# FCC TEST REPORT (15.247)

**REPORT NO.:** RF940816H03
**MODEL NO.:** AP-5131
**RECEIVED:** Aug. 16, 2005
**TESTED:** Aug. 16 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 No. 2177-01
ILAC MRA

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# 1. CERTIFICATION

| | |
|---|---|
| **PRODUCT:** | Symbol WLAN 802.11abg Access Point |
| **BRAND NAME:** | Symbol |
| **MODEL NO.:** | AP-5131 |
| **PART NO.:** | AP-5131-40000-WW |
| **TEST SAMPLE:** | ENGINEERING SAMPLE |
| **TESTED:** | Aug. 16 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 :** Carol Liao , **DATE:** Sep. 27, 2005
( Carol Liao )

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

**APPROVED BY :** , **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

| APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.247) | | | |
|---|---|---|---|
| **Standard Section** | **Test Type and Limit** | **Result** | **Remark** |
| 15.207 | AC Power Conducted Emission | PASS | Meet the requirement of limit.<br>Minimum passing margin is –10.98dB at 0.779MHz |
| 15.247(a)(2) | Spectrum Bandwidth of a Direct Sequence Spread Spectrum System<br>Limit: min. 500kHz | PASS | Meet the requirement of limit. |
| 15.247(b) | Maximum Peak Output Power<br>Limit: max. 30dBm | PASS | Meet the requirement of limit. |
| 15.247(d) | Radiated Emissions<br>Limit: Table 15.209 | PASS | Meet the requirement of limit.<br>Minimum passing margin is –1.0dB at 2483.50MHz |
| 15.247(e) | Power Spectral Density<br>Limit: max. 8dBm | PASS | Meet the requirement of limit. |
| 15.247(d) | Band Edge Measurement<br>Limit: 20dB less than the peak value of fundamental frequency | PASS | Meet the requirement of limit. |

For 802.11a, 5725~5850MHz Band

| APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.247) | | | |
|---|---|---|---|
| **Standard Section** | **Test Type and Limit** | **Result** | **Remark** |
| 15.207 | AC Power Conducted Emission | PASS | Meet the requirement of limit.<br>Minimum passing margin is –11.06dB at 0.804MHz |
| 15.247(a)(2) | Spectrum Bandwidth of a Direct Sequence Spread Spectrum System<br>Limit: min. 500kHz | PASS | Meet the requirement of limit. |
| 15.247(b) | Maximum Peak Output Power<br>Limit: max. 30dBm | PASS | Meet the requirement of limit. |
| 15.247(d) | Radiated Emissions<br>Limit: Table 15.209 | PASS | Meet the requirement of limit.<br>Minimum passing margin is –5.80dB at 11490.0MHz |
| 15.247(e) | Power Spectral Density<br>Limit: max. 8dBm | PASS | Meet the requirement of limit. |
| 15.247(d) | Band Edge Measurement<br>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

| | |
|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point |
| **MODEL NO.** | AP-5131 |
| **POWER SUPPLY** | DC 48V from power adapter or POE (Power over Ethernet) |
| **MODULATION TYPE** | CCK, DQPSK, DBPSK for DSSS<br>64QAM, 16QAM, QPSK, BPSK for OFDM |
| **MODULATION TECHNOLOGY** | DSSS, OFDM |
| **TRANSFER RATE** | 802.11b:11/5.5/2/1Mbps<br>802.11g: 54/48/36/24/18/12/9/6Mbps<br>802.11a: 54/48/36/24/18/12/9/6Mbps |
| **FREQUENCY RANGE** | 802.11b & 802.11g: 2412 ~ 2462MHz<br>802.11a: 5.15 ~ 5.35GHz and 5.725 ~ 5.850GHz |
| **NUMBER OF CHANNEL** | 802.11b & 802.11g: 11<br>802.11a: 13 |
| **CHANNEL SPACING** | 802.11b & 802.11g: 5MHz<br>802.11a: 20MHz for Normal mode |
| **OUTPUT POWER** | 802.11b: 19.78 dBm<br>802.11g: 22.30 dBm<br>802.11a: 22.86 dBm (*see note 4) |
| **DATA CABLE** | NA |
| **ANTENNA TYPE** | Please see note 3 (on next page) |
| **I/O PORTS** | Console Port x1, LAN Port x1, WAN Port x1 |
| **ASSOCIATED DEVICES** | 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 | |
|---|---|
| **BRAND:** | Symbol |
| **MODEL:** | 50-24000-050 |
| **INPUT:** | AC 100-250V, 0.4A max, 47-63Hz 16cm/ shield/ without core |
| **OUTPUT:** | DC 48V, 0.25A , 1.5m/ nonshield/ with one core |

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

1. All of the above antennas are Indoor Antenna except the Symbol P/N: ML-2499-BYGA2-01.
2. "*" is a Dual Band antenna can be used in both 2.4GHz and 5GHz.
3. "**" is an Outdoor Antenna it can only be used in point-to-point applications.
4. For 2.4GHz Antenna No. 2 and 3 were tested with Extend cable (0.5 dB loss).
5. 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 | 22.30 | 16.21 | 22.86 | 18.94 |
| 2 | ML-2499-11PNA2-01 | 22.30 | NA | NA | NA |
| 3 | ML-2499-HPA3-01 | 22.30 | NA | NA | NA |
| 4 | ML-2499-BYGA2-01 | 22.30 | NA | NA | NA |
| 5 | ML-5299-WPNA1-01 | NA | 16.21 | 22.86 | 18.94 |
| 6 | ML-5299-HPA1-01 | NA | 16.21 | 22.86 | 18.94 |

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.

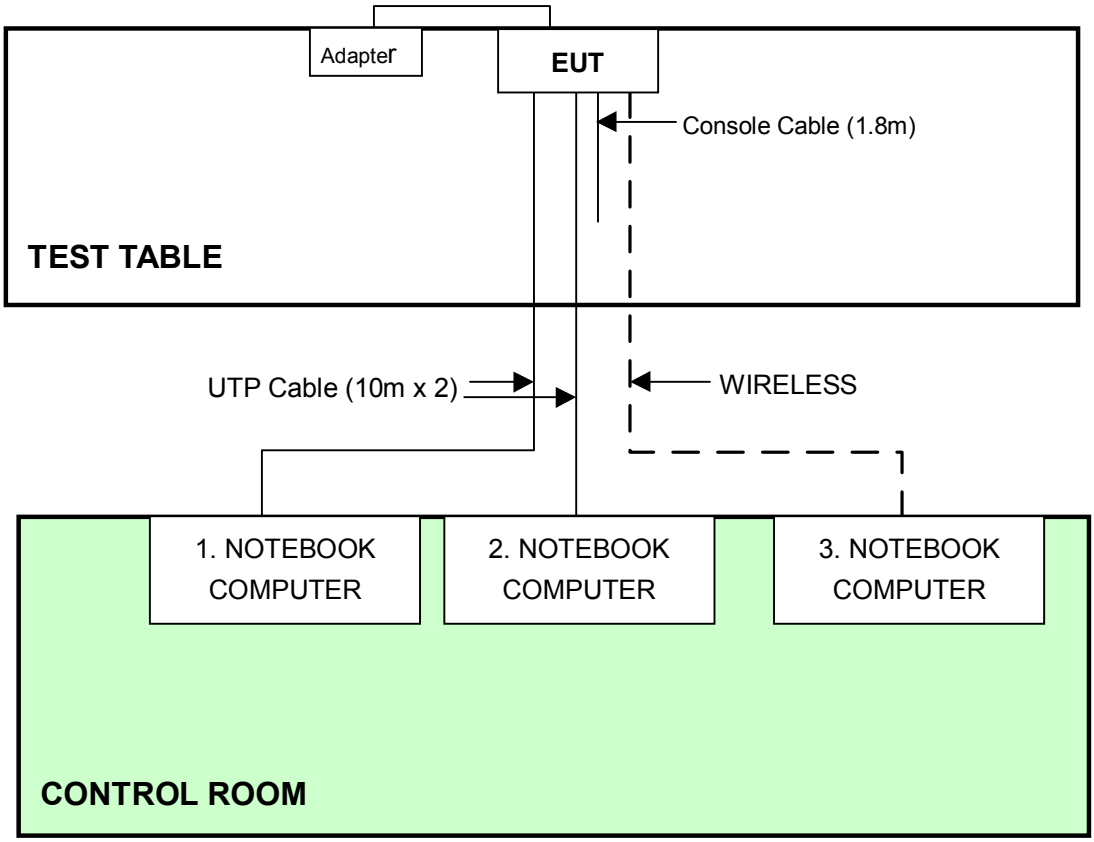
| NO. | PRODUCT | BRAND | MODEL NO. | SERIAL NO. | FCC ID |
|---|---|---|---|---|---|
| 1 | NOTEBOOK COMPUTER | DELL | PP01L | TW-09c748-12800-165-3171 | FCC DoC |
| 2 | NOTEBOOK COMPUTER | DELL | PP01L | TW-0791UH-12800-0CK-3735 | FCC DoC |
| 3 | NOTEBOOK COMPUTER | DELL | PP05L | CN-04Y212-48643-38E-0145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

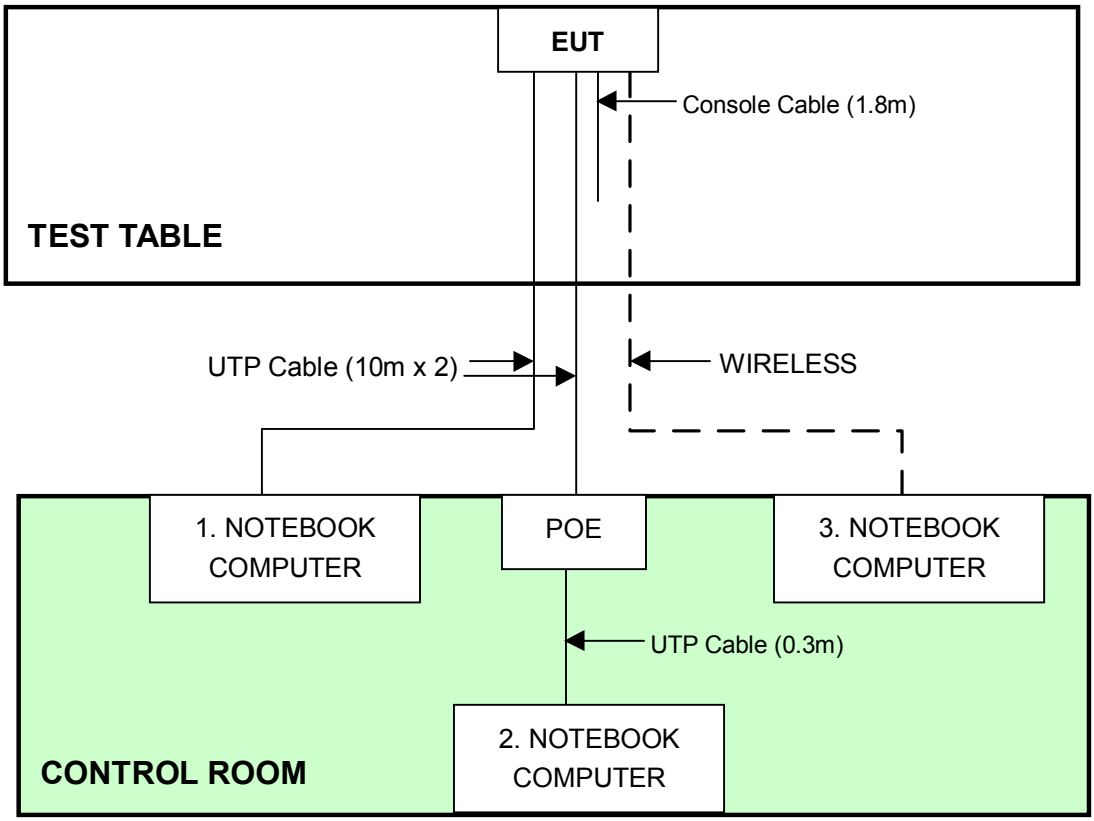
## 3.5 CONFIGURATION OF SYSTEM UNDER TEST

**With adapter test mode :**




**NOTE:** 1. Support unit 1~3 were kept in the control room during the test.

**With POE test mode :**




**NOTE:** 1. Support unit 1~3 were kept in the control room during the test.

# 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 (dBμV) | |
|---|---|---|
| | 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.

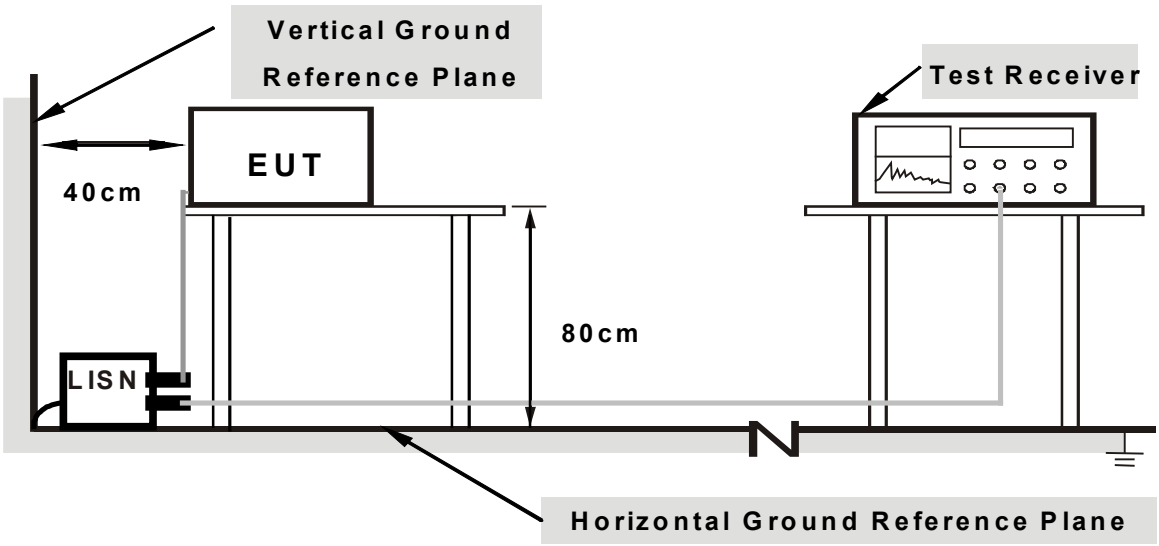
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission level under (Limit - 20dB) was 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.

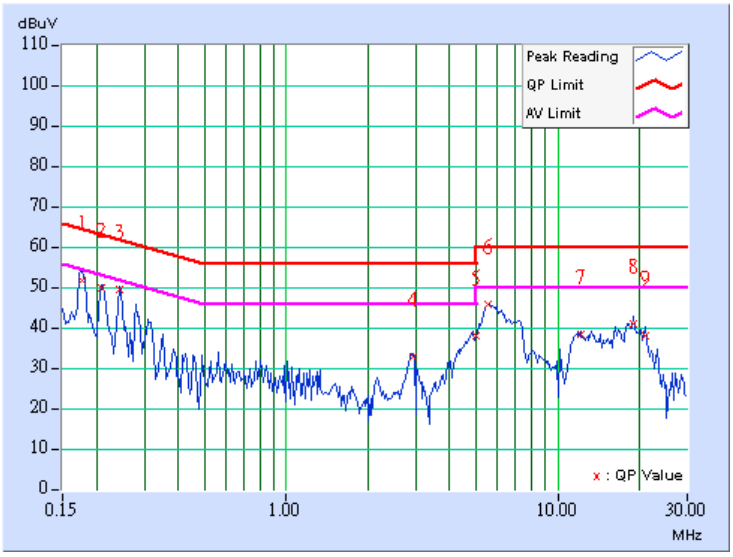
## 4.1.7 TEST RESULTS

**Conducted Worst-Case Data**

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

| No | Freq. | Corr. Factor | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.176 | 0.14 | 50.33 | - | 50.47 | - | 64.67 | 54.67 | -14.20 | - |
| 2 | 0.209 | 0.15 | 48.68 | - | 48.83 | - | 63.26 | 53.26 | -14.43 | - |
| 3 | 0.244 | 0.15 | 48.44 | - | 48.59 | - | 61.97 | 51.97 | -13.37 | - |
| 4 | 2.939 | 0.34 | 31.62 | - | 31.96 | - | 56.00 | 46.00 | -24.04 | - |
| 5 | 5.000 | 0.50 | 36.93 | - | 37.43 | - | 56.00 | 46.00 | -18.57 | - |
| 6 | 5.525 | 0.53 | 44.59 | - | 45.12 | - | 60.00 | 50.00 | -14.88 | - |
| 7 | 12.136 | 0.85 | 37.11 | - | 37.96 | - | 60.00 | 50.00 | -22.04 | - |
| 8 | 18.914 | 1.26 | 39.64 | - | 40.90 | - | 60.00 | 50.00 | -19.10 | - |
| 9 | 21.052 | 1.36 | 36.93 | - | 38.29 | - | 60.00 | 50.00 | -21.71 | - |

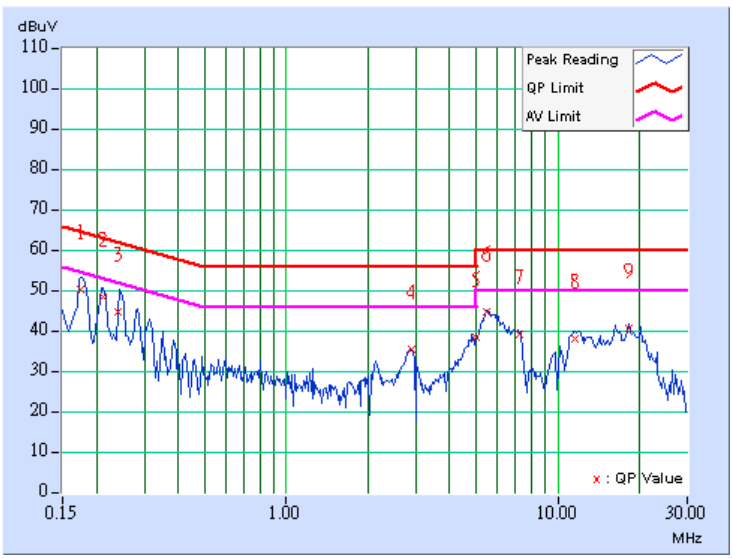
**REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value =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



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

| No | Freq. | Corr. Factor | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.175 | 0.14 | 49.21 | - | 49.35 | - | 64.73 | 54.73 | -15.38 | - |
| 2 | 0.211 | 0.15 | 47.35 | - | 47.50 | - | 63.16 | 53.16 | -15.66 | - |
| 3 | 0.241 | 0.15 | 43.69 | - | 43.84 | - | 62.05 | 52.05 | -18.21 | - |
| 4 | 2.901 | 0.34 | 34.48 | - | 34.82 | - | 56.00 | 46.00 | -21.18 | - |
| 5 | 5.000 | 0.48 | 37.29 | - | 37.77 | - | 56.00 | 46.00 | -18.23 | - |
| 6 | 5.491 | 0.50 | 43.78 | - | 44.28 | - | 60.00 | 50.00 | -15.72 | - |
| 7 | 7.274 | 0.56 | 38.07 | - | 38.63 | - | 60.00 | 50.00 | -21.37 | - |
| 8 | 11.611 | 0.73 | 37.24 | - | 37.97 | - | 60.00 | 50.00 | -22.03 | - |
| 9 | 18.365 | 1.05 | 39.68 | - | 40.73 | - | 60.00 | 50.00 | -19.27 | - |

**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.

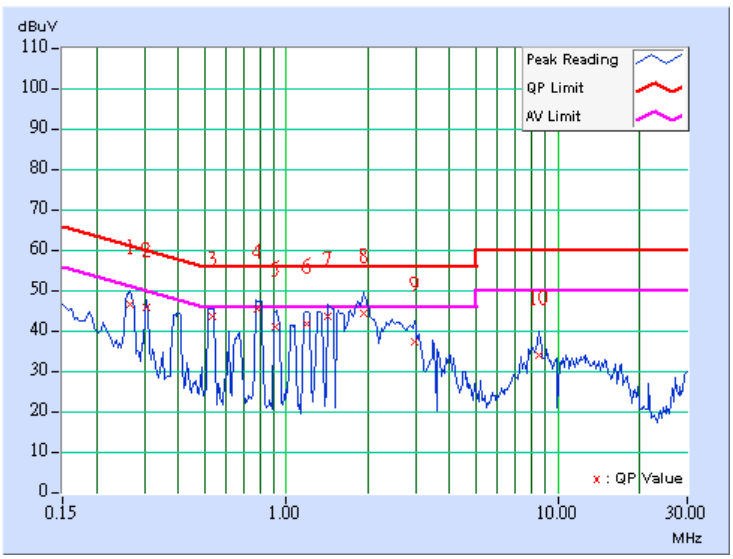


## Conducted Worst-Case Data

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

| No | Freq. | Corr. Factor | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.265 | 0.16 | 46.14 | - | 46.30 | - | 61.28 | 51.28 | -14.99 | - |
| 2 | 0.307 | 0.16 | 45.13 | - | 45.29 | - | 60.04 | 50.04 | -14.75 | - |
| 3 | 0.536 | 0.18 | 42.94 | - | 43.12 | - | 56.00 | 46.00 | -12.88 | - |
| **4** | **0.779** | **0.19** | **44.83** | **-** | **45.02** | **-** | **56.00** | **46.00** | **-10.98** | **-** |
| 5 | 0.917 | 0.20 | 40.26 | - | 40.46 | - | 56.00 | 46.00 | -15.54 | - |
| 6 | 1.184 | 0.21 | 41.25 | - | 41.46 | - | 56.00 | 46.00 | -14.54 | - |
| 7 | 1.421 | 0.22 | 42.85 | - | 43.07 | - | 56.00 | 46.00 | -12.93 | - |
| 8 | 1.934 | 0.25 | 43.85 | - | 44.10 | - | 56.00 | 46.00 | -11.90 | - |
| 9 | 2.965 | 0.35 | 36.73 | - | 37.08 | - | 56.00 | 46.00 | -18.92 | - |
| 10 | 8.482 | 0.67 | 33.44 | - | 34.11 | - | 60.00 | 50.00 | -25.89 | - |

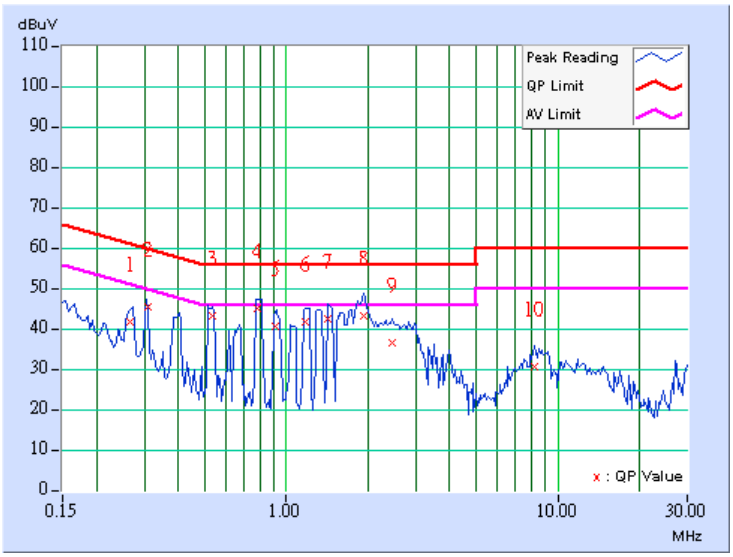
**REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value =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



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

| No | Freq. | Corr. Factor | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.266 | 0.16 | 41.28 | - | 41.44 | - | 61.25 | 51.25 | -19.81 | - |
| 2 | 0.308 | 0.16 | 44.79 | - | 44.95 | - | 60.04 | 50.04 | -15.09 | - |
| 3 | 0.532 | 0.18 | 42.92 | - | 43.10 | - | 56.00 | 46.00 | -12.90 | - |
| 4 | 0.787 | 0.19 | 44.65 | - | 44.84 | - | 56.00 | 46.00 | -11.16 | - |
| 5 | 0.917 | 0.20 | 40.08 | - | 40.28 | - | 56.00 | 46.00 | -15.72 | - |
| 6 | 1.179 | 0.21 | 41.15 | - | 41.36 | - | 56.00 | 46.00 | -14.64 | - |
| 7 | 1.423 | 0.22 | 41.97 | - | 42.19 | - | 56.00 | 46.00 | -13.81 | - |
| 8 | 1.935 | 0.25 | 42.78 | - | 43.03 | - | 56.00 | 46.00 | -12.97 | - |
| 9 | 2.465 | 0.30 | 36.17 | - | 36.47 | - | 56.00 | 46.00 | -19.53 | - |
| 10 | 8.230 | 0.59 | 30.16 | - | 30.75 | - | 60.00 | 50.00 | -29.25 | - |

**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.

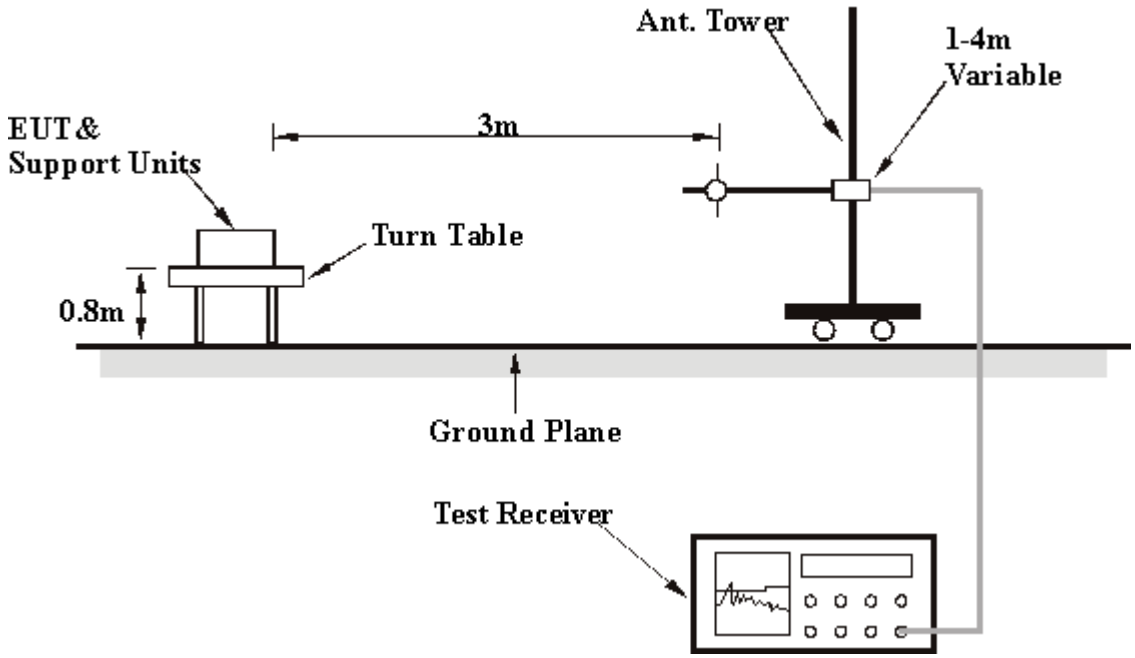
**NOTE:**

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**

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **TEST MODE** | With Adapter | **FREQUENCY RANGE** | Below 1000MHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Quasi-Peak |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 70%RH, 961hPa | **TESTED BY** | 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 | 111.49 | 29.50 QP | 43.50 | -14.00 | 2.22 H | 175 | 17.70 | 11.80 |
| 2 | 165.95 | 33.50 QP | 43.50 | -10.00 | 1.56 H | 95 | 22.30 | 11.20 |
| 3 | 233.51 | 32.80 QP | 46.00 | -13.20 | 1.33 H | 306 | 19.70 | 13.10 |
| 4 | 338.00 | 34.20 QP | 46.00 | -11.80 | 1.23 H | 291 | 17.20 | 17.00 |
| 5 | 464.50 | 37.80 QP | 46.00 | -8.20 | 1.18 H | 84 | 17.60 | 20.20 |
| 6 | 559.00 | 31.30 QP | 46.00 | -14.70 | 1.06 H | 228 | 8.50 | 22.70 |
| 7 | 680.50 | 35.90 QP | 46.00 | -10.10 | 1.00 H | 287 | 11.60 | 24.20 |
| 8 | 747.00 | 34.80 QP | 46.00 | -11.20 | 1.00 H | 328 | 8.50 | 26.30 |
| 9 | 839.65 | 36.60 QP | 46.00 | -9.40 | 1.00 H | 57 | 8.80 | 27.80 |
| 10 | 916.70 | 34.80 QP | 46.00 | -11.20 | 1.00 H | 330 | 6.50 | 28.30 |

