

IC: 3857A-WM6618R

FCC ID: HEDWM6618R

Report No.: ER/2007/90020 Issue Date: Sep. 20, 2007

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# ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

# INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT AND INDUSTRY CANADA RSS-210

OF

**Product Name:** 802.11n USB Client Adaptor

**Brand Name:** Accton

**Model Name:** WM6618R-FLF-ZZ

IC Number: 3857A-WM6618R

**FCC ID Number:** HEDWM6618R

**Report Number:** ER-2007-90020

**Issue Date:** Sep. 20, 2007

FCC §15.247, RSS 210, Issue 6, Annex 8 **Rule Part:** 

**Accton Technology Corporation Prepared for:** 

No.1 Creation 3rd Rd., Science-based Industrial Park, Hsinchu 30077, 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:** Accton Technology Corporation

No.1 Creation 3rd Rd., Science-based Industrial Park, Hsinchu 30077,

Taiwan, R.O.C.

**Equipment Under Test:** 802.11n USB Client Adaptor

**Brand Name:** Accton

IC Number: 3857A-WM6618R
FCC ID Number: HEDWM6618R
Model Number: WM6618R-FLF-ZZ

**Model Difference:** N/A

**File Number:** EF/2007/90020

**Date of test:** Sep. 11, 2007 ~ Sep, 19, 2007

**Date of EUT Received:** Sep. 10, 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 15C:2005, §15.247 and RSS-210 issue 6: 2005 Annex 8.

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

Test By:	Jason Whe	Date	Sep. 20, 2007	
<del>-</del>	Jason Wu / Sr. Engineer			
Prepared By:	Alex Hsieh	Date	Sep. 20, 2007	
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Approved By:	Timent Su	Date	Sep. 20, 2007	
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# Version

Version No.	Date
00	Sep. 20, 2007
01	Sep. 26, 2007

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# 1. GENERAL INFORMATION

# 1.1 Product Description

#### **General:**

Product Name:	802.11n USB Client Adaptor
Brand Name	N/A
Model Name:	WM6618R-FLF-ZZ
Model Difference:	N/A
Power Supply	5Vdc
Hardware Version	R01
Software Version	1.0.4.0

#### 802.11 b/g/n WLAN:

Frequency Range & Channel number	802.11 b/g/n_20MHz: 2412 – 2462 MHz, 11 channels 802.11 n_40MHz: 2422 – 2452 MHz, 7 channels
Rated Power	802.11 b: 17.5 +/- 1 dBm 802.11 g: 14.5 +/- 1 dBm 802.11 n_20MHz: 14.5 +/- 1 dBm 802.11 n_40MHz: 14.5 +/- 1 dBm
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 802.11 n_20MHz: 6.5 - 65Mbps 802.11 n_40MHz: 6.5 - 65Mbps
Antenna Designation	PIFA Antenna, +2dBi
Type of Emission	802.11 b: 15M3G1D 802.11 g: 16M5D1D 802.11 n_20MHz: 17M6 D1D 802.11 n_40MHz: 36M2D1D

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

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

This submittal(s) (test report) is intended for FCC ID: **HEDWM6618R** filing to comply with Section 15.247 of the FCC Part 15C: 2005, Subpart C Rules. And IC: 3857A-WM6618R filing to comply with Industry Canada RSS-210 issue 6: 2005 Annex 8.

### 1.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003) and RSS-Gen: 2005. 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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### 2. 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 and RSS-Gen: 2005. 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 and RSS-Gen:2005.

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# 2.4 Configuration of Tested System

Fig. 2-1 Configuration of Tested System

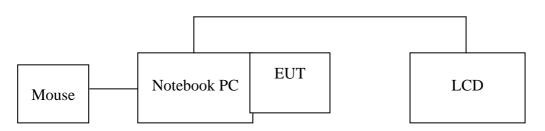


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Notebook	IBM	T2367	N/A	Shielding	Un-shielding
2.	LCD	DELL	E153FP	N/A	N/A	Un-shielding
3.	Mouse	Acrox	MVI	S07A03264	N/A	N/A

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### 3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§15.207(a)/ RSS-Gen	AC Power Line Conducted Emission	Compliant
§15.247(b)/ §RSS-210, A8.4(4)	Peak Output Power	Compliant
§15.247(b)/ §RSS-210, A8.2	6dB Bandwidth	Compliant
§15.247(c) §RSS-210, A8.5	100 KHz Bandwidth Of Frequency Band Edges	Compliant
§15.247(c) §RSS-210, A8.5	Spurious Emission	Compliant
§15.247 §RSS-210, A8.2(2)	Peak Power Density	Compliant
RSS-Gen§4.4.1	99% Power Bandwidth	Compliant
§15.203 §RSS-210, A8.4	Antenna Requirement	Compliant

### 4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

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

802.11 b mode: Channel low (2412MHz) mid (2437MHz) and high (2462MHz) with 1 and 11Mbps data rate were chosen for full testing. The Worst case 11Mbps was reported for radiated spurious emission.

802.11 g mode: Channel low (2412MHz) mid (2437MHz) and high (2462MHz) with 6 and 54Mbps data rate were chosen for full testing. The Worst case 54Mbps was reported for radiated spurious emission.

802.11 n 20M mode: Channel low (2412MHz) · mid (2437MHz) and high (2462MHz) with 6.5 and 65Mbps data rate were chosen for full testing. The Worst case 65Mbps was reported for radiated spurious emission.

802.11 n\_40M mode: Channel low (2422MHz) \cdot mid (2437MHz) and high (2452MHz) with 6.5 and 65Mbps data rate were chosen for full testing. The Worst case 65Mbps was reported for radiated

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### 5. CONDUCTED EMISSION TEST

# **5.1** Standard Applicable

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

According to section RSS-Gen 7.2.2, Transmitter AC Wire line Conducted Emissions. Limits is as following.

Frequency range	Limits dB(uV)		
MHz	Quasi-peak	uasi-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.

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<sup>1.</sup> The lower limit shall apply at the transition frequencies

<sup>2.</sup> 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.
TYPE		NUMBER	NUMBER	CAL.	
EMC Analyzer	HP	8594EM	3624A00203	09/01/2007	08/31/2008
EMI Test Receiver	R&S	ESCS30	828985/004	06/09/2007	06/08/2008
Transient Limiter	HP	11947A	3107A02062	09/01/2007	08/31/2008
LISN	Rolf-Heine	NNB-2/16Z	99012	12/31/2006	12/30/2007
LISN	Rolf-Heine	NNB-2/16Z	99013	12/24/2006	12/23/2007
Coaxial Cables	N/A	No. 3, 4	N/A	12/01/2006	12/01/2007

# **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.

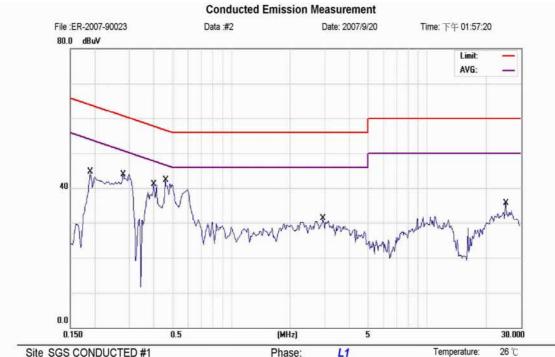


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### AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	802.11 b, 11Mbp	22.11 b, 11Mbps mode, the worst mode Test Date: Sep. 20, 2007			
Temperature:	25 ℃	Humidity:	63%	Test By:	Jason



Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: 802.11n USB Client Adapter

M/N: WM6618R-FLF-ZZ

Note: Operating

No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		0.1900	44.74	0.03	44.77	64.04	-19.27	QP		
2		0.2800	43.88	0.02	43.90	60.82	-16.92	QP		
3		0.4000	41.08	0.02	41.10	57.85	-16.75	QP		
4	*	0.4600	42.34	0.02	42.36	56.69	-14.33	QP		
5		2.9400	31.20	0.06	31.26	56.00	-24.74	QP		
6		25.3200	35.22	0.41	35.63	60.00	-24.37	QP		

