FCC TEST REPORT

for

Wireless Network Adapter

Model No.	:	WL0118
FCC ID	:	VOEWL0118
Operating Frequency	:	2400-2483.5 MHz
Applicant	:	ZIONCOM (HONGKONG) TECHNOLOGY LIMITED Lantian Science and Technology Park, Xinyu Road, Xi street, Baoan District, Shenzhen, China.
Regulation	:	***FCC Part 15.107 Subpart B*** ***FCC Part 15.109 Subpart B***
Prepared by	:	AOV Testing Technology Co., Ltd AOV Building, Xueyuan Road East, University City, Shenzhen (Tanglang Village, Xili Town, Nanshan District), China
Test Date	:	September 5 to October 14, 2008
Date of Report	:	October 15, 2008

TABLE OF CONTENT

Description Page

Test Report Declaration

TEST REPORT DECLARATION

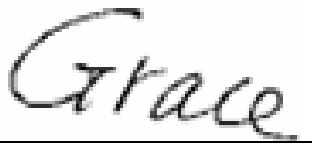
Applicant	:	ZIONCOM (HONGKONG) TECHNOLOGY LIMITED
Manufacturer	:	ZIONCOM (HONGKONG) TECHNOLOGY LIMITED
EUT Description	:	Wireless Network Adapter

Test Procedure Used:
FCC Part 15.107, 15.109 Subpart B

The E. U. T. listed below has been completed RFI testing by Shenzhen AOV Testing Technology Co., Ltd at the test site of Bontek Compliance Testing Laboratory Ltd. And the Interference emissions can pass **FCC CLASS B** limitations.

The test configurations and the facility comply with the radiated and AC line conducted test site criteria in **ANSI C63.4-2003**.

Date of Test: September 5 to October 14, 2008

Prepared by: 

Project Engineer

Reviewer : 

Project Manager

1. GENERAL INFORMATION

1.1 General Information

Applicant : ZIONCOM (HONGKONG) TECHNOLOGY LIMITED
Lantian Science and Technology Park, Xinyu Road, Xi street, Baoan District, Shenzhen, China.

Manufacturer : ZIONCOM (HONGKONG) TECHNOLOGY LIMITED
Lantian Science and Technology Park, Xinyu Road, Xi street, Baoan District, Shenzhen, China.

1.2 Test Facility

Test Firm	:	Bontek Compliance Testing Laboratory Ltd. Certificated by FCC, Registration No.: 338263
Address	:	FL.1, Building H-3, Hua Qiao Cheng East Industrial Area Qiaocheng East Road, Nanshan, Shenzhen, P.R.China
Tel	:	86-755-86337020
Fax	:	86-755-86337028

1.3 Test Instrument Used

No.	Equipment	Manufacturer	Model No.	S/N	Calculator date
1.	EMI Test Receiver	R&S	ESPI7	100097	2008-2-22
2.	Single Power Conductor Module	FCC	FCC-LISN-5-50-1-01-CISPR25	07101	2008-2-22
3.	EMI Test Receiver	R&S	ESCI	100687	2008-2-22
4.	EMI Test Receiver	R&S	FSU	BCT-019	2008-2-22
5.	Amplifier	HP	8447D	1937A02492	2008-2-22
6.	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9163	9163-324	2008-2-22
7.	Horn Antenna	SCHWARZBECK	BBHA9120A	B08000991-0001	2008-2-27
8.	High Field Biconical Antenna	ELECTRO-METRICS	EM-6913	166	2008-2-22
9.	Log Periodic Antenna	ELECTRO-METRICS	EM-6950	811	2008-2-22
10.	Remote Active Vertical Antenna	ELECTRO-METRICS	EM-6892	304	2008-2-22
11.	Teo Line Single Phase Module	SCHWARZBECK	NSLK8128	D-69250	2008-3-31
12.	Positioning Controller	C&C	CC-C-1F	MF7802113	2008-2-22
13.	Triple-Loop Antenna	EVERFINE	LLA-2	607004	2008-2-27
14.	10dB attenuator	SCHWARZBECK	MTAIMP-136	R65.90.0001#06	2008-2-22

1.4 Description of Test System

PC	IBM	R50
Printer	EPSON	9330A
Mouse	DELL	MOC5UO
Card Bus (PCMCIA to MINIPCI)	N.A.	N.A.
Software run when test : QA Test_RT2561	N.A.	N.A.