**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 | 73.07 | 26.90 QP | 40.00 | -13.10 | 1.00 V | 35 | 18.60 | 8.20 |
| 2 | 130.25 | 32.80 QP | 43.50 | -10.70 | 1.00 V | 333 | 20.10 | 12.70 |
| 3 | 190.03 | 33.80 QP | 43.50 | -9.70 | 1.00 V | 342 | 23.10 | 10.70 |
| 4 | 272.40 | 33.70 QP | 46.00 | -12.30 | 1.16 V | 315 | 18.30 | 15.40 |
| 5 | 358.00 | 35.20 QP | 46.00 | -10.80 | 1.28 V | 82 | 17.60 | 17.60 |
| 6 | 469.00 | 37.70 QP | 46.00 | -8.30 | 1.40 V | 148 | 17.30 | 20.40 |
| 7 | 542.00 | 32.40 QP | 46.00 | -13.60 | 1.83 V | 48 | 10.00 | 22.40 |
| 8 | 628.00 | 35.20 QP | 46.00 | -10.80 | 1.71 V | 115 | 11.30 | 23.90 |
| 9 | 754.50 | 34.30 QP | 46.00 | -11.70 | 1.37 V | 34 | 7.90 | 26.40 |
| 10 | 872.50 | 33.80 QP | 46.00 | -12.20 | 1.28 V | 26 | 5.90 | 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

## Below 1GHz Worst-Case Data

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **TEST MODE** | With POE | **FREQUENCY RANGE** | Below 1000MHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Quasi-Peak |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 70%RH, 961hPa | **TESTED BY** | 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 | 150.04 | 30.30 QP | 43.50 | -13.20 | 2.06 H | 104 | 17.90 | 12.40 |
| 2 | 165.24 | 32.20 QP | 43.50 | -11.30 | 1.87 H | 341 | 21.00 | 11.20 |
| 3 | 277.30 | 31.80 QP | 46.00 | -14.20 | 1.75 H | 47 | 16.30 | 15.50 |
| 4 | 310.00 | 32.70 QP | 46.00 | -13.30 | 1.67 H | 176 | 16.30 | 16.40 |
| 5 | 421.87 | 36.20 QP | 46.00 | -9.80 | 1.54 H | 52 | 16.60 | 19.50 |
| 6 | 590.24 | 33.40 QP | 46.00 | -12.60 | 1.45 H | 313 | 10.10 | 23.30 |
| 7 | 682.50 | 35.60 QP | 46.00 | -10.40 | 1.26 H | 110 | 11.40 | 24.20 |
| 8 | 770.00 | 34.50 QP | 46.00 | -11.50 | 1.13 H | 178 | 8.10 | 26.40 |
| 9 | 864.50 | 33.20 QP | 46.00 | -12.80 | 1.00 H | 142 | 5.10 | 28.00 |
| 10 | 981.85 | 42.30 QP | 54.00 | -11.70 | 1.00 H | 11 | 13.50 | 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 | 75.28 | 25.90 QP | 40.00 | -14.10 | 1.00 V | 184 | 17.20 | 8.70 |
| 2 | 131.07 | 27.20 QP | 43.50 | -16.30 | 1.00 V | 39 | 14.40 | 12.80 |
| 3 | 165.87 | 34.20 QP | 43.50 | -9.30 | 1.00 V | 163 | 23.00 | 11.20 |
| 4 | 232.70 | 31.80 QP | 46.00 | -14.20 | 1.00 V | 215 | 18.70 | 13.10 |
| 5 | 353.30 | 32.10 QP | 46.00 | -13.90 | 1.00 V | 119 | 14.70 | 17.40 |
| 6 | 442.50 | 38.50 QP | 46.00 | -7.50 | 1.00 V | 311 | 18.80 | 19.70 |
| 7 | 532.50 | 32.80 QP | 46.00 | -13.20 | 1.76 V | 14 | 10.60 | 22.20 |
| 8 | 635.00 | 35.10 QP | 46.00 | -10.90 | 1.43 V | 178 | 11.10 | 24.00 |
| 9 | 742.50 | 33.60 QP | 46.00 | -12.40 | 1.31 V | 84 | 7.50 | 26.10 |
| 10 | 825.20 | 31.20 QP | 46.00 | -14.80 | 1.26 V | 319 | 3.90 | 27.30 |

**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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 1 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK) Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 2384.00 | 50.00 PK | 74.00 | -24.00 | 1.00 H | 287 | 18.20 | 31.80 |
| 1 | 2384.00 | 40.10 AV | 54.00 | -13.90 | 1.00 H | 287 | 8.30 | 31.80 |
| 2 | 2390.00 | 46.90 PK | 74.00 | -27.10 | 1.00 H | 287 | 13.20 | 33.70 |
| 2 | 2390.00 | 38.40 AV | 54.00 | -15.60 | 1.00 H | 287 | 4.70 | 33.70 |
| 3 | *2412.00 | 100.90 PK | | | 1.00 H | 287 | 71.10 | 29.80 |
| 3 | *2412.00 | 93.70 AV | | | 1.00 H | 287 | 63.90 | 29.80 |
| 4 | 4824.00 | 47.70 PK | 74.00 | -26.30 | 1.63 H | 265 | 12.60 | 35.10 |
| 4 | 4824.00 | 36.80 AV | 54.00 | -17.20 | 1.63 H | 265 | 1.70 | 35.10 |
| 5 | 7236.00 | 48.00 PK | 74.00 | -26.00 | 1.00 H | 62 | 7.50 | 40.50 |
| 5 | 7236.00 | 37.40 AV | 54.00 | -16.60 | 1.00 H | 62 | -3.10 | 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 | 2384.00 | 61.80 PK | 74.00 | -12.20 | 1.20 V | 34 | 30.00 | 31.80 |
| 1 | 2384.00 | 51.80 AV | 54.00 | -2.20 | 1.20 V | 34 | 20.00 | 31.80 |
| 2 | 2390.00 | 58.70 PK | 74.00 | -15.30 | 1.20 V | 34 | 25.00 | 33.70 |
| 2 | 2390.00 | 50.10 AV | 54.00 | -3.90 | 1.20 V | 34 | 16.40 | 33.70 |
| 3 | *2412.00 | 112.70 PK | | | 1.20 V | 34 | 82.90 | 29.80 |
| 3 | *2412.00 | 105.40 AV | | | 1.20 V | 34 | 75.60 | 29.80 |
| 4 | 4824.00 | 57.10 PK | 74.00 | -16.90 | 1.00 V | 120 | 22.00 | 35.10 |
| 4 | 4824.00 | 46.30 AV | 54.00 | -7.70 | 1.00 V | 120 | 11.20 | 35.10 |
| 5 | 7236.00 | 51.90 PK | 74.00 | -22.10 | 1.93 V | 271 | 11.40 | 40.50 |
| 5 | 7236.00 | 42.70 AV | 54.00 | -11.30 | 1.93 V | 271 | 2.20 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 6 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 101.50 PK | | | 1.00 H | 291 | 71.60 | 29.90 |
| 1 | *2437.00 | 94.50 AV | | | 1.00 H | 291 | 64.60 | 29.90 |
| 2 | 4874.00 | 45.00 PK | 74.00 | -29.00 | 1.26 H | 310 | 9.70 | 35.30 |
| 2 | 4874.00 | 35.80 AV | 54.00 | -18.20 | 1.26 H | 310 | 0.50 | 35.30 |
| 3 | 7311.00 | 49.00 PK | 74.00 | -25.00 | 1.67 H | 130 | 8.30 | 40.70 |
| 3 | 7311.00 | 38.50 AV | 54.00 | -15.50 | 1.67 H | 130 | -2.20 | 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 | 114.10 PK | | | 1.18 V | 33 | 84.20 | 29.90 |
| 1 | *2437.00 | 106.80 AV | | | 1.18 V | 33 | 76.90 | 29.90 |
| 2 | 4874.00 | 56.60 PK | 74.00 | -17.40 | 1.20 V | 46 | 21.30 | 35.30 |
| 2 | 4874.00 | 45.60 AV | 54.00 | -8.40 | 1.20 V | 46 | 10.30 | 35.30 |
| 3 | 7311.00 | 52.70 PK | 74.00 | -21.30 | 1.50 V | 275 | 12.00 | 40.70 |
| 3 | 7311.00 | 43.10 AV | 54.00 | -10.90 | 1.50 V | 275 | 2.40 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 11 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | | | 1.00 H | 291 | 68.30 | 30.00 |
| 1 | *2462.00 | 91.40 AV | | | 1.00 H | 291 | 61.40 | 30.00 |
| 2 | 2483.50 | 46.80 PK | 74.00 | -27.20 | 1.00 H | 291 | 16.70 | 30.10 |
| 2 | 2483.50 | 37.70 AV | 54.00 | -16.30 | 1.00 H | 291 | 7.60 | 30.10 |
| 3 | 2487.00 | 45.30 PK | 74.00 | -28.70 | 1.00 H | 291 | 15.20 | 30.10 |
| 3 | 2487.00 | 39.80 AV | 54.00 | -14.20 | 1.00 H | 291 | 9.70 | 30.10 |
| 4 | 4924.00 | 44.40 PK | 74.00 | -29.60 | 1.93 H | 197 | 8.80 | 35.50 |
| 4 | 4924.00 | 34.20 AV | 54.00 | -19.80 | 1.93 H | 197 | -1.40 | 35.50 |
| 5 | 7386.00 | 48.70 PK | 74.00 | -25.30 | 1.06 H | 341 | 7.90 | 40.80 |
| 5 | 7386.00 | 37.30 AV | 54.00 | -16.70 | 1.06 H | 341 | -3.50 | 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 | 110.20 PK | | | 1.34 V | 8 | 80.20 | 30.00 |
| 1 | *2462.00 | 103.10 AV | | | 1.34 V | 8 | 73.10 | 30.00 |
| 2 | 2483.50 | 58.70 PK | 74.00 | -15.30 | 1.34 V | 8 | 28.60 | 30.10 |
| 2 | 2483.50 | 49.40 AV | 54.00 | -4.60 | 1.34 V | 8 | 19.30 | 30.10 |
| 3 | 2487.00 | 57.20 PK | 74.00 | -16.80 | 1.34 V | 8 | 27.10 | 30.10 |
| 3 | 2487.00 | 51.50 AV | 54.00 | -2.50 | 1.34 V | 8 | 21.40 | 30.10 |
| 4 | 4924.00 | 54.10 PK | 74.00 | -19.90 | 1.30 V | 189 | 18.50 | 35.50 |
| 4 | 4924.00 | 42.90 AV | 54.00 | -11.10 | 1.30 V | 189 | 7.30 | 35.50 |
| 5 | 7386.00 | 49.80 PK | 74.00 | -24.20 | 1.27 V | 277 | 9.00 | 40.80 |
| 5 | 7386.00 | 40.60 AV | 54.00 | -13.40 | 1.27 V | 277 | -0.20 | 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

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

| 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 | 48.40 PK | 74.00 | -25.60 | 1.00 H | 287 | 14.70 | 33.70 |
| 1 | 2390.00 | 40.20 AV | 54.00 | -13.80 | 1.00 H | 287 | 6.50 | 33.70 |
| 2 | *2412.00 | 96.60 PK | | | 1.00 H | 287 | 66.80 | 29.80 |
| 2 | *2412.00 | 86.30 AV | | | 1.00 H | 287 | 56.50 | 29.80 |
| 3 | 4824.00 | 42.20 PK | 74.00 | -31.80 | 1.20 H | 5 | 7.10 | 35.10 |
| 3 | 4824.00 | 30.70 AV | 54.00 | -23.30 | 1.20 H | 5 | -4.40 | 35.10 |
| 4 | 7236.00 | 46.00 PK | 74.00 | -28.00 | 1.17 H | 105 | 5.50 | 40.50 |
| 4 | 7236.00 | 35.30 AV | 54.00 | -18.70 | 1.17 H | 105 | -5.20 | 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 | 59.80 PK | 74.00 | -14.20 | 1.20 V | 34 | 26.10 | 33.70 |
| 1 | 2390.00 | 51.60 AV | 54.00 | -2.40 | 1.20 V | 34 | 17.90 | 33.70 |
| 2 | *2412.00 | 108.00 PK | | | 1.20 V | 34 | 78.20 | 29.80 |
| 2 | *2412.00 | 99.70 AV | | | 1.20 V | 34 | 69.90 | 29.80 |
| 3 | 4824.00 | 52.40 PK | 74.00 | -21.60 | 1.00 V | 122 | 17.30 | 35.10 |
| 3 | 4824.00 | 39.00 AV | 54.00 | -15.00 | 1.00 V | 122 | 3.90 | 35.10 |
| 4 | 7236.00 | 49.70 PK | 74.00 | -24.30 | 1.87 V | 272 | 9.20 | 40.50 |
| 4 | 7236.00 | 38.60 AV | 54.00 | -15.40 | 1.87 V | 272 | -1.90 | 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

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

**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 | 101.10 PK | | | 1.00 H | 292 | 71.20 | 29.90 |
| 1 | *2437.00 | 92.80 AV | | | 1.00 H | 292 | 62.90 | 29.90 |
| 2 | 4874.00 | 43.00 PK | 74.00 | -31.00 | 1.00 H | 265 | 7.70 | 35.30 |
| 2 | 4874.00 | 32.20 AV | 54.00 | -21.80 | 1.00 H | 265 | -3.10 | 35.30 |
| 3 | 7311.00 | 50.70 PK | 74.00 | -23.30 | 1.32 H | 128 | 10.00 | 40.70 |
| 3 | 7311.00 | 39.60 AV | 54.00 | -14.40 | 1.32 H | 128 | -1.10 | 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 | 113.50 PK | | | 1.18 V | 34 | 83.60 | 29.90 |
| 1 | *2437.00 | 105.00 AV | | | 1.18 V | 34 | 75.10 | 29.90 |
| 2 | 4874.00 | 54.20 PK | 74.00 | -19.80 | 1.19 V | 45 | 18.90 | 35.30 |
| 2 | 4874.00 | 42.60 AV | 54.00 | -11.40 | 1.19 V | 45 | 7.30 | 35.30 |
| 3 | 7311.00 | 53.80 PK | 74.00 | -20.20 | 1.51 V | 247 | 13.10 | 40.70 |
| 3 | 7311.00 | 42.70 AV | 54.00 | -11.30 | 1.51 V | 247 | 2.00 | 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

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

**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 | 95.70 PK | | | 1.00 H | 290 | 65.70 | 30.00 |
| 1 | *2462.00 | 87.60 AV | | | 1.00 H | 290 | 57.60 | 30.00 |
| 2 | 2483.50 | 49.20 PK | 74.00 | -24.80 | 1.00 H | 290 | 19.10 | 30.10 |
| 2 | 2483.50 | 41.10 AV | 54.00 | -12.90 | 1.00 H | 290 | 11.00 | 30.10 |
| 3 | 2498.00 | 46.70 PK | 74.00 | -27.30 | 1.00 H | 290 | 15.10 | 31.60 |
| 3 | 2498.00 | 36.40 AV | 54.00 | -17.60 | 1.00 H | 290 | 4.80 | 31.60 |
| 4 | 4924.00 | 41.80 PK | 74.00 | -32.20 | 1.22 H | 29 | 6.20 | 35.50 |
| 4 | 4924.00 | 31.40 AV | 54.00 | -22.60 | 1.22 H | 29 | -4.20 | 35.50 |
| 5 | 7386.00 | 49.00 PK | 74.00 | -25.00 | 1.40 H | 85 | 8.20 | 40.80 |
| 5 | 7386.00 | 42.00 AV | 54.00 | -12.00 | 1.40 H | 85 | 1.20 | 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 | 105.60 PK | | | 1.34 V | 7 | 75.60 | 30.00 |
| 1 | *2462.00 | 99.30 AV | | | 1.34 V | 7 | 69.30 | 30.00 |
| 2 | 2483.50 | 59.10 PK | 74.00 | -14.90 | 1.34 V | 7 | 29.00 | 30.10 |
| 2 | 2483.50 | 52.80 AV | 54.00 | -1.20 | 1.34 V | 7 | 22.70 | 30.10 |
| 3 | 2498.00 | 56.60 PK | 74.00 | -17.40 | 1.28 V | 276 | 25.00 | 31.60 |
| 3 | 2498.00 | 48.10 AV | 54.00 | -5.90 | 1.28 V | 276 | 16.50 | 31.60 |
| 4 | 4924.00 | 50.40 PK | 74.00 | -23.60 | 1.27 V | 184 | 14.80 | 35.50 |
| 4 | 4924.00 | 38.30 AV | 54.00 | -15.70 | 1.27 V | 184 | 2.70 | 35.50 |
| 5 | 7386.00 | 49.50 PK | 74.00 | -24.50 | 1.28 V | 276 | 8.70 | 40.80 |
| 5 | 7386.00 | 38.10 AV | 54.00 | -15.90 | 1.28 V | 276 | -2.70 | 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**

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **TEST MODE** | With Adapter | **FREQUENCY RANGE** | Below 1000MHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Quasi-Peak |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 70%RH, 961hPa | **TESTED BY** | 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 | 68.51 | 27.50 QP | 40.00 | -12.50 | 1.96 H | 14 | 19.90 | 7.60 |
| 2 | 150.57 | 31.40 QP | 43.50 | -12.10 | 1.84 H | 176 | 19.10 | 12.30 |
| 3 | 182.38 | 33.80 QP | 43.50 | -9.70 | 1.76 H | 185 | 23.30 | 10.50 |
| 4 | 263.48 | 32.80 QP | 46.00 | -13.20 | 1.19 H | 67 | 17.40 | 15.50 |
| 5 | 348.25 | 31.80 QP | 46.00 | -14.20 | 1.24 H | 141 | 14.60 | 17.20 |
| 6 | 492.81 | 33.20 QP | 46.00 | -12.80 | 1.56 H | 42 | 12.00 | 21.20 |
| 7 | 562.34 | 31.30 QP | 46.00 | -14.70 | 1.38 H | 71 | 8.50 | 22.80 |
| 8 | 642.71 | 37.90 QP | 46.00 | -8.10 | 1.14 H | 61 | 13.80 | 24.10 |
| 9 | 842.36 | 32.80 QP | 46.00 | -13.20 | 1.08 H | 64 | 4.90 | 27.90 |
| 10 | 912.45 | 36.40 QP | 46.00 | -9.60 | 1.00 H | 15 | 8.20 | 28.20 |

**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 | 72.64 | 28.90 QP | 40.00 | -11.10 | 1.00 V | 18 | 20.70 | 8.10 |
| 2 | 142.61 | 31.80 QP | 43.50 | -11.70 | 1.00 V | 272 | 18.80 | 13.10 |
| 3 | 193.70 | 33.40 QP | 43.50 | -10.10 | 1.00 V | 270 | 22.60 | 10.80 |
| 4 | 272.40 | 34.80 QP | 46.00 | -11.20 | 1.14 V | 184 | 19.40 | 15.40 |
| 5 | 362.50 | 33.20 QP | 46.00 | -12.80 | 1.34 V | 161 | 15.40 | 17.80 |
| 6 | 481.00 | 35.30 QP | 46.00 | -10.70 | 1.38 V | 124 | 14.50 | 20.80 |
| 7 | 558.37 | 31.80 QP | 46.00 | -14.20 | 1.76 V | 56 | 9.10 | 22.70 |
| 8 | 634.24 | 36.30 QP | 46.00 | -9.70 | 1.67 V | 28 | 12.30 | 24.00 |
| 9 | 762.25 | 34.20 QP | 46.00 | -11.80 | 1.26 V | 61 | 7.80 | 26.40 |
| 10 | 863.84 | 32.70 QP | 46.00 | -13.30 | 1.12 V | 31 | 4.70 | 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

## Below 1GHz Worst-Case Data

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **TEST MODE** | With POE | **FREQUENCY RANGE** | Below 1000MHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Quasi-Peak |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 70%RH, 961hPa | **TESTED BY** | 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 | 48.59 | 27.00 QP | 40.00 | -13.00 | 1.86 H | 86 | 15.80 | 11.20 |
| 2 | 123.30 | 29.90 QP | 43.50 | -13.60 | 1.78 H | 26 | 17.60 | 12.30 |
| 3 | 159.05 | 31.50 QP | 43.50 | -12.00 | 1.71 H | 67 | 20.00 | 11.60 |
| 4 | 254.50 | 34.90 QP | 46.00 | -11.10 | 1.62 H | 219 | 20.10 | 14.80 |
| 5 | 318.00 | 34.30 QP | 46.00 | -11.70 | 1.53 H | 289 | 17.70 | 16.60 |
| 6 | 483.63 | 32.90 QP | 46.00 | -13.10 | 1.42 H | 339 | 12.00 | 20.90 |
| 7 | 556.50 | 33.30 QP | 46.00 | -12.70 | 1.33 H | 184 | 10.60 | 22.70 |
| 8 | 667.85 | 36.70 QP | 46.00 | -9.30 | 1.00 H | 103 | 12.50 | 24.20 |
| 9 | 717.16 | 33.10 QP | 46.00 | -12.90 | 1.00 H | 123 | 8.10 | 25.00 |
| 10 | 836.50 | 36.40 QP | 46.00 | -9.60 | 1.00 H | 244 | 8.70 | 27.70 |

**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 | 75.73 | 26.60 QP | 40.00 | -13.40 | 1.00 V | 242 | 17.80 | 8.80 |
| 2 | 166.25 | 28.60 QP | 43.50 | -14.90 | 1.00 V | 107 | 17.40 | 11.10 |
| 3 | 241.13 | 32.90 QP | 46.00 | -13.10 | 1.00 V | 198 | 19.20 | 13.60 |
| 4 | 395.00 | 32.80 QP | 46.00 | -13.20 | 1.00 V | 82 | 13.60 | 19.20 |
| 5 | 468.00 | 36.60 QP | 46.00 | -9.40 | 1.00 V | 98 | 16.20 | 20.40 |
| 6 | 561.75 | 33.90 QP | 46.00 | -12.10 | 1.48 V | 50 | 11.10 | 22.80 |
| 7 | 676.38 | 37.50 QP | 46.00 | -8.50 | 1.39 V | 148 | 13.30 | 24.20 |
| 8 | 790.80 | 33.80 QP | 46.00 | -12.20 | 1.30 V | 7 | 7.40 | 26.40 |
| 9 | 819.00 | 36.20 QP | 46.00 | -9.80 | 1.29 V | 67 | 9.10 | 27.10 |
| 10 | 922.50 | 36.90 QP | 46.00 | -9.10 | 1.17 V | 165 | 8.30 | 28.50 |

