FCC 47 CFR PART 15 SUBPART C AND ANSI C63.4 : 2003

TEST REPORT

For

802.11a/b/g SMB Wireless Access Point

Model : AG-3220

Trade Name : ZCOM

Issued for

Z-Com, Inc.

7F-2, No.9, Prosperity Rd. I, Science-Based Industrial,

Park Hsinchu, 300 Taiwan, R.O.C.

Issued by

Compliance Certification Services Inc.
Hsinchu Lab.
Rm. 258, Bldg. 17, NO.195, Sec.4 Chung HsingRd.,
ChuTung Chen, Hsinchu, Taiwan 310, R.O.C
TEL: (03) 591-0068
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1. TEST REPORT VERIFICATION

Applicant	：Z-Com, Inc.
Address	：7F-2, No.9, Prosperity Rd. I, Science-Based Industrial, Park Hsinchu, 300 Taiwan, R.O.C.
Equipment Under Test	：802.11a/b/g SMB Wireless Access Point
Model	：AG-3220
Trade Name	：ZCOM
Tested Date	：January 20 ~ February 14, 2005

APPLICABLE STANDARD	
STANDARD	**TEST RESULT**
FCC Part 15 Subpart C : 2004 AND ANSI C63.4 : 2003	No non-compliance noted

Approved by:

C. F. Wu
Manager of Hsinchu Laboratory
Compliance Certification Services Inc.

August 23, 2005

Reviewed by:

Alan Fan
Test Engineer of Hsinchu Laboratory
Compliance Certification Services Inc.

August 23, 2005

WE HEREBY CERTIFY THAT: The measurements shown in the attachment were made in accordance with the procedures indicated, and the energy emitted by the equipment was found to be within the limits applicable. We assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

2. GENERAL INFORMATION

2.1 General Statement

MEASUREMENT DEVIATION：Comply with standard in full
TRACEABILITY ：This test result is traceable to National or International std.

2.2 General Description of EUT & Power

Product Name	802.11a/b/g SMB Wireless Access Point
Model Number	AG-3220
Operating Frequency	◆IEEE 802.11a USA(FCC) : 5.725GHz ~ 5.850GHz ◆IEEE 802.11b/g ISM Band USA(FCC) : 2.4GHz ~ 2.4835GHz (CH1 ~ CH11)
Channel Number	11 channel for 802.11b/g 1 channel for Super G (Channel 6) 5 channel for Normal 802.11a, 2 channel for Super A
Channel Spacing	20MHz for 802.11a ; 5MHz for 802.11 b/g
Modulation	◆IEEE 802.11a (OFDM) : 48/54 Mbps (QAM-64), 24/36 Mbps (QAM-16), 12/18 Mbps (QPSK), 6/9 Mbps (BPSK) ◆IEEE 802.11g (OFDM / DSSS) : 48/54 Mbps (QAM-64), 24/36 Mbps (QAM-16), 12/18 Mbps (QPSK) , 6/9 Mbps (BPSK) , 5.5/11 Mbps (CCK) , 2 Mbps (DQPSK) , 1 Mbps (DBPSK) ◆IEEE 802.11b (DSSS) : 5.5/11 Mbps (CCK) , 2 Mbps (DQPSK), 1 Mbps (DBPSK)
Advanced Mode	Super A/G mode
Frequency Selection	BY SOFTWARE
Transmitter Classification	mobile device
Antenna Type	1/2λ Dipole Antenna, Antenna Gain : 5dBi at 5GHz, 5dBi at 2.4GHz
Power Source	12VDC (From adapter)

Power Adapter :

No.	Manufacturer	Model No.	P/N	Input Power	Output Power
1	NETGEAR	DV-151A-1	PWR-012-112	120VAC, 60Hz, 22W	12VDC, 1.2A

Note: 1. A 2.4GHz transceiver and a 5GHz transceiver were contained in the EUT. The transceivers could operate simultaneously.

Remark : *1. This report is modified from EC05-01-048.*
2. for more details, please refer to the User's manual of the EUT.

2.3 Tested Channel

The following channel were evaluated in this test report.

5.725~5.875GHz

For normal 802.11a mode

Channel	Carrier center frequency fc (MHz)
Low	5745
------	5765
Middle	5785
------	5805
High	5825

For Super A mode

Channel	Carrier center frequency fc (MHz)
Low	5760
Middle	N/A
High	5800

2.4~2.4835GHz

For 802.11b / normal 802.11g mode

Channel	Carrier center frequency fc (MHz)
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462

For Super G mode

Channel	Carrier center frequency fc (MHz)
6	2437

2.4 Description of Peripherals

（1）Notebook PC

MANUFACTURER ：COMPAQ CORP.
MODEL NUMBER ：N800V
SERIAL NUMBER ：5Y33KSQZM0W4 1YR
FCC ：DOC
INPUT POWER ：18.5VDC,65W,3.5A
POWER CORD ：Unshielded, Detachable, 1.8m

Adapter

MANUFACTURER ：COMPAQ CORP.
MODEL NUMBER ：PPP009L
SERIAL NUMBER ：4809673805
INPUT POWER ：100-240VAC 50/60Hz,1.6A
OUTPUT POWER ：18.5VDC, 65W, 3.5A

（2）Notebook PC

MANUFACTURER ：COMPAQ CORP.
MODEL NUMBER ：N800V
SERIAL NUMBER ：5Y31KSQZD1TJ 1YR
FCC ：DOC
INPUT POWER ：18.5VDC,65W,3.5A
POWER CORD ：Unshielded, Detachable, 1.8m

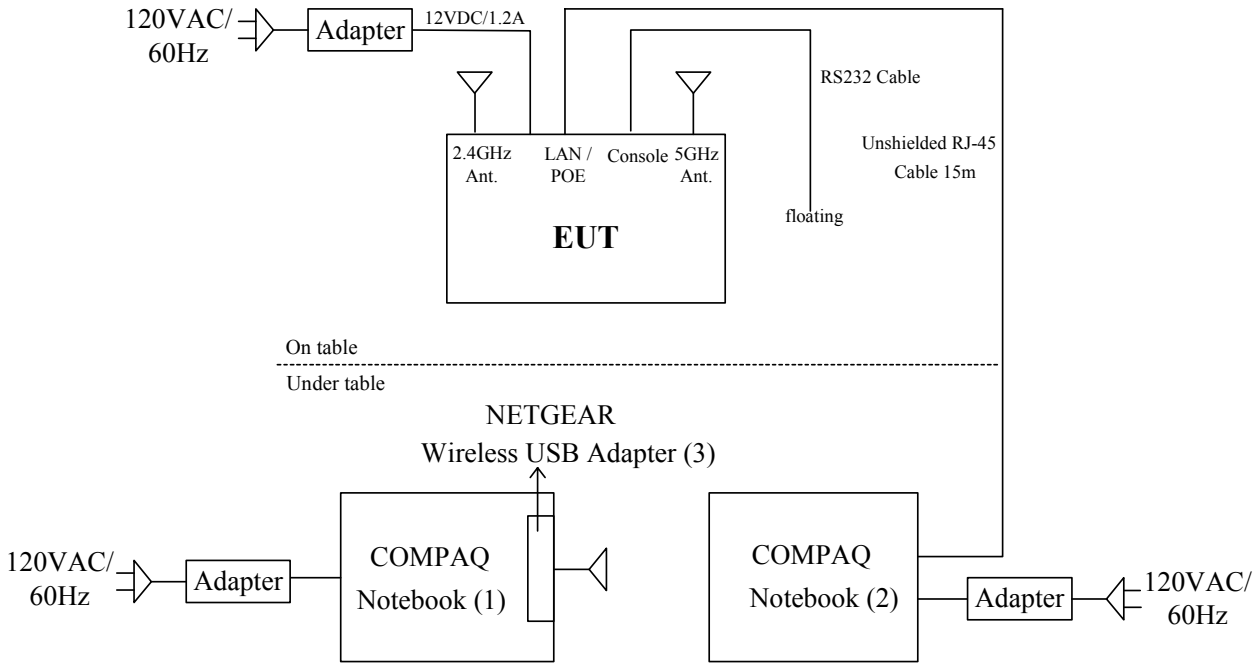
Adapter

MANUFACTURER ：COMPAQ CORP.
MODEL NUMBER ：PPP009L
SERIAL NUMBER ：4809672405
INPUT POWER ：100-240VAC 50/60Hz,1.6A
OUTPUT POWER ：18.5VDC, 65W, 3.5A

（3）Double 108 Mbps Wireless USB 2.0 Adapter WG111U

MANUFACTURER ：NETGEAR CORP.
MODEL NUMBER ：WG111U
FCC ID ：PY3WG111U
POWER SOURCE ：5VDC (From USB interface of Notebook)

2.5 EUT & Peripherals Setup Diagram



The indicated numbers (1)(2)…..,please refer to item 1.4

2.6 EUT Operating Procedure

1. Set up all computers like the setup diagram.
2. The "**Terminating machine"** software was used for testing.
   (1) **TX Mode**：
   - ⇨ **Tx Data Rate:6Mbps** (802.11a Mode) **108Mbps** (SuperA Mode)
   - ⇨ **Adjust Power:** 802.11b Mode Channel 1 (2412MHz) = **19.0**
     802.11b Mode Channel 6 (2442MHz) = **19.0**
     802.11b Mode Channel 11 (2462MHz) = **19.0**
     Adjust Power: 802.11g Mode Channel 1 (2412MHz) = **17.0**
     802.11g Mode Channel 6 (2442MHz) = **17.0**
     802.11g Mode Channel 11 (2462MHz) = **17.0**
     Adjust Power: 802.11a Mode Channel Low (5745MHz) = **14.0**
     802.11a Mode Channel Middle (5785MHz) = **14.0**
     802.11a Mode Channel High (5825MHz) = **14.0**
     Adjust Power: Super A Mode Channel Low (5760MHz) = **14.0**
     Super A Mode Channel High (5800MHz) = **14.0**
     Adjust Power: Super G Mode Channel Middle (2437MHz) = **17.0**

   (2) **RX Mode**：
   - ⇨ **Continue <R>x**
3. Notebook (1) ping 192.168.0.228 -t -1 5000 to EUT.
4. Notebook (2) ping 192.168.0.228 -t -1 5000 to EUT.
5. Notebook (1) ping 192.168.0.120 -t -1 5000 to Notebook (2)
6. Notebook (2) ping 192.168.0.121 -t -1 5000 to Notebook (1)
7. All of the function are under run.
8. Start test.

2.7 Description of Laboratory

SITE DESCRIPTION

FCC Certificate NO. : 90585

BSMI Certificate NO. : SL2-IN-E-0002

NVLAP Lab Code : 200118-0

CNLA Certificate NO. : CNLA-ZL97018E

VCCI Certificate NO. : R-1189, C-1250

TÜV Rheinland Certificate NO. : 10008375

NAME OF SITE ：Compliance Certification Services Inc. Hsinchu Lab.

SITE LOCATION ：Rm.258, Bldg.17, NO.195 , Sec. 4, Chung Hsing Rd., Chu-Tung Chen. Hsin-Chu, Taiwan 310 R.O.C.

2.8 Summary of Test Results

The EUT has been tested according to the following specifications :

APPLIED STANDARD： FCC 47 C.F.R. Part 15, Subpart B and Subpart C			
Standard Section	**Test Item and Limit**	**Result**	**REMARK**
15.107 15.207	AC Power Conducted Emission Limit : Sec 15.107	PASS	Meet the requirement of limit
15.247(a)(2)	Spectrum Bandwidth of a Orthogonal Frequency Division Multiplex System Limit : 6dB bandwidth > 500KHz	PASS	Meet the requirement of limit
15.247(b)	Maximum Peak Output Power Limit : max. 30dBm	PASS	Meet the requirement of limit
15.109 15.205 15.209	Transmitter Radiated Emissions Limit : Table 15.209	PASS	Meet the requirement of limit
15.247(e)	Power Spectral Density Limit : max. 8dBm	PASS	Meet the requirement of limit
15.247(d)	Out of Band Emission and Restricted Band Radiation Limit:20dB less than peak value of fundamental frequency Restricted band Limit:Table 15.209	PASS	Meet the requirement of limit

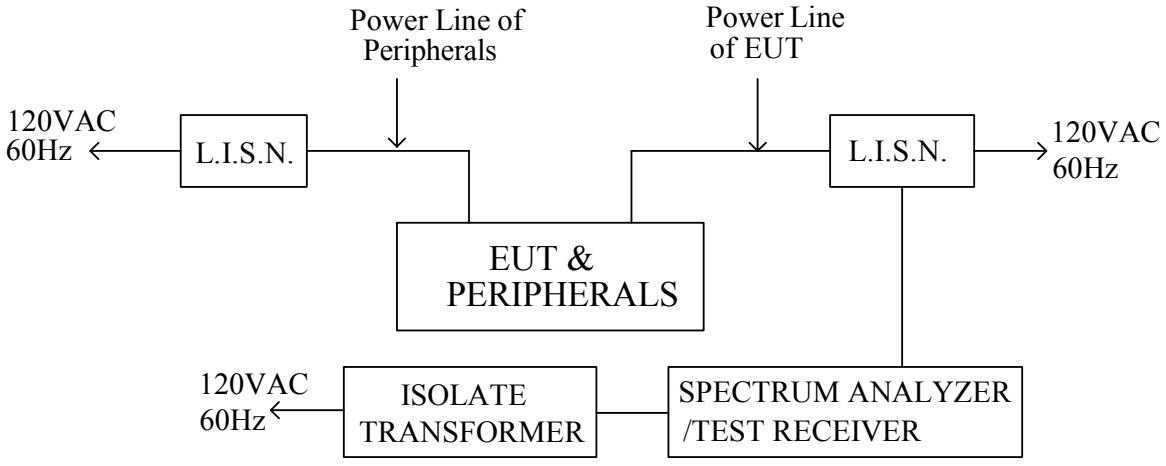
3. CONDUCTED POWERLINE TEST

3.1 Test Equipments

The following test equipments are used during the conducted powerline tests：

Manufacturer or Type	Model No.	Serial No.	Date of Calibration	Calibration Period	Remark
HP SPECTRUM ANALYZER & DISPLAY	8594E	3801A05627	April 26, 2004	1 Year	PRETEST
SOLAR ISOLATION TRANSFORMER	7032-1	N/A	N/A	N/A	FINAL
EMCO L.I.S.N.	3850/2	9311-1025 9401-1028	January 10, 2005 For Characteristic impedance May 18, 2004 For Insertion loss	1 Year	FINAL
R & S TEST RECEIVER	ESHS 30	838550/003	February 11, 2004	1 Year	FINAL
KEENE SHIELDED ROOM	5983	No.1	N/A	N/A	FINAL
R & S PULSE LIMIT	EHS3Z2	357.8810.52	July 10, 2004	1 Year	FINAL
N TYPE COAXIAL CABLE	----------	----------	July 10, 2004	1 Year	FINAL
50Ω TERMINATOR	----------	----------	July 10, 2004	1 Year	FINAL

3.2 Test Setup



3.3 Conducted Power Line Emission Limit

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following：

Frequency (MHz)	Maximum RF Line Voltage (dBμv)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56	56-46
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

For intentional device, according to § 15.207(a) Line Conducted Emission Limit is same as above table.

3.4 Test Procedure

The test procedure is performed in a 12ft×12ft×8ft(L×W×H) shielded room. The EUT along with its peripherals were placed on a 1.0m(W)× 1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chasis ground was bounded to the horizontal ground plane of shielded room. All peripherals were connected to the second LISN and the chasis ground also bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

3.5 Uncertainty of Conducted Emission

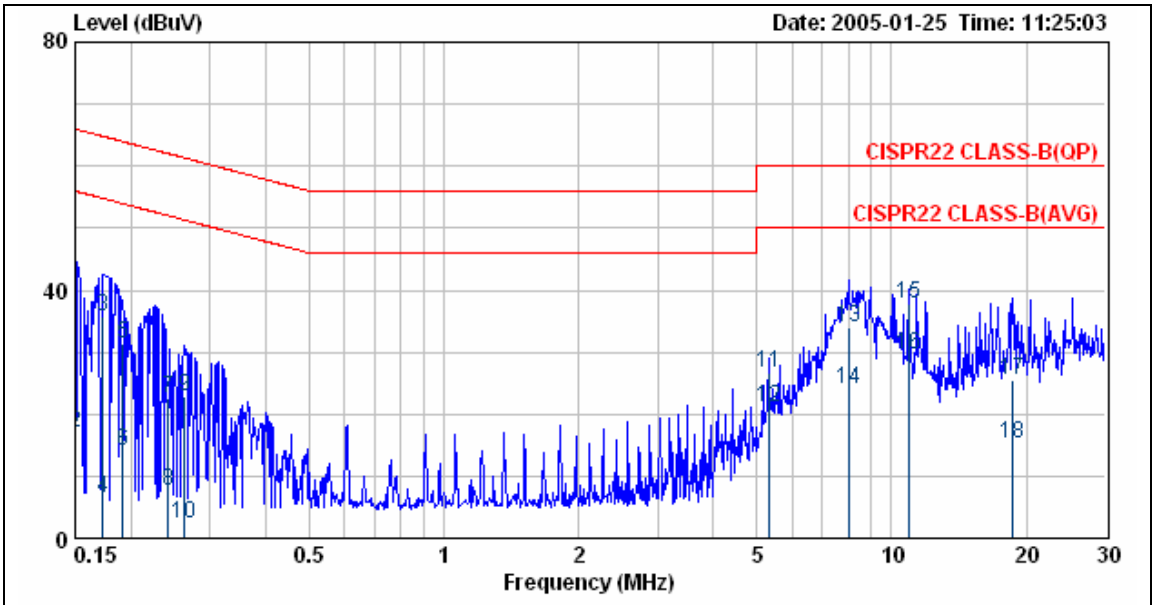
The uncertainty of conducted emission is ±1.36dB.

3.6 Conducted RF Voltage Measurement

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All emissions not reported are much lower than the prescribed limits.

Company	Z-Com, Inc.	Test Date	2005/01/25
Product Name	802.11a/b/g SMB Wireless Access Point	Test By	Alan Fan
Model Name	AG-3220	TEMP & Humidity	14.8℃, 78%

LINE



Freq.	Corr. Factor	Reading Value dBuV		Emission Level dBuV		Limit dBuV		Margin dBuV	
MHz	dB	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.
0.150	0.10	38.13	17.01	38.23	17.11	66.00	56.00	-27.77	-38.89
0.173	0.10	35.68	6.44	35.78	6.54	64.81	54.81	-29.03	-48.27
0.192	0.10	31.33	13.92	31.43	14.02	63.95	53.95	-32.52	-39.93
0.242	0.10	22.34	7.56	22.44	7.66	62.01	52.01	-39.57	-44.35
0.263	0.10	22.84	2.10	22.94	2.20	61.34	51.34	-38.40	-49.14
5.305	0.23	26.31	21.01	26.54	21.24	60.00	50.00	-33.46	-28.76
8.020	0.40	33.60	23.62	34.00	24.02	60.00	50.00	-26.00	-25.98
10.905	0.50	37.30	29.11	37.80	29.61	60.00	50.00	-22.20	-20.39
18.622	0.90	24.61	14.22	25.51	15.12	60.00	50.00	-34.49	-34.88

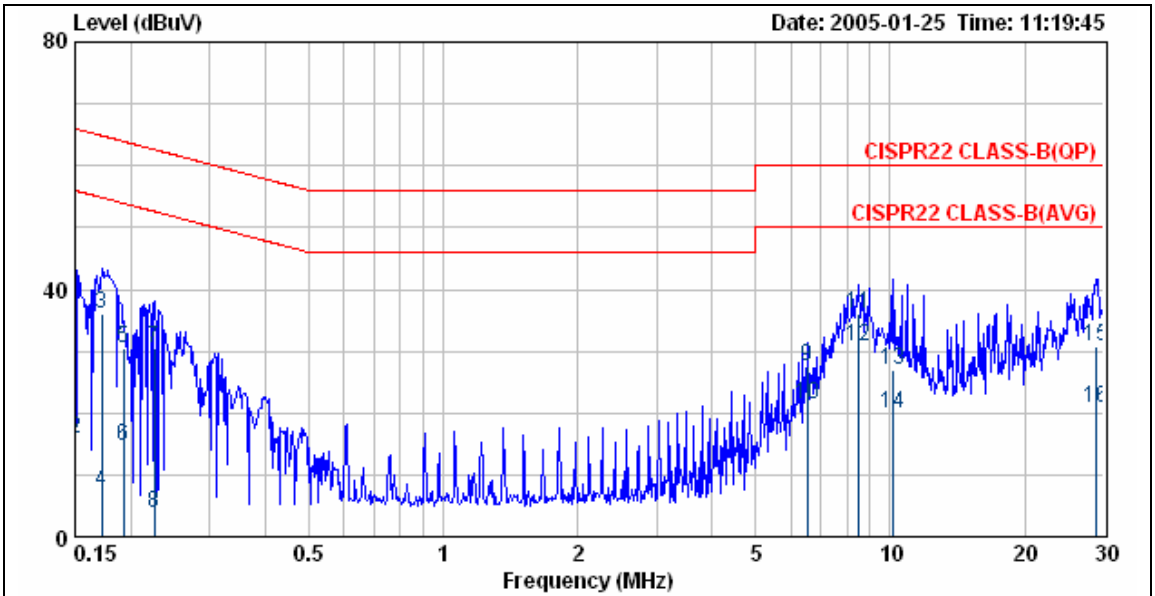
REMARKS：

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value
3. All emission below 1GH at 802.11a/b/g and Super A/G mode are all the same, so the 802.11g mode chosen as representative in final test.
4. According to technical experiences, all spurious emission of 802.11g mode at channel 1,6,11 are almost the same below 1GHz, so that the channel 1 was chosen as representative in finial test.

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All emissions not reported are much lower than the prescribed limits.

