



# FCC TEST REPORT (15.247)

**REPORT NO.:** RF940816H02  
**MODEL NO.:** AP-5131  
**RECEIVED:** Aug. 16, 2005  
**TESTED:** Aug. 23 to Sep.20, 2005  
**ISSUED:** Sep. 27, 2005

**APPLICANT:** Symbol Technologies Inc.

**ADDRESS:** One Symbol Plaza, Holtsville, NY 11742-1300 U.S.A.

**ISSUED BY:** Advance Data Technology Corporation

**TEST LOCATION:** No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien, Taiwan, R.O.C.

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0536  
ILAC MRA



No. 2177-01



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APPENDIX-AA-1



**1. CERTIFICATION**

**PRODUCT:** Symbol WLAN 802.11abg Access Point  
**BRAND NAME:** Symbol  
**MODEL NO.:** AP-5131  
**PART NUMBER** AP-5131-44000-WW  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**TESTED:** Aug. 23 to Sep.20, 2005  
**APPLICANT:** Symbol Technologies Inc.  
**STANDARDS:** FCC Part 15, Subpart C (Section 15.247),  
 ANSI C63.4-2003

The above equipment (Model: AP-5131) has been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY :** Midoli Peng , **DATE:** Sep. 27, 2005  
 ( Midoli Peng )

**TECHNICAL ACCEPTANCE :** Hank Chung , **DATE:** Sep. 27, 2005  
 Responsible for RF ( Hank Chung )

**APPROVED BY :** May Chen , **DATE:** Sep. 27, 2005  
 (May Chen, Deputy Manager )

## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

For 802.11b & g, 2412~2462MHz Band

<b>APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.247)</b>			
<b>Standard Section</b>	<b>Test Type and Limit</b>	<b>Result</b>	<b>Remark</b>
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -7.39dB at 0.526MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 2390.0MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.

## For 802.11a, 5725~5850MHz Band

<b>APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.247)</b>			
<b>Standard Section</b>	<b>Test Type and Limit</b>	<b>Result</b>	<b>Remark</b>
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -7.30dB at 0.529MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -6.3dB at 11490.0MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.

**NOTE:**

1. The EUT was operating in 2.412 ~ 2.462GHz, 5.150 ~ 5.350GHz and 5.725 ~ 5.850GHz frequencies band. This report was recorded the RF parameters including 2.412 ~ 2.462GHz and 5.725 ~ 5.850GHz. For the 5.150 ~ 5.350GHz RF parameters was recorded in another test report.



### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>EUT</b>	Symbol WLAN 802.11abg Access Point
<b>MODEL NO.</b>	AP-5131
<b>POWER SUPPLY</b>	DC 48V from power adapter or POE (Power over Ethernet)
<b>MODULATION TYPE</b>	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
<b>MODULATION TECHNOLOGY</b>	DSSS, OFDM
<b>TRANSFER RATE</b>	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11a: 54/48/36/24/18/12/9/6Mbps
<b>FREQUENCY RANGE</b>	802.11b & 802.11g: 2412 ~ 2462MHz 802.11a: 5.15 ~ 5.35GHz and 5.725 ~ 5.850GHz
<b>NUMBER OF CHANNEL</b>	802.11b & 802.11g: 11 802.11a: 13
<b>CHANNEL SPACING</b>	802.11b & 802.11g: 5MHz 802.11a: 20MHz for Normal mode
<b>OUTPUT POWER</b>	Please see note 4 (on next page)
<b>DATA CABLE</b>	NA
<b>ANTENNA TYPE</b>	Please see note 3 (on next page)
<b>I/O PORTS</b>	Console Port x1, LAN Port x1, WAN Port x1
<b>ASSOCIATED DEVICES</b>	NA

**NOTE:**

1. The EUT operates in both the 5GHz and 2.4GHz Bands and compatibility with 802.11a and 802.11b, 802.11g technology.



2. The EUT was operated with the following power adapter or POE:

ADAPTER	
<b>BRAND:</b>	Symbol
<b>MODEL:</b>	50-24000-050
<b>INPUT:</b>	AC 100-250V, 0.4A max, 47-63Hz 16cm/ shield/ without core
<b>OUTPUT:</b>	DC 48V, 0.25A , 1.5m/ nonshield/ with one core

POE (for test only)	
<b>BRAND:</b>	Symbol
<b>MODEL:</b>	AP-PSBIAS-T-1P-AF
<b>INPUT:</b>	AC100~240V, 0.34~0.17A, 60/50Hz
<b>OUTPUT:</b>	DC 48V

3. There are six antennas provided to this EUT, please refer to the following table:

For 2.4GHz							
No.	Symbol P/N	Gain (dBi)	Cable Loss (dB)	Net Gain (dB)	Antenna Type	Connector	Remark
1	*ML-2452-APA2-01	3.0	0	3.0	Dipole	RP SMA	Omni
2	ML-2499-11PNA2-01	11.2	2.7	8.5	Panel	Reverse BNC	Directional
3	ML-2499-HPA3-01	4.6	1.3	3.3	Dipole	Reverse BNC	Omni
4	**ML-2499-BYGA2-01	14.2	0.3	13.9	Yagi	RP SMA	Directional

For 5GHz							
No.	Symbol P/N	Gain (dBi)	Cable Loss (dB)	Net Gain (dB)	Antenna Type	Connector	Remark
1	*ML-2452-APA2-01	4.0	0	4.0	Dipole	RP SMA	Omni
2	ML-5299-WPNA1-01	14.2	1.2	13.0	Patch	RP SMA	Directional
3	ML-5299-HPA1-01	5.9	0.84	5.0	Omni	RP SMA	Omni

**Note:**

- All of the above antennas are Indoor Antenna except the Symbol P/N: ML-2499-BYGA2-01.
- “\*” is a Dual Band antenna can be used in both 2.4GHz and 5GHz.
- “\*\*” is an Outdoor Antenna it can only be used in point-to-point applications.
- For 2.4GHz Antenna No. 2 and 3 were tested with Extend cable (0.5 dB loss).
- For 2.4GHz Antenna No. 4 was tested with Extend cable (0.5 dB loss) and Arrestor (1.0 dB loss).

## 4. Peak output power (Unit : dBm) :

No.	Symbol P/N (Antenna)	Operating Frequency (MHz)			
		2412~2462	5150~5250	5250~5350	5725~5850
1	ML-2452-APA2-01	21.88	16.33	23.03	18.93
2	ML-2499-11PNA2-01	21.88	NA	NA	NA
3	ML-2499-HPA3-01	21.88	NA	NA	NA
4	ML-2499-BYGA2-01	21.88	NA	NA	NA
5	ML-5299-WPNA1-01	NA	9.08	11.59	18.93
6	ML-5299-HPA1-01	NA	16.33	23.03	18.93

5. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 DESCRIPTION OF TEST MODES

Operated in 2400 ~ 2483.5MHz band:

For 802.11b/g: Eleven channels are provided to this EUT.

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

Operated in 5725 ~ 5850MHz band:

For 802.11a (5725 ~ 5850MHz band): Five channels are provided to this EUT.

Channel	Frequency
1	5745 MHz
2	5765 MHz
3	5785 MHz
4	5805 MHz
5	5825 MHz



3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

EUT configure mode	Applicable to				Description
	PLC	RE<1G	RE≥1G	APCM	
-	X	X	X	X	NA

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz  
 RE≥1G: Radiated Emission above 1GHz APCM: Antenna Port Conducted Measurement

**Power Line Conducted Emission Test:**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11g	1 to 11	11	OFDM	BPSK	6
802.11a	1 to 5	5	OFDM	BPSK	6

**Radiated Emission Test (Below 1 GHz):**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11g	1 to 11	11	OFDM	BPSK	6
802.11a	1 to 5	5	OFDM	BPSK	6

**Radiated Emission Test (Above 1 GHz):**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	CCK	11
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11a	1 to 5	1, 3, 5	OFDM	BPSK	6



**Bandedge Measurement:**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 11	DSSS	CCK	11
802.11g	1 to 11	1, 11	OFDM	BPSK	6
802.11a	1 to 5	1, 5	OFDM	BPSK	6

**Antenna Port Conducted Measurement:**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	CCK	11
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11a	1 to 5	1, 3, 5	OFDM	BPSK	6



### **3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS**

The EUT is a Symbol WLAN 802.11abg Access Point. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

#### **FCC Part 15, Subpart C. (15.247)**

#### **ANSI C63.4-2003**

All test items have been performed and recorded as per the above standards.

**NOTE:** The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.



### 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP01L	TW-09c748- 12800-165-3171	FCC DoC
2	NOTEBOOK COMPUTER	DELL	PP01L	TW-0791UH- 12800-0CK-3735	FCC DoC
3	NOTEBOOK COMPUTER	DELL	PP05L	CN-04Y212- 48643-38E-0145	NA

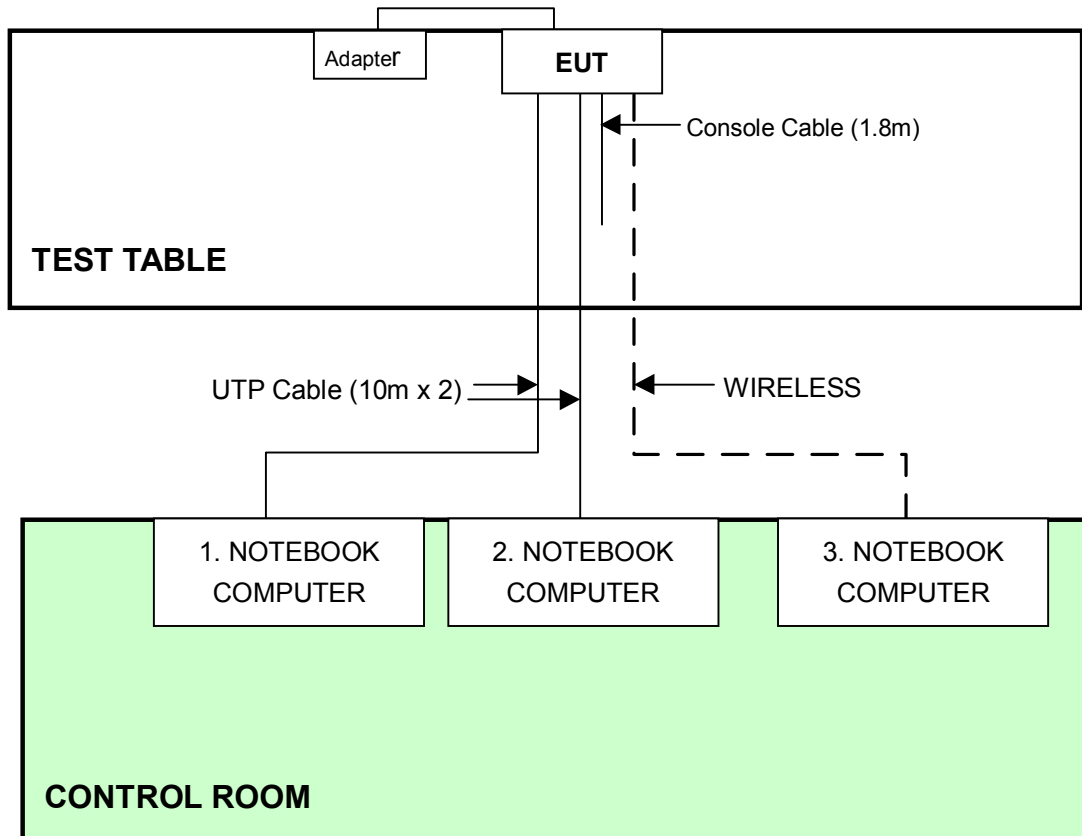
NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	NA

**NOTE:** All power cords of the above support units are non shielded (1.8m).



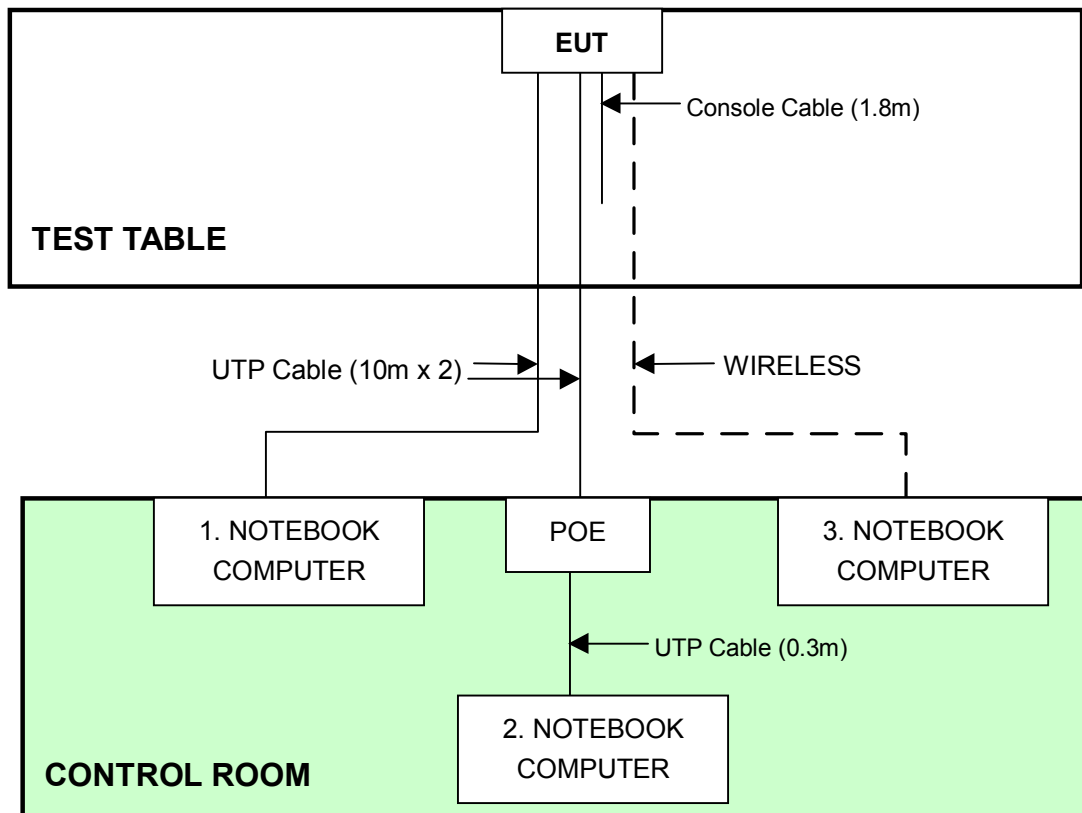
### 3.5 CONFIGURATION OF SYSTEM UNDER TEST

With adapter test mode :



- NOTE:** 1. Support unit 1~3 were kept in the control room during the test.  
2. Please refer to the photos of test configuration in Item 6 also.

**With POE test mode :**



- NOTE:**
1. Support unit 1~3 were kept in the control room during the test.
  2. Please refer to the photos of test configuration in Item 6 also.



## 4. TEST TYPES AND RESULTS (802.11b & g, 2400 ~ 2483.5MHZ BAND)

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
  2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
  3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

#### 4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	847124/029	Dec. 07, 2005
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 08, 2005
KYORITSU LISN (for peripheral)	KNW-407	8/1395/12	Jul. 19, 2006
RF Cable (JETBAO)	RG233/U	Cable_CA_01	Jul. 19, 2006
Terminator(for KYORITSU)	50	3	Oct. 12, 2005
Software	Cond-V2e	NA	NA

**NOTE:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in ADT Shielded Room No. A.
3. The VCCI Con A Registration No. is C-817.
4. The measurement uncertainty is 2.53 dB, which is calculated as per the document CISPR 16-4. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



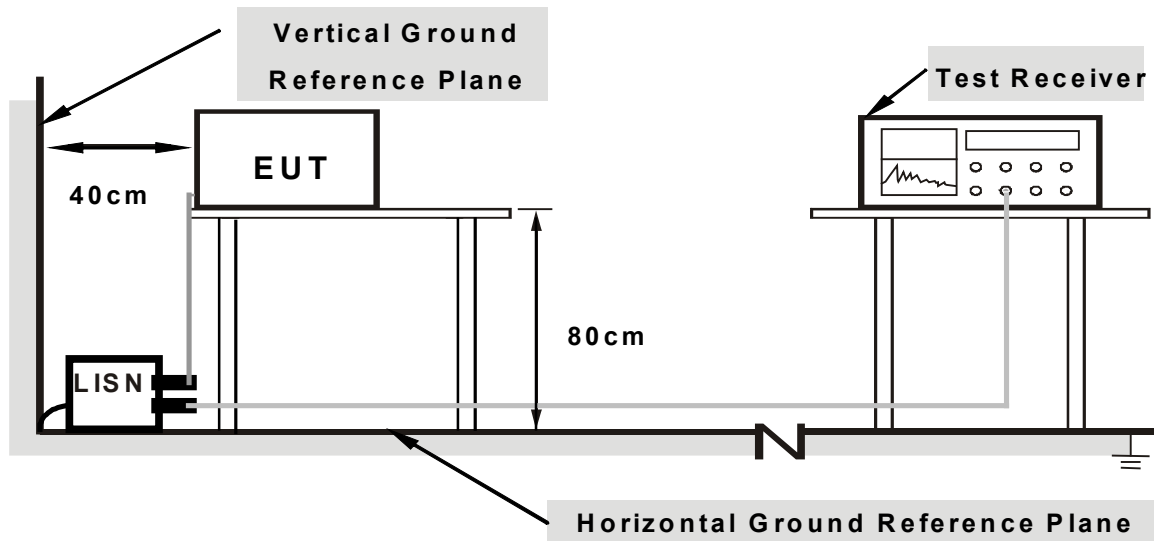
#### 4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

#### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.1.5 TEST SETUP



**Note: 1. Support units were connected to second LISN.**

**2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes**

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

#### 4.1.6 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. Prepared other computer systems to act as a communication partner and placed them outside of testing area.
- c. The communication partner run test program “Wintrion V00.02” to enable EUT under transmission/receiving condition continuously at specific channel frequency via UTP cable and wireless.



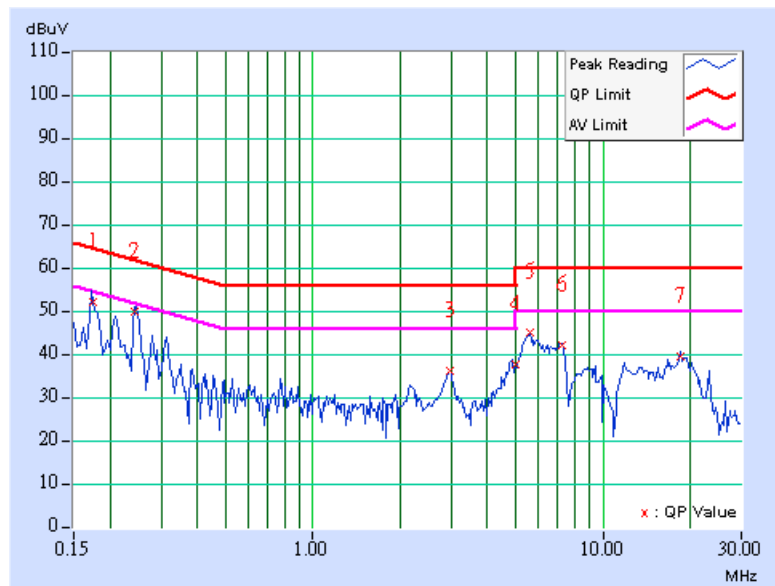
4.1.7 TEST RESULTS

**Conducted Worst-Case Data**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With Adapter	<b>6dB BANDWIDTH</b>	9 kHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 63%RH, 961hPa	<b>TESTED BY</b>	Phoenix Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.175	0.14	51.17	-	51.31	-	64.73	54.73	-13.42	-
2	0.244	0.15	48.68	-	48.83	-	61.97	51.97	-13.13	-
3	2.964	0.35	35.18	-	35.53	-	56.00	46.00	-20.47	-
4	4.989	0.50	36.71	-	37.21	-	56.00	46.00	-18.79	-
5	5.615	0.53	43.92	-	44.45	-	60.00	50.00	-15.55	-
6	7.220	0.61	40.92	-	41.53	-	60.00	50.00	-18.47	-
7	18.486	1.23	38.22	-	39.45	-	60.00	50.00	-20.55	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.

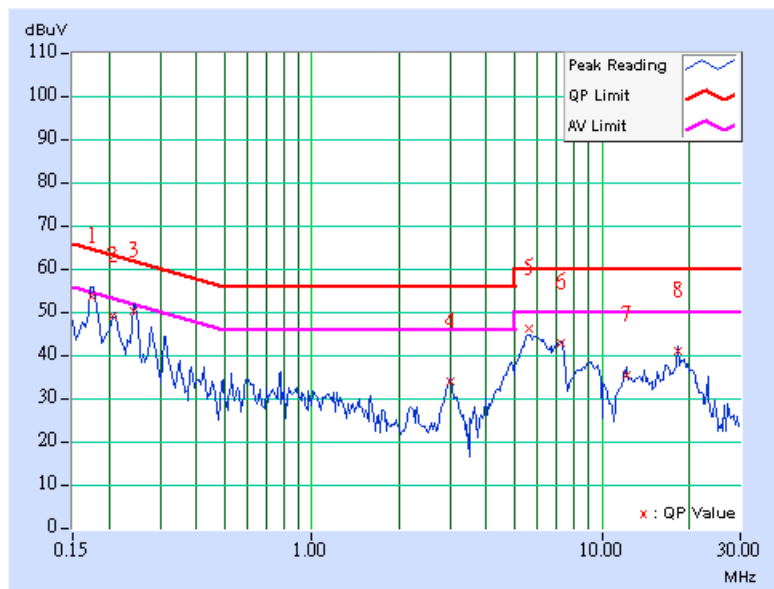




<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With Adapter	<b>6dB BANDWIDTH</b>	9 kHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 63%RH, 961hPa	<b>TESTED BY</b>	Phoenix Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.175	0.14	52.49	-	52.63	-	64.73	54.73	-12.10	-
2	0.207	0.15	48.21	-	48.36	-	63.31	53.31	-14.95	-
3	0.244	0.15	49.24	-	49.39	-	61.97	51.97	-12.57	-
4	2.998	0.35	32.96	-	33.31	-	56.00	46.00	-22.69	-
5	5.581	0.50	45.15	-	45.65	-	60.00	50.00	-14.35	-
6	7.220	0.56	41.74	-	42.30	-	60.00	50.00	-17.70	-
7	12.137	0.75	34.62	-	35.37	-	60.00	50.00	-24.63	-
8	18.242	1.05	39.98	-	41.03	-	60.00	50.00	-18.97	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.



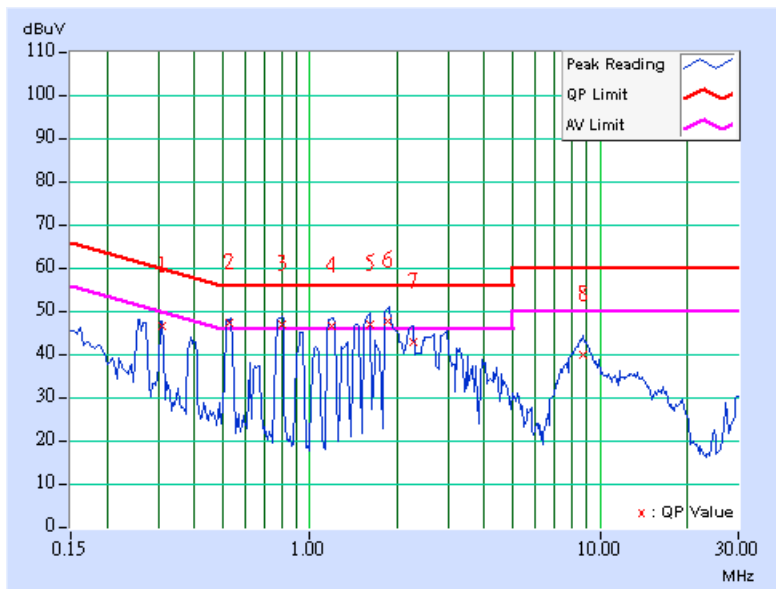


**Conducted Worst-Case Data**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With POE	<b>6dB BANDWIDTH</b>	9 kHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 63%RH, 961hPa	<b>TESTED BY</b>	Phoenix Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.309	0.16	46.08	-	46.24	-	60.00	50.00	-13.76	-
<b>2</b>	<b>0.526</b>	<b>0.18</b>	<b>46.73</b>	<b>38.43</b>	<b>46.91</b>	<b>38.61</b>	<b>56.00</b>	<b>46.00</b>	<b>-9.09</b>	<b>-7.39</b>
3	0.802	0.19	46.46	35.00	46.65	35.19	56.00	46.00	-9.35	-10.81
4	1.192	0.21	45.86	31.64	46.07	31.85	56.00	46.00	-9.93	-14.15
5	1.617	0.23	46.23	26.70	46.46	26.93	56.00	46.00	-9.54	-19.07
6	1.867	0.24	46.96	28.79	47.20	29.03	56.00	46.00	-8.80	-16.97
7	2.263	0.28	42.39	-	42.67	-	56.00	46.00	-13.33	-
8	8.738	0.69	39.27	-	39.96	-	60.00	50.00	-20.04	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.



