	
0.980	10.10	18.89	46.00	27.11	Ave	
13.090	10.30	22.03	50.00	27.97	Ave	
0.980	10.10	25.77	56.00	30.23	QP	
13.090	10.30	23.63	60.00	36.37	QP	

# 120V/60 Hz, Neutral (Model ZXDSL 831A II with adapter 1)



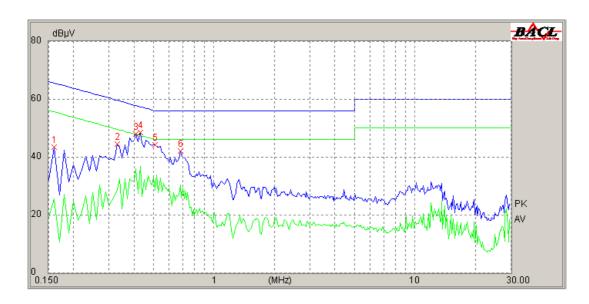
Conducted Emissions			FCC Part 15.10	7	
Frequency (MHz)	Correction Factor (dB)	Corrrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/ QP/Ave)
0.490	10.10	34.15	46.21	12.06	Ave
0.200	10.10	41.17	53.69	12.52	Ave
0.280	10.10	37.15	50.83	13.68	Ave
0.430	10.10	42.09	57.31	15.22	QP
0.490	10.10	40.93	56.21	15.28	QP
0.200	10.10	47.61	63.69	16.08	QP
0.680	10.10	29.48	46.00	16.52	Ave
0.280	10.10	43.97	60.83	16.86	QP
0.430	10.10	30.06	47.31	17.25	Ave
0.950	10.10	27.96	46.00	18.04	Ave
0.680	10.10	37.62	56.00	18.38	QP
0.950	10.10	33.75	56.00	22.25	QP

# 120V/60 Hz, Line (Model ZXDSL 831 II with adapter 1)



Co	<b>Conducted Emissions</b>			FCC Part 15.10	7
Frequency (MHz)	Correction Factor (dB)	Corrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/ QP/Ave)
0.540	10.10	30.24	46.00	15.76	Ave
0.470	10.10	30.00	46.54	16.54	Ave
0.670	10.10	28.92	46.00	17.08	Ave
0.400	10.10	29.71	47.86	18.15	Ave
0.540	10.10	36.04	56.00	19.96	QP
0.470	10.10	36.32	56.54	20.22	QP
0.670	10.10	35.18	56.00	20.82	QP
0.400	10.10	36.47	57.86	21.39	QP
0.330	10.10	27.02	49.51	22.49	Ave
0.330	10.10	35.72	59.51	23.79	QP
0.160	10.10	37.18	65.56	28.38	QP
0.160	10.10	24.22	55.56	31.34	Ave

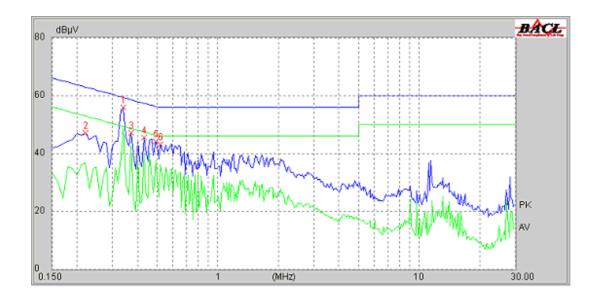
# 120V/60 Hz, Neutral (Model ZXDSL 831 II with adapter 1)



Conducted Emissions			FCC Part 15.10	7	
Frequency (MHz)	Correction Factor (dB)	Corrrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/ QP/Ave)
0.430	10.10	36.78	47.31	10.53	Ave
0.410	10.10	35.83	47.75	11.92	Ave
0.430	10.10	44.69	57.31	12.62	QP
0.410	10.10	44.05	57.75	13.70	QP
0.680	10.10	30.29	46.00	15.71	Ave
0.510	10.10	39.37	56.00	16.63	QP
0.510	10.10	28.53	46.00	17.47	Ave
0.680	10.10	37.37	56.00	18.63	QP
0.330	10.10	28.55	49.51	20.96	Ave
0.330	10.10	38.43	59.51	21.08	QP
0.160	10.10	36.12	65.56	29.44	QP
0.160	10.10	25.41	55.56	30.15	Ave