Company	Z-Com, Inc.	Test Date	2005/01/25
Product Name	802.11a/b/g SMB Wireless Access Point	Test By	Alan Fan
Model Name	AG-3220	TEMP & Humidity	14.8℃, 78%

NEUTRAL



Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.150	0.20	37.25	15.60	37.45	15.80	66.00	56.00	-28.55	-40.20
0.172	0.20	35.78	7.18	35.98	7.38	64.86	54.86	-28.88	-47.48
0.192	0.20	30.25	14.32	30.45	14.52	63.93	53.93	-33.48	-39.41
0.226	0.20	30.29	3.68	30.49	3.88	62.61	52.61	-32.12	-48.73
6.523	0.30	27.37	21.01	27.67	21.31	60.00	50.00	-32.33	-28.69
8.501	0.35	35.73	30.41	36.08	30.76	60.00	50.00	-23.92	-19.24
10.179	0.50	26.38	19.42	26.88	19.92	60.00	50.00	-33.12	-30.08
28.908	1.67	29.01	19.02	30.68	20.69	60.00	50.00	-29.32	-29.31

REMARKS：

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value
3. All emission below 1GHz at 802.11a/b/g and Super A/G mode are all the same, so the 802.11g mode chosen as representative in final test.
4. According to technical experiences, all spurious emission of 802.11g mode at channel 1,6,11 are almost the same below 1GHz, so that the channel 1 was chosen as representative in finial test.

3.7 Photos of Conduction Test

4. RADIATED EMISSION TEST

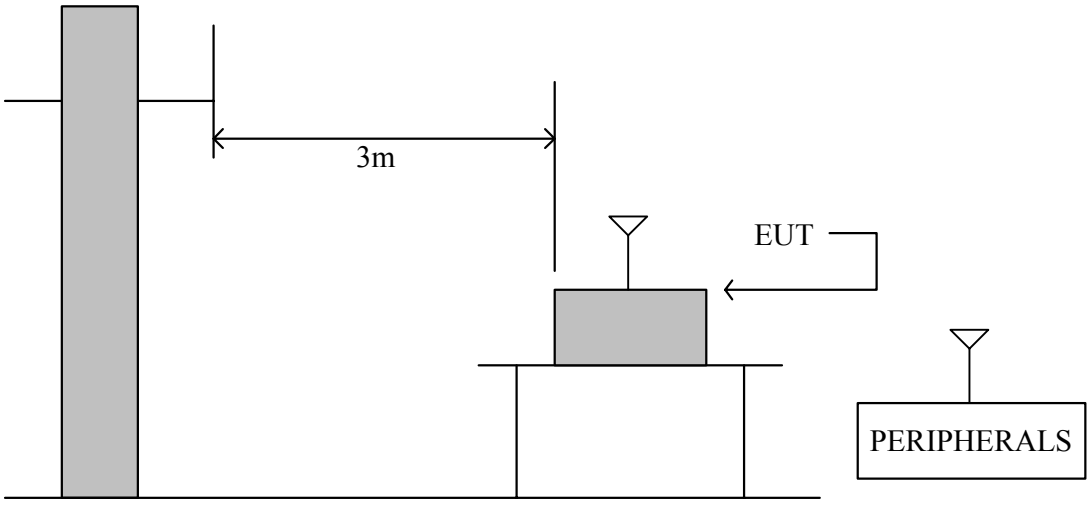
4.1 Test Equipments

The following test equipments are utilized in making the measurements contained in this report.

Manufacturer or Type	Model No	Serial No	Date of Calibration	Calibration Period	Remark
CHASE BI-LOG ANTENNA	CBL6112B	2421	June 15, 2004	1 Year	FINAL
R/S SPECTRUM ANALYZER	FSEK30	835253/002	September 06, 2004	1 Year	FINAL
OPEN SITE	----------	No.2	May 07, 2004	1 Year	FINAL
N TYPE COAXIAL CABLE	CHA9525	4	June 03, 2004	1 Year	FINAL
Horn Antenna	AH-118	10089	April 09, 2004	1 Year	FINAL
HP Pre-amplifier	8449B	3008A01471	November 24, 2004	1 Year	FINAL
HP High pass filter	84300/80038	002	CAL. ON USE	1 Year	FINAL
Horn Antenna	AH-840	3077	February 25, 2004	1 Year	FINAL

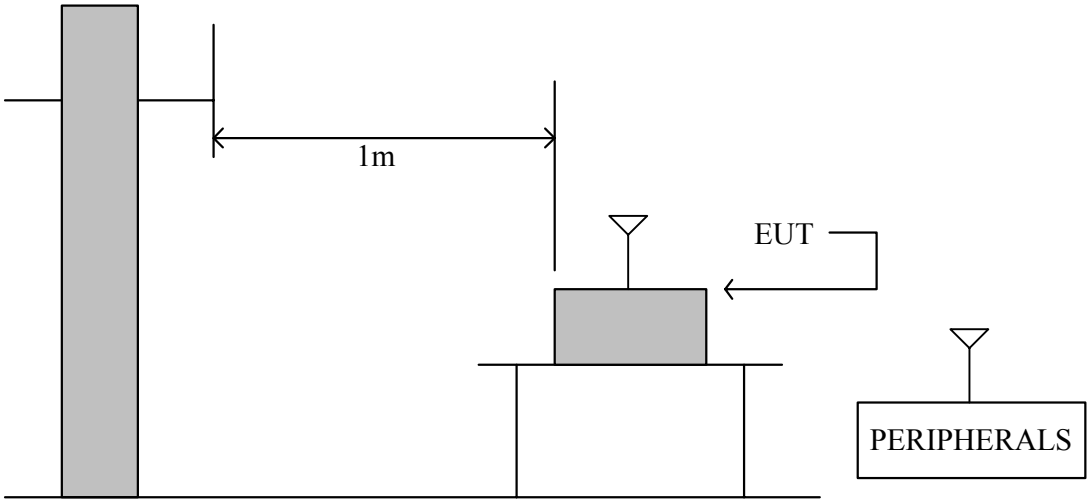
4.2 Test Setup

The diagram below shows the test setup that is utilized to make the measurements for emission below 1GHz.



Antenna Elevation Variable

The diagram below shows the test setup that is utilized to make the measurements for emission above 1GHz.



Antenna Elevation Variable

4.3 Radiation Limit

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values：

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/M)	Radiated (μV/M)
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table. According to § 15.247(d), in any 100kHz bandwidth outside the frequency bard in which the EUT is operating, the radiofrequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of desired power.

4.4 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. During performing radiated emission below 1GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1GHz, the EUT was set 1 meters away from the interference-receiving antenna.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarization of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE：

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.

2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection and frequency above 1GHz.

3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

4.5 Uncertainty of Radiated Emission

The uncertainty of radiated emission is ±2.72dB.

4.6 Radiated RF Noise Measurement

The frequency spectrum from 30 MHz to 1000 MHz was investigated. All emissions not reported are much lower than the prescribed limits.
All readings are quasi-peak values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading at 3m(dBμV)		Limits (dBμV/m)	Emission Level at 3m(dBμV/m)	
			Horizontal	Vertical		Horizontal	Vertical
30.00	18.11	0.90	*	*	40.00	*	*
200.00	10.10	2.60	12.70	14.00	43.50	25.40	26.70
250.00	13.52	3.10	9.80	10.50	46.00	26.42	27.12
527.99	18.46	4.36	12.40	10.20	46.00	35.21	33.01
574.99	18.92	4.45	4.40	4.00	46.00	27.77	27.37
659.99	19.48	5.04	13.80	11.30	46.00	38.32	35.82
791.99	20.27	5.49	8.60	12.30	46.00	34.36	38.06
923.99	20.50	5.79	12.90	10.70	46.00	39.19	36.99
1000.00	21.34	6.40	*	*	54.00	*	*

REMARKS：

1. * Undetectable
2. Emission level (dBμV/m) = Antenna Factor (dB/m) + Cable loss (dB) + Meter Reading (dBμV).
3. All emission below 1GHz at 802.11a/b/g and Super A/G mode are all the same, so the 802.11g mode chosen as representative in final test.
4. According to technical experiences, all spurious emission of 802.11g mode at channel 1,6,11 are almost the same below 1GHz, so that the channel 1 was chosen as representative in finial test.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

Low (5745MHz) RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1915.23	46.55	31.50	3.31	35.35	9.50	0.00	36.52	74.00	-37.48	P	1.01
1915.23	33.25	31.50	3.31	35.35	9.50	0.00	23.22	54.00	-30.78	A	1.01
3830.25	48.45	32.19	4.65	35.07	9.50	0.00	40.73	74.00	-33.27	P	1.02
3830.25	32.02	32.19	4.65	35.07	9.50	0.00	24.30	54.00	-29.70	A	1.02
7660.11	44.74	39.67	7.03	36.08	9.50	0.00	45.85	74.00	-28.15	P	1.01
7660.11	33.19	39.67	7.03	36.08	9.50	0.00	34.30	54.00	-19.70	A	1.01

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level – Limit
5. The test limit is 3M limit.
6. The frequency was searched to 30GHz.
7. The other emission levels were very low against the limit.
8. For normal 802.11a mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

Low (5745MHz) RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1915.54	48.12	31.51	3.31	35.35	9.50	0.00	38.09	74.00	-35.91	P	1.00
1915.54	36.88	31.51	3.31	35.35	9.50	0.00	26.85	54.00	-27.15	A	1.00
3829.98	43.21	32.19	4.65	35.07	9.50	0.00	35.49	74.00	-38.51	P	1.00
3829.98	32.61	32.19	4.65	35.07	9.50	0.00	24.89	54.00	-29.11	A	1.00
7659.88	43.50	39.67	7.03	36.08	9.50	0.00	44.61	74.00	-29.39	P	1.01
7659.88	33.25	39.67	7.03	36.08	9.50	0.00	34.36	54.00	-19.64	A	1.01

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 30GHz.
7. The other emission levels were very low against the limit.
8. For normal 802.11a mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

Middle (5785MHz) RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1928.03	45.89	31.61	3.33	35.34	9.50	0.00	35.98	74.00	-38.02	P	1.01
1928.03	35.26	31.61	3.33	35.34	9.50	0.00	25.35	54.00	-28.65	A	1.01
3856.49	46.98	32.26	4.68	35.04	9.50	0.00	39.37	74.00	-34.63	P	1.00
3856.49	35.87	32.26	4.68	35.04	9.50	0.00	28.26	54.00	-25.74	A	1.00
7712.89	46.78	39.66	7.06	36.24	9.50	0.00	47.76	74.00	-26.24	P	1.00
7712.89	35.11	39.66	7.06	36.24	9.50	0.00	36.09	54.00	-17.91	A	1.00

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 30GHz.
7. The other emission levels were very low against the limit.
8. For normal 802.11a mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

Middle (5785MHz) RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1927.98	47.89	31.61	3.33	35.34	9.50	0.00	37.98	74.00	-36.02	P	1.01
1927.98	36.89	31.61	3.33	35.34	9.50	0.00	26.98	54.00	-27.02	A	1.01
3856.01	46.12	32.25	4.68	35.04	9.50	0.00	38.51	74.00	-35.49	P	1.04
3856.01	34.78	32.25	4.68	35.04	9.50	0.00	27.17	54.00	-26.83	A	1.04
7713.98	44.25	39.66	7.06	36.24	9.50	0.00	45.23	74.00	-28.77	P	1.00
7713.98	33.85	39.66	7.06	36.24	9.50	0.00	34.83	54.00	-19.17	A	1.00

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 30GHz.
7. The other emission levels were very low against the limit.
8. For normal 802.11a mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

High (5825MHz) RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1942.88	44.28	31.73	3.34	35.33	9.50	0.00	34.52	74.00	-39.48	P	1.00
1942.88	33.89	31.73	3.34	35.33	9.50	0.00	24.13	54.00	-29.87	A	1.00
3883.20	46.52	32.32	4.71	35.02	9.50	0.00	39.03	74.00	-34.97	P	1.02
3883.20	34.71	32.32	4.71	35.02	9.50	0.00	27.22	54.00	-26.78	A	1.02
7766.14	44.23	39.65	7.10	36.40	9.50	0.00	45.07	74.00	-28.93	P	1.02
7766.14	33.46	39.65	7.10	36.40	9.50	0.00	34.30	54.00	-19.70	A	1.02

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 30GHz.
7. The other emission levels were very low against the limit.
8. For normal 802.11a mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

High (5825MHz) RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1941.98	46.87	31.72	3.34	35.33	9.50	0.00	37.10	74.00	-36.90	P	1.02
1941.98	35.59	31.72	3.34	35.33	9.50	0.00	25.82	54.00	-28.18	A	1.02
3883.27	45.12	32.32	4.71	35.02	9.50	0.00	37.63	74.00	-36.37	P	1.00
3883.27	33.69	32.32	4.71	35.02	9.50	0.00	26.20	54.00	-27.80	A	1.00
7766.58	45.28	39.65	7.10	36.40	9.50	0.00	46.12	74.00	-27.88	P	1.00
7766.58	33.89	39.65	7.10	36.40	9.50	0.00	34.73	54.00	-19.27	A	1.00

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 30GHz.
7. The other emission levels were very low against the limit.
8. For normal 802.11a mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH1 RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4824.11	44.89	31.53	3.32	35.61	9.50	0.00	34.62	74	-39.38	P	1.0
4824.11	32.65	31.53	3.32	35.61	9.50	0.00	22.38	54	-31.62	A	1.0
7236.05	43.57	39.81	4.79	35.65	9.50	0.00	43.02	74	-30.98	P	1.0
7236.05	32.54	39.81	4.79	35.65	9.50	0.00	31.99	54	-22.01	A	1.0
9647.88	43.89	38.54	5.90	36.44	9.50	0.00	42.39	74	-31.61	P	1.0
9647.88	32.19	38.54	5.90	36.44	9.50	0.00	30.69	54	-23.31	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 18GHz.
7. The other emission levels were very low against the limit.
8. All emission above 1GHz at 802.11b/g are all the same, so the 802.11g mode chosen as representative in Final test.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH1 RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4824.16	44.98	34.44	2.82	35.16	9.50	0.00	37.58	74	-36.42	P	1.0
4824.16	32.54	34.44	2.82	35.16	9.50	0.00	25.14	54	-28.86	A	1.0
7237.55	42.86	39.80	4.80	35.65	9.50	0.00	42.31	74	-31.69	P	1.0
7237.55	31.25	39.80	4.80	35.65	9.50	0.00	30.70	54	-23.30	A	1.0
9648.83	43.58	38.54	5.90	36.44	9.50	0.00	42.08	74	-31.92	P	1.0
9648.83	31.54	38.54	5.90	36.44	9.50	0.00	30.04	54	-23.96	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 18GHz.
7. The other emission levels were very low against the limit.
8. All emission above 1GHz at 802.11b/g are all the same, so the 802.11g mode chosen as representative in Final test.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH6 RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4873.83	44.89	34.77	2.73	35.20	9.50	0.00	37.69	74	-36.31	P	1.0
4873.83	32.54	34.77	2.73	35.20	9.50	0.00	25.34	54	-28.66	A	1.0
7312.22	42.85	39.78	4.82	35.64	9.50	0.00	42.31	74	-31.69	P	1.0
7312.22	31.25	39.78	4.82	35.64	9.50	0.00	30.71	54	-23.29	A	1.0
9747.94	43.88	38.53	5.90	36.60	9.50	0.00	42.21	74	-31.79	P	1.0
9747.94	32.14	38.53	5.90	36.60	9.50	0.00	30.47	54	-23.53	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 18GHz.
7. The other emission levels were very low against the limit.
8. All emission above 1GHz at 802.11b/g are all the same, so the 802.11g mode chosen as representative in Final test.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH6 RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4873.16	44.80	34.76	2.73	35.20	9.50	0.00	37.59	74	-36.41	P	1.0
4873.16	31.16	34.76	2.73	35.20	9.50	0.00	23.95	54	-30.05	A	1.0
7311.55	43.73	39.78	4.82	35.64	9.50	0.00	43.19	74	-30.81	P	1.0
7311.55	31.34	39.78	4.82	35.64	9.50	0.00	30.80	54	-23.20	A	1.0
9747.61	44.70	38.53	5.90	36.60	9.50	0.00	43.03	74	-30.97	P	1.0
9747.61	31.87	38.53	5.90	36.60	9.50	0.00	30.20	54	-23.80	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 18GHz.
7. The other emission levels were very low against the limit.
8. All emission above 1GHz at 802.11b/g are all the same, so the 802.11g mode chosen as representative in Final test.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH11 RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4923.27	44.68	35.09	2.64	35.24	9.50	0.00	37.67	74	-36.33	P	1.0
4923.27	32.56	35.09	2.64	35.24	9.50	0.00	25.55	54	-28.45	A	1.0
7387.99	41.58	39.74	4.86	35.62	9.50	0.00	41.06	74	-32.94	P	1.0
7387.99	32.16	39.74	4.86	35.62	9.50	0.00	31.64	54	-22.36	A	1.0
9848.16	42.46	38.52	5.90	36.76	9.50	0.00	40.62	74	-33.38	P	1.0
9848.16	32.62	38.52	5.90	36.76	9.50	0.00	30.78	54	-23.22	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 18GHz.
7. The other emission levels were very low against the limit.
8. All emission above 1GHz at 802.11b/g are all the same, so the 802.11g mode chosen as representative in Final test.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH11 RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4923.11	44.61	35.09	2.64	35.24	9.50	0.00	37.60	74	-36.40	P	1.0
4923.11	32.14	35.09	2.64	35.24	9.50	0.00	25.13	54	-28.87	A	1.0
7387.05	43.58	39.75	4.85	35.62	9.50	0.00	43.06	74	-30.94	P	1.0
7387.05	32.74	39.75	4.85	35.62	9.50	0.00	32.22	54	-21.78	A	1.0
9847.83	43.74	38.52	5.90	36.76	9.50	0.00	41.90	74	-32.10	P	1.0
9847.83	32.68	38.52	5.90	36.76	9.50	0.00	30.84	54	-23.16	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 18GHz.
7. The other emission levels were very low against the limit.
8. All emission above 1GHz at 802.11b/g are all the same, so the 802.11g mode chosen as representative in Final test.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	18.1℃, 85%

Low (5760MHz) RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1920.02	46.85	31.54	3.32	35.35	9.50	0.00	36.86	74	-37.14	P	1.00
1920.02	33.54	31.54	3.32	35.35	9.50	0.00	23.55	54	-30.45	A	1.00
3840.12	48.12	32.22	4.66	35.06	9.50	0.00	40.44	74	-33.56	P	1.02
3840.12	33.12	32.22	4.66	35.06	9.50	0.00	25.44	54	-28.56	A	1.02
7679.92	44.85	39.66	7.04	36.14	9.50	0.00	45.91	74	-28.09	P	1.00
7679.92	34.78	39.66	7.04	36.14	9.50	0.00	35.84	54	-18.16	A	1.00

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 30GHz.
7. The other emission levels were very low against the limit.
8. For Super A mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	18.1℃, 85%

Low (5760MHz) RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1920.15	47.56	31.55	3.32	35.35	9.50	0.00	37.58	74	-36.42	P	1.00
1920.15	35.74	31.55	3.32	35.35	9.50	0.00	25.76	54	-28.24	A	1.00
3840.11	44.25	32.22	4.66	35.06	9.50	0.00	36.57	74	-37.43	P	1.03
3840.11	33.57	32.22	4.66	35.06	9.50	0.00	25.89	54	-28.11	A	1.03
7679.25	44.58	39.66	7.04	36.14	9.50	0.00	45.64	74	-28.36	P	1.00
7679.25	32.79	39.66	7.04	36.14	9.50	0.00	33.85	54	-20.15	A	1.00

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 30GHz.
7. The other emission levels were very low against the limit.
8. For Super A mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	18.1℃, 85%

High (5800MHz) RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1933.45	45.65	31.65	3.33	35.34	9.50	0.00	35.80	74	-38.20	P	1.00
1933.45	34.12	31.65	3.33	35.34	9.50	0.00	24.27	54	-29.73	A	1.00
3866.11	47.98	32.28	4.69	35.03	9.50	0.00	40.41	74	-33.59	P	1.02
3866.11	33.61	32.28	4.69	35.03	9.50	0.00	26.04	54	-27.96	A	1.02
7732.47	45.12	39.65	7.07	36.30	9.50	0.00	46.05	74	-27.95	P	1.00
7732.47	34.77	39.65	7.07	36.30	9.50	0.00	35.70	54	-18.30	A	1.00

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 30GHz.
7. The other emission levels were very low against the limit.
8. For Super A mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	18.1℃, 85%

High (5800MHz) RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
1933.25	47.25	31.65	3.33	35.34	9.50	0.00	37.39	74	-36.61	P	1.00
1933.25	35.88	31.65	3.33	35.34	9.50	0.00	26.02	54	-27.98	A	1.00
3866.44	44.26	32.28	4.69	35.03	9.50	0.00	36.70	74	-37.30	P	1.06
3866.44	33.84	32.28	4.69	35.03	9.50	0.00	26.28	54	-27.72	A	1.06
7732.56	45.69	39.65	7.07	36.30	9.50	0.00	46.62	74	-27.38	P	1.02
7732.56	33.47	39.65	7.07	36.30	9.50	0.00	34.40	54	-19.60	A	1.02

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 30GHz.
7. The other emission levels were very low against the limit.
8. For Super A mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

(2437MHz) RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
2063.15	45.20	32.14	3.43	35.30	9.50	0.00	35.96	74	-38.04	P	1.12
2063.15	33.55	32.14	3.43	35.30	9.50	0.00	24.31	54	-29.69	A	1.12
4126.02	43.99	32.52	4.86	34.90	9.50	0.00	36.97	74	-37.03	P	1.05
4126.02	32.99	32.52	4.86	34.90	9.50	0.00	25.97	54	-28.03	A	1.05
6189.03	44.89	37.48	6.43	34.30	9.50	0.00	45.00	74	-29.00	P	1.02
6189.03	33.15	37.48	6.43	34.30	9.50	0.00	33.26	54	-20.74	A	1.02

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 18GHz.
7. The other emission levels were very low against the limit.
8. For Super G mode.