Power:

Distance:

AC 110V/60Hz

Humidity:

Air Pressure:

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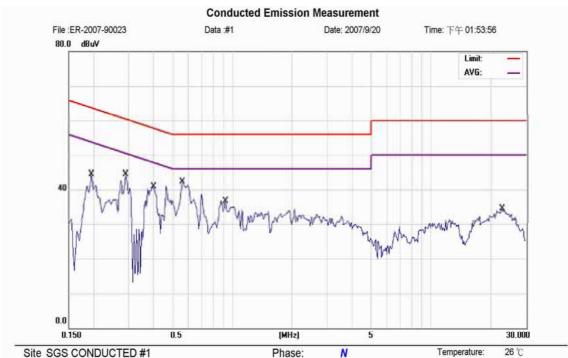


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Humidity:

Air Pressure:



Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: 802.11n USB Client Adapter

M/N: WM6618R-FLF-ZZ

Note: Operating

No. Mk	. Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1950	44.46	0.02	44.48	63.82	-19.34	QP	
2	0.2900	44.44	0.02	44.46	60.52	-16.06	QP	
3	0.4000	40.86	0.02	40.88	57.85	-16.97	QP	
4 *	0.5600	42.32	0.02	42.34	56.00	-13.66	QP	
5	0.9200	36.76	0.01	36.77	56.00	-19.23	QP	
6	22.8000	34.24	0.29	34.53	60.00	-25.47	QP	

Power:

Distance:

AC 110V/60Hz

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### 6. PEAK OUTPUT POWER MEASUREMENT

# **6.1** Standard Applicable

According to  $\S15.247(a)(2)$ , (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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According to \$RSS-210, A8.4(4), For the band 2400-2483.5 MHz, the transmitter output power shall ceed 1.0 watt. See (d) below for special conditions. For the bands 902-928 MHz and 5725-5850 MHz, the transmitter output power shall not exceed 1.0 watt and the EIRP shall not exceed 4 watts. However, point-to-point systems in the 5725-5850 MHz band are permitted any EIRP necessary for satisfactory operation by increase in antenna gain. Point-to-multipoint systems and multiple co-located transmitters transmitting the same information are **prohibited** from using this high EIRP category. However, remote stations of point-to-multipoint systems shall be permitted to operate at the point-to-point EIRP limit provided that the higher EIRP is achieved by employing higher gain directional antennas and not higher transmitter output powers

### **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, integrated 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	04/26/2008	
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2007	07/03/2008	
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	ZFSC-2-10G	N/A	10/07/2006	10/06/2007	

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# **6.4** Measurement Result

**Test Results (802.11b) 1M:** 

СН	Frequency (MHz)	Reading Power ( dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dBm)	Result
LOW	2412.00	18.22	0.00	18.22	30	PASS
MID	2437.00	18.49	0.00	18.49	30	PASS
HIGH	2462.00	18.17	0.00	18.17	30	PASS

#### **Test Results (802.11b) 11M:**

СН	Frequency (MHz)	Reading Power ( dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dBm)	Result
LOW	2412.00	18.12	0.00	18.12	30	PASS
MID	2437.00	18.25	0.00	18.25	30	PASS
HIGH	2462.00	18.29	0.00	18.29	30	PASS

### **Test Results (802.11g) 6M:**

СН	Frequency (MHz)	Reading Power ( dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dBm)	Result
LOW	2412.00	15.21	0.00	15.21	30	PASS
MID	2437.00	15.29	0.00	15.29	30	PASS
HIGH	2462.00	15.23	0.00	15.23	30	PASS

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### **Test Results (802.11g) 54M:**

СН	Frequency (MHz)	Reading Power ( dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dBm)	Result
LOW	2412.00	15.35	0.00	15.35	30	PASS
MID	2437.00	15.55	0.00	15.55	30	PASS
HIGH	2462.00	15.22	0.00	15.22	30	PASS

#### Test Results (802.11n 20M) 6.5M:

СН	Frequency (MHz)	Reading Power ( dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dBm)	Result
LOW	2412.00	15.24	0.00	15.24	30	PASS
MID	2437.00	15.33	0.00	15.33	30	PASS
HIGH	2462.00	15.45	0.00	15.45	30	PASS

#### Test Results (802.11n 20M) 65M:

СН	Frequency (MHz)	Reading Power ( dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dBm)	Result
LOW	2412.00	15.38	0.00	15.38	30	PASS
MID	2437.00	15.43	0.00	15.43	30	PASS
HIGH	2462.00	15.25	0.00	15.25	30	PASS



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#### Test Results (802.11n 40M) 6.5M:

СН	Frequency (MHz)	Reading Power ( dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dBm)	Result
LOW	2422.00	14.29	0.00	14.29	30	PASS
MID	2442.00	14.23	0.00	14.23	30	PASS
HIGH	2462.00	14.36	0.00	14.36	30	PASS

### Test Results (802.11n 40M) 65M:

СН	Frequency (MHz)	Reading Power ( dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dBm)	Result
LOW	2422.00	14.27	0.00	14.27	30	PASS
MID	2442.00	14.05	0.00	14.05	30	PASS
HIGH	2462.00	14.50	0.00	14.50	30	PASS

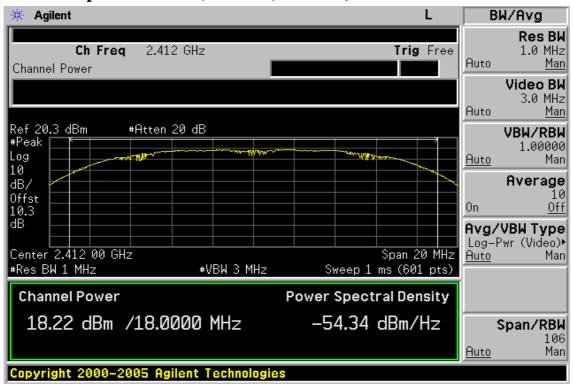
Note: Offset 10.3 dB for insertion loss.



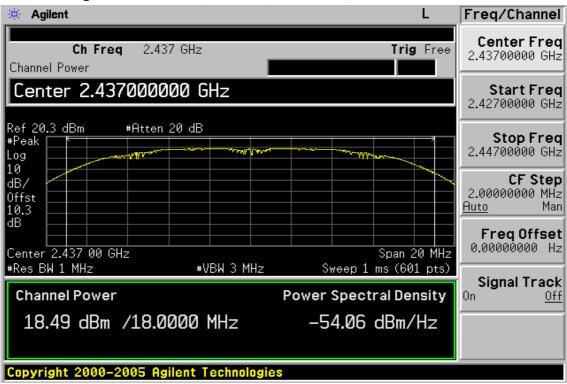
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# Peak Power Output Data Plot (CH Low) 802.11b, 1M mode



# Peak Power Output Data Plot (CH Mid) 802.11b, 1M mode



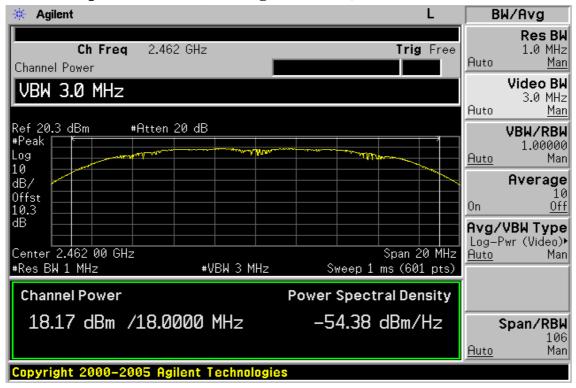
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# Peak Power Output Data Plot (CH High) 802.11b, 1M mode