**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

## 802.11b DSSS modulation

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 1 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK) Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 47.10 PK | 74.00 | -26.90 | 1.25 H | 22 | 14.30 | 32.80 |
| 1 | 2387.00 | 37.00 AV | 54.00 | -17.00 | 1.25 H | 22 | 4.20 | 32.80 |
| 2 | 2390.00 | 45.00 PK | 74.00 | -29.00 | 1.25 H | 22 | 11.30 | 33.70 |
| 2 | 2390.00 | 36.10 AV | 54.00 | -17.90 | 1.25 H | 22 | 2.40 | 33.70 |
| 3 | *2412.00 | 97.00 PK | | | 1.25 H | 22 | 67.20 | 29.80 |
| 3 | *2412.00 | 90.10 AV | | | 1.25 H | 22 | 60.30 | 29.80 |
| 4 | 4824.00 | 41.50 PK | 74.00 | -32.50 | 1.24 H | 321 | 6.40 | 35.10 |
| 4 | 4824.00 | 30.40 AV | 54.00 | -23.60 | 1.24 H | 321 | -4.70 | 35.10 |
| 5 | 7236.00 | 45.90 PK | 74.00 | -28.10 | 1.32 H | 28 | 5.40 | 40.50 |
| 5 | 7236.00 | 35.80 AV | 54.00 | -18.20 | 1.32 H | 28 | -4.70 | 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 | 63.90 PK | 74.00 | -10.10 | 1.16 V | 350 | 31.10 | 32.80 |
| 1 | 2387.00 | 52.90 AV | 54.00 | -1.10 | 1.16 V | 350 | 20.10 | 32.80 |
| 2 | 2390.00 | 61.80 PK | 74.00 | -12.20 | 1.16 V | 350 | 28.10 | 33.70 |
| 2 | 2390.00 | 52.00 AV | 54.00 | -2.00 | 1.16 V | 350 | 18.30 | 33.70 |
| 3 | *2412.00 | 113.80 PK | | | 1.16 V | 350 | 84.00 | 29.80 |
| 3 | *2412.00 | 106.00 AV | | | 1.16 V | 350 | 76.20 | 29.80 |
| 4 | 4824.00 | 45.30 PK | 74.00 | -28.70 | 1.00 V | 4 | 10.20 | 35.10 |
| 4 | 4824.00 | 34.30 AV | 54.00 | -19.70 | 1.00 V | 4 | -0.80 | 35.10 |
| 5 | 7236.00 | 47.50 PK | 74.00 | -26.50 | 1.42 V | 27 | 7.00 | 40.50 |
| 5 | 7236.00 | 37.90 AV | 54.00 | -16.10 | 1.42 V | 27 | -2.60 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 6 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 102.30 PK | | | 1.24 H | 14 | 72.40 | 29.90 |
| 1 | *2437.00 | 95.40 AV | | | 1.24 H | 14 | 65.50 | 29.90 |
| 2 | 4874.00 | 43.70 PK | 74.00 | -30.30 | 1.52 H | 318 | 8.40 | 35.30 |
| 2 | 4874.00 | 32.70 AV | 54.00 | -21.30 | 1.52 H | 318 | -2.60 | 35.30 |
| 3 | 7311.00 | 47.70 PK | 74.00 | -26.30 | 1.19 H | 232 | 7.00 | 40.70 |
| 3 | 7311.00 | 38.30 AV | 54.00 | -15.70 | 1.19 H | 232 | -2.40 | 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 | 120.10 PK | | | 1.19 V | 349 | 90.20 | 29.90 |
| 1 | *2437.00 | 112.50 AV | | | 1.19 V | 349 | 82.60 | 29.90 |
| 2 | 4874.00 | 49.90 PK | 74.00 | -24.10 | 1.42 V | 0 | 14.60 | 35.30 |
| 2 | 4874.00 | 40.00 AV | 54.00 | -14.00 | 1.42 V | 0 | 4.70 | 35.30 |
| 3 | 7311.00 | 49.60 PK | 74.00 | -24.40 | 1.80 V | 1 | 8.90 | 40.70 |
| 3 | 7311.00 | 40.60 AV | 54.00 | -13.40 | 1.80 V | 1 | -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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 11 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 94.00 PK | | | 1.22 H | 18 | 64.00 | 30.00 |
| 1 | *2462.00 | 87.30 AV | | | 1.22 H | 18 | 57.30 | 30.00 |
| 2 | 2483.50 | 43.80 PK | 74.00 | -30.20 | 1.22 H | 18 | 13.70 | 30.10 |
| 2 | 2483.50 | 34.40 AV | 54.00 | -19.60 | 1.22 H | 18 | 4.30 | 30.10 |
| 3 | 2487.00 | 45.00 PK | 74.00 | -29.00 | 1.22 H | 18 | 14.90 | 30.10 |
| 3 | 2487.00 | 35.40 AV | 54.00 | -18.60 | 1.22 H | 18 | 5.30 | 30.10 |
| 4 | 4924.00 | 40.50 PK | 74.00 | -33.50 | 1.29 H | 75 | 4.90 | 35.50 |
| 4 | 4924.00 | 30.60 AV | 54.00 | -23.40 | 1.29 H | 75 | -5.00 | 35.50 |
| 5 | 7386.00 | 47.00 PK | 74.00 | -27.00 | 1.22 H | 128 | 6.20 | 40.80 |
| 5 | 7386.00 | 36.20 AV | 54.00 | -17.80 | 1.22 H | 128 | -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 | 112.20 PK | | | 1.21 V | 350 | 82.20 | 30.00 |
| 1 | *2462.00 | 101.80 AV | | | 1.21 V | 350 | 71.80 | 30.00 |
| 2 | 2483.50 | 62.00 PK | 74.00 | -12.00 | 1.21 V | 350 | 31.90 | 30.10 |
| 2 | 2483.50 | 51.90 AV | 54.00 | -2.10 | 1.21 V | 350 | 21.80 | 30.10 |
| 3 | 2487.00 | 63.20 PK | 74.00 | -10.80 | 1.21 V | 350 | 33.10 | 30.10 |
| 3 | 2487.00 | 52.90 AV | 54.00 | -1.10 | 1.21 V | 350 | 22.80 | 30.10 |
| 4 | 4924.00 | 45.60 PK | 74.00 | -28.40 | 1.31 V | 5 | 10.00 | 35.50 |
| 4 | 4924.00 | 35.60 AV | 54.00 | -18.40 | 1.31 V | 5 | 0.00 | 35.50 |
| 5 | 7386.00 | 48.90 PK | 74.00 | -25.10 | 1.44 V | 274 | 8.10 | 40.80 |
| 5 | 7386.00 | 37.80 AV | 54.00 | -16.20 | 1.44 V | 274 | -3.00 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 1 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 45.40 PK | 74.00 | -28.60 | 1.24 H | 16 | 11.70 | 33.70 |
| 1 | 2390.00 | 36.00 AV | 54.00 | -18.00 | 1.24 H | 16 | 2.30 | 33.70 |
| 2 | *2412.00 | 92.10 PK | | | 1.24 H | 16 | 62.30 | 29.80 |
| 2 | *2412.00 | 84.10 AV | | | 1.24 H | 16 | 54.30 | 29.80 |
| 3 | 4824.00 | 41.40 PK | 74.00 | -32.60 | 1.34 H | 218 | 6.30 | 35.10 |
| 3 | 4824.00 | 29.90 AV | 54.00 | -24.10 | 1.34 H | 218 | -5.20 | 35.10 |
| 4 | 7236.00 | 46.40 PK | 74.00 | -27.60 | 1.38 H | 254 | 5.90 | 40.50 |
| 4 | 7236.00 | 35.10 AV | 54.00 | -18.90 | 1.38 H | 254 | -5.40 | 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 | 62.20 PK | 74.00 | -11.80 | 1.16 V | 353 | 28.50 | 33.70 |
| 1 | 2390.00 | 52.90 AV | 54.00 | -1.10 | 1.16 V | 353 | 19.20 | 33.70 |
| 2 | *2412.00 | 108.90 PK | | | 1.16 V | 353 | 79.10 | 29.80 |
| 2 | *2412.00 | 101.00 AV | | | 1.16 V | 353 | 71.20 | 29.80 |
| 3 | 4824.00 | 42.30 PK | 74.00 | -31.70 | 1.30 V | 356 | 7.20 | 35.10 |
| 3 | 4824.00 | 30.90 AV | 54.00 | -23.10 | 1.30 V | 356 | -4.20 | 35.10 |
| 4 | 7236.00 | 45.90 PK | 74.00 | -28.10 | 1.21 V | 32 | 5.40 | 40.50 |
| 4 | 7236.00 | 35.40 AV | 54.00 | -18.60 | 1.21 V | 32 | -5.10 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 6 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 102.40 PK | | | 1.25 H | 15 | 72.50 | 29.90 |
| 1 | *2437.00 | 91.30 AV | | | 1.25 H | 15 | 61.40 | 29.90 |
| 2 | 4874.00 | 41.40 PK | 74.00 | -32.60 | 1.59 H | 342 | 6.10 | 35.30 |
| 2 | 4874.00 | 31.10 AV | 54.00 | -22.90 | 1.59 H | 342 | -4.20 | 35.30 |
| 3 | 7311.00 | 48.90 PK | 74.00 | -25.10 | 1.58 H | 149 | 8.20 | 40.70 |
| 3 | 7311.00 | 39.00 AV | 54.00 | -15.00 | 1.58 H | 149 | -1.70 | 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 | 120.00 PK | | | 1.81 V | 351 | 90.10 | 29.90 |
| 1 | *2437.00 | 110.70 AV | | | 1.81 V | 351 | 80.80 | 29.90 |
| 2 | 4874.00 | 46.20 PK | 74.00 | -27.80 | 1.00 V | 10 | 10.90 | 35.30 |
| 2 | 4874.00 | 35.50 AV | 54.00 | -18.50 | 1.00 V | 10 | 0.20 | 35.30 |
| 3 | 7311.00 | 54.50 PK | 74.00 | -19.50 | 1.32 V | 277 | 13.80 | 40.70 |
| 3 | 7311.00 | 43.70 AV | 54.00 | -10.30 | 1.32 V | 277 | 3.00 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 11 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 91.80 PK | | | 1.23 H | 17 | 61.80 | 30.00 |
| 1 | *2462.00 | 83.70 AV | | | 1.23 H | 17 | 53.70 | 30.00 |
| 2 | 2483.50 | 45.80 PK | 74.00 | -28.20 | 1.23 H | 17 | 15.70 | 30.10 |
| 2 | 2483.50 | 36.60 AV | 54.00 | -17.40 | 1.23 H | 17 | 6.50 | 30.10 |
| 3 | 2498.00 | 46.50 PK | 74.00 | -27.50 | 1.23 H | 17 | 14.90 | 31.60 |
| 3 | 2498.00 | 34.70 AV | 54.00 | -19.30 | 1.23 H | 17 | 3.10 | 31.60 |
| 4 | 4924.00 | 40.70 PK | 74.00 | -33.30 | 1.27 H | 83 | 5.10 | 35.50 |
| 4 | 4924.00 | 30.00 AV | 54.00 | -24.00 | 1.27 H | 83 | -5.60 | 35.50 |
| 5 | 7386.00 | 47.00 PK | 74.00 | -27.00 | 1.34 H | 5 | 6.20 | 40.80 |
| 5 | 7386.00 | 35.50 AV | 54.00 | -18.50 | 1.34 H | 5 | -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 | 108.50 PK | | | 1.21 V | 350 | 78.50 | 30.00 |
| 1 | *2462.00 | 100.10 AV | | | 1.21 V | 350 | 70.10 | 30.00 |
| 2 | 2483.50 | 62.50 PK | 74.00 | -11.50 | 1.21 V | 350 | 32.40 | 30.10 |
| **2** | **2483.50** | **53.00 AV** | **54.00** | **-1.00** | **1.21 V** | **350** | **22.90** | **30.10** |
| 3 | 2498.00 | 63.20 PK | 74.00 | -10.80 | 1.21 V | 350 | 31.60 | 31.60 |
| 3 | 2498.00 | 51.10 AV | 54.00 | -2.90 | 1.21 V | 350 | 19.50 | 31.60 |
| 4 | 4924.00 | 40.80 PK | 74.00 | -33.20 | 1.19 V | 253 | 5.20 | 35.50 |
| 4 | 4924.00 | 30.70 AV | 54.00 | -23.30 | 1.19 V | 253 | -4.90 | 35.50 |
| 5 | 7386.00 | 46.20 PK | 74.00 | -27.80 | 1.15 V | 285 | 5.40 | 40.80 |
| 5 | 7386.00 | 36.00 AV | 54.00 | -18.00 | 1.15 V | 285 | -4.80 | 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**

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **TEST MODE** | With Adapter | **FREQUENCY RANGE** | Below 1000MHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Quasi-Peak |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 70%RH, 961hPa | **TESTED BY** | 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 | 55.96 | 27.80 QP | 40.00 | -12.20 | 2.24 H | 17 | 19.00 | 8.80 |
| 2 | 141.73 | 29.80 QP | 43.50 | -13.70 | 2.11 H | 144 | 16.60 | 13.20 |
| 3 | 293.15 | 36.80 QP | 46.00 | -9.20 | 2.04 H | 160 | 20.70 | 16.00 |
| 4 | 371.50 | 33.50 QP | 46.00 | -12.50 | 1.85 H | 113 | 15.40 | 18.10 |
| 5 | 439.38 | 35.80 QP | 46.00 | -10.20 | 1.69 H | 225 | 16.10 | 19.70 |
| 6 | 501.81 | 36.50 QP | 46.00 | -9.50 | 1.55 H | 314 | 15.00 | 21.50 |
| 7 | 647.13 | 35.60 QP | 46.00 | -10.40 | 1.37 H | 150 | 11.50 | 24.20 |
| 8 | 751.46 | 34.40 QP | 46.00 | -11.60 | 1.10 H | 99 | 8.00 | 26.40 |
| 9 | 861.00 | 36.60 QP | 46.00 | -9.40 | 1.00 H | 247 | 8.60 | 28.10 |
| 10 | 934.62 | 34.00 QP | 46.00 | -12.00 | 1.00 H | 149 | 5.00 | 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 | 63.70 | 26.40 QP | 40.00 | -13.60 | 1.00 V | 289 | 18.80 | 7.60 |
| 2 | 165.60 | 30.70 QP | 43.50 | -12.80 | 1.00 V | 198 | 19.50 | 11.20 |
| 3 | 267.35 | 34.60 QP | 46.00 | -11.40 | 1.00 V | 102 | 19.20 | 15.40 |
| 4 | 327.45 | 36.30 QP | 46.00 | -9.70 | 1.00 V | 174 | 19.50 | 16.80 |
| 5 | 460.53 | 35.30 QP | 46.00 | -10.70 | 1.00 V | 104 | 15.20 | 20.10 |
| 6 | 563.10 | 33.70 QP | 46.00 | -12.30 | 2.03 V | 76 | 10.90 | 22.80 |
| 7 | 630.75 | 35.20 QP | 46.00 | -10.80 | 1.87 V | 182 | 11.30 | 23.90 |
| 8 | 738.73 | 35.00 QP | 46.00 | -11.00 | 1.81 V | 267 | 9.10 | 25.90 |
| 9 | 857.82 | 36.20 QP | 46.00 | -9.80 | 1.75 V | 228 | 8.10 | 28.10 |
| 10 | 917.90 | 35.30 QP | 46.00 | -10.70 | 1.56 V | 257 | 6.90 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **TEST MODE** | With POE | **FREQUENCY RANGE** | Below 1000MHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Quasi-Peak |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 70%RH, 961hPa | **TESTED BY** | 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 | 83.25 | 27.80 QP | 40.00 | -12.20 | 2.17 H | 49 | 17.70 | 10.10 |
| 2 | 168.75 | 30.10 QP | 43.50 | -13.40 | 2.03 H | 81 | 19.10 | 11.00 |
| 3 | 261.63 | 35.20 QP | 46.00 | -10.80 | 1.86 H | 205 | 19.70 | 15.50 |
| 4 | 338.50 | 34.20 QP | 46.00 | -11.80 | 1.72 H | 144 | 17.20 | 17.00 |
| 5 | 493.50 | 34.80 QP | 46.00 | -11.20 | 1.54 H | 224 | 13.60 | 21.20 |
| 6 | 571.63 | 37.60 QP | 46.00 | -8.40 | 1.33 H | 186 | 14.60 | 23.00 |
| 7 | 642.50 | 32.20 QP | 46.00 | -13.80 | 1.12 H | 43 | 8.10 | 24.10 |
| 8 | 749.50 | 34.80 QP | 46.00 | -11.20 | 1.00 H | 116 | 8.40 | 26.40 |
| 9 | 850.11 | 36.20 QP | 46.00 | -9.80 | 1.00 H | 202 | 8.00 | 28.20 |
| 10 | 922.01 | 34.60 QP | 46.00 | -11.40 | 1.00 H | 97 | 6.10 | 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 | 60.88 | 27.90 QP | 40.00 | -12.10 | 1.00 V | 251 | 20.30 | 7.60 |
| 2 | 128.50 | 29.10 QP | 43.50 | -14.40 | 1.00 V | 19 | 16.50 | 12.60 |
| 3 | 263.40 | 32.60 QP | 46.00 | -13.40 | 1.00 V | 204 | 17.10 | 15.50 |
| 4 | 322.50 | 37.70 QP | 46.00 | -8.30 | 1.00 V | 157 | 21.10 | 16.70 |
| 5 | 431.25 | 35.00 QP | 46.00 | -11.00 | 1.00 V | 50 | 15.40 | 19.60 |
| 6 | 542.25 | 36.20 QP | 46.00 | -9.80 | 1.60 V | 97 | 13.80 | 22.40 |
| 7 | 623.38 | 33.80 QP | 46.00 | -12.20 | 1.46 V | 146 | 10.00 | 23.80 |
| 8 | 734.38 | 35.80 QP | 46.00 | -10.20 | 1.31 V | 300 | 10.10 | 25.70 |
| 9 | 889.50 | 36.90 QP | 46.00 | -9.10 | 1.13 V | 218 | 9.10 | 27.80 |
| 10 | 968.50 | 41.20 QP | 54.00 | -12.80 | 1.19 V | 321 | 12.10 | 29.10 |

**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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 1 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK) Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 2384.00 | 47.70 PK | 74.00 | -26.30 | 1.41 H | 322 | 15.90 | 31.80 |
| 1 | 2384.00 | 37.70 AV | 54.00 | -16.30 | 1.41 H | 322 | 5.90 | 31.80 |
| 2 | 2390.00 | 44.60 PK | 74.00 | -29.40 | 1.41 H | 322 | 10.90 | 33.70 |
| 2 | 2390.00 | 36.00 AV | 54.00 | -18.00 | 1.41 H | 322 | 2.30 | 33.70 |
| 3 | *412.00 | 98.60 PK | | | 1.41 H | 322 | 68.80 | 29.80 |
| 3 | 2*412.00 | 91.30 AV | | | 1.41 H | 322 | 61.50 | 29.80 |
| 4 | 4824.00 | 46.20 PK | 74.00 | -27.80 | 1.45 H | 137 | 11.10 | 35.10 |
| 4 | 4824.00 | 35.50 AV | 54.00 | -18.50 | 1.45 H | 137 | 0.40 | 35.10 |
| 5 | 7236.00 | 47.50 PK | 74.00 | -26.50 | 1.24 H | 42 | 7.00 | 40.50 |
| 5 | 7236.00 | 36.50 AV | 54.00 | -17.50 | 1.24 H | 42 | -4.00 | 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 | 2384.00 | 62.70 PK | 74.00 | -11.30 | 1.28 V | 171 | 30.90 | 31.80 |
| 1 | 2384.00 | 52.50 AV | 54.00 | -1.50 | 1.28 V | 171 | 20.70 | 31.80 |
| 2 | 2390.00 | 59.60 PK | 74.00 | -14.40 | 1.28 V | 171 | 25.90 | 33.70 |
| 2 | 2390.00 | 50.80 AV | 54.00 | -3.20 | 1.28 V | 171 | 17.10 | 33.70 |
| 3 | *2412.00 | 113.60 PK | | | 1.28 V | 171 | 83.80 | 29.80 |
| 3 | *2412.00 | 106.10 AV | | | 1.28 V | 171 | 76.30 | 29.80 |
| 4 | 4824.00 | 50.20 PK | 74.00 | -23.80 | 1.00 V | 5 | 15.10 | 35.10 |
| 4 | 4824.00 | 41.70 AV | 54.00 | -12.30 | 1.00 V | 5 | 6.60 | 35.10 |
| 5 | 7236.00 | 47.40 PK | 74.00 | -26.60 | 1.78 V | 26 | 6.90 | 40.50 |
| 5 | 7236.00 | 37.10 AV | 54.00 | -16.90 | 1.78 V | 26 | -3.40 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 6 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 99.20 PK | | | 1.83 H | 335 | 69.30 | 29.90 |
| 1 | *2437.00 | 92.20 AV | | | 1.83 H | 335 | 62.30 | 29.90 |
| 2 | 4874.00 | 45.80 PK | 74.00 | -28.20 | 1.34 H | 5 | 10.50 | 35.30 |
| 2 | 4874.00 | 36.00 AV | 54.00 | -18.00 | 1.34 H | 5 | 0.70 | 35.30 |
| 3 | 7311.00 | 48.70 PK | 74.00 | -25.30 | 1.06 H | 34 | 8.00 | 40.70 |
| 3 | 7311.00 | 39.90 AV | 54.00 | -14.10 | 1.06 H | 34 | -0.80 | 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 | 114.00 PK | | | 1.00 V | 67 | 84.10 | 29.90 |
| 1 | *2437.00 | 106.50 AV | | | 1.00 V | 67 | 76.60 | 29.90 |
| 2 | 4874.00 | 51.30 PK | 74.00 | -22.70 | 1.13 V | 1 | 16.00 | 35.30 |
| 2 | 4874.00 | 41.60 AV | 54.00 | -12.40 | 1.13 V | 1 | 6.30 | 35.30 |
| 3 | 7311.00 | 52.20 PK | 74.00 | -21.80 | 1.58 V | 277 | 11.50 | 40.70 |
| 3 | 7311.00 | 40.50 AV | 54.00 | -13.50 | 1.58 V | 277 | -0.20 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 11 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 94.60 PK | | | 1.57 H | 211 | 64.60 | 30.00 |
| 1 | *2462.00 | 87.50 AV | | | 1.57 H | 211 | 57.50 | 30.00 |
| 2 | 2483.50 | 43.10 PK | 74.00 | -30.90 | 1.57 H | 211 | 13.00 | 30.10 |
| 2 | 2483.50 | 33.80 AV | 54.00 | -20.20 | 1.57 H | 211 | 3.70 | 30.10 |
| 3 | 2487.00 | 44.60 PK | 74.00 | -29.40 | 1.57 H | 211 | 14.50 | 30.10 |
| 3 | 2487.00 | 35.90 AV | 54.00 | -18.10 | 1.57 H | 211 | 5.80 | 30.10 |
| 4 | 4924.00 | 42.80 PK | 74.00 | -31.20 | 1.29 H | 66 | 7.20 | 35.50 |
| 4 | 4924.00 | 33.80 AV | 54.00 | -20.20 | 1.29 H | 66 | -1.80 | 35.50 |
| 5 | 7386.00 | 47.50 PK | 74.00 | -26.50 | 1.00 H | 350 | 6.70 | 40.80 |
| 5 | 7386.00 | 37.90 AV | 54.00 | -16.10 | 1.00 H | 350 | -2.90 | 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 | 110.60 PK | | | 1.15 V | 348 | 80.60 | 30.00 |
| 1 | *2462.00 | 103.60 AV | | | 1.15 V | 348 | 73.60 | 30.00 |
| 2 | 2483.50 | 59.10 PK | 74.00 | -14.90 | 1.15 V | 348 | 29.00 | 30.10 |
| 2 | 2483.50 | 49.90 AV | 54.00 | -4.10 | 1.15 V | 348 | 19.80 | 30.10 |
| 3 | 2487.00 | 60.60 PK | 74.00 | -13.40 | 1.15 V | 348 | 30.50 | 30.10 |
| 3 | 2487.00 | 52.00 AV | 54.00 | -2.00 | 1.15 V | 348 | 21.90 | 30.10 |
| 4 | 4924.00 | 49.50 PK | 74.00 | -24.50 | 1.22 V | 4 | 13.90 | 35.50 |
| 4 | 4924.00 | 38.60 AV | 54.00 | -15.40 | 1.22 V | 4 | 3.00 | 35.50 |
| 5 | 7386.00 | 49.20 PK | 74.00 | -24.80 | 1.07 V | 12 | 8.40 | 40.80 |
| 5 | 7386.00 | 38.30 AV | 54.00 | -15.70 | 1.07 V | 12 | -2.50 | 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

## 802.11g OFDM modulation

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 1 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 44.00 PK | 74.00 | -30.00 | 1.56 H | 64 | 10.30 | 33.70 |
| 1 | 2390.00 | 36.00 AV | 54.00 | -18.00 | 1.56 H | 64 | 2.30 | 33.70 |
| 2 | *2412.00 | 92.20 PK | | | 1.56 H | 64 | 62.40 | 29.80 |
| 2 | *2412.00 | 84.10 AV | | | 1.56 H | 64 | 54.30 | 29.80 |
| 3 | 4824.00 | 42.80 PK | 74.00 | -31.20 | 1.20 H | 318 | 7.70 | 35.10 |
| 3 | 4824.00 | 31.80 AV | 54.00 | -22.20 | 1.20 H | 318 | -3.30 | 35.10 |
| 4 | 7236.00 | 46.40 PK | 74.00 | -27.60 | 1.55 H | 241 | 5.90 | 40.50 |
| 4 | 7236.00 | 36.50 AV | 54.00 | -17.50 | 1.55 H | 241 | -4.00 | 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 | 2390.00 | 59.80 PK | 74.00 | -14.20 | 1.25 V | 171 | 26.10 | 33.70 |
| 1 | 2390.00 | 51.80 AV | 54.00 | -2.20 | 1.25 V | 171 | 18.10 | 33.70 |
| 2 | *2412.00 | 108.00 PK | | | 1.25 V | 171 | 78.20 | 29.80 |
| 2 | *2412.00 | 99.90 AV | | | 1.25 V | 171 | 70.10 | 29.80 |
| 3 | 4824.00 | 48.40 PK | 74.00 | -25.60 | 1.07 V | 7 | 13.30 | 35.10 |
| 3 | 4824.00 | 37.70 AV | 54.00 | -16.30 | 1.07 V | 7 | 2.60 | 35.10 |
| 4 | 7236.00 | 48.60 PK | 74.00 | -25.40 | 1.16 V | 36 | 8.10 | 40.50 |
| 4 | 7236.00 | 37.80 AV | 54.00 | -16.20 | 1.16 V | 36 | -2.70 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 6 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 97.20 PK | | | 1.00 H | 49 | 67.30 | 29.90 |
| 1 | *2437.00 | 89.60 AV | | | 1.00 H | 49 | 59.70 | 29.90 |
| 2 | 4874.00 | 43.10 PK | 74.00 | -30.90 | 1.19 H | 275 | 7.80 | 35.30 |
| 2 | 4874.00 | 32.50 AV | 54.00 | -21.50 | 1.19 H | 275 | -2.80 | 35.30 |
| 3 | 7311.00 | 50.20 PK | 74.00 | -23.80 | 1.23 H | 5 | 9.50 | 40.70 |
| 3 | 7311.00 | 38.90 AV | 54.00 | -15.10 | 1.23 H | 5 | -1.80 | 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 | 113.70 PK | | | 1.01 V | 289 | 83.80 | 29.90 |
| 1 | *2437.00 | 105.10 AV | | | 1.01 V | 289 | 75.20 | 29.90 |
| 2 | 4874.00 | 51.70 PK | 74.00 | -22.30 | 1.23 V | 5 | 16.40 | 35.30 |
| 2 | 4874.00 | 40.10 AV | 54.00 | -13.90 | 1.23 V | 5 | 4.80 | 35.30 |
| 3 | 7311.00 | 52.30 PK | 74.00 | -21.70 | 1.50 V | 117 | 11.60 | 40.70 |
| 3 | 7311.00 | 41.10 AV | 54.00 | -12.90 | 1.50 V | 117 | 0.40 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 11 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 90.60 PK | | | 1.54 H | 211 | 60.60 | 30.00 |
| 1 | *2462.00 | 83.40 AV | | | 1.54 H | 211 | 53.40 | 30.00 |
| 2 | 2483.50 | 44.30 PK | 74.00 | -29.70 | 1.54 H | 211 | 14.20 | 30.10 |
| 2 | 2483.50 | 36.90 AV | 54.00 | -17.10 | 1.54 H | 211 | 6.80 | 30.10 |
| 3 | 2498.00 | 42.60 PK | 74.00 | -31.40 | 1.54 H | 211 | 11.00 | 31.60 |
| 3 | 2498.00 | 32.20 AV | 54.00 | -21.80 | 1.54 H | 211 | 0.60 | 31.60 |
| 4 | 4924.00 | 42.00 PK | 74.00 | -32.00 | 1.24 H | 57 | 6.40 | 35.50 |
| 4 | 4924.00 | 30.80 AV | 54.00 | -23.20 | 1.24 H | 57 | -4.80 | 35.50 |
| 5 | 7386.00 | 47.20 PK | 74.00 | -26.80 | 1.03 H | 114 | 6.40 | 40.80 |
| 5 | 7386.00 | 36.80 AV | 54.00 | -17.20 | 1.03 H | 114 | -4.00 | 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 | 107.70 PK | | | 1.22 V | 208 | 77.70 | 30.00 |
| 1 | *2462.00 | 99.40 AV | | | 1.22 V | 208 | 69.40 | 30.00 |
| 2 | 2483.50 | 61.70 PK | 74.00 | -12.30 | 1.22 V | 208 | 31.60 | 30.10 |
| 2 | 2483.50 | 52.90 AV | 54.00 | -1.10 | 1.22 V | 208 | 22.80 | 30.10 |
| 3 | 2498.00 | 59.70 PK | 74.00 | -14.30 | 1.22 V | 208 | 28.10 | 31.60 |
| 3 | 2498.00 | 48.20 AV | 54.00 | -5.80 | 1.22 V | 208 | 16.60 | 31.60 |
| 4 | 4924.00 | 45.80 PK | 74.00 | -28.20 | 1.26 V | 141 | 10.20 | 35.50 |
| 4 | 4924.00 | 34.10 AV | 54.00 | -19.90 | 1.26 V | 141 | -1.50 | 35.50 |
| 5 | 7386.00 | 47.90 PK | 74.00 | -26.10 | 1.16 V | 82 | 7.10 | 40.80 |
| 5 | 7386.00 | 37.10 AV | 54.00 | -16.90 | 1.16 V | 82 | -3.70 | 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**

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **TEST MODE** | With Adapter | **FREQUENCY RANGE** | Below 1000MHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Quasi-Peak |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 70%RH, 961hPa | **TESTED BY** | 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 | 62.20 | 26.90 QP | 40.00 | -13.10 | 1.95 H | 193 | 19.20 | 7.60 |
| 2 | 156.56 | 33.20 QP | 43.50 | -10.30 | 1.88 H | 57 | 21.40 | 11.80 |
| 3 | 240.60 | 32.60 QP | 46.00 | -13.40 | 1.84 H | 196 | 19.00 | 13.60 |
| 4 | 320.44 | 32.50 QP | 46.00 | -13.50 | 1.74 H | 232 | 15.90 | 16.60 |
| 5 | 447.92 | 34.60 QP | 46.00 | -11.40 | 1.56 H | 119 | 14.90 | 19.70 |
| 6 | 583.30 | 34.10 QP | 46.00 | -11.90 | 1.46 H | 49 | 10.90 | 23.20 |
| 7 | 664.80 | 37.00 QP | 46.00 | -9.00 | 1.25 H | 57 | 12.80 | 24.20 |
| 8 | 718.08 | 35.90 QP | 46.00 | -10.10 | 1.00 H | 175 | 10.80 | 25.00 |
| 9 | 839.00 | 33.50 QP | 46.00 | -12.50 | 1.00 H | 247 | 5.70 | 27.80 |
| 10 | 977.62 | 44.10 QP | 54.00 | -9.90 | 1.00 H | 228 | 15.20 | 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 | 58.35 | 28.60 QP | 40.00 | -11.40 | 1.00 V | 259 | 20.50 | 8.10 |
| 2 | 179.03 | 33.00 QP | 43.50 | -10.50 | 1.00 V | 192 | 22.50 | 10.40 |
| 3 | 266.08 | 33.60 QP | 46.00 | -12.40 | 1.00 V | 94 | 18.20 | 15.40 |
| 4 | 369.65 | 34.00 QP | 46.00 | -12.00 | 1.00 V | 154 | 15.90 | 18.10 |
| 5 | 432.30 | 36.50 QP | 46.00 | -9.50 | 1.16 V | 236 | 16.90 | 19.60 |
| 6 | 533.43 | 32.20 QP | 46.00 | -13.80 | 1.93 V | 212 | 10.00 | 22.20 |
| 7 | 620.75 | 35.90 QP | 46.00 | -10.10 | 1.76 V | 238 | 12.10 | 23.80 |
| 8 | 733.38 | 33.10 QP | 46.00 | -12.90 | 1.60 V | 201 | 7.40 | 25.70 |
| 9 | 842.15 | 36.60 QP | 46.00 | -9.40 | 1.46 V | 236 | 8.70 | 27.90 |
| 10 | 919.75 | 36.20 QP | 46.00 | -9.80 | 1.32 V | 210 | 7.80 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **TEST MODE** | With POE | **FREQUENCY RANGE** | Below 1000MHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Quasi-Peak |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 70%RH, 961hPa | **TESTED BY** | 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 | 75.70 | 27.60 QP | 40.00 | -12.40 | 2.03 H | 181 | 18.80 | 8.80 |
| 2 | 166.98 | 32.20 QP | 43.50 | -11.30 | 1.92 H | 23 | 21.10 | 11.10 |
| 3 | 221.83 | 33.80 QP | 46.00 | -12.20 | 1.79 H | 136 | 21.40 | 12.40 |
| 4 | 382.60 | 37.30 QP | 46.00 | -8.70 | 1.60 H | 237 | 18.70 | 18.60 |
| 5 | 470.58 | 33.80 QP | 46.00 | -12.20 | 1.44 H | 318 | 13.40 | 20.50 |
| 6 | 570.88 | 36.90 QP | 46.00 | -9.10 | 1.33 H | 174 | 14.00 | 23.00 |
| 7 | 661.88 | 32.90 QP | 46.00 | -13.10 | 1.24 H | 123 | 8.70 | 24.20 |
| 8 | 791.13 | 35.80 QP | 46.00 | -10.20 | 1.12 H | 38 | 9.40 | 26.40 |
| 9 | 841.22 | 34.90 QP | 46.00 | -11.10 | 1.00 H | 100 | 7.00 | 27.90 |
| 10 | 915.50 | 36.50 QP | 46.00 | -9.50 | 1.00 H | 161 | 8.20 | 28.30 |