The frequency spectrum above 1 GHz for Receiver was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

(2437MHz) RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
2063.01	46.25	32.14	3.43	35.30	9.50	0.00	37.01	74	-36.99	P	1.13
2063.01	34.02	32.14	3.43	35.30	9.50	0.00	24.78	54	-29.22	A	1.13
4126.01	44.01	32.52	4.86	34.90	9.50	0.00	36.99	74	-37.01	P	1.06
4126.01	33.15	32.52	4.86	34.90	9.50	0.00	26.13	54	-27.87	A	1.06
6188.98	45.15	37.48	6.43	34.30	9.50	0.00	45.26	74	-28.74	P	1.08
6188.98	34.10	37.48	6.43	34.30	9.50	0.00	34.21	54	-19.79	A	1.08

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain.
2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The frequency was searched to 18GHz.
7. The other emission levels were very low against the limit.
8. For Super G mode.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

Low (5745MHz) TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 3830.00	45.49	32.19	4.65	35.07	9.50	0.00	37.77	74.00	-36.23	P	1.00
* 3830.00	35.29	32.19	4.65	35.07	9.50	0.00	27.57	54.00	-26.43	A	1.00
* 3922.00	46.28	32.41	4.74	34.98	9.50	0.00	38.96	74.00	-35.04	P	1.18
* 3922.00	35.38	32.41	4.74	34.98	9.50	0.00	28.06	54.00	-25.94	A	1.18
* 4801.24	46.04	34.29	5.08	35.14	9.50	0.00	40.76	74.00	-33.24	P	1.23
* 4801.24	36.10	34.29	5.08	35.14	9.50	0.00	30.82	54.00	-23.18	A	1.23
5724.34	36.00	36.66	6.05	0.00	9.50	0.00	69.21	79.81	-10.60	P	1.10
5724.34	23.03	36.66	6.05	0.00	9.50	0.00	56.24	71.92	-15.68	A	1.10
5724.90	36.89	36.66	6.05	0.00	9.50	0.00	70.10	79.81	-9.70	P	1.10
5724.90	23.71	36.66	6.05	0.00	9.50	0.00	56.92	71.92	-14.99	A	1.10
5743.64	66.54	36.69	6.08	0.00	9.50	0.00	99.81	Fundamental Frequency		P	1.00
5743.64	58.65	36.69	6.08	0.00	9.50	0.00	91.92			A	1.00
* 7566.10	48.22	39.69	6.96	35.80	9.50	0.00	49.57	74.00	-24.43	P	1.05
* 7566.10	37.20	39.69	6.96	35.80	9.50	0.00	38.55	54.00	-15.45	A	1.05
* 11491.95	58.05	40.09	8.97	35.70	9.50	1.20	63.11	74.00	-10.89	P	1.00
* 11491.95	43.76	40.09	8.97	35.70	9.50	1.20	48.82	54.00	-5.18	A	1.00
17237.15	51.30	47.12	9.47	35.21	9.50	0.59	63.77	79.81	-16.03	P	1.03
17237.15	38.29	47.12	9.47	35.21	9.50	0.59	50.76	71.92	-21.15	A	1.03
* 22899.60	------	------	------	------	9.50	0.70	------	------	------	------	1.00
28718.20	------	------	------	------	9.50	0.00	------	------	------	------	1.00
34461.84	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 40205.48	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 45949.12	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 51692.76	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 57436.40	------	------	------	------	9.50	0.00	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (8.2GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level – Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For normal 802.11a mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

Low (5745MHz) TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 3830.00	45.56	32.19	4.65	35.07	9.50	0.00	37.84	74.00	-36.16	P	1.00
* 3830.00	36.30	32.19	4.65	35.07	9.50	0.00	28.58	54.00	-25.42	A	1.00
* 3922.00	59.86	32.41	4.74	34.98	9.50	0.00	52.54	74.00	-21.46	P	1.00
* 3922.00	54.29	32.41	4.74	34.98	9.50	0.00	46.97	54.00	-7.03	A	1.00
* 4803.36	49.74	34.30	5.08	35.14	9.50	0.00	44.48	74.00	-29.52	P	1.05
* 4803.36	39.04	34.30	5.08	35.14	9.50	0.00	33.78	54.00	-20.22	A	1.05
5724.34	49.47	36.66	6.05	0.00	9.50	0.00	82.68	93.05	-10.36	P	1.02
5724.34	36.40	36.66	6.05	0.00	9.50	0.00	69.61	85.15	-15.53	A	1.02
5724.90	49.71	36.66	6.05	0.00	9.50	0.00	82.92	93.05	-10.12	P	1.02
5724.90	37.28	36.66	6.05	0.00	9.50	0.00	70.49	85.15	-14.65	A	1.02
5743.53	79.78	36.69	6.08	0.00	9.50	0.00	113.05	Fundamental Frequency		P	1.00
5743.53	71.88	36.69	6.08	0.00	9.50	0.00	105.15			A	1.00
* 7566.10	62.14	39.69	6.96	35.80	9.50	0.00	63.49	74.00	-10.51	P	1.05
* 7566.10	50.77	39.69	6.96	35.80	9.50	0.00	52.12	54.00	-1.88	A	1.05
* 11492.45	52.91	40.09	8.97	35.70	9.50	1.20	57.97	74.00	-16.03	P	1.02
* 11492.45	39.67	40.09	8.97	35.70	9.50	1.20	44.73	54.00	-9.27	A	1.02
17234.14	45.49	47.10	9.47	35.21	9.50	0.59	57.94	93.05	-35.10	P	1.00
17234.14	33.85	47.10	9.47	35.21	9.50	0.59	46.30	85.15	-38.84	A	1.00
* 22899.60	------	------	------	------	9.50	0.70	------	------	------	------	1.00
28717.65	------	------	------	------	9.50	0.00	------	------	------	------	1.00
34461.18	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 40204.71	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 45948.24	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 51691.77	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 57435.30	------	------	------	------	9.50	0.00	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (8.2GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. The test data marked in gray background means the EUT emission data is located in the margin uncertainty range of emission limits.
10. For normal 802.11a mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

Middle (5785MHz) TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 3856.88	45.12	32.26	4.68	35.04	9.50	0.00	37.51	74.00	-36.49	P	1.01
* 3856.88	34.84	32.26	4.68	35.04	9.50	0.00	27.23	54.00	-26.77	A	1.01
* 3964.65	46.15	32.52	4.79	34.94	9.50	0.00	39.02	74.00	-34.98	P	1.20
* 3964.65	35.39	32.52	4.79	34.94	9.50	0.00	28.26	54.00	-25.74	A	1.20
* 4842.56	47.68	34.56	5.09	35.17	9.50	0.00	42.66	74.00	-31.34	P	1.16
* 4842.56	35.70	34.56	5.09	35.17	9.50	0.00	30.68	54.00	-23.32	A	1.16
5781.88	66.80	36.75	6.13	0.00	9.50	0.00	100.18	Fundamental Frequency		P	1.00
5781.88	58.51	36.75	6.13	0.00	9.50	0.00	91.89			A	1.00
* 7712.85	46.25	39.66	7.06	36.24	9.50	0.00	47.23	74.00	-26.77	P	1.02
* 7712.85	34.87	39.66	7.06	36.24	9.50	0.00	35.85	54.00	-18.15	A	1.02
* 11572.26	58.63	40.27	9.01	35.71	9.50	1.14	63.84	74.00	-10.16	P	1.00
* 11572.26	44.43	40.27	9.01	35.71	9.50	1.14	49.64	54.00	-4.36	A	1.00
17351.68	48.87	47.81	9.49	35.12	9.50	0.64	71.69	80.18	-8.48	P	1.04
17351.68	36.78	47.81	9.49	35.12	9.50	0.64	59.60	71.89	-12.28	A	1.04
23127.52	------	------	------	------	9.50	2.84	------	------	------	------	1.00
28909.40	------	------	------	------	9.50	0.00	------	------	------	------	1.00
34691.28	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 40473.16	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 46255.04	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 52036.92	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 57818.80	------	------	------	------	9.50	0.00	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (8.2GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For normal 802.11a mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

Middle (5785MHz) TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 3856.88	46.97	32.26	4.68	35.04	9.50	0.00	39.36	74.00	-34.64	P	1.01
* 3856.88	35.49	32.26	4.68	35.04	9.50	0.00	27.88	54.00	-26.12	A	1.01
* 3964.65	60.42	32.52	4.79	34.94	9.50	0.00	53.29	74.00	-20.71	P	1.00
* 3964.65	50.12	32.52	4.79	34.94	9.50	0.00	42.99	54.00	-11.01	A	1.00
* 4842.56	56.20	34.56	5.09	35.17	9.50	0.00	51.18	74.00	-22.82	P	1.06
* 4842.56	45.88	34.56	5.09	35.17	9.50	0.00	40.86	54.00	-13.14	A	1.06
5778.50	80.39	36.75	6.12	0.00	9.50	0.00	113.76	Fundamental Frequency		P	1.00
5778.50	72.22	36.75	6.12	0.00	9.50	0.00	105.59			A	1.00
* 7712.85	58.58	39.66	7.06	36.24	9.50	0.00	59.56	74.00	-14.44	P	1.00
* 7712.85	47.05	39.66	7.06	36.24	9.50	0.00	48.03	54.00	-5.97	A	1.00
* 11572.25	53.14	40.27	9.01	35.71	9.50	1.14	58.35	74.00	-15.65	P	1.01
* 11572.25	40.16	40.27	9.01	35.71	9.50	1.14	45.37	54.00	-8.63	A	1.01
17355.00	44.22	47.83	9.49	35.12	9.50	0.64	57.57	93.76	-36.19	P	1.00
17355.00	33.78	47.83	9.49	35.12	9.50	0.64	47.13	85.59	-38.46	A	1.00
* 23114.00	------	------	------	------	9.50	2.62	------	------	------	------	1.00
28892.50	------	------	------	------	9.50	0.00	------	------	------	------	1.00
34671.00	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 40449.50	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 46228.00	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 52006.50	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 57785.00	------	------	------	------	9.50	0.00	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (8.2GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For normal 802.11a mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

High (5825MHz) TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 3883.30	45.25	32.32	4.71	35.02	9.50	0.00	37.76	74.00	-36.24	P	1.00
* 3883.30	34.78	32.32	4.71	35.02	9.50	0.00	27.29	54.00	-26.71	A	1.00
* 3999.87	45.06	32.60	4.82	34.90	9.50	0.00	38.08	74.00	-35.92	P	1.15
* 3999.87	34.90	32.60	4.82	34.90	9.50	0.00	27.92	54.00	-26.08	A	1.15
* 4880.31	43.86	34.81	5.10	35.20	9.50	0.00	39.07	74.00	-34.93	P	1.15
* 4880.31	33.98	34.81	5.10	35.20	9.50	0.00	29.19	54.00	-24.81	A	1.15
5819.67	65.64	36.81	6.17	0.00	9.50	0.00	99.12	Fundamental Frequency		P	1.00
5819.67	57.46	36.81	6.17	0.00	9.50	0.00	90.94			A	1.00
5850.10	38.41	36.86	6.21	0.00	9.50	0.00	71.98	79.12	-7.14	P	1.07
5850.10	27.00	36.86	6.21	0.00	9.50	0.00	60.57	70.94	-10.37	A	1.07
5852.86	39.40	36.86	6.21	0.00	9.50	0.00	72.98	79.12	-6.15	P	1.07
5852.86	27.00	36.86	6.21	0.00	9.50	0.00	60.58	70.94	-10.37	A	1.07
* 7644.05	46.34	39.67	7.02	36.03	9.50	0.00	47.49	74.00	-26.51	P	1.00
* 7644.05	34.28	39.67	7.02	36.03	9.50	0.00	35.43	54.00	-18.57	A	1.00
* 11652.00	58.22	40.46	9.05	35.73	9.50	1.08	63.58	74.00	-10.42	P	1.00
* 11652.00	44.50	40.46	9.05	35.73	9.50	1.08	49.86	54.00	-4.14	A	1.00
17475.00	45.79	48.55	9.52	35.02	9.50	0.69	60.03	79.12	-19.10	P	1.00
17475.00	34.50	48.55	9.52	35.02	9.50	0.69	48.74	70.94	-22.21	A	1.00
23278.68	------	------	------	------	9.50	5.38	------	------	------	------	1.00
29098.35	------	------	------	------	9.50	0.00	------	------	------	------	1.00
34918.02	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 40737.69	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 46557.36	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 52377.03	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 58196.70	------	------	------	------	9.50	0.00	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (8.2GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For normal 802.11a mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/27
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	19.4℃, 86%