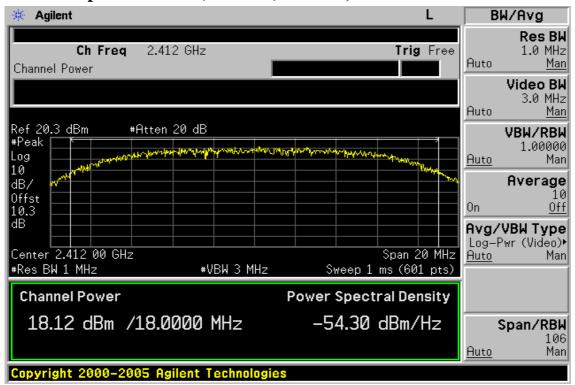
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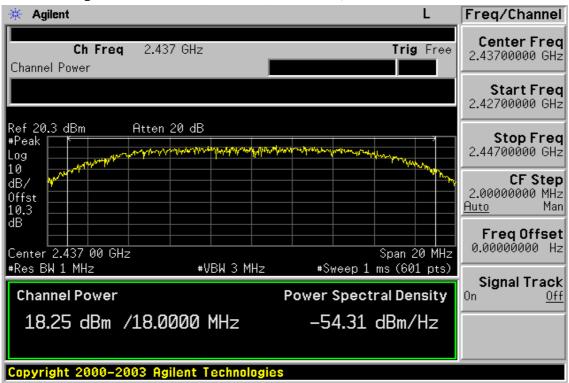
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# Peak Power Output Data Plot (CH Low) 802.11b, 11M mode



# Peak Power Output Data Plot (CH Mid) 802.11b, 11M mode



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# Peak Power Output Data Plot (CH High) 802.11b, 11M mode



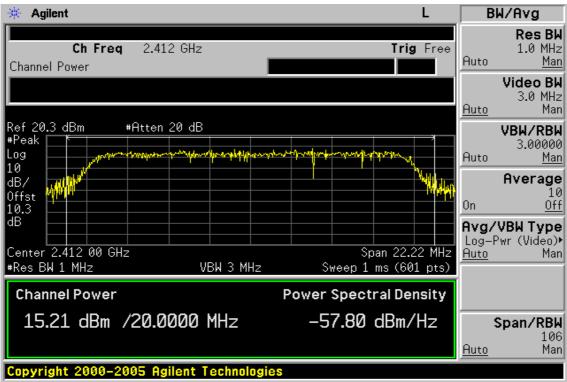
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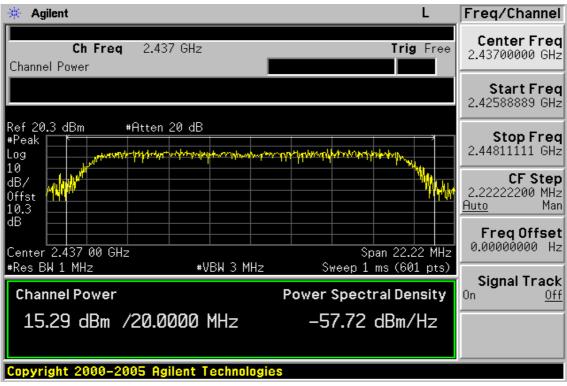
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# Peak Power Output Data Plot (CH Low) 802.11g, 6M mode



# Peak Power Output Data Plot (CH Mid) 802.11g, 6M mode



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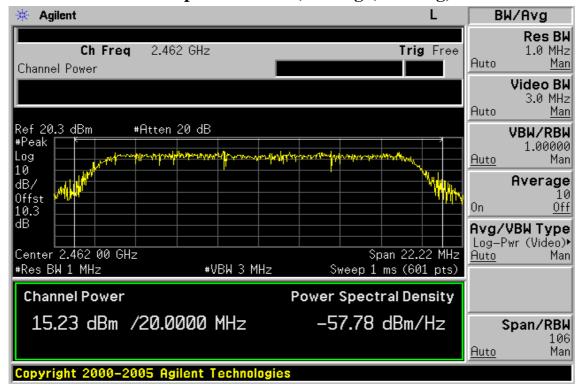
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# Peak Power Output Data Plot (CH High) 802.11g, 6M mode



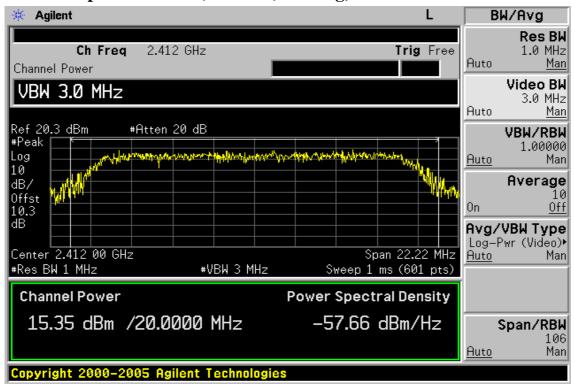
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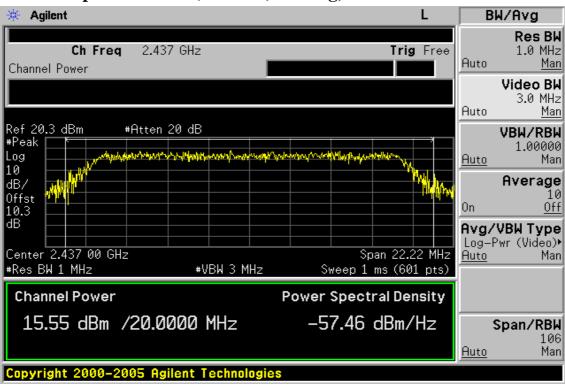
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# Peak Power Output Data Plot (CH Low) 802.11g, 54M mode



# Peak Power Output Data Plot (CH Mid) 802.11g, 54M mode



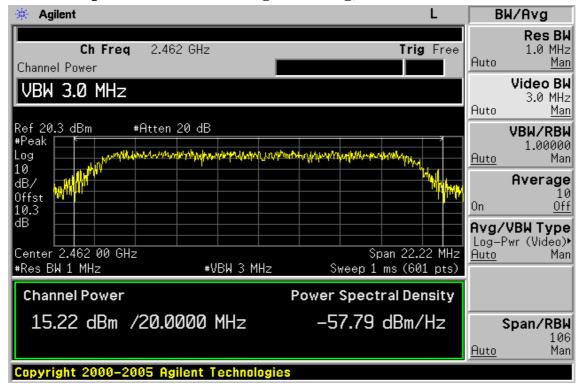
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# Peak Power Output Data Plot (CH High) 802.11g, 54M mode



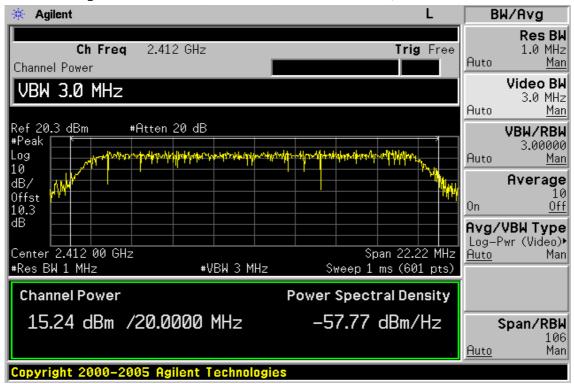
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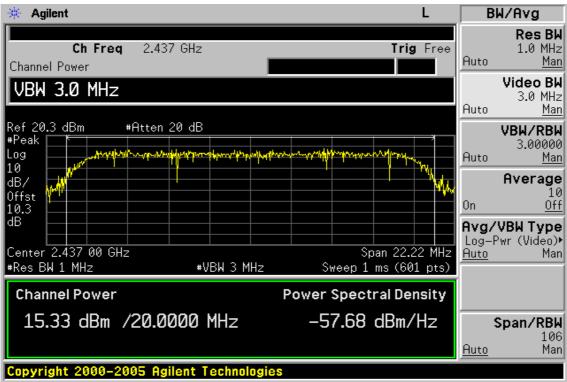
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# Peak Power Output Data Plot (CH Low) 802.11n\_20M, 6.5M mode