**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 | 112.13 | 31.20 QP | 43.50 | -12.30 | 1.00 V | 235 | 19.40 | 11.80 |
| 2 | 182.93 | 28.90 QP | 43.50 | -14.60 | 1.00 V | 324 | 18.40 | 10.50 |
| 3 | 268.45 | 35.40 QP | 46.00 | -10.60 | 1.00 V | 246 | 20.00 | 15.40 |
| 4 | 342.10 | 32.90 QP | 46.00 | -13.10 | 1.00 V | 149 | 15.80 | 17.10 |
| 5 | 478.78 | 32.70 QP | 46.00 | -13.30 | 1.08 V | 215 | 12.00 | 20.70 |
| 6 | 553.10 | 34.90 QP | 46.00 | -11.10 | 1.83 V | 239 | 12.20 | 22.60 |
| 7 | 608.13 | 35.90 QP | 46.00 | -10.10 | 1.64 V | 260 | 12.30 | 23.60 |
| 8 | 762.33 | 36.90 QP | 46.00 | -9.10 | 1.44 V | 138 | 10.50 | 26.40 |
| 9 | 879.65 | 33.80 QP | 46.00 | -12.20 | 1.31 V | 72 | 5.90 | 27.90 |
| 10 | 920.90 | 37.60 QP | 46.00 | -8.40 | 1.21 V | 221 | 9.20 | 28.50 |

**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

## 802.11b DSSS modulation

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 1 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK) Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 34.50 PK | 74.00 | -39.50 | 1.10 H | 355 | 0.80 | 33.70 |
| 1 | 2390.00 | 25.80 AV | 54.00 | -28.20 | 1.10 H | 355 | -7.90 | 33.70 |
| 2 | *2412.00 | 85.90 PK | | | 1.10 H | 355 | 56.10 | 29.80 |
| 2 | *2412.00 | 79.10 AV | | | 1.10 H | 355 | 49.30 | 29.80 |
| 3 | 4824.00 | 42.80 PK | 74.00 | -31.20 | 1.26 H | 31 | 7.70 | 35.10 |
| 3 | 4824.00 | 31.40 AV | 54.00 | -22.60 | 1.26 H | 31 | -3.70 | 35.10 |
| 4 | 7236.00 | 47.60 PK | 74.00 | -26.40 | 1.41 H | 49 | 7.10 | 40.50 |
| 4 | 7236.00 | 36.20 AV | 54.00 | -17.80 | 1.41 H | 49 | -4.30 | 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 | 60.70 PK | 74.00 | -13.30 | 1.08 V | 356 | 27.00 | 33.70 |
| 1 | 2390.00 | 51.80 AV | 54.00 | -2.20 | 1.08 V | 356 | 18.10 | 33.70 |
| 2 | *2412.00 | 112.10 PK | | | 1.08 V | 356 | 82.30 | 29.80 |
| 2 | *2412.00 | 105.10 AV | | | 1.08 V | 356 | 75.30 | 29.80 |
| 3 | 4824.00 | 46.40 PK | 74.00 | -27.60 | 1.19 V | 43 | 11.30 | 35.10 |
| 3 | 4824.00 | 35.10 AV | 54.00 | -18.90 | 1.19 V | 43 | 0.00 | 35.10 |
| 4 | 7236.00 | 48.30 PK | 74.00 | -25.70 | 1.24 V | 317 | 7.80 | 40.50 |
| 4 | 7236.00 | 36.90 AV | 54.00 | -17.10 | 1.24 V | 317 | -3.60 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 6 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 94.80 PK | | | 1.07 H | 354 | 64.90 | 29.90 |
| 1 | *2437.00 | 87.80 AV | | | 1.07 H | 354 | 57.90 | 29.90 |
| 2 | 4874.00 | 38.40 PK | 74.00 | -35.60 | 1.21 H | 33 | 3.00 | 35.30 |
| 2 | 4874.00 | 27.70 AV | 54.00 | -26.30 | 1.21 H | 33 | -7.70 | 35.30 |
| 3 | 7311.00 | 48.20 PK | 74.00 | -25.80 | 1.43 H | 42 | 7.50 | 40.70 |
| 3 | 7311.00 | 36.80 AV | 54.00 | -17.20 | 1.43 H | 42 | -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 | 122.10 PK | | | 1.07 V | 357 | 92.20 | 29.90 |
| 1 | *2437.00 | 114.10 AV | | | 1.07 V | 357 | 84.20 | 29.90 |
| 2 | 4874.00 | 49.80 PK | 74.00 | -24.20 | 1.21 V | 50 | 14.50 | 35.30 |
| 2 | 4874.00 | 38.10 AV | 54.00 | -15.90 | 1.21 V | 50 | 2.80 | 35.30 |
| 3 | 7311.00 | 50.80 PK | 74.00 | -23.20 | 1.27 V | 315 | 10.10 | 40.70 |
| 3 | 7311.00 | 41.30 AV | 54.00 | -12.70 | 1.27 V | 315 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 11 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 83.30 PK | | | 1.06 H | 354 | 53.30 | 30.00 |
| 1 | *2462.00 | 76.50 AV | | | 1.06 H | 354 | 46.50 | 30.00 |
| 2 | 2483.50 | 35.20 PK | 74.00 | -38.80 | 1.06 H | 354 | 5.10 | 30.10 |
| 2 | 2483.50 | 25.10 AV | 54.00 | -28.90 | 1.06 H | 354 | -5.00 | 30.10 |
| 3 | 2487.00 | 37.00 PK | 74.00 | -37.00 | 1.06 H | 354 | 6.90 | 30.10 |
| 3 | 2487.00 | 25.50 AV | 54.00 | -28.50 | 1.06 H | 354 | -4.60 | 30.10 |
| 4 | 4924.00 | 43.60 PK | 74.00 | -30.40 | 1.25 H | 314 | 8.00 | 35.50 |
| 4 | 4924.00 | 31.80 AV | 54.00 | -22.20 | 1.25 H | 314 | -3.80 | 35.50 |
| 5 | 7386.00 | 48.40 PK | 74.00 | -25.60 | 1.37 H | 39 | 7.60 | 40.80 |
| 5 | 7386.00 | 36.60 AV | 54.00 | -17.40 | 1.37 H | 39 | -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 | 110.80 PK | | | 1.07 V | 356 | 80.80 | 30.00 |
| 1 | *2462.00 | 103.80 AV | | | 1.07 V | 356 | 73.80 | 30.00 |
| 2 | 2483.50 | 62.70 PK | 74.00 | -11.30 | 1.07 V | 356 | 32.60 | 30.10 |
| 2 | 2483.50 | 52.40 AV | 54.00 | -1.60 | 1.07 V | 356 | 22.30 | 30.10 |
| 3 | 2487.00 | 64.50 PK | 74.00 | -9.50 | 1.07 V | 356 | 34.40 | 30.10 |
| 3 | 2487.00 | 52.80 AV | 54.00 | -1.20 | 1.07 V | 356 | 22.70 | 30.10 |
| 4 | 4924.00 | 44.60 PK | 74.00 | -29.40 | 1.25 V | 49 | 9.00 | 35.50 |
| 4 | 4924.00 | 33.50 AV | 54.00 | -20.50 | 1.25 V | 49 | -2.10 | 35.50 |
| 5 | 7386.00 | 48.90 PK | 74.00 | -25.10 | 1.32 V | 346 | 8.10 | 40.80 |
| 5 | 7386.00 | 37.10 AV | 54.00 | -16.90 | 1.32 V | 346 | -3.70 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 1 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 37.30 PK | 74.00 | -36.70 | 1.09 H | 354 | 3.60 | 33.70 |
| 1 | 2390.00 | 26.80 AV | 54.00 | -27.20 | 1.09 H | 354 | -6.90 | 33.70 |
| 2 | *2412.00 | 83.40 PK | | | 1.09 H | 354 | 53.60 | 29.80 |
| 2 | *2412.00 | 74.50 AV | | | 1.09 H | 354 | 44.70 | 29.80 |
| 3 | 4824.00 | 41.80 PK | 74.00 | -32.20 | 1.14 H | 315 | 6.70 | 35.10 |
| 3 | 4824.00 | 30.80 AV | 54.00 | -23.20 | 1.14 H | 315 | -4.30 | 35.10 |
| 4 | 7236.00 | 47.30 PK | 74.00 | -26.70 | 1.27 H | 76 | 6.80 | 40.50 |
| 4 | 7236.00 | 36.00 AV | 54.00 | -18.00 | 1.27 H | 76 | -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 | 2390.00 | 63.40 PK | 74.00 | -10.60 | 1.09 V | 354 | 29.70 | 33.70 |
| 1 | 2390.00 | 52.50 AV | 54.00 | -1.50 | 1.09 V | 354 | 18.80 | 33.70 |
| 2 | *2412.00 | 109.50 PK | | | 1.09 V | 354 | 79.70 | 29.80 |
| 2 | *2412.00 | 100.20 AV | | | 1.09 V | 354 | 70.40 | 29.80 |
| 3 | 4824.00 | 42.60 PK | 74.00 | -31.40 | 1.21 V | 47 | 7.50 | 35.10 |
| 3 | 4824.00 | 31.30 AV | 54.00 | -22.70 | 1.21 V | 47 | -3.80 | 35.10 |
| 4 | 7236.00 | 47.90 PK | 74.00 | -26.10 | 1.26 V | 304 | 7.40 | 40.50 |
| 4 | 7236.00 | 36.50 AV | 54.00 | -17.50 | 1.26 V | 304 | -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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 6 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 95.80 PK | | | 1.07 H | 354 | 65.90 | 29.90 |
| 1 | *2437.00 | 86.70 AV | | | 1.07 H | 354 | 56.80 | 29.90 |
| 2 | 4874.00 | 42.80 PK | 74.00 | -31.20 | 1.15 H | 323 | 7.50 | 35.30 |
| 2 | 4874.00 | 31.30 AV | 54.00 | -22.70 | 1.15 H | 323 | -4.00 | 35.30 |
| 3 | 7311.00 | 47.80 PK | 74.00 | -26.20 | 1.32 H | 59 | 7.10 | 40.70 |
| 3 | 7311.00 | 36.30 AV | 54.00 | -17.70 | 1.32 H | 59 | -4.40 | 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 | 122.70 PK | | | 1.07 V | 357 | 92.80 | 29.90 |
| 1 | *2437.00 | 112.50 AV | | | 1.07 V | 357 | 82.60 | 29.90 |
| 2 | 4874.00 | 44.60 PK | 74.00 | -29.40 | 1.26 V | 58 | 9.30 | 35.30 |
| 2 | 4874.00 | 34.10 AV | 54.00 | -19.90 | 1.26 V | 58 | -1.20 | 35.30 |
| 3 | 7311.00 | 50.80 PK | 74.00 | -23.20 | 1.21 V | 314 | 10.10 | 40.70 |
| 3 | 7311.00 | 39.70 AV | 54.00 | -14.30 | 1.21 V | 314 | -1.00 | 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

| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **CHANNEL** | Channel 11 | **FREQUENCY RANGE** | 1 ~ 25GHz |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION** | Peak(PK)<br>Average (AV) |
| **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa | **TESTED BY** | 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 | 81.60 PK | | | 1.06 H | 354 | 51.60 | 30.00 |
| 1 | *2462.00 | 72.90 AV | | | 1.06 H | 354 | 42.90 | 30.00 |
| 2 | 2483.50 | 38.70 PK | 74.00 | -35.30 | 1.06 H | 354 | 8.60 | 30.10 |
| 2 | 2483.50 | 26.10 AV | 54.00 | -27.90 | 1.06 H | 354 | -4.00 | 30.10 |
| 3 | 4924.00 | 43.00 PK | 74.00 | -31.00 | 1.09 H | 307 | 7.40 | 35.50 |
| 3 | 4924.00 | 31.30 AV | 54.00 | -22.70 | 1.09 H | 307 | -4.30 | 35.50 |
| 4 | 7386.00 | 47.70 PK | 74.00 | -26.30 | 1.37 H | 43 | 6.90 | 40.80 |
| 4 | 7386.00 | 36.10 AV | 54.00 | -17.90 | 1.37 H | 43 | -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 | 108.70 PK | | | 1.08 V | 358 | 78.70 | 30.00 |
| 1 | *2462.00 | 99.50 AV | | | 1.08 V | 358 | 69.50 | 30.00 |
| 2 | 2483.50 | 65.80 PK | 74.00 | -8.20 | 1.08 V | 358 | 35.70 | 30.10 |
| 2 | 2483.50 | 52.70 AV | 54.00 | -1.30 | 1.08 V | 358 | 22.60 | 30.10 |
| 3 | 4924.00 | 43.50 PK | 74.00 | -30.50 | 1.24 V | 43 | 7.90 | 35.50 |
| 3 | 4924.00 | 31.90 AV | 54.00 | -22.10 | 1.24 V | 43 | -3.70 | 35.50 |
| 4 | 7386.00 | 48.30 PK | 74.00 | -25.70 | 1.15 V | 321 | 7.50 | 40.80 |
| 4 | 7386.00 | 36.70 AV | 54.00 | -17.30 | 1.15 V | 321 | -4.10 | 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.

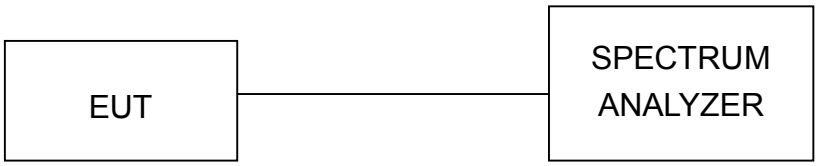
### 4.3.3 TEST PROCEDURE

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.

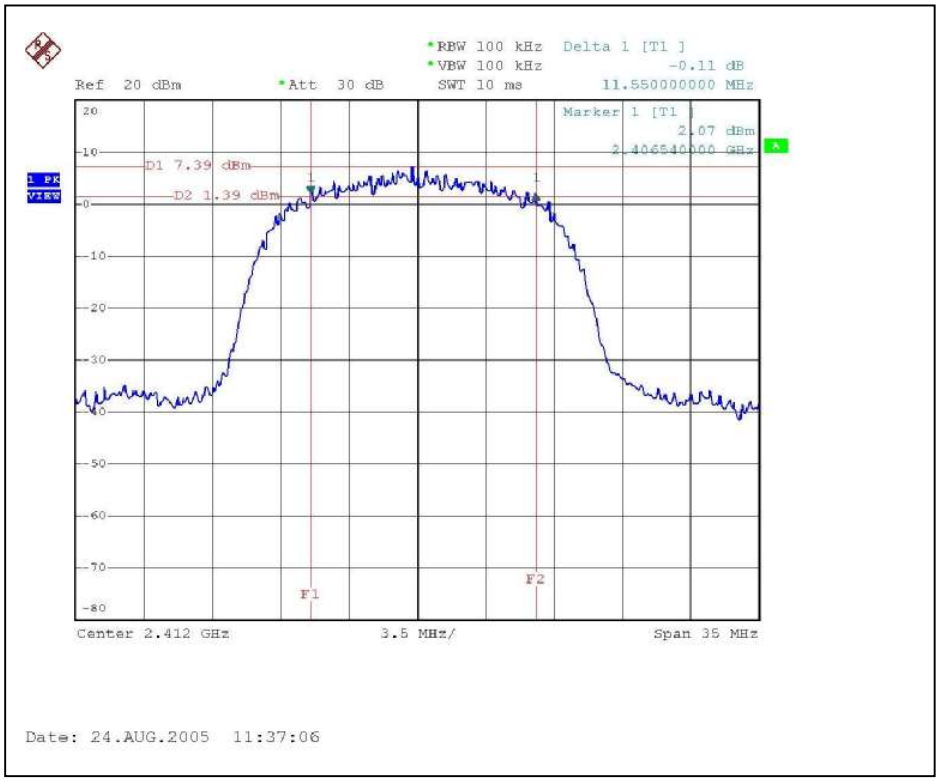
## 4.3.7 TEST RESULTS (ANTENNA 1)

### 802.11b DSSS modulation

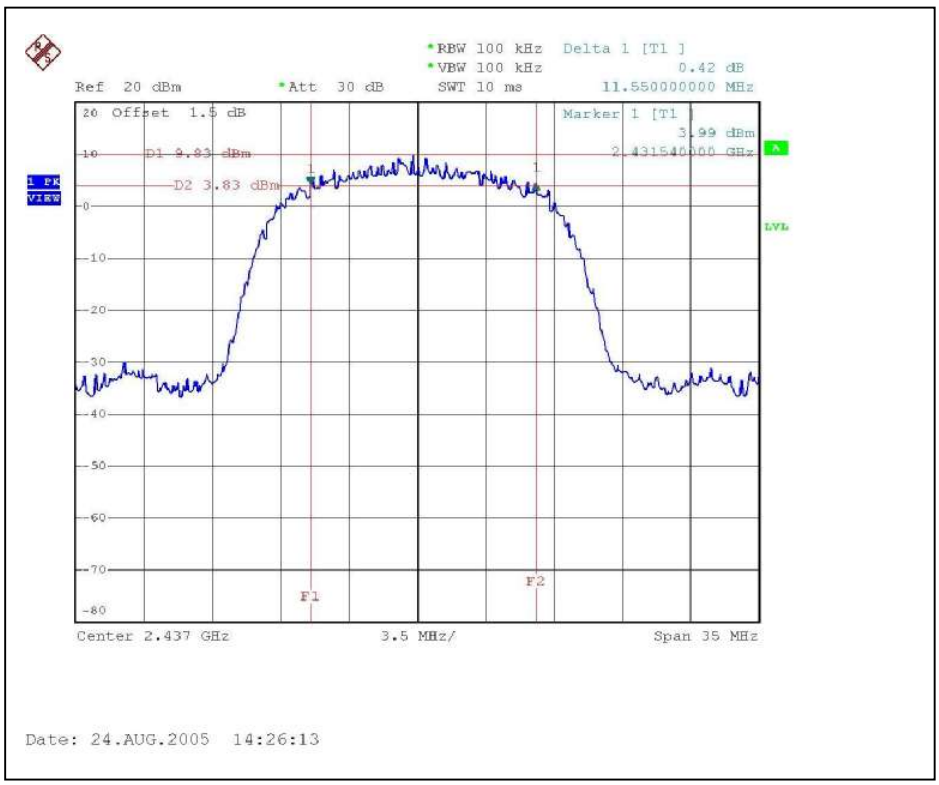
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 11.55 | 0.5 | PASS |
| 6 | 2437 | 11.55 | 0.5 | PASS |
| 11 | 2462 | 11.55 | 0.5 | PASS |

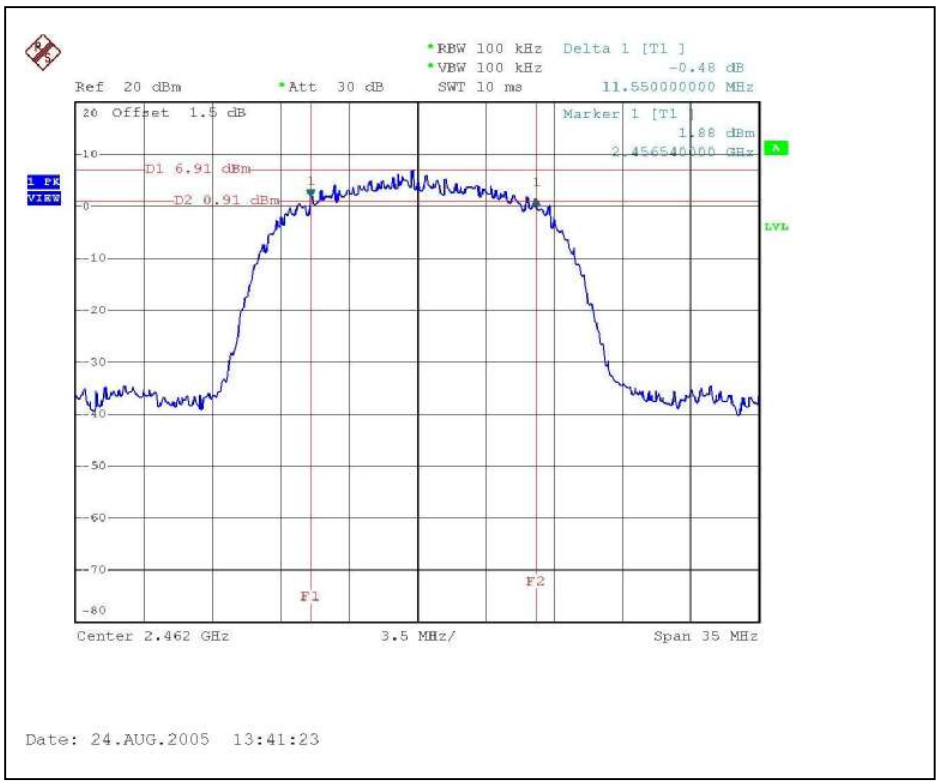
CH1


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
-0.11 dB
11.550000000 MHz
Ref 20 dBm
Att 30 dB
SWT 10 ms
Marker 1 [T1 ]
2.07 dBm
2.406540000 GHz
D1 7.39 dBm
D2 1.39 dBm
1 PK VIEW
F1
F2
Center 2.412 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 11:37:06

CH6


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
0.42 dB
11.550000000 MHz
Ref 20 dBm
Att 30 dB
SWT 10 ms
Offset 1.5 dB
Marker 1 [T1 ]
3.99 dBm
2.431540000 GHz
D1 9.83 dBm
D2 3.83 dBm
1 PK VIEW
F1
F2
Center 2.437 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 14:26:13

CH11

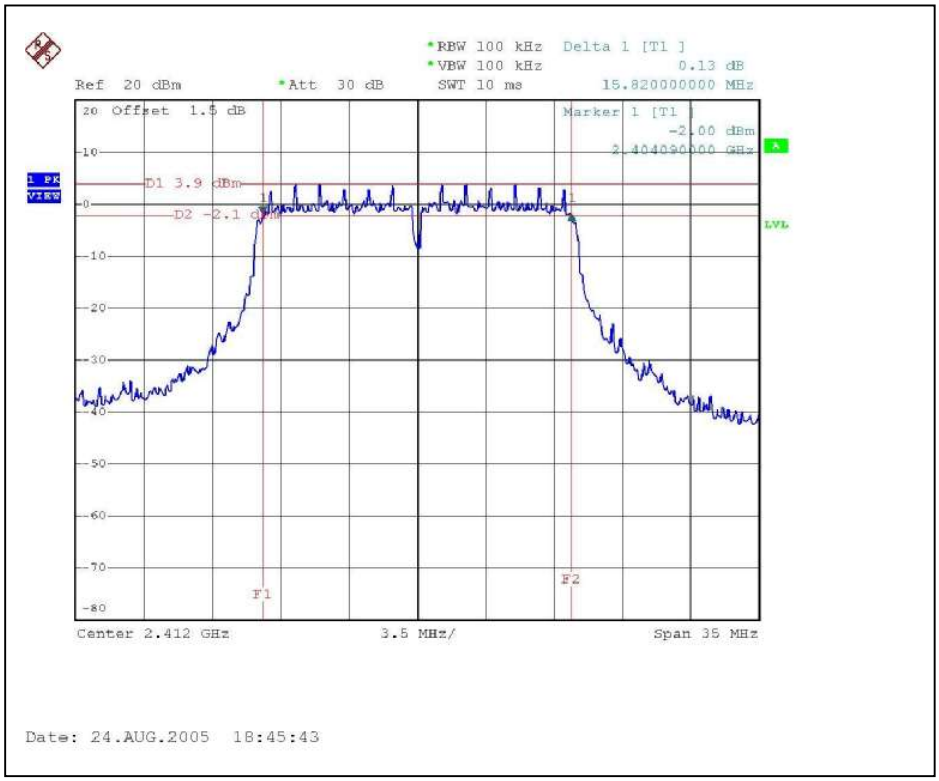

*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
-0.48 dB
11.550000000 MHz
Ref 20 dBm
*Att 30 dB
20 Offset 1.5 dB
Marker 1 [T1
1.88 dBm
2.456540000 GHz
D1 6.91 dBm
D2 0.91 dBm
1 PK VIEW
LVL
F1
F2
Center 2.462 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 13:41:23

## 802.11g OFDM modulation

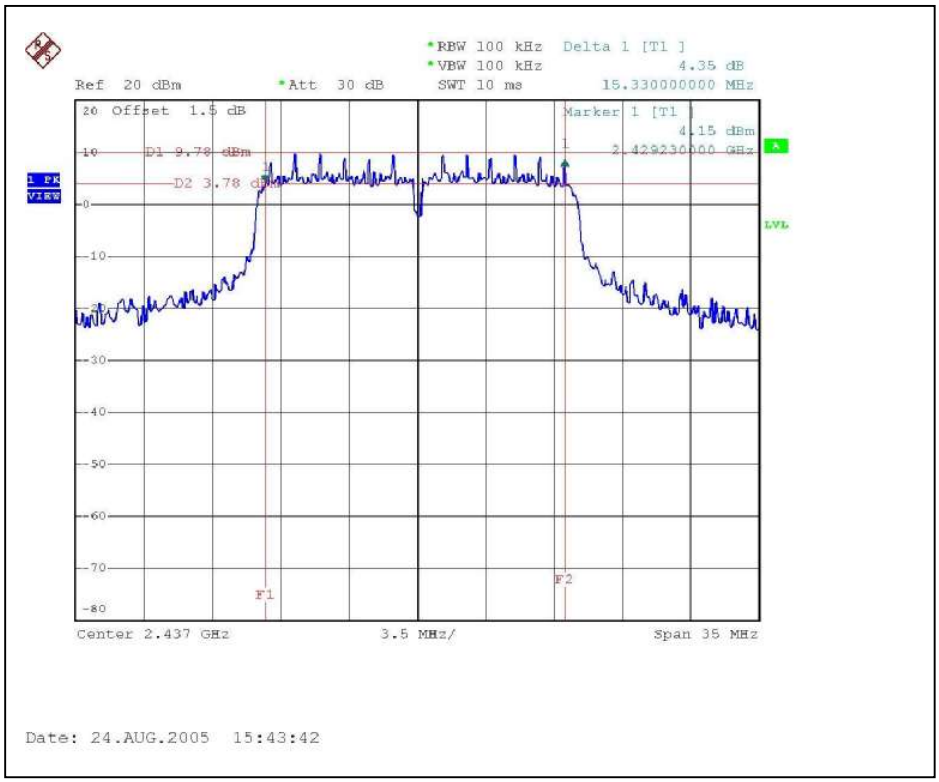
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 15.82 | 0.5 | PASS |
| 6 | 2437 | 15.33 | 0.5 | PASS |
| 11 | 2462 | 15.75 | 0.5 | PASS |