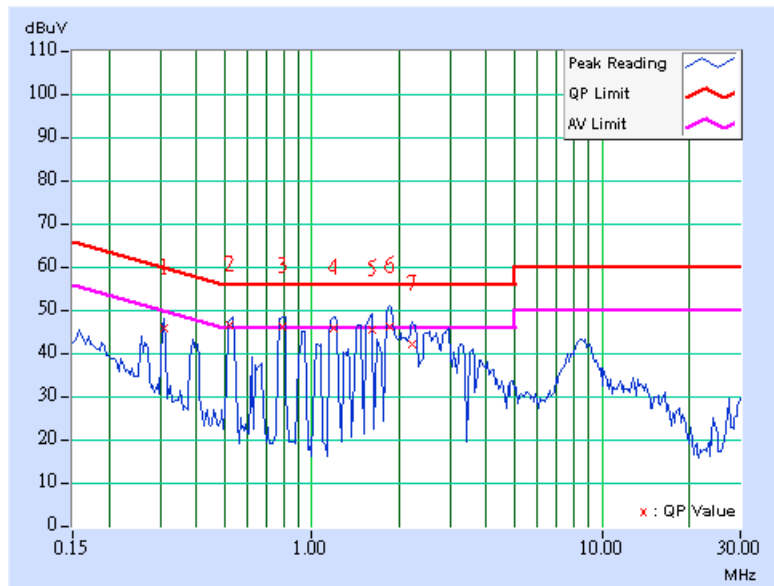




<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With POE	<b>6dB BANDWIDTH</b>	9 kHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 63%RH, 961hPa	<b>TESTED BY</b>	Phoenix Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.309	0.16	45.62	-	45.78	-	60.00	50.00	-14.22	-
2	0.520	0.18	46.21	38.04	46.39	38.22	56.00	46.00	-9.61	-7.78
3	0.793	0.19	46.12	34.87	46.31	35.06	56.00	46.00	-9.69	-10.94
4	1.189	0.21	45.68	-	45.89	-	56.00	46.00	-10.11	-
5	1.610	0.23	45.30	-	45.53	-	56.00	46.00	-10.47	-
6	1.857	0.24	46.18	29.02	46.42	29.26	56.00	46.00	-9.58	-16.74
7	2.224	0.27	41.96	-	42.23	-	56.00	46.00	-13.77	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.





## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

**NOTE:**

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



## 4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ADVANTEST Spectrum Analyzer	R3271A	85060311	July 07, 2006
HP Pre_Amplifier	8449B	3008A01922	Oct. 13, 2005
ROHDE & SCHWARZ Test Receiver	ESCS30	100287	Dec. 08, 2005
CHASE Broadband Antenna	VULB9168	138	Dec. 21, 2005
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 11, 2005
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 30, 2006
SCHWARZBECK Biconical Antenna	VHBA9123	459	Jun. 26, 2006
SCHWARZBECK Periodic Antenna	UPA6108	1148	Jun. 26, 2006
RF Switches (ARNITSU)	CS-201	1565157	NA
RF CABLE (Chaintek) 1GHz-20GHz	SF102	22054-2	Nov. 15. 2005
RF Cable(RICHTEC)	9913-30M	STCCAB-30M- 1GHz-021	Jul. 16, 2006
Software	ADT_Radiated_V 5.14	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	NA

- Note: 1. The calibration interval of the above test instruments is 12 months (36 months for Tunable Periodic Antenna) and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in ADT Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 4824-3.
7. The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Radiated emissions (30MHz-1GHz)	2.98 dB
Radiated emissions (1GHz ~18GHz)	2.21 dB
Radiated emissions (18GHz ~20GHz)	1.88 dB

#### 4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi- anechoic. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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 polarizations 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 rotatable 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 the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

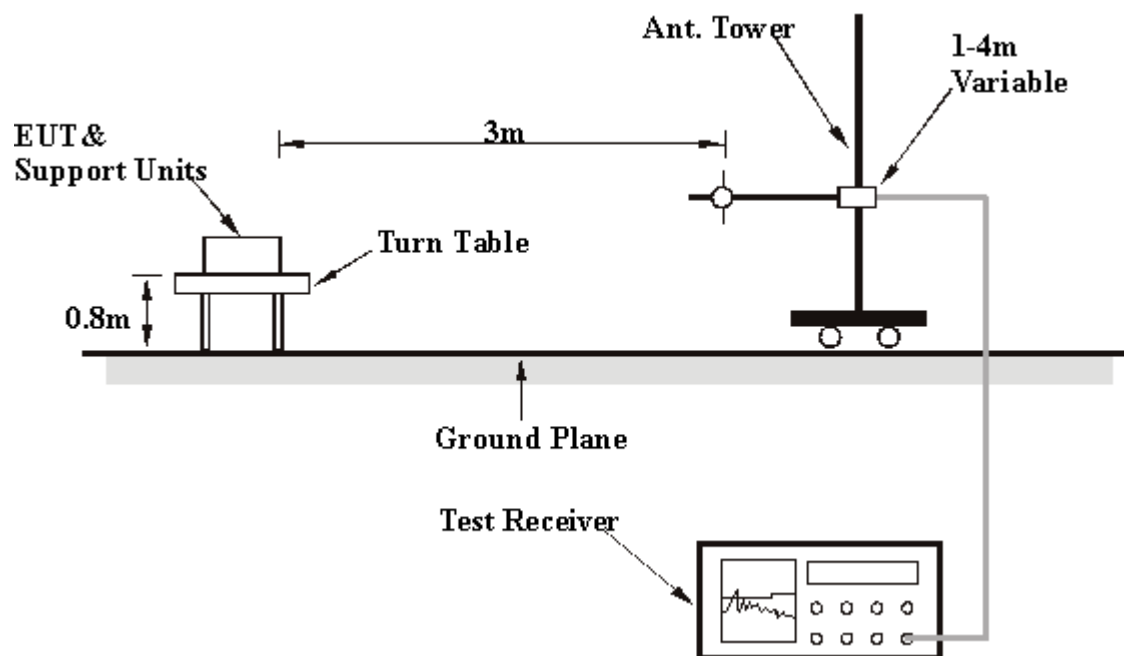
**NOTE:**

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

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6



**4.2.7 TEST RESULTS (ANTENNA 1)  
Below 1GHz Worst-Case Data**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With Adapter	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 70%RH, 961hPa	<b>TESTED BY</b>	Jerry Fan

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	122.48	28.80 QP	43.50	-14.70	1.83 H	252	16.60	12.20
2	220.43	32.50 QP	46.00	-13.50	1.83 H	270	20.20	12.30
3	348.83	34.90 QP	46.00	-11.10	1.71 H	189	17.70	17.20
4	482.85	37.70 QP	46.00	-8.30	1.54 H	206	16.90	20.90
5	504.33	34.70 QP	46.00	-11.30	1.43 H	189	13.10	21.60
6	629.95	32.40 QP	46.00	-13.60	1.39 H	262	8.50	23.90
7	688.50	37.00 QP	46.00	-9.00	1.34 H	41	12.80	24.20
8	763.75	32.70 QP	46.00	-13.30	1.18 H	136	6.20	26.40
9	819.22	34.30 QP	46.00	-11.70	1.00 H	175	7.20	27.10
10	933.02	36.30 QP	46.00	-9.70	1.00 H	255	7.40	28.90

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	79.25	27.90 QP	40.00	-12.10	1.00 V	122	18.40	9.50
2	165.70	31.00 QP	43.50	-12.50	1.00 V	202	19.80	11.20
3	287.70	35.40 QP	46.00	-10.60	1.00 V	271	19.50	15.90
4	356.48	36.10 QP	46.00	-9.90	1.00 V	348	18.60	17.50
5	421.23	34.20 QP	46.00	-11.80	1.00 V	313	14.70	19.50
6	566.20	33.00 QP	46.00	-13.00	1.70 V	234	10.10	22.90
7	642.20	37.40 QP	46.00	-8.60	1.56 V	224	13.30	24.10
8	718.58	35.70 QP	46.00	-10.30	1.44 V	148	10.60	25.10
9	834.17	34.70 QP	46.00	-11.30	1.34 V	222	7.10	27.60
10	925.22	36.40 QP	46.00	-9.60	1.22 V	289	7.80	28.60

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value



**Below 1GHz Worst-Case Data**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With POE	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 70%RH, 961hPa	<b>TESTED BY</b>	Jerry Fan

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	127.65	26.90 QP	43.50	-16.60	1.84 H	100	14.40	12.60
2	183.75	28.60 QP	43.50	-14.90	1.00 H	300	18.10	10.50
3	217.70	32.00 QP	46.00	-14.00	1.00 H	248	19.80	12.10
4	337.65	32.30 QP	46.00	-13.70	1.68 H	143	15.30	17.00
5	428.60	35.90 QP	46.00	-10.10	1.56 H	56	16.30	19.60
6	564.90	36.10 QP	46.00	-9.90	1.43 H	157	13.30	22.80
7	630.83	34.60 QP	46.00	-11.40	1.24 H	233	10.70	23.90
8	717.53	36.00 QP	46.00	-10.00	1.11 H	261	11.00	25.00
9	832.82	33.40 QP	46.00	-12.60	1.00 H	284	5.80	27.60
10	922.10	36.20 QP	46.00	-9.80	1.00 H	215	7.70	28.50

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	137.23	32.30 QP	43.50	-11.20	1.00 V	117	19.20	13.10
2	268.88	34.60 QP	46.00	-11.40	1.00 V	218	19.20	15.30
3	365.03	33.00 QP	46.00	-13.00	1.00 V	272	15.20	17.90
4	430.83	32.60 QP	46.00	-13.40	1.00 V	355	13.00	19.60
5	518.70	33.00 QP	46.00	-13.00	1.98 V	49	11.20	21.90
6	547.83	36.40 QP	46.00	-9.60	1.68 V	118	13.90	22.50
7	612.63	35.10 QP	46.00	-10.90	1.52 V	40	11.40	23.70
8	720.83	34.70 QP	46.00	-11.30	1.44 V	154	9.50	25.20
9	834.15	36.10 QP	46.00	-9.90	1.34 V	74	8.50	27.60
10	919.05	35.10 QP	46.00	-10.90	1.20 V	51	6.70	28.40

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value

**802.11b DSSS modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 1	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2387.00	46.20 PK	74.00	-27.80	1.61 H	318	13.40	32.80
1	2387.00	37.00 AV	54.00	-17.00	1.61 H	318	4.20	32.80
2	2390.00	42.90 PK	74.00	-31.10	1.61 H	318	9.20	33.70
2	2390.00	35.40 AV	54.00	-18.60	1.61 H	318	1.70	33.70
3	*2412.00	97.00 PK			1.61 H	318	67.20	29.80
3	*2412.00	90.20 AV			1.61 H	318	60.40	29.80
4	4824.00	45.80 PK	74.00	-28.20	1.29 H	1	10.70	35.10
4	4824.00	34.70 AV	54.00	-19.30	1.29 H	1	-0.40	35.10
5	7236.00	46.70 PK	74.00	-27.30	1.12 H	303	6.20	40.50
5	7236.00	36.00 AV	54.00	-18.00	1.12 H	303	-4.50	40.50

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2387.00	62.70 PK	74.00	-11.30	1.08 V	7	29.90	32.80
1	2387.00	52.50 AV	54.00	-1.50	1.08 V	7	19.70	32.80
2	2390.00	59.40 PK	74.00	-14.60	1.08 V	7	25.70	33.70
2	2390.00	50.90 AV	54.00	-3.10	1.08 V	7	17.20	33.70
3	*2412.00	113.50 PK			1.08 V	7	83.70	29.80
3	*2412.00	105.90 AV			1.08 V	7	76.10	29.80
4	4824.00	55.60 PK	74.00	-18.40	1.33 V	1	20.50	35.10
4	4824.00	44.50 AV	54.00	-9.50	1.33 V	1	9.40	35.10
5	7236.00	48.40 PK	74.00	-25.60	1.06 V	20	7.90	40.50
5	7236.00	38.10 AV	54.00	-15.90	1.06 V	20	-2.40	40.50

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency





<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 6	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	100.30 PK			1.62 H	315	70.40	29.90
1	*2437.00	93.20 AV			1.62 H	315	63.30	29.90
2	4874.00	46.90 PK	74.00	-27.10	1.71 H	100	11.60	35.30
2	4874.00	36.70 AV	54.00	-17.30	1.71 H	100	1.40	35.30
3	7311.00	47.50 PK	74.00	-26.50	1.57 H	254	6.80	40.70
3	7311.00	36.90 AV	54.00	-17.10	1.57 H	254	-3.80	40.70

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	115.40 PK			1.07 V	4	85.50	29.90
1	*2437.00	107.60 AV			1.07 V	4	77.70	29.90
2	4874.00	57.30 PK	74.00	-16.70	1.19 V	255	22.00	35.30
2	4874.00	44.70 AV	54.00	-9.30	1.19 V	255	9.40	35.30
3	7311.00	49.50 PK	74.00	-24.50	1.36 V	150	8.80	40.70
3	7311.00	40.00 AV	54.00	-14.00	1.36 V	150	-0.70	40.70

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 11	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	98.30 PK			1.58 H	314	68.30	30.00
1	*2462.00	91.40 AV			1.58 H	314	61.40	30.00
2	2483.50	45.30 PK	74.00	-28.70	1.58 H	314	15.20	30.10
2	2483.50	37.30 AV	54.00	-16.70	1.58 H	314	7.20	30.10
3	2487.00	48.20 PK	74.00	-25.80	1.58 H	314	18.10	30.10
3	2487.00	39.30 AV	54.00	-14.70	1.58 H	314	9.20	30.10
4	4924.00	43.60 PK	74.00	-30.40	1.62 H	46	8.00	35.50
4	4924.00	32.90 AV	54.00	-21.10	1.62 H	46	-2.70	35.50
5	7386.00	46.70 PK	74.00	-27.30	1.44 H	199	5.90	40.80
5	7386.00	36.10 AV	54.00	-17.90	1.44 H	199	-4.70	40.80

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	112.00 PK			1.08 V	3	82.00	30.00
1	*2462.00	104.70 AV			1.08 V	3	74.70	30.00
2	2483.50	59.00 PK	74.00	-15.00	1.08 V	3	28.90	30.10
2	2483.50	50.60 AV	54.00	-3.40	1.08 V	3	20.50	30.10
3	2487.00	61.90 PK	74.00	-12.10	1.08 V	3	31.80	30.10
3	2487.00	52.60 AV	54.00	-1.40	1.08 V	3	22.50	30.10
4	4924.00	52.50 PK	74.00	-21.50	1.25 V	36	16.90	35.50
4	4924.00	41.50 AV	54.00	-12.50	1.25 V	36	5.90	35.50
5	7386.00	49.20 PK	74.00	-24.80	1.48 V	274	8.40	40.80
5	7386.00	39.50 AV	54.00	-14.50	1.48 V	274	-1.30	40.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* ” : Fundamental frequency



### 802.11g OFDM modulation

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 1	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	46.60 PK	74.00	-27.40	1.61 H	326	12.90	33.70
1	2390.00	36.70 AV	54.00	-17.30	1.61 H	326	3.00	33.70
2	*2412.00	93.30 PK			1.61 H	326	63.50	29.80
2	*2412.00	84.90 AV			1.61 H	326	55.10	29.80
3	4824.00	41.40 PK	74.00	-32.60	1.45 H	293	6.30	35.10
3	4824.00	30.70 AV	54.00	-23.30	1.45 H	293	-4.40	35.10
4	9348.00	48.90 PK	74.00	-25.10	1.32 H	315	5.00	43.80
4	9348.00	38.00 AV	54.00	-16.00	1.32 H	315	-5.90	43.80

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.80 PK	74.00	-11.20	1.10 V	7	29.10	33.70
1	<b>2390.00</b>	<b>52.90 AV</b>	<b>54.00</b>	<b>-1.10</b>	<b>1.10 V</b>	<b>7</b>	<b>19.20</b>	<b>33.70</b>
2	*2412.00	109.50 PK			1.10 V	7	79.70	29.80
2	*2412.00	101.20 AV			1.10 V	7	71.40	29.80
3	4827.00	50.30 PK	74.00	-23.70	1.05 V	42	15.20	35.10
3	4827.00	38.10 AV	54.00	-15.90	1.05 V	42	3.00	35.10
4	7236.00	46.80 PK	74.00	-27.20	1.56 V	120	6.30	40.50
4	7236.00	36.20 AV	54.00	-17.80	1.56 V	120	-4.30	40.50

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 6	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	98.60 PK			1.02 H	36	68.70	29.90
1	*2437.00	90.00 AV			1.02 H	36	60.10	29.90
2	4874.00	45.30 PK	74.00	-28.70	1.20 H	252	10.00	35.30
2	4874.00	33.00 AV	54.00	-21.00	1.20 H	252	-2.30	35.30
3	7311.00	47.30 PK	74.00	-26.70	1.23 H	187	6.60	40.70
3	7311.00	36.40 AV	54.00	-17.60	1.23 H	187	-4.30	40.70

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	113.70 PK			1.05 V	7	83.80	29.90
1	*2437.00	105.50 AV			1.05 V	7	75.60	29.90
2	4874.00	55.30 PK	74.00	-18.70	1.23 V	198	20.00	35.30
2	4874.00	43.60 AV	54.00	-10.40	1.23 V	198	8.30	35.30
3	7311.00	50.60 PK	74.00	-23.40	1.88 V	207	9.90	40.70
3	7311.00	38.90 AV	54.00	-15.10	1.88 V	207	-1.70	40.70

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. " \* " : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 11	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	91.70 PK			1.27 H	29	61.70	30.00
1	*2462.00	83.70 AV			1.27 H	29	53.70	30.00
2	2483.50	44.10 PK	74.00	-29.90	1.27 H	29	14.00	30.10
2	2483.50	36.70 AV	54.00	-17.30	1.27 H	29	6.60	30.10
3	2498.00	44.40 PK	74.00	-29.60	1.27 H	29	12.80	31.60
3	2498.00	33.10 AV	54.00	-20.90	1.27 H	29	1.50	31.60
4	4924.00	41.10 PK	74.00	-32.90	1.24 H	170	5.50	35.50
4	4924.00	30.20 AV	54.00	-23.80	1.24 H	170	-5.40	35.50
5	7386.00	45.90 PK	74.00	-28.10	1.29 H	126	5.10	40.80
5	7386.00	35.80 AV	54.00	-18.20	1.29 H	126	-5.00	40.80

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	107.20 PK			1.05 V	5	77.20	30.00
1	*2462.00	99.40 AV			1.05 V	5	69.40	30.00
2	2483.50	59.60 PK	74.00	-14.40	1.05 V	5	29.50	30.10
2	2483.50	52.40 AV	54.00	-1.60	1.05 V	5	22.30	30.10
3	2498.00	59.90 PK	74.00	-14.10	1.05 V	5	28.30	31.60
3	2498.00	48.80 AV	54.00	-5.20	1.05 V	5	17.20	31.60
4	4924.00	47.80 PK	74.00	-26.20	1.00 V	32	12.20	35.50
4	4924.00	35.50 AV	54.00	-18.50	1.00 V	32	-0.10	35.50
5	7386.00	46.90 PK	74.00	-27.10	1.54 V	317	6.10	40.80
5	7386.00	36.20 AV	54.00	-17.80	1.54 V	317	-4.60	40.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* ” : Fundamental frequency

## 4.2.8 TEST RESULTS (ANTENNA 2)

**Below 1GHz Worst-Case Data**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With Adapter	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 70%RH, 961hPa	<b>TESTED BY</b>	Jerry Fan

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	130.25	28.60 QP	43.50	-14.90	1.85 H	246	15.90	12.70
2	163.60	31.10 QP	43.50	-12.40	1.77 H	200	19.80	11.30
3	268.88	31.30 QP	46.00	-14.70	1.65 H	132	16.00	15.30
4	314.23	36.30 QP	46.00	-9.70	1.58 H	39	19.80	16.50
5	466.65	32.50 QP	46.00	-13.50	1.53 H	147	12.10	20.30
6	527.50	34.00 QP	46.00	-12.00	1.40 H	203	11.90	22.10
7	644.68	34.10 QP	46.00	-11.90	1.32 H	252	10.00	24.10
8	736.73	35.00 QP	46.00	-11.00	1.08 H	243	9.20	25.90
9	815.20	36.10 QP	46.00	-9.90	1.00 H	174	9.20	26.90
10	981.50	43.30 QP	54.00	-10.70	1.00 H	94	14.40	28.90

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	123.65	28.80 QP	43.50	-14.70	1.00 V	183	16.50	12.30
2	177.18	31.20 QP	43.50	-12.30	1.00 V	202	20.60	10.50
3	250.93	35.60 QP	46.00	-10.40	1.00 V	123	21.30	14.30
4	370.43	35.50 QP	46.00	-10.50	1.00 V	50	17.40	18.10
5	434.78	37.40 QP	46.00	-8.60	1.12 V	140	17.80	19.60
6	587.60	34.20 QP	46.00	-11.80	2.04 V	246	11.00	23.30
7	657.98	30.80 QP	46.00	-15.20	1.91 V	216	6.60	24.20
8	720.03	31.20 QP	46.00	-14.80	1.84 V	148	6.10	25.10
9	810.60	34.40 QP	46.00	-11.60	1.70 V	115	7.60	26.80
10	963.45	43.20 QP	54.00	-10.80	1.45 V	83	14.00	29.30

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value

**Below 1GHz Worst-Case Data**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With POE	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 70%RH, 961hPa	<b>TESTED BY</b>	Jerry Fan

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	126.03	28.80 QP	43.50	-14.70	2.12 H	72	16.40	12.50
2	188.78	31.20 QP	43.50	-12.30	1.98 H	206	20.50	10.70
3	260.30	36.90 QP	46.00	-9.10	1.92 H	142	21.30	15.50
4	368.73	33.90 QP	46.00	-12.10	1.68 H	244	15.90	18.00
5	440.63	32.60 QP	46.00	-13.40	1.53 H	148	12.90	19.70
6	540.45	32.50 QP	46.00	-13.50	1.44 H	270	10.20	22.40
7	640.00	36.30 QP	46.00	-9.70	1.26 H	155	12.30	24.10
8	732.95	34.40 QP	46.00	-11.60	1.09 H	75	8.70	25.70
9	850.62	35.90 QP	46.00	-10.10	1.00 H	169	7.70	28.20
10	965.35	41.00 QP	54.00	-13.00	1.00 H	256	11.80	29.20

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	113.13	29.60 QP	43.50	-13.90	1.00 V	266	17.80	11.90
2	188.55	27.00 QP	43.50	-16.50	1.00 V	249	16.40	10.70
3	235.18	30.20 QP	46.00	-15.80	1.00 V	203	17.00	13.20
4	373.18	34.70 QP	46.00	-11.30	1.00 V	138	16.50	18.20
5	471.18	36.60 QP	46.00	-9.40	1.00 V	221	16.10	20.50
6	551.33	35.80 QP	46.00	-10.20	1.74 V	256	13.20	22.60
7	648.18	33.90 QP	46.00	-12.10	1.53 V	132	9.70	24.20
8	764.38	33.30 QP	46.00	-12.70	1.39 V	117	6.90	26.40
9	851.10	36.60 QP	46.00	-9.40	1.26 V	199	8.40	28.20
10	908.25	35.60 QP	46.00	-10.40	1.15 V	262	7.60	28.00

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value



**802.11b DSSS modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 1	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2387.00	45.10 PK	74.00	-28.90	1.03 H	18	12.30	32.80
1	2387.00	32.80 AV	54.00	-21.20	1.03 H	18	0.00	32.80
2	2390.00	41.80 PK	74.00	-32.20	1.03 H	18	8.10	33.70
2	2390.00	32.20 AV	54.00	-21.80	1.03 H	18	-1.50	33.70
3	*2412.00	92.50 PK			1.03 H	18	62.70	29.80
3	*2412.00	85.70 AV			1.03 H	18	55.90	29.80
4	4824.00	42.10 PK	74.00	-31.90	1.18 H	352	7.00	35.10
4	4824.00	30.80 AV	54.00	-23.20	1.18 H	352	-4.30	35.10
5	7236.00	47.00 PK	74.00	-27.00	1.03 H	4	6.50	40.50
5	7236.00	35.70 AV	54.00	-18.30	1.03 H	4	-4.80	40.50

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2387.00	65.30 PK	74.00	-8.70	1.11 V	7	32.50	32.80
1	2387.00	52.60 AV	54.00	-1.40	1.11 V	7	19.80	32.80
2	2390.00	62.00 PK	74.00	-12.00	1.11 V	7	28.30	33.70
2	2390.00	52.00 AV	54.00	-2.00	1.11 V	7	18.30	33.70
3	*2412.00	112.70 PK			1.11 V	7	82.90	29.80
3	*2412.00	105.50 AV			1.11 V	7	75.70	29.80
4	4824.00	45.10 PK	74.00	-28.90	1.22 V	354	10.00	35.10
4	4824.00	33.70 AV	54.00	-20.30	1.22 V	354	-1.40	35.10
5	7236.00	47.70 PK	74.00	-26.30	1.46 V	330	7.20	40.50
5	7236.00	36.50 AV	54.00	-17.50	1.46 V	330	-4.00	40.50

