

Report No.: EH/2007/50015 Issue Date: Jun. 29, 2007

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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT

Product Name: 3.5G PDA phone

Brand / Market-

ing Name:

i-mateTM

Model Name: Ultimate 6150

Model Different: N/A

ID Number: PJO9001

Report No.: EH/2007/50015

Issue Date: Jun. 29, 2005

Rule Part: §15.247

ARIMA COMMUNICATIONS CORP.

Prepared for No.16, Lane 658, Ying Tao Road, Yingko, Taipei

Hsien, Taiwan, R.O.C.

Prepared by SGS Taiwan Ltd.

No. 134, Wu Kung Rd., Wuku Industrial Zone,

Taipei County, Taiwan.



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VERIFICATION OF COMPLIANCE

Applicant: ARIMA COMMUNICATIONS CORP.

No.16, Lane 658, Ying Tao Road, Yingko,

Taipei Hsien, Taiwan, R.O.C.

Equipment Under Test: 3.5G PDA phone

Brand / Marketing Name: i-mateTM

FCC ID Number: PJO9001

Model No.: Ultimate 6150

Model Difference: N/A

File Number: EH/2007/50015

Date of test: May 28, 2007 ~Jun. 21, 2007

Date of EUT Received: May 28, 2007

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.247.

The test results of this report relate only to the tested sample identified in this report.

| Test By: | Sky Wang | Date | Jun. 29, 2007 | |
|--------------|--|------|---------------|--|
| | Sky Wang / Sr. Engineer | | | |
| Prepared By: | Enakono | Date | Jun. 29, 2007 | |
| Approved By: | Eva Kao / Sr. Engineer Sincert Su / Managar | Date | Jun. 29, 2007 | |
| | Vincent Su / Manager | | | |

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GENERAL INFORMATION

1.1. Product Description

| Product Name: | 3.5G PDA phone | | | |
|---|------------------------------|--|--|--|
| Brand / Marketing Name: | i-mate TM | | | |
| Model Name: | Ultimate 6150 | | | |
| Model Difference: | N/A | | | |
| Simple Hands-Free (SHF): | Mode No.: N/A, Supplier: N/A | | | |
| Data Cable (USB): | 1 cable, model: N/A | | | |
| TV out cable | 1 cable, model: N/A | | | |
| | 3.7 Vdc re-charge | eable battery or 5Vdc by AC/DC power adapter | | |
| Power Supply | Battery Model: | i-mate™ Ultimate, Supplier: Welldone | | |
| Adapter Model: PSAA05A-050, Supplier: PHIHONG | | | | |

GSM and WCDMA:

| | GSM/GPRS 850 | 824 MHz– 849MHz | 33 dBm |
|---------------------------|--------------------------------|--------------------------|--------|
| Cellular Phone Standards | GSM/GPRS 1900 | 1850MHz – 1910MHz | 30 dBm |
| Frequency Range and Power | WCDMA Band II | 1850MHz – 1910MHz 24 dBm | |
| | WCDMA Band V | 824 MHz– 849MHz | 24 dBm |
| Type of Emission | GSM: 300KGXW WCDMA: 4M20F9W | | |
| IMEI | 355686010006408 | | |
| Software Version | 9001_RIL_FTA_V03 | | |
| Hardware Version EP2 | | | |

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WLAN:

| Frequency Range | 2412 – 2462 MHz |
|-----------------------|---|
| Channel number | 11 channels |
| Rated Power | 802.11 b: 13.83 dBm 802.11 g: 11.60 dBm |
| Modulation Technology | DSSS, OFDM |
| Modulation type | CCK, DQPSK, DBPSK for DSSS 64QAM. 16QAM, QPSK, BPSK for OFDM |
| Transition Rate: | 802.11 b: 1/2/5.5/11/54 Mbps; 802.11 g: 6/9/12/18/24/36/48/54 Mbps |
| Antenna Designation | PIFA Antenna, -3.79 dBi. |
| Type of Emission | 16M6M7D |

The EUT is compliance with IEEE 802.11 b/g Standard.

Bluetooth:

| Frequency Range | 2402 – 2480MHz |
|---------------------|--|
| Channel number | 79 channels |
| Rated Power | 2.52 dBm (Peak) |
| Modulation type | Frequency Hopping Spread Spectrum (FHSS)(FGSK) |
| Antenna Designation | PIFA Antenna, -3.94 dBi |
| Type of Emission | 933KF1D |

The EUT is compliance with Bluetooth Standard.

This test report applies for 80211b/g WLAN.



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1.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: PJO9001 filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules. The composite system (digital device) is compliance with Subpart B is authorized under a DoC procedure.

1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.4. Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the address of SGS Taiwan Ltd. No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003 and CISPR 22/EN 55022 requirements. Site No. 1(3 &10 meters) Registration Number: 94644, Both OATS and Anechoic chamber (3 meters) was accredited by TAF (0513). Canada Registration Number: 4620A-1

1.5. Special Accessories

Not available for this EUT intended for grant.

1.6. Equipment Modifications

Not available for this EUT intended for grant.



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SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

The EUT (Transmitter) was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements.

2.3. Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 7 and 13 of ANSI C63.4-2003. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and Average detector mode.

2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 8 and 13 of ANSI C63.4-2003.



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2.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System

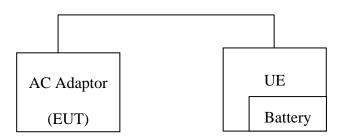


Table 2-1 Equipment Used in Tested System

| Item | Equipment | Mfr/Brand | Model/ Type No. | Series No. | Data Cable | Power Cord |
|------|-----------|-----------|--------------------|------------|------------|------------|
| 1 | N/A | | | | | |

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3. SUMMARY OF TEST RESULTS

| FCC Rules | Description Of Test | Result |
|-----------------------|----------------------------------|-----------|
| §15.207(a) | AC Power Line Conducted Emission | Compliant |
| §15.247(b) (3),(4)(c) | Peak Output Power | Compliant |
| §15.247(a)(2) | 6dB Bandwidth | Compliant |
| | 100 KHz Bandwidth Of | |
| §15.247(d) | Frequency Band Edges | Compliant |
| §15.247(d) | Spurious Emission | Compliant |
| §15.247(e) | Peak Power Density | Compliant |
| §15.203 | Antenna Requirement | Compliant |

DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

The field strength of radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for 802.11b/g WLAN Transmitter for channel Low, Mid and High, the worst case H mode was reported.

802.11 b mode: Channel low (2412MHz) · mid (2437MHz) and high (2462MHz) with 1Mbps data rate are chosen for full testing.

802.11 g mode: Channel low (2412MHz) · mid (2437MHz) and high (2462MHz) with 6Mbps data rate are chosen for full testing.



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CONDUCTED EMISSION TEST

5.1. Standard Applicable

According to §15.207. frequency within 150KHz to 30MHz shall not exceed the Limit table as below.

| Frequency range | | mits (uV) |
|-----------------|------------|--------------|
| MHz | Quasi-peak | Average |
| 0.15 to 0.50 | 66 to 56 | 56 to 46 |
| 0.50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |

Note

5.2. EUT Setup

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.4-2003.
- 2. The AC/DC Power adaptor of EUT was plug-in LISN. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The LISN was connected with 110Vac/60Hz power source.

5.3. Measurement Procedure

- 1. The EUT was placed on a table which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- **3.** Repeat above procedures until all frequency measured were complete.

^{1.} The lower limit shall apply at the transition frequencies

^{2.} The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.



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5.4. Measurement Equipment Used:

| Conducted Emission Test Site | | | | | |
|------------------------------|------------|-------------------------|------------|------------|------------|
| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. |
| ТҮРЕ | | NUMBER | NUMBER | CAL. | |
| EMC Analyzer | HP | 8594EM | 3624A00203 | 09/02/2006 | 09/03/2007 |
| EMI Test Receiver | R&S | ESCS30 | 828985/004 | 06/09/2007 | 06/10/2008 |
| Transient Limiter | HP | 11947A | 3107A02062 | 09/02/2006 | 09/03/2007 |
| LISN | Rolf-Heine | NNB-2/16Z | 99012 | 12/31/2006 | 12/30/2007 |
| LISN | Rolf-Heine | NNB-2/16Z | 99013 | 01/10/2007 | 01/09/2008 |
| Coaxial Cables | FCC | FCC-LISN-50/250-25-2-01 | 04034 | 01/11/2007 | 01/10/2008 |

5.5. Measurement Result

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

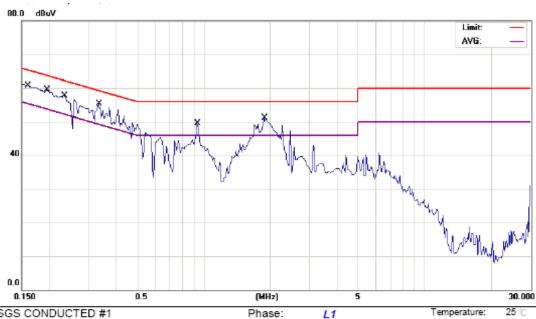


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AC POWER LINE CONDUCTED EMISSION TEST DATA

| Operation Mode: | Normal Operation Mode | | | Test Date: | Jun. 07, 2007 |
|-----------------|-----------------------|-----------|------|------------|---------------|
| Temperature: | 25 ℃ | Humidity: | 62 % | Test By: | Sky |