High (5825MHz) TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 3883.30	45.02	32.32	4.71	35.02	9.50	0.00	37.53	74.00	-36.47	P	1.00
* 3883.30	36.23	32.32	4.71	35.02	9.50	0.00	28.74	54.00	-25.26	A	1.00
* 4001.18	57.47	32.60	4.82	34.90	9.50	0.00	50.49	74.00	-23.51	P	1.00
* 4001.18	49.15	32.60	4.82	34.90	9.50	0.00	42.17	54.00	-11.83	A	1.00
* 4880.31	55.60	34.81	5.10	35.20	9.50	0.00	50.81	74.00	-23.19	P	1.00
* 4880.31	45.45	34.81	5.10	35.20	9.50	0.00	40.66	54.00	-13.34	A	1.00
5821.73	78.36	36.81	6.18	0.00	9.50	0.00	111.85	Fundamental Frequency		P	1.00
5821.73	70.54	36.81	6.18	0.00	9.50	0.00	104.03			A	1.00
5850.10	40.96	36.86	6.21	0.00	9.50	0.00	74.53	91.85	-17.32	P	1.02
5850.10	28.34	36.86	6.21	0.00	9.50	0.00	61.91	84.03	-22.12	A	1.02
5852.86	39.85	36.86	6.21	0.00	9.50	0.00	73.43	91.85	-18.42	P	1.02
5852.86	28.34	36.86	6.21	0.00	9.50	0.00	61.92	84.03	-22.11	A	1.02
* 7641.17	56.02	39.67	7.01	36.02	9.50	0.00	57.18	74.00	-16.82	P	1.00
* 7641.17	46.89	39.67	7.01	36.02	9.50	0.00	48.05	54.00	-5.95	A	1.00
* 11649.31	51.80	40.46	9.04	35.73	9.50	1.08	57.15	74.00	-16.85	P	1.01
* 11649.31	39.03	40.46	9.04	35.73	9.50	1.08	44.38	54.00	-9.62	A	1.01
17474.81	46.85	48.55	9.51	35.02	9.50	0.69	61.08	91.85	-30.77	P	1.00
17474.81	34.63	48.55	9.51	35.02	9.50	0.69	48.86	84.03	-35.17	A	1.00
23286.92	------	------	------	------	9.50	5.52	------	------	------	------	1.00
29108.65	------	------	------	------	9.50	0.00	------	------	------	------	1.00
34930.38	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 40752.11	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 46573.84	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 52395.57	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 58217.30	------	------	------	------	9.50	0.00	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (8.2GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For normal 802.11a mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH1 TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 2389.90	22.50	31.81	3.57	0.00	9.50	0.00	48.38	74.00	-25.62	P	1.00
* 2389.90	8.00	31.81	3.57	0.00	9.50	0.00	33.88	54.00	-20.12	A	1.00
2399.90	33.30	31.80	3.58	0.00	9.50	0.00	59.18	79.54	-20.36	P	1.00
2399.90	23.80	31.80	3.58	0.00	9.50	0.00	49.68	72.75	-23.07	A	1.00
2413.22	73.67	31.79	3.58	0.00	9.50	0.00	99.54	Fundamental Frequency		P	1.00
2413.22	66.88	31.79	3.58	0.00	9.50	0.00	92.75			A	1.00
* 4823.72	50.41	34.44	2.82	35.16	9.50	2.01	45.01	74.00	-28.99	P	1.00
* 4823.72	38.12	34.44	2.82	35.16	9.50	2.01	32.72	54.00	-21.28	A	1.00
7235.72	44.14	39.81	4.79	35.65	9.50	2.00	45.59	79.54	-33.95	P	1.00
7235.72	31.37	39.81	4.79	35.65	9.50	2.00	32.82	72.75	-39.93	A	1.00
9647.71	45.89	38.54	5.90	36.44	9.50	0.61	45.00	79.54	-34.54	P	1.00
9647.71	33.19	38.54	5.90	36.44	9.50	0.61	32.30	72.75	-40.54	A	1.00
* 12060.50	---	---	---	---	9.50	0.80	---	---	---	---	1.00
* 14472.60	---	---	---	---	9.50	0.67	---	---	---	---	1.00
16884.70	---	---	---	---	9.50	0.43	---	---	---	---	1.00
* 19296.80	---	---	---	---	9.50	1.96	---	---	---	---	1.00
21708.90	---	---	---	---	9.50	0.82	---	---	---	---	1.00
24121.00	---	---	---	---	9.50	2.91	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH1 TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 2389.90	36.80	31.81	3.57	0.00	9.50	0.00	62.68	74.00	-11.32	P	1.00
* 2389.90	23.00	31.81	3.57	0.00	9.50	0.00	48.88	54.00	-5.12	A	1.00
2399.90	49.80	31.80	3.58	0.00	9.50	0.00	75.68	94.22	-18.54	P	1.00
2399.90	39.50	31.80	3.58	0.00	9.50	0.00	65.38	87.32	-21.94	A	1.00
2413.29	88.35	31.79	3.58	0.00	9.50	0.00	114.22	Fundamental Frequency		P	1.00
2413.29	81.45	31.79	3.58	0.00	9.50	0.00	107.32			A	1.00
* 4823.88	58.11	34.44	2.82	35.16	9.50	2.00	52.71	74.00	-21.29	P	1.00
* 4823.88	46.70	34.44	2.82	35.16	9.50	2.00	41.30	54.00	-12.70	A	1.00
7235.72	50.49	39.81	4.79	35.65	9.50	2.00	51.94	94.22	-42.28	P	1.00
7235.72	40.76	39.81	4.79	35.65	9.50	2.00	42.21	87.32	-45.11	A	1.00
9647.71	49.01	38.54	5.90	36.44	9.50	0.61	48.12	94.22	-46.10	P	1.00
9647.71	42.28	38.54	5.90	36.44	9.50	0.61	41.39	87.32	-45.93	A	1.00
* 12060.50	---	---	---	---	9.50	0.80	---	---	---	---	1.00
* 14472.60	---	---	---	---	9.50	0.67	---	---	---	---	1.00
16884.70	---	---	---	---	9.50	0.43	---	---	---	---	1.00
* 19296.80	---	---	---	---	9.50	1.96	---	---	---	---	1.00
21708.90	---	---	---	---	9.50	0.82	---	---	---	---	1.00
24121.00	---	---	---	---	9.50	2.91	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH6 TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
2438.36	75.80	31.76	3.59	0.00	9.50	0.00	101.65	Fundamental Frequency		P	1.00
2438.36	68.78	31.76	3.59	0.00	9.50	0.00	94.63			A	1.00
* 4874.05	53.00	34.77	2.73	35.20	9.50	1.80	47.60	74.00	-26.40	P	1.00
* 4874.05	40.79	34.77	2.73	35.20	9.50	1.80	35.39	54.00	-18.61	A	1.00
* 7312.19	52.16	39.78	4.82	35.64	9.50	2.00	53.62	74.00	-20.38	P	1.00
* 7312.19	41.47	39.78	4.82	35.64	9.50	2.00	42.93	54.00	-11.07	A	1.00
9747.76	52.06	38.53	5.90	36.60	9.50	0.55	50.94	81.65	-30.71	P	1.00
9747.76	46.27	38.53	5.90	36.60	9.50	0.55	45.15	74.63	-29.48	A	1.00
* 12180.55	---	---	---	---	9.50	0.80	---	---	---	---	1.00
14616.66	---	---	---	---	9.50	0.61	---	---	---	---	1.00
17052.77	---	---	---	---	9.50	0.52	---	---	---	---	1.00
* 19488.88	---	---	---	---	9.50	2.19	---	---	---	---	1.00
21924.99	---	---	---	---	9.50	0.73	---	---	---	---	1.00
24361.10	---	---	---	---	9.50	2.52	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH6 TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
2438.36	91.19	31.76	3.59	0.00	9.50	0.00	117.04	Fundamental Frequency		P	1.00
2438.36	85.81	31.76	3.59	0.00	9.50	0.00	111.66			A	1.00
* 4876.00	59.71	34.78	2.72	35.20	9.50	1.80	54.31	74.00	-19.69	P	1.00
* 4876.00	47.95	34.78	2.72	35.20	9.50	1.80	42.55	54.00	-11.45	A	1.00
* 7311.30	52.24	39.78	4.82	35.64	9.50	2.00	53.70	74.00	-20.30	P	1.00
* 7311.30	42.01	39.78	4.82	35.64	9.50	2.00	43.47	54.00	-10.53	A	1.00
9748.06	51.94	38.53	5.90	36.60	9.50	0.55	50.82	97.04	-46.22	P	1.00
9748.06	46.65	38.53	5.90	36.60	9.50	0.55	45.53	91.66	-46.13	A	1.00
* 12172.50	---	---	---	---	9.50	0.80	---	---	---	---	1.00
14607.00	---	---	---	---	9.50	0.61	---	---	---	---	1.00
17041.50	---	---	---	---	9.50	0.52	---	---	---	---	1.00
* 19476.00	---	---	---	---	9.50	2.17	---	---	---	---	1.00
21910.50	---	---	---	---	9.50	0.74	---	---	---	---	1.00
24345.00	---	---	---	---	9.50	2.55	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH11 TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
2463.03	71.74	31.74	3.60	0.00	9.50	0.00	97.58	Fundamental Frequency		P	1.00
2463.03	64.99	31.74	3.60	0.00	9.50	0.00	90.83			A	1.00
* 2483.50	19.30	31.72	3.61	0.00	9.50	0.00	45.13	74.00	-28.87	P	1.00
* 2483.50	4.20	31.72	3.61	0.00	9.50	0.00	30.03	54.00	-23.97	A	1.00
* 2483.60	19.00	31.72	3.61	0.00	9.50	0.00	44.83	74.00	-29.17	P	1.00
* 2483.60	5.70	31.72	3.61	0.00	9.50	0.00	31.53	54.00	-22.47	A	1.00
* 4923.88	52.01	35.10	2.64	35.24	9.50	1.60	46.61	74.00	-27.39	P	1.00
* 4923.88	37.31	35.10	2.64	35.24	9.50	1.60	31.91	54.00	-22.09	A	1.00
* 7386.33	46.22	39.75	4.85	35.62	9.50	2.00	47.70	74.00	-26.30	P	1.00
* 7386.33	35.18	39.75	4.85	35.62	9.50	2.00	36.66	54.00	-17.34	A	1.00
9847.68	45.60	38.52	5.90	36.76	9.50	0.49	44.25	77.58	-33.33	P	1.00
9847.68	32.15	38.52	5.90	36.76	9.50	0.49	30.80	70.83	-50.83	A	1.00
* 12308.85	---	---	---	---	9.50	0.80	---	---	---	---	1.00
14770.62	---	---	---	---	9.50	0.48	---	---	---	---	1.00
17232.39	---	---	---	---	9.50	0.59	---	---	---	---	1.00
* 19694.16	---	---	---	---	9.50	2.39	---	---	---	---	1.00
* 22155.93	---	---	---	---	9.50	0.70	---	---	---	---	1.00
24617.70	---	---	---	---	9.50	2.14	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH11 TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
2463.29	87.84	31.74	3.60	0.00	9.50	0.00	113.68	Fundamental Frequency		P	1.00
2463.29	80.89	31.74	3.60	0.00	9.50	0.00	106.73			A	1.00
* 2483.50	33.60	31.72	3.61	0.00	9.50	0.00	59.43	74.00	-14.57	P	1.00
* 2483.50	19.40	31.72	3.61	0.00	9.50	0.00	45.23	54.00	-8.77	A	1.00
* 2488.20	35.30	31.71	3.61	0.00	9.50	0.00	61.13	74.00	-12.87	P	1.00
* 2488.20	21.50	31.71	3.61	0.00	9.50	0.00	47.33	54.00	-6.67	A	1.00
* 4923.88	61.99	35.10	2.64	35.24	9.50	1.60	56.59	74.00	-17.41	P	1.00
* 4923.88	48.15	35.10	2.64	35.24	9.50	1.60	42.75	54.00	-11.25	A	1.00
* 7385.38	47.62	39.75	4.85	35.62	9.50	2.00	49.10	74.00	-24.90	P	1.00
* 7385.38	35.40	39.75	4.85	35.62	9.50	2.00	36.88	54.00	-17.12	A	1.00
9847.81	44.80	38.52	5.90	36.76	9.50	0.49	43.45	93.68	-50.23	P	1.00
9847.81	32.18	38.52	5.90	36.76	9.50	0.49	30.83	86.73	-55.90	A	1.00
* 12308.30	---	---	---	---	9.50	0.80	---	---	---	---	1.00
14769.96	---	---	---	---	9.50	0.48	---	---	---	---	1.00
17231.62	---	---	---	---	9.50	0.59	---	---	---	---	1.00
* 19693.28	---	---	---	---	9.50	2.39	---	---	---	---	1.00
* 22154.94	---	---	---	---	9.50	0.70	---	---	---	---	1.00
24616.60	---	---	---	---	9.50	2.14	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH1 TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 2389.90	30.70	31.81	3.57	0.00	9.50	0.00	56.58	74.00	-17.42	P	1.00
* 2389.90	9.40	31.81	3.57	0.00	9.50	0.00	35.28	54.00	-18.72	A	1.00
2399.90	44.20	31.80	3.58	0.00	9.50	0.00	70.08	74.44	-4.37	P	1.00
2399.90	24.80	31.80	3.58	0.00	9.50	0.00	50.68	66.02	-15.35	A	1.00
2405.59	68.57	31.79	3.58	0.00	9.50	0.00	94.44	Fundamental Frequency		P	1.00
2405.59	60.15	31.79	3.58	0.00	9.50	0.00	86.02			A	1.00
* 4823.86	42.84	34.44	2.82	35.16	9.50	2.00	37.44	74.00	-36.56	P	1.00
* 4823.86	31.44	34.44	2.82	35.16	9.50	2.00	26.04	54.00	-27.96	A	1.00
7236.00	41.36	39.81	4.79	35.65	9.50	2.00	42.81	74.44	-31.63	P	1.00
7236.00	29.54	39.81	4.79	35.65	9.50	2.00	30.99	66.02	-35.03	A	1.00
9648.00	44.82	38.54	5.90	36.44	9.50	0.61	43.93	74.44	-30.51	P	1.00
9648.00	33.42	38.54	5.90	36.44	9.50	0.61	32.53	66.02	-33.49	A	1.00
* 12060.00	---	---	---	---	9.50	0.80	---	------	------	------	1.00
* 14472.00	---	---	---	---	9.50	0.67	---	------	------	------	1.00
16884.00	---	---	---	---	9.50	0.43	---	------	------	------	1.00
* 19296.00	---	---	---	---	9.50	1.96	---	------	------	------	1.00
21708.00	---	---	---	---	9.50	0.82	---	------	------	------	1.00
24120.00	---	---	---	---	9.50	2.91	---	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For normal 802.11g mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH1 TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 2389.90	43.00	31.81	3.57	0.00	9.50	0.00	68.88	74.00	-5.12	P	1.00
* 2389.90	26.20	31.81	3.57	0.00	9.50	0.00	52.08	54.00	-1.92	A	1.00
2399.90	59.80	31.80	3.58	0.00	9.50	0.00	85.68	89.50	-3.83	P	1.00
2399.90	41.90	31.80	3.58	0.00	9.50	0.00	67.78	81.43	-13.66	A	1.00
2405.52	83.63	31.79	3.58	0.00	9.50	0.00	109.50	Fundamental Frequency		P	1.00
2405.52	75.56	31.79	3.58	0.00	9.50	0.00	101.43			A	1.00
* 4821.49	52.50	34.42	2.82	35.16	9.50	2.01	47.10	74.00	-26.90	P	1.00
* 4821.49	38.55	34.42	2.82	35.16	9.50	2.01	33.15	54.00	-20.85	A	1.00
7235.72	46.31	39.81	4.79	35.65	9.50	2.00	47.76	89.50	-41.74	P	1.00
7235.72	33.09	39.81	4.79	35.65	9.50	2.00	34.54	81.43	-46.89	A	1.00
9647.85	45.37	38.54	5.90	36.44	9.50	0.61	44.48	89.50	-45.02	P	1.00
9647.85	33.73	38.54	5.90	36.44	9.50	0.61	32.84	81.43	-48.59	A	1.00
* 12067.00	---	---	---	---	9.50	0.80	---	---	---	---	1.00
* 14480.40	---	---	---	---	9.50	0.68	---	---	---	---	1.00
16893.80	---	---	---	---	9.50	0.44	---	---	---	---	1.00
* 19307.20	---	---	---	---	9.50	1.97	---	---	---	---	1.00
21720.60	---	---	---	---	9.50	0.81	---	---	---	---	1.00
24134.00	---	---	---	---	9.50	2.89	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. The test data marked in gray background means the EUT emission data is located in the margin uncertainty range of emission limits.
10. For normal 802.11g mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH6 TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
2430.31	71.14	31.77	3.59	0.00	9.50	0.00	97.00	Fundamental Frequency		P	1.00
2430.31	63.40	31.77	3.59	0.00	9.50	0.00	89.26			A	1.00
* 4874.68	41.56	34.77	2.73	35.20	9.50	1.80	36.16	74.00	-37.84	P	1.00
* 4874.68	31.25	34.77	2.73	35.20	9.50	1.80	25.85	54.00	-28.15	A	1.00
* 7311.77	42.45	39.78	4.82	35.64	9.50	2.00	43.91	74.00	-30.09	P	1.00
* 7311.77	31.74	39.78	4.82	35.64	9.50	2.00	33.20	54.00	-20.80	A	1.00
9747.61	43.38	38.53	5.90	36.60	9.50	0.55	42.26	77.00	-34.74	P	1.00
9747.61	32.78	38.53	5.90	36.60	9.50	0.55	31.66	69.26	-37.60	A	1.00
* 12184.45	---	---	---	---	9.50	0.80	---	---	---	---	1.00
14621.34	---	---	---	---	9.50	0.60	---	---	---	---	1.00
17058.23	---	---	---	---	9.50	0.52	---	---	---	---	1.00
* 19495.12	---	---	---	---	9.50	2.19	---	---	---	---	1.00
21932.01	---	---	---	---	9.50	0.73	---	---	---	---	1.00
24368.90	---	---	---	---	9.50	2.51	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For normal 802.11g mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH6 TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
2431.41	86.27	31.77	3.59	0.00	9.50	0.00	112.13	Fundamental Frequency		P	1.00
2431.41	78.55	31.77	3.59	0.00	9.50	0.00	104.41			A	1.00
* 4876.33	51.84	34.78	2.72	35.20	9.50	1.79	46.44	74.00	-27.56	P	1.00
* 4876.33	38.04	34.78	2.72	35.20	9.50	1.79	32.64	54.00	-21.36	A	1.00
* 7310.97	43.18	39.78	4.82	35.64	9.50	2.00	44.64	74.00	-29.36	P	1.00
* 7310.97	31.06	39.78	4.82	35.64	9.50	2.00	32.52	54.00	-21.48	A	1.00
9747.69	44.23	38.53	5.90	36.60	9.50	0.55	43.11	92.13	-49.02	P	1.00
9747.69	32.43	38.53	5.90	36.60	9.50	0.55	31.31	84.41	-53.10	A	1.00
* 12184.15	---	---	---	---	9.50	0.80	---	---	---	---	1.00
14620.98	---	---	---	---	9.50	0.60	---	---	---	---	1.00
17057.81	---	---	---	---	9.50	0.52	---	---	---	---	1.00
* 19494.64	---	---	---	---	9.50	2.19	---	---	---	---	1.00
21931.47	---	---	---	---	9.50	0.73	---	---	---	---	1.00
24368.30	---	---	---	---	9.50	2.51	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For normal 802.11g mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH11 TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
2455.52	67.47	31.74	3.60	0.00	9.50	0.00	93.31	Fundamental Frequency		P	1.00
2455.52	59.63	31.74	3.60	0.00	9.50	0.00	85.47			A	1.00
* 2483.50	24.30	31.72	3.61	0.00	9.50	0.00	50.13	74.00	-23.87	P	1.00
* 2483.50	8.70	31.72	3.61	0.00	9.50	0.00	34.53	54.00	-19.47	A	1.00
* 2483.60	24.30	31.72	3.61	0.00	9.50	0.00	50.13	74.00	-23.87	P	1.00
* 2483.60	8.30	31.72	3.61	0.00	9.50	0.00	34.13	54.00	-19.87	A	1.00
* 4925.33	45.42	35.11	2.63	35.24	9.50	1.60	40.02	74.00	-33.98	P	1.00
* 4925.33	33.22	35.11	2.63	35.24	9.50	1.60	27.82	54.00	-26.18	A	1.00
* 7386.33	43.69	39.75	4.85	35.62	9.50	2.00	45.17	74.00	-28.83	P	1.00
* 7386.33	31.42	39.75	4.85	35.62	9.50	2.00	32.90	54.00	-21.10	A	1.00
9847.68	44.27	38.52	5.90	36.76	9.50	0.49	42.92	73.31	-30.39	P	1.00
9847.68	32.81	38.52	5.90	36.76	9.50	0.49	31.46	65.47	-34.04	A	1.00
* 12308.85	---	---	---	---	9.50	0.80	---	---	---	---	1.00
14770.62	---	---	---	---	9.50	0.48	---	---	---	---	1.00
17232.39	---	---	---	---	9.50	0.59	---	---	---	---	1.00
* 19694.16	---	---	---	---	9.50	2.39	---	---	---	---	1.00
* 22155.93	---	---	---	---	9.50	0.70	---	---	---	---	1.00
24617.70	---	---	---	---	9.50	2.14	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For normal 802.11g mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

CH11 TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
2455.19	84.01	31.74	3.60	0.00	9.50	0.00	109.86	Fundamental Frequency		P	1.00
2455.19	76.25	31.74	3.60	0.00	9.50	0.00	102.10			A	1.00
* 2483.50	43.90	31.72	3.61	0.00	9.50	0.00	69.73	74.00	-4.27	P	1.00
* 2483.50	25.90	31.72	3.61	0.00	9.50	0.00	51.73	54.00	-2.27	A	1.00
* 2483.60	43.60	31.72	3.61	0.00	9.50	0.00	69.43	74.00	-4.57	P	1.00
* 2483.60	25.80	31.72	3.61	0.00	9.50	0.00	51.63	54.00	-2.37	A	1.00
* 4925.40	52.09	35.11	2.63	35.24	9.50	1.60	46.69	74.00	-27.31	P	1.00
* 4925.40	39.24	35.11	2.63	35.24	9.50	1.60	33.84	54.00	-20.16	A	1.00
* 7386.05	43.69	39.75	4.85	35.62	9.50	2.00	45.17	74.00	-28.83	P	1.00
* 7386.05	31.54	39.75	4.85	35.62	9.50	2.00	33.02	54.00	-20.98	A	1.00
9847.81	45.03	38.52	5.90	36.76	9.50	0.49	43.68	89.86	-46.18	P	1.00
9847.81	33.21	38.52	5.90	36.76	9.50	0.49	31.86	82.10	-50.24	A	1.00
* 12309.40	---	---	---	---	9.50	0.80	---	---	---	---	1.00
14771.28	---	---	---	---	9.50	0.48	---	---	---	---	1.00
17233.16	---	---	---	---	9.50	0.59	---	---	---	---	1.00
* 19695.04	---	---	---	---	9.50	2.40	---	---	---	---	1.00
* 22156.92	---	---	---	---	9.50	0.70	---	---	---	---	1.00
24618.80	---	---	---	---	9.50	2.13	---	---	---	---	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. The test data marked in gray background means the EUT emission data is located in the margin uncertainty range of emission limits.
10. For normal 802.11g mode at 6Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	18.1℃, 85%

Low (5760MHz) TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 3839.96	45.78	32.22	4.66	35.06	9.50	0.00	38.10	74.00	-35.90	P	1.00
* 3839.96	34.98	32.22	4.66	35.06	9.50	0.00	27.30	54.00	-26.70	A	1.00
* 3935.88	47.12	32.45	4.76	34.96	9.50	0.00	39.86	74.00	-34.14	P	1.19
* 3935.88	36.54	32.45	4.76	34.96	9.50	0.00	29.28	54.00	-24.72	A	1.19
* 4818.02	47.70	34.40	5.08	35.15	9.50	0.00	42.53	74.00	-31.47	P	1.02
* 4818.02	37.61	34.40	5.08	35.15	9.50	0.00	32.44	54.00	-21.56	A	1.02
5724.34	39.39	36.66	6.05	0.00	9.50	0.00	72.60	85.17	-12.57	P	1.00
5724.34	27.00	36.66	6.05	0.00	9.50	0.00	60.21	75.16	-14.95	A	1.00
5724.90	39.55	36.66	6.05	0.00	9.50	0.00	72.76	85.17	-12.41	P	1.00
5724.90	27.00	36.66	6.05	0.00	9.50	0.00	60.21	75.16	-14.95	A	1.00
5755.86	71.87	36.71	6.09	0.00	9.50	0.00	105.17	Fundamental Frequency		P	1.00
5755.86	61.86	36.71	6.09	0.00	9.50	0.00	95.16			A	1.00
* 7580.04	48.26	39.68	6.97	35.84	9.50	0.00	49.58	74.00	-24.42	P	1.00
* 7580.04	37.16	39.68	6.97	35.84	9.50	0.00	38.48	54.00	-15.52	A	1.00
* 11512.42	56.00	40.13	8.98	35.70	9.50	1.19	61.09	74.00	-12.91	P	1.00
* 11512.42	41.67	40.13	8.98	35.70	9.50	1.19	46.76	54.00	-7.24	A	1.00
17280.00	45.16	47.38	9.48	35.18	9.50	0.61	57.95	85.17	-27.22	P	1.00
17280.00	34.78	47.38	9.48	35.18	9.50	0.61	47.57	75.16	-27.59	A	1.00
* 22899.60	------	------	------	------	9.50	0.70	------	------	------	------	1.00
28779.30	------	------	------	------	9.50	0.00	------	------	------	------	1.00
34535.16	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 40291.02	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 46046.88	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 51802.74	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 57558.60	------	------	------	------	9.50	0.00	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (8.2GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For Super A mode at 108Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	18.1℃, 85%

Low (5760MHz) TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 3839.96	44.85	32.22	4.66	35.06	9.50	0.00	37.17	74.00	-36.83	P	1.00
* 3839.96	33.74	32.22	4.66	35.06	9.50	0.00	26.06	54.00	-27.94	A	1.00
* 3935.26	50.69	32.44	4.76	34.96	9.50	0.00	43.43	74.00	-30.57	P	1.00
* 3935.26	41.58	32.44	4.76	34.96	9.50	0.00	34.32	54.00	-19.68	A	1.00
* 4817.90	58.99	34.40	5.08	35.15	9.50	0.00	53.82	74.00	-20.18	P	1.10
* 4817.90	48.59	34.40	5.08	35.15	9.50	0.00	43.42	54.00	-10.58	A	1.10
5724.34	47.36	36.66	6.05	0.00	9.50	0.00	80.57	88.71	-8.14	P	1.00
5724.34	36.24	36.66	6.05	0.00	9.50	0.00	69.45	80.63	-11.18	A	1.00
5724.90	46.73	36.66	6.05	0.00	9.50	0.00	79.94	88.71	-8.77	P	1.00
5724.90	36.24	36.66	6.05	0.00	9.50	0.00	69.45	80.63	-11.18	A	1.00
5755.84	75.41	36.71	6.09	0.00	9.50	0.00	108.71	Fundamental Frequency		P	1.00
5755.84	67.33	36.71	6.09	0.00	9.50	0.00	100.63			A	1.00
* 7579.99	55.49	39.68	6.97	35.84	9.50	0.00	56.81	74.00	-17.19	P	1.01
* 7579.99	45.63	39.68	6.97	35.84	9.50	0.00	46.95	54.00	-7.05	A	1.01
* 11512.48	50.66	40.13	8.98	35.70	9.50	1.19	55.75	74.00	-18.25	P	1.02
* 11512.48	37.54	40.13	8.98	35.70	9.50	1.19	42.63	54.00	-11.37	A	1.02
17280.12	45.12	47.38	9.48	35.18	9.50	0.61	57.91	88.71	-30.80	P	1.00
17280.12	34.88	47.38	9.48	35.18	9.50	0.61	47.67	80.63	-32.96	A	1.00
* 22899.60	------	------	------	------	9.50	0.70	------	------	------	------	1.00
28779.20	------	------	------	------	9.50	0.00	------	------	------	------	1.00
34535.04	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 40290.88	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 46046.72	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 51802.56	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 57558.40	------	------	------	------	9.50	0.00	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (8.2GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For Super A mode at 108Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	18.1℃, 85%

High (5800MHz) TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 3966.45	44.12	32.52	4.79	34.93	9.50	0.00	36.99	74.00	-37.01	P	1.02
* 3966.45	34.69	32.52	4.79	34.93	9.50	0.00	27.56	54.00	-26.44	A	1.02
* 3976.98	46.58	32.54	4.80	34.92	9.50	0.00	39.50	74.00	-34.50	P	1.16
* 3976.98	35.17	32.54	4.80	34.92	9.50	0.00	28.09	54.00	-25.91	A	1.16
* 4832.87	46.96	34.50	5.09	35.17	9.50	0.00	41.88	74.00	-32.12	P	1.03
* 4832.87	35.88	34.50	5.09	35.17	9.50	0.00	30.80	54.00	-23.20	A	1.03
5795.26	62.91	36.77	6.14	0.00	9.50	0.00	96.32	Fundamental Frequency		P	1.00
5795.26	54.23	36.77	6.14	0.00	9.50	0.00	87.64			A	1.00
5850.10	39.25	36.86	6.21	0.00	9.50	0.00	72.82	76.32	-3.50	P	1.03
5850.10	27.00	36.86	6.21	0.00	9.50	0.00	60.57	67.64	-7.07	A	1.03
5855.66	38.57	36.87	6.22	0.00	9.50	0.00	72.16	76.32	-4.17	P	1.03
5855.66	27.00	36.87	6.22	0.00	9.50	0.00	60.59	67.64	-7.06	A	1.03
* 7604.42	50.30	39.68	6.99	35.91	9.50	0.00	51.55	74.00	-22.45	P	1.00
* 7604.42	43.85	39.68	6.99	35.91	9.50	0.00	45.10	54.00	-8.90	A	1.00
* 11592.35	56.42	40.32	9.02	35.72	9.50	1.13	61.67	74.00	-12.33	P	1.00
* 11592.35	43.13	40.32	9.02	35.72	9.50	1.13	48.38	54.00	-5.62	A	1.00
17398.26	45.70	48.09	9.50	35.08	9.50	0.66	59.37	76.32	-16.96	P	1.01
17398.26	34.18	48.09	9.50	35.08	9.50	0.66	47.85	67.64	-19.80	A	1.01
23181.04	------	------	------	------	9.50	3.74	------	------	------	------	1.00
28976.30	------	------	------	------	9.50	0.00	------	------	------	------	1.00
34771.56	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 40566.82	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 46362.08	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 52157.34	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 57952.60	------	------	------	------	9.50	0.00	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (8.2GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For Super A mode at 108Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	18.1℃, 85%