2. POWERLINE CONDUCTED EMISSION TEST

2.1.Test Standard

15.107

2.2.Limits

Frequency MHz	Limits (dBμV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes:

1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.3.Test Procedure

The EUT is put on the table that is 0.8m high above the ground and at least away from other Metallic surface 0.4m. The EUT is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohms coupling impedance for the testing equipment; and the peripheral equipment powers form other L.I.S.N. Please refer to the block diagram of the test setup and photographs. Both sides of AC line (Line & Neutral) are checked for maximum conducted interference. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables must be changed according to FCC part 15 B.

2.4.Test Result

PASS

Detailed information, Please refer to the following page.

IEEE 802.11b (11Mbps)

Line:

Frequency (MHz)	AV Read Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	QP Read Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)
0.4380	30.00	47	17.00	39.90	57	17.10
0.2175	40.80	53	12.20	52.80	63	10.20
2.1975	32.00	46	14.00	40.10	56	15.90
2.6385	29.20	46	16.80	46.10	56	9.90
18.3250	29.70	50	20.30	40.80	60	19.20
29.4735	28.00	50	22.00	37.00	60	23.00

Neutral:

Frequency (MHz)	AV Read Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	QP Read Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)
0.2220	41.60	53	11.40	53.40	63	9.60
0.5505	37.70	46	9.30	40.70	56	15.30
2.6430	35.10	46	10.90	38.30	56	17.70
9.1730	28.90	50	21.10	40.10	60	19.90
15.5370	28.20	50	21.80	39.80	60	20.20
30.0000	21.00	50	29.00	30.20	60	29.80

IEEE 802.11g (54Mbps)

Line:

Frequency (MHz)	AV Read Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	QP Read Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)
0.2990	34.00	52	18.00	50.80	62	11.20
0.5380	31.00	46	15.00	43.20	56	12.80
2.6385	32.10	46	13.90	46.90	56	9.10
8.1280	29.00	50	21.00	39.60	60	20.40
18.3250	29.60	50	20.40	39.70	60	20.30
27.9635	29.40	50	20.60	37.00	60	23.00

Neutral:

Frequency (MHz)	AV Read Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	QP Read Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)
0.2445	40.00	52	12.00	54.30	62	7.70
0.5505	37.80	46	8.20	42.40	56	13.60
1.0995	36.40	46	9.60	38.20	56	17.80
2.5305	33.50	46	12.50	44.20	56	11.80
6.2970	27.90	50	22.10	38.80	60	21.20
29.9215	22.70	50	27.30	30.20	60	19.80

3. RADIATED EMISSION TEST

3.1. Rules Part No.

15.109

3.2. Limits

Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency of (MHz)	Emission Field Strength (microvolts/meter)
30 - 88	100 (40)
88 - 216	150 (43.5)
216 - 960	200 (46.0)
Above 960	500 (54.0)

3.3. Test Procedure

ANSI STANDARD C63.4-2003 10.1.7 MEASUREMENT PROCEDURES:

The EUT is placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (log periodical antenna and horn antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

The spectrum was scanned from 30 MHz to 10th harmonic of the fundamental.

3.4. Test Result

PASS

IEEE 802.11b (11Mbps)

Low Channel: 2412MHz

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
99.9400	37.8	35.2	43.5	8.3
165.8000	41.7	36.5	43.5	7.0
198.3800	35.3	32.9	43.5	10.6
398.8800	34.7	30.7	46	15.3
499.4800	35.1	32.7	46	13.3
557.2800	34.6	29.9	46	16.1
4823.9600	51.5	38.3	54	15.7(AV)
24120.0000	40.9	37.2	54	16.8(AV)