Power:

Distance:

11

AC 120V/60Hz

Humidity:

Air Pressure:

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate

M/N: mlt-6150

Note: wireless operation

| No. Mk. | Freq. | Reading Level | Factor | Measure- ment | Limit | Over | | |
|---------|--------|------------------|--------|------------------|-------|--------|----------|---------|
| | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | 0.1615 | 48.91 | 0.00 | 48.91 | 65.39 | -16.48 | QP | |
| 2 | 0.1615 | 24.03 | 0.00 | 24.03 | 55.39 | -31.36 | AVG | |
| 3 | 0.1950 | 46.88 | 0.02 | 46.90 | 63.82 | -16.92 | QP | |
| 4 | 0.1950 | 25.47 | 0.02 | 25.49 | 53.82 | -28.33 | AVG | |
| 5 | 0.2350 | 45.59 | 0.02 | 45.61 | 62.27 | -16.66 | QP | |
| 6 | 0.2350 | 33.99 | 0.02 | 34.01 | 52.27 | -18.26 | AVG | |
| 7 | 0.3350 | 49.43 | 0.02 | 49.45 | 59.33 | -9.88 | QP | |
| 8 * | 0.3350 | 40.44 | 0.02 | 40.46 | 49.33 | -8.87 | AVG | |
| 9 | 0.9350 | 40.28 | 0.01 | 40.29 | 56.00 | -15.71 | QP | |
| 10 | 0.9350 | 25.48 | 0.01 | 25.49 | 46.00 | -20.51 | AVG | |
| 11 | 1.8800 | 45.13 | 0.04 | 45.17 | 56.00 | -10.83 | QP | |
| 12 | 1.8800 | 34.37 | 0.04 | 34.41 | 46.00 | -11.59 | AVG | |

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Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate M/N: mlt-6150

Note: wireless operation

| Phase: | N | Temperature: | 25 ℃ |
|-----------|--------------|---------------|------|
| Power: | AC 120V/60Hz | Humidity: 63 | 2 % |
| Distance: | | Air Pressure: | hpa |

| No. Mk. | Freq. | Reading Level | Factor | Measure- ment | Limit | Over | | | |
|---------|--------|------------------|--------|------------------|-------|--------|----------|---------|--|
| | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment | |
| 1 | 0.1550 | 48.91 | 0.00 | 48.91 | 65.73 | -16.82 | QP | | |
| 2 | 0.1550 | 20.48 | 0.00 | 20.48 | 55.73 | -35.25 | AVG | | |
| 3 | 0.1700 | 49.16 | 0.01 | 49.17 | 64.96 | -15.79 | QP | | |
| 4 | 0.1700 | 34.53 | 0.01 | 34.54 | 54.96 | -20.42 | AVG | | |
| 5 | 0.2350 | 44.61 | 0.02 | 44.63 | 62.27 | -17.64 | QP | | |
| 6 | 0.2350 | 36.80 | 0.02 | 36.82 | 52.27 | -15.45 | AVG | | |
| 7 | 0.3400 | 49.75 | 0.02 | 49.77 | 59.20 | -9.43 | QP | | |
| 8 * | 0.3400 | 42.02 | 0.02 | 42.04 | 49.20 | -7.16 | AVG | | |
| 9 | 1.7450 | 42.11 | 0.03 | 42.14 | 56.00 | -13.86 | QP | | |
| 10 | 1.7450 | 25.03 | 0.03 | 25.06 | 46.00 | -20.94 | AVG | | |
| 11 | 1.9400 | 41.83 | 0.04 | 41.87 | 56.00 | -14.13 | QP | | |
| 12 | 1.9400 | 29.76 | 0.04 | 29.80 | 46.00 | -16.20 | AVG | | |

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6. PEAK OUTPUT POWER MEASUREMENT

6.1. Standard Applicable

According to §15.247(a)(2), (b)

- (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and
- 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
- (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (c) Operation with directional antenna gains greater than 6 dBi.
- (1) Fixed point-to-point operation:
- (i) Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.
- (ii) Systems operating in the 5725-5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted output power.



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6.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter or spectrum. (Channel power function, RBW= 1MHz, VBW = 3MHz, Bandwidth=26dB occupied Bandwidth)
- 3. Record the max. reading.
- 4. Repeat above procedures until all frequency measured were complete.

6.3. Measurement Equipment Used:

| Conducted Emission Test Site | | | | | | | | | |
|------------------------------|--------------|--------------------|------------|------------|------------|--|--|--|--|
| EQUIPMENT | MFR | MODEL SERIAL | | LAST | CAL DUE. | | | | |
| TYPE | | NUMBER | NUMBER | CAL. | | | | | |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 04/27/2007 | 04/27/2008 | | | | |
| Spectrum Analyzer | Agilent | 7405A | US41160416 | 06/28/2006 | 06/29/2007 | | | | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 11/09/2006 | 11/10/2007 | | | | |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A | | | | |
| Attenuator | Mini-Circult | BW-S10W5 | N/A | 10/07/2006 | 10/06/2007 | | | | |
| Attenuator | Mini-Circult | BW-S6W5 | N/A | 10/07/2006 | 10/06/2007 | | | | |
| Splitter | Agilent | Power Biviber | 51818 | 01/05/2007 | 01/04/2008 | | | | |



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6.4. Measurement Result

802.11b

| Frequency (MHz) | Reading Power (dBm) | Cable Loss | Output Power (dBm) | Output Power (W) | Limit (W) |
|--------------------|---------------------|------------|--------------------|------------------|--------------|
| 2412.00 | 13.83 | 0.00 | 13.83 | 0.02415 | 1 |
| 2437.00 | 13.35 | 0.00 | 13.35 | 0.02163 | 1 |
| 2462.00 | 12.31 | 0.00 | 12.31 | 0.01702 | 1 |

*Note: Offset 10.5dB

802.11g

| Frequency (MHz) | Reading Power (dBm) | Cable Loss | Output Power (dBm) | Output Power (W) | Limit (W) |
|--------------------|---------------------|------------|--------------------|------------------|--------------|
| 2412.00 | 10.22 | 0.00 | 10.22 | 0.01052 | 1 |
| 2437.00 | 11.60 | 0.00 | 11.60 | 0.01445 | 1 |
| 2462.00 | 9.84 | 0.00 | 9.84 | 0.00964 | 1 |

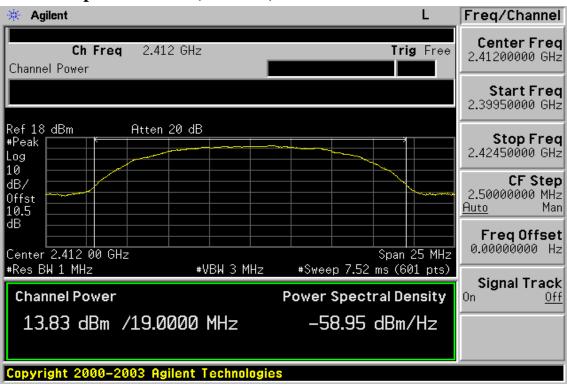
*Note: Offset 10.5dB



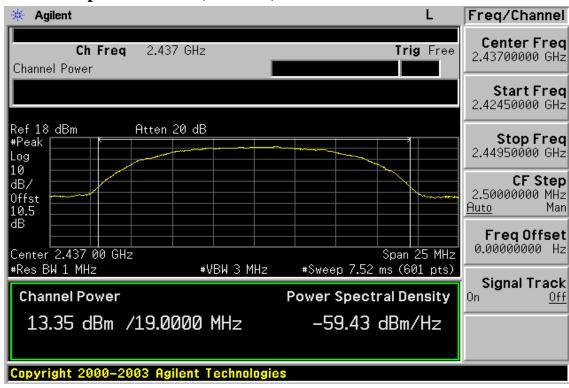
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802.11b Peak Power Output Data Plot (CH Low)



Peak Power Output Data Plot (CH Mid)



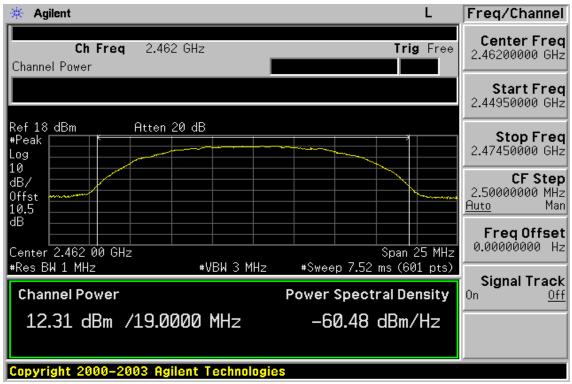
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Peak Power Output Data Plot (CH High)