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency





<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 6	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	100.00 PK			1.01 H	20	70.10	29.90
1	*2437.00	92.70 AV			1.01 H	20	62.80	29.90
2	4874.00	43.60 PK	74.00	-30.40	1.12 H	5	8.30	35.30
2	4874.00	32.70 AV	54.00	-21.30	1.12 H	5	-2.60	35.30
3	7311.00	48.30 PK	74.00	-25.70	1.00 H	3	7.60	40.70
3	7311.00	37.20 AV	54.00	-16.80	1.00 H	3	-3.50	40.70

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	121.30 PK			1.09 V	7	91.40	29.90
1	*2437.00	113.40 AV			1.09 V	7	83.50	29.90
2	4874.00	49.60 PK	74.00	-24.40	1.05 V	349	14.30	35.30
2	4874.00	38.10 AV	54.00	-15.90	1.05 V	349	2.80	35.30
3	7311.00	50.60 PK	74.00	-23.40	1.48 V	12	9.90	40.70
3	7311.00	41.30 AV	54.00	-12.70	1.48 V	12	0.60	40.70

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 11	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	91.20 PK			1.06 H	320	61.20	30.00
1	*2462.00	84.40 AV			1.06 H	320	54.40	30.00
2	2483.50	41.30 PK	74.00	-32.70	1.06 H	320	11.20	30.10
2	2483.50	31.50 AV	54.00	-22.50	1.06 H	320	1.40	30.10
3	2487.00	43.90 PK	74.00	-30.10	1.06 H	320	13.80	30.10
3	2487.00	34.50 AV	54.00	-19.50	1.06 H	320	4.40	30.10
4	4924.00	42.80 PK	74.00	-31.20	1.23 H	357	7.20	35.50
4	4924.00	31.50 AV	54.00	-22.50	1.23 H	357	-4.10	35.50
5	7386.00	47.00 PK	74.00	-27.00	1.10 H	354	6.20	40.80
5	7386.00	35.80 AV	54.00	-18.20	1.10 H	354	-5.00	40.80

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2462.00	111.70 PK			1.06 V	10	81.70	30.00
1	2462.00	104.50 AV			1.06 V	10	74.50	30.00
2	2483.50	61.80 PK	74.00	-12.20	1.06 V	10	31.70	30.10
2	2483.50	51.60 AV	54.00	-2.40	1.06 V	10	21.50	30.10
3	2487.00	64.40 PK	74.00	-9.60	1.06 V	10	34.30	30.10
3	2487.00	52.40 AV	54.00	-1.60	1.06 V	10	22.30	30.10
4	4924.00	43.90 PK	74.00	-30.10	1.19 V	356	8.30	35.50
4	4924.00	32.50 AV	54.00	-21.50	1.19 V	356	-3.10	35.50
5	7386.00	48.00 PK	74.00	-26.00	1.38 V	327	7.20	40.80
5	7386.00	36.50 AV	54.00	-17.50	1.38 V	327	-4.30	40.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency

**802.11g OFDM modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 1	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2375.00	44.50 PK	74.00	-29.50	1.02 H	21	13.90	30.60
1	2375.00	31.70 AV	54.00	-22.30	1.02 H	21	1.10	30.60
2	2390.00	44.20 PK	74.00	-29.80	1.02 H	21	10.50	33.70
2	2390.00	32.70 AV	54.00	-21.30	1.02 H	21	-1.00	33.70
3	*2412.00	90.00 PK			1.02 H	21	60.20	29.80
3	*2412.00	80.50 AV			1.02 H	21	50.70	29.80
4	4824.00	41.80 PK	74.00	-32.20	1.21 H	356	6.70	35.10
4	4824.00	30.20 AV	54.00	-23.80	1.21 H	356	-4.90	35.10
5	7236.00	46.70 PK	74.00	-27.30	1.00 H	5	6.20	40.50
5	7236.00	35.50 AV	54.00	-18.50	1.00 H	5	-5.00	40.50

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2375.00	64.20 PK	74.00	-9.80	1.10 V	7	33.60	30.60
1	2375.00	51.60 AV	54.00	-2.40	1.10 V	7	21.00	30.60
2	2390.00	63.90 PK	74.00	-10.10	1.10 V	7	30.20	33.70
2	2390.00	52.60 AV	54.00	-1.40	1.10 V	7	18.90	33.70
3	*2412.00	109.70 PK			1.10 V	7	79.90	29.80
3	*2412.00	100.40 AV			1.10 V	7	70.60	29.80
4	4824.00	42.40 PK	74.00	-31.60	1.21 V	351	7.30	35.10
4	4824.00	30.80 AV	54.00	-23.20	1.21 V	351	-4.30	35.10
5	7236.00	47.70 PK	74.00	-26.30	1.48 V	336	7.20	40.50
5	7236.00	36.00 AV	54.00	-18.00	1.48 V	336	-4.50	40.50

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. " \* " : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 6	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	100.00 PK			1.02 H	22	70.10	29.90
1	*2437.00	90.90 AV			1.02 H	22	61.00	29.90
2	4874.00	43.20 PK	74.00	-30.80	1.14 H	3	7.90	35.30
2	4874.00	32.00 AV	54.00	-22.00	1.14 H	3	-3.30	35.30
3	7311.00	48.10 PK	74.00	-25.90	1.01 H	6	7.40	40.70
3	7311.00	36.80 AV	54.00	-17.20	1.01 H	6	-3.90	40.70

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	121.50 PK			1.10 V	8	91.60	29.90
1	*2437.00	111.50 AV			1.10 V	8	81.60	29.90
2	4874.00	45.20 PK	74.00	-28.80	1.07 V	353	9.90	35.30
2	4874.00	34.60 AV	54.00	-19.40	1.07 V	353	-0.70	35.30
3	7311.00	52.50 PK	74.00	-21.50	1.51 V	14	11.80	40.70
3	7311.00	41.20 AV	54.00	-12.80	1.51 V	14	0.50	40.70

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. " \* " : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 11	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	87.70 PK			1.07 H	323	57.70	30.00
1	*2462.00	79.10 AV			1.07 H	323	49.10	30.00
2	2483.50	43.00 PK	74.00	-31.00	1.07 H	323	12.90	30.10
2	2483.50	32.50 AV	54.00	-21.50	1.07 H	323	2.40	30.10
3	2498.00	43.60 PK	74.00	-30.40	1.07 H	323	12.00	31.60
3	2498.00	31.50 AV	54.00	-22.50	1.07 H	323	-0.10	31.60
4	4924.00	42.00 PK	74.00	-32.00	1.20 H	2	6.40	35.50
4	4924.00	30.60 AV	54.00	-23.40	1.20 H	2	-5.00	35.50
5	7386.00	46.80 PK	74.00	-27.20	1.06 H	356	6.00	40.80
5	7386.00	35.50 AV	54.00	-18.50	1.06 H	356	-5.30	40.80

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	108.10 PK			1.08 V	8	78.10	30.00
1	*2462.00	99.30 AV			1.08 V	8	69.30	30.00
2	2483.50	63.40 PK	74.00	-10.60	1.08 V	8	33.30	30.10
2	2483.50	52.70 AV	54.00	-1.30	1.08 V	8	22.60	30.10
3	2498.00	64.00 PK	74.00	-10.00	1.08 V	8	32.40	31.60
3	2498.00	51.70 AV	54.00	-2.30	1.08 V	8	20.10	31.60
4	4924.00	42.50 PK	74.00	-31.50	1.19 V	355	6.90	35.50
4	4924.00	31.10 AV	54.00	-22.90	1.19 V	355	-4.50	35.50
5	7386.00	47.90 PK	74.00	-26.10	1.33 V	318	7.10	40.80
5	7386.00	36.30 AV	54.00	-17.70	1.33 V	318	-4.50	40.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* ” : Fundamental frequency

## 4.2.9 TEST RESULTS (ANTENNA 3)

**Below 1GHz Worst-Case Data**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With Adapter	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 70%RH, 961hPa	<b>TESTED BY</b>	Jerry Fan

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	160.13	28.20 QP	43.50	-15.30	1.84 H	280	16.70	11.50
2	197.73	29.40 QP	43.50	-14.10	1.72 H	153	18.50	10.90
3	263.83	35.30 QP	46.00	-10.70	1.63 H	107	19.90	15.50
4	327.13	33.90 QP	46.00	-12.10	1.56 H	168	17.10	16.80
5	483.63	35.90 QP	46.00	-10.10	1.26 H	101	15.00	20.90
6	559.95	32.50 QP	46.00	-13.50	1.18 H	67	9.70	22.80
7	619.68	36.20 QP	46.00	-9.80	1.08 H	130	12.50	23.80
8	717.48	32.10 QP	46.00	-13.90	1.15 H	16	7.10	25.00
9	825.32	34.30 QP	46.00	-11.70	1.00 H	62	7.00	27.30
10	936.07	36.00 QP	46.00	-10.00	1.02 H	145	7.00	29.00

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	64.93	29.30 QP	40.00	-10.70	1.00 V	129	21.70	7.60
2	136.98	30.80 QP	43.50	-12.80	1.00 V	61	17.60	13.10
3	277.75	32.70 QP	46.00	-13.30	1.00 V	81	17.10	15.60
4	369.50	34.00 QP	46.00	-12.00	1.00 V	62	16.00	18.10
5	467.63	36.30 QP	46.00	-9.70	1.00 V	119	15.90	20.40
6	518.20	33.80 QP	46.00	-12.20	1.64 V	159	11.90	21.90
7	625.20	35.20 QP	46.00	-10.80	1.47 V	93	11.40	23.80
8	735.60	35.40 QP	46.00	-10.60	1.38 V	155	9.60	25.80
9	827.37	33.70 QP	46.00	-12.30	1.24 V	283	6.30	27.40
10	954.15	35.20 QP	46.00	-10.80	1.14 V	212	5.70	29.40

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value

**Below 1GHz Worst-Case Data**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With POE	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 70%RH, 961hPa	<b>TESTED BY</b>	Jerry Fan

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48.68	28.00 QP	40.00	-12.00	1.83 H	307	16.90	11.10
2	183.30	27.80 QP	43.50	-15.70	1.79 H	223	17.30	10.50
3	290.50	35.60 QP	46.00	-10.40	1.54 H	158	19.60	15.90
4	365.00	31.60 QP	46.00	-14.40	1.43 H	280	13.70	17.90
5	407.20	36.70 QP	46.00	-9.30	1.34 H	200	17.30	19.40
6	546.20	34.10 QP	46.00	-11.90	1.22 H	134	11.60	22.50
7	669.25	37.00 QP	46.00	-9.00	1.15 H	47	12.80	24.20
8	783.23	32.20 QP	46.00	-13.80	1.07 H	137	5.80	26.40
9	826.30	35.60 QP	46.00	-10.40	1.00 H	224	8.30	27.30
10	988.37	40.80 QP	54.00	-13.20	1.00 H	293	12.00	28.70

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	71.58	25.80 QP	40.00	-14.20	1.00 V	232	17.80	7.90
2	164.08	27.20 QP	43.50	-16.30	1.07 V	227	15.90	11.30
3	237.10	30.80 QP	46.00	-15.20	1.14 V	346	17.40	13.40
4	378.75	33.30 QP	46.00	-12.70	1.00 V	308	14.80	18.50
5	417.90	34.50 QP	46.00	-11.50	1.00 V	235	15.00	19.50
6	589.38	32.20 QP	46.00	-13.80	1.86 V	267	8.90	23.30
7	638.50	35.50 QP	46.00	-10.50	1.74 V	149	11.50	24.00
8	712.03	33.70 QP	46.00	-12.30	1.64 V	206	8.90	24.80
9	824.97	37.00 QP	46.00	-9.00	1.47 V	321	9.80	27.30
10	931.45	36.00 QP	46.00	-10.00	1.35 V	227	7.10	28.90

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value

**802.11b DSSS modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 1	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2389.00	46.40 PK	74.00	-27.60	1.47 H	291	13.00	33.40
1	2389.00	36.80 AV	54.00	-17.20	1.47 H	291	3.40	33.40
2	2390.00	42.50 PK	74.00	-31.50	1.47 H	291	8.80	33.70
2	2390.00	34.60 AV	54.00	-19.40	1.47 H	291	0.90	33.70
3	*2412.00	96.60 PK			1.47 H	291	66.80	29.80
3	*2412.00	89.60 AV			1.47 H	291	59.80	29.80
4	4824.00	44.70 PK	74.00	-29.30	1.29 H	344	9.60	35.10
4	4824.00	33.90 AV	54.00	-20.10	1.29 H	344	-1.20	35.10
5	7236.00	47.60 PK	74.00	-26.40	1.29 H	224	7.10	40.50
5	7236.00	36.40 AV	54.00	-17.60	1.29 H	224	-4.10	40.50

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2387.00	61.30 PK	74.00	-12.70	1.00 V	6	28.50	32.80
1	2387.00	51.70 AV	54.00	-2.30	1.00 V	6	18.90	32.80
2	2390.00	58.00 PK	74.00	-16.00	1.00 V	6	24.30	33.70
2	2390.00	50.10 AV	54.00	-3.90	1.00 V	6	16.40	33.70
3	*2412.00	112.10 PK			1.00 V	6	82.30	29.80
3	*2412.00	105.10 AV			1.00 V	6	75.30	29.80
4	4824.00	51.50 PK	74.00	-22.50	1.15 V	306	16.40	35.10
4	4824.00	40.40 AV	54.00	-13.60	1.15 V	306	5.30	35.10
5	7236.00	48.20 PK	74.00	-25.80	1.04 V	217	7.70	40.50
5	7236.00	37.60 AV	54.00	-16.40	1.04 V	217	-2.90	40.50

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency





<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 6	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	99.60 PK			1.43 H	312	69.70	29.90
1	*2437.00	92.10 AV			1.43 H	312	62.20	29.90
2	4874.00	45.50 PK	74.00	-28.50	1.31 H	314	10.20	35.30
2	4874.00	35.00 AV	54.00	-19.00	1.31 H	314	-0.30	35.30
3	7311.00	49.10 PK	74.00	-24.90	1.25 H	273	8.40	40.70
3	7311.00	38.40 AV	54.00	-15.60	1.25 H	273	-2.30	40.70

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	115.40 PK			1.13 V	6	85.50	29.90
1	*2437.00	107.70 AV			1.13 V	6	77.80	29.90
2	4874.00	52.00 PK	74.00	-22.00	1.11 V	321	16.70	35.30
2	4874.00	41.20 AV	54.00	-12.80	1.11 V	321	5.90	35.30
3	7311.00	50.00 PK	74.00	-24.00	1.03 V	203	9.30	40.70
3	7311.00	39.80 AV	54.00	-14.20	1.03 V	203	-0.90	40.70

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 11	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	95.90 PK			1.52 H	323	65.90	30.00
1	*2462.00	89.10 AV			1.52 H	323	59.10	30.00
2	2483.50	42.90 PK	74.00	-31.10	1.52 H	323	12.80	30.10
2	2483.50	35.00 AV	54.00	-19.00	1.52 H	323	4.90	30.10
3	2487.00	45.80 PK	74.00	-28.20	1.52 H	323	15.70	30.10
3	2487.00	37.00 AV	54.00	-17.00	1.52 H	323	6.90	30.10
4	4924.00	43.30 PK	74.00	-30.70	1.33 H	322	7.70	35.50
4	4924.00	33.00 AV	54.00	-21.00	1.33 H	322	-2.60	35.50
5	7386.00	48.10 PK	74.00	-25.90	1.37 H	262	7.30	40.80
5	7386.00	37.00 AV	54.00	-17.00	1.37 H	262	-3.80	40.80

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	111.20 PK			1.11 V	7	81.20	30.00
1	*2462.00	104.40 AV			1.11 V	7	74.40	30.00
2	2483.50	58.20 PK	74.00	-15.80	1.11 V	7	28.10	30.10
2	2483.50	50.30 AV	54.00	-3.70	1.11 V	7	20.20	30.10
3	2487.00	61.10 PK	74.00	-12.90	1.11 V	7	31.00	30.10
3	2487.00	52.30 AV	54.00	-1.70	1.11 V	7	22.20	30.10
4	4924.00	47.60 PK	74.00	-26.40	1.03 V	324	12.00	35.50
4	4924.00	36.90 AV	54.00	-17.10	1.03 V	324	1.30	35.50
5	7386.00	49.80 PK	74.00	-24.20	1.04 V	206	9.00	40.80
5	7386.00	39.40 AV	54.00	-14.60	1.04 V	206	-1.40	40.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* ” : Fundamental frequency



### 802.11g OFDM modulation

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 1	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	47.50 PK	74.00	-26.50	1.46 H	294	13.80	33.70
1	2390.00	36.80 AV	54.00	-17.20	1.46 H	294	3.10	33.70
2	*2412.00	94.20 PK			1.46 H	294	64.40	29.80
2	*2412.00	85.00 AV			1.46 H	294	55.20	29.80
3	4824.00	43.30 PK	74.00	-30.70	1.28 H	342	8.20	35.10
3	4824.00	32.40 AV	54.00	-21.60	1.28 H	342	-2.70	35.10
4	7236.00	47.40 PK	74.00	-26.60	1.25 H	231	6.90	40.50
4	7236.00	36.10 AV	54.00	-17.90	1.25 H	231	-4.40	40.50

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.50 PK	74.00	-11.50	1.16 V	6	28.80	33.70
1	2390.00	52.20 AV	54.00	-1.80	1.16 V	6	18.50	33.70
2	*2412.00	109.20 PK			1.16 V	6	79.40	29.80
2	*2412.00	100.40 AV			1.16 V	6	70.60	29.80
3	4824.00	46.60 PK	74.00	-27.40	1.17 V	331	11.50	35.10
3	4824.00	35.40 AV	54.00	-18.60	1.17 V	331	0.30	35.10
4	7236.00	47.70 PK	74.00	-26.30	1.09 V	244	7.20	40.50
4	7236.00	36.80 AV	54.00	-17.20	1.09 V	244	-3.70	40.50

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 6	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	99.60 PK			1.41 H	307	69.70	29.90
1	*2437.00	90.30 AV			1.41 H	307	60.40	29.90
2	4874.00	44.10 PK	74.00	-29.90	1.34 H	320	8.80	35.30
2	4874.00	33.20 AV	54.00	-20.80	1.34 H	320	-2.10	35.30
3	7311.00	48.50 PK	74.00	-25.50	1.30 H	243	7.80	40.70
3	7311.00	37.60 AV	54.00	-16.40	1.30 H	243	-3.10	40.70

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	115.50 PK			1.14 V	7	85.60	29.90
1	*2437.00	106.00 AV			1.14 V	7	76.10	29.90
2	4874.00	48.10 PK	74.00	-25.90	1.12 V	324	12.80	35.30
2	4874.00	37.40 AV	54.00	-16.60	1.12 V	324	2.10	35.30
3	7311.00	51.30 PK	74.00	-22.70	1.04 V	223	10.60	40.70
3	7311.00	39.40 AV	54.00	-14.60	1.04 V	223	-1.30	40.70

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 11	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	92.30 PK			1.49 H	318	62.30	30.00
1	*2462.00	82.60 AV			1.49 H	318	52.60	30.00
2	2483.50	44.70 PK	74.00	-29.30	1.49 H	318	14.60	30.10
2	2483.50	35.60 AV	54.00	-18.40	1.49 H	318	5.50	30.10
3	2498.00	46.50 PK	74.00	-27.50	1.49 H	318	14.90	31.60
3	2498.00	33.50 AV	54.00	-20.50	1.49 H	318	1.90	31.60
4	4924.00	42.60 PK	74.00	-31.40	1.29 H	321	7.00	35.50
4	4924.00	31.30 AV	54.00	-22.70	1.29 H	321	-4.30	35.50
5	7386.00	47.80 PK	74.00	-26.20	1.34 H	257	7.00	40.80
5	7386.00	36.60 AV	54.00	-17.40	1.34 H	257	-4.20	40.80

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	107.50 PK			1.11 V	6	77.50	30.00
1	*2462.00	98.90 AV			1.11 V	6	68.90	30.00
2	2483.50	59.90 PK	74.00	-14.10	1.11 V	6	29.80	30.10
2	2483.50	51.90 AV	54.00	-2.10	1.11 V	6	21.80	30.10
3	2498.00	61.70 PK	74.00	-12.30	1.11 V	6	30.10	31.60
3	2498.00	49.80 AV	54.00	-4.20	1.11 V	6	18.20	31.60
4	4924.00	43.90 PK	74.00	-30.10	1.04 V	321	8.30	35.50
4	4924.00	32.20 AV	54.00	-21.80	1.04 V	321	-3.40	35.50
5	7386.00	48.60 PK	74.00	-25.40	1.06 V	218	7.80	40.80
5	7386.00	37.30 AV	54.00	-16.70	1.06 V	218	-3.50	40.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* ” : Fundamental frequency

## 4.2.10 TEST RESULTS (ANTENNA 4)

**Below 1GHz Worst-Case Data**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With Adapter	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 70%RH, 961hPa	<b>TESTED BY</b>	Jerry Fan

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	61.45	27.10 QP	40.00	-12.90	2.04 H	246	19.40	7.60
2	182.48	30.20 QP	43.50	-13.30	1.91 H	220	19.70	10.50
3	261.10	32.60 QP	46.00	-13.40	1.82 H	126	17.10	15.50
4	337.68	33.00 QP	46.00	-13.00	1.76 H	68	16.10	17.00
5	482.55	36.40 QP	46.00	-9.60	1.65 H	105	15.60	20.90
6	557.55	34.90 QP	46.00	-11.10	1.46 H	135	12.20	22.70
7	621.40	33.20 QP	46.00	-12.80	1.23 H	173	9.40	23.80
8	737.08	37.10 QP	46.00	-8.90	1.11 H	232	11.20	25.90
9	828.67	35.40 QP	46.00	-10.60	1.00 H	243	8.00	27.40
10	934.30	36.10 QP	46.00	-9.90	1.00 H	133	7.20	29.00

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	73.60	27.20 QP	40.00	-12.80	1.00 V	44	18.80	8.30
2	141.15	32.90 QP	43.50	-10.60	1.00 V	119	19.70	13.20
3	265.50	34.50 QP	46.00	-11.50	1.00 V	204	19.10	15.40
4	321.20	37.80 QP	46.00	-8.20	1.02 V	178	21.10	16.60
5	412.35	33.60 QP	46.00	-12.40	1.15 V	54	14.10	19.50
6	587.98	36.40 QP	46.00	-9.60	1.68 V	85	13.20	23.30
7	640.18	35.20 QP	46.00	-10.80	1.38 V	199	11.10	24.10
8	716.28	36.60 QP	46.00	-9.40	1.21 V	229	11.70	25.00
9	832.97	35.30 QP	46.00	-10.70	1.18 V	149	7.70	27.60
10	919.62	34.40 QP	46.00	-11.60	1.05 V	50	6.00	28.40

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value

**Below 1GHz Worst-Case Data**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>TEST MODE</b>	With POE	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 70%RH, 961hPa	<b>TESTED BY</b>	Jerry Fan

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	129.03	31.80 QP	43.50	-11.70	1.95 H	337	19.20	12.60
2	160.48	29.80 QP	43.50	-13.70	1.90 H	247	18.30	11.50
3	259.75	36.00 QP	46.00	-10.00	1.83 H	147	20.50	15.50
4	366.23	34.10 QP	46.00	-11.90	1.65 H	10	16.20	17.90
5	480.38	36.60 QP	46.00	-9.40	1.49 H	117	15.90	20.80
6	522.70	33.90 QP	46.00	-12.10	1.35 H	217	12.00	22.00
7	618.30	33.60 QP	46.00	-12.40	1.20 H	284	9.80	23.70
8	732.13	36.80 QP	46.00	-9.20	1.10 H	176	11.10	25.70
9	818.15	34.30 QP	46.00	-11.70	1.00 H	190	7.20	27.00
10	954.77	36.00 QP	46.00	-10.00	1.00 H	247	6.60	29.40

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	131.15	31.70 QP	43.50	-11.80	1.00 V	232	18.90	12.80
2	233.60	32.80 QP	46.00	-13.20	1.00 V	180	19.70	13.10
3	324.95	36.20 QP	46.00	-9.80	1.00 V	89	19.40	16.70
4	406.53	34.90 QP	46.00	-11.10	1.00 V	103	15.40	19.40
5	488.15	32.60 QP	46.00	-13.40	1.28 V	266	11.50	21.10
6	559.20	34.50 QP	46.00	-11.50	1.70 V	281	11.70	22.70
7	632.15	37.40 QP	46.00	-8.60	1.50 V	153	13.40	23.90
8	721.90	35.10 QP	46.00	-10.90	1.37 V	205	9.90	25.20
9	831.35	34.20 QP	46.00	-11.80	1.15 V	200	6.70	27.50
10	916.67	36.10 QP	46.00	-9.90	1.06 V	114	7.80	28.30