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

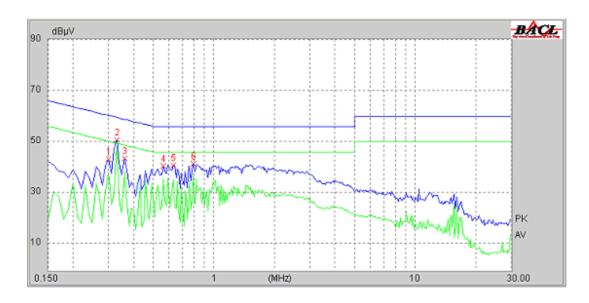
# 120V/60 Hz, Line (Model ZXDSL 831A II with adapter 2)



Conducted Emissions			FCC Part 15.107			
Frequency (MHz)	Correction Factor (dB)	Corrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/ QP/Ave)	
0.340	10.10	47.82	49.29	1.47*	Ave	
0.340	10.10	54.72	59.29	4.57	QP	
0.370	10.10	42.62	48.52	5.90	Ave	
0.430	10.10	40.26	47.31	7.05	Ave	
0.490	10.10	37.39	46.21	8.82	Ave	
0.520	10.10	36.06	46.00	9.94	Ave	
0.370	10.10	45.22	58.52	13.30	QP	
0.490	10.10	42.15	56.21	14.06	QP	
0.430	10.10	43.23	57.31	14.08	QP	
0.520	10.10	41.14	56.00	14.86	QP	
0.220	10.10	36.72	52.92	16.20	Ave	
0.220	10.10	43.93	62.92	18.99	QP	

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

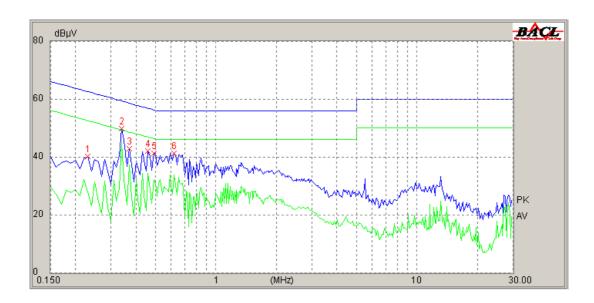
# 120V/60 Hz, Neutral (Model ZXDSL 831A II with adapter 2)



Co	onducted Emission	ons	FCC Part 15.107			
Frequency (MHz)	Correction Factor (dB)	Corrrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/ QP/Ave)	
0.330	10.10	48.54	49.51	0.97*	Ave	
0.790	10.10	37.08	46.00	8.92	Ave	
0.360	10.10	38.35	48.74	10.39	Ave	
0.560	10.10	35.41	46.00	10.59	Ave	
0.330	10.10	48.79	59.51	10.72	QP	
0.630	10.10	35.16	46.00	10.84	Ave	
0.300	10.10	38.38	50.28	11.90	Ave	
0.790	10.10	39.86	56.00	16.14	QP	
0.630	10.10	39.12	56.00	16.88	QP	
0.560	10.10	38.67	56.00	17.33	QP	
0.360	10.10	40.91	58.74	17.83	QP	
0.300	10.10	41.77	60.28	18.51	QP	

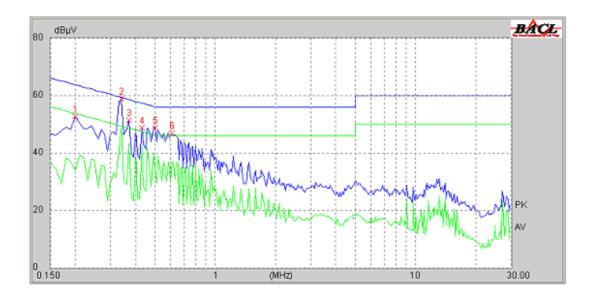
<sup>\*</sup>With measurement uncertainty!