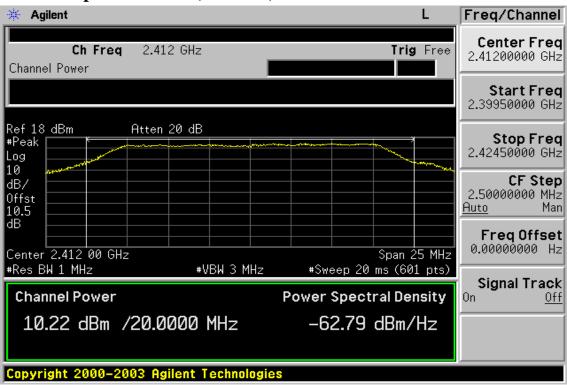
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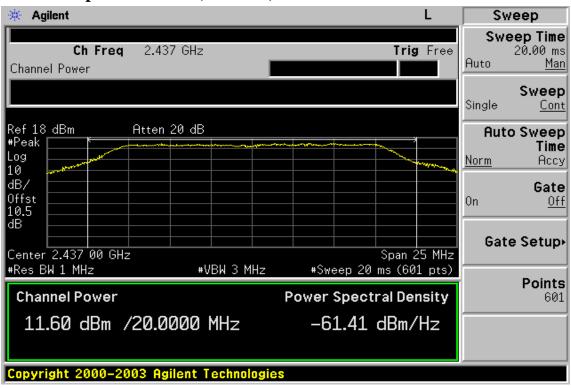
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802.11g Peak Power Output Data Plot (CH Low)



Peak Power Output Data Plot (CH Mid)



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Peak Power Output Data Plot (CH High)





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7. 6dB Bandwidth

7.1. Standard Applicable

According to \$15.247(a)(2), Systems using digital modulation techniques may operate in the 902 - 928 MHz,2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500kHz.

7.2. Measurement Procedure

- 1.Place the EUT on the table and set it in transmitting mode.
- 2.Remove the antenna from the EUT and then connect a low loss RF cable from the 3.antenna port to the spectrum analyzer.
- 3.Set the spectrum analyzer as RBW=1% bandwidth, VBW =3* RBW, Span= 50MHz, Sweep=auto
- 4. Mark the peak frequency and –6dB (upper and lower) frequency.
- 5. Repeat above procedures until all frequency measured were complete.

7.3. Measurement Equipment Used:

| 7.6. Wedstrement Edulpment esec. | | | | | | | | | |
|----------------------------------|--------------|--------------------|------------|------------|------------|--|--|--|--|
| Conducted Emission Test Site | | | | | | | | | |
| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. | | | | |
| TYPE | | NUMBER | NUMBER | CAL. | | | | | |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 04/27/2007 | 04/27/2008 | | | | |
| Spectrum Analyzer | Agilent | 7405A | US41160416 | 06/28/2006 | 06/29/2007 | | | | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 11/09/2006 | 11/10/2007 | | | | |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A | | | | |
| Attenuator | Mini-Circult | BW-S10W5 | N/A | 10/07/2006 | 10/06/2007 | | | | |
| Attenuator | Mini-Circult | BW-S6W5 | N/A | 10/07/2006 | 10/06/2007 | | | | |
| Splitter | Agilent | Power Biviber | 51818 | 01/05/2007 | 01/04/2008 | | | | |



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7.4. Measurement Result

802.11b

| 002:110 | | | |
|---------|-----------------|--------------------|--------|
| СН | Bandwidth (MHz) | Bandwidth (KHz) | Result |
| Lower | 9.936 | > 500 | PASS |
| Mid | 10.029 | > 500 | PASS |
| Higher | 9.647 | > 500 | PASS |

802.11g

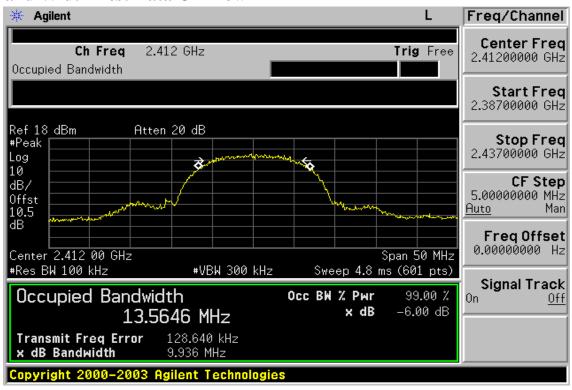
| СН | Bandwidth (MHz) | Bandwidth (KHz) | Result |
|--------|--------------------|--------------------|--------|
| Lower | 16.553 | > 500 | PASS |
| Mid | 16.596 | > 500 | PASS |
| Higher | 16.572 | > 500 | PASS |



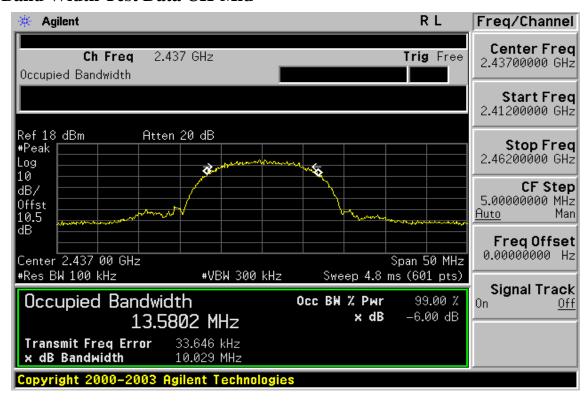
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802.11b 6dB Band Width Test Data CH-Low



6dB Band Width Test Data CH-Mid



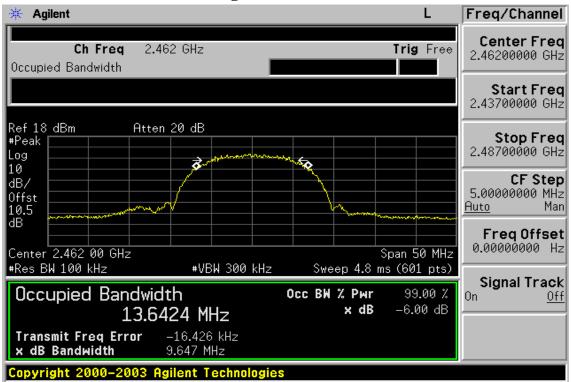
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6dB Band Width Test Data CH-High



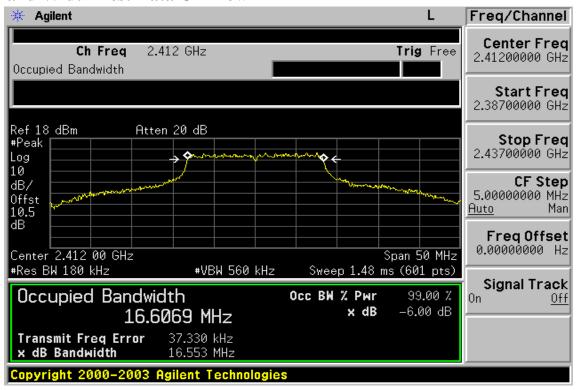
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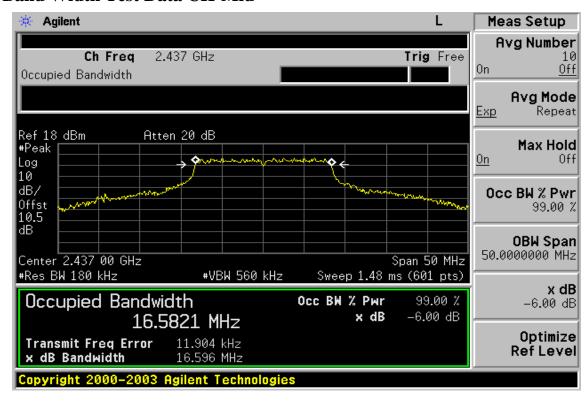
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802.11g 6dB Band Width Test Data CH-Low



6dB Band Width Test Data CH-Mid



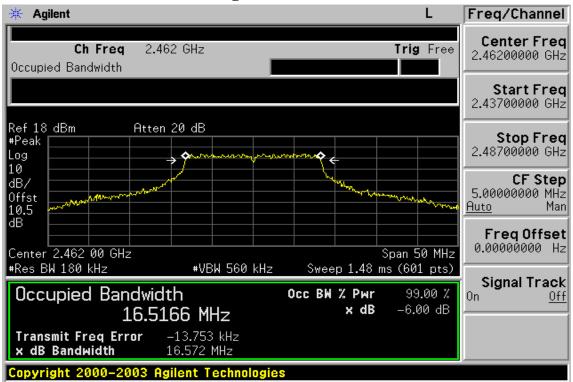
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6dB Band Width Test Data CH-High



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100KHz BANDWIDTH OF BAND EDGES MEASUREMENT

8.1. Standard Applicable

According to §15.247(c), in any 100 KHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100KHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

8.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set center frequency of spectrum analyzer = operating frequency.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz, Span=30MHz, Sweep = auto
- 5. Mark Peak, 2.390GHz and 2.4835GHz and record the max. level.
- 6. Repeat above procedures until all frequency measured were complete.