High (5800MHz) TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 3866.59	45.38	32.28	4.69	35.03	9.50	0.00	37.82	74.00	-36.18	P	1.04
* 3866.59	37.07	32.28	4.69	35.03	9.50	0.00	29.51	54.00	-24.49	A	1.04
* 3977.22	46.75	32.55	4.80	34.92	9.50	0.00	39.67	74.00	-34.33	P	1.14
* 3977.22	35.78	32.55	4.80	34.92	9.50	0.00	28.70	54.00	-25.30	A	1.14
* 4832.87	53.79	34.50	5.09	35.17	9.50	0.00	48.71	74.00	-25.29	P	1.12
* 4832.87	43.15	34.50	5.09	35.17	9.50	0.00	38.07	54.00	-15.93	A	1.12
5795.61	76.40	36.77	6.14	0.00	9.50	0.00	109.82	Fundamental Frequency		P	1.00
5795.61	67.18	36.77	6.14	0.00	9.50	0.00	100.60			A	1.00
5850.10	39.75	36.86	6.21	0.00	9.50	0.00	73.32	89.82	-16.49	P	1.04
5850.10	27.00	36.86	6.21	0.00	9.50	0.00	60.57	80.60	-20.02	A	1.04
5855.66	39.81	36.87	6.22	0.00	9.50	0.00	73.40	89.82	-16.42	P	1.04
5855.66	27.00	36.87	6.22	0.00	9.50	0.00	60.59	80.60	-20.01	A	1.04
* 7604.42	46.04	39.68	6.99	35.91	9.50	0.00	47.29	74.00	-26.71	P	1.50
* 7604.42	35.08	39.68	6.99	35.91	9.50	0.00	36.33	54.00	-17.67	A	1.50
* 11598.37	49.44	40.34	9.02	35.72	9.50	1.12	54.70	74.00	-19.30	P	1.06
* 11598.37	37.68	40.34	9.02	35.72	9.50	1.12	42.94	54.00	-11.06	A	1.06
17398.62	45.71	48.09	9.50	35.08	9.50	0.66	59.38	89.82	-30.44	P	1.00
17398.62	33.86	48.09	9.50	35.08	9.50	0.66	47.53	80.60	-33.07	A	1.00
23182.44	------	------	------	------	9.50	3.76	------	------	------	------	1.00
28978.05	------	------	------	------	9.50	0.00	------	------	------	------	1.00
34773.66	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 40569.27	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 46364.88	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 52160.49	------	------	------	------	9.50	0.00	------	------	------	------	1.00
* 57956.10	------	------	------	------	9.50	0.00	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (8.2GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For Super A mode at 108Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

(2437MHz) TX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 2389.90	25.00	31.81	3.57	0.00	9.50	0.00	50.88	74.00	-23.12	P	1.01
* 2389.90	11.70	31.81	3.57	0.00	9.50	0.00	37.58	54.00	-16.42	A	1.01
2399.90	35.00	31.80	3.58	0.00	9.50	0.00	60.88	75.62	-14.75	P	1.01
2399.90	19.80	31.80	3.58	0.00	9.50	0.00	45.68	66.20	-20.53	A	1.01
2440.73	69.77	31.76	3.59	0.00	9.50	0.00	95.62	Fundamental Frequency		P	1.00
2440.73	60.35	31.76	3.59	0.00	9.50	0.00	86.20			A	1.00
* 2483.50	22.80	31.72	3.61	0.00	9.50	0.00	48.63	74.00	-25.37	P	1.01
* 2483.50	6.70	31.72	3.61	0.00	9.50	0.00	32.53	54.00	-21.47	A	1.01
* 2483.60	19.30	31.72	3.61	0.00	9.50	0.00	45.13	74.00	-28.87	P	1.01
* 2483.60	6.60	31.72	3.61	0.00	9.50	0.00	32.43	54.00	-21.57	A	1.01
3053.27	48.07	31.67	3.89	35.85	9.50	0.00	38.28	75.62	-37.34	P	1.00
3053.27	36.75	31.67	3.89	35.85	9.50	0.00	26.96	66.20	-39.24	A	1.00
* 4876.58	44.94	34.79	5.10	35.20	9.50	1.79	41.92	74.00	-32.08	P	1.00
* 4876.58	33.52	34.79	5.10	35.20	9.50	1.79	30.50	54.00	-23.50	A	1.00
* 7312.72	45.26	39.77	6.79	35.64	9.50	2.00	48.69	74.00	-25.31	P	1.03
* 7312.72	33.19	39.77	6.79	35.64	9.50	2.00	36.62	54.00	-17.38	A	1.03
9746.84	44.37	38.53	8.33	36.59	9.50	0.55	45.68	75.62	-29.94	P	1.02
9746.84	33.52	38.53	8.33	36.59	9.50	0.55	34.83	66.20	-31.37	A	1.02
* 12175.45	44.12	41.32	9.25	35.62	9.50	0.80	50.36	75.62	-25.26	P	1.00
* 12175.45	33.05	41.32	9.25	35.62	9.50	0.80	39.29	66.20	-26.91	A	1.00
* 12203.65	------	------	------	------	9.50	0.80	------	------	------	------	1.00
14644.38	------	------	------	------	9.50	0.58	------	------	------	------	1.00
17085.11	------	------	------	------	9.50	0.53	------	------	------	------	1.00
* 19525.84	------	------	------	------	9.50	2.23	------	------	------	------	1.00
21966.57	------	------	------	------	9.50	0.71	------	------	------	------	1.00
24407.30	------	------	------	------	9.50	2.45	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For Super G mode at 108Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emissions not reported are much lower than the prescribed limits. Readings are both peak and average values.

Company	Z-Com, Inc.	**Test Date**	2005/01/26
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	15.9℃, 83%

(2437MHz) TX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBμV)	AF (dBμV)	Cable (dB)	Pre-amp (dB)	Dist (dB)	Filter (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
* 2389.90	40.10	31.81	3.57	0.00	9.50	0.00	65.98	74.00	-8.02	P	1.11
* 2389.90	27.00	31.81	3.57	0.00	9.50	0.00	52.88	54.00	-1.12	A	1.11
2399.90	49.70	31.80	3.58	0.00	9.50	0.00	75.58	90.79	-15.22	P	1.11
2399.90	34.90	31.80	3.58	0.00	9.50	0.00	60.78	81.87	-21.10	A	1.11
2440.88	84.94	31.76	3.59	0.00	9.50	0.00	110.79	Fundamental Frequency		P	1.00
2440.88	76.02	31.76	3.59	0.00	9.50	0.00	101.87			A	1.00
* 2483.50	37.20	31.72	3.61	0.00	9.50	0.00	63.03	74.00	-10.97	P	1.11
* 2483.50	23.60	31.72	3.61	0.00	9.50	0.00	49.43	54.00	-4.57	A	1.11
* 2483.60	39.60	31.72	3.61	0.00	9.50	0.00	65.43	74.00	-8.57	P	1.11
* 2483.60	23.50	31.72	3.61	0.00	9.50	0.00	49.33	54.00	-4.67	A	1.11
3050.82	72.30	31.67	3.89	35.85	9.50	0.00	62.51	90.79	-28.28	P	1.10
3050.82	61.92	31.67	3.89	35.85	9.50	0.00	52.13	81.87	-29.74	A	1.10
* 4876.44	47.91	34.78	5.10	35.20	9.50	1.79	44.89	74.00	-29.11	P	1.10
* 4876.44	37.48	34.78	5.10	35.20	9.50	1.79	34.46	54.00	-19.54	A	1.10
* 7317.47	46.00	39.77	6.80	35.64	9.50	2.00	49.43	74.00	-24.57	P	1.11
* 7317.47	34.73	39.77	6.80	35.64	9.50	2.00	38.16	54.00	-15.84	A	1.11
9750.01	44.03	38.52	8.33	36.60	9.50	0.55	45.33	90.79	-45.46	P	1.05
9750.01	33.88	38.52	8.33	36.60	9.50	0.55	35.18	81.87	-46.69	A	1.05
* 12204.40	------	------	------	------	9.50	0.80	------	------	------	------	1.00
14645.28	------	------	------	------	9.50	0.58	------	------	------	------	1.00
17086.16	------	------	------	------	9.50	0.53	------	------	------	------	1.00
* 19527.04	------	------	------	------	9.50	2.23	------	------	------	------	1.00
21967.92	------	------	------	------	9.50	0.71	------	------	------	------	1.00
24408.80	------	------	------	------	9.50	2.45	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means the Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. The test data marked in gray background means the EUT emission data is located in the margin uncertainty range of emission limits.
10. For Super G mode at 108Mbps.

4.7 Photos of Open Site

5. 6dB BANDWIDTH MEASUREMENT

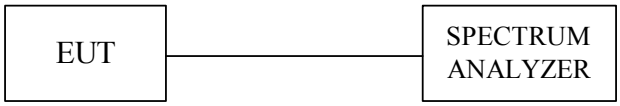
5.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Calibration Period
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	September 06, 2004	1 Year

Note：

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.2 Test Setup



5.3 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500KHz

5.4 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 KHz RBW and 1MHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

5.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 200KHz.

5.6 Test Results

Company	Z-Com, Inc.	Test Date	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	Test By	Alan Fan
Model Name	AG-3220	TEMP & Humidity	18.1℃, 85%

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
Low	5745	16.43	0.5	PASS
Middle	5785	16.39	0.5	PASS
High	5825	16.39	0.5	PASS

Note : For normal 802.11a Mode

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	12.75	0.5	PASS
6	2437	12.18	0.5	PASS
11	2462	11.26	0.5	PASS

Note : For 802.11b Mode

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.47	0.5	PASS
6	2437	16.39	0.5	PASS
11	2462	16.43	0.5	PASS

Note : For normal 802.11g Mode

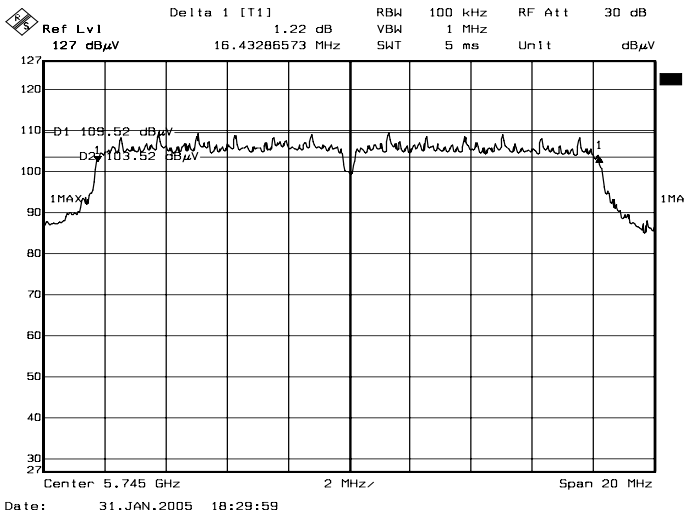
Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
Low	5760	32.63	0.5	PASS
High	5800	32.55	0.5	PASS

Note : For Super A mode

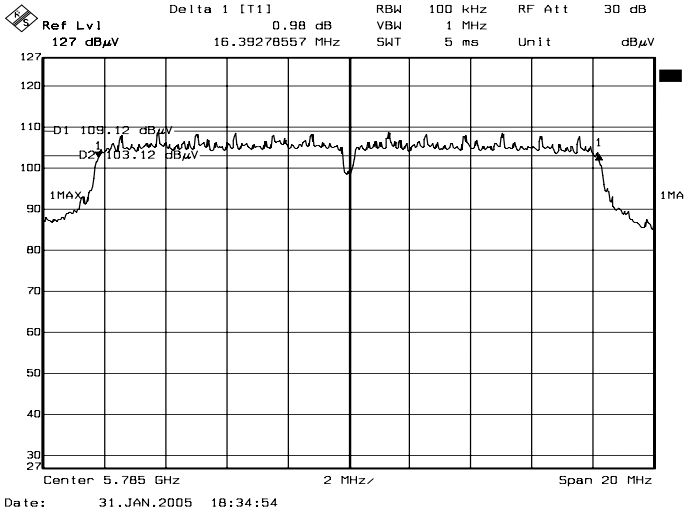
Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
6	2437	32.30	0.5	PASS

Note : For Super G mode

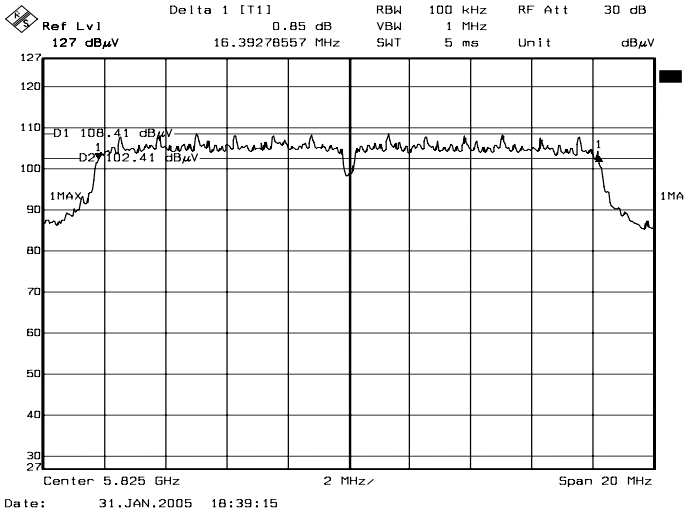
5.7 Photo of 6db Bandwidth Measurement



Channel Low

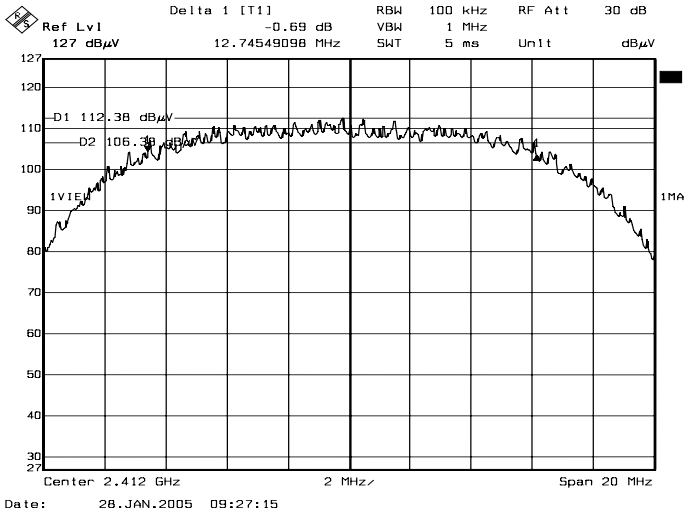


Channel Middle

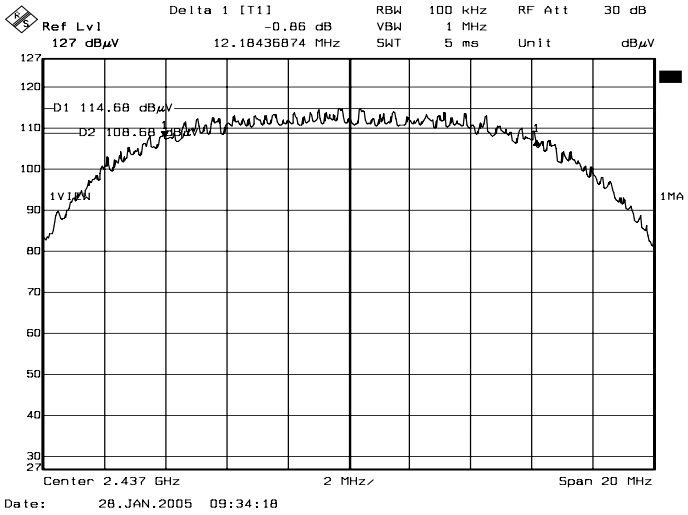


Channel High

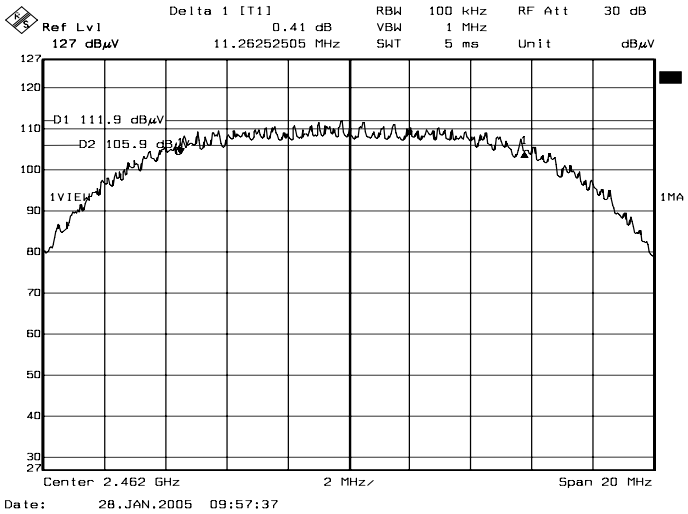
Note: For normal 802.11a Mode



Channel 1

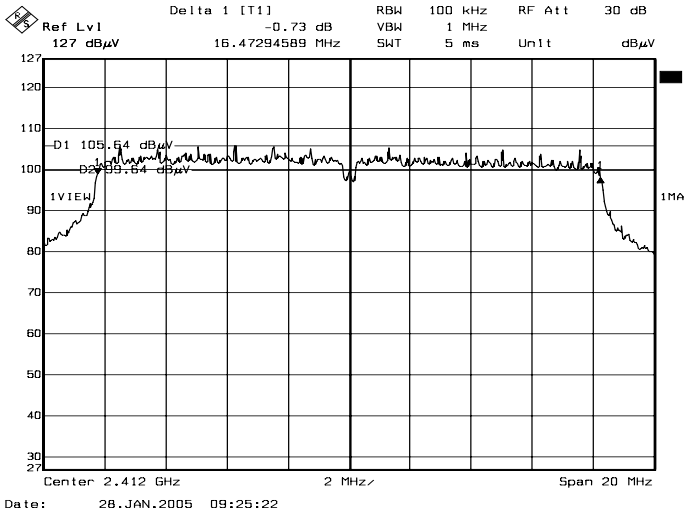


Channel 6

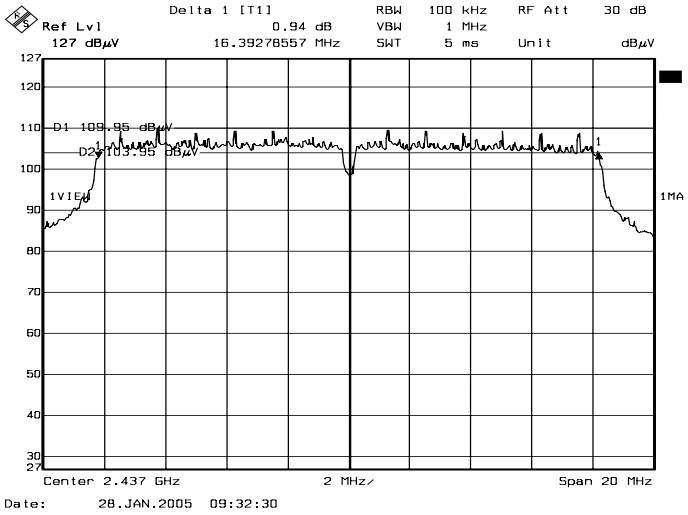


Channel 11

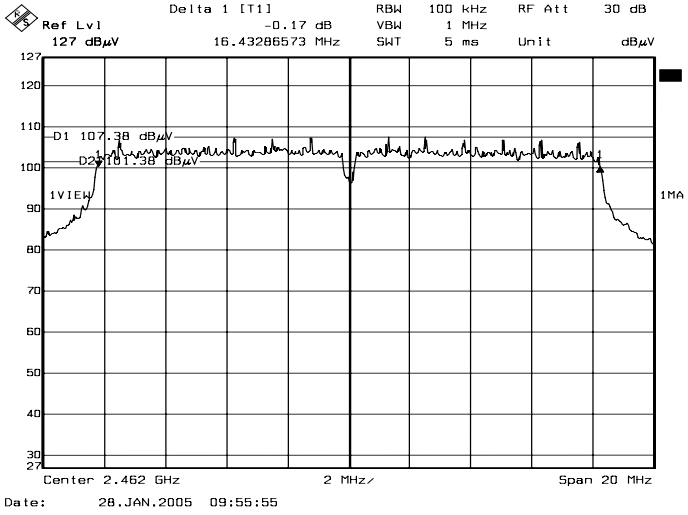
Note: For 802.11b Mode



Channel 1

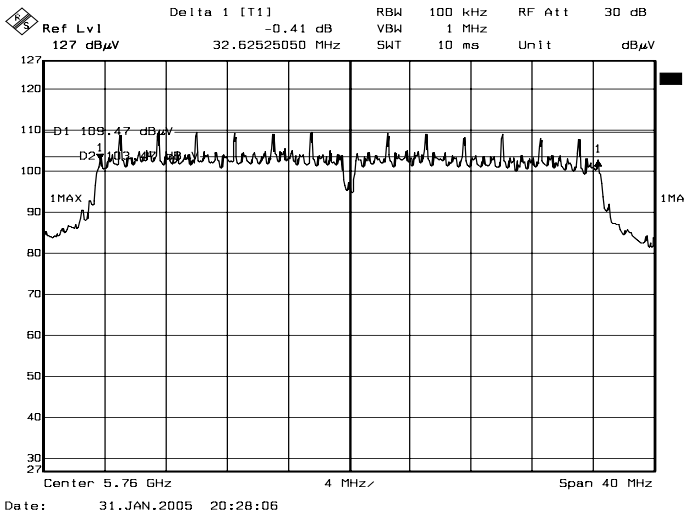


Channel 6

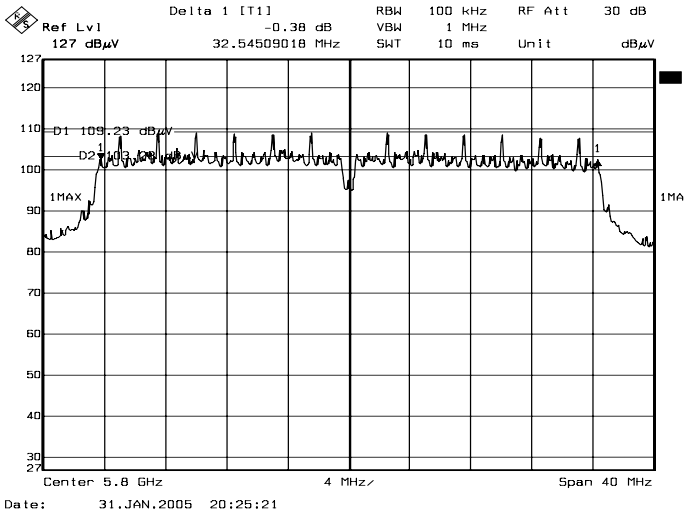


Channel 11

Note: For normal 802.11g Mode

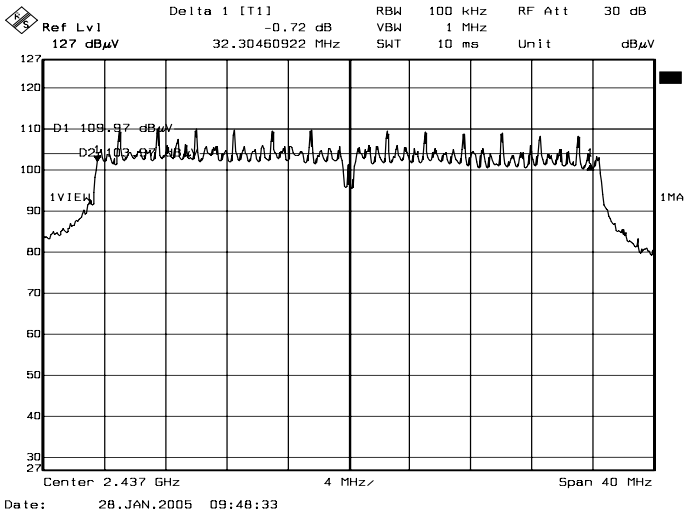


Channel Low



Channel High

Note: For Super A mode



Channel 6

Note: For Super G mode

6. MAXIMUM PEAK OUTPUT POWER

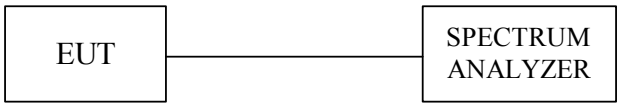
6.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Calibration Period
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	September 06, 2004	1 Year
Agilent ATTENUATOR	8491B	57321	CAL. ON USE	1 Year

Note：

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

6.2 Test Setup



6.3 Limits of Maximum Peak Output Power

The Maximum Peak Output Power Measurement is 30dBm.