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value

**802.11b DSSS modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 1	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2387.00	38.20 PK	74.00	-35.80	1.12 H	357	5.40	32.80
1	2387.00	26.00 AV	54.00	-28.00	1.12 H	357	-6.80	32.80
2	2390.00	34.90 PK	74.00	-39.10	1.12 H	357	1.20	33.70
2	2390.00	25.40 AV	54.00	-28.60	1.12 H	357	-8.30	33.70
3	*2412.00	85.60 PK			1.12 H	357	55.80	29.80
3	*2412.00	78.90 AV			1.12 H	357	49.10	29.80
4	4824.00	42.40 PK	74.00	-31.60	1.17 H	342	7.30	35.10
4	4824.00	31.10 AV	54.00	-22.90	1.17 H	342	-4.00	35.10
5	7236.00	47.40 PK	74.00	-26.60	1.18 H	84	6.90	40.50
5	7236.00	35.90 AV	54.00	-18.10	1.18 H	84	-4.60	40.50

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2387.00	64.60 PK	74.00	-9.40	1.08 V	357	31.80	32.80
1	2387.00	52.20 AV	54.00	-1.80	1.08 V	357	19.40	32.80
2	2390.00	61.30 PK	74.00	-12.70	1.08 V	357	27.60	33.70
2	2390.00	51.60 AV	54.00	-2.40	1.08 V	357	17.90	33.70
3	*2412.00	112.00 PK			1.08 V	357	82.20	29.80
3	*2412.00	105.10 AV			1.08 V	357	75.30	29.80
4	4824.00	45.40 PK	74.00	-28.60	1.24 V	53	10.30	35.10
4	4824.00	33.90 AV	54.00	-20.10	1.24 V	53	-1.20	35.10
5	7236.00	47.90 PK	74.00	-26.10	1.37 V	349	7.40	40.50
5	7236.00	36.60 AV	54.00	-17.40	1.37 V	349	-3.90	40.50

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency





<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 6	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	94.50 PK			1.10 H	356	64.60	29.90
1	*2437.00	87.30 AV			1.10 H	356	57.40	29.90
2	4874.00	43.20 PK	74.00	-30.80	1.18 H	332	7.90	35.30
2	4874.00	32.30 AV	54.00	-21.70	1.18 H	332	-3.00	35.30
3	7311.00	47.90 PK	74.00	-26.10	1.14 H	75	7.20	40.70
3	7311.00	36.70 AV	54.00	-17.30	1.14 H	75	-4.00	40.70

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	122.00 PK			1.09 V	358	92.10	29.90
1	*2437.00	113.90 AV			1.09 V	358	84.00	29.90
2	4874.00	49.00 PK	74.00	-25.00	1.22 V	56	13.70	35.30
2	4874.00	37.50 AV	54.00	-16.50	1.22 V	56	2.20	35.30
3	7311.00	50.20 PK	74.00	-23.80	1.34 V	343	9.50	40.70
3	7311.00	40.80 AV	54.00	-13.20	1.34 V	343	0.10	40.70

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 11	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	82.80 PK			1.09 H	358	52.80	30.00
1	*2462.00	76.20 AV			1.09 H	358	46.20	30.00
2	2483.50	36.10 PK	74.00	-37.90	1.09 H	358	6.00	30.10
2	2483.50	24.70 AV	54.00	-29.30	1.09 H	358	-5.40	30.10
3	2487.00	34.40 PK	74.00	-39.60	1.09 H	358	4.30	30.10
3	2487.00	25.00 AV	54.00	-29.00	1.09 H	358	-5.10	30.10
4	4924.00	43.20 PK	74.00	-30.80	1.22 H	339	7.60	35.50
4	4924.00	31.70 AV	54.00	-22.30	1.22 H	339	-3.90	35.50
5	7386.00	47.30 PK	74.00	-26.70	1.15 H	78	6.50	40.80
5	7386.00	36.00 AV	54.00	-18.00	1.15 H	78	-4.80	40.80

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	110.90 PK			1.10 V	2	80.90	30.00
1	*2462.00	103.40 AV			1.10 V	2	73.40	30.00
2	2483.50	64.20 PK	74.00	-9.80	1.10 V	2	34.10	30.10
2	2483.50	51.90 AV	54.00	-2.10	1.10 V	2	21.80	30.10
3	2487.00	62.50 PK	74.00	-11.50	1.10 V	2	32.40	30.10
3	2487.00	52.20 AV	54.00	-1.80	1.10 V	2	22.10	30.10
4	4924.00	44.30 PK	74.00	-29.70	1.21 V	49	8.70	35.50
4	4924.00	32.80 AV	54.00	-21.20	1.21 V	49	-2.80	35.50
5	7386.00	48.40 PK	74.00	-25.60	1.37 V	350	7.60	40.80
5	7386.00	36.60 AV	54.00	-17.40	1.37 V	350	-4.20	40.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* ” : Fundamental frequency



### 802.11g OFDM modulation

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 1	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2375.00	1.10 PK	74.00	-72.90	1.11 H	358	-29.40	30.60
1	2375.00	-11.00 AV	54.00	-65.00	1.11 H	358	-41.50	30.60
2	2390.00	37.30 PK	74.00	-36.70	1.11 H	358	3.60	33.70
2	2390.00	26.50 AV	54.00	-27.50	1.11 H	358	-7.20	33.70
3	*2412.00	83.10 PK			1.11 H	358	53.30	29.80
3	*2412.00	74.30 AV			1.11 H	358	44.50	29.80
4	4824.00	41.60 PK	74.00	-32.40	1.22 H	337	6.50	35.10
4	4824.00	30.60 AV	54.00	-23.40	1.22 H	337	-4.50	35.10
5	7236.00	47.00 PK	74.00	-27.00	1.27 H	92	6.50	40.50
5	7236.00	35.90 AV	54.00	-18.10	1.27 H	92	-4.60	40.50

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2375.00	63.40 PK	74.00	-10.60	1.09 V	354	32.80	30.60
1	2375.00	51.30 AV	54.00	-2.70	1.09 V	354	20.70	30.60
2	2390.00	63.10 PK	74.00	-10.90	1.09 V	354	29.40	33.70
2	2390.00	52.30 AV	54.00	-1.70	1.09 V	354	18.60	33.70
3	*2412.00	108.90 PK			1.09 V	354	79.10	29.80
3	*2412.00	100.10 AV			1.09 V	354	70.30	29.80
4	4824.00	42.60 PK	74.00	-31.40	1.20 V	56	7.50	35.10
4	4824.00	31.20 AV	54.00	-22.80	1.20 V	56	-3.90	35.10
5	7236.00	47.60 PK	74.00	-26.40	1.14 V	351	7.10	40.50
5	7236.00	36.20 AV	54.00	-17.80	1.14 V	351	-4.30	40.50

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. " \* " : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 6	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	95.50 PK			1.09 H	357	65.60	29.90
1	*2437.00	86.30 AV			1.09 H	357	56.40	29.90
2	4874.00	42.60 PK	74.00	-31.40	1.25 H	345	7.30	35.30
2	4874.00	31.60 AV	54.00	-22.40	1.25 H	345	-3.70	35.30
3	7311.00	47.90 PK	74.00	-26.10	1.18 H	81	7.20	40.70
3	7311.00	36.60 AV	54.00	-17.40	1.18 H	81	-4.10	40.70

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	122.30 PK			1.08 V	358	92.40	29.90
1	*2437.00	112.20 AV			1.08 V	358	82.30	29.90
2	4874.00	44.00 PK	74.00	-30.00	1.23 V	49	8.70	35.30
2	4874.00	33.50 AV	54.00	-20.50	1.23 V	49	-1.80	35.30
3	7311.00	50.40 PK	74.00	-23.60	1.15 V	337	9.70	40.70
3	7311.00	39.20 AV	54.00	-14.80	1.15 V	337	-1.50	40.70

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* “ : Fundamental frequency



<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>CHANNEL</b>	Channel 11	<b>FREQUENCY RANGE</b>	1 ~ 25GHz
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa	<b>TESTED BY</b>	Tony Chen

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	81.50 PK			1.08 H	356	51.50	30.00
1	*2462.00	72.70 AV			1.08 H	356	42.70	30.00
2	2483.50	37.90 PK	74.00	-36.10	1.08 H	356	7.80	30.10
2	2483.50	25.60 AV	54.00	-28.40	1.08 H	356	-4.50	30.10
3	2498.00	36.70 PK	74.00	-37.30	1.08 H	356	5.10	31.60
3	2498.00	24.80 AV	54.00	-29.20	1.08 H	356	-6.80	31.60
4	4924.00	42.90 PK	74.00	-31.10	1.26 H	343	7.30	35.50
4	4924.00	31.40 AV	54.00	-22.60	1.26 H	343	-4.20	35.50
5	7386.00	47.50 PK	74.00	-26.50	1.21 H	86	6.70	40.80
5	7386.00	36.20 AV	54.00	-17.80	1.21 H	86	-4.60	40.80

#### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	108.00 PK			1.10 V	1	78.00	30.00
1	*2462.00	99.10 AV			1.10 V	1	69.10	30.00
2	2483.50	64.40 PK	74.00	-9.60	1.10 V	1	34.30	30.10
2	2483.50	52.00 AV	54.00	-2.00	1.10 V	1	21.90	30.10
3	2498.00	63.20 PK	74.00	-10.80	1.10 V	1	31.60	31.60
3	2498.00	51.20 AV	54.00	-2.80	1.10 V	1	19.60	31.60
4	4924.00	43.10 PK	74.00	-30.90	1.24 V	47	7.50	35.50
4	4924.00	31.40 AV	54.00	-22.60	1.24 V	47	-4.20	35.50
5	7386.00	48.00 PK	74.00	-26.00	1.13 V	346	7.20	40.80
5	7386.00	36.60 AV	54.00	-17.40	1.13 V	346	-4.20	40.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. The limit value is defined as per 15.247
  6. “ \* ” : Fundamental frequency



### 4.3 6dB BANDWIDTH MEASUREMENT

#### 4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

#### 4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005

**NOTE:**

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

#### 4.3.3 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 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

#### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.3.5 TEST SETUP



#### 4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

## 4.3.7 TEST RESULTS (ANTENNA 1)

**802.11b DSSS modulation**

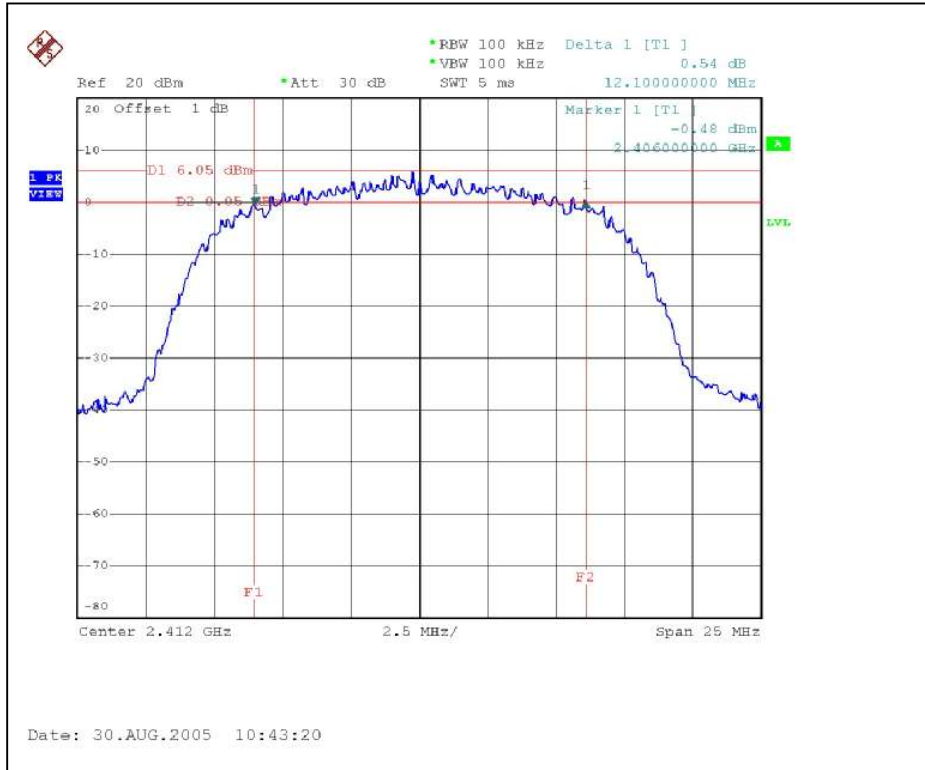
<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
1	2412	12.1	0.5	PASS
6	2437	12.2	0.5	PASS
11	2462	12.1	0.5	PASS

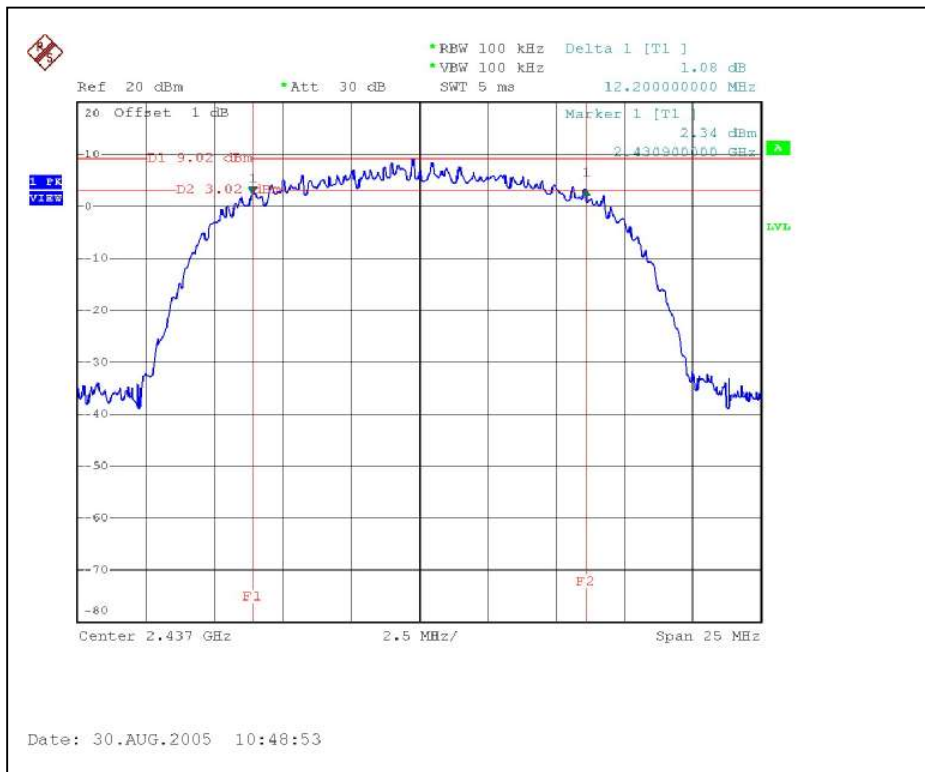




CH1

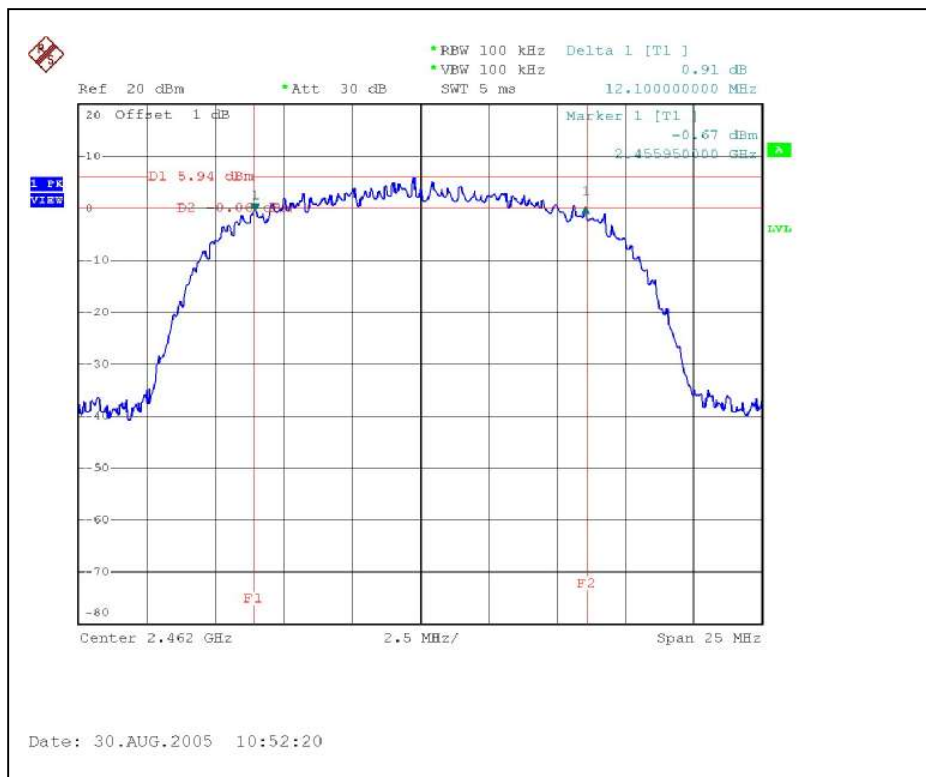


CH6





CH11



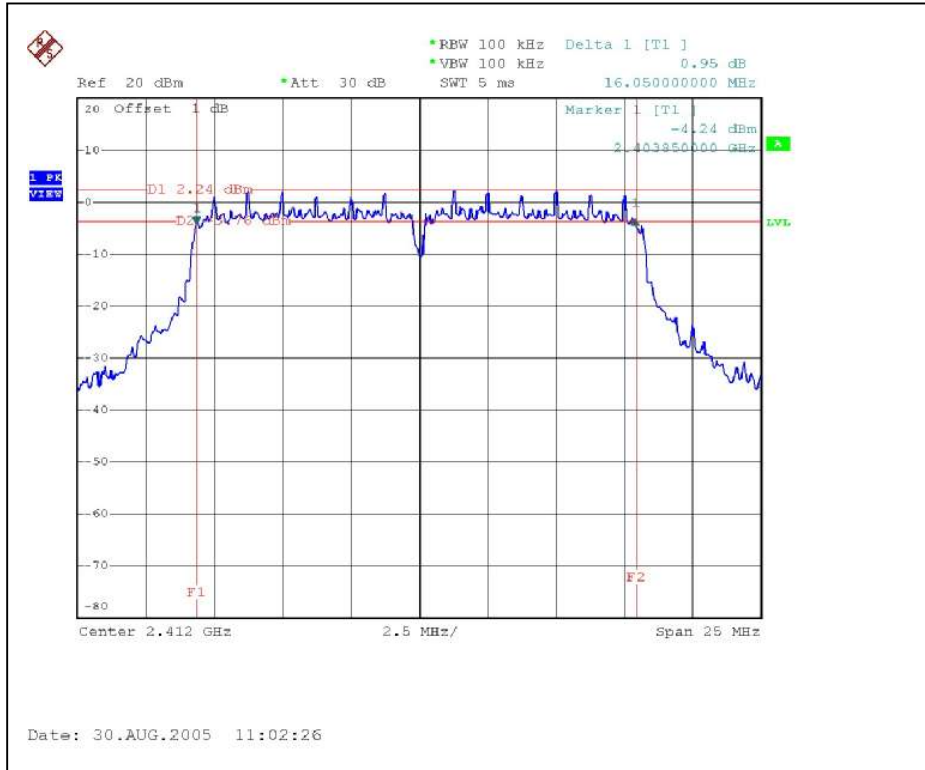
**802.11g OFDM modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

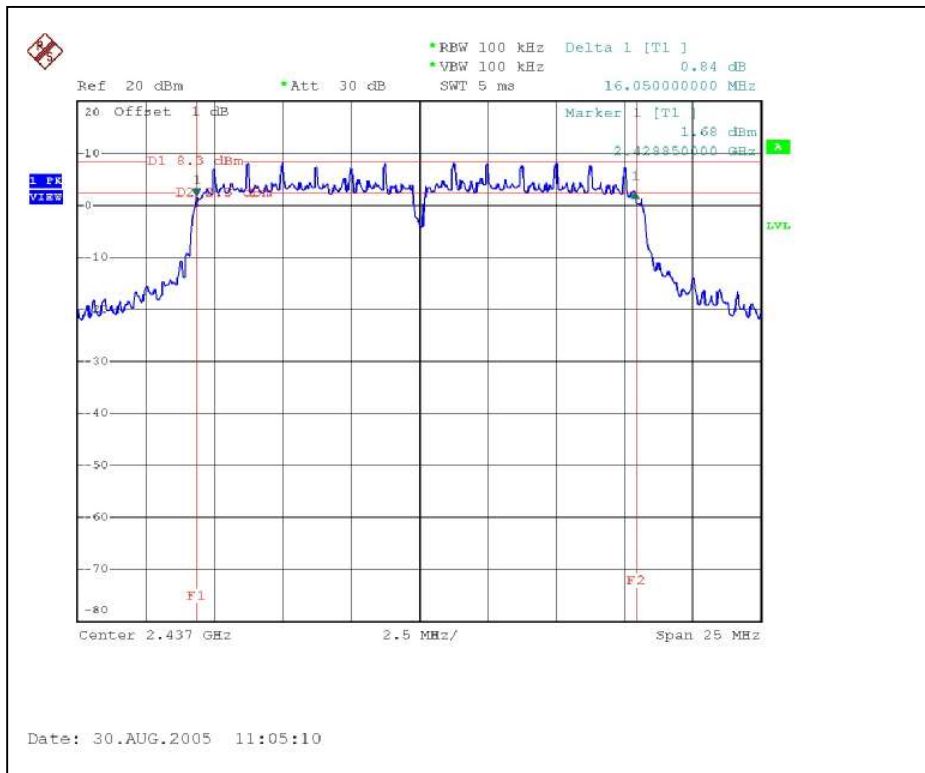
<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
1	2412	16.05	0.5	PASS
6	2437	16.05	0.5	PASS
11	2462	16.10	0.5	PASS



CH1

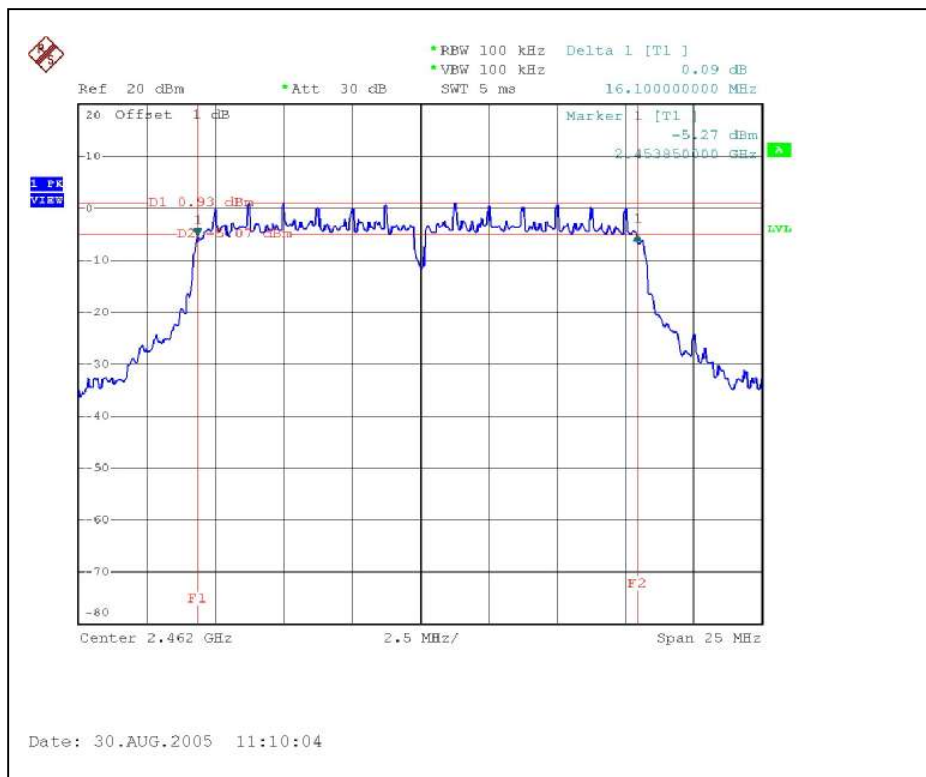


CH6





CH11



## 4.3.8 TEST RESULTS (ANTENNA 2)

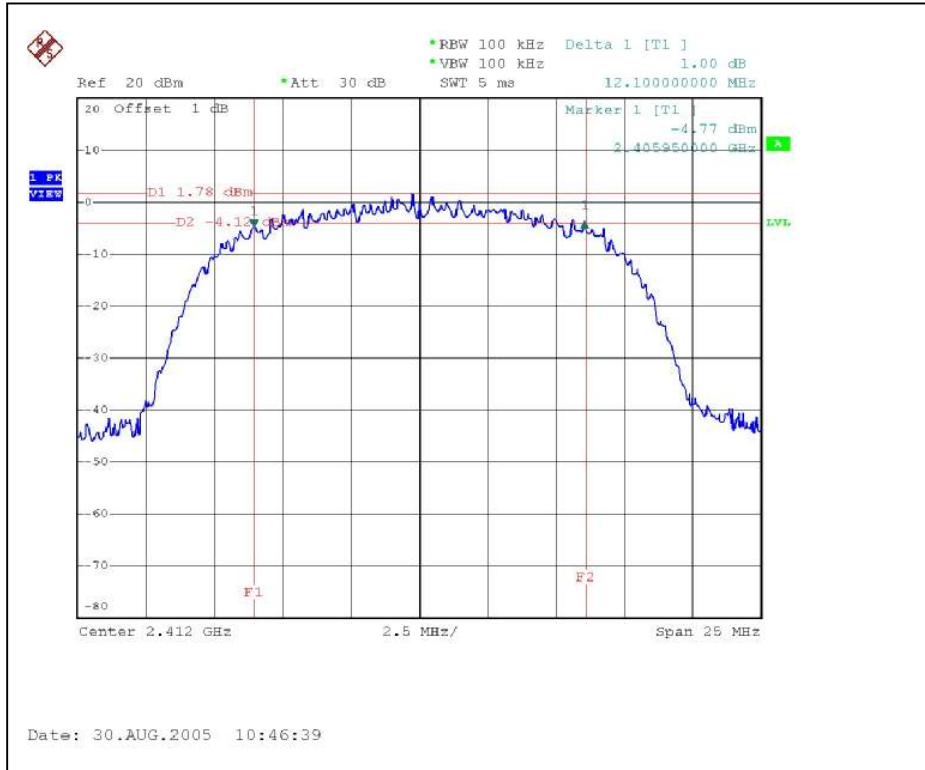
**802.11b DSSS modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