8.3. Measurement Equipment Used:

| Conducted Emission Test Site | | | | | | | | | |
|------------------------------|-------------------------|--------------------|------------|------------|------------|--|--|--|--|
| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. | | | | |
| TYPE | | NUMBER | NUMBER | CAL. | | | | | |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 04/27/2007 | 04/27/2008 | | | | |
| Spectrum Analyzer | Agilent | 7405A | US41160416 | 06/28/2006 | 06/29/2007 | | | | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 11/09/2006 | 11/10/2007 | | | | |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A | | | | |
| Attenuator | Mini-Circult | BW-S10W5 | N/A | 10/07/2006 | 10/06/2007 | | | | |
| Attenuator | Attenuator Mini-Circult | | N/A | 10/07/2006 | 10/06/2007 | | | | |
| Splitter | Agilent | Power Biviber | 51818 | 01/05/2007 | 01/04/2008 | | | | |

8.4. Measurement Result

Refer to attach spectrum analyzer data chart.



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802.11b Band Edges Test Data CH-Low



Band Edges Test Data CH-High



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Radiated Emission: 802.11 b mode

Operation Mode TX CH Low Test Date Jun. 21, 2007

Fundamental Frequency 2412 MHz Test By Sky Tmperature 25 °C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | ıal FS | Peak | \mathbf{AV} | | |
|-------------|-------------|---------------|---------|----------|---------------|----------|---------------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m | (dB) | |
| 2390.00 | 36.59 | | -1.39 | 35.20 | | 74.00 | 54.00 | -18.80 | Peak |
| Operation 1 | Mode | TX C | H Low | | | Test | Date . | Jun. 21, 20 | 007 |
| Fundament | tal Frequer | ncy 2412 | MHz | | | Test | By S | Sky | |
| Temperatu | re | 25 °C | | | | Pol |] | Hor. | |
| Humidity | | 65 % | | | | | | | |

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m | (dB) | |
| 2390.00 | 36 95 | | -1 39 | 35 56 | | 74.00 | 54 00 | -18 44 | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (4) Spectrum AV Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



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Radiated Emission: 802.11 b mode

Operation Mode TX CH High Test Date Jun. 21, 2007

Fundamental Frequency 2462 MHz Test By Sky Temperature 25 ℃ Pol Ver.

65 % Humidity

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|-----------------------|---------|---------------|---------|----------|---------------|----------|---------------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m | (dB) | |
| 2483.56 | 35.70 | | -0.92 | 34.78 | | 74.00 | 54.00 | -19.22 | Peak |
| 2502.92 | 35.79 | | -0.81 | 34.98 | | 74.00 | 54.00 | -19.02 | Peak |
| Operation | Mode | TX C | H High | | | Test | Date . | Jun. 21, 20 | 07 |
| Fundamental Frequency | | ncy 2462 | MHz | | | Test By | | Sky | |
| Temperature | | 25 ℃ | | | | Pol |] | Hor. | |
| Humidity | | 65 % | | | | | | | |

| | Peak | \mathbf{AV} | | Actu | ıal FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 2483.56 | 37.04 | | -0.92 | 36.12 | | 74.00 | 54.00 | -17.88 | Peak |
| 2502.92 | 36.33 | | -0.81 | 35.52 | | 74.00 | 54.00 | -18.48 | Peak |

Remark:

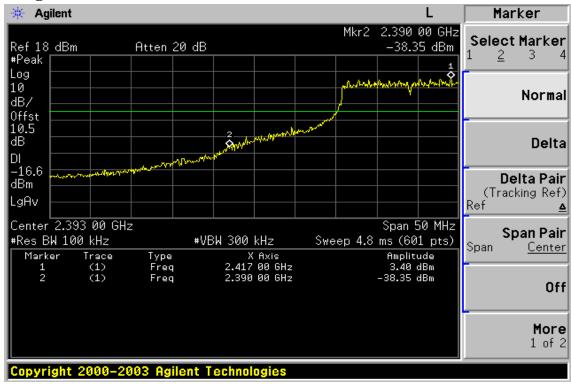
- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (3) Spectrum Peak Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200
- (4) Spectrum AV Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



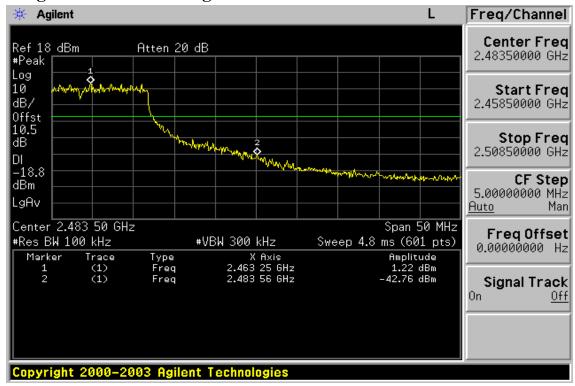
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802.11g **Band Edges Test Data CH-Low**



Band Edges Test Data CH-High



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Radiated Emission: 802.11 g mode

Operation Mode TX CH Low Test Date Jun. 21, 2007

Fundamental Frequency 2412 MHz Test By Sky **Tmperature** 25 °C Pol Ver.

Humidity 65 %

| | Peak | \mathbf{AV} | | Act | ual FS | Peak | \mathbf{AV} | | |
|-----------------------|---------|---------------|---------|---------|---------------|----------|---------------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m |) (dBuV/m) | (dBuV/m) | (dBuV/m | (dB) | |
| 2390.00 | 49.24 | | -1.39 | 47.85 | | 74.00 | 54.00 | -6.15 | Peak |
| Operation | TX C | H Low | | | Test | Date J | Jun. 21, 20 | 07 | |
| Fundamental Frequency | | ncy 2412 | MHz | | | Test By | | Sky | |
| Temperatu | ire | 25 °C | | | | Pol | I | Hor. | |
| Humidity | | 65 % | | | | | | | |

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|---------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m |)(dBuV/m) | (dB) | |
| 2390.00 | 49.63 | | -1.39 | 48.24 | | 74.00 | 54.00 | -5.76 | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Emission: 802.11 g mode

Operation Mode TX CH High Test Date Jun. 21, 2007

Fundamental Frequency 2462 MHz Test By Sky Temperature 25 °C Pol Ver.

Humidity 65 %

| | | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| | Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| | (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| , | 2483.56 | 44.92 | | -0.92 | 44.00 | | 74.00 | 54.00 | -10.00 | Peak |

Operation Mode TX CH High **Test Date** Jun. 21, 2007

Fundamental Frequency 2462 MHz Test By Sky 25 °C Temperature Pol Hor.

Humidity 65 %

| | Peak | \mathbf{AV} | | Actu | ıal FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | Remark |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 2483.56 | 45.34 | | -0.92 | 44.42 | | 74.00 | 54.00 | -9.58 | Peak |

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (3) Spectrum Peak Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

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9. SPURIOUS RADIATED EMISSION TEST

9.1. Standard Applicable

According to §15.247(c), all other emissions outside these bands shall not exceed the general radiated emission limits specified in §15.209(a). And according to §15.33(a)(1), for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

9.2. EUT Setup

- 1. The radiated emission tests were performed in the 3 meter open-test site, using the setup in accordance with the ANSI C63.4-2003.
- 2. The EUT was put in the front of the test table. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The spacing between the peripherals was 10 centimeters.
- 4. External I/O cables were draped along the edge of the test table and bundle when necessary.

9.3. Measurement Procedure

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until all frequency measured were complete.

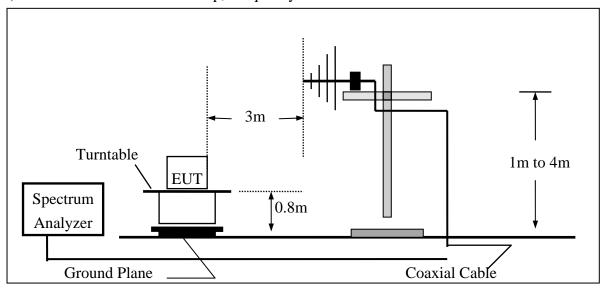


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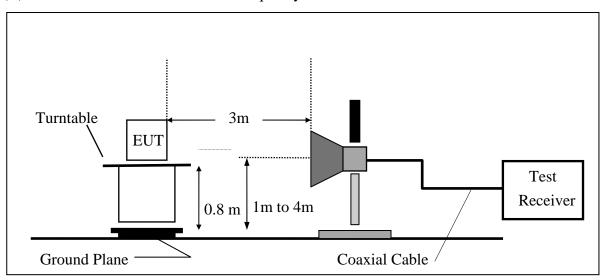
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9.4. Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz