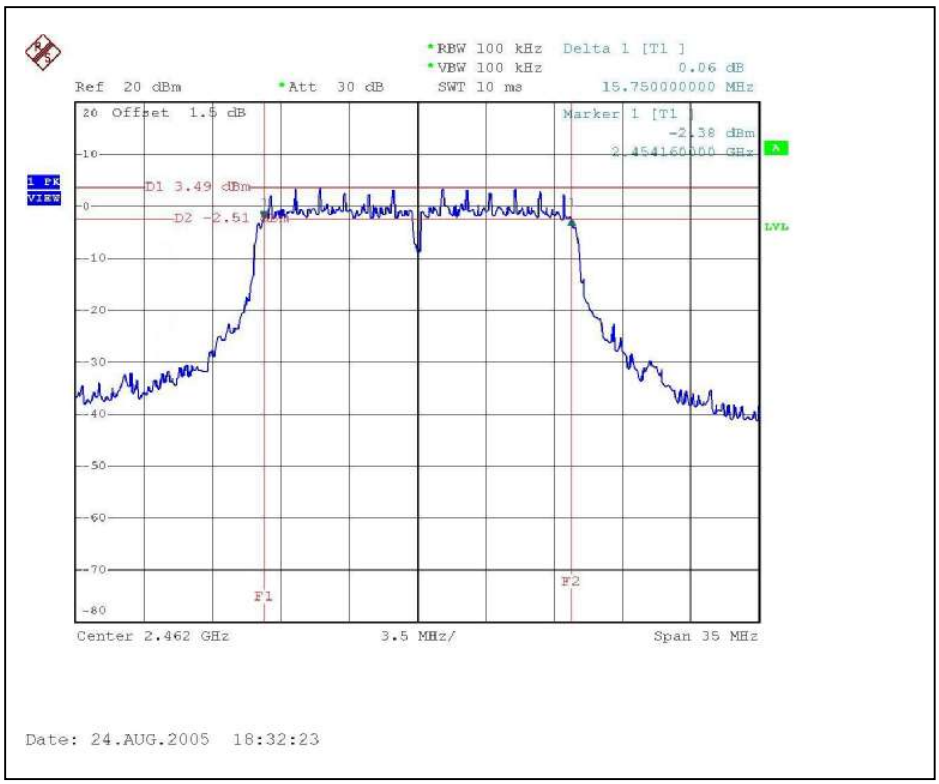
CH1


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
0.13 dB
15.820000000 MHz
Ref 20 dBm
Att 30 dB
SWT 10 ms
Offset 1.5 dB
Marker 1 [T1 ]
-2.00 dBm
2.404090000 GHz
D1 3.9 dBm
D2 -2.1 dBm
1 PK VIEW
LVL
F1
F2
Center 2.412 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 18:45:43

CH6


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
4.35 dB
15.330000000 MHz
Ref 20 dBm
Att 30 dB
SWT 10 ms
Offset 1.5 dB
Marker 1 [T1 ]
4.15 dBm
2.429230000 GHz
D1 9.78 dBm
D2 3.78 dBm
1 PK VIEW
LVL
F1
F2
Center 2.437 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 15:43:42

CH11


*RBW 100 kHz
Delta 1 [T1 ]
*VBW 100 kHz
0.06 dB
Ref 20 dBm
*Att 30 dB
SWT 10 ms
15.750000000 MHz
20 Offset 1.5 dB
Marker 1 [T1 ]
-2.58 dBm
2.454160000 GHz
1 PK VIEW
D1 3.49 dBm
D2 -2.51 dBm
LVL
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 2.462 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 18:32:23

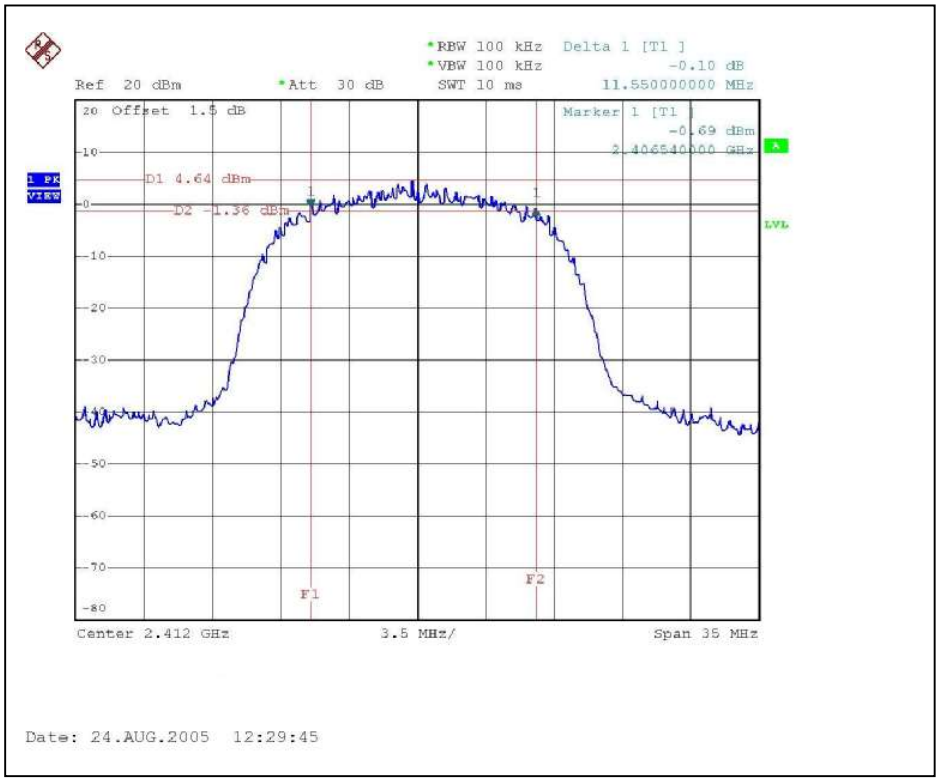
### 4.3.8 TEST RESULTS (ANTENNA 2)

**802.11b DSSS modulation**

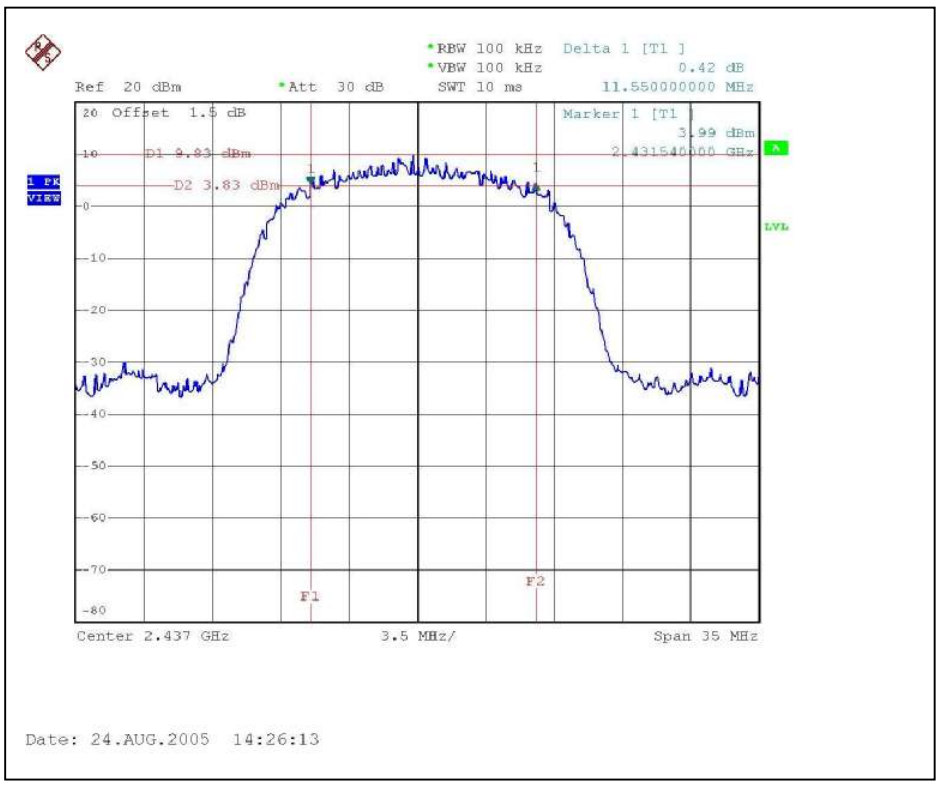
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 11.55 | 0.5 | PASS |
| 6 | 2437 | 11.55 | 0.5 | PASS |
| 11 | 2462 | 11.55 | 0.5 | PASS |

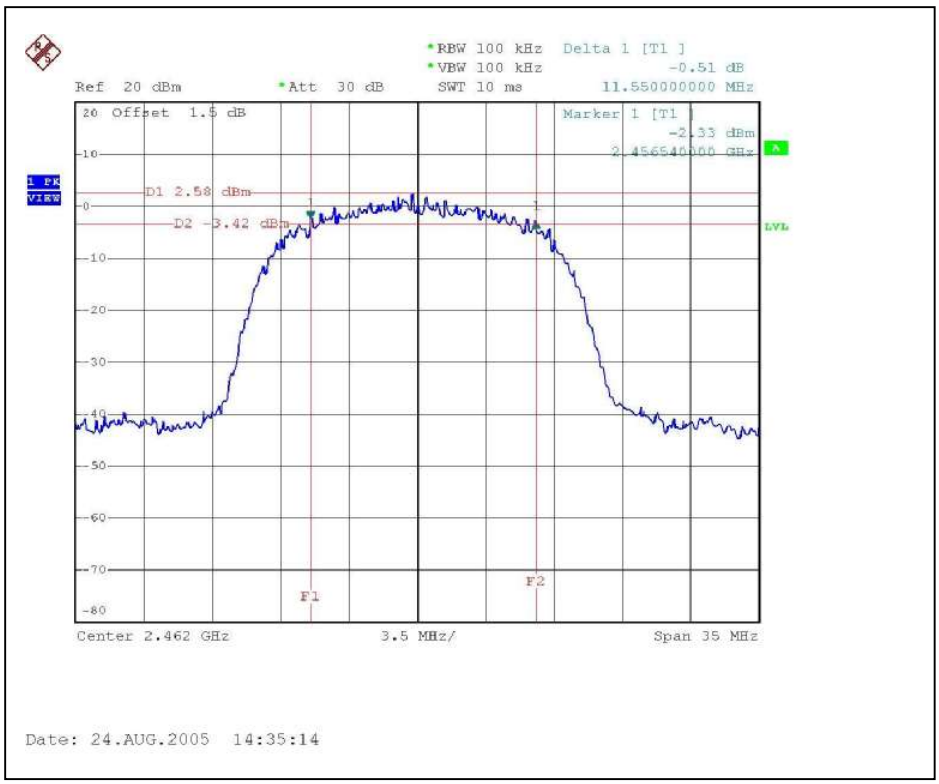
CH1


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
-0.10 dB
11.550000000 MHz
Ref 20 dBm
Att 30 dB
Offset 1.5 dB
Marker 1 [T1 ]
-0.69 dBm
2.406540000 GHz
D1 4.64 dBm
D2 -1.36 dBm
1 PK VIEW
LVL
F1
F2
Center 2.412 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 12:29:45

CH6


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
0.42 dB
11.550000000 MHz
Ref 20 dBm
Att 30 dB
Offset 1.5 dB
Marker 1 [T1 ]
3.99 dBm
2.431540000 GHz
D1 9.83 dBm
D2 3.83 dBm
1 PK VIEW
LVL
F1
F2
Center 2.437 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 14:26:13

CH11

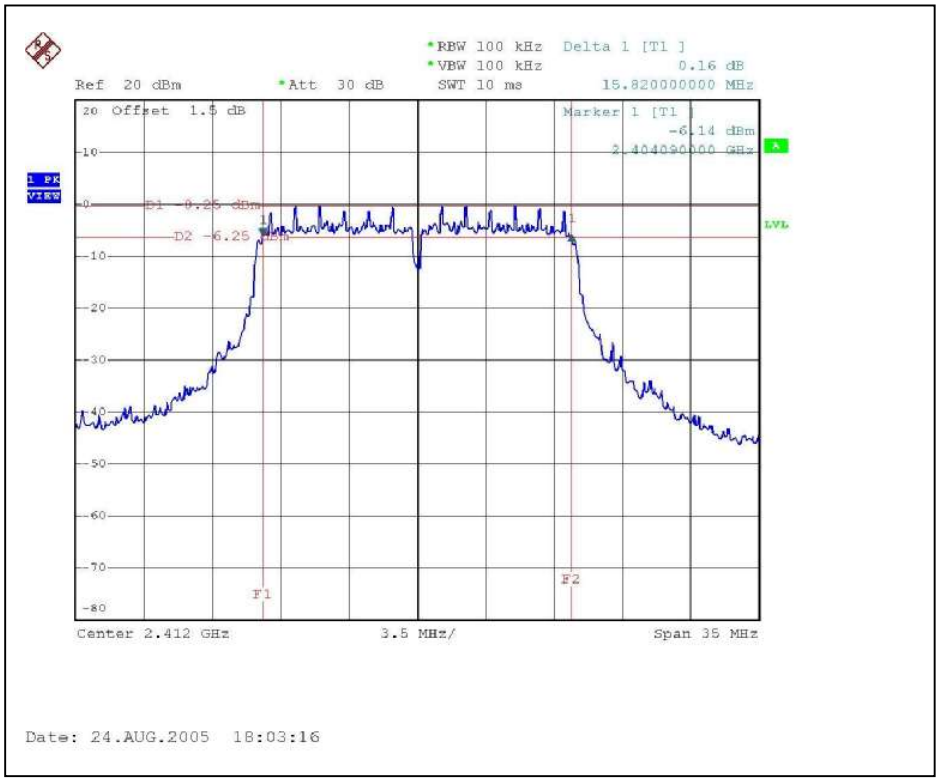

*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
-0.51 dB
11.550000000 MHz
Ref 20 dBm
*Att 30 dB
Offset 1.5 dB
Marker 1 [T1
-2.33 dBm
2.456540000 GHz
D1 2.58 dBm
D2 -3.42 dBm
1 PK
VIEW
LVL
F1
F2
Center 2.462 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 14:35:14

## 802.11g OFDM modulation

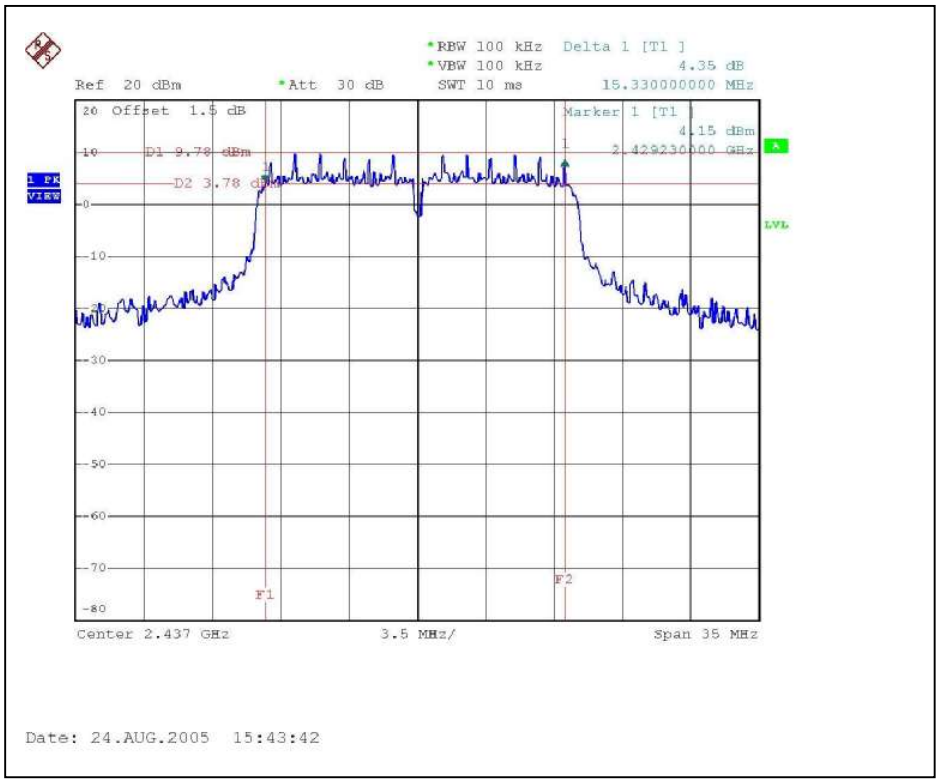
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 15.82 | 0.5 | PASS |
| 6 | 2437 | 15.33 | 0.5 | PASS |
| 11 | 2462 | 15.75 | 0.5 | PASS |

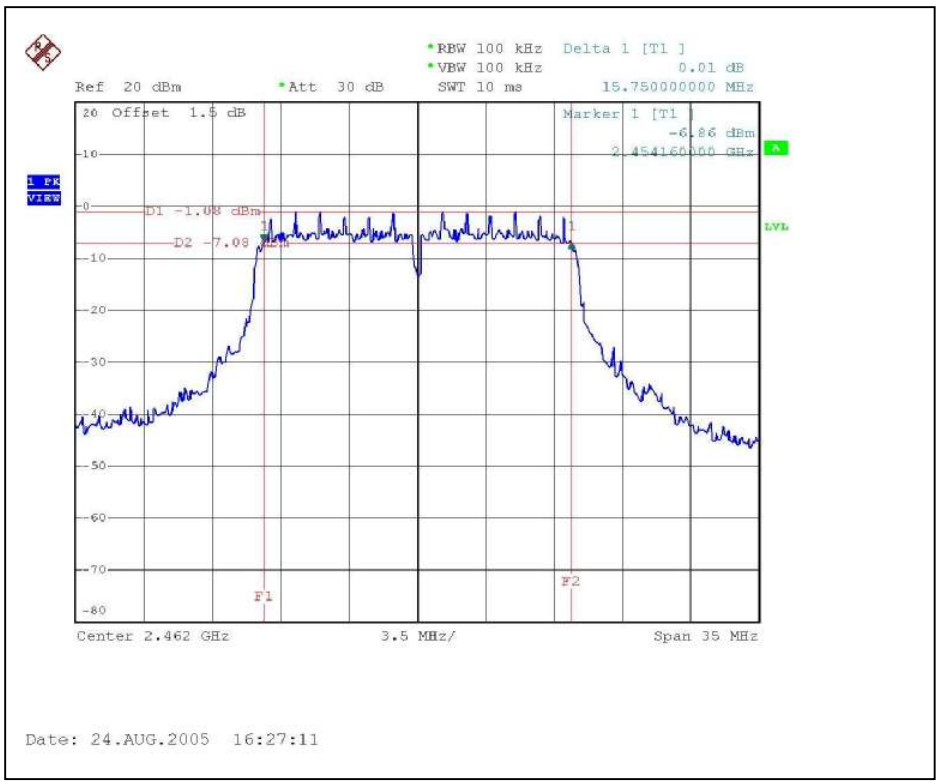
CH1


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
0.16 dB
15.820000000 MHz
Ref 20 dBm
Att 30 dB
SWT 10 ms
Offset 1.5 dB
Marker 1 [T1 ]
-6.14 dBm
2.404090000 GHz
1 PK VIEW
D1 -0.25 dBm
D2 -6.25 dBm
LVL
F1
F2
Center 2.412 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 18:03:16

CH6


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
4.35 dB
15.330000000 MHz
Ref 20 dBm
Att 30 dB
SWT 10 ms
Offset 1.5 dB
Marker 1 [T1 ]
4.15 dBm
2.429230000 GHz
1 PK VIEW
D1 9.78 dBm
D2 3.78 dBm
LVL
F1
F2
Center 2.437 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 15:43:42

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
0.01 dB
15.750000000 MHz
Ref 20 dBm
*Att 30 dB
20 Offset 1.5 dB
Marker 1 [T1
-6.86 dBm
2.454160000 GHz
1 PK
VIEW
D1 -1.08 dBm
D2 -7.08 dBm
LVL
F1
F2
Center 2.462 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 16:27:11

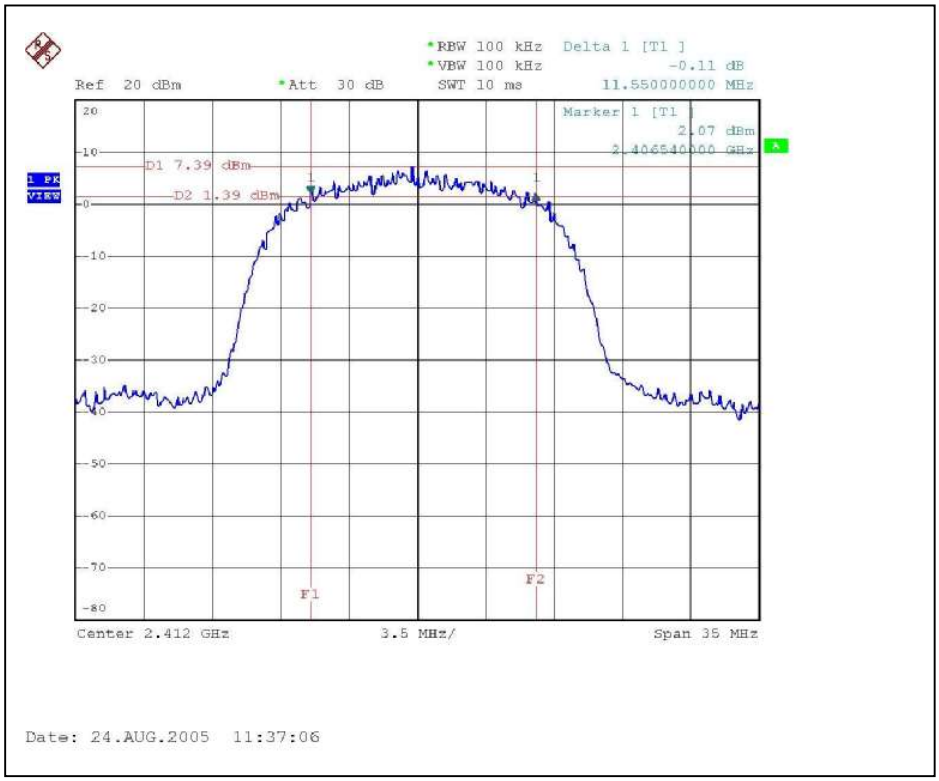
## 4.3.9 TEST RESULTS (ANTENNA 3)

### 802.11b DSSS modulation

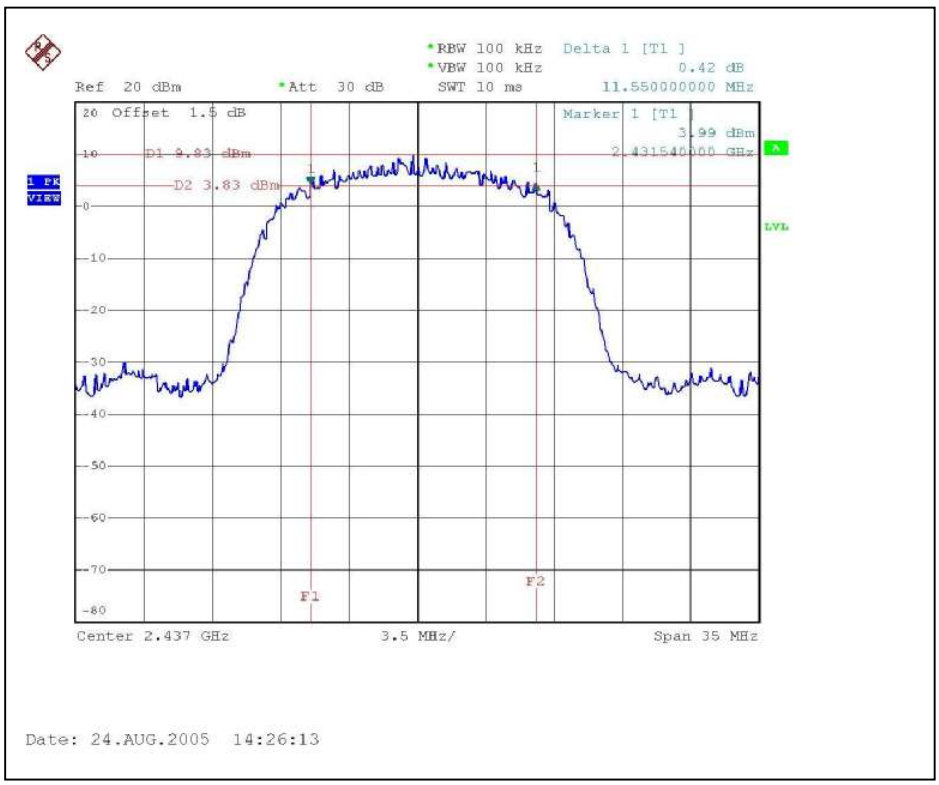
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 11.55 | 0.5 | PASS |
| 6 | 2437 | 11.55 | 0.5 | PASS |
| 11 | 2462 | 11.55 | 0.5 | PASS |

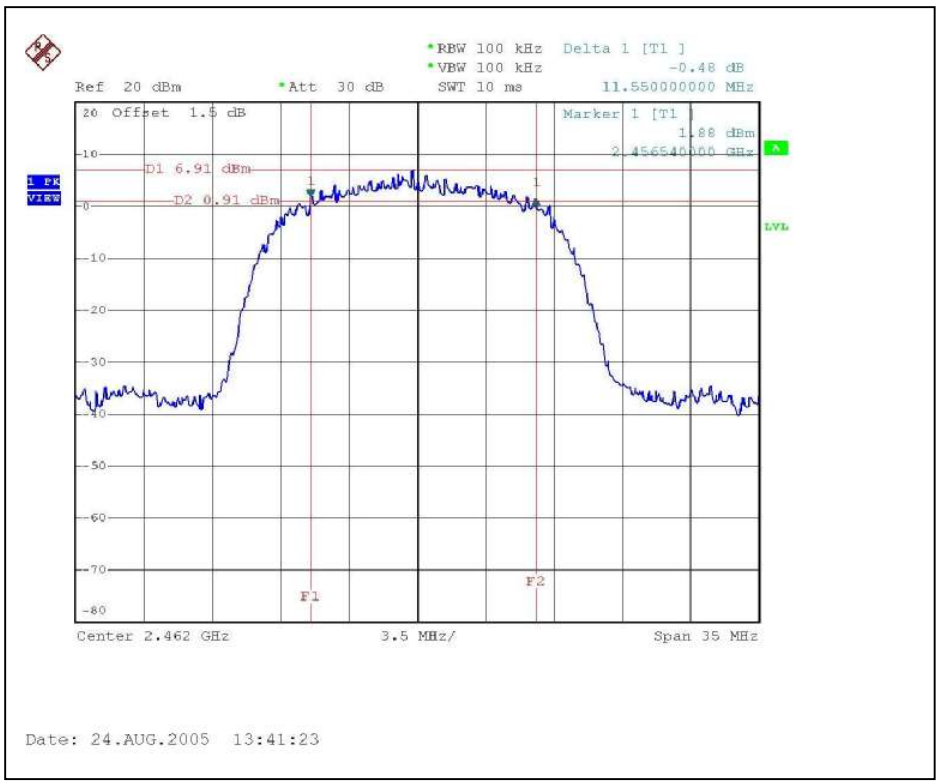
CH1


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
-0.11 dB
11.550000000 MHz
Ref 20 dBm
Att 30 dB
Marker 1 [T1 ]
2.07 dBm
2.406540000 GHz
D1 7.39 dBm
D2 1.39 dBm
F1
F2
Center 2.412 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 11:37:06

CH6


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
0.42 dB
11.550000000 MHz
Ref 20 dBm
Offset 1.5 dB
Att 30 dB
Marker 1 [T1 ]
3.99 dBm
2.431540000 GHz
D1 9.83 dBm
D2 3.83 dBm
F1
F2
Center 2.437 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 14:26:13

CH11

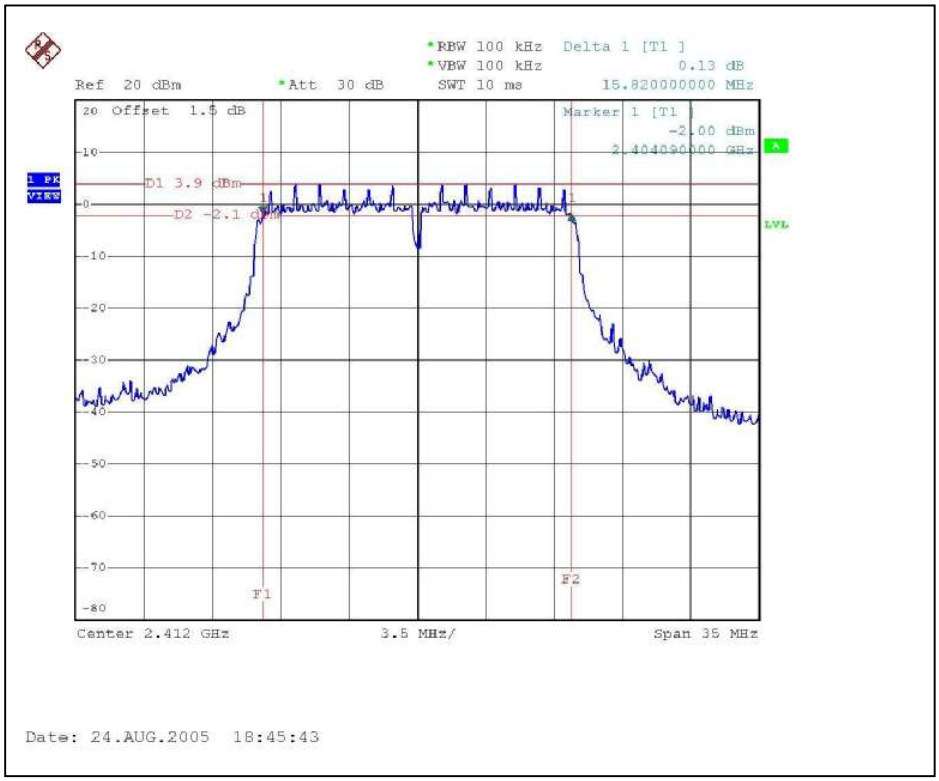

*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
-0.48 dB
11.550000000 MHz
Ref 20 dBm
*Att 30 dB
Offset 1.5 dB
Marker 1 [T1
1.88 dBm
2.456540000 GHz
D1 6.91 dBm
D2 0.91 dBm
1 PK
VIEW
LVL
F1
F2
Center 2.462 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 13:41:23