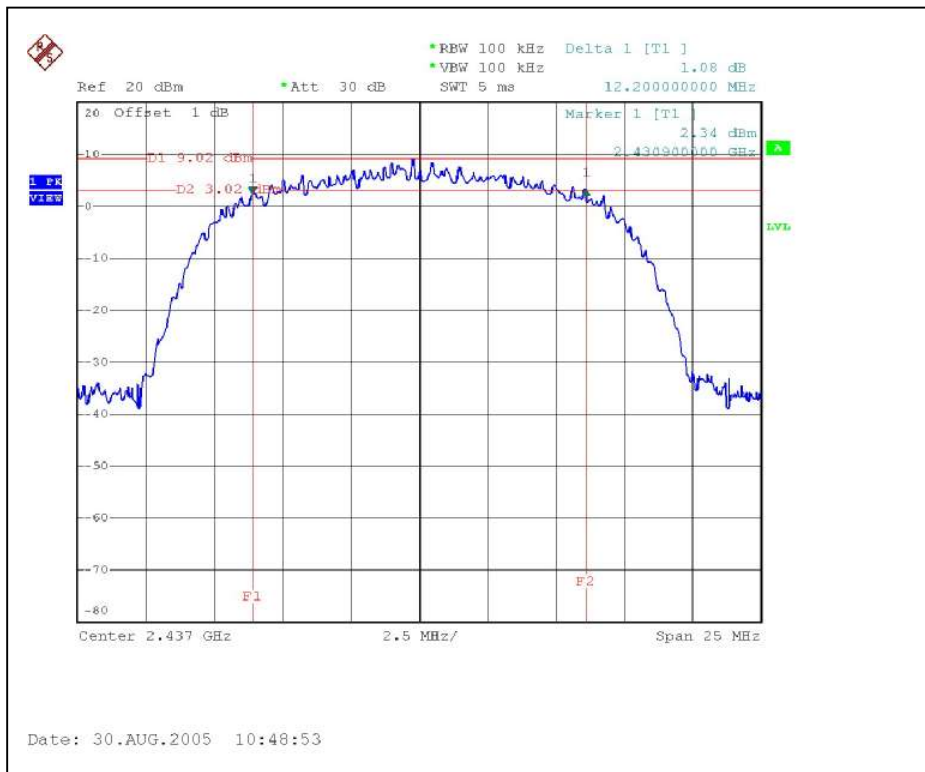
<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
1	2412	12.1	0.5	PASS
6	2437	12.2	0.5	PASS
11	2462	12.1	0.5	PASS



CH1

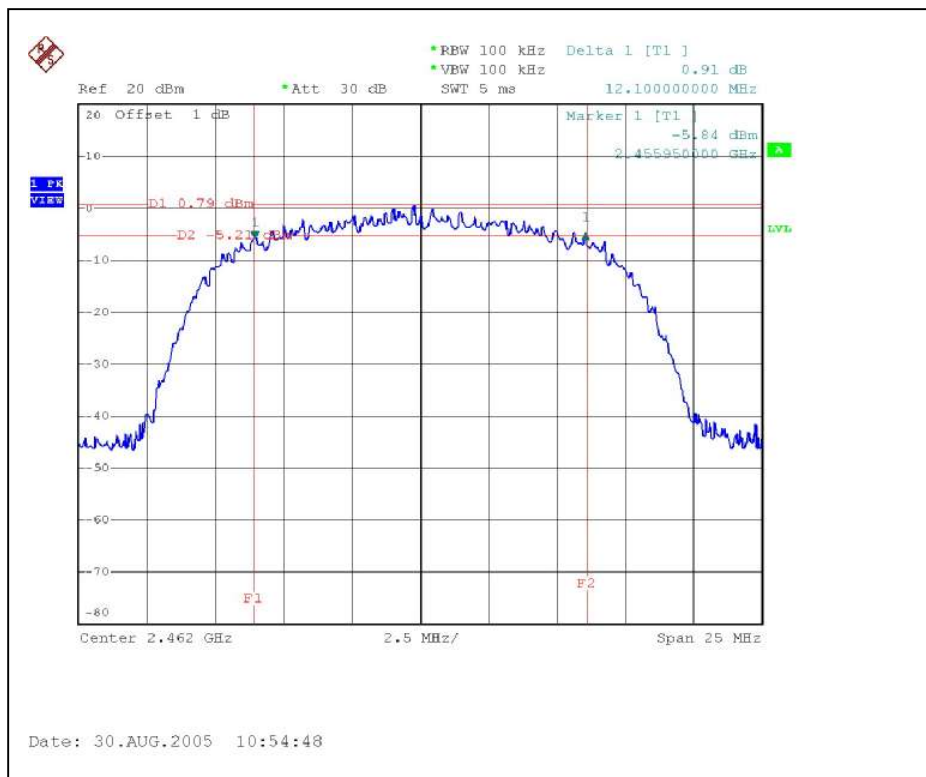


CH6





CH11





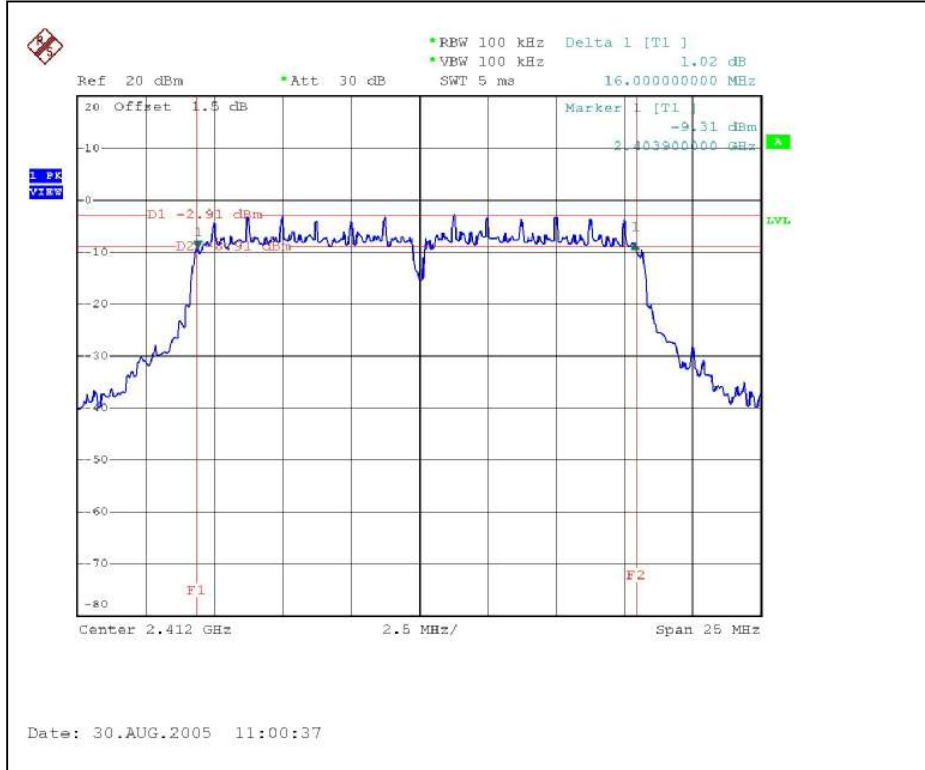
**802.11g OFDM modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

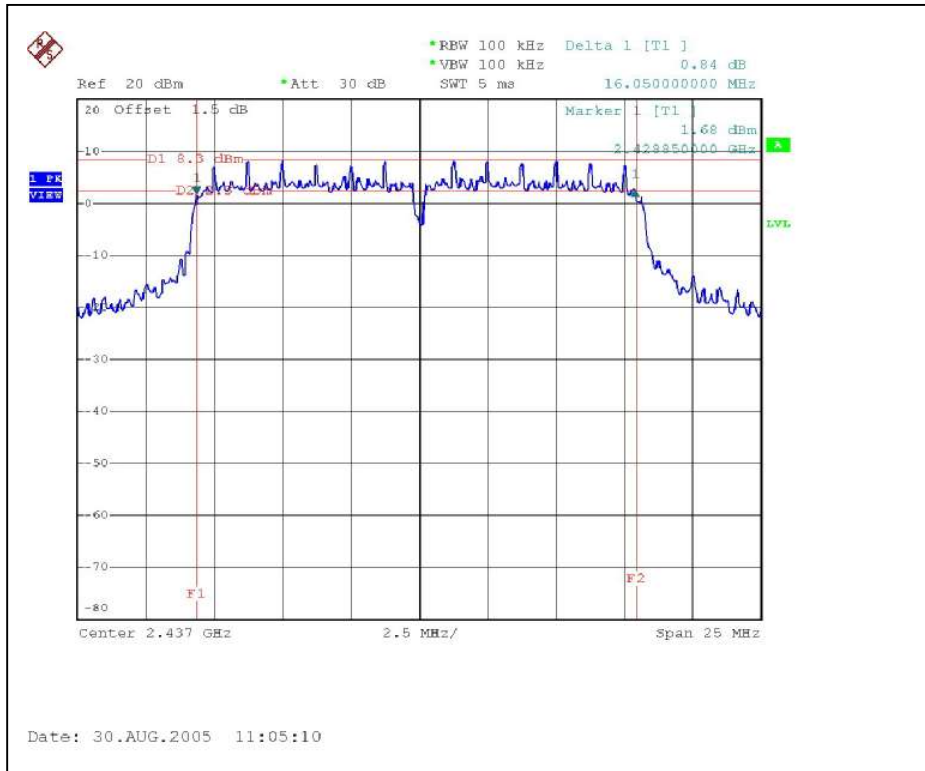
<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
1	2412	16.00	0.5	PASS
6	2437	16.05	0.5	PASS
11	2462	16.10	0.5	PASS



CH1

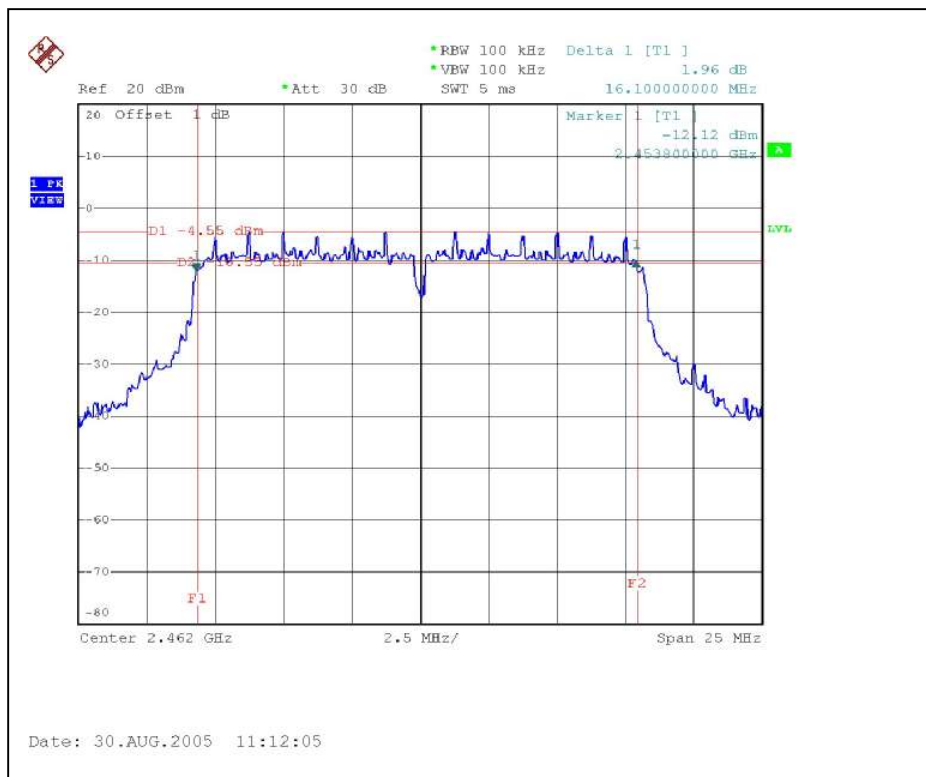


CH6





CH11



## 4.3.9 TEST RESULTS (ANTENNA 3)

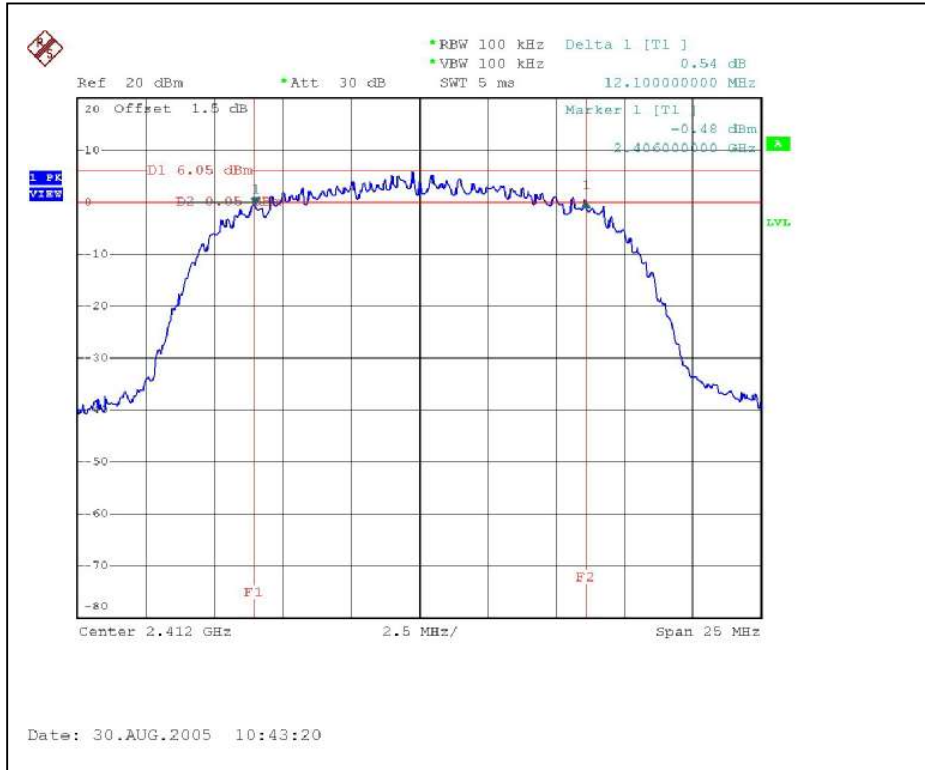
**802.11b DSSS modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

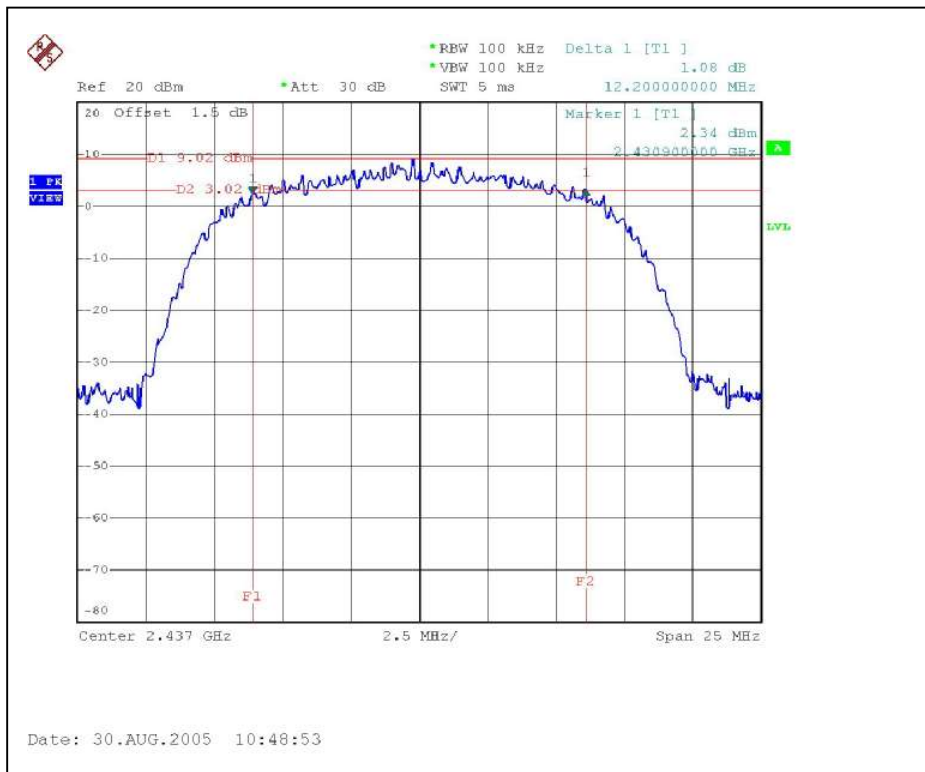
<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
1	2412	12.1	0.5	PASS
6	2437	12.2	0.5	PASS
11	2462	12.1	0.5	PASS



CH1

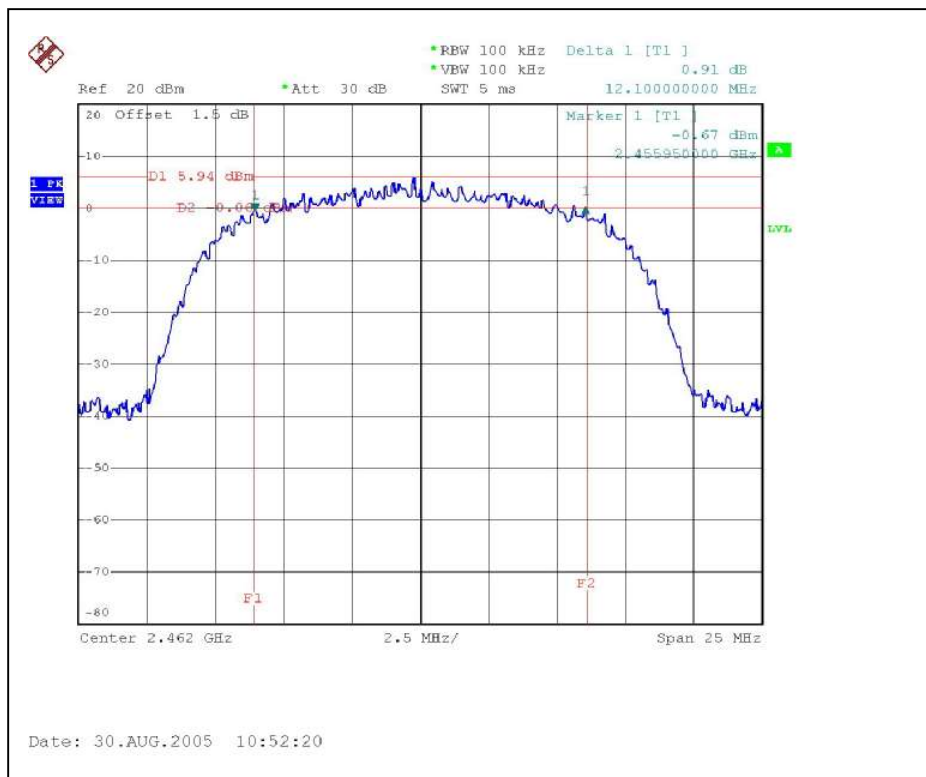


CH6





CH11



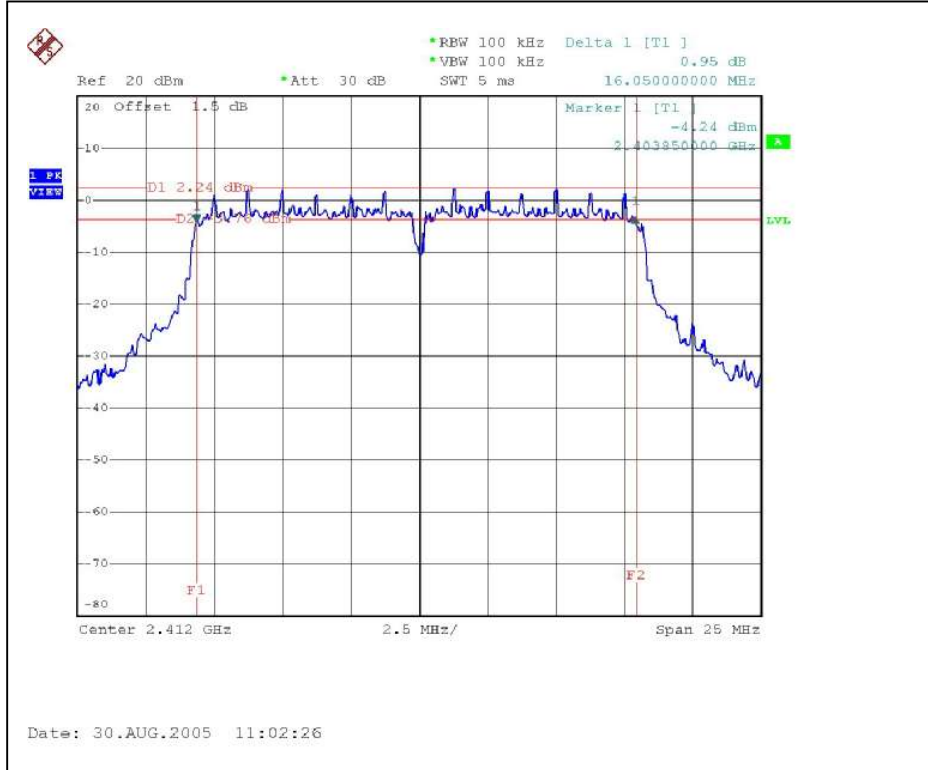
**802.11g OFDM modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

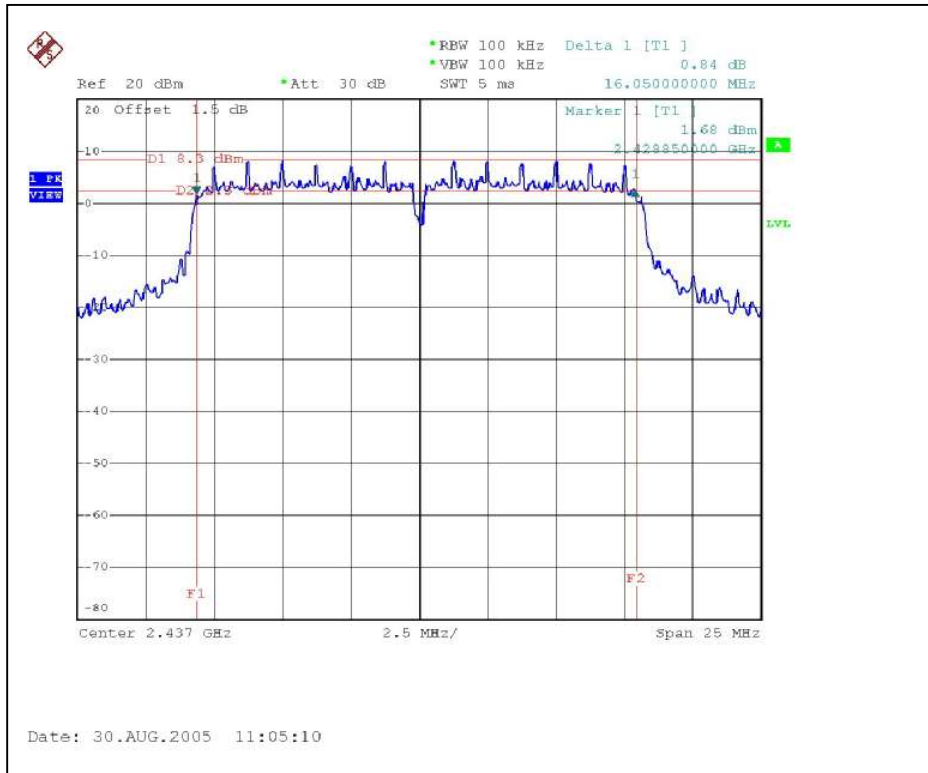
<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
1	2412	16.05	0.5	PASS
6	2437	16.05	0.5	PASS
11	2462	16.10	0.5	PASS