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9.5. **Measurement Equipment Used:**

| 966 Chamber | | | | | | | | | | |
|-------------------|----------------|-------------|------------|------------|------------|--|--|--|--|--|
| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. | | | | | |
| TYPE | | NUMBER | NUMBER | CAL. | | | | | | |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 04/27/2007 | 04/27/2008 | | | | | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 11/09/2006 | 11/10/2007 | | | | | |
| Spectrum Analyzer | Agilent | E7405A | US41160416 | 06/28/2006 | 06/29/2007 | | | | | |
| Bilog Antenna | SCHWAZBECK | VULB9160 | 3224 | 11/14/2006 | 11/13/2007 | | | | | |
| Horn antenna | Schwarzbeck | BBHA 9120D | 309/320 | 08/16/2006 | 08/15/2007 | | | | | |
| Horn antenna | Schwarzbeck | BBHA 9170 | 184/185 | 07/04/2006 | 07/03/2007 | | | | | |
| Pre-Amplifier | HP | 8447D | 2944A09469 | 07/19/2006 | 07/18/2007 | | | | | |
| Pre-Amplifier | HP | 8494B | 3008A00578 | 02/26/2007 | 02/25/2008 | | | | | |
| Turn Table | HD | DT420 | N/A | N.C.R | N.C.R | | | | | |
| Antenna Tower | HD | MA240-N | 240/657 | N.C.R | N.C.R | | | | | |
| Controller | HD | HD100 | N/A | N.C.R | N.C.R | | | | | |
| Lass Lass Calds | HUDED - CHUNED | SUCOFLEX | 10 | 10/00/2006 | 10/09/2007 | | | | | |
| Low Loss Cable | HUBER+SUHNER | 104PEA-10M | 10m | 10/09/2006 | 10/08/2007 | | | | | |
| Law Loss Cohle | HIDED CHINED | SUCOFLEX | 2 | 10/00/2006 | 10/09/2007 | | | | | |
| Low Loss Cable | HUBER+SUHNER | 104PEA-3M | 3m | 10/09/2006 | 10/08/2007 | | | | | |
| Site NSA | SGS | 966 chamber | N/A | 11/17/2006 | 11/16/2007 | | | | | |

9.6. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

| Where | FS = Field Strength | CL = Cable Attenuation Factor (Cable Loss) |
|-------|------------------------|--|
| | RA = Reading Amplitude | AG = Amplifier Gain |
| | AF = Antenna Factor | |

9.7. Measurement Result

Refer to attach tabular data sheets.

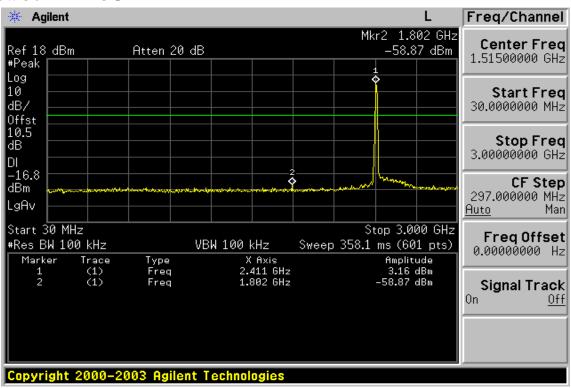
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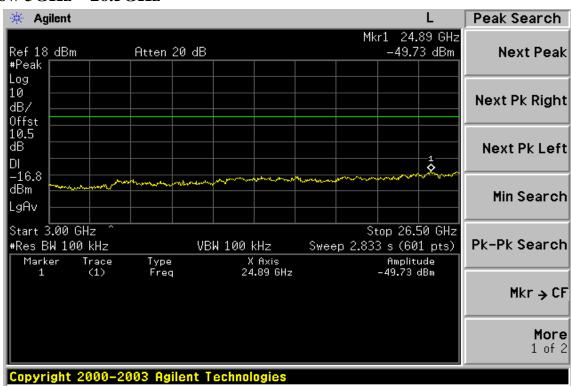
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Conducted Spurious Emission Measurement Result (802.11b) Ch Low 30MHz – 3GHz



Ch Low 3GHz – 26.5GHz



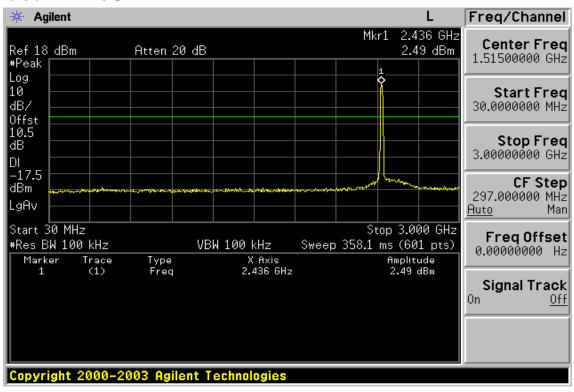
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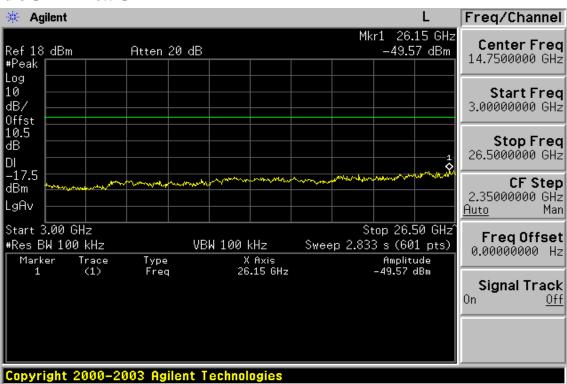
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Ch Mid 30MHz - 3GHz



Ch Mid 3GHz – 26.5GHz



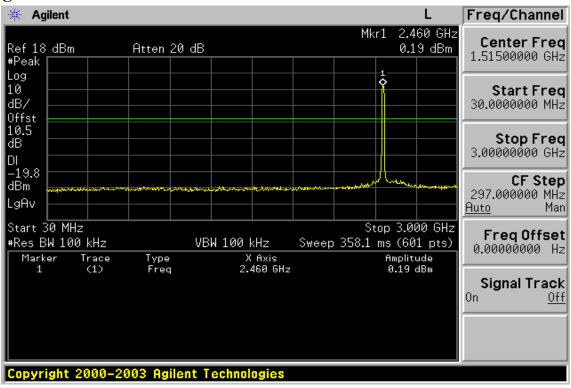
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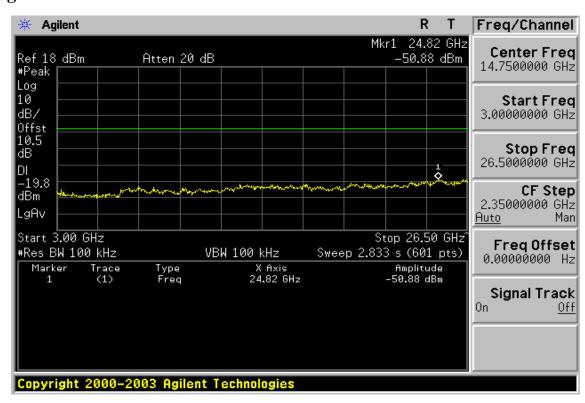
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Ch High 30MHz - 3GHz



Ch High 3GHz – 26.5GHz



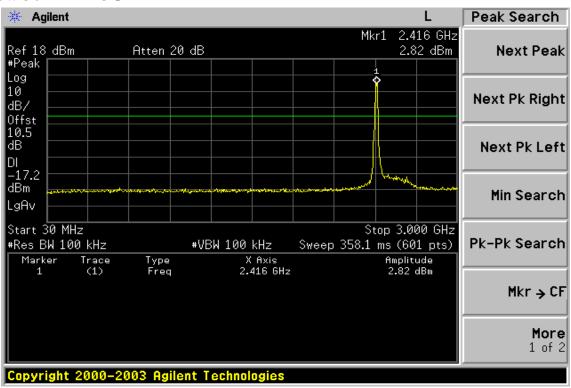
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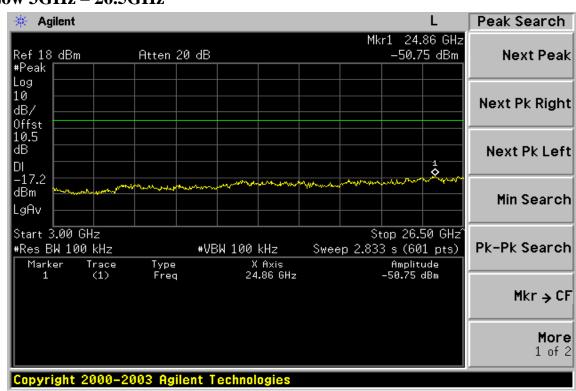
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Conducted Spurious Emission Measurement Result (802.11g) Ch Low 30MHz – 3GHz