# Peak Power Output Data Plot (CH Mid) 802.11n\_20M, 6.5M mode



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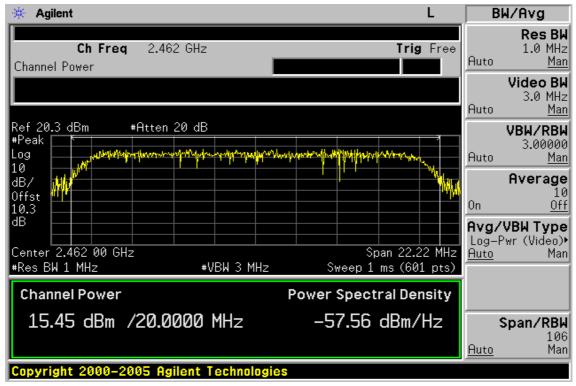
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# Peak Power Output Data Plot (CH High) 802.11n\_20M, 6.5M mode



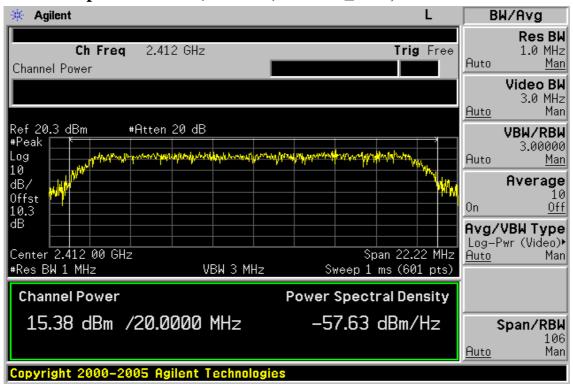
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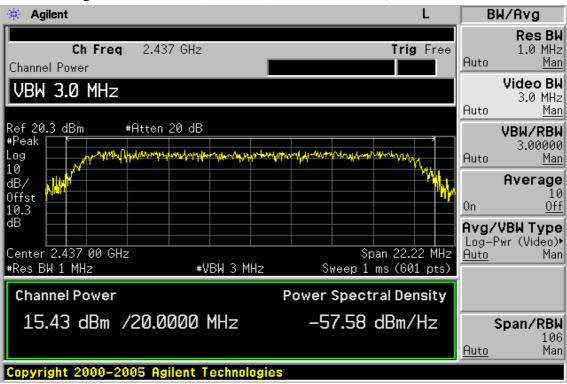
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# Peak Power Output Data Plot (CH Low) 802.11n\_20M, 65M mode



# Peak Power Output Data Plot (CH Mid) 802.11n\_20M, 65M mode



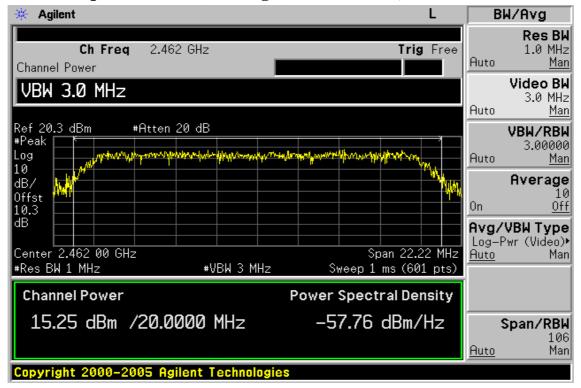
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# Peak Power Output Data Plot (CH High) 802.11n\_20M, 65M mode



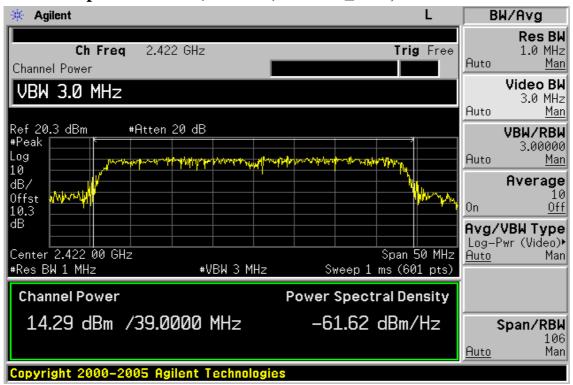
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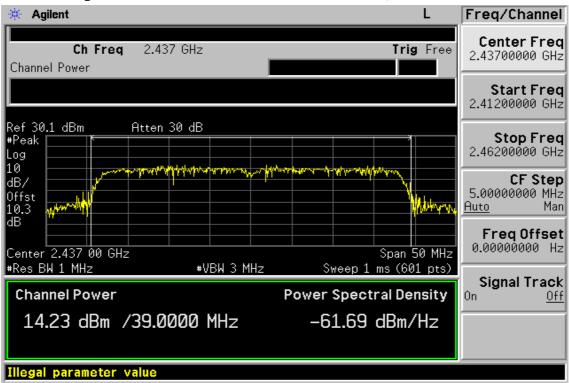
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# Peak Power Output Data Plot (CH Low) 802.11n\_40M, 6.5M mode



# Peak Power Output Data Plot (CH Mid) 802.11n\_40M, 6.5M mode



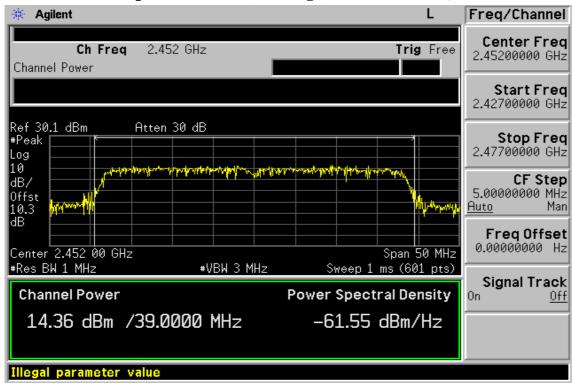
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# Peak Power Output Data Plot (CH High) 802.11n \_40M, 6.5M mode



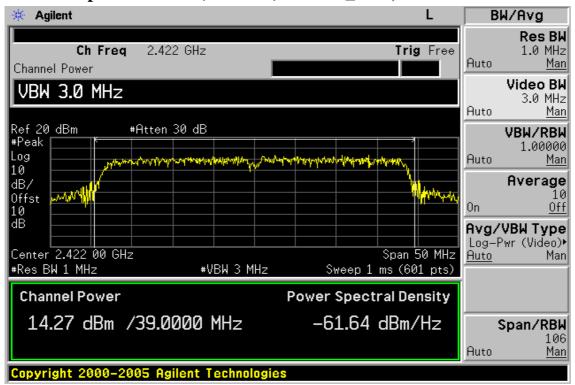
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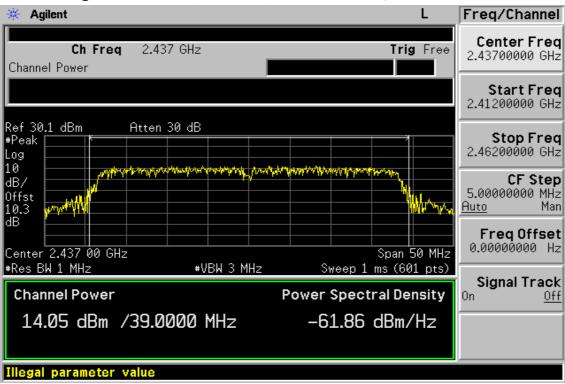
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# Peak Power Output Data Plot (CH Low) 802.11n\_40M, 65M mode



# Peak Power Output Data Plot (CH Mid) 802.11n\_40M, 65M mode



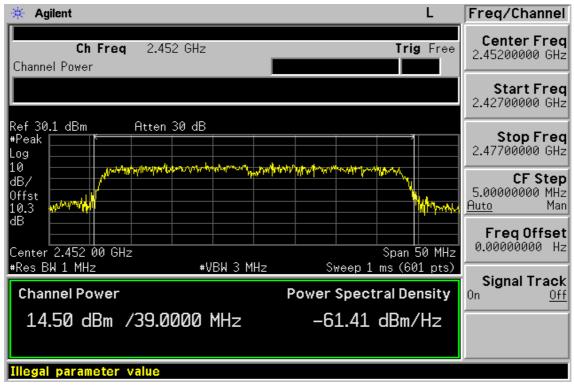
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# Peak Power Output Data Plot (CH High) 802.11n\_40M, 65M mode