CH1



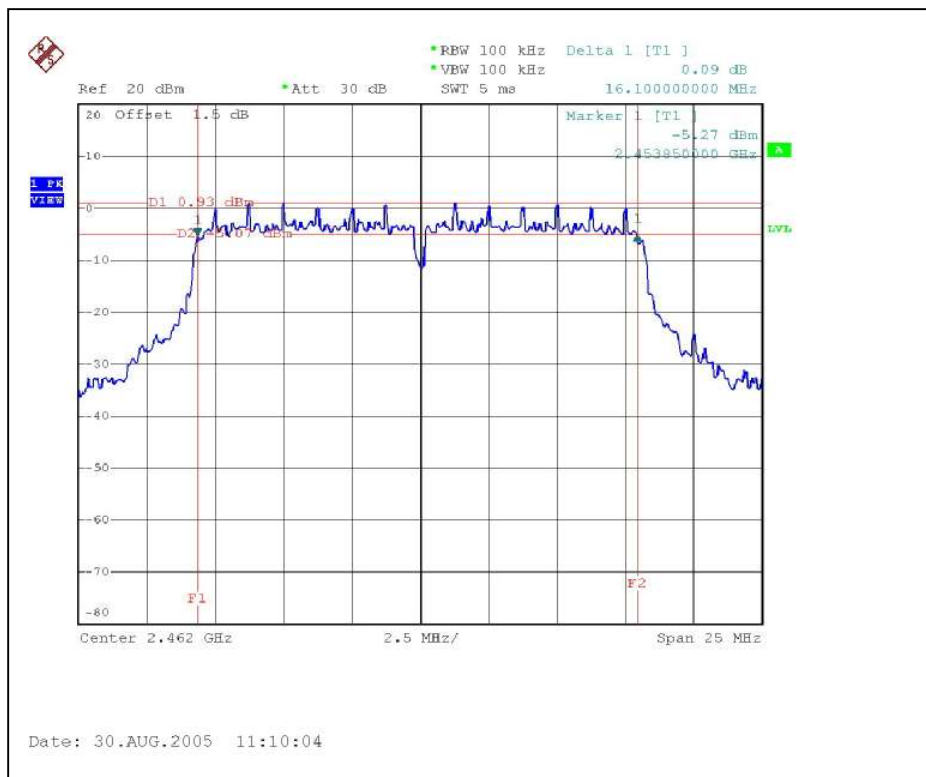
CH6







CH11



## 4.3.10 TEST RESULTS (ANTENNA 4)

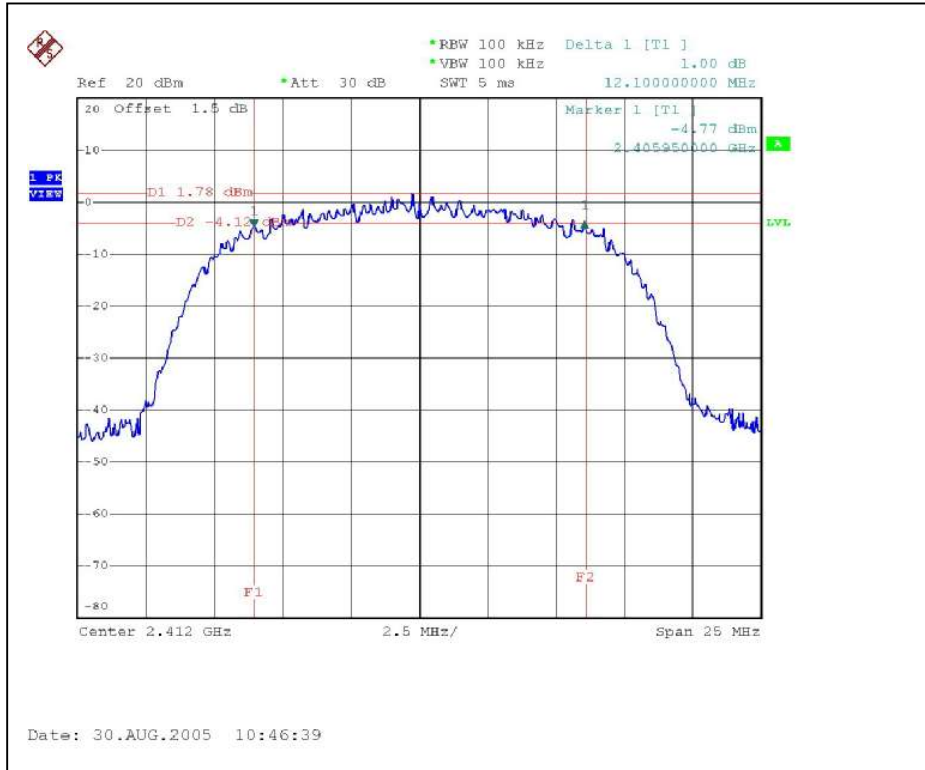
**802.11b DSSS modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

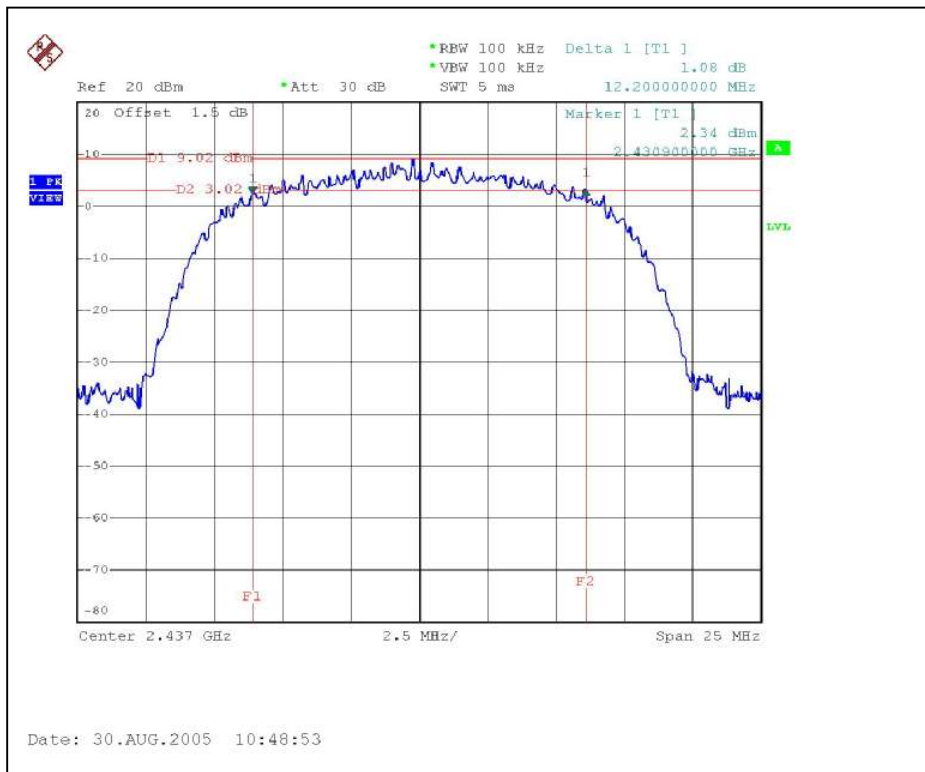
<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
1	2412	12.1	0.5	PASS
6	2437	12.2	0.5	PASS
11	2462	12.2	0.5	PASS



CH1

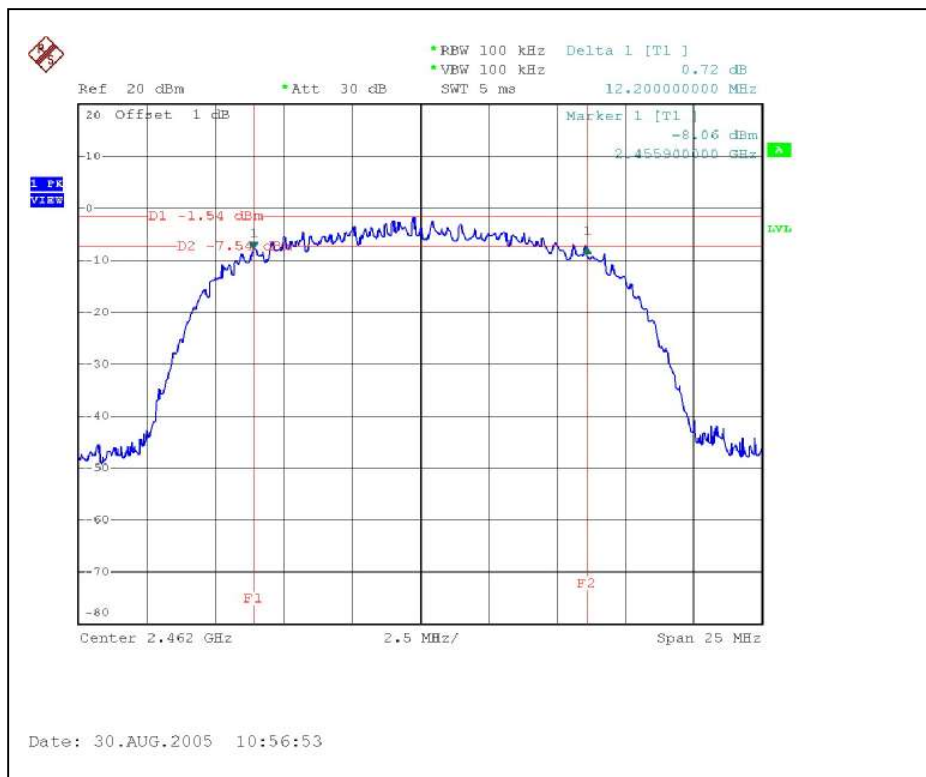


CH6





CH11



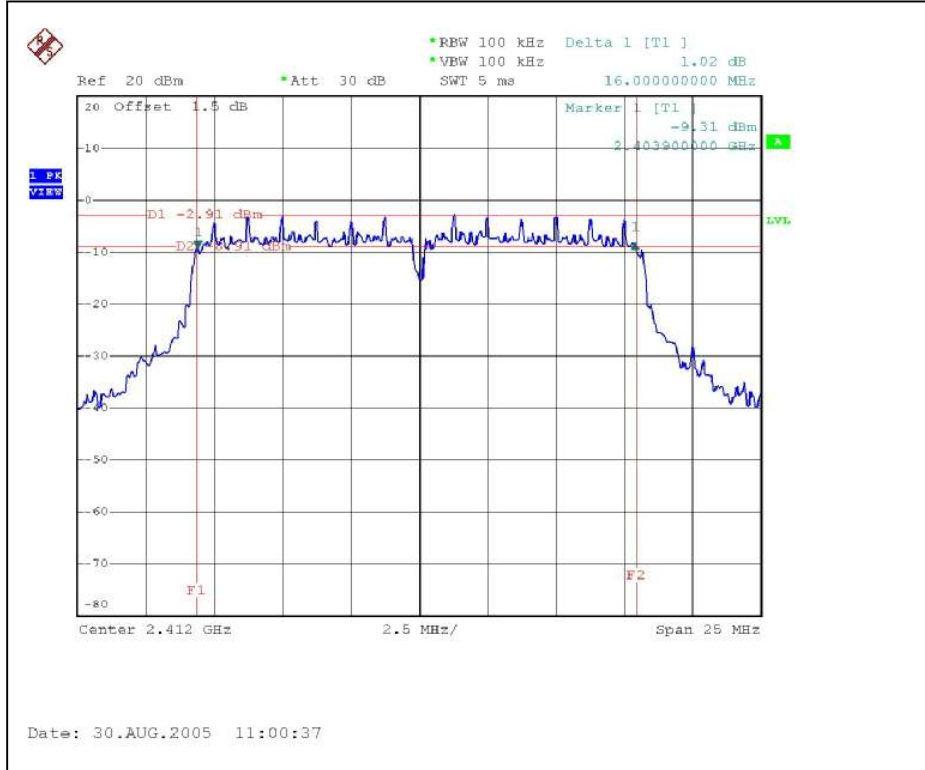
**802.11g OFDM modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

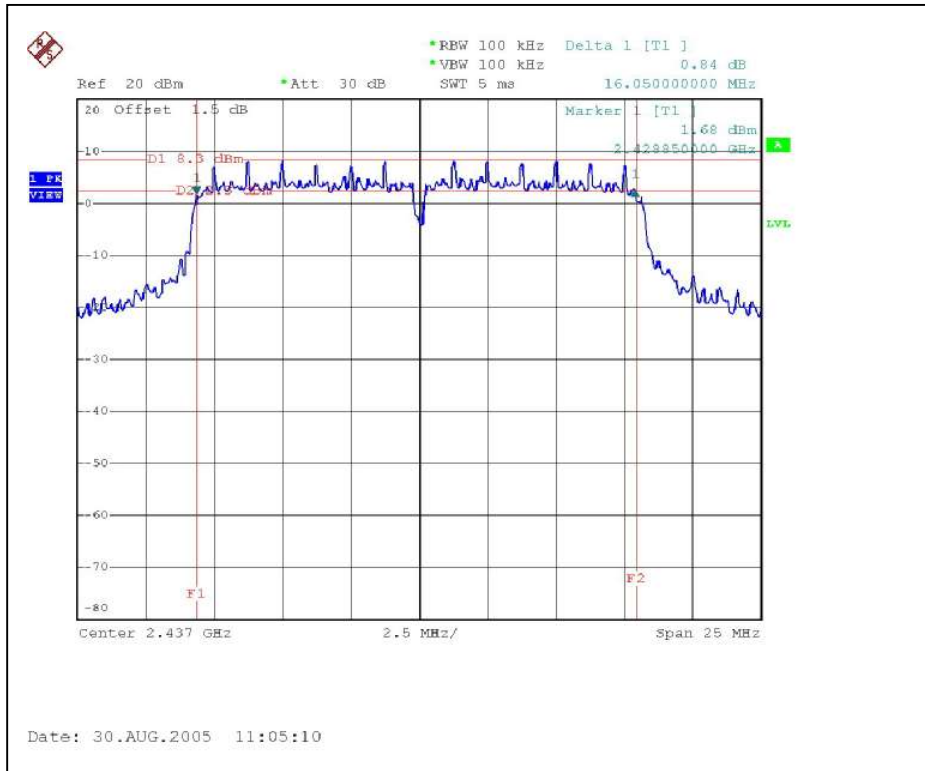
<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
1	2412	16.00	0.5	PASS
6	2437	16.05	0.5	PASS
11	2462	16.10	0.5	PASS



CH1

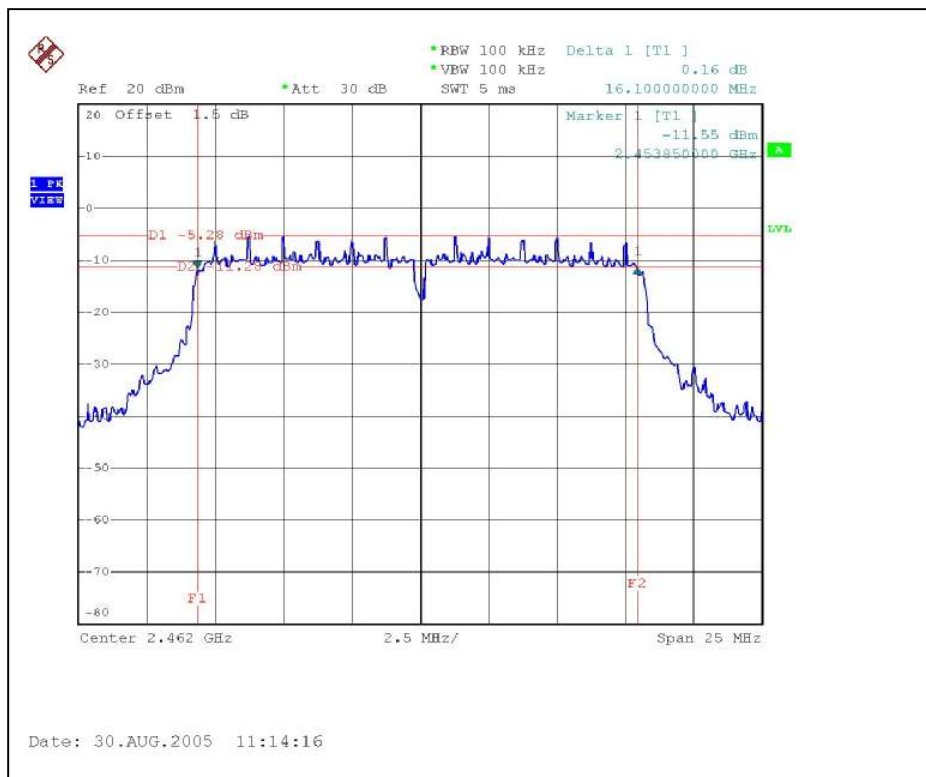


CH6





CH11



#### 4.4 MAXIMUM PEAK OUTPUT POWER

##### 4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

##### 4.4.2 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005
Agilent SIGNAL GENERATOR	E8257C	MY43320668	Dec. 07, 2005
TEKTRONIX OSCILLOSCOPE	TDS380	B016335	Jun. 22, 2006
NARDA DETECTOR	4503A	FSCM99899	NA

**NOTE:**

The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.



#### 4.4.3 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the response of the detector.
2. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same reading on oscilloscope. Record the power level.

#### 4.4.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.4.5 TEST SETUP



#### 4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6



4.4.7 TEST RESULTS

**802.11b DSSS modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

Antenna 1 (Gain : 3.0 dBi)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	16.14	30	PASS
6	2437	19.24	30	PASS
11	2462	15.98	30	PASS

Antenna 2 (Gain : 11.2 dBi) + Antenna Cable (2.7dB loss) +Extend cable (0.5dB loss)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	11.88	28	PASS
6	2437	19.24	28	PASS
11	2462	10.72	28	PASS



Antenna 3 (Gain : 4.6 dBi) + Antenna Cable (1.3dB loss) +Extend cable (0.5dB loss)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	16.14	30	PASS
6	2437	19.24	30	PASS
11	2462	15.98	30	PASS

Antenna 4 (Gain : 14.2 dBi) + Antenna Cable (0.3dB loss) +Extend cable (0.5dB loss) + Arrestor (1dB loss)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	11.88	27.87	PASS
6	2437	19.24	27.87	PASS
11	2462	10.72	27.87	PASS



**802.11g OFDM modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg. C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

Antenna 1 (Gain : 3.0 dBi)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	17.48	30	PASS
6	2437	21.88	30	PASS
11	2462	16.14	30	PASS

Antenna 2 (Gain : 11.2 dBi) + Antenna Cable (2.7dB loss) +Extend cable (0.5dB loss)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	12.26	28	PASS
6	2437	21.88	28	PASS
11	2462	10.74	28	PASS



Antenna 3 (Gain : 4.6 dBi) + Antenna Cable (1.3dB loss) +Extend cable (0.5dB loss)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	17.48	30	PASS
6	2437	21.88	30	PASS
11	2462	16.14	30	PASS

Antenna 4 (Gain : 14.2 dBi) + Antenna Cable (0.3dB loss) +Extend cable (0.5dB loss) + Arrestor (1dB loss)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	12.26	27.87	PASS
6	2437	21.88	27.87	PASS
11	2462	9.86	27.87	PASS



## 4.5 POWER SPECTRAL DENSITY MEASUREMENT

### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005

**NOTE:**

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

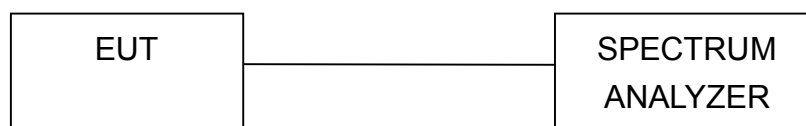
#### 4.5.3 TEST PROCEDURE

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.

#### 4.5.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.5.5 TEST SETUP



#### 4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

## 4.5.7 TEST RESULTS (ANTENNA 1)

**802.11b DSSS modulation**

<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg.C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

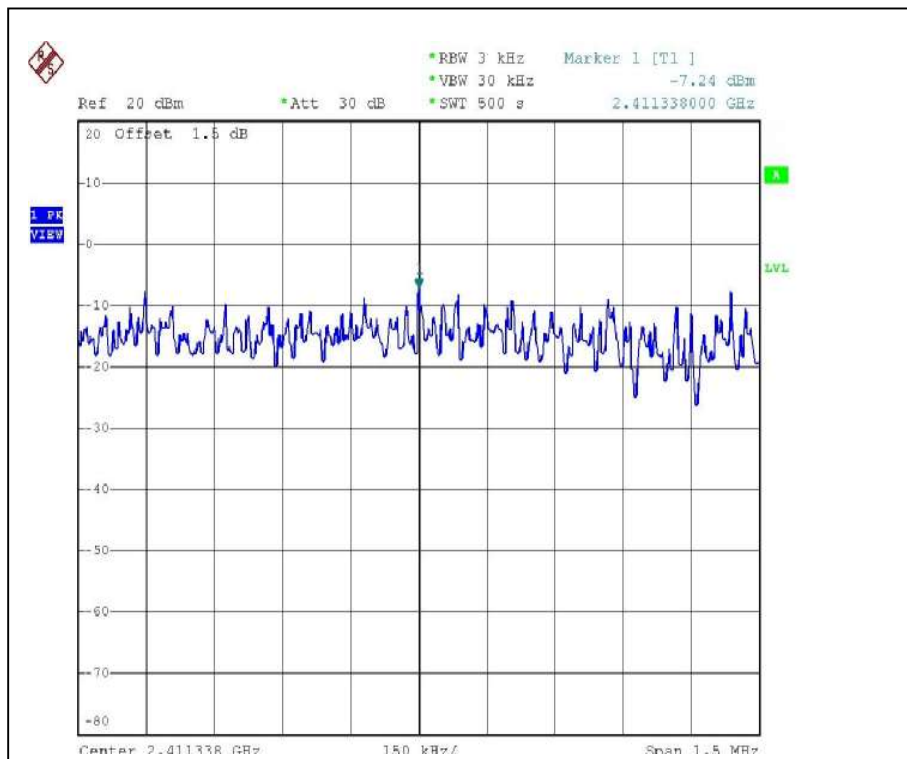
## Antenna 1

<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-7.24	8	PASS
6	2437	-4.06	8	PASS
11	2462	-7.42	8	PASS