## 802.11g OFDM modulation

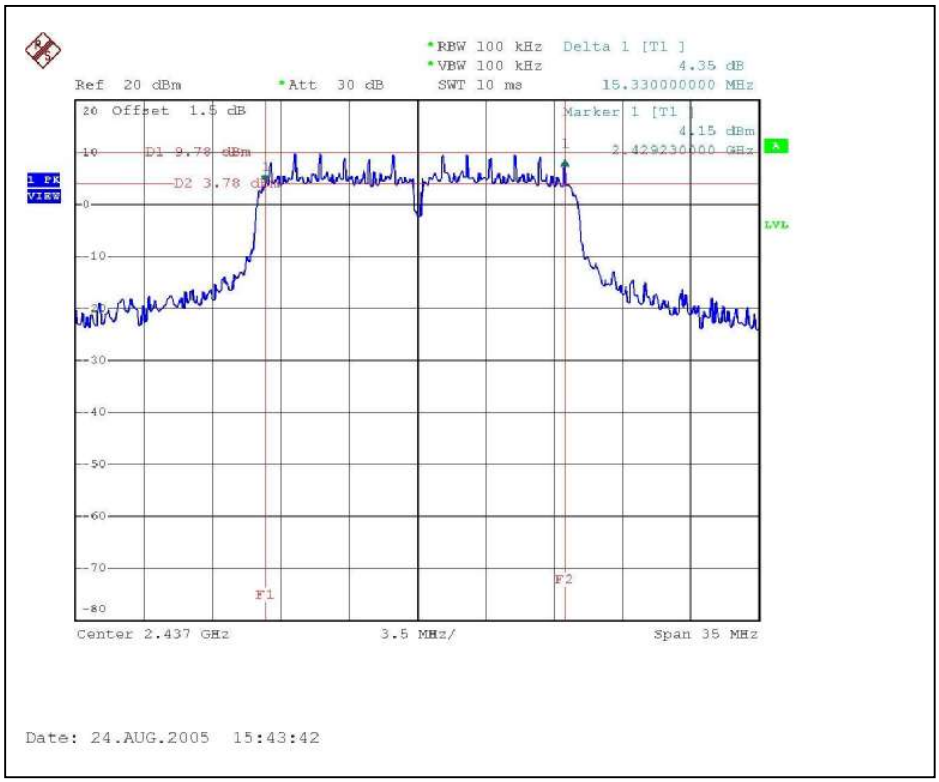
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 15.82 | 0.5 | PASS |
| 6 | 2437 | 15.33 | 0.5 | PASS |
| 11 | 2462 | 15.75 | 0.5 | PASS |

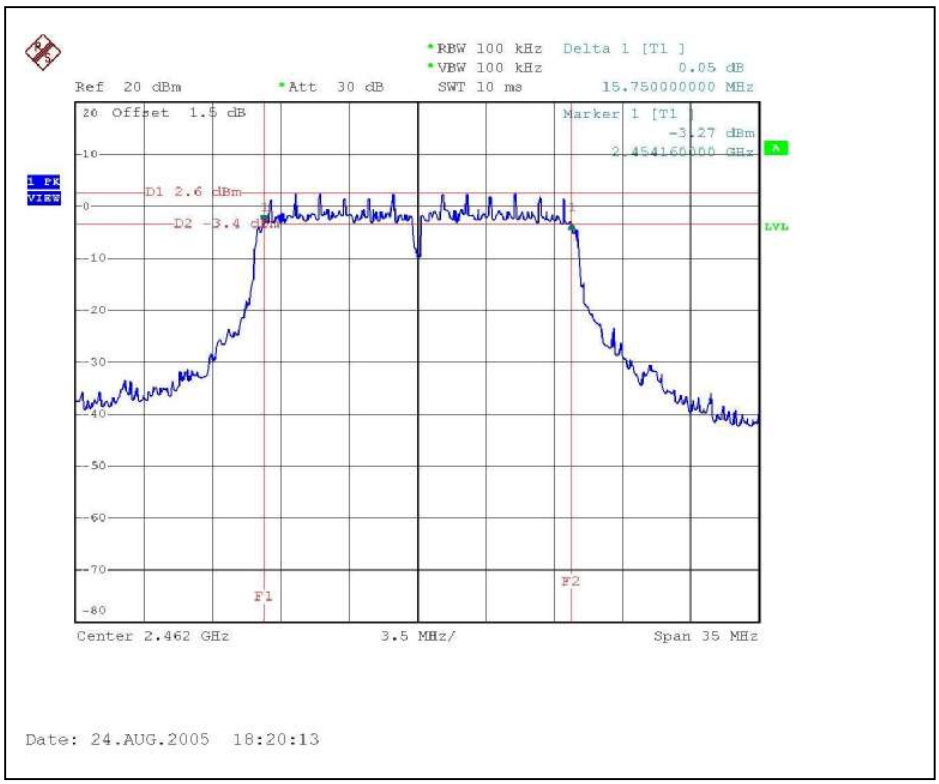
CH1


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
0.13 dB
15.820000000 MHz
Ref 20 dBm
Att 30 dB
SWT 10 ms
Offset 1.5 dB
Marker 1 [T1 ]
-2.00 dBm
2.404090000 GHz
D1 3.9 dBm
D2 -2.1 dBm
1 PK VIEW
LVL
F1
F2
Center 2.412 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 18:45:43

CH6


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
4.35 dB
15.330000000 MHz
Ref 20 dBm
Att 30 dB
SWT 10 ms
Offset 1.5 dB
Marker 1 [T1 ]
4.15 dBm
2.429230000 GHz
D1 9.78 dBm
D2 3.78 dBm
1 PK VIEW
LVL
F1
F2
Center 2.437 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 15:43:42

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
0.05 dB
15.750000000 MHz
Ref 20 dBm
*Att 30 dB
20 Offset 1.5 dB
Marker 1 [T1
-3.27 dBm
2.454160000 GHz
1 PK
VIEW
D1 2.6 dBm
D2 -3.4 dBm
LVL
F1
F2
Center 2.462 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 18:20:13

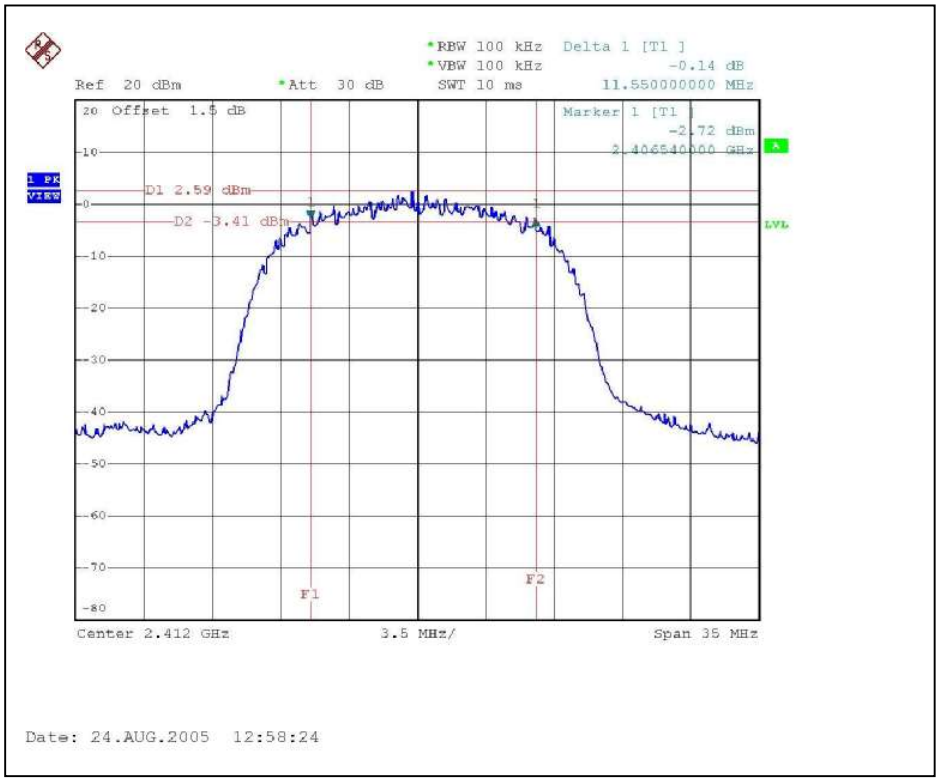
### 4.3.10 TEST RESULTS (ANTENNA 4)

**802.11b DSSS modulation**

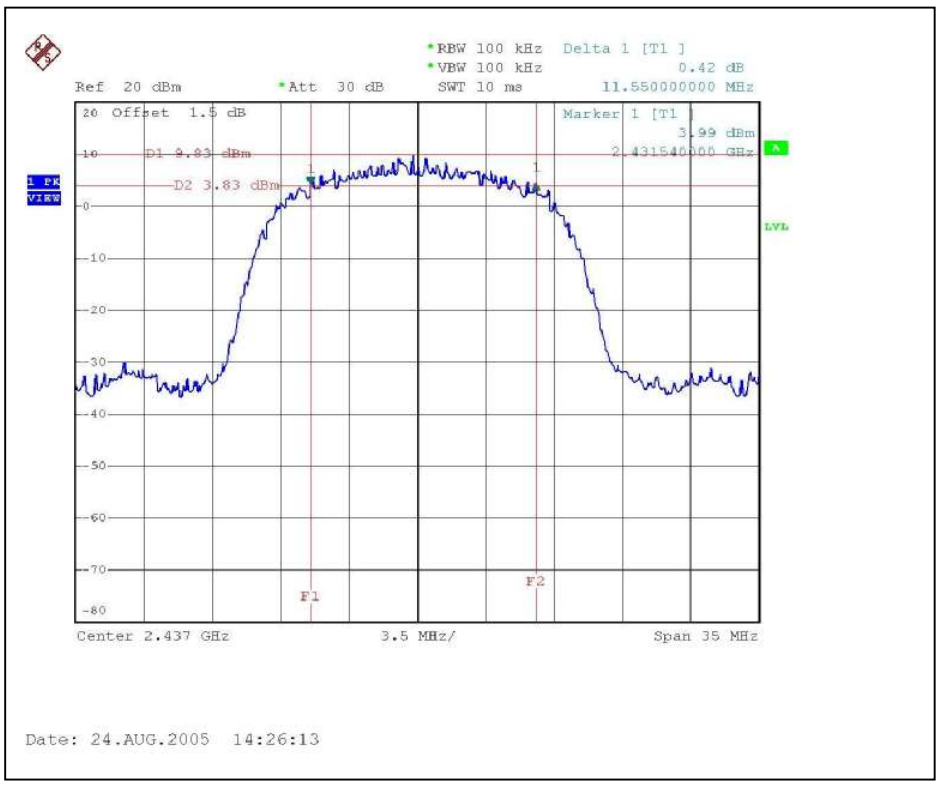
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 11.55 | 0.5 | PASS |
| 6 | 2437 | 11.55 | 0.5 | PASS |
| 11 | 2462 | 11.55 | 0.5 | PASS |

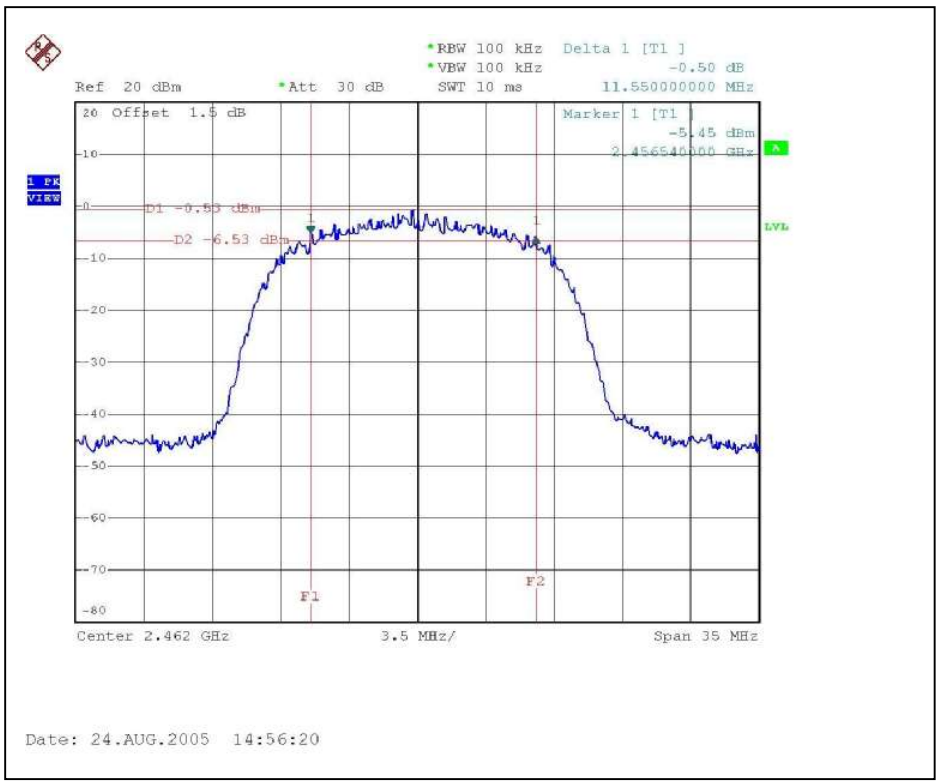
CH1


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
-0.14 dB
11.550000000 MHz
Ref 20 dBm
Att 30 dB
Offset 1.5 dB
Marker 1 [T1 ]
-2.72 dBm
2.406540000 GHz
D1 2.59 dBm
D2 -3.41 dBm
1 PK VIEW
LVL
F1
F2
Center 2.412 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 12:58:24

CH6


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
0.42 dB
11.550000000 MHz
Ref 20 dBm
Att 30 dB
Offset 1.5 dB
Marker 1 [T1 ]
3.99 dBm
2.431540000 GHz
D1 9.83 dBm
D2 3.83 dBm
1 PK VIEW
LVL
F1
F2
Center 2.437 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 14:26:13

CH11

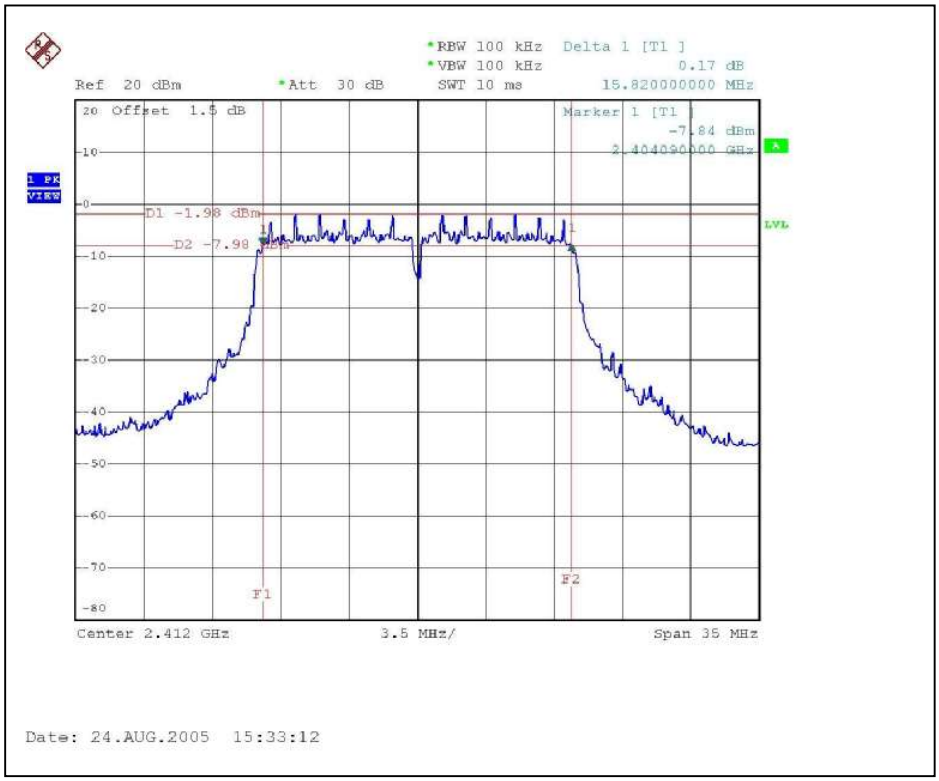

*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
-0.50 dB
11.550000000 MHz
Ref 20 dBm
*Att 30 dB
Offset 1.5 dB
Marker 1 [T1 ]
-5.45 dBm
2.456540000 GHz
1 PK
VIEW
D1 -0.53 dBm
D2 -6.53 dBm
LVL
F1
F2
Center 2.462 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 14:56:20

## 802.11g OFDM modulation

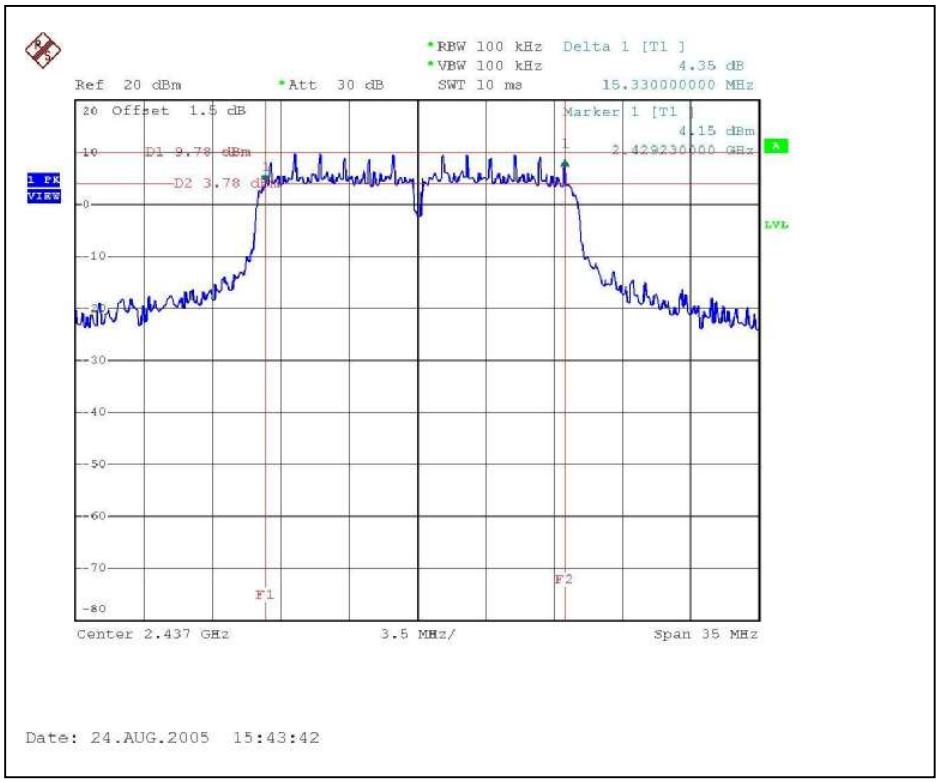
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **ENVIRONMENTAL CONDITIONS** | 27deg. C, 53%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 15.82 | 0.5 | PASS |
| 6 | 2437 | 15.33 | 0.5 | PASS |
| 11 | 2462 | 15.75 | 0.5 | PASS |

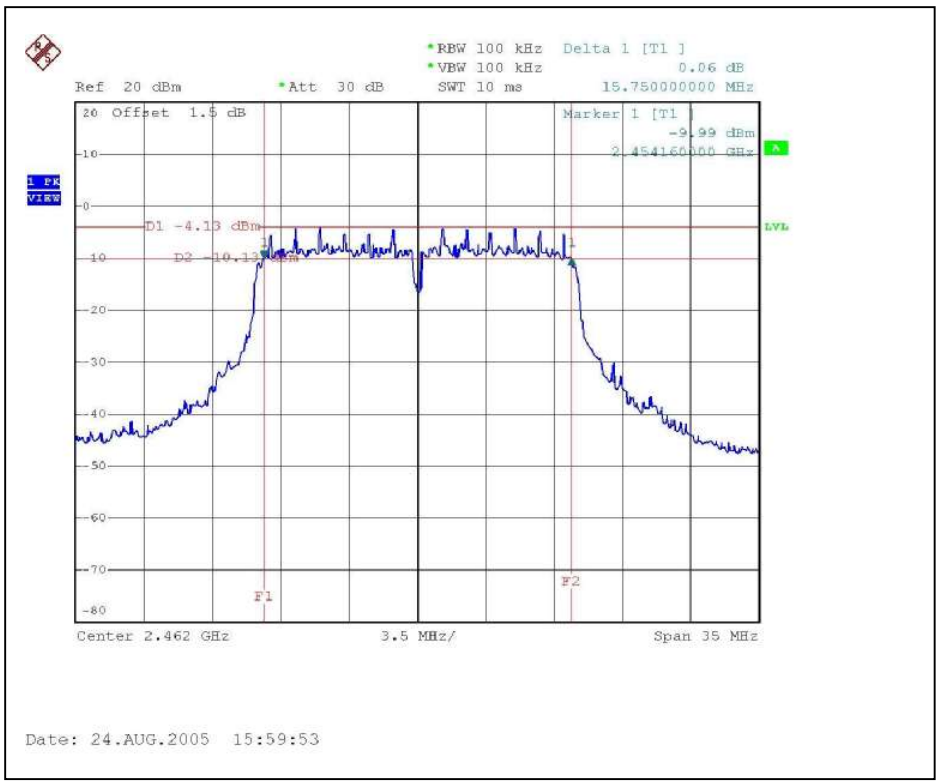
CH1


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
0.17 dB
15.820000000 MHz
Ref 20 dBm
Att 30 dB
Offset 1.5 dB
Marker 1 [T1 ]
-7.84 dBm
2.404090000 GHz
D1 -1.98 dBm
D2 -7.98 dBm
1 PK VIEW
LVL
F1
F2
Center 2.412 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 15:33:12

CH6


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Delta 1 [T1 ]
4.35 dB
15.330000000 MHz
Ref 20 dBm
Att 30 dB
Offset 1.5 dB
Marker 1 [T1 ]
4.15 dBm
2.429230000 GHz
D1 9.78 dBm
D2 3.78 dBm
1 PK VIEW
LVL
F1
F2
Center 2.437 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 15:43:42

CH11


*RBW 100 kHz
Delta 1 [T1 ]
*VBW 100 kHz
0.06 dB
Ref 20 dBm
*Att 30 dB
SWT 10 ms
15.750000000 MHz
20 Offset 1.5 dB
Marker 1 [T1
-9.99 dBm
2.454160000 GHz
1 PK
VIEW
D1 -4.13 dBm
D2 -10.13 dBm
LVL
F1
F2
Center 2.462 GHz
3.5 MHz/
Span 35 MHz
Date: 24.AUG.2005 15:59:53

## 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

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

Antenna 1 (Gain : 3.0 dBi)

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 18.82 | 30 | PASS |
| 6 | 2437 | 19.78 | 30 | PASS |
| 11 | 2462 | 16.58 | 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 | 14.48 | 28 | PASS |
| 6 | 2437 | 19.78 | 28 | PASS |
| 11 | 2462 | 12.32 | 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 | 18.82 | 30 | PASS |
| 6 | 2437 | 19.78 | 30 | PASS |
| 11 | 2462 | 16.58 | 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 | 12.44 | 27.87 | PASS |
| 6 | 2437 | 19.78 | 27.87 | PASS |
| 11 | 2462 | 9.31 | 27.87 | PASS |

## 802.11g OFDM modulation

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

Antenna 1 (Gain : 3.0 dBi)

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 18.96 | 30 | PASS |
| 6 | 2437 | 22.30 | 30 | PASS |
| 11 | 2462 | 18.72 | 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 | 14.68 | 28 | PASS |
| 6 | 2437 | 22.30 | 28 | PASS |
| 11 | 2462 | 13.60 | 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 | 18.96 | 30 | PASS |
| 6 | 2437 | 22.30 | 30 | PASS |
| 11 | 2462 | 17.74 | 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 | 12.57 | 27.87 | PASS |
| 6 | 2437 | 22.30 | 27.87 | PASS |
| 11 | 2462 | 10.32 | 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.