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### 7. 6dB Bandwidth

# 7.1 Standard Applicable

According to §15.247(a)(2) and RSS-210, Annex 8.2, 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=100KHz, VBW = 300KHz, 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 Result

#### **Test Results (802.11b) 1M:**

СН	Bandwidth (MHz)	Limit Bandwidth (KHz)	Result
2412	10.117	> 500	PASS
2437	10.096	> 500	PASS
2462	12.694	> 500	PASS

### Test Results (802.11g) 6M:

		Limit	
СН	Bandwidth	Bandwidth	Result
	(MHz)	(KHz)	
2412	16.494	> 500	PASS
2437	16.373	> 500	PASS
2462	16.561	> 500	PASS

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#### Test Results (802.11n\_20M) 6.5M:

		Limit	
СН	Bandwidth	Bandwidth	Result
	(MHz)	(KHz)	
2412	17.431	> 500	PASS
2437	17.651	> 500	PASS
2462	17.445	> 500	PASS

#### Test Results (802.11n\_40M) 6.5M:

СН	Bandwidth (MHz)	Limit Bandwidth (KHz)	Result
2412	35.878	> 500	PASS
2437	36.385	> 500	PASS
2462	36.062	> 500	PASS

#### **Test Results (802.11b) 11M:**

СН	Bandwidth (MHz)	Limit Bandwidth (KHz)	Result
2412	10.932	> 500	PASS
2437	12.220	> 500	PASS
2462	11.229	> 500	PASS

#### **Test Results (802.11g) 54M:**

		Limit	
СН	Bandwidth	Bandwidth	Result
	(MHz)	(KHz)	
2412	16.465	> 500	PASS
2437	16.312	> 500	PASS
2462	16.390	> 500	PASS

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#### Test Results (802.11n\_20M) 65M:

		Limit	
СН	Bandwidth	Bandwidth	Result
	(MHz)	(KHz)	
2412	17.417	> 500	PASS
2437	16.669	> 500	PASS
2462	17.319	> 500	PASS

#### Test Results (802.11n\_40M) 65M:

СН	Bandwidth (MHz)	Limit Bandwidth (KHz)	Result
2412	35.477	> 500	PASS
2437	36.141	> 500	PASS
2462	35.576	> 500	PASS

#### 7.4 Measurement Equipment Used:

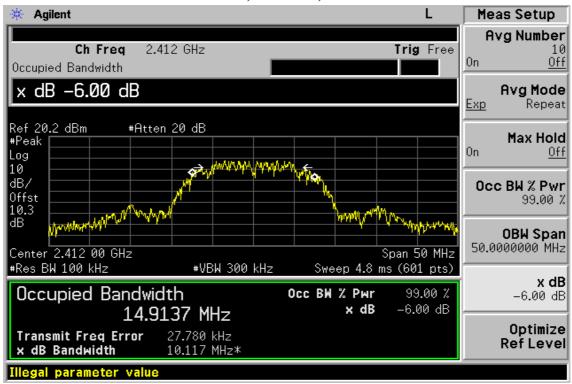
	Conducted Emission Test Site											
EQUIPMENT	MFR	MODEL	MODEL SERIAL		CAL DUE.							
TYPE		NUMBER	NUMBER	CAL.								
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008							
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2007	07/03/2008							
Spectrum Analyzer	R&S	FSP 40	100034	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	ZFSC-2-10G	N/A	10/07/2006	10/06/2007							



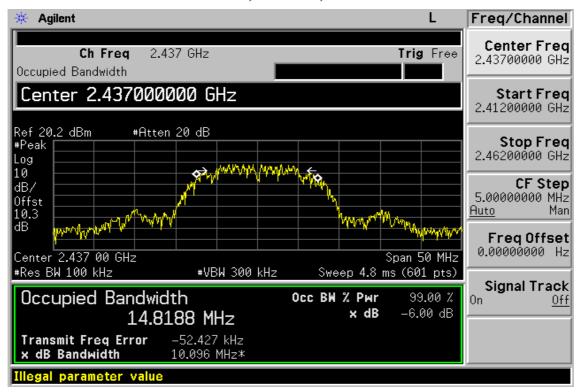
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# 6dB Band Width Test Data CH-Low, 802.11b, 1M mode



#### 6dB Band Width Test Data CH-Mid, 802.11b, 1M mode



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# 6dB Band Width Test Data CH-High, 802.11b, 1M mode



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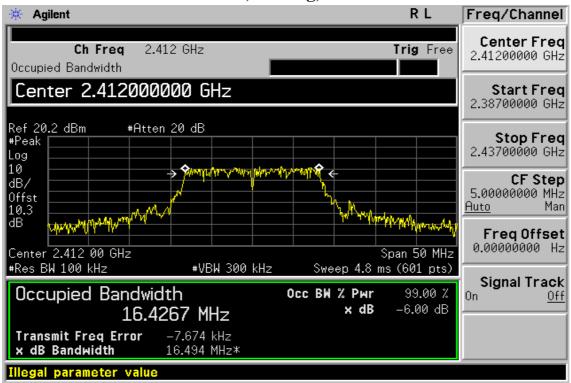
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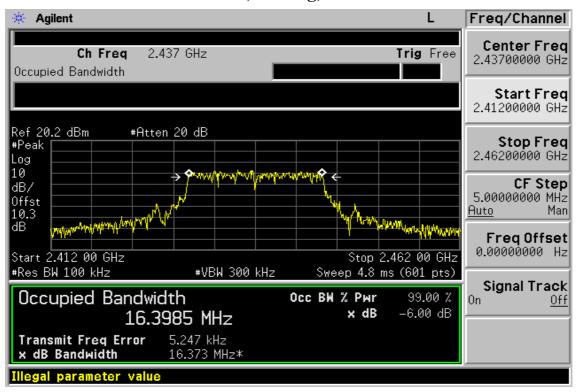
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# 6dB Band Width Test Data CH-Low, 802.11g, 6M mode



#### 6dB Band Width Test Data CH-Mid, 802.11g, 6M mode



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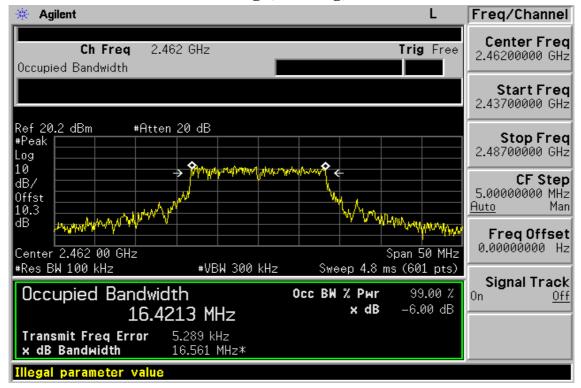
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# 6dB Band Width Test Data CH-High, 802.11g, 6M mode



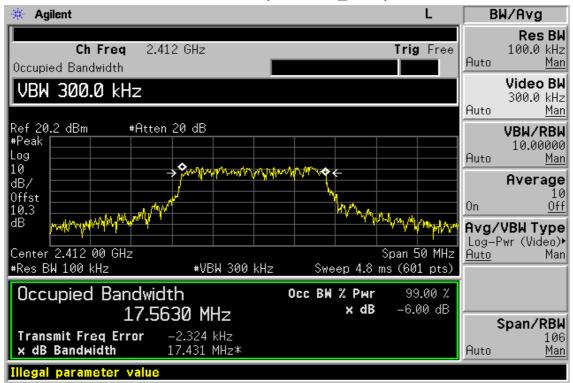
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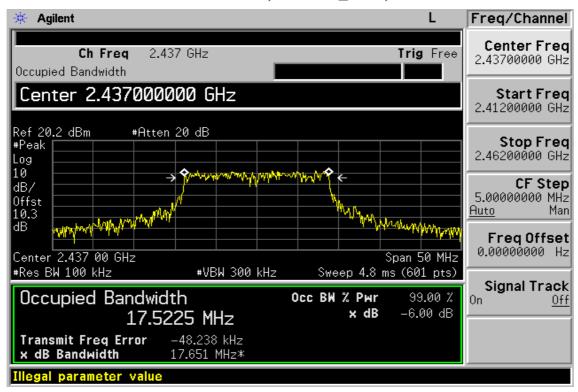
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# 6dB Band Width Test Data CH-Low, 802.11n\_20M, 6.5M mode