Ch Low 3GHz - 26.5GHz



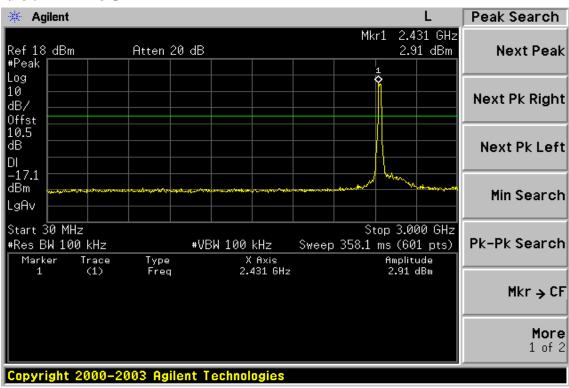
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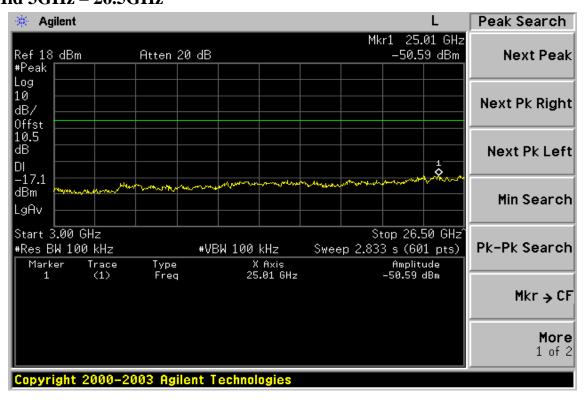
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Ch Mid 30MHz – 3GHz



Ch Mid 3GHz – 26.5GHz



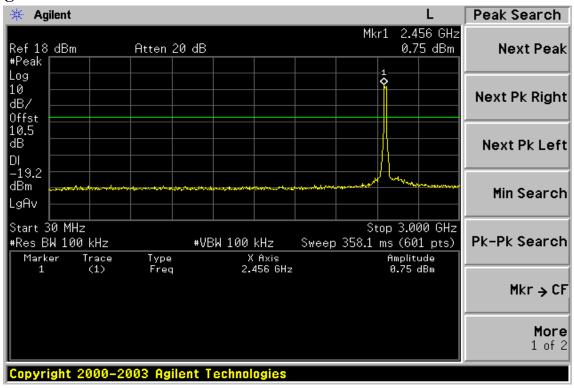
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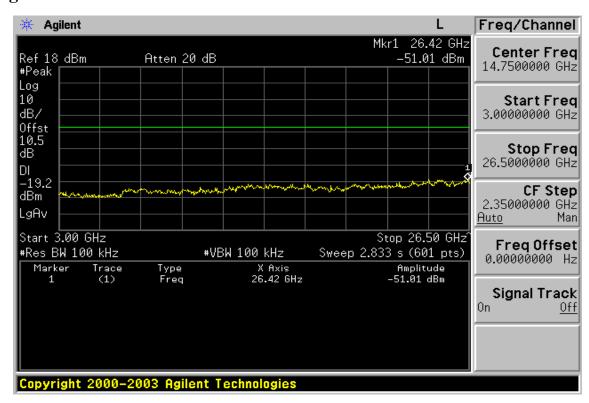
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Ch High 30MHz – 3GHz



Ch High 3GHz – 26.5GHz



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Radiated Spurious Emission Measurement Result (below 1GHz)

802.11b TX CH Low Operation Mode Test Date Jun. 21, 2007

Fundamental Frequency 2412MHz Test By Sky Temperature 25 °C Pol Ver./Hor

60 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Mar- gin |
|--------|----------|------------------|---------|--------|-----------|----------|------------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 30.00 | V | Peak | 51.80 | -14.97 | 36.83 | 40.00 | -3.17 |
| 58.13 | V | Peak | 41.39 | -14.66 | 26.73 | 40.00 | -13.27 |
| 96.93 | V | Peak | 46.14 | -17.16 | 28.98 | 43.50 | -14.52 |
| 153.19 | V | Peak | 33.58 | -13.00 | 20.58 | 43.50 | -22.92 |
| | | | | | | | |
| 30.00 | Н | Peak | 49.82 | -14.97 | 34.85 | 40.00 | -5.15 |
| 67.83 | Н | Peak | 48.27 | -15.60 | 32.67 | 40.00 | -7.33 |
| 101.78 | Н | Peak | 38.75 | -16.87 | 21.88 | 43.50 | -21.62 |
| 155.13 | Н | Peak | 33.08 | -13.12 | 19.96 | 43.50 | -23.54 |

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/OP detector mode.
- (3) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz)

802.11b TX CH Mid Operation Mode **Test Date** Jun. 21, 2007

Fundamental Frequency 2437MHz Test By Sky Temperature 25 °C Pol Ver./Hor

60 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Mar- gin |
|--------|----------|------------------|---------|--------|-----------|----------|------------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 31.94 | V | Peak | 52.07 | -14.82 | 37.25 | 40.00 | -2.75 |
| 62.98 | V | Peak | 44.18 | -14.82 | 29.36 | 40.00 | -10.64 |
| 96.93 | V | Peak | 45.86 | -17.16 | 28.70 | 43.50 | -14.80 |
| | | | | | | | |
| 30.00 | H | Peak | 48.94 | -14.97 | 33.97 | 40.00 | -6.03 |
| 67.83 | Н | Peak | 47.86 | -15.60 | 32.26 | 40.00 | -7.74 |
| 101.78 | Н | Peak | 37.97 | -16.87 | 21.10 | 43.50 | -22.40 |

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode 802.11b TX CH High **Test Date** Jun. 21, 2007

Fundamental Frequency 2462MHz Test By Sky Temperature 25 °C Pol Ver./Hor

60 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Mar- gin |
|-------|----------|------------------|---------|--------|-----------|----------|------------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 31.94 | V | Peak | 52.00 | -14.82 | 37.18 | 40.00 | -2.82 |
| 58.13 | V | Peak | 41.26 | -14.66 | 26.60 | 40.00 | -13.40 |
| 96.93 | V | Peak | 45.56 | -17.16 | 28.40 | 43.50 | -15.10 |
| | | | | | | | |
| 30.00 | Н | Peak | 49.32 | -14.97 | 34.35 | 40.00 | -5.65 |
| 67.83 | Н | Peak | 47.84 | -15.60 | 32.24 | 40.00 | -7.76 |
| 90.14 | Н | Peak | 39.63 | -17.62 | 22.01 | 43.50 | -21.49 |

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz)

802.11g TX CH Low Operation Mode **Test Date** Jun. 21, 2007

Fundamental Frequency 2412MHz Test By Sky Temperature 25 °C Pol Ver./Hor

Humidity 60 %

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Mar- gin |
|--------|----------|------------------|---------|--------|-----------|----------|------------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 30.00 | V | Peak | 45.79 | -14.97 | 30.82 | 40.00 | -9.18 |
| 58.13 | V | Peak | 41.36 | -14.66 | 26.70 | 40.00 | -13.30 |
| 96.93 | V | Peak | 45.16 | -17.16 | 28.00 | 43.50 | -15.50 |
| 153.19 | V | Peak | 33.50 | -13.00 | 20.50 | 43.50 | -23.00 |
| | | | | | | | |
| 36.79 | H | Peak | 44.13 | -14.36 | 29.77 | 40.00 | -10.23 |
| 65.89 | Н | Peak | 47.10 | -15.09 | 32.01 | 40.00 | -7.99 |
| 90.14 | Н | Peak | 38.18 | -17.62 | 20.56 | 43.50 | -22.94 |

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz)

802.11g TX CH Mid Operation Mode **Test Date** Jun. 21, 2007

Fundamental Frequency 2437MHz Test By Sky Temperature 25 °C Pol Ver./Hor

60 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Mar- gin |
|-------|----------|------------------|---------|--------|-----------|----------|------------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 31.94 | V | Peak | 46.81 | -14.82 | 31.99 | 40.00 | -8.01 |
| 56.19 | V | Peak | 41.08 | -14.63 | 26.45 | 40.00 | -13.55 |
| 96.93 | V | Peak | 45.47 | -17.16 | 28.31 | 43.50 | -15.19 |
| | | | | | | | |
| 30.00 | Н | Peak | 47.16 | -14.97 | 32.19 | 40.00 | -7.81 |
| 67.83 | Н | Peak | 47.33 | -15.60 | 31.73 | 40.00 | -8.27 |
| 90.14 | Н | Peak | 39.04 | -17.62 | 21.42 | 43.50 | -22.08 |

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz)

802.11g TX CH High Operation Mode **Test Date** Jun. 21, 2007

Fundamental Frequency 2462MHz Test By Sky Temperature 25 °C Pol Ver./Hor

60 % Humidity

| Freq. | Ant.Pol. | Detector Mode | Reading | Factor | Actual FS | Limit3m | Safe Mar- gin |
|-------|----------|------------------|---------|--------|-----------|----------|------------------|
| (MHz) | H/V | (PK/QP) | (dBuV) | (dB) | (dBuV/m) | (dBuV/m) | (dB) |
| 31.94 | V | Peak | 51.54 | -14.82 | 36.72 | 40.00 | -3.28 |
| 58.13 | V | Peak | 41.89 | -14.66 | 27.23 | 40.00 | -12.77 |
| 96.93 | V | Peak | 46.28 | -17.16 | 29.12 | 43.50 | -14.38 |
| | | | | | | | |
| 35.82 | Н | Peak | 44.70 | -14.47 | 30.23 | 40.00 | -9.77 |
| 67.83 | Н | Peak | 46.97 | -15.60 | 31.37 | 40.00 | -8.63 |
| 90.14 | Н | Peak | 39.04 | -17.62 | 21.42 | 43.50 | -22.08 |

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11b TX CH Low Test Date Jun. 21, 2007

Fundamental Frequency 2412MHz Test By Sky Temperature 23 °C Pol Ver.