6.4 Test Procedure

1. The spectrum shall be set as follows :
   Span : 1.5 times channel integration bandwidth.
   RBW : 1MHz
   VBW : 3MHz
   Detector : Peak
   Sweep : Single trace
2. Compute the combined power of all signal responses contained in the trace by covering all the data points.
3. For 99% occupied BW, place the markers at the frequency at which 0.5% of the power lies to the right of the right marker and 0.5% of the power lies to the left of the left marker.
4. The peak output power is the channel power integrated over 99% bandwidth.

6.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 1.82dB.

6.6 Test Results

Company	Z-Com, Inc.	Test Date	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	Test By	Alan Fan
Model Name	AG-3220	TEMP & Humidity	18.1℃, 85%

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
Low	5745	19.90	30	PASS
Middle	5785	19.73	30	PASS
High	5825	19.53	30	PASS

Note :
1. For normal 802.11a mode.
2. At finial test to get the worst-case emission at 6Mbps.
3. Cable loss = 1.0dB.
4. The results are calculated as the following equation :
   Peak Power Output = Peak Power Reading + Cable loss

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
1	2412	19.50	30	PASS
6	2437	22.07	30	PASS
11	2462	19.48	30	PASS

Note :
1. For 802.11b mode.
2. At finial test to get the worst-case emission at 11Mbps.
3. Cable loss = 1.0dB.
4. The results are calculated as the following equation :
   Peak Power Output = Peak Power Reading + Cable loss

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
1	2412	17.03	30	PASS
6	2437	20.22	30	PASS
11	2462	17.99	30	PASS

Note :
1. For normal 802.11g mode.
2. At finial test to get the worst-case emission at 6Mbps.
3. Cable loss = 1.0dB.
4. The results are calculated as the following equation :
   Peak Power Output = Peak Power Reading + Cable loss

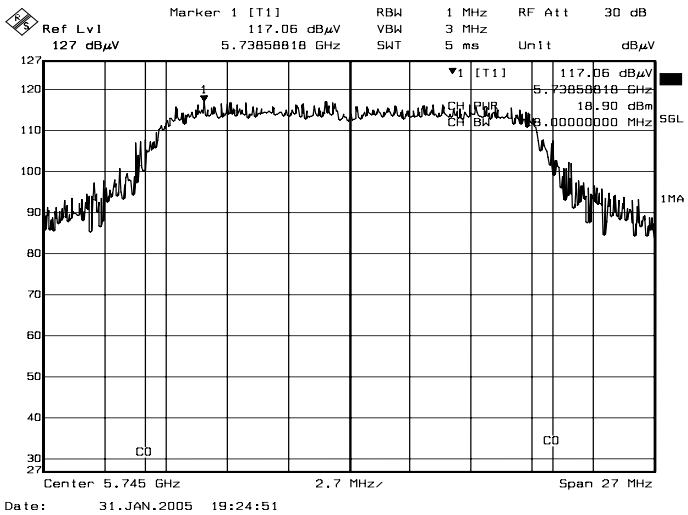
Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
Low	5760	19.63	30	PASS
High	5800	19.31	30	PASS

Note :
1. For Super A mode.
2. At finial test to get the worst-case emission at 108Mbps.
3. Cable loss = 1.0dB.
4. The results are calculated as the following equation :
   Peak Power Output = Peak Power Reading + Cable loss

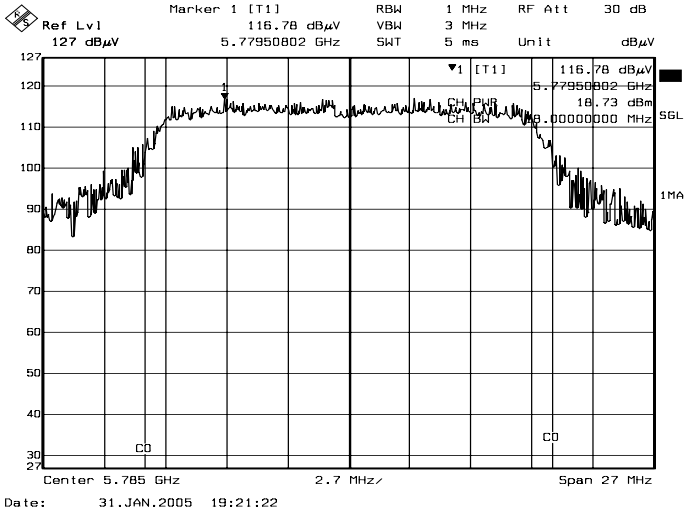
Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
6	2437	20.61	30	PASS

Note :
1. For Super G mode.
2. At finial test to get the worst-case emission at 108Mbps.
3. Cable loss =1.0dB.
4. The results are calculated as the following equation :
   Peak Power Output = Peak Power Reading + Cable loss

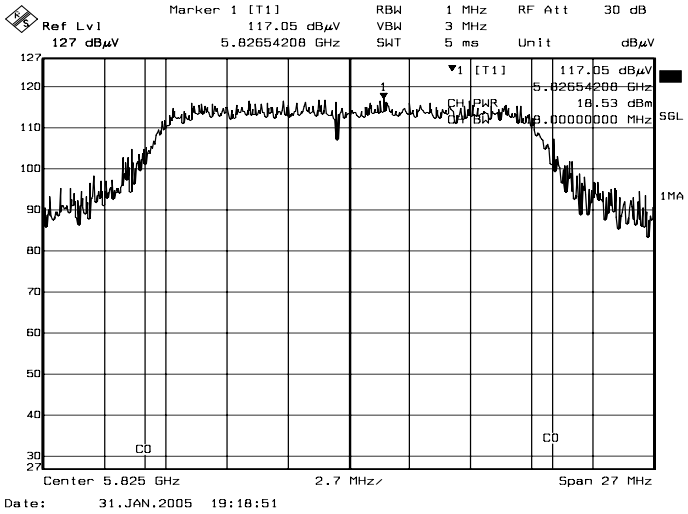
6.7 Photo of Maximum Peak Output Power Measurement



Channel Low

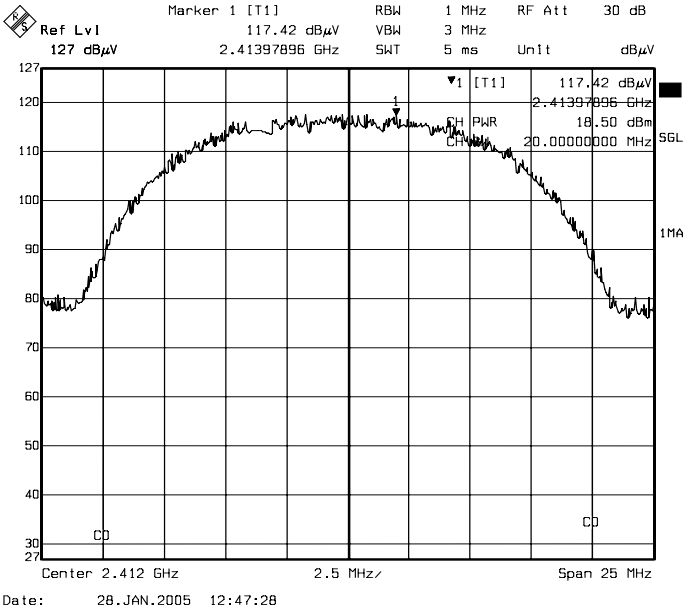


Channel Middle

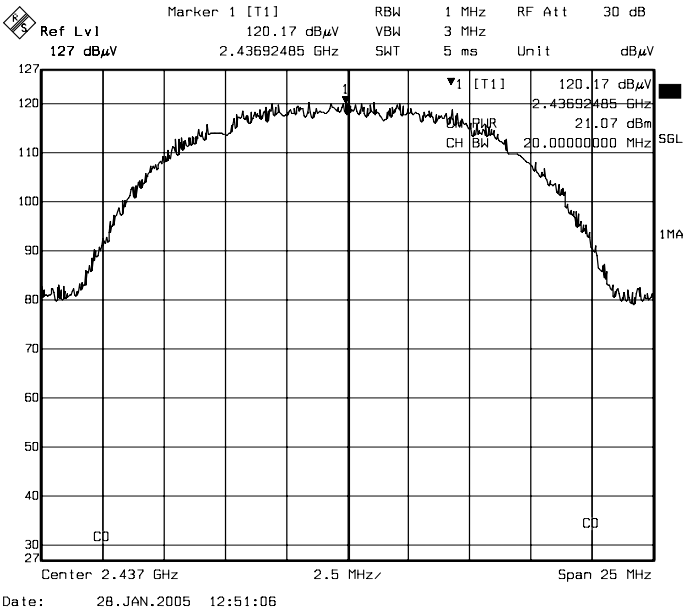


Channel High

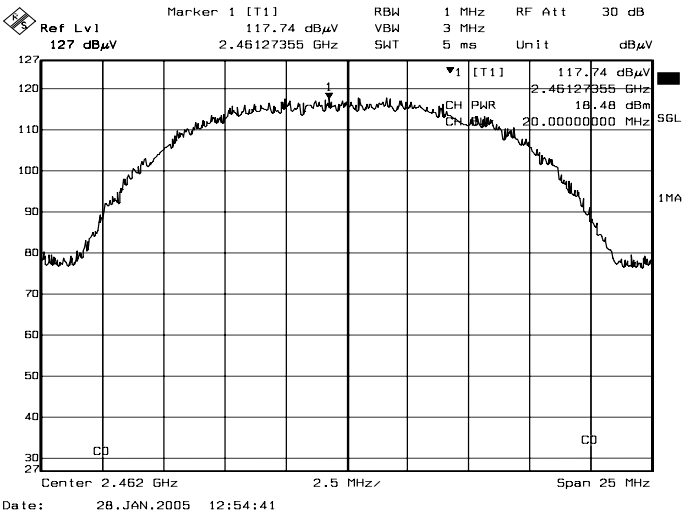
Note: For normal 802.11a Mode



Channel 1

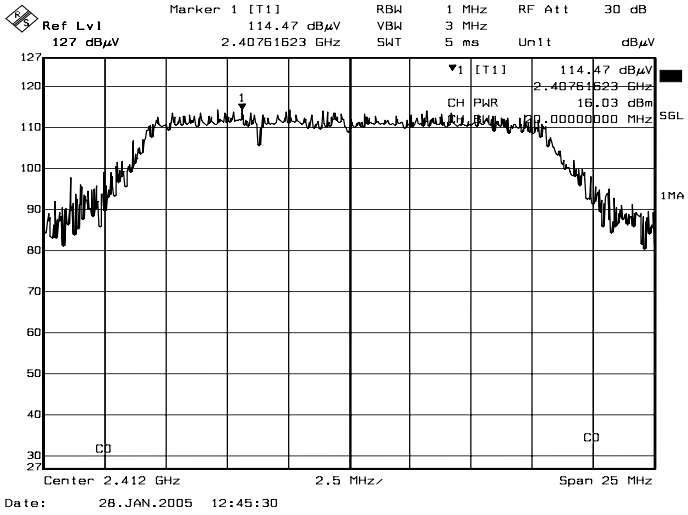


Channel 6

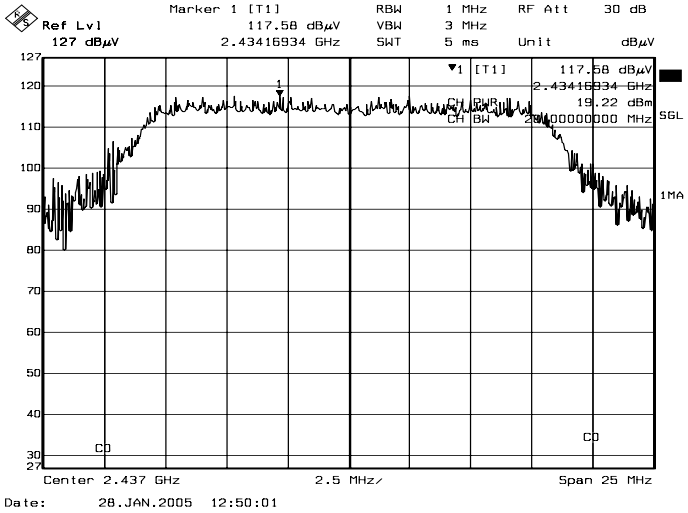


Channel 11

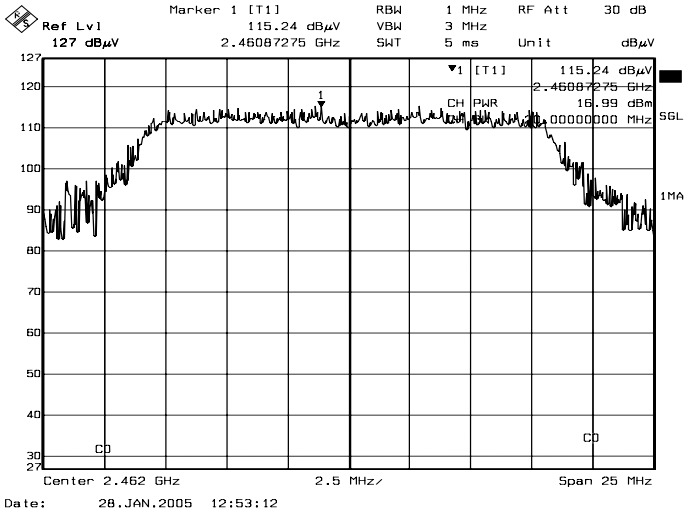
Note: For 802.11b Mode



Channel 1

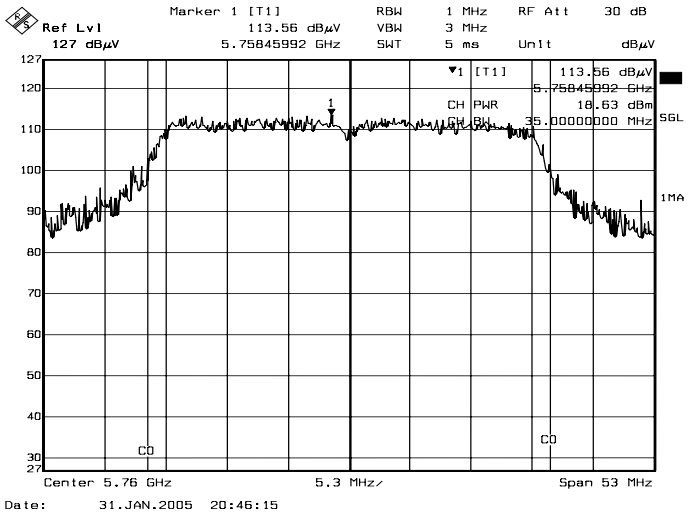


Channel 6

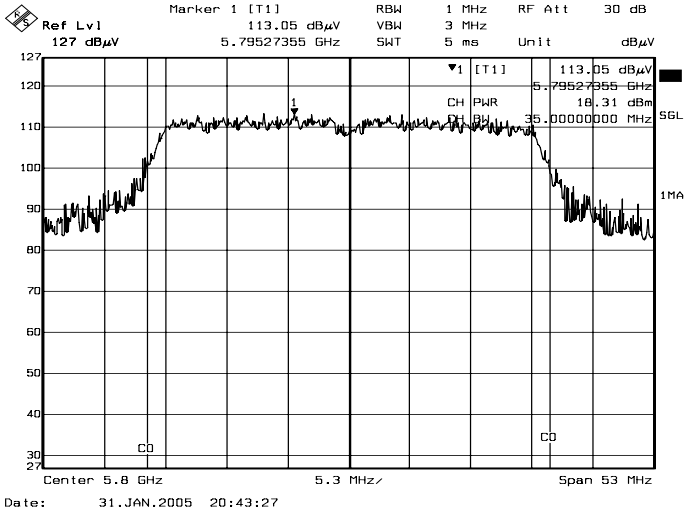


Channel 11

Note: For normal 802.11g Mode

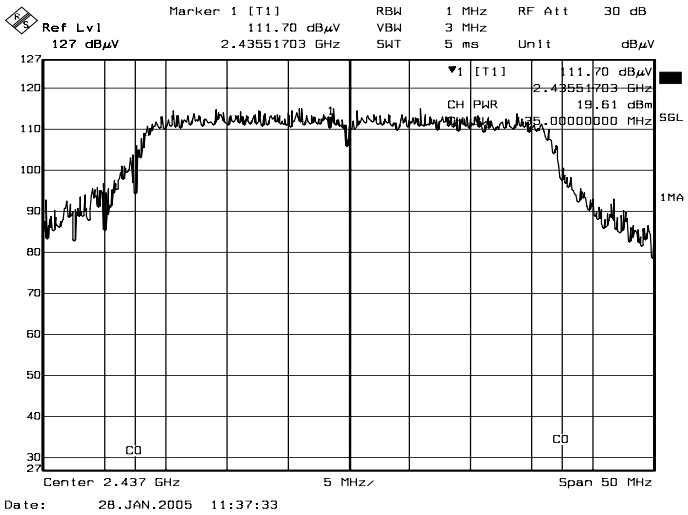


Channel Low



Channel High

Note: For Super A mode



Channel 6

Note: For Super G mode

7. POWER SPECTRAL DENSITY MEASUREMENT

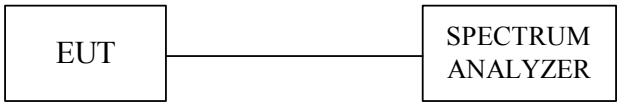
7.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Calibration Period
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	September 06, 2004	1 Year

Note：

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

7.2 Test Setup



7.3 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm/3KHz.

7.4 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3KHz RBW and 30KHz VBW, set sweep time=span / 3KHz.
The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span / 3KHz for a full response of the mixer in the spectrum analyzer.

7.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 1.82dB.

7.6 Test Results

Company	Z-Com, Inc.	**Test Date**	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	**Test By**	Alan Fan
Model Name	AG-3220	**TEMP & Humidity**	18.1℃, 85%

Channel	**Channel Frequency (MHz)**	**Final RF Power Level in 3KHz BW (dBm)**	**Maxmum Limit (dBm)**	**Pass / Fail**
Low	5745	-13.79	8	PASS
Middle	5785	-12.69	8	PASS
High	5825	-10.29	8	PASS

Note : For 6Mbps (normal 802.11a mode) at finial test to get the worst-case emission at 6Mbps.

Channel	**Channel Frequency (MHz)**	**Final RF Power Level in 3KHz BW (dBm)**	**Maxmum Limit (dBm)**	**Pass / Fail**
1	2412	-11.30	8	PASS
6	2437	-8.16	8	PASS
11	2462	-9.27	8	PASS

Note : For 11Mbps (802.11b mode) at finial test to get the worst-case emission at 11Mbps.

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm)	Maxmum Limit (dBm)	Pass / Fail
1	2412	-15.45	8	PASS
6	2437	-12.82	8	PASS
11	2462	-14.12	8	PASS

Note : For 6Mbps (normal 802.11g mode) at finial test to get the worst-case emission at 6Mbps.

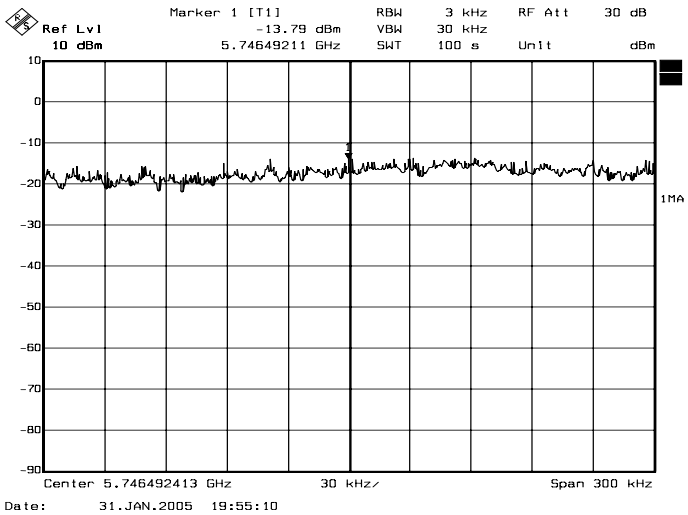
Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm)	Maxmum Limit (dBm)	Pass / Fail
Low	5760	-14.30	8	PASS
High	5800	-14.81	8	PASS

Note : For 108Mbps (Super A mode) at finial test to get the worst-case emission at 108Mbps.