#### 6dB Band Width Test Data CH-Mid, 802.11n\_20M, 6.5M mode



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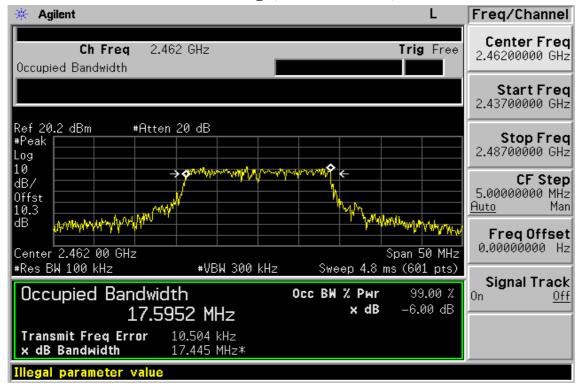
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## 6dB Band Width Test Data CH-High, 802.11n\_20M, 6.5M mode



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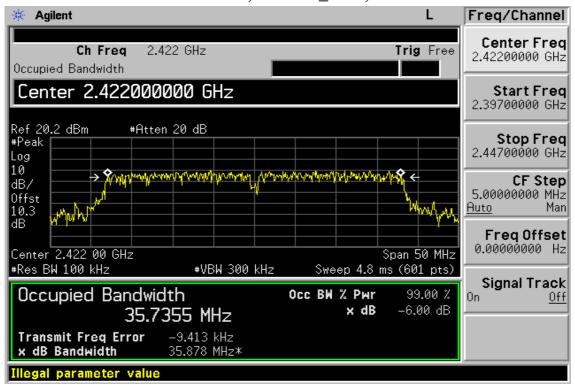
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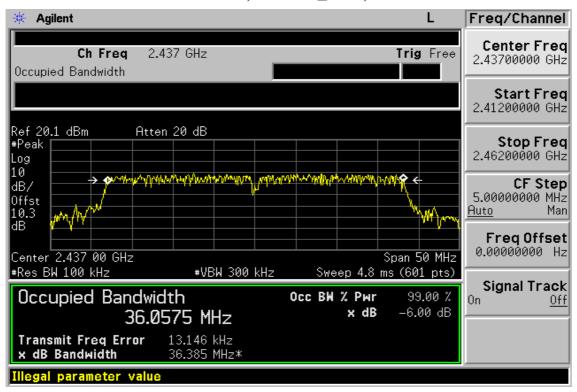
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# 6dB Band Width Test Data CH-Low, 802.11n\_40M, 6.5M mode



#### 6dB Band Width Test Data CH-Mid, 802.11n\_40M, 6.5M mode



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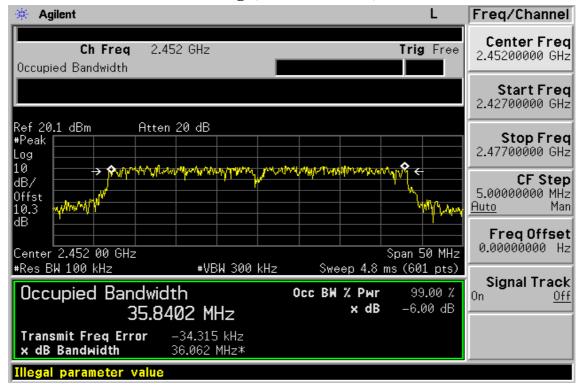
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# 6dB Band Width Test Data CH-High, 802.11n\_40M, 6.5M mode



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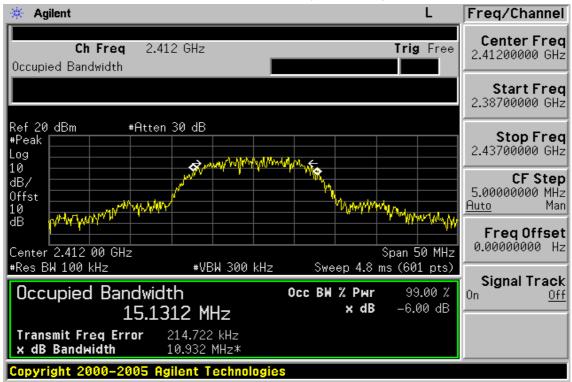
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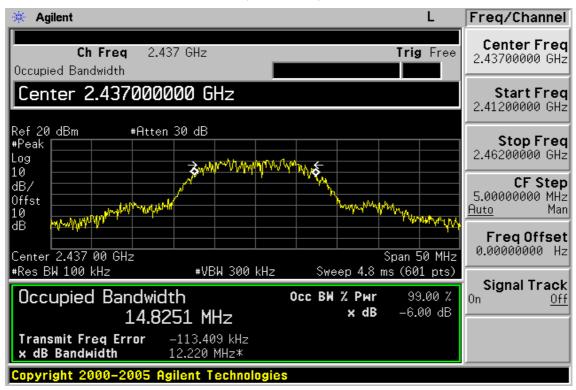
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#### High 6dB Band Width Test Data CH-Low, 802.11b, 11M mode



## 6dB Band Width Test Data CH-Mid, 802.11b, 11M mode



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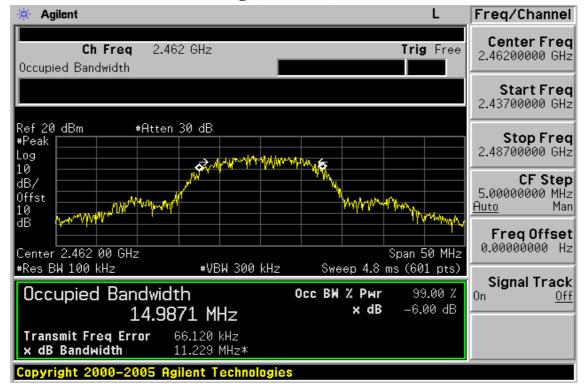
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## 6dB Band Width Test Data CH-High, 802.11b, 11M mode



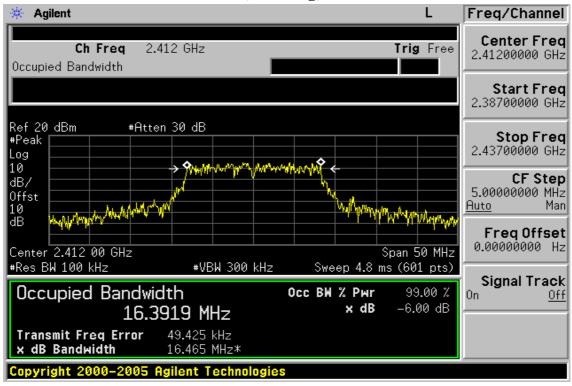
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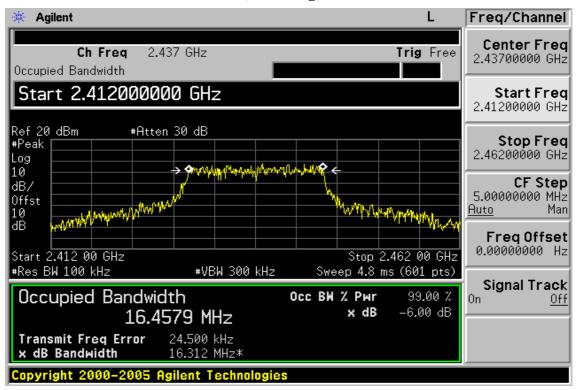
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# 6dB Band Width Test Data CH-Low, 802.11g, 54M mode