54 % Humidity

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 4824.0 | 38.60 | | 6.05 | 44.65 | | 74.00 | 54.00 | -9.35 | Peak |
| 7236.0 | | | | | | 74.00 | 54.00 | | |
| 9648.0 | | | | | | 74.00 | 54.00 | | |
| 12060.0 | | | | | | 74.00 | 54.00 | | |
| 14472.0 | | | | | | 74.00 | 54.00 | | |
| 16884.0 | | | | | | 74.00 | 54.00 | | |
| 19296.0 | | | | | | 74.00 | 54.00 | | |
| 21708.0 | | | | | | 74.00 | 54.00 | | |
| 24120.0 | | | | | | 74.00 | 54.00 | | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental fre-
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11b TX CH Low Test Date Jun. 21, 2007

Fundamental Frequency 2412MHz Test By Sky Temperature 23 °C Pol Hor

Humidity 54 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 4824.0 | 39.09 | | 6.05 | 45.14 | | 74.00 | 54.00 | -8.86 | Peak |
| 7236.0 | | | | | | 74.00 | 54.00 | | |
| 9648.0 | | | | | | 74.00 | 54.00 | | |
| 12060.0 | | | | | | 74.00 | 54.00 | | |
| 14472.0 | | | | | | 74.00 | 54.00 | | |
| 16884.0 | | | | | | 74.00 | 54.00 | | |
| 19296.0 | | | | | | 74.00 | 54.00 | | |
| 21708.0 | | | | | | 74.00 | 54.00 | | |
| 24120.0 | | | | | | 74.00 | 54.00 | | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency \circ
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11b TX CH Mid Test Date Jun. 21, 2007

Fundamental Frequency 2437MHz Test By Sky Temperature 23 °C Pol Ver

54 % Humidity

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 4874.0 | 38.62 | | 6.15 | 44.77 | | 74.00 | 54.00 | -9.23 | Peak |
| 7311.0 | | | | | | 74.00 | 54.00 | | |
| 9748.0 | | | | | | 74.00 | 54.00 | | |
| 12185.0 | | | | | | 74.00 | 54.00 | | |
| 14622.0 | | | | | | 74.00 | 54.00 | | |
| 17059.0 | | | | | | 74.00 | 54.00 | | |
| 19496.0 | | | | | | 74.00 | 54.00 | | |
| 21933.0 | | | | | | 74.00 | 54.00 | | |
| 24370.0 | | | | | | 74.00 | 54.00 | | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental fre-
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11b TX CH Mid Test Date Jun. 21, 2007

Fundamental Frequency 2437MHz Test By Sky Temperature 23 °C Pol Hor

Humidity 54 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 4874.0 | 37.32 | | 6.15 | 43.47 | | 74.00 | 54.00 | -10.53 | Peak |
| 7311.0 | | | | | | 74.00 | 54.00 | | |
| 9748.0 | | | | | | 74.00 | 54.00 | | |
| 12185.0 | | | | | | 74.00 | 54.00 | | |
| 14622.0 | | | | | | 74.00 | 54.00 | | |
| 17059.0 | | | | | | 74.00 | 54.00 | | |
| 19496.0 | | | | | | 74.00 | 54.00 | | |
| 21933.0 | | | | | | 74.00 | 54.00 | | |
| 24370.0 | | | | | | 74.00 | 54.00 | | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency \circ
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11b TX CH High Test Date Jun. 21, 2007

Fundamental Frequency 2462MHz Test By Sky Temperature 23 °C Pol Ver

Humidity 54 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) |
| 4924.0 | | | | | | 74.00 | 54.00 | |
| 7386.0 | | | | | | 74.00 | 54.00 | |
| 9848.0 | | | | | | 74.00 | 54.00 | |
| 12310.0 | | | | | | 74.00 | 54.00 | |
| 14772.0 | | | | | | 74.00 | 54.00 | |
| 17234.0 | | | | | | 74.00 | 54.00 | |
| 19696.0 | | | | | | 74.00 | 54.00 | |
| 22158.0 | | | | | | 74.00 | 54.00 | |
| 24620.0 | | | | | | 74.00 | 54.00 | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency \circ
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11b TX CH High Test Date Jun. 21, 2007

Fundamental Frequency 2462MHz Test By Sky Temperature 23 °C Pol Hor

Humidity 54 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) |
| 4924.0 | | | | | | 74.00 | 54.00 | |
| 7386.0 | | | | | | 74.00 | 54.00 | |
| 9848.0 | | | | | | 74.00 | 54.00 | |
| 12310.0 | | | | | | 74.00 | 54.00 | |
| 14772.0 | | | | | | 74.00 | 54.00 | |
| 17234.0 | | | | | | 74.00 | 54.00 | |
| 19696.0 | | | | | | 74.00 | 54.00 | |
| 22158.0 | | | | | | 74.00 | 54.00 | |
| 24620.0 | | | | | | 74.00 | 54.00 | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency \circ
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11g TX CH Low Test Date Jun. 21, 2007

Fundamental Frequency 2412MHz Test By Sky Temperature 25 °C Pol Ver.

Humidity 60 %

| | | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|------|
| | Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| _ | (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| | 4824.0 | 33.98 | | 6.05 | 40.03 | | 74.00 | 54.00 | -13.97 | Peak |
| | 7236.0 | | | | | | 74.00 | 54.00 | | |
| | 9648.0 | | | | | | 74.00 | 54.00 | | |
| | 12060.0 | | | | | | 74.00 | 54.00 | | |
| | 14472.0 | | | | | | 74.00 | 54.00 | | |
| | 16884.0 | | | | | | 74.00 | 54.00 | | |
| | 19296.0 | | | | | | 74.00 | 54.00 | | |
| | 21708.0 | | | | | | 74.00 | 54.00 | | |
| | 24120.0 | | | | | | 74.00 | 54.00 | | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency \circ
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11g TX CH Low Test Date Jun. 21, 2007

Fundamental Frequency 2412MHz Test By Sky Temperature 23 °C Pol Hor

54 % Humidity

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin | |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 4824.0 | 34.26 | | 6.02 | 40.28 | | 74.00 | 54.00 | -13.72 | Peak |
| 7236.0 | | | | | | 74.00 | 54.00 | | |
| 9648.0 | | | | | | 74.00 | 54.00 | | |
| 12060.0 | | | | | | 74.00 | 54.00 | | |
| 14472.0 | | | | | | 74.00 | 54.00 | | |
| 16884.0 | | | | | | 74.00 | 54.00 | | |
| 19296.0 | | | | | | 74.00 | 54.00 | | |
| 21708.0 | | | | | | 74.00 | 54.00 | | |
| 24120.0 | | | | | | 74.00 | 54.00 | | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental fre-
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11g TX CH Mid Test Date Jun. 21, 2007

Fundamental Frequency 2437MHz Test By Sky Temperature 23 °C Pol Ver

Humidity 54 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) |
| 4874.0 | | | | | | 74.00 | 54.00 | |
| 7311.0 | | | | | | 74.00 | 54.00 | |
| 9748.0 | | | | | | 74.00 | 54.00 | |
| 12185.0 | | | | | | 74.00 | 54.00 | |
| 14622.0 | | | | | | 74.00 | 54.00 | |
| 17059.0 | | | | | | 74.00 | 54.00 | |
| 19496.0 | | | | | | 74.00 | 54.00 | |
| 21933.0 | | | | | | 74.00 | 54.00 | |
| 24370.0 | | | | | | 74.00 | 54.00 | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency \circ
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11g TX CH Mid Test Date Jun. 21, 2007

Fundamental Frequency 2437MHz Test By Sky Temperature 23 °C Pol Hor

54 % Humidity

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) |
| 4874.0 | | | | | | 74.00 | 54.00 | |
| 7311.0 | | | | | | 74.00 | 54.00 | |
| 9748.0 | | | | | | 74.00 | 54.00 | |
| 12185.0 | | | | | | 74.00 | 54.00 | |
| 14622.0 | | | | | | 74.00 | 54.00 | |
| 17059.0 | | | | | | 74.00 | 54.00 | |
| 19496.0 | | | | | | 74.00 | 54.00 | |
| 21933.0 | | | | | | 74.00 | 54.00 | |
| 24370.0 | | | | | | 74.00 | 54.00 | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental fre-
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