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
99.9400	39.2	36.0	43.5	7.5
132.8200	40.0	33.7	43.5	9.8
198.7800	37.7	34.8	43.5	8.7
398.1200	38.2	35.9	46	10.1
499.4800	37.9	35.1	46	10.9
623.2400	40.7	38.3	46	7.7
4823.9600	50.3	40.1	54	13.9(AV)
24120.0000	41.3	38.4	54	16.6(AV)

Middle Channel: 2437MHz

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
99.9800	40.0	36.3	43.5	7.2
117.4600	37.6	32.4	43.5	11.1
198.8800	37.9	33.9	43.5	9.6
499.4800	41.2	35.6	46	10.4
623.2400	40.3	35.8	46	10.2
4873.9800	51.7	41.8	54	12.2(AV)
24370.0000	40.3	37.6	54	16.4(AV)

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
99.8400	38.8	35.7	43.5	7.8
132.3800	38.3	33.1	43.5	10.4
198.8800	36.9	33.5	43.5	10.0
499.6600	40.5	37.7	46	8.3
623.2400	41.7	38.2	46	7.8
4873.9800	49.9	37.4	54	16.6(AV)
24370.0000	41.7	40.6	54	13.4(AV)

High Channel: 2462MHz

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
99.8800	38.9	36.3	43.5	7.2
132.3800	34.1	34.1	43.5	9.4
198.8800	40.1	37.4	43.5	6.1
499.6600	38.6	36.9	46	9.1
557.2800	36.6	32.4	46	13.6
4923.9800	48.4	36.6	54	17.4(AV)
24620.0000	39.8	37.8	54	16.2(AV)

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
99.8600	40.3	37.1	43.5	6.4
155.3500	37.5	35.7	43.5	7.8
198.8800	39.6	35.3	43.5	8.2
499.4800	40.6	38.2	46	7.8
623.4400	39.0	36.6	46	9.4
4923.9800	51.9	40.7	54	13.3(AV)
24620.0000	40.5	37.0	54	17.0(AV)

IEEE 802.11g (54Mbps)

Low Channel: 2412MHz

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
100.0200	40.6	37.4	43.5	6.1
132.8800	39.6	35.0	43.5	8.5
199.9800	39.7	37.5	43.5	6.0
499.8800	38.2	37.1	46	8.9
4824.0000	40.2	36.2	54	17.8(AV)
24120.0000	37.4	36.0	54	18.0(AV)

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
99.8800	38.7	35.3	43.5	8.2
155.0500	37.3	34.7	43.5	8.8
199.8800	39.8	35.9	43.5	7.6
499.8800	40.9	37.6	46	8.4
4823.9800	39.7	37.0	54	17.0(AV)
24120.0000	40.3	35.5	54	18.5(AV)

Middle Channel: 2437MHz

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
100.0000	39.7	36.9	43.5	6.6
165.3800	32.4	30.1	43.5	13.4
199.6600	38.5	37.3	43.5	6.2
499.6800	42.3	37.8	46	8.2
4873.9800	39.6	37.7	54	16.3(AV)
24370.0000	40.5	36.9	54	17.1(AV)

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
99.8800	40.02	37.2	43.5	6.3
132.3800	38.9	35.4	43.5	8.1
199.8800	39.4	36.7	43.5	6.8
499.8800	39.7	38.1	46	7.9
4874.0000	43.5	37.2	54	16.8(AV)
24370.0000	40.0	35.9	54	18.1(AV)

High Channel: 2462MHz

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
99.8800	39.9	35.8	43.5	7.7
132.8800	37.3	34.9	43.5	8.6
199.9800	40.2	37.5	43.5	6.0
499.9800	41.7	39.2	46	6.8
4924.0000	39.9	37.0	54	17.0(AV)
24620.0000	40.2	36.7	54	17.3(AV)

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)
99.8800	38.3	36.4	43.5	7.1
132.0200	40.0	37.3	43.5	6.2
1999.8800	37.6	36.8	43.5	6.7
500.0200	40.9	37.7	46	8.3
4923.9800	40.6	36.1	54	17.9(AV)
24620.0000	40.2	36.6	54	17.4(AV)

4. PHOTOGRAPH OF TEST

4.1.Photo of Power Line Conducted Emission Test

4.2.Photo of Radiated Emission Test