## 6dB Band Width Test Data CH-Mid, 802.11g, 54M mode



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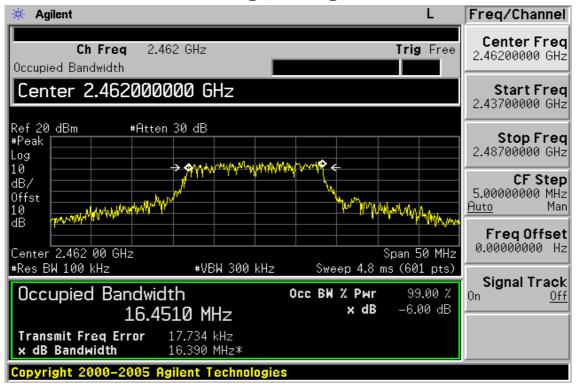
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## 6dB Band Width Test Data CH-High, 802.11g, 54M mode



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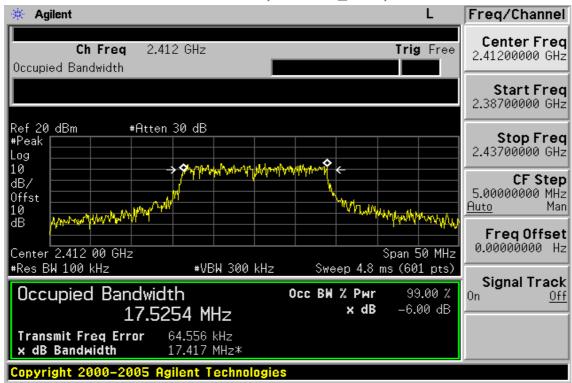
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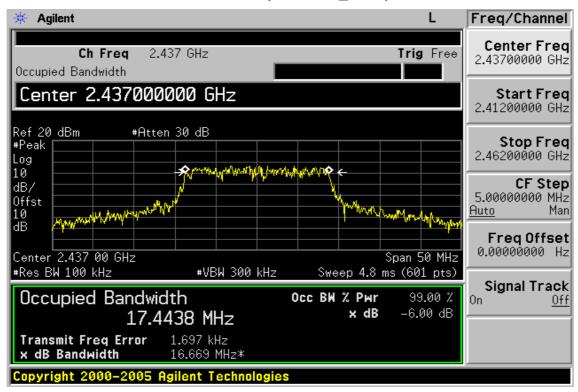
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# 6dB Band Width Test Data CH-Low, 802.11n\_20M, 65M mode



#### 6dB Band Width Test Data CH-Mid, 802.11n\_20M, 65M mode



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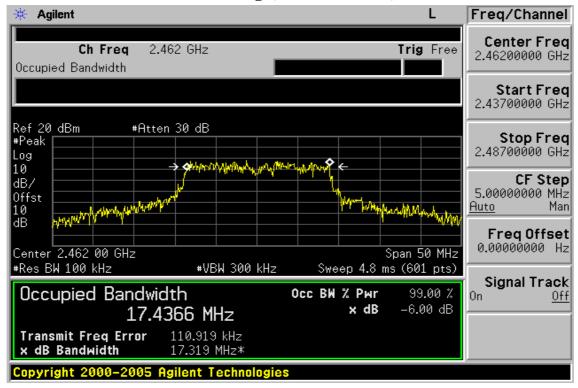
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## 6dB Band Width Test Data CH-High, 802.11n 20M, 65M mode



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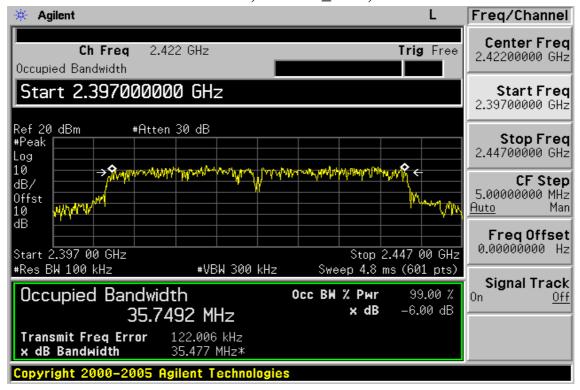
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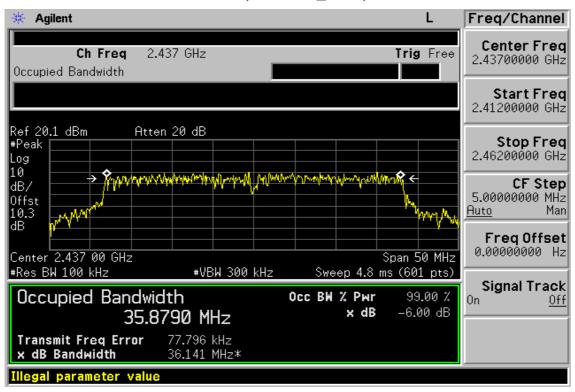
Report No.: ER/2007/90020 Issue Date: Sep. 20, 2007

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# 6dB Band Width Test Data CH-Low, 802.11n\_40M, 65M mode



#### 6dB Band Width Test Data CH-Mid, 802.11n\_40M, 65M mode



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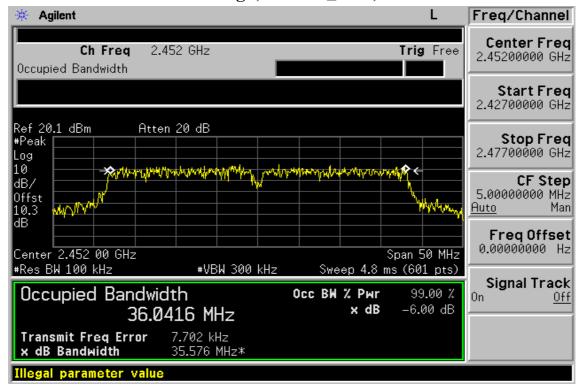
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## 6dB Band Width Test Data CH-High, 802.11n\_40M, 65M mode



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#### 8. 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).

According to §RSS-210 Annex8.5: In any 100 kHz bandwidth outside the operating frequency bands, between 30 MHz and 5 times the carrier frequency, the unwanted emission spectral density shall be either at least 20 dB below the inband spectral density, or shall not exceed the levels specified in Table 3, whichever is less stringent. Note: For frequency hopping systems, the inband density Si shall be measured with the hopping sequence stopped at the lowest channel and the highest channel in turn, as well as with the hopping running normally. The 20 dB shall be with reference to the lowest of the three Si values.

#### **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=25MHz, 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 Result

Refer to attach spectrum analyzer data chart.



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## 8.4 Measurement Equipment Used:

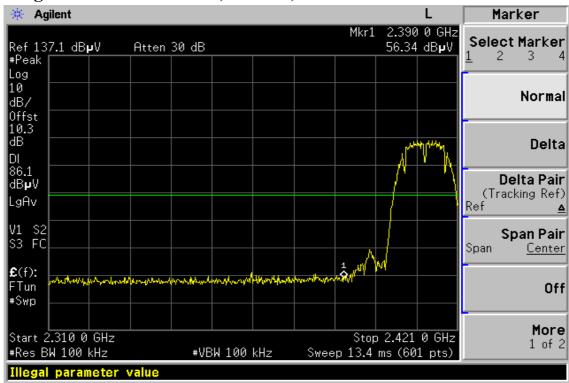
	Conducted Emission Test Site											
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.							
TYPE		NUMBER	NUMBER	CAL.								
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008							
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2007	07/03/2008							
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007							
Low Loss Cable	ow Loss Cable HUBER+SUHNER		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	ZFSC-2-10G	N/A	10/07/2006	10/06/2007							



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# Band Edges Test Data CH-Low, 802.11b, 1M mode