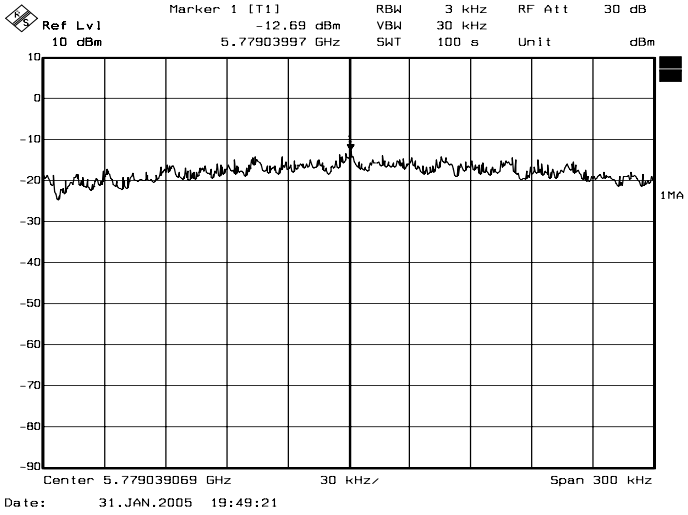
Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm)	Maxmum Limit (dBm)	Pass / Fail
6	2437	-12.59	8	PASS

Note : For 108Mbps (Super G mode) at finial test to get the worst-case emission at 108Mbps.

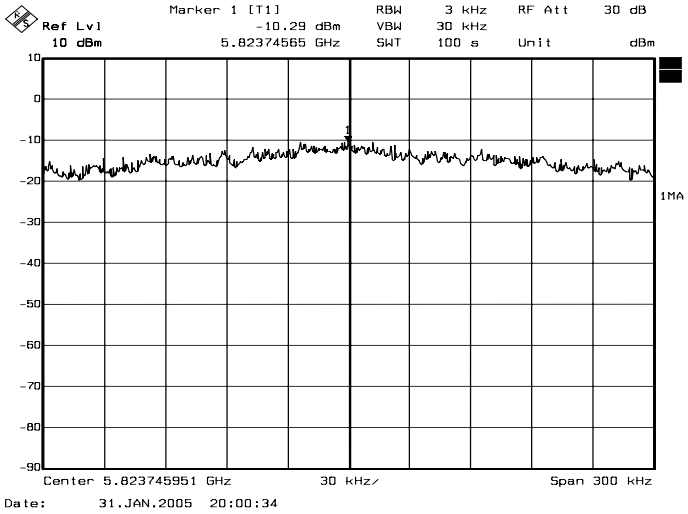
7.7 Photo of Power Spectral Density Measurement



Channel Low

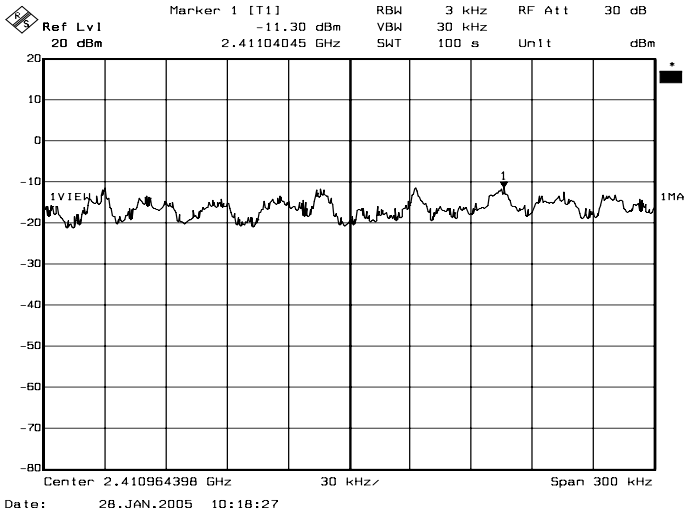


Channel Middle

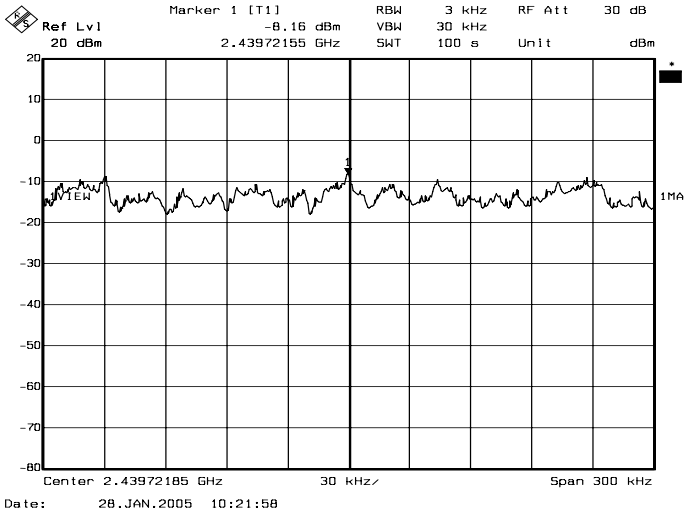


Channel High

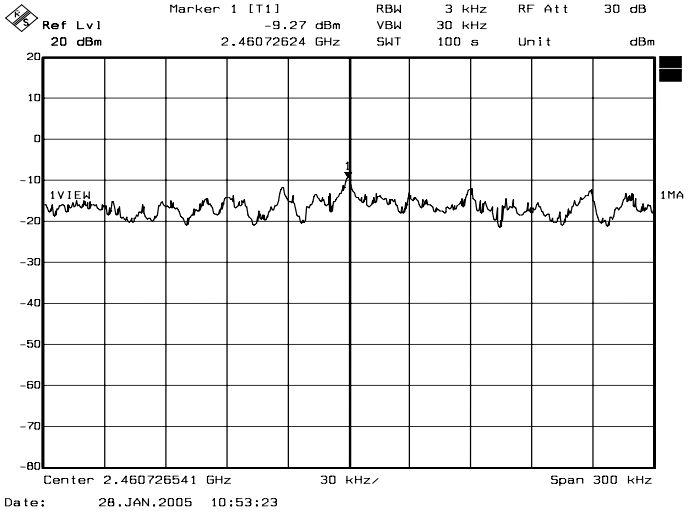
Note: For normal 802.11a Mode



Channel 1

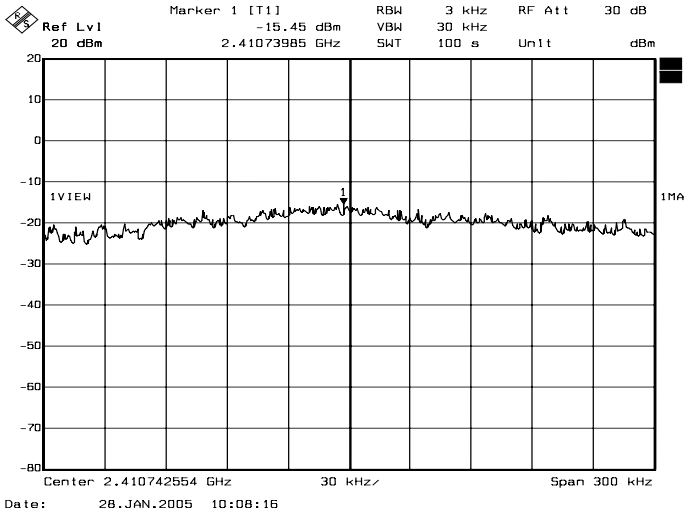


Channel 6

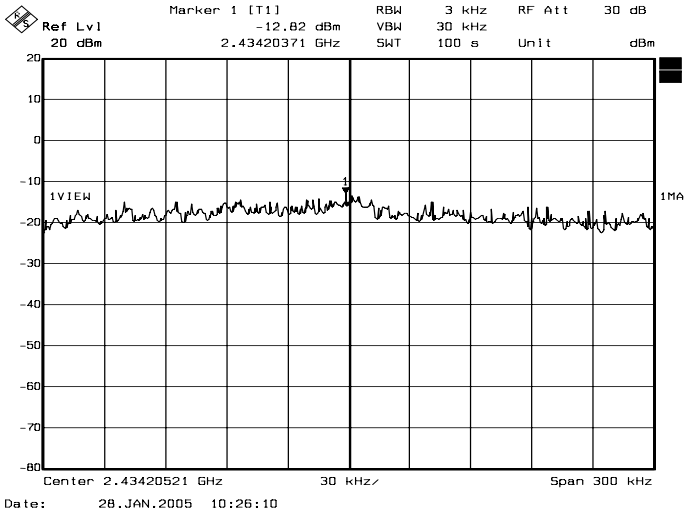


Channel 11

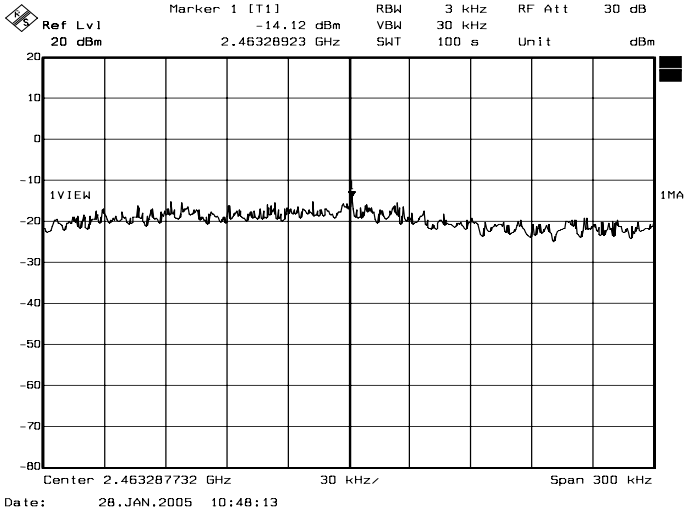
Note: For 802.11b Mode



Channel 1

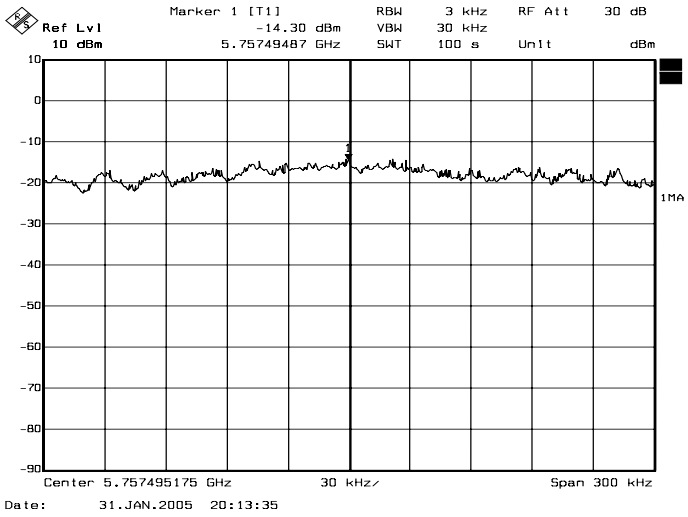


Channel 6

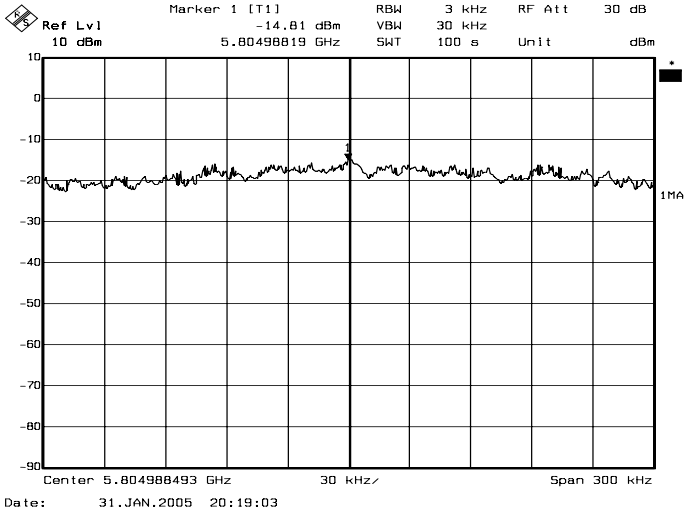


Channel 11

Note: For normal 802.11g Mode

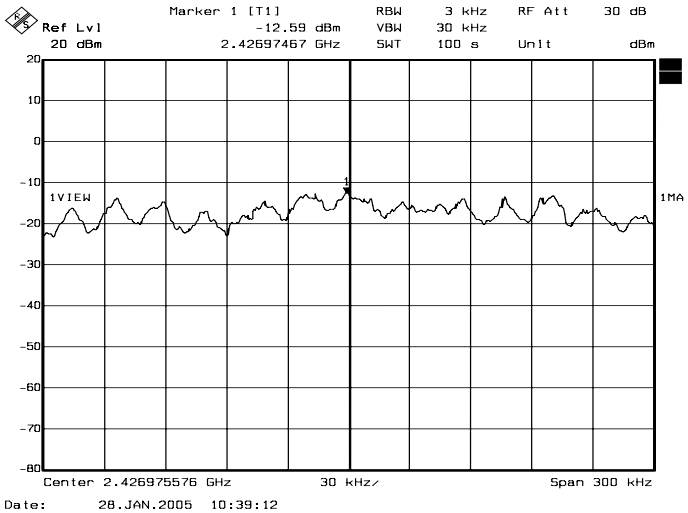


Channel Low



Channel High

Note: For Super A mode



Channel 6

Note: For Super G mode

8. BAND EDGE MEASUREMENT

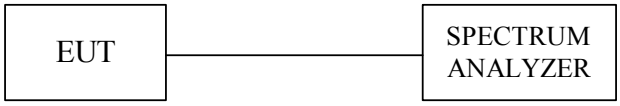
8.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Calibration Period
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	September 06, 2004	1 Year

Note：

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

8.2 Test Setup



8.3 Limits of Band Edge Emissions Measurement

1. Below –20dB of the highest emission level in operating band.
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

8.4 Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.4 with respect to maximizing the emission by rotating the EUT , measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW and VBM to 1MHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength.
The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW and VBW to 100kHz, to measure the conducted peak band edge.

8.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 1.82dB.

8.6 Test Results

A. Conducted

Refer to 7.7 photo of out band Emission measurement

B. Radiated

Company	Z-Com, Inc.	Test Date	2005/01/28
Product Name	802.11a/b/g SMB Wireless Access Point	Test By	Alan Fan
Model Name	AG-3220	TEMP & Humidity	25℃, 60%

For normal 802.11a mode

Refer to the section 3.6, the measured radiated band edge emissions are listed below :

Band edge Frequency (MHz)		Measured radiated band edge field strength (dBuV/m)		Radiated band edge field strength limit (dBuV/m)		Test result
		Horizontal	Vertical	Horizontal	Vertical	
5724.90	PK	70.10	82.92	79.81	93.05	PASS
	AV	56.92	70.49	71.92	85.15	
5850.01	PK	71.98	74.53	79.12	91.85	PASS
	AV	60.57	61.91	70.94	84.03	

For 802.11b mode

Refer to the section 3.6, the measured radiated band edge emissions are listed below :

Band edge Frequency (MHz)		Measured radiated band edge field strength (dBuV/m)		Radiated band edge field strength limit (dBuV/m)		Test result
		Horizontal	Vertical	Horizontal	Vertical	
2399.90	PK	59.18	75.68	79.54	94.22	PASS
	AV	49.68	65.38	72.75	87.32	
2483.50	PK	45.13	59.43	74.00	74.00	PASS
	AV	30.03	45.23	54.00	54.00	

For normal 802.11g mode
Refer to the section 3.6, the measured radiated band edge emissions are listed below :

Band edge Frequency (MHz)		Measured radiated band edge field strength (dBuV/m)		Radiated band edge field strength limit (dBuV/m)		Test result
		Horizontal	Vertical	Horizontal	Vertical	
2399.90	PK	70.08	85.68	74.44	89.50	PASS
	AV	50.68	67.78	66.02	81.43	
2483.50	PK	50.13	69.73	74.00	74.00	PASS
	AV	34.53	51.73	54.00	54.00	

For Super A mode
Refer to the section 3.6, the measured radiated band edge emissions are listed below :

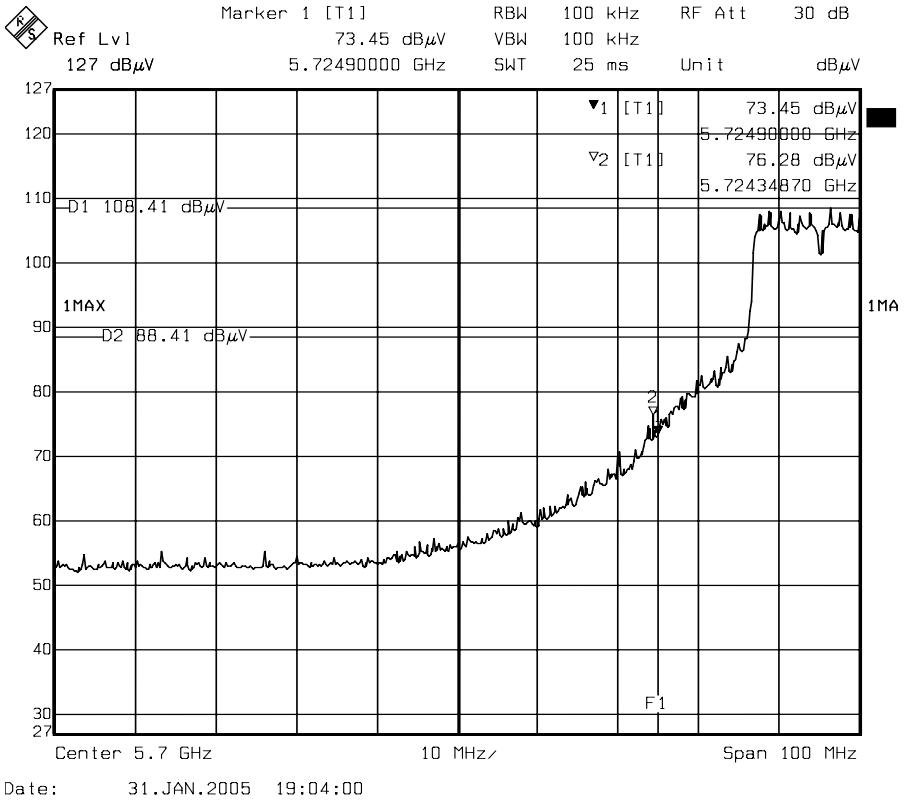
Band edge Frequency (MHz)		Measured radiated band edge field strength (dBuV/m)		Radiated band edge field strength limit (dBuV/m)		Test result
		Horizontal	Vertical	Horizontal	Vertical	
5724.90	PK	72.76	79.94	85.17	88.71	PASS
	AV	60.21	69.45	75.16	80.63	
5850.01	PK	72.82	73.32	76.32	89.82	PASS
	AV	60.57	60.57	67.64	80.60	

For Super G mode
Refer to the section 3.6, the measured radiated band edge emissions are listed below :

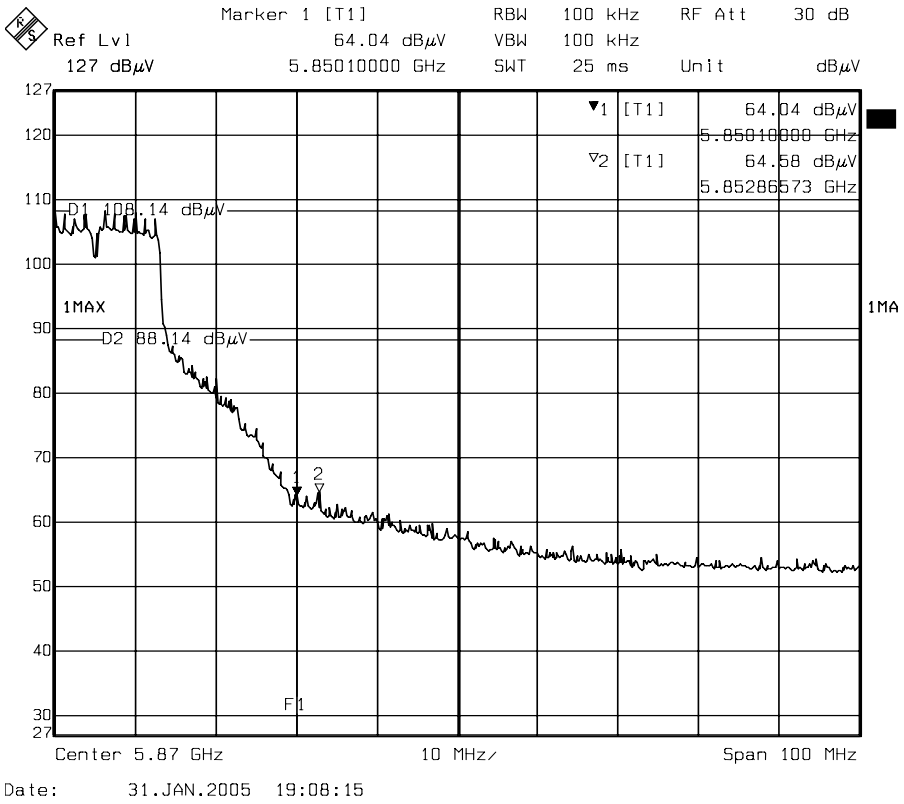
Band edge Frequency (MHz)		Measured radiated band edge field strength (dBuV/m)		Radiated band edge field strength limit (dBuV/m)		Test result
		Horizontal	Vertical	Horizontal	Vertical	
2399.90	PK	60.88	75.58	75.62	90.79	PASS
	AV	45.68	60.78	66.20	81.87	
2483.50	PK	48.63	63.03	74.00	74.00	PASS
	AV	32.53	49.43	54.00	54.00	

Note : Radiated band edge field strength is measured according to measurement procedure ANSI C63.4-2003.