# 120V/60 Hz, Line (Model ZXDSL 831 II with adapter 2)



Co	onducted Emission	ons	FCC Part 15.107			
Frequency (MHz)	Correction Factor (dB)	Corrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/ QP/Ave)	
0.340	10.10	45.00	49.29	4.29	Ave	
0.370	10.10	37.23	48.52	11.29	Ave	
0.340	10.10	47.74	59.29	11.55	QP	
0.620	10.10	33.66	46.00	12.34	Ave	
0.460	10.10	34.32	46.76	12.44	Ave	
0.490	10.10	32.20	46.21	14.01	Ave	
0.620	10.10	39.49	56.00	16.51	QP	
0.460	10.10	39.42	56.76	17.34	QP	
0.370	10.10	40.90	58.52	17.62	QP	
0.490	10.10	38.45	56.21	17.76	QP	
0.230	10.10	27.79	52.48	24.69	Ave	
0.230	10.10	35.72	62.48	26.76	QP	

# 120V/60 Hz, Neutral (Model ZXDSL 831 II with adapter 2)



Co	onducted Emission	ons	FCC Part 15.107			
Frequency (MHz)	Correction Factor (dB)	Corrrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/ QP/Ave)	
0.340	10.10	47.83	49.29	1.46*	Ave	
0.340	10.10	56.09	59.29	3.20	QP	
0.430	10.10	42.28	47.31	5.03	Ave	
0.370	10.10	43.02	48.52	5.50	Ave	
0.610	10.10	36.89	46.00	9.11	Ave	
0.370	10.10	49.22	58.52	9.30	QP	
0.430	10.10	47.11	57.31	10.20	QP	
0.500	10.10	34.57	46.00	11.43	Ave	
0.610	10.10	43.86	56.00	12.14	QP	
0.500	10.10	43.40	56.00	12.60	QP	
0.200	10.10	47.81	63.69	15.88	QP	
0.200	10.10	33.96	53.69	19.73	Ave	

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

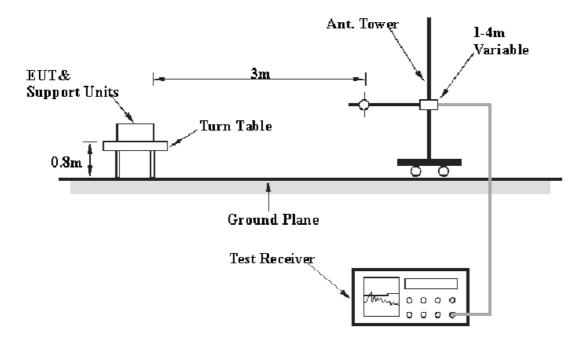
# FCC §15.109 - RADIATED EMISSIONS

#### **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  $\pm 4.0 \text{ dB}$ .

## **EUT Setup**



The radiated emission tests were performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC Part 15.109 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 1 GHz.

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

 Frequency
 RB/W
 VB/W
 IF B/W

 30 MHz-1 GHz
 100 kHz
 300 kHz
 120 kHz

## **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447E	1937A01046	2010-08-02	2011-08-02
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2009-11-24	2010-11-24
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2010-03-11	2011-03-11

<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**

During the radiated emissions test, the adapter and all other support equipments 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 30 MHz to 1GHz, Peak and average detection mode above 1 GHz.

## **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:

Corrected Amplitude = 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 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 Class B, with the worst margin reading of:

6.0 dB at 795.452500 MHz in the Vertical polarization for model ZXDSL 831A II with adapter 1
5.8 dB at 30.640250 MHz in the Vertical polarization for model ZXDSL 831 II with adapter 1
6.1 dB at 624.074000/729.000000 MHz in the Vertical polarization for model ZXDSL 831A II with adapter 2
7.4 dB at 48.064750 MHz in the Vertical polarization for model ZXDSL 831 II with adapter 2

#### **Test Data**

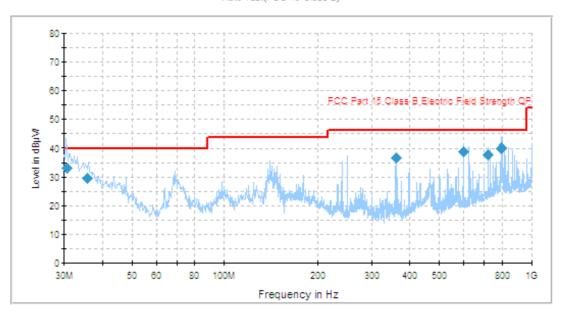
#### **Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	48 %
ATM Pressure:	100.0 kPa

The testing was performed by Jessica He on 2010-08-18.