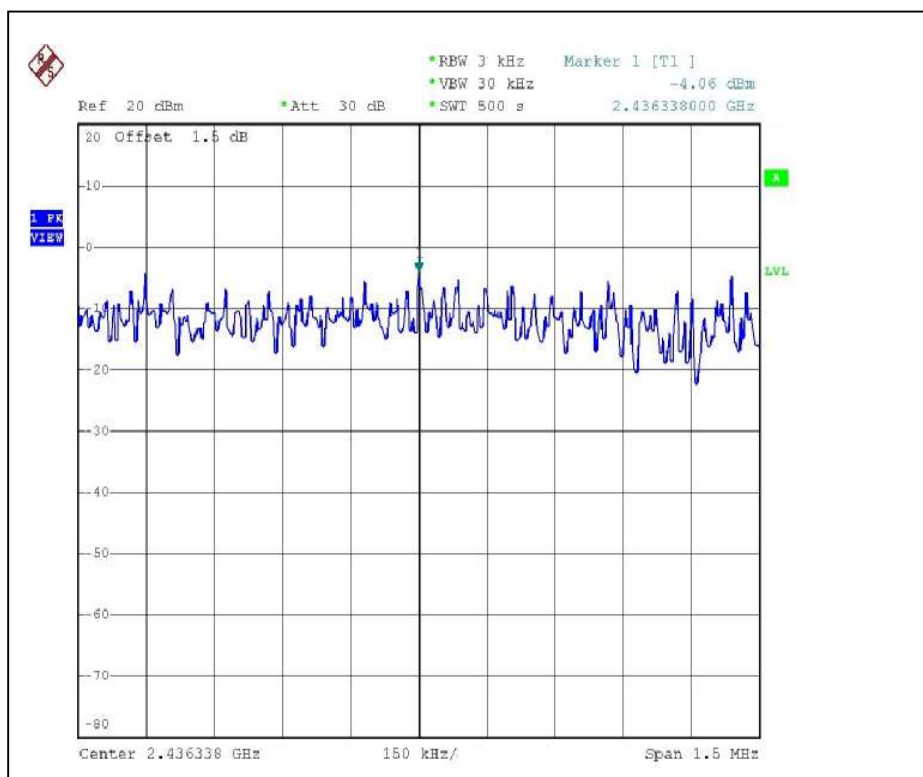




CH1

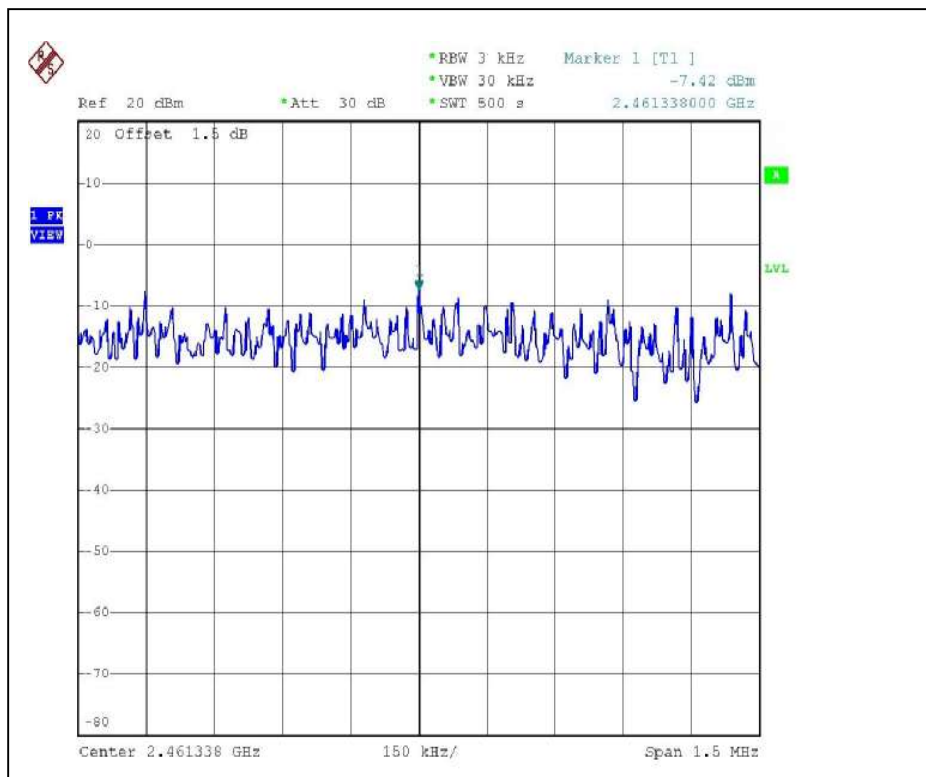


CH6





CH11



**802.11g OFDM modulation**

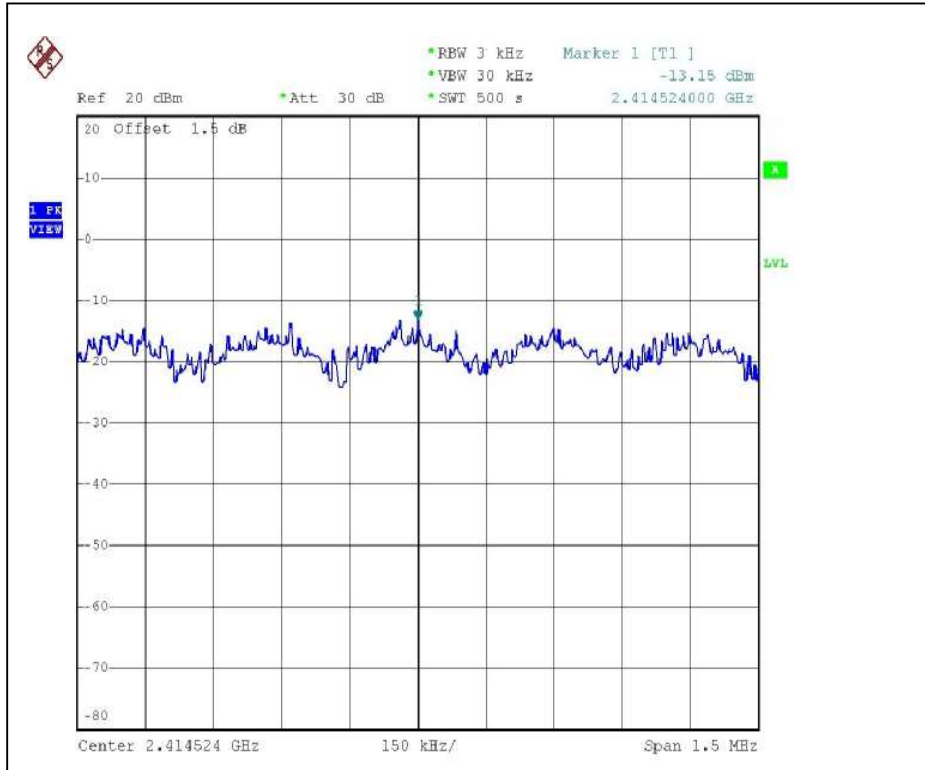
<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg.C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

## Antenna 1

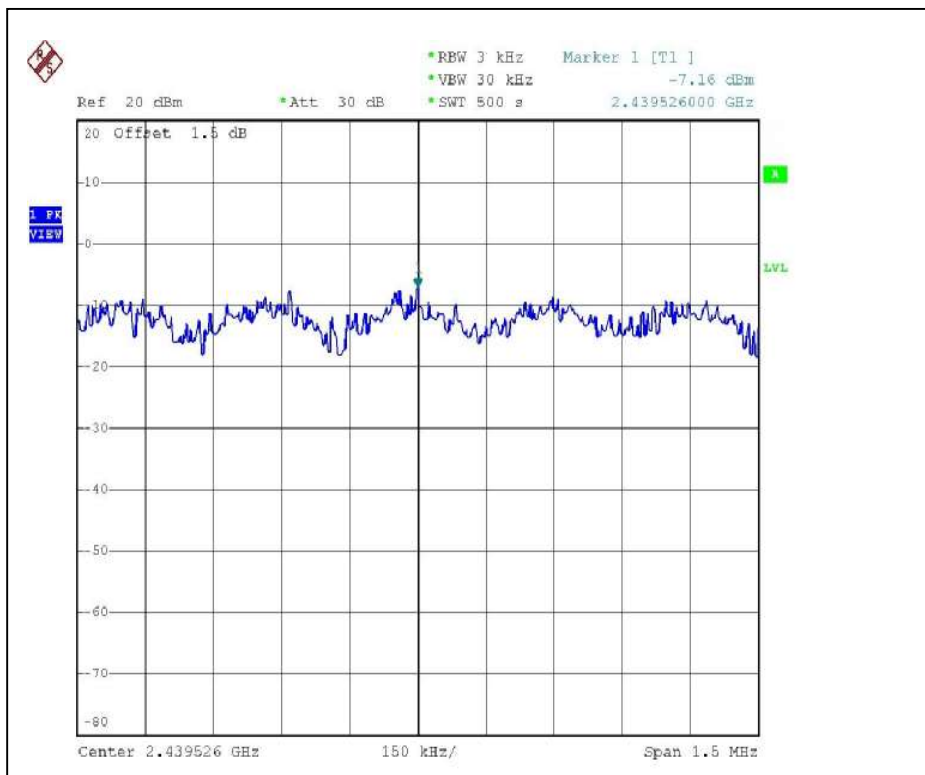
<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-13.15	8	PASS
6	2437	-7.16	8	PASS
11	2462	-13.92	8	PASS



CH1

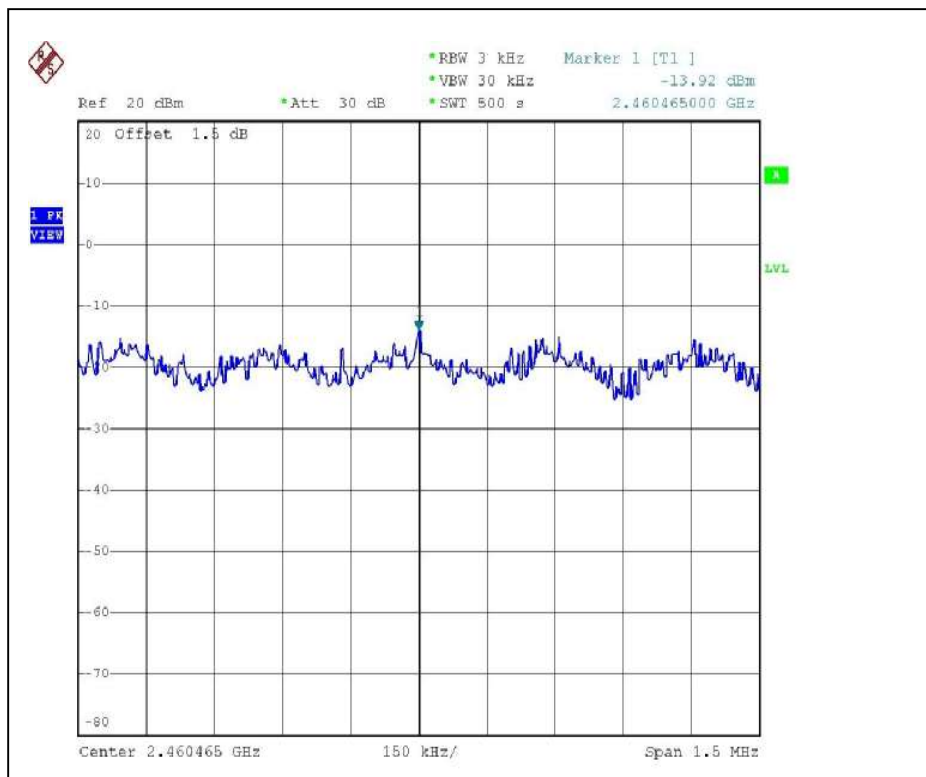


CH6





CH11



## 4.5.8 TEST RESULTS (ANTENNA 2)

**802.11b DSSS modulation**

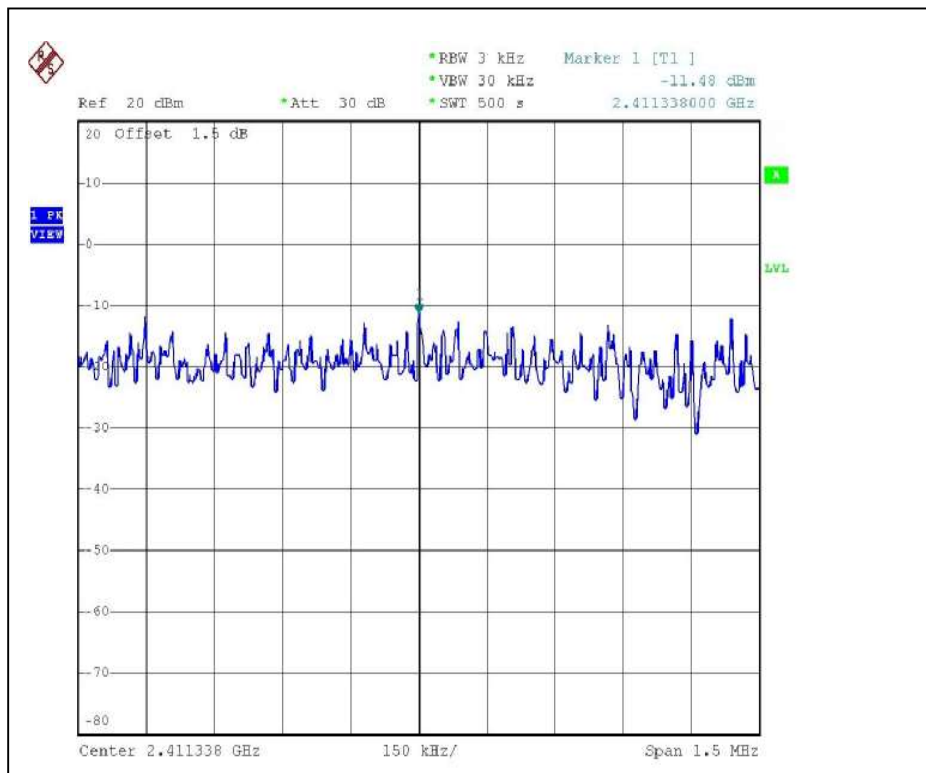
<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg.C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

## Antenna 2

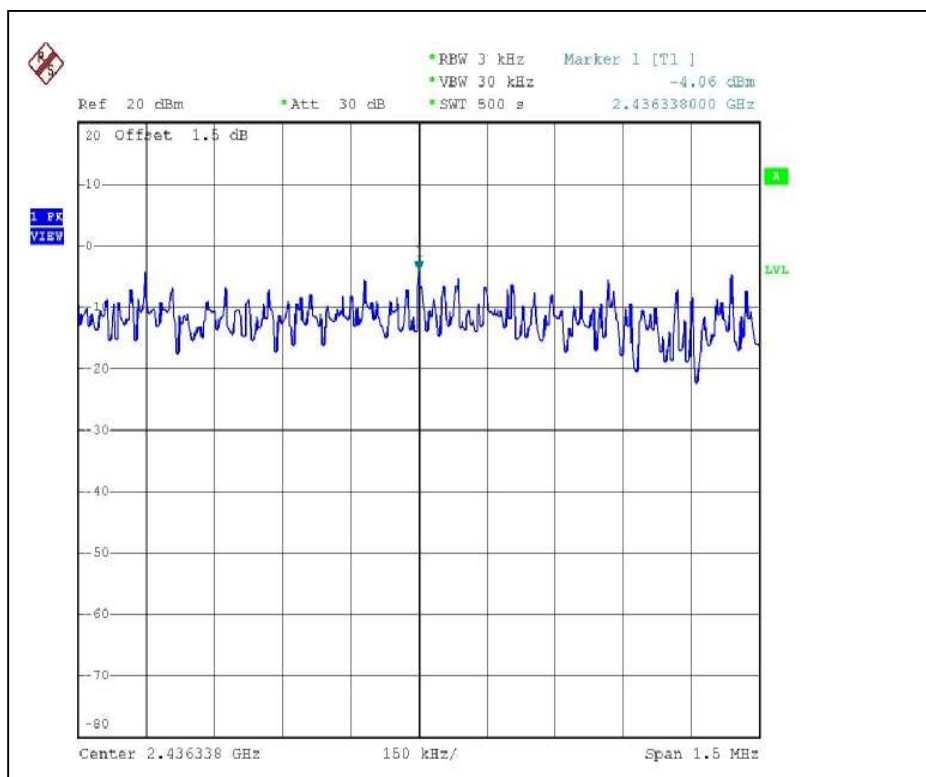
<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-11.48	8	PASS
6	2437	-4.06	8	PASS
11	2462	-12.55	8	PASS



CH1

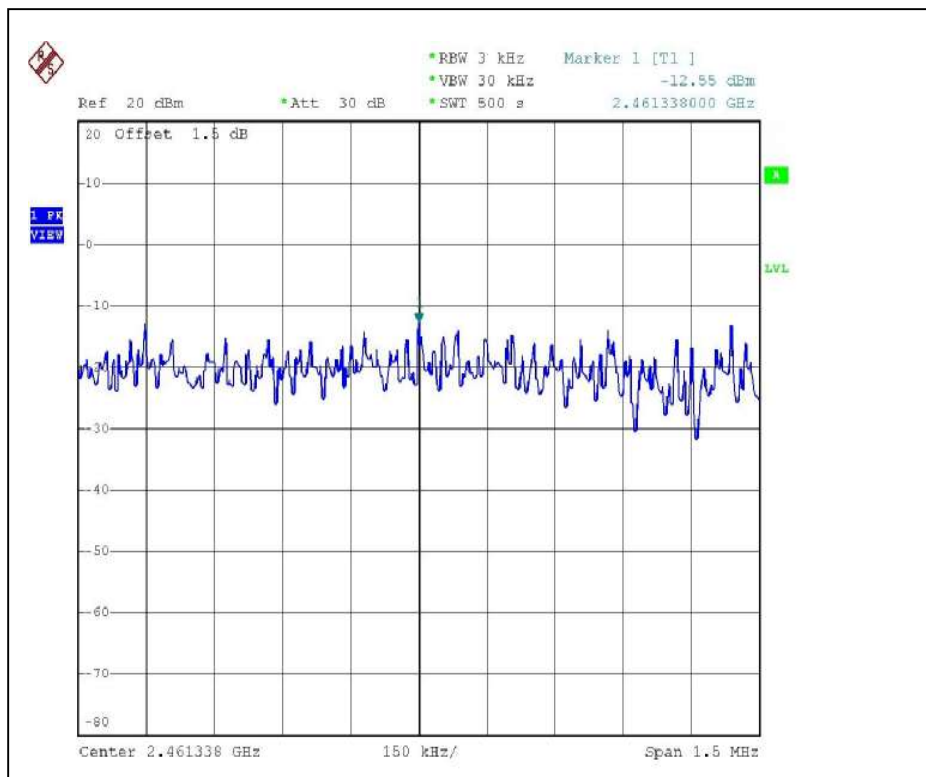


CH6





CH11





**802.11g OFDM modulation**

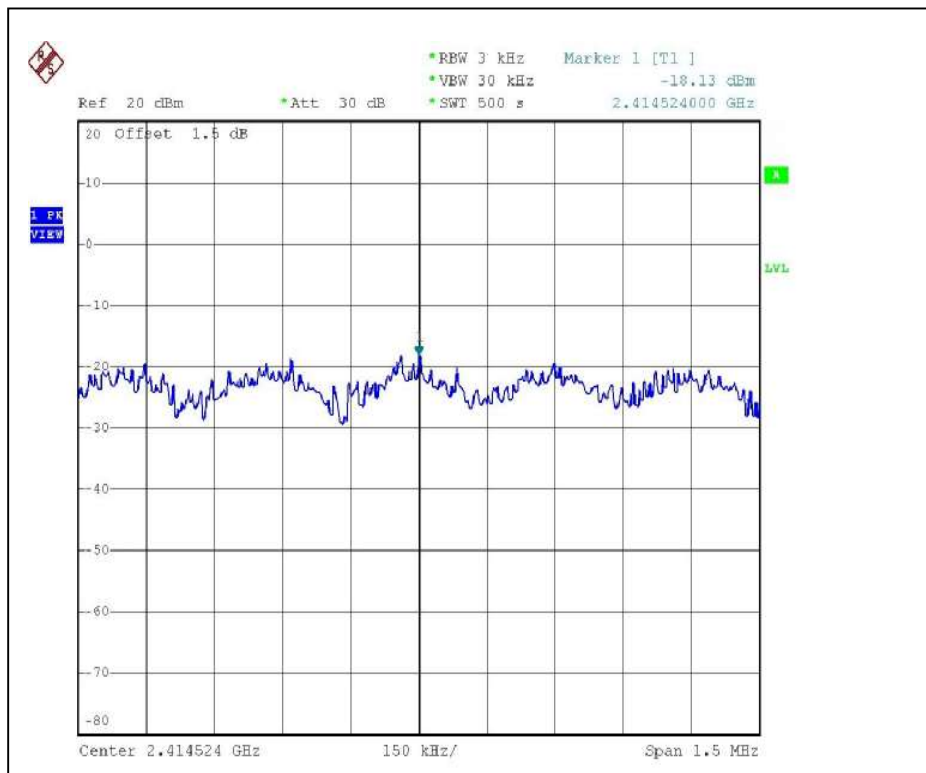
<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg.C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

## Antenna 2

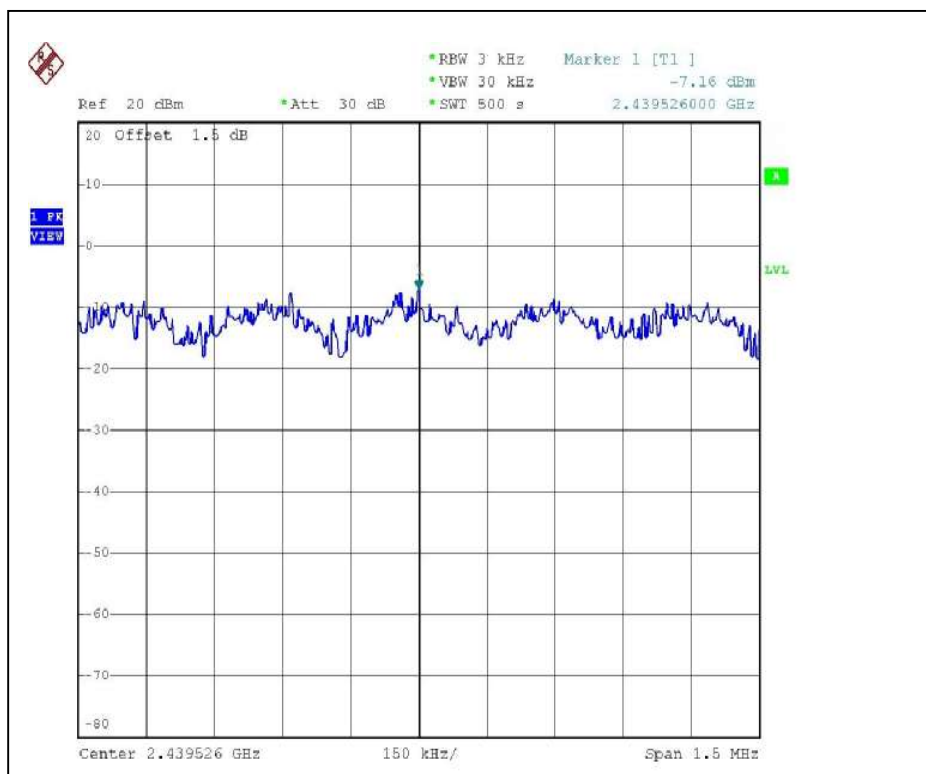
<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-18.13	8	PASS
6	2437	-7.16	8	PASS
11	2462	-19.16	8	PASS



CH1

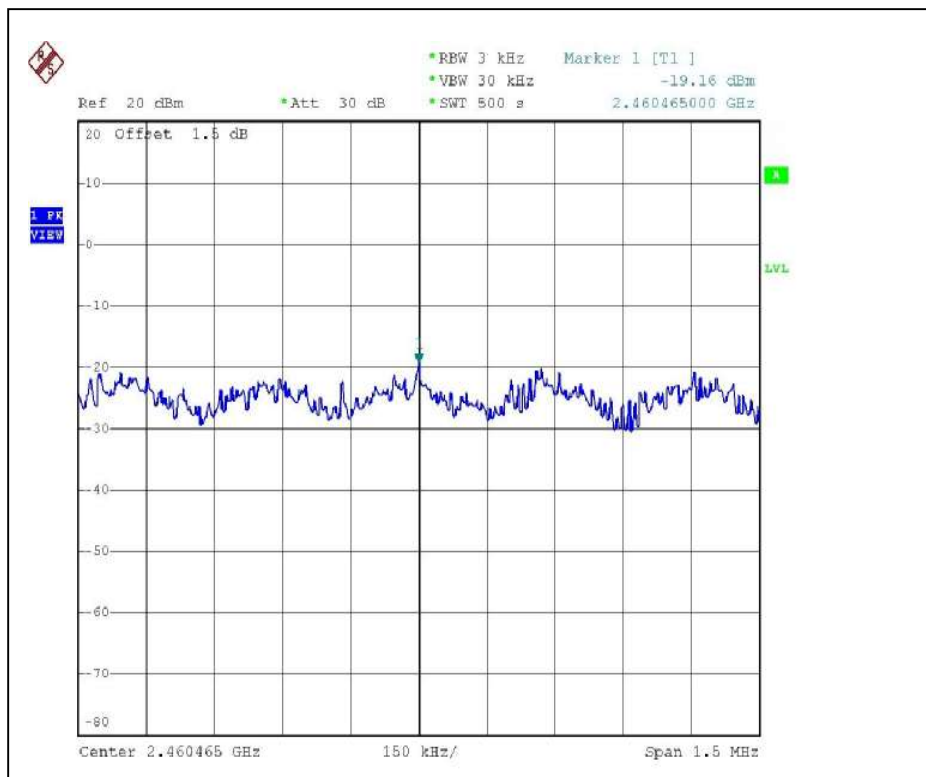


CH6





CH11



## 4.5.9 TEST RESULTS (ANTENNA 3)

**802.11b DSSS modulation**

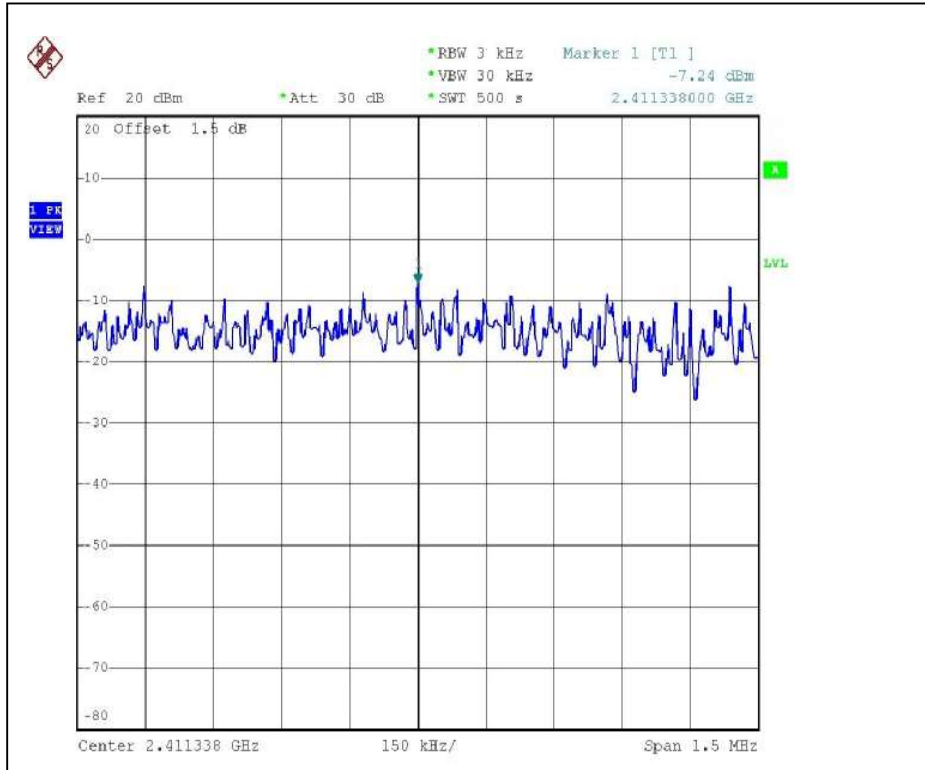
<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg.C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