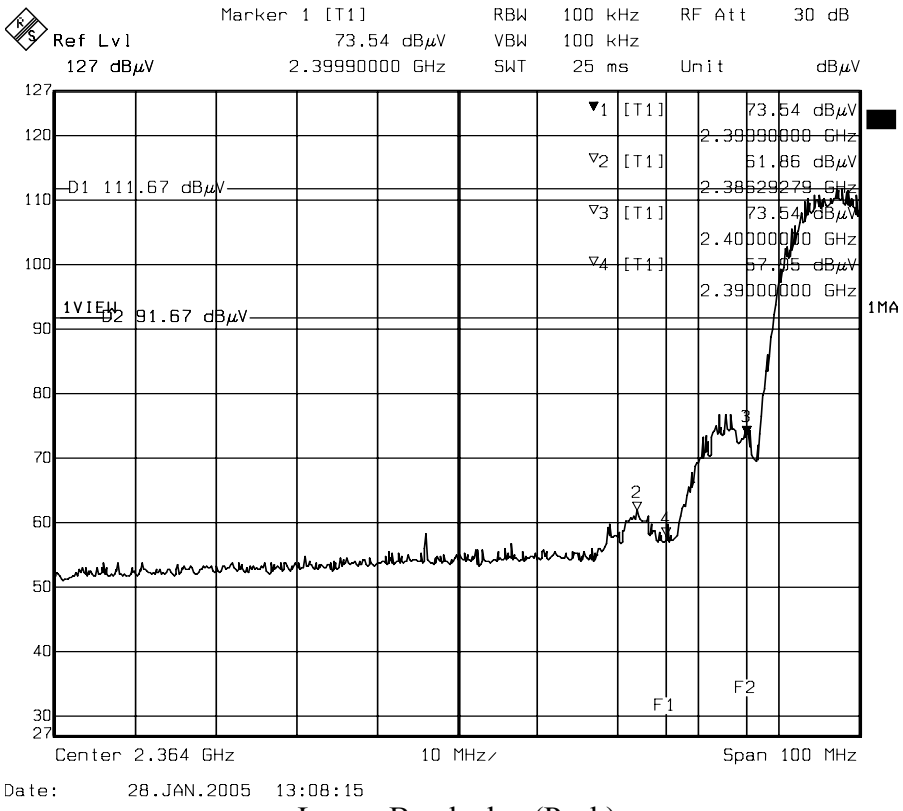
8.7 Photo of Band edge Measurement



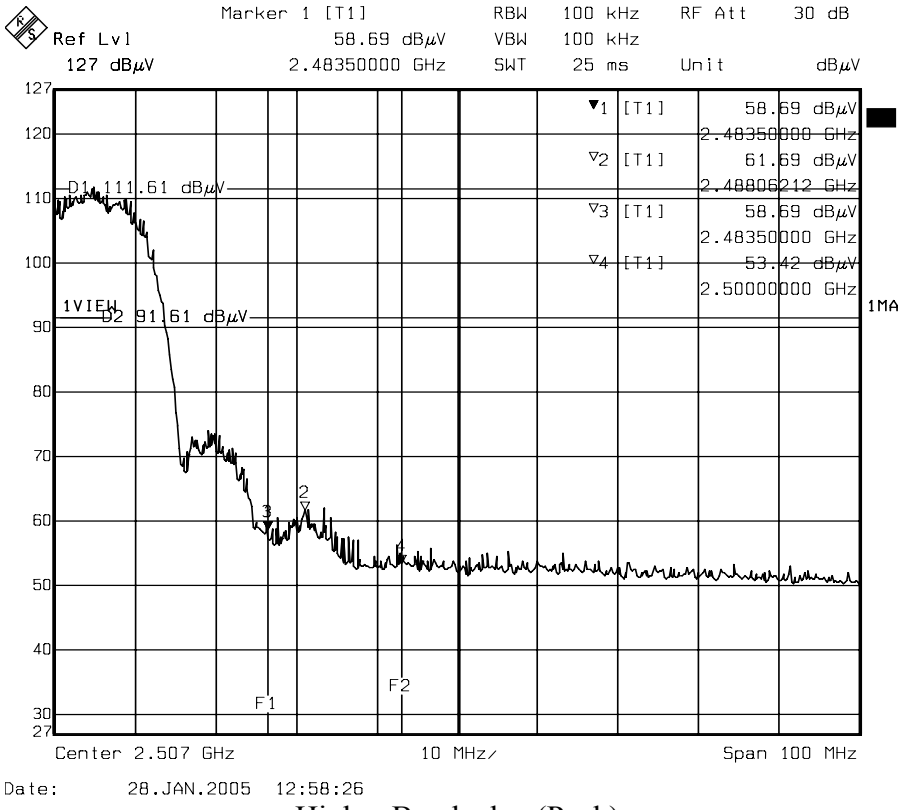
Lower Band edge (Peak)



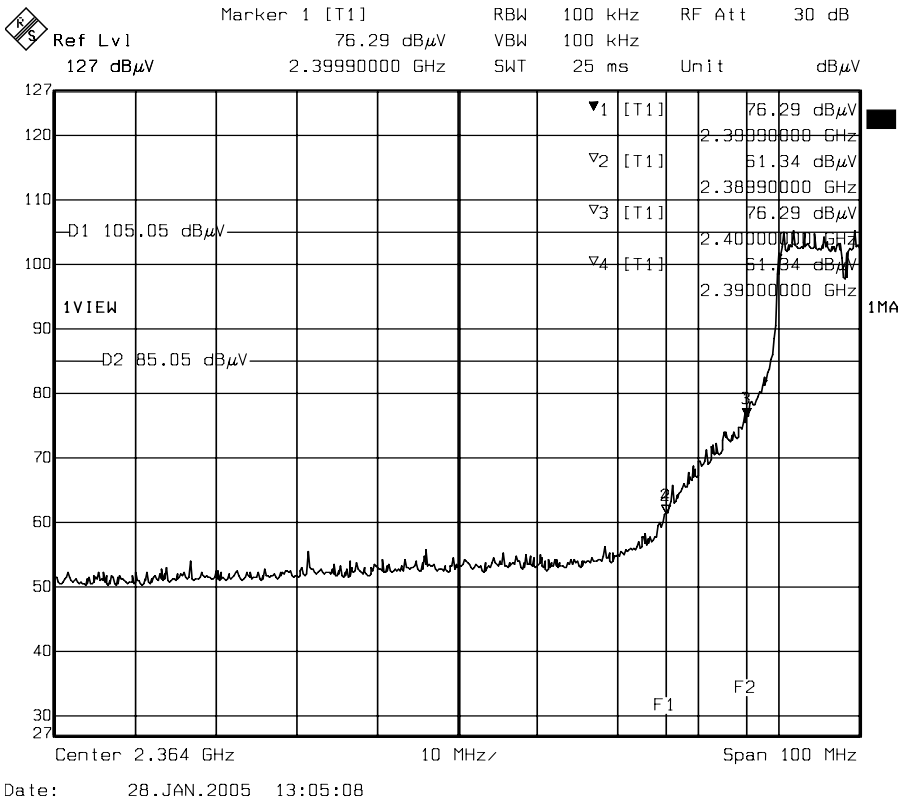
Higher Band edge (Peak)
Note: For normal 802.11a Mode



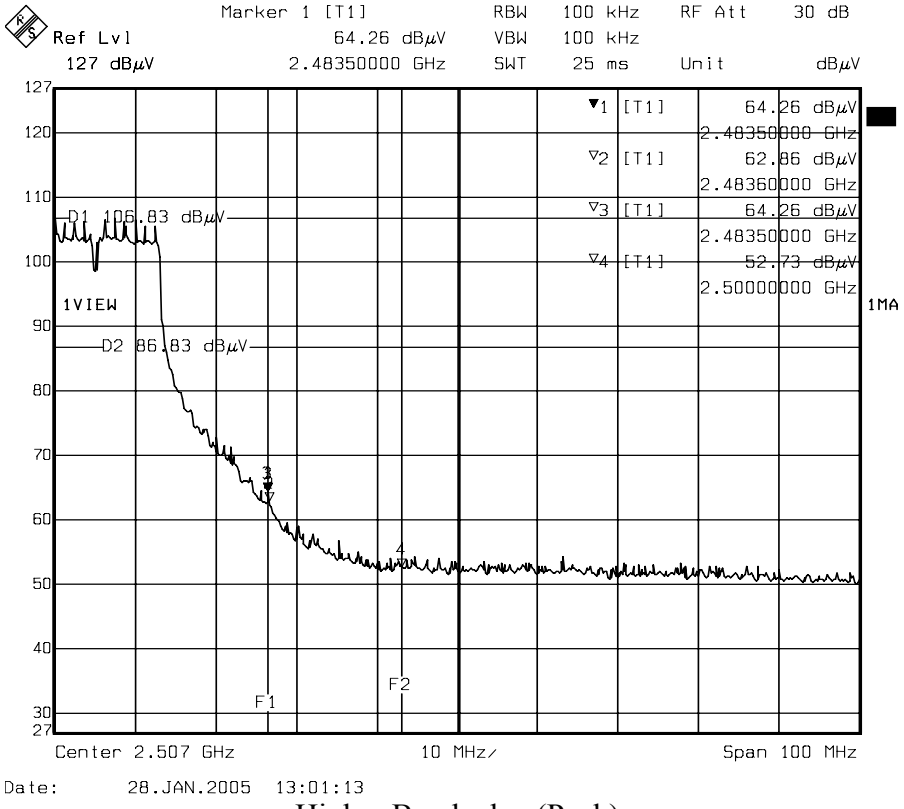
Lower Band edge (Peak)



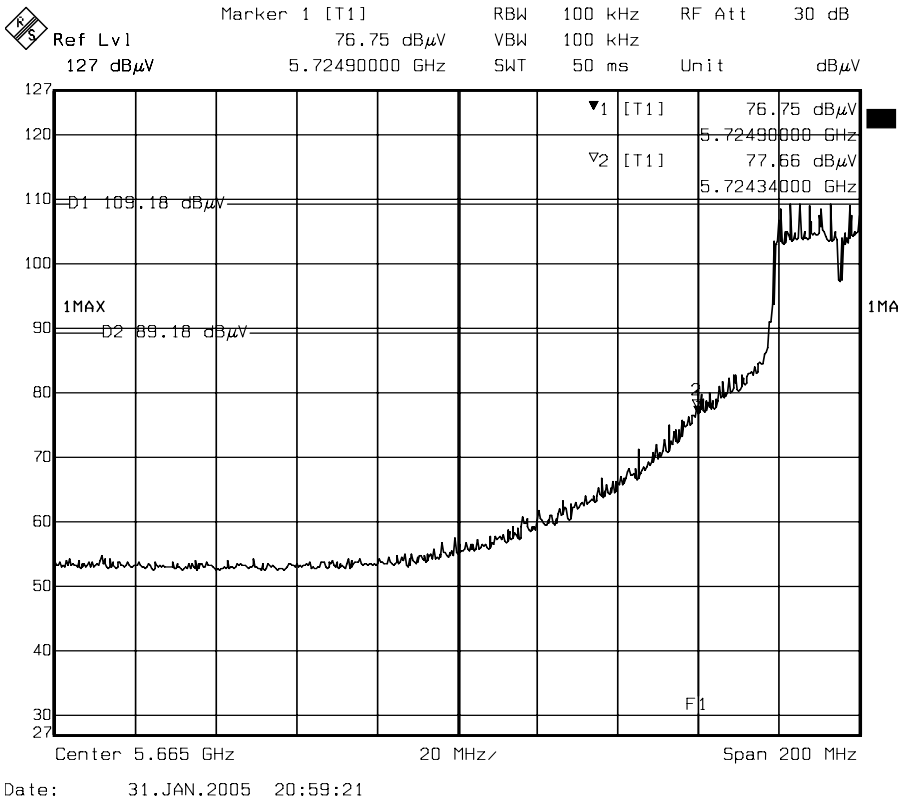
Higher Band edge (Peak)
Note: For 802.11b Mode



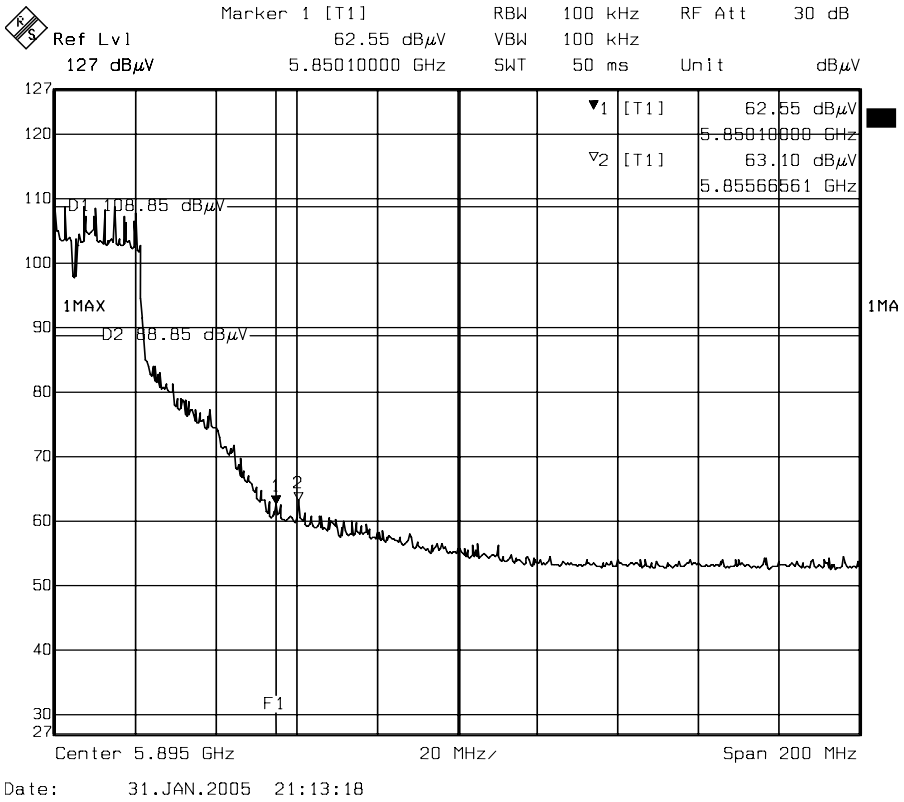
Lower Band edge (Peak)



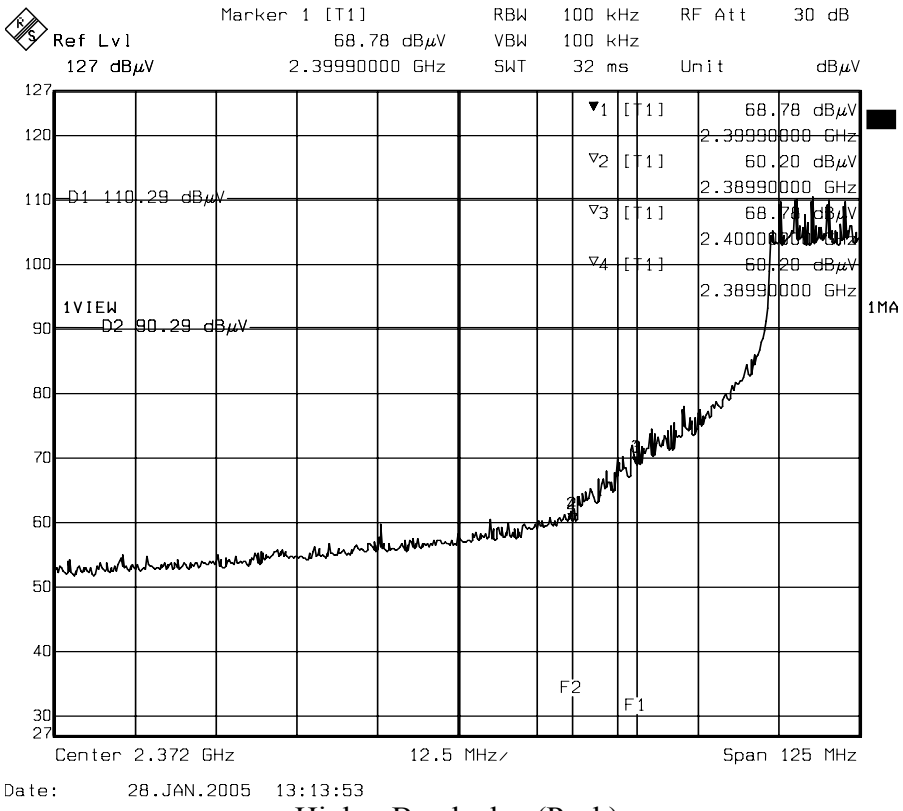
Higher Band edge (Peak)
Note: For normal 802.11g Mode



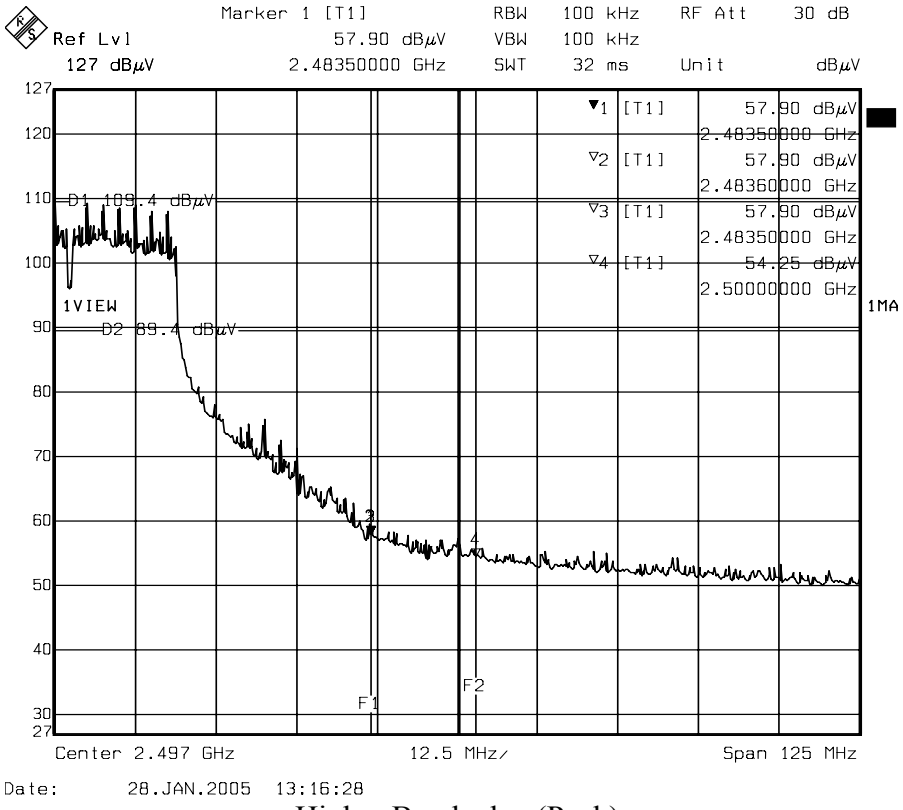
Lower Band edge (Peak)



Higher Band edge (Peak)
Note: For Super A mode



Higher Band edge (Peak)



Higher Band edge (Peak)
Note: For Super G mode

9. ANTENNA REQUIREMENT

9.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, 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.

And according to FCC 47 CFR Section 15.247 (c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

9.2 Antenna Connected Construction

The antenna used for this product is Dipole antenna. The antenna connector is reverse SMA connector and the peak Gain of this antenna is only 5dBi at 5GHz, 5dBi at 2.4GHz.

10. RF EXPOSURE EVALUATION

According to FCC 1.1310 : The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time
(A) Limits for Occupational / Control Exposures				
300-1,500	--	--	F/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population / Uncontrol Exposures				
300-1,500	--	--	F/1500	6
1,500-100,000	--	--	1	30

10.1 Friis Formula

Friis transmission formula : $P_d = (P_{out}*G)/(4*p_i*r^2)$

Where

P_d = power density in mW/cm^2

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

P_i = 3.1416

r = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance “r” where the MPE limit is reached.

10.2 EUT Operating Condition

A software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

10.3 Test Result of RF Exposure Evaluation

Test Item ： RF Exposure Evaluation Data
Test Mode ： Normal Operation

10.3.1 Antenna Gain

Antenna Gain：The maximum Gain measured in fully anechoic chamber is 5dBi linear scale.

10.3.2 Output Power into Antenna & RF Exposure Evaluation Distance

For normal 802.11a mode(6Mbps)

Channel	Channel Frequency (MHz)	Output Power to Antenna (dBm)	Power Density at 20cm (mW/cm^2)	LIMITS (mW/cm^2)
Low	5745	19.90	0.061479	1
Middle	5785	19.73	0.059119	1
High	5825	19.53	0.056459	1

For 802.11b mode(11Mbps)

Channel	Channel Frequency (MHz)	Output Power to Antenna (dBm)	Power Density at 20cm (mW/cm^2)	LIMITS (mW/cm^2)
1	2412	19.50	0.056070	1
6	2437	22.07	0.101328	1
11	2462	19.48	0.055812	1

For normal 802.11g mode(6Mbps)

Channel	Channel Frequency (MHz)	Output Power to Antenna (dBm)	Power Density at 20cm (mW/cm^2)	LIMITS (mW/cm^2)
1	2412	17.03	0.031749	1
6	2437	20.22	0.052569	1
11	2462	17.99	0.039603	1

For Super A mode(108Mbps)

Channel	Channel Frequency (MHz)	Output Power to Antenna (dBm)	Power Density at 20cm (mW/cm^2)	LIMITS (mW/cm^2)
Low	5760	19.63	0.057774	1
High	5800	19.31	0.053670	1

For Super G mode (108Mbps)

Channel	Channel Frequency (MHz)	Output Power to Antenna (dBm)	Power Density at 20cm (mW/cm^2)	LIMITS (mW/cm^2)
6	2437	20.61	0.072399	1

Note : The power density Pd (4th column) at a distance of 20cm calculated from the friis transmission formula is far below the limit of 1 mW/cm^2 . The EUT is classified as mobile product. So, RF exposure limit warning or SAR test are not required.