Test Mode: Running (Model ZXDSL 831A II with adapter 1)

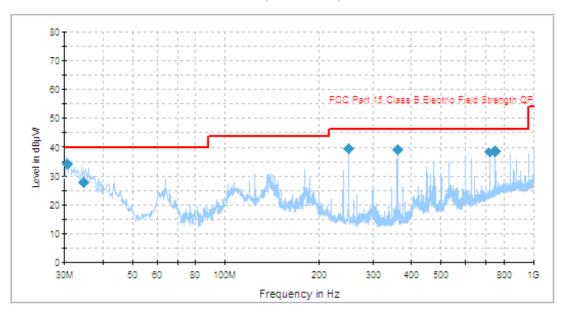
#### Auto Test(FCC 15 Class B)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
795.452500	40.0	141.0	V	44.0	-1.5	46.0	6.0
30.635079	33.3	400.0	Н	213.0	-6.4	40.0	6.7
599.981750	39.0	100.0	V	161.0	-8.5	46.0	7.0
720.155000	37.8	203.0	Н	51.0	-0.6	46.0	8.2
360.042500	36.8	100.0	Н	130.0	-0.4	46.0	9.2
35.718500	29.6	103.0	V	111.0	-10.4	40.0	10.4

Test Mode: Running (Model ZXDSL 831 II with adapter 1)

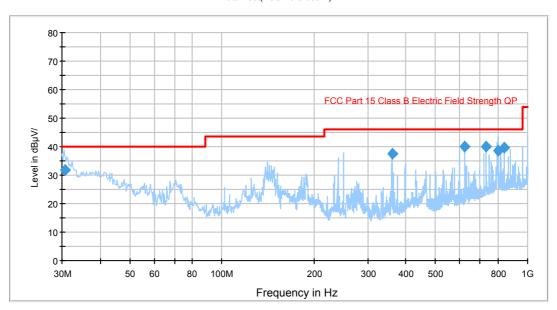
Auto Test(FCC 15 Class B)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
30.640250	34.2	102.0	V	172.0	-6.4	40.0	5.8
250.006750	39.7	174.0	Н	94.0	-15.6	46.0	6.3
359.994250	39.2	104.0	Н	182.0	-13.2	46.0	6.8
729.000000	38.0	258.0	V	149.0	-3.8	46.0	8.0
720.155000	37.6	140.0	Н	60.0	-3.9	46.0	8.4
34.610750	28.0	105.0	V	43.0	-9.6	40.0	12.0

Test Mode: Running (Model ZXDSL 831A II with adapter 2)

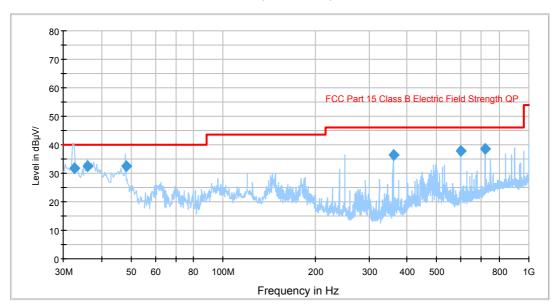
## Auto Test(FCC 15 Class B)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
624.074000	39.9	100.0	V	57.0	-7.4	46.0	6.1
729.000000	39.9	100.0	V	35.0	-3.6	46.0	6.1
839.974250	39.8	100.0	Н	191.0	-1.5	46.0	6.2
799.146000	38.7	100.0	V	8.0	-1.3	46.0	7.3
30.614394	31.8	329.0	Н	194.0	-6.4	40.0	8.2
360.004500	37.6	121.0	Н	75.0	-13.2	46.0	8.4

Test Mode: Running (Model ZXDSL 831 II with adapter 2)

#### Auto Test(FCC 15 Class B)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
48.064750	32.6	112.0	V	94.0	-18.0	40.0	7.4
720.008000	38.6	102.0	Н	199.0	-4.0	46.0	7.4
36.086000	32.4	124.0	V	70.0	-10.6	40.0	7.6
32.571250	32.0	104.0	V	103.0	-8.0	40.0	8.0
600.001750	37.7	103.0	Н	324.0	-8.5	46.0	8.3
360.008250	36.4	104.0	Н	194.0	-13.2	46.0	9.6

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