## Antenna 3

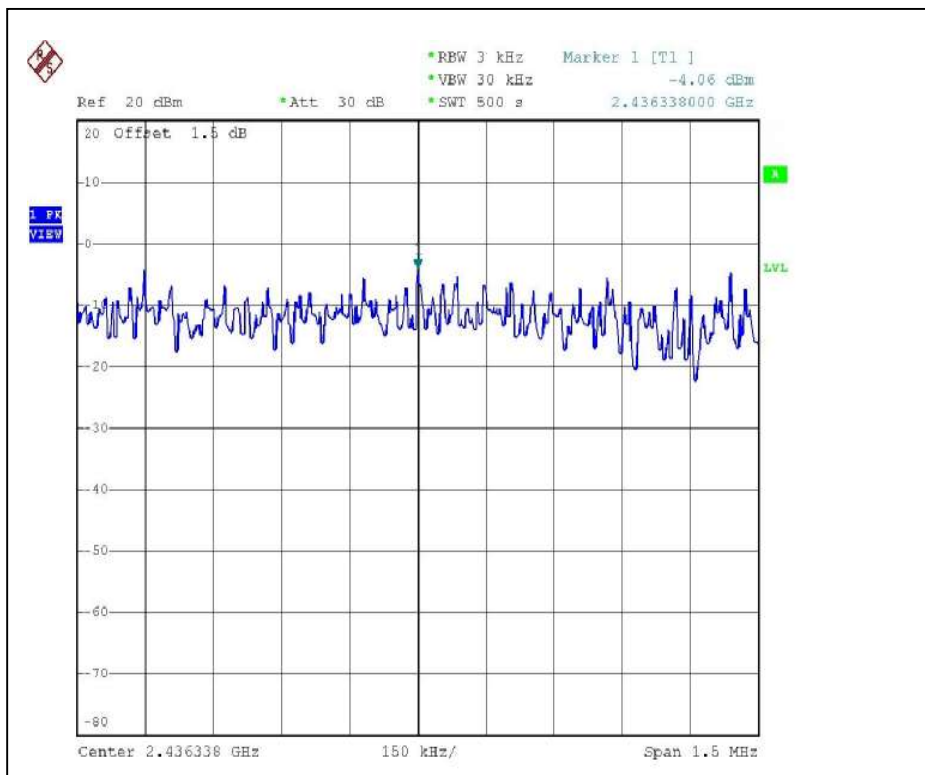
<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-7.24	8	PASS
6	2437	-4.06	8	PASS
11	2462	-7.42	8	PASS



CH1

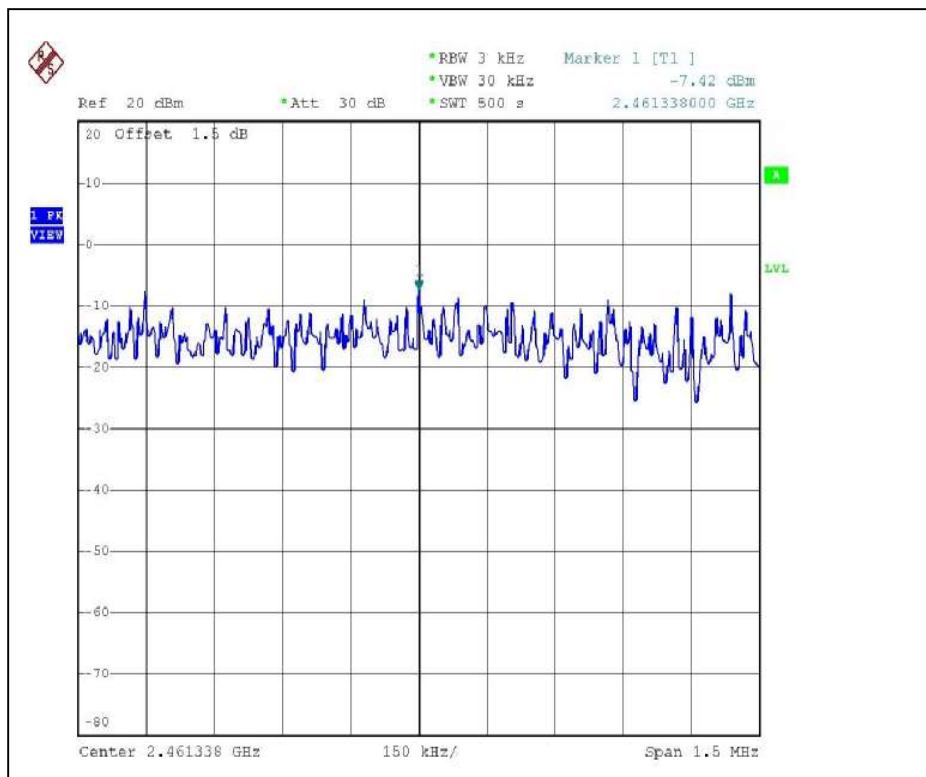


CH6





CH11



**802.11g OFDM modulation**

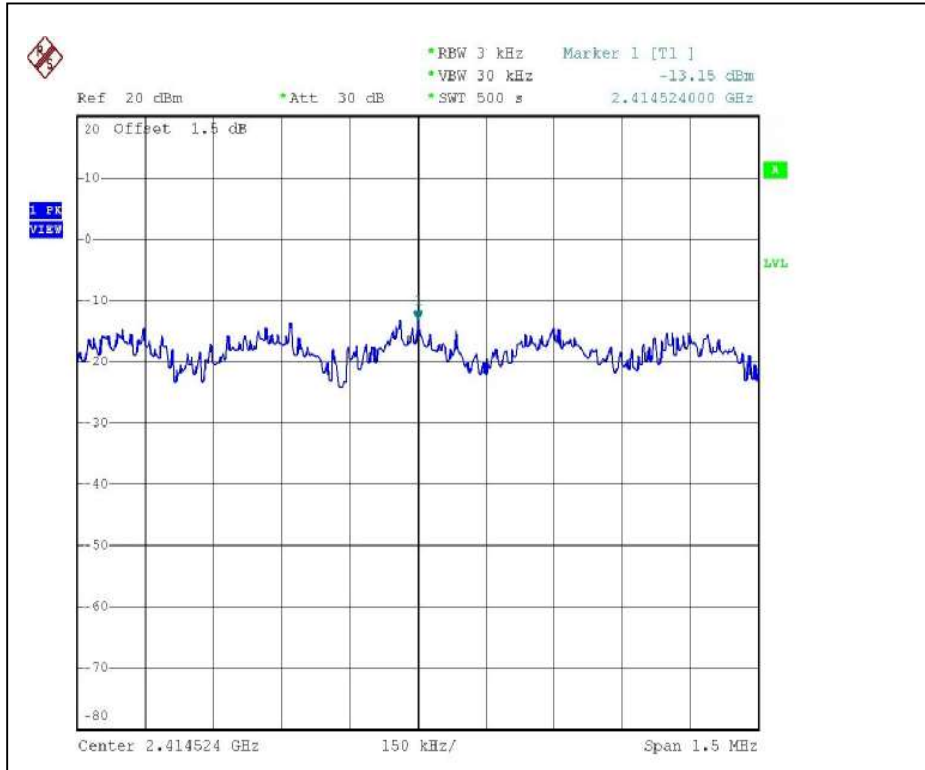
<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg.C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

## Antenna 3

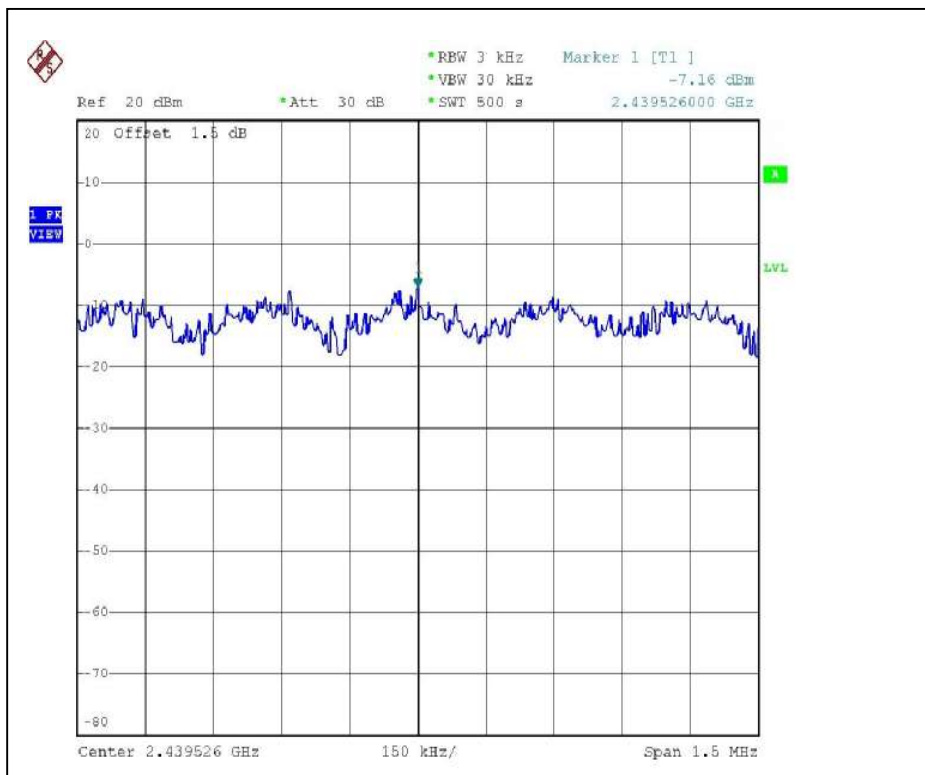
<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-13.15	8	PASS
6	2437	-7.16	8	PASS
11	2462	-13.92	8	PASS



CH1



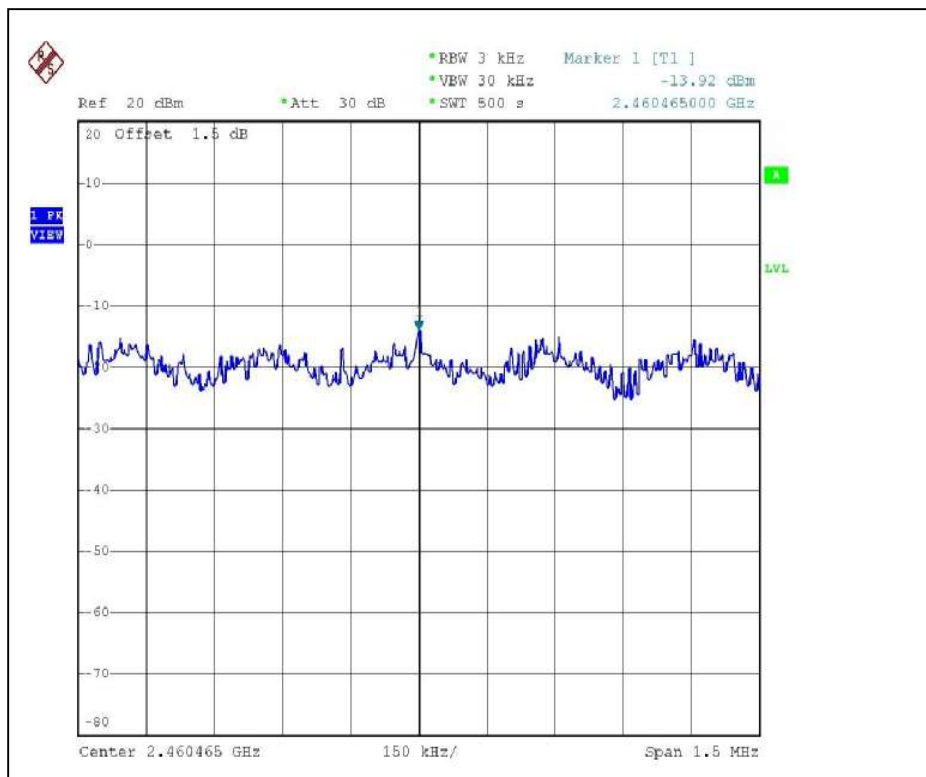
CH6







CH11



## 4.5.10 TEST RESULTS (ANTENNA 4)

**802.11b DSSS modulation**

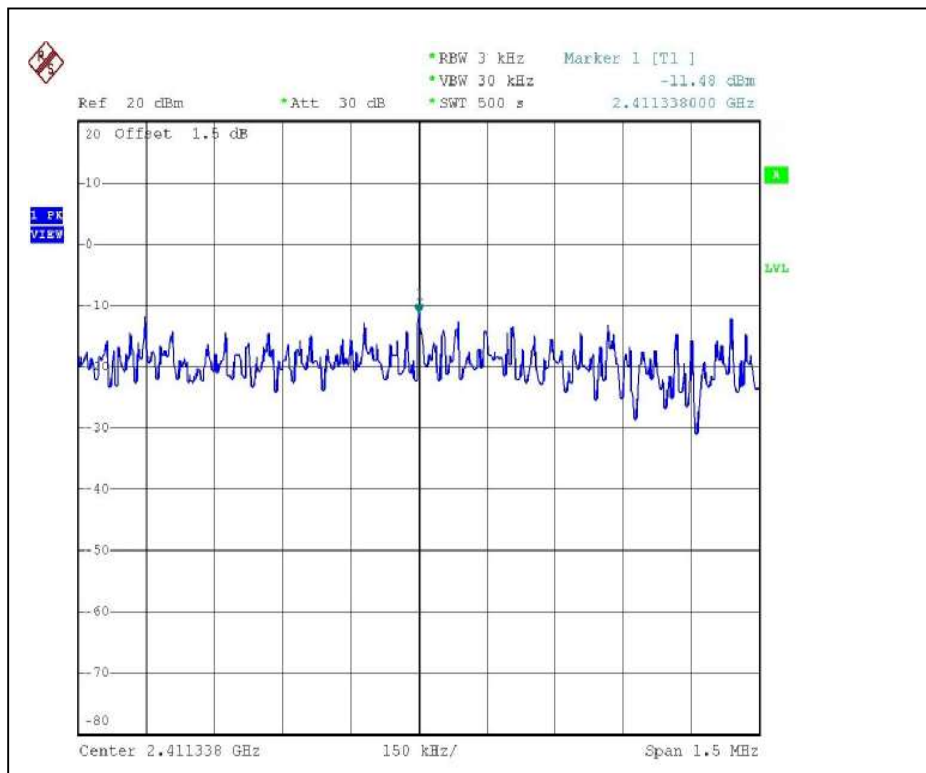
<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg.C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

## Antenna 4

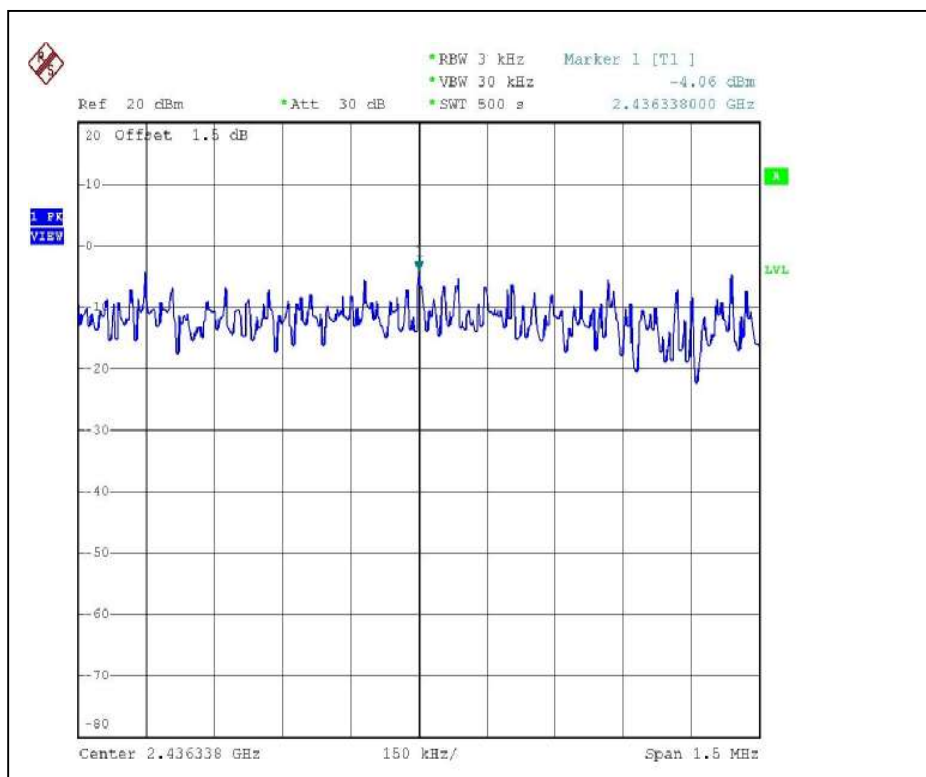
<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-11.48	8	PASS
6	2437	-4.06	8	PASS
11	2462	-14.82	8	PASS



CH1

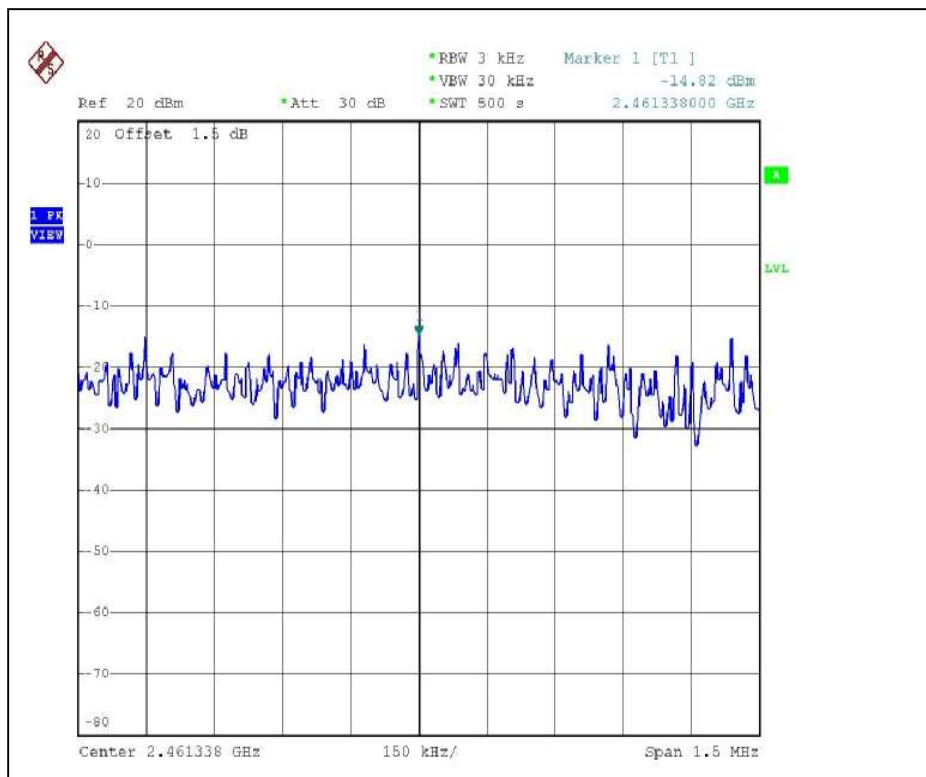


CH6





CH11



**802.11g OFDM modulation**

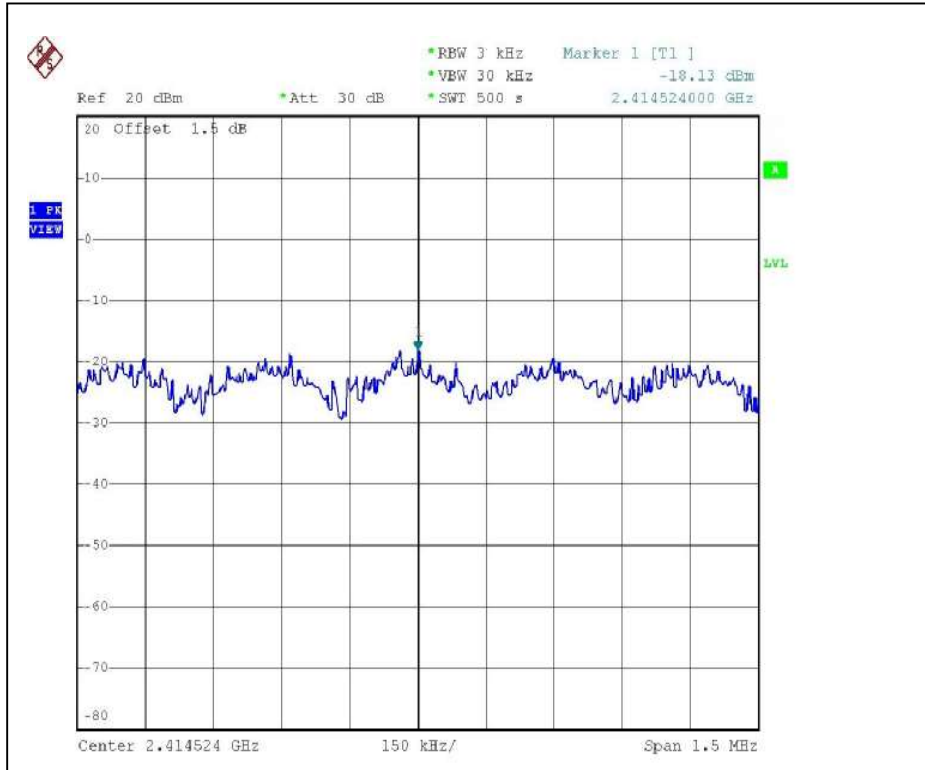
<b>EUT</b>	Symbol WLAN 802.11abg Access Point	<b>MODEL</b>	AP-5131
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg.C, 53%RH, 961hPa
<b>TESTED BY</b>	Rex Huang		

## Antenna 4

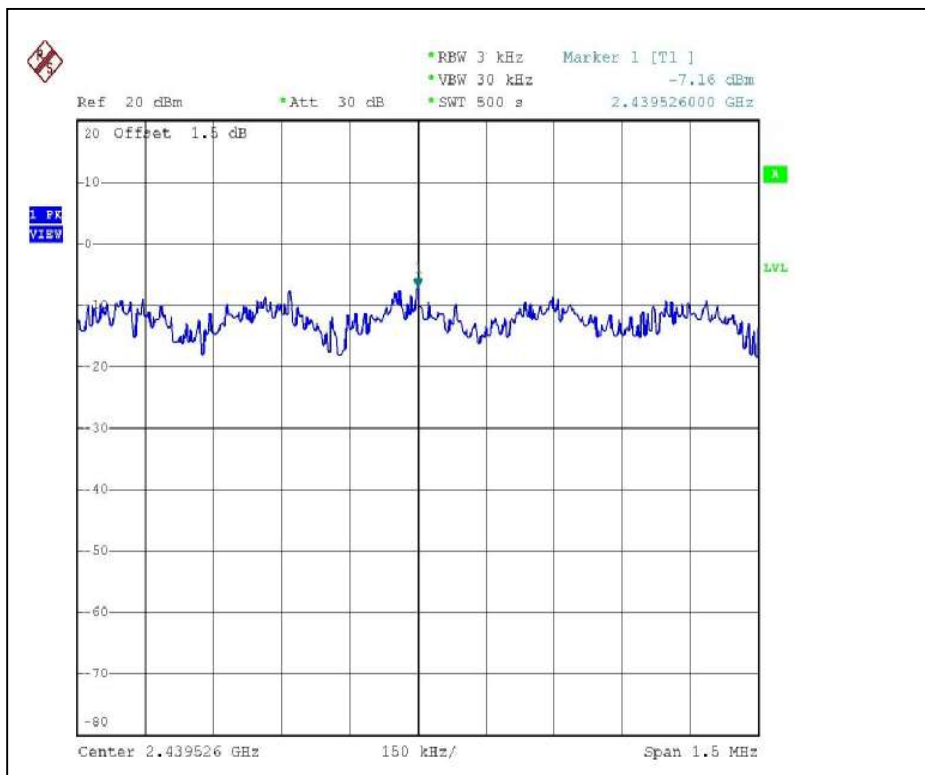
<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-18.13	8	PASS
6	2437	-7.16	8	PASS
11	2462	-19.92	8	PASS



CH1



CH6





CH11