802.11g TX CH High Operation Mode **Test Date** Jun. 21, 2007

Fundamental Frequency 2462MHz Test By Sky Temperature 23 °C Pol Ver

54 % Humidity

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) |
| 4924.0 | | | | | | 74.00 | 54.00 | |
| 7386.0 | | | | | | 74.00 | 54.00 | |
| 9848.0 | | | | | | 74.00 | 54.00 | |
| 12310.0 | | | | | | 74.00 | 54.00 | |
| 14772.0 | | | | | | 74.00 | 54.00 | |
| 17234.0 | | | | | | 74.00 | 54.00 | |
| 19696.0 | | | | | | 74.00 | 54.00 | |
| 22158.0 | | | | | | 74.00 | 54.00 | |
| 24620.0 | | | | | | 74.00 | 54.00 | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11g TX CH High Test Date Jun. 21, 2007

Fundamental Frequency 2462MHz Test By Sky Temperature 23 °C Pol Hor

Humidity 54 %

| | Peak | \mathbf{AV} | | Actu | al FS | Peak | \mathbf{AV} | |
|---------|---------|---------------|---------|----------|---------------|----------|---------------|--------|
| Freq. | Reading | Reading | Ant./CL | Peak | \mathbf{AV} | Limit | Limit | Margin |
| (MHz) | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dB) |
| 4924.0 | | | | | | 74.00 | 54.00 | |
| 7386.0 | | | | | | 74.00 | 54.00 | |
| 9848.0 | | | | | | 74.00 | 54.00 | |
| 12310.0 | | | | | | 74.00 | 54.00 | |
| 14772.0 | | | | | | 74.00 | 54.00 | |
| 17234.0 | | | | | | 74.00 | 54.00 | |
| 19696.0 | | | | | | 74.00 | 54.00 | |
| 22158.0 | | | | | | 74.00 | 54.00 | |
| 24620.0 | | | | | | 74.00 | 54.00 | |

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency \circ
- (2) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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10. Peak Power Spectral Density

10.1. Standard Applicable

According to §15.247(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

10.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as RBW = 3KHz, VBW = 10KHz, Span = 1.5MHz, Sweep=100s
- 4. Record the max. reading.
- 5. Repeat above procedures until all frequency measured were complete.

10.3. Measurement Equipment Used:

| Conducted Emission Test Site | | | | | | | | | | |
|------------------------------|--------------|--------------------|------------|------------|------------|--|--|--|--|--|
| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. | | | | | |
| TYPE | | NUMBER | NUMBER | CAL. | | | | | | |
| Spectrum Analyzer | Agilent | E4446A | MY43360126 | 04/27/2007 | 04/27/2008 | | | | | |
| Spectrum Analyzer | Agilent | 7405A | US41160416 | 06/28/2006 | 06/29/2007 | | | | | |
| Spectrum Analyzer | R&S | FSP 40 | 100034 | 11/09/2006 | 11/10/2007 | | | | | |
| Low Loss Cable | HUBER+SUHNER | SUCOFLEX 104PEA | N/A | N/A | N/A | | | | | |
| Attenuator | Mini-Circult | BW-S10W5 | N/A | 10/07/2006 | 10/06/2007 | | | | | |
| Attenuator | Mini-Circult | BW-S6W5 | N/A | 10/07/2006 | 10/06/2007 | | | | | |
| Splitter | Agilent | Power Biviber | 51818 | 01/05/2007 | 01/04/2008 | | | | | |



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10.4. Measurement Result

802.11b

| СН | RF Power Density | RF Power Density Cable loss RF Power Density | | Maximum Limit |
|------|------------------|--|-------------|---------------|
| | Reading (dBm) | (dB) | Level (dBm) | (dBm) |
| Low | -11.61 | 0.00 | -11.61 | 8 |
| Mid | -11.85 | 0.00 | -11.85 | 8 |
| High | -13.01 | 0.00 | -13.01 | 8 |

802.11g

| СН | RF Power Density | Density Cable loss RF Power Densit | | Maximum Limit |
|------|------------------|--|-------------|---------------|
| | Reading (dBm) | (dB) | Level (dBm) | (dBm) |
| Low | -15.29 | 0.00 | -15.29 | 8 |
| Mid | -15.31 | 0.00 | -15.31 | 8 |
| High | -17.21 | 0.00 | -17.21 | 8 |

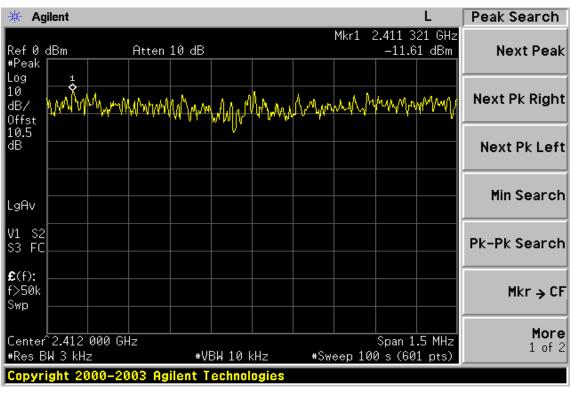
Note: offst 10.5 dB



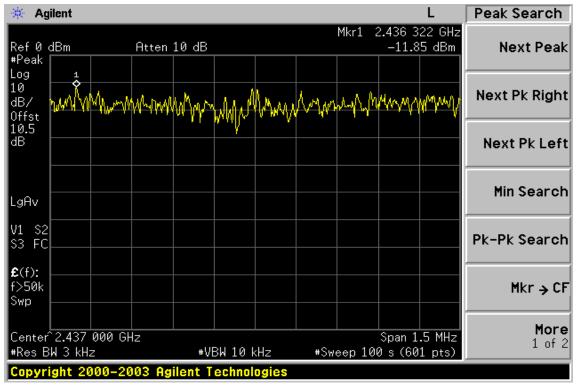
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802.11b Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)



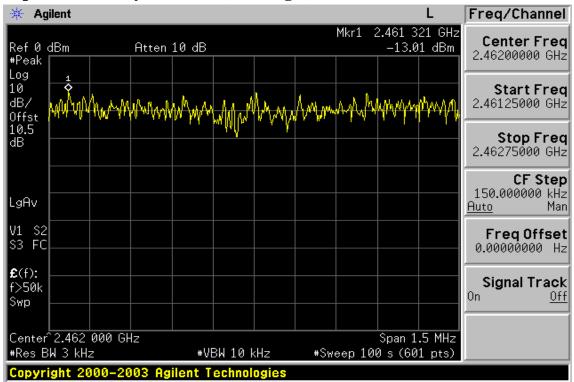
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Power Spectral Density Test Plot (CH-High)



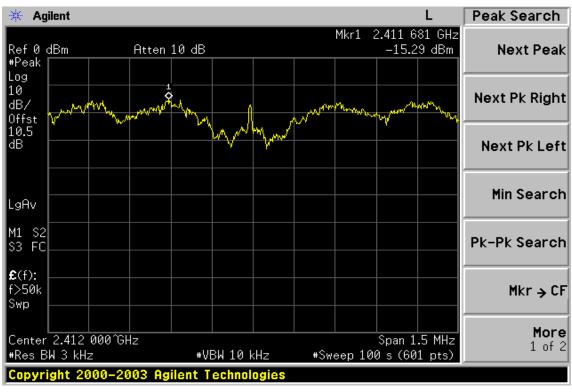
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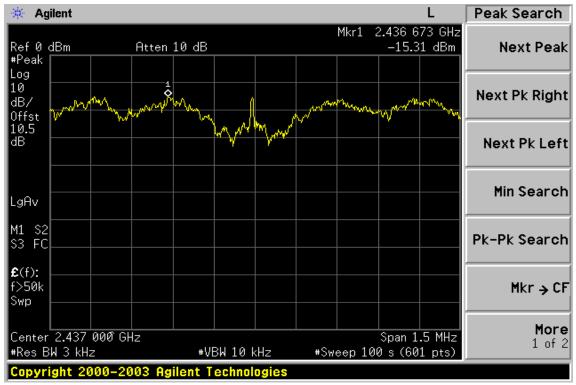
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802.11g Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)



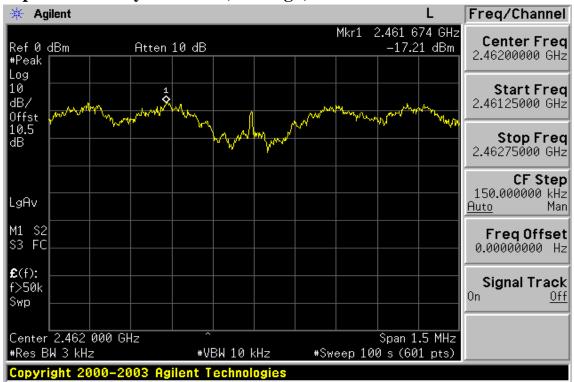
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Power Spectral Density Test Plot (CH-High)





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11. ANTENNA REQUIREMENT

11.1. Standard Applicable

According to §15.203, Antenna requirement.

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

11.2. Antenna Connected Construction

The directional gains of antenna used for transmitting is -3.79 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Please see EUT photo for details.