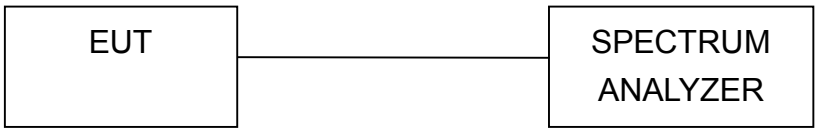
### 4.5.3 TEST PROCEDURE

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

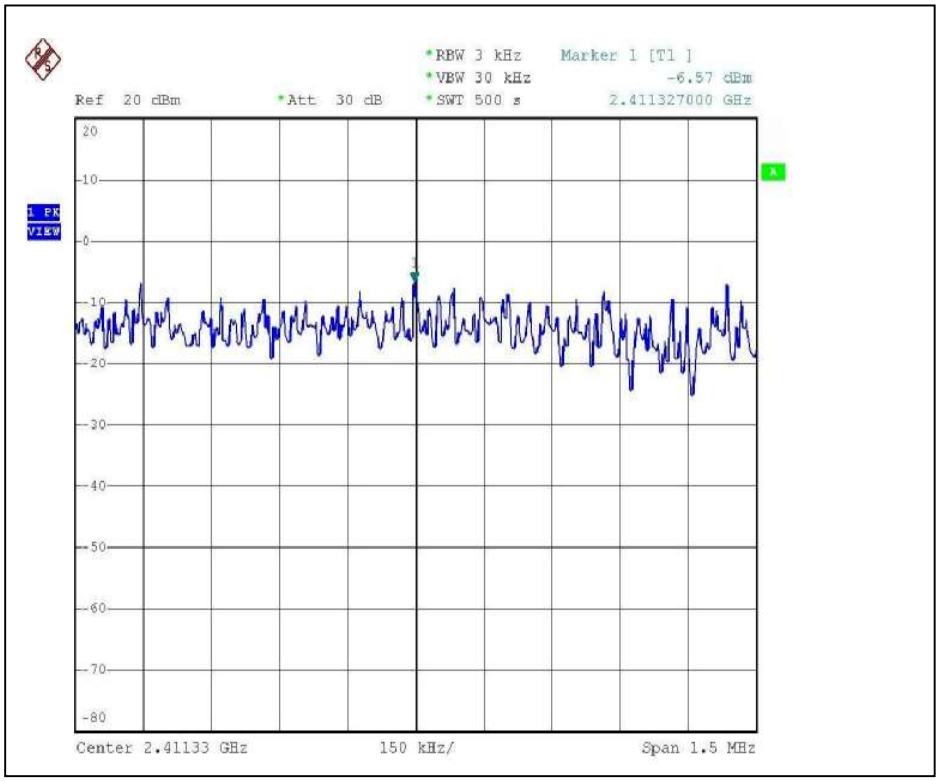
## 4.5.7 TEST RESULTS (ANTENNA 1)

### 802.11b DSSS modulation

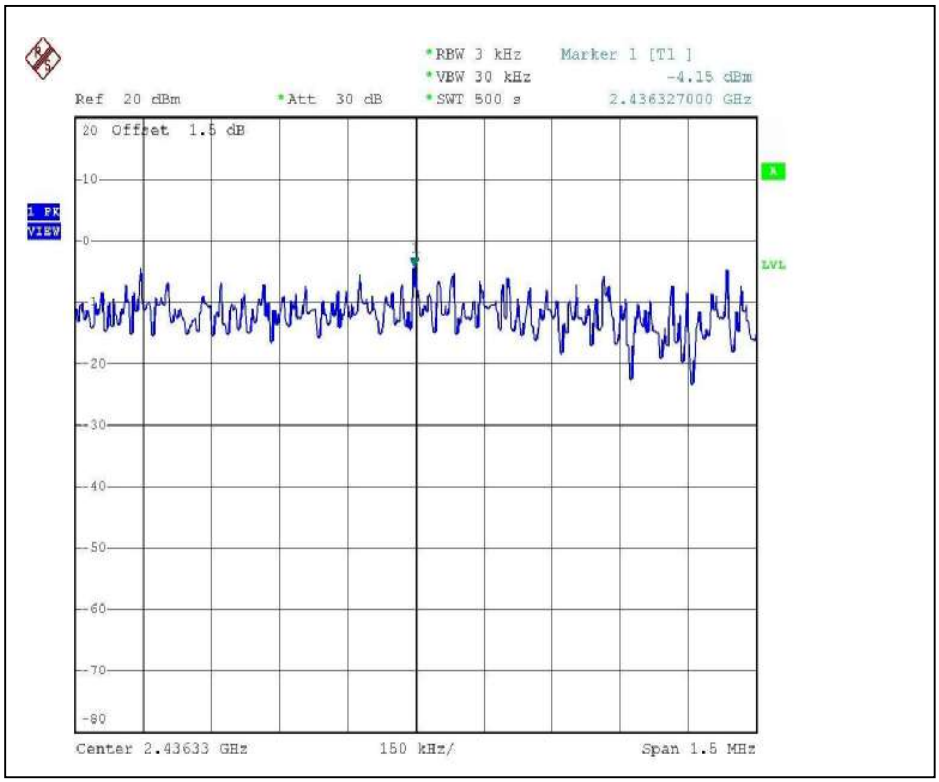
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60Hz | **ENVIRONMENTAL CONDITIONS** | 26deg.C, 64%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -6.57 | 8 | PASS |
| 6 | 2437 | -4.15 | 8 | PASS |
| 11 | 2462 | -6.98 | 8 | PASS |

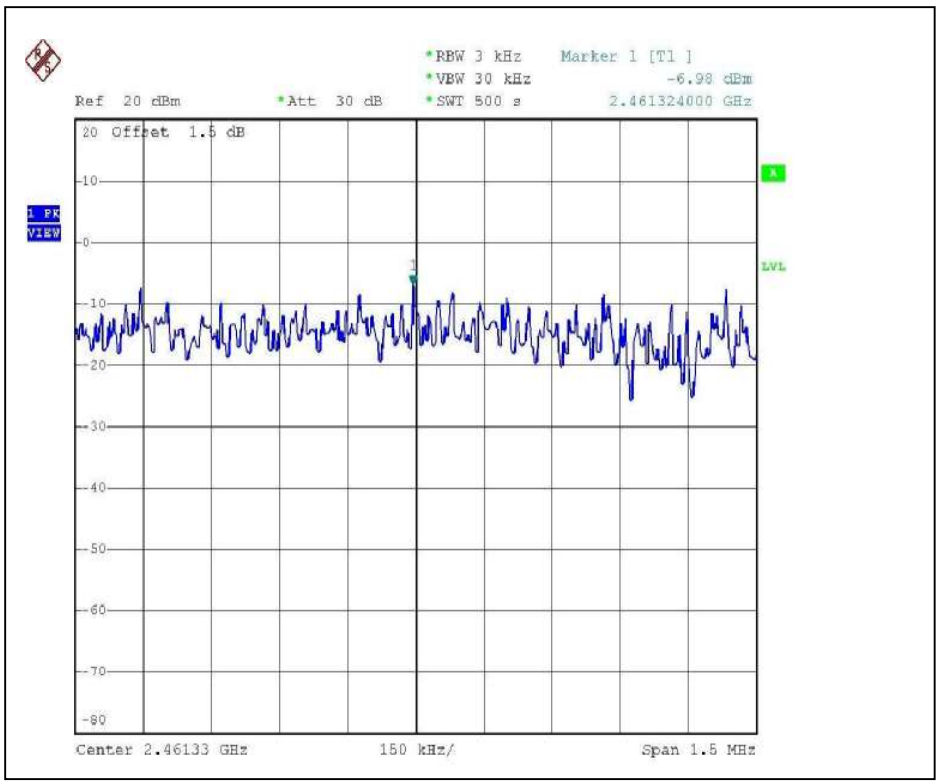
CH1


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-6.57 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.411327000 GHz
1 PK
VIEW
Center 2.41133 GHz
150 kHz/
Span 1.5 MHz

CH6


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-4.15 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.436327000 GHz
20 Offset 1.5 dB
1 PK
VIEW
Center 2.43633 GHz
150 kHz/
Span 1.5 MHz

CH11

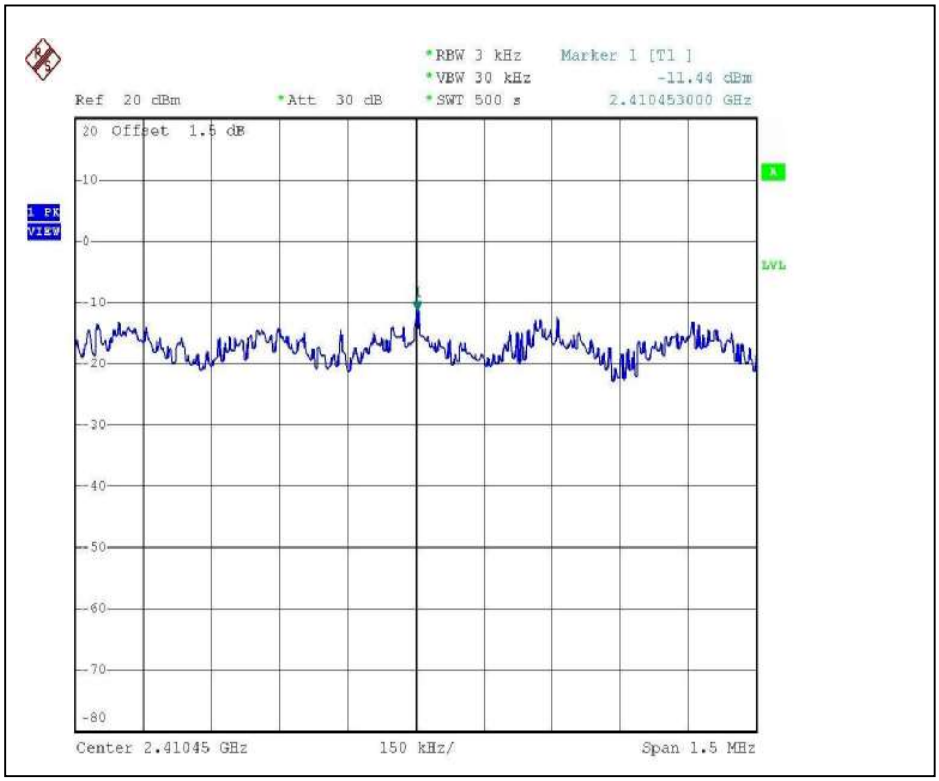

*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-6.98 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.461324000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.46133 GHz
150 kHz/
Span 1.5 MHz

### 802.11g OFDM modulation

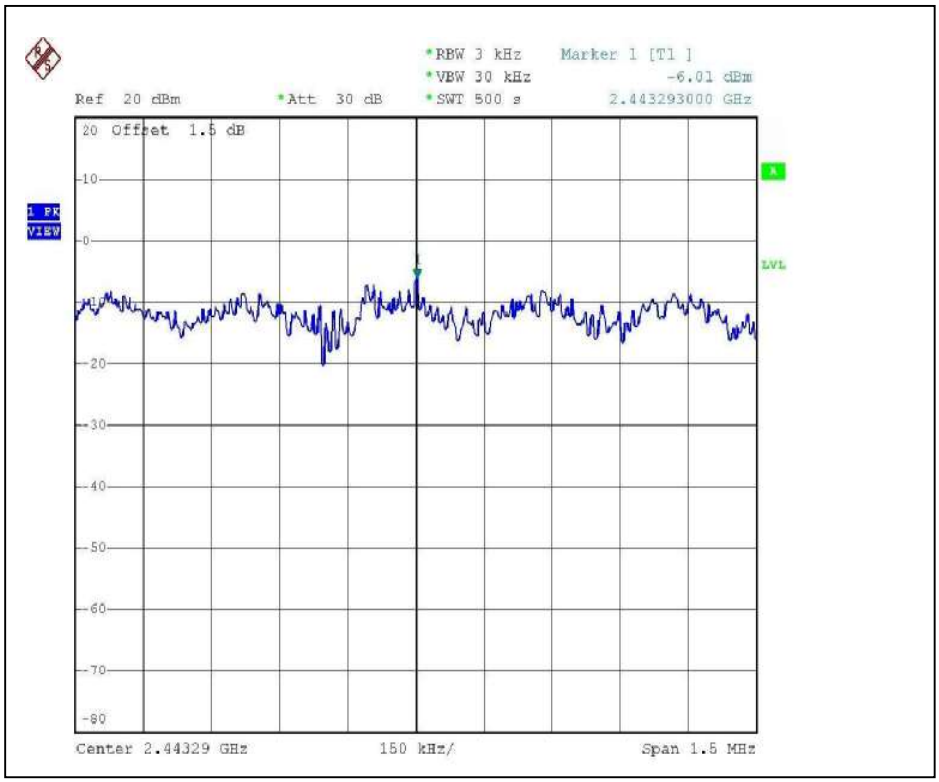
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60Hz | **ENVIRONMENTAL CONDITIONS** | 26deg.C, 64%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -11.44 | 8 | PASS |
| 6 | 2437 | -6.01 | 8 | PASS |
| 11 | 2462 | -11.99 | 8 | PASS |

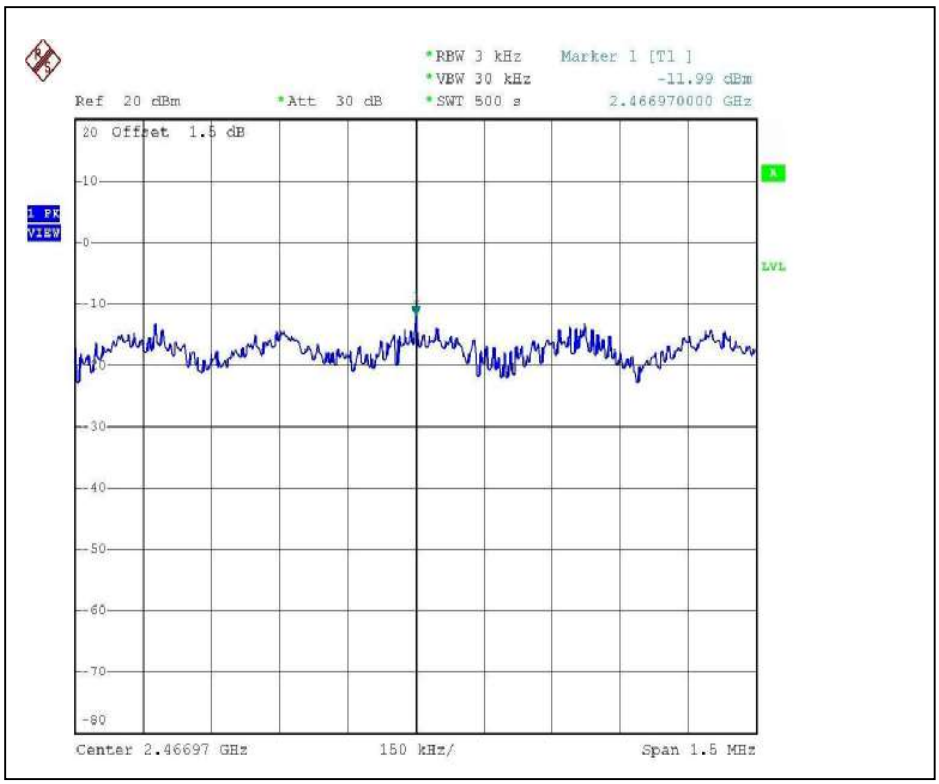
CH1


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-11.44 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.410453000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.41045 GHz
150 kHz/
Span 1.5 MHz

CH6


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-6.01 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.443293000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.44329 GHz
150 kHz/
Span 1.5 MHz

CH11


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-11.99 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.466970000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
-10
0
-10
-30
-40
-50
-60
-70
-80
Center 2.46697 GHz
150 kHz/
Span 1.5 MHz

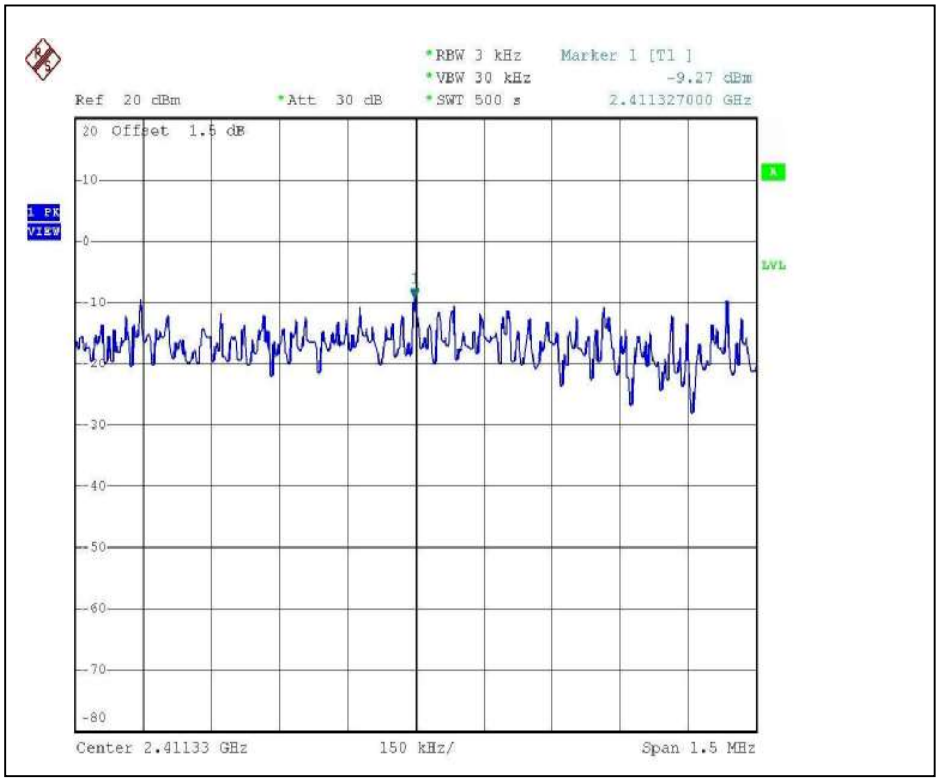
## 4.5.8 TEST RESULTS (ANTENNA 2)

### 802.11b DSSS modulation

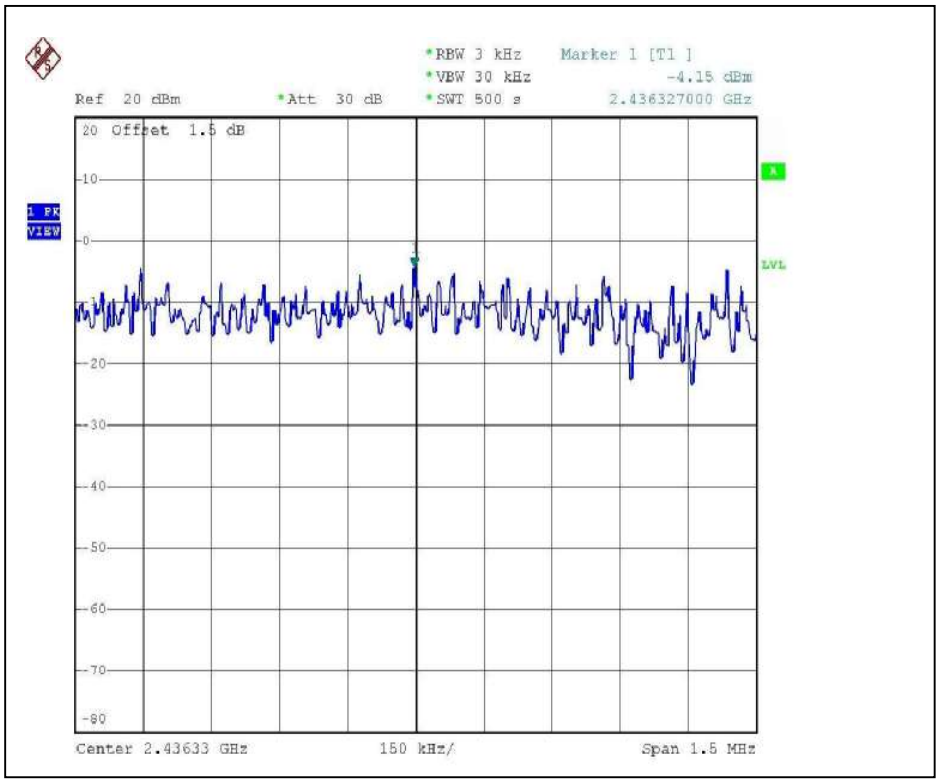
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60Hz | **ENVIRONMENTAL CONDITIONS** | 26deg.C, 64%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -9.27 | 8 | PASS |
| 6 | 2437 | -4.15 | 8 | PASS |
| 11 | 2462 | -11.26 | 8 | PASS |

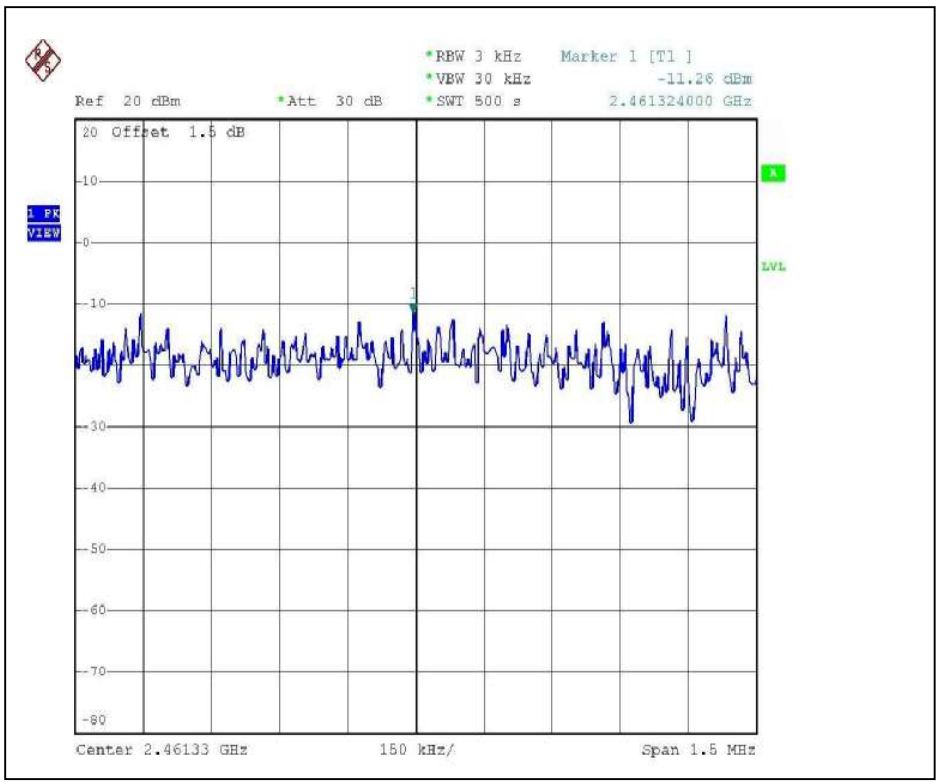
CH1


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-9.27 dBm
2.411327000 GHz
Ref 20 dBm
Att 30 dB
Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.41133 GHz
150 kHz/
Span 1.5 MHz

CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-4.15 dBm
2.436327000 GHz
Ref 20 dBm
Att 30 dB
Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.43633 GHz
150 kHz/
Span 1.5 MHz

CH11

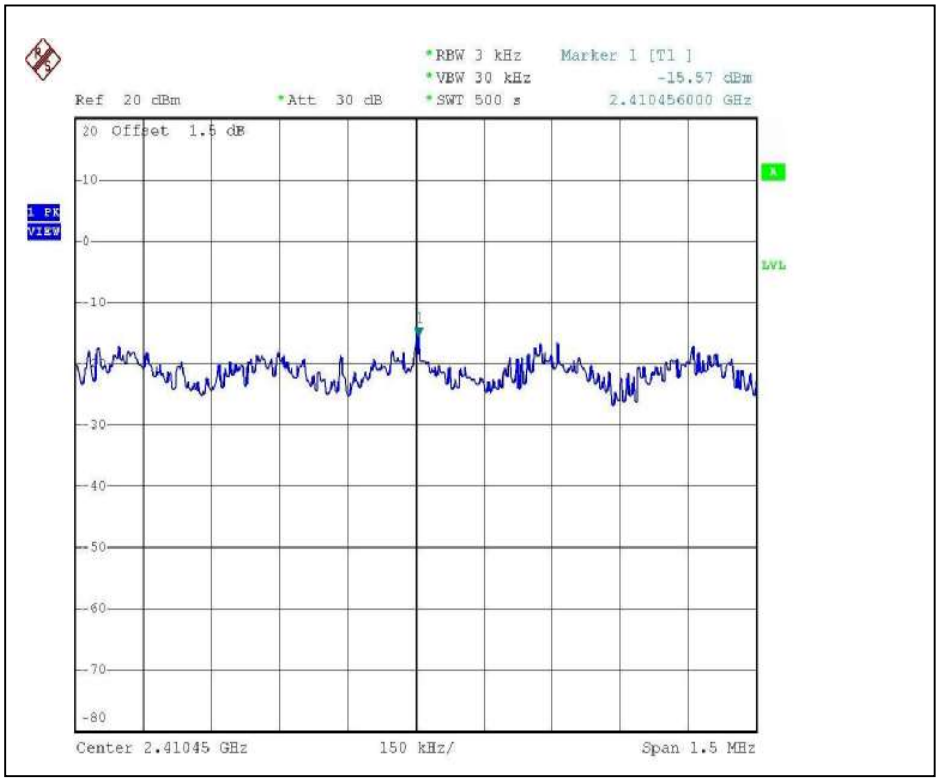

*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-11.26 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.461324000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
10
0
-10
-30
-40
-50
-60
-70
-80
Center 2.46133 GHz
150 kHz/
Span 1.5 MHz

### 802.11g OFDM modulation

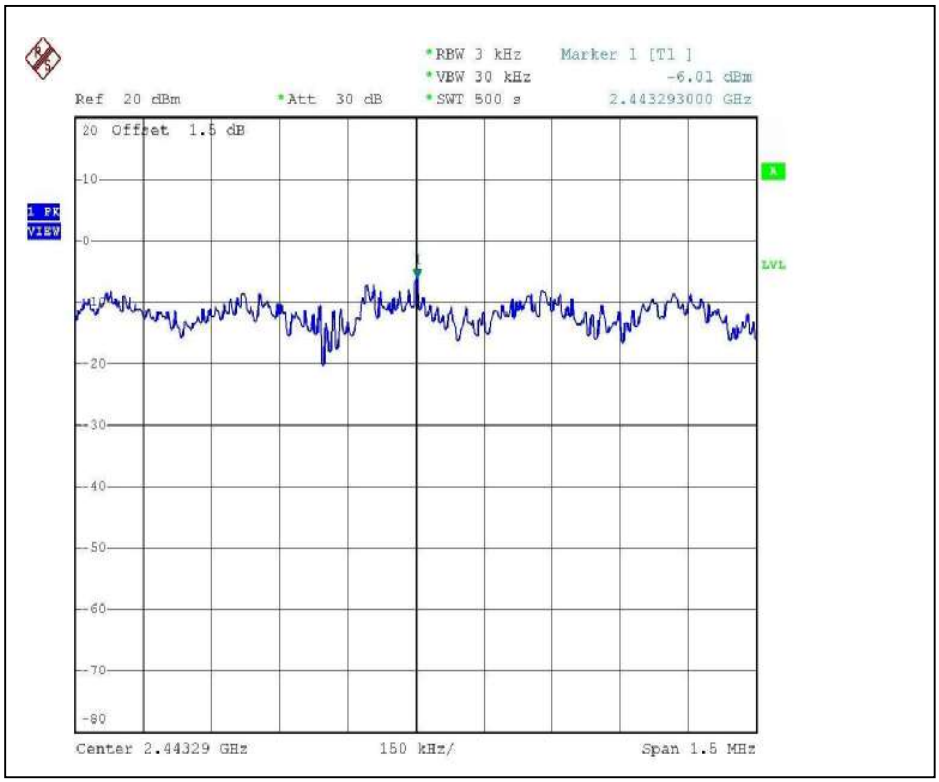
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60Hz | **ENVIRONMENTAL CONDITIONS** | 26deg.C, 64%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -15.57 | 8 | PASS |
| 6 | 2437 | -6.01 | 8 | PASS |
| 11 | 2462 | -16.78 | 8 | PASS |

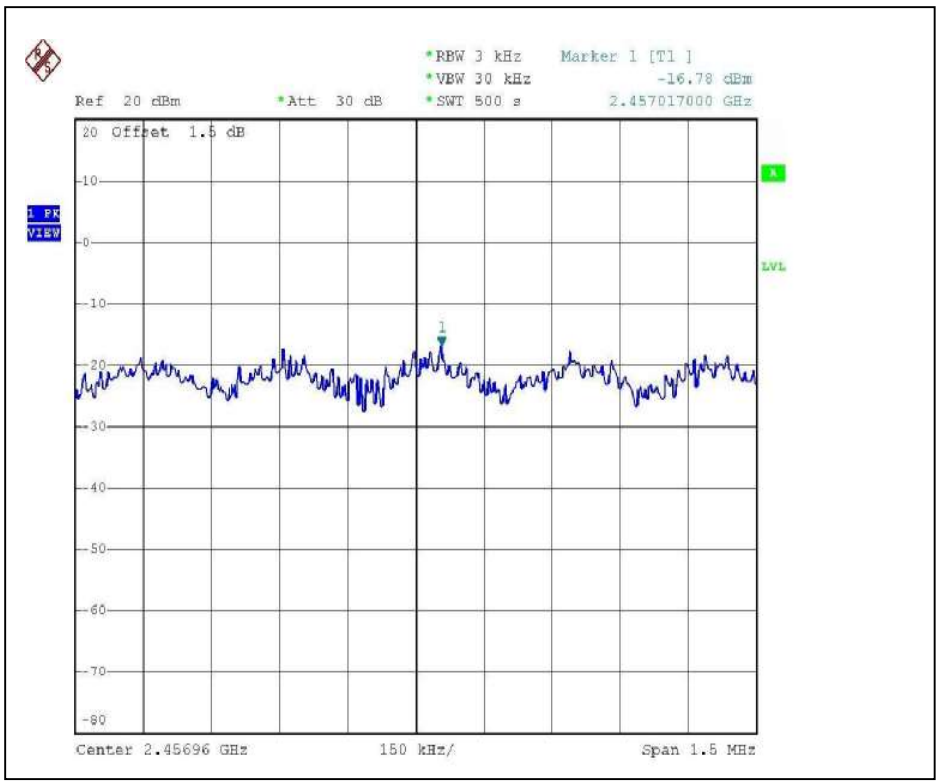
CH1


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-15.57 dBm
2.410456000 GHz
Ref 20 dBm
Att 30 dB
Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.41045 GHz
150 kHz/
Span 1.5 MHz

CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-6.01 dBm
2.443293000 GHz
Ref 20 dBm
Att 30 dB
Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.44329 GHz
150 kHz/
Span 1.5 MHz

CH11


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-16.78 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.457017000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.45696 GHz
150 kHz/
Span 1.5 MHz