## Band Edges Test Data CH-High, 802.11b,1M mode



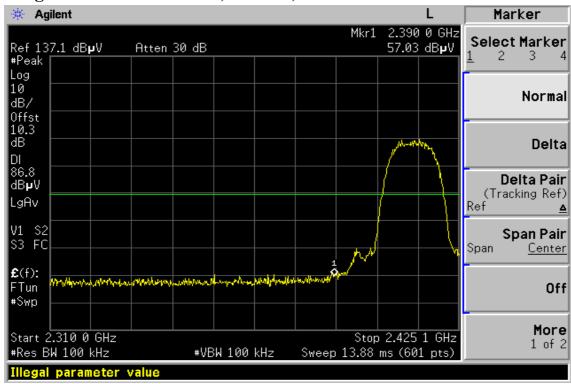
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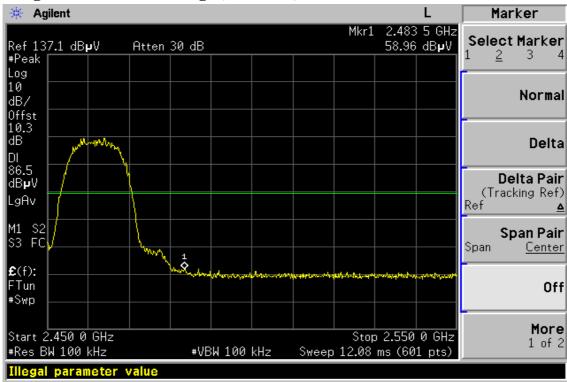
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# Band Edges Test Data CH-Low, 802.11b, 11M mode



## Band Edges Test Data CH-High, 802.11b,11M mode



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#### **Radiated Emission: The Worst Mode**

Operation Mode TX CH Low 802.11b mode 11M Test Date Sep. 18, 2007

Fundamental Frequency 2412 MHz Test By Jason Temperature  $25^{\circ}$ 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	( <b>dB</b> )	
2390.00	45.43		-1.39	44.04		74.00	54.00	-9.96	Peak
Operation 1	Mode	TX C	H Low 80	02.11b mode	e 11M	Test	Date	Sep. 18, 20	007
Fundament	tal Frequer	ncy 2412	MHz			Test	By .	Jason	
Temperatu	re	25 ℃				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	48 29		-1 39	46 90		74 00	54 00	-7 10	Peak

#### Remark:

- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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: The Worst Mode**

Operation Mode TX CH High 802.11b mode 11M Test Date Sep. 18, 2007

Fundamental Frequency 2462 MHz Test By Jason 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/n	(dB)	
2483.56	42.47		-0.92	41.55		74.00	54.00	-12.45	Peak
Operation 1	Mode	TX C	CH High 80	02.11b mod	le 11M	Test	Date	Sep. 18, 20	007
Fundament	tal Frequer	ncy 2462	MHz			Test	By	Jason	
Temperatu	re	25 ℃				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)	
2483.56	46.37		-0.92	45.45		74.00	54.00	-8.55	Peak

#### Remark:

- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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.

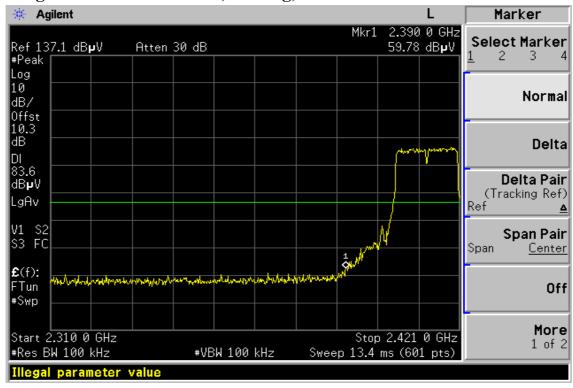
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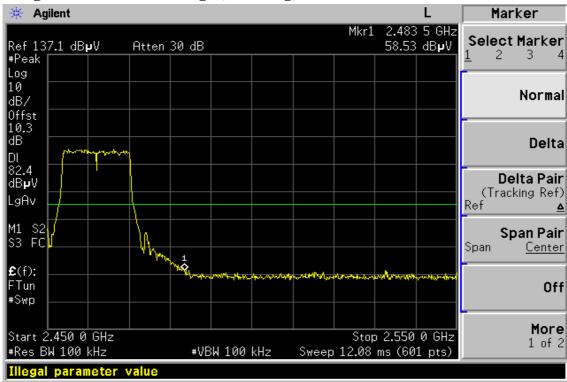
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# Band Edges Test Data CH-Low, 802.11g, 6M mode



## Band Edges Test Data CH-High, 802.11g, 6M mode



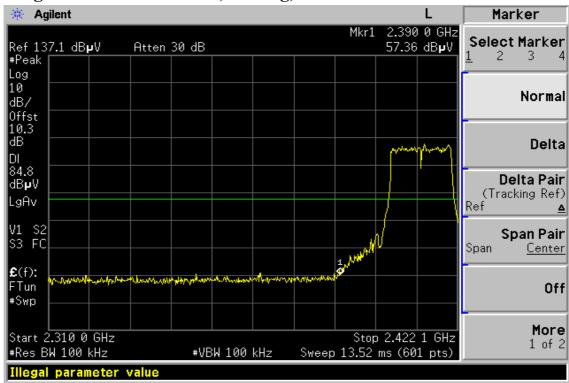
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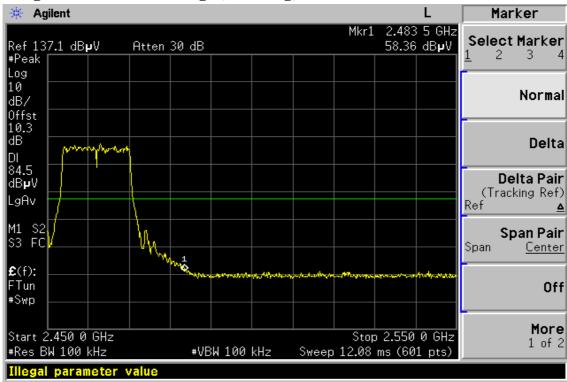
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# Band Edges Test Data CH-Low, 802.11g, 54M mode



## Band Edges Test Data CH-High, 802.11g, 54M mode



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#### **Radiated Emission: The Worst Mode**

Operation Mode TX CH Low 802.11g mode 54M Test Date Sep. 18, 2007

Fundamental Frequency 2412 MHz Test By Jason Temperature 25 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/n	(dB)	
2390.00	40.90		-1.39	39.51		74.00	54.00	-14.49	Peak
Operation 1	Mode	TX C	H Low 80	02.11g mode	e 54M	Test	Date	Sep. 18, 20	007
Fundamen	tal Frequer	ncy 2412	MHz			Test	By	Jason	
Temperatu	re	25				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	47.31		-1.39	45.92		74.00	54.00	-8.08	Peak

#### Remark:

- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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: The Worst Mode**

A T7

-0.92

Operation Mode TX CH High 802.11g mode 54M Test Date Sep. 18, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

D - - 1-

51.30

	Peak	ΑV		Actu	ial FS	Peak	ΑV		
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	47.94		-0.92	47.02		74.00	54.00	-6.98	Peak
Operation Mode Fundamental Frequency Temperature Humidity			H High 80 MHz	02.11g mod	le 54M	Test Test Pol	By .	Sep. 18, 20 Jason Hor.	007
	Peak	$\mathbf{AV}$		Actu	ıal FS	Peak	$\mathbf{AV}$		
Freq.	Reading	Reading		Peak	$\mathbf{AV}$	Limit	Limit	O	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m	(dB)	

50.38

A -4--- 1 TOO

#### Remark:

2483.56

(1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB below the permissible limits or the field strength is too small to be measured.

74.00

54.00

-3.62

Peak

- (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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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.

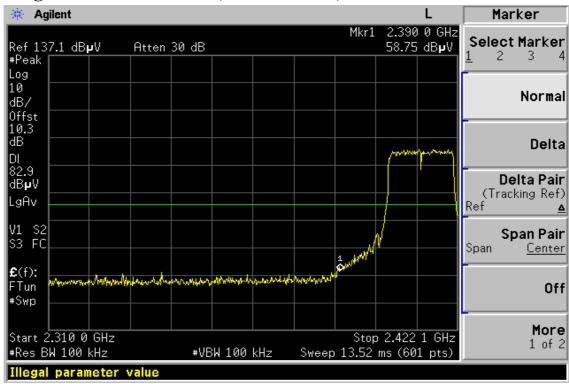