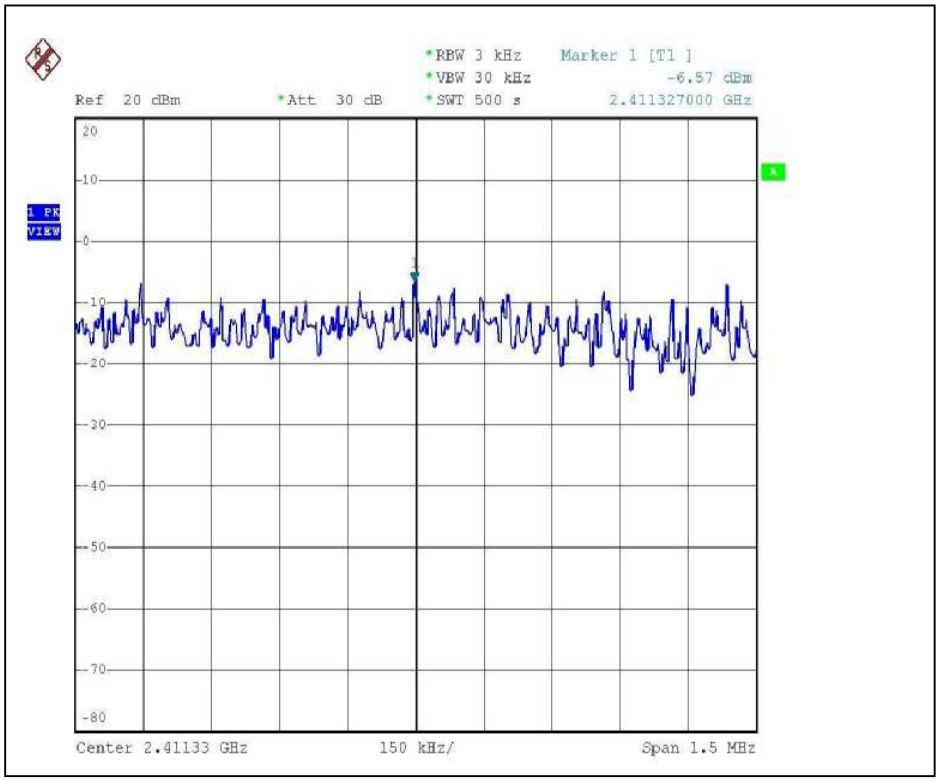
## 4.5.9 TEST RESULTS (ANTENNA 3)

### 802.11b DSSS modulation

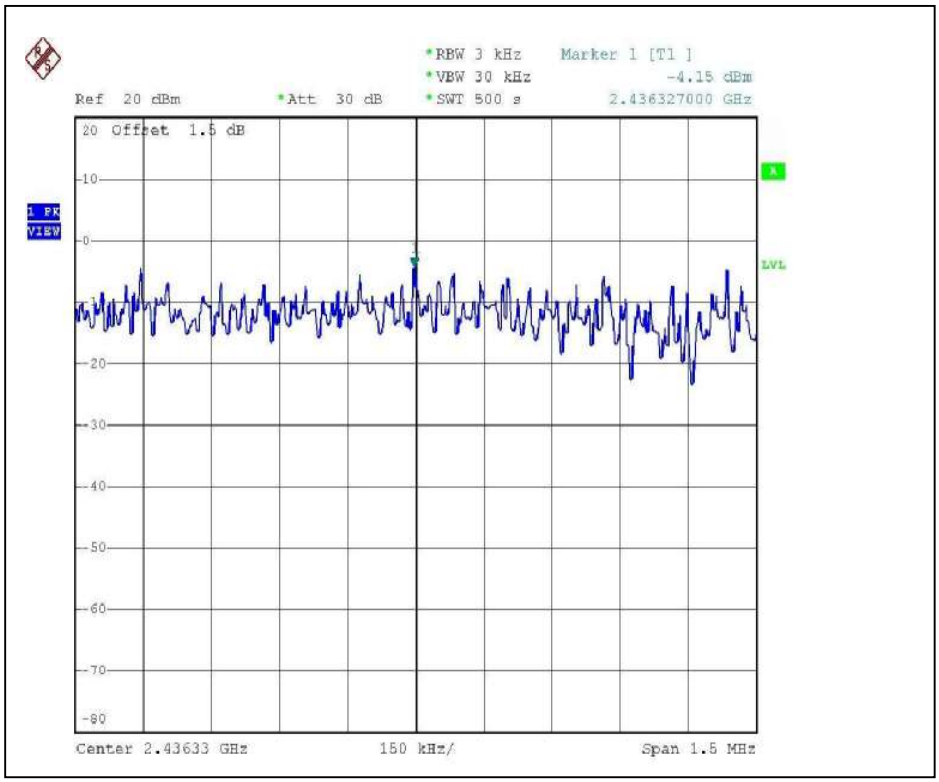
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60Hz | **ENVIRONMENTAL CONDITIONS** | 26deg.C, 64%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -6.57 | 8 | PASS |
| 6 | 2437 | -4.15 | 8 | PASS |
| 11 | 2462 | -6.98 | 8 | PASS |

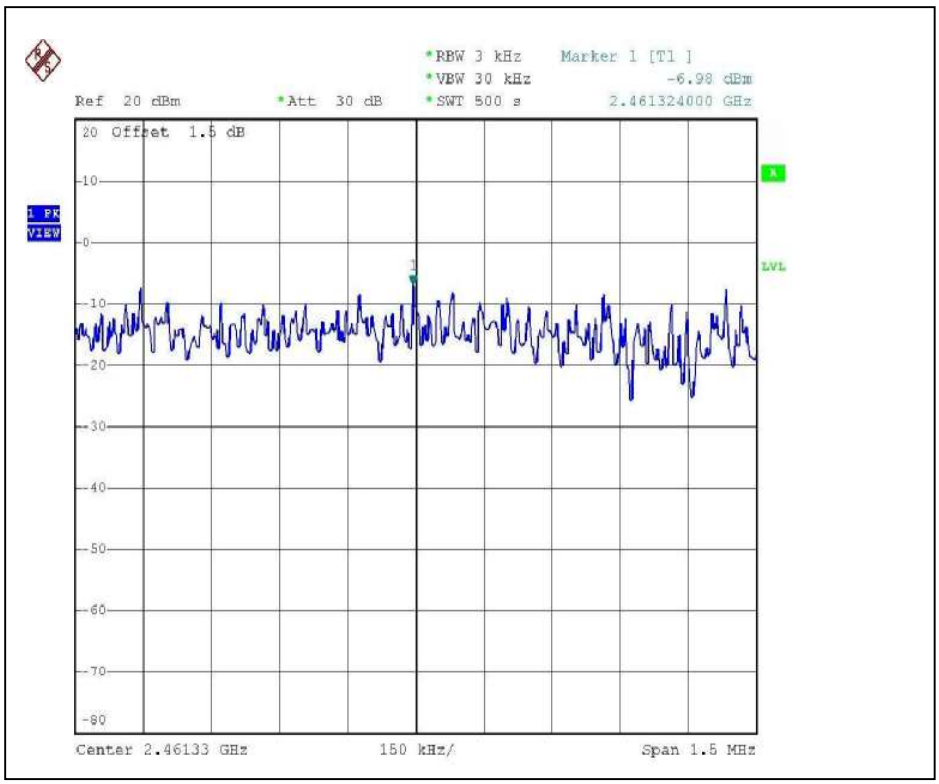
CH1


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-6.57 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.411327000 GHz
1 PK
VIEW
Center 2.41133 GHz
150 kHz/
Span 1.5 MHz

CH6


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-4.15 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.436327000 GHz
20 Offset 1.5 dB
1 PK
VIEW
Center 2.43633 GHz
150 kHz/
Span 1.5 MHz

CH11

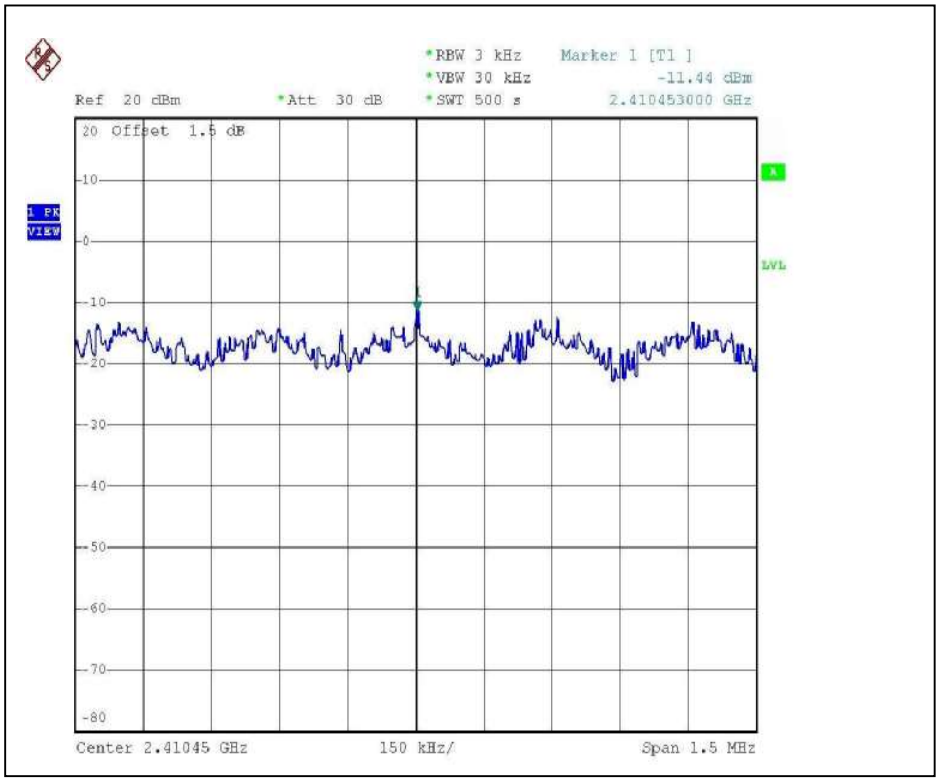

*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-6.98 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.461324000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
-10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.46133 GHz
150 kHz/
Span 1.5 MHz

### 802.11g OFDM modulation

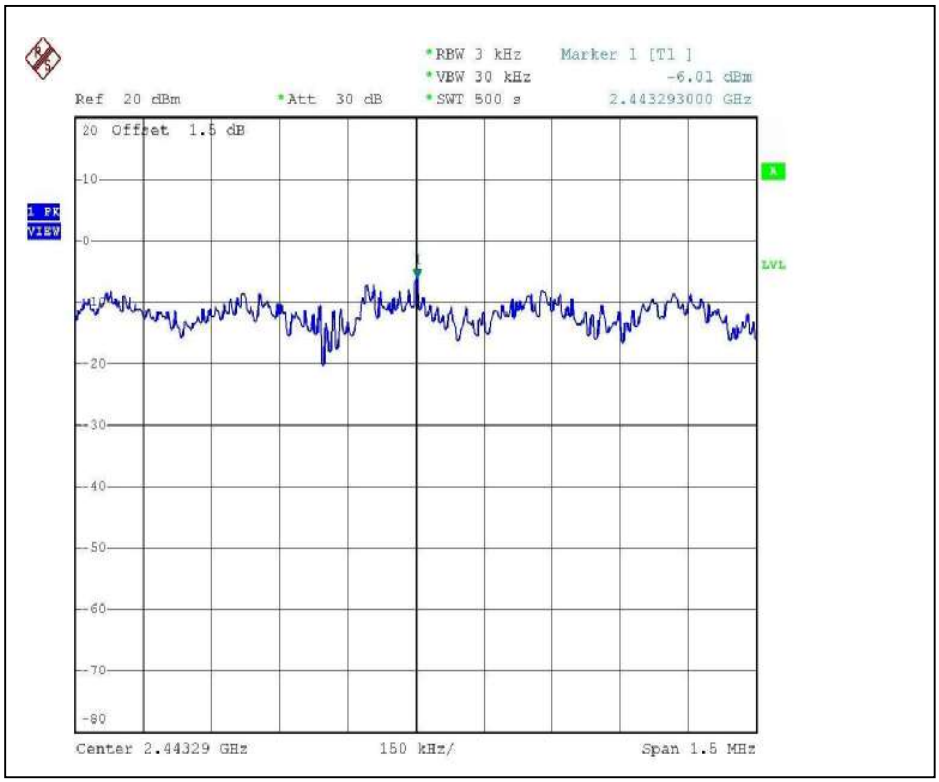
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60Hz | **ENVIRONMENTAL CONDITIONS** | 26deg.C, 64%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -11.44 | 8 | PASS |
| 6 | 2437 | -6.01 | 8 | PASS |
| 11 | 2462 | -13.62 | 8 | PASS |

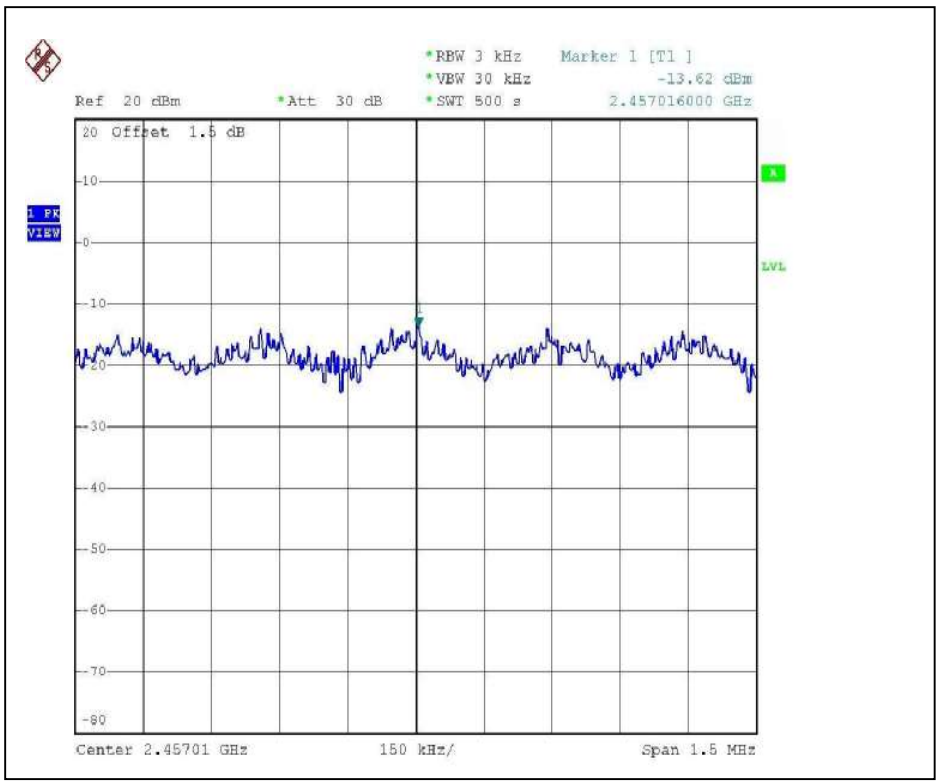
CH1


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-11.44 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.410453000 GHz
20 Offset 1.5 dB
1 PK VIEW
A
LVL
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.41045 GHz
150 kHz/
Span 1.5 MHz

CH6


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-6.01 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.443293000 GHz
20 Offset 1.5 dB
1 PK VIEW
A
LVL
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.44329 GHz
150 kHz/
Span 1.5 MHz

CH11


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-13.62 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.457016000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
-10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.45701 GHz
150 kHz/
Span 1.5 MHz

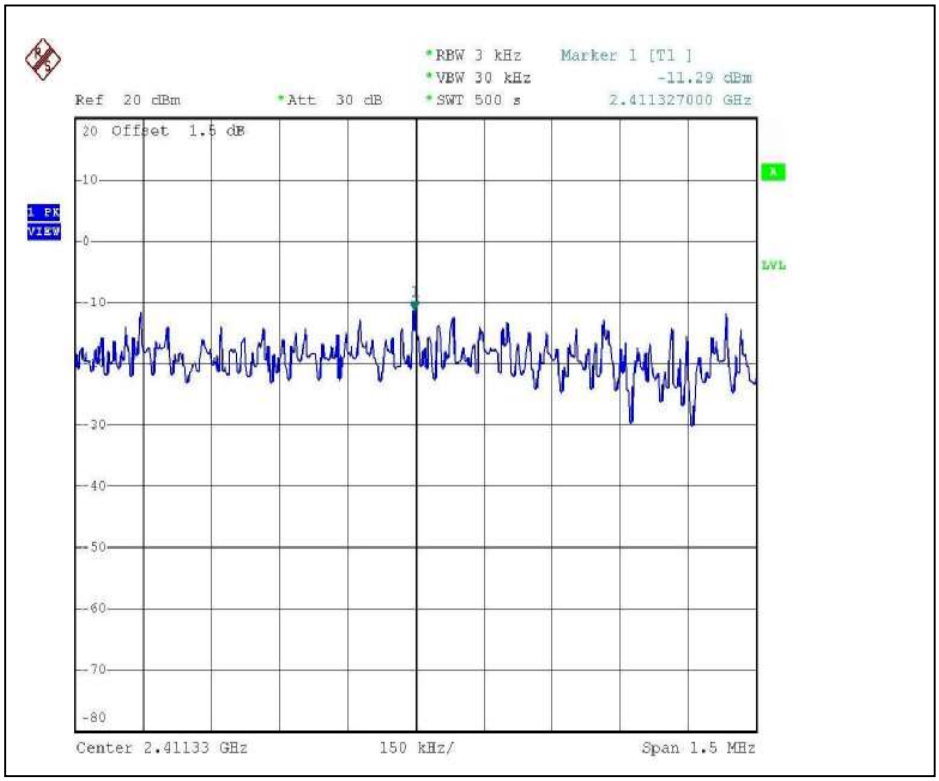
## 4.5.10 TEST RESULTS (ANTENNA 4)

### 802.11b DSSS modulation

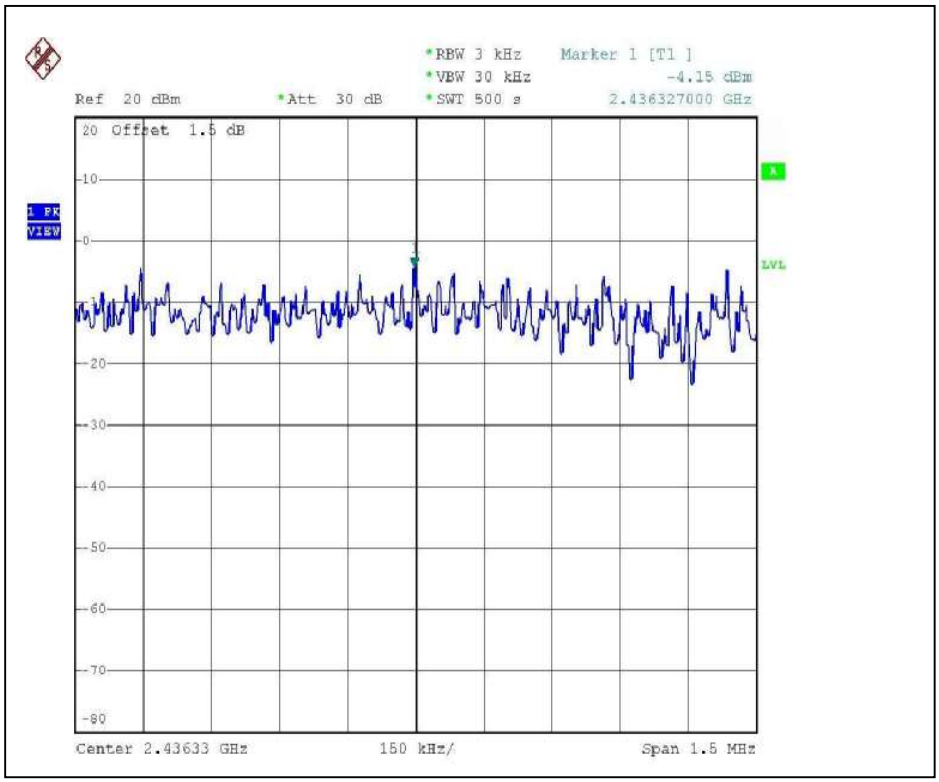
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | CCK | **TRANSFER RATE** | 11Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60Hz | **ENVIRONMENTAL CONDITIONS** | 26deg.C, 64%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -11.29 | 8 | PASS |
| 6 | 2437 | -4.15 | 8 | PASS |
| 11 | 2462 | -14.41 | 8 | PASS |

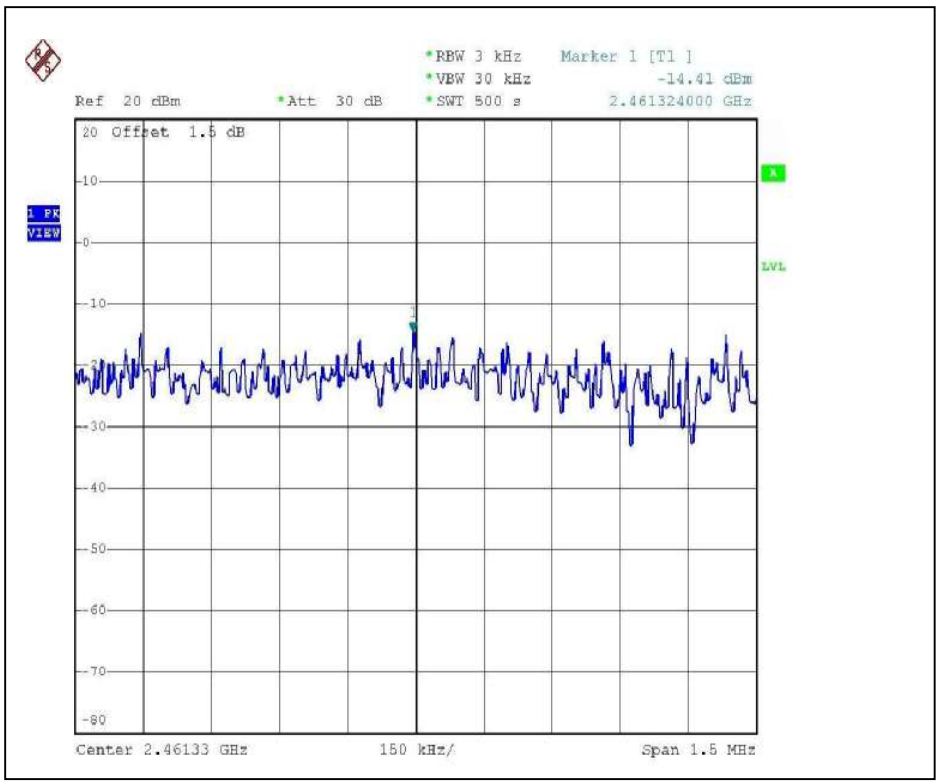
CH1


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-11.29 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.411327000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.41133 GHz
150 kHz/
Span 1.5 MHz

CH6


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-4.15 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.436327000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.43633 GHz
150 kHz/
Span 1.5 MHz

CH11

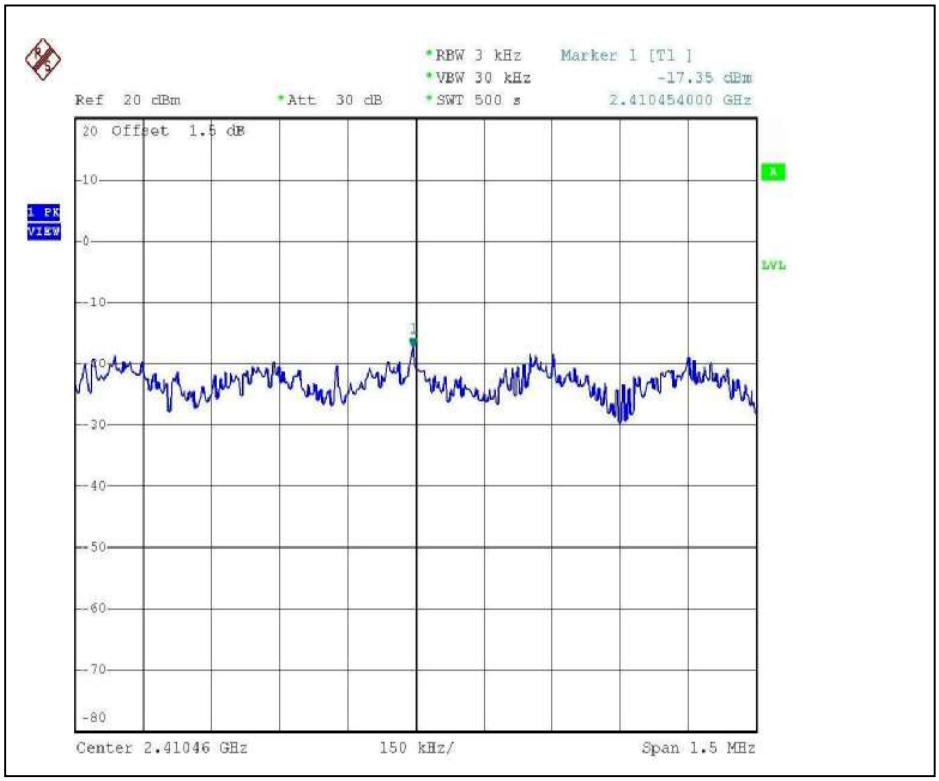

*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-14.41 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.461324000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
-10
0
-10
-30
-40
-50
-60
-70
-80
Center 2.46133 GHz
150 kHz/
Span 1.5 MHz

### 802.11g OFDM modulation

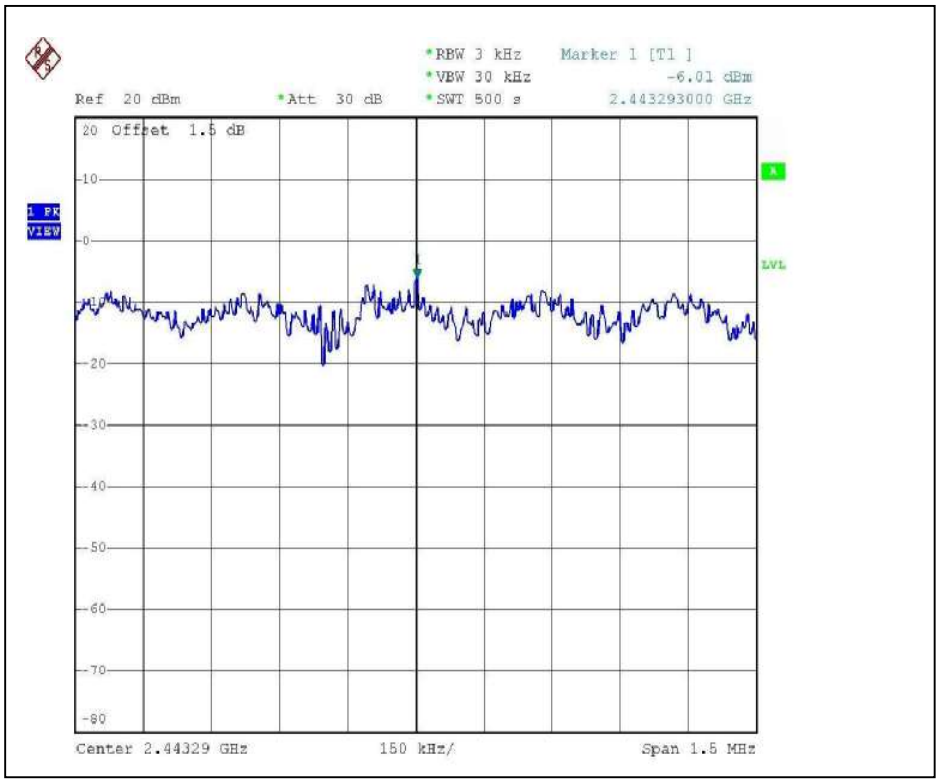
| | | | |
|---|---|---|---|
| **EUT** | Symbol WLAN 802.11abg Access Point | **MODEL** | AP-5131 |
| **MODULATION TYPE** | BPSK | **TRANSFER RATE** | 6Mbps |
| **INPUT POWER (SYSTEM)** | 120Vac, 60Hz | **ENVIRONMENTAL CONDITIONS** | 26deg.C, 64%RH, 961hPa |
| **TESTED BY** | Rex Huang | | |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -17.35 | 8 | PASS |
| 6 | 2437 | -6.01 | 8 | PASS |
| 11 | 2462 | -19.48 | 8 | PASS |

CH1


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-17.35 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.410454000 GHz
20 Offset 1.5 dB
1 PK VIEW
A
LVL
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.41046 GHz
150 kHz/
Span 1.5 MHz

CH6


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-6.01 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.443293000 GHz
20 Offset 1.5 dB
1 PK VIEW
A
LVL
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.44329 GHz
150 kHz/
Span 1.5 MHz

CH11


*RBW 3 kHz
Marker 1 [T1 ]
*VBW 30 kHz
-19.48 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.460453000 GHz
20 Offset 1.5 dB
1 PK
VIEW
LVL
Center 2.46045 GHz
150 kHz/
Span 1.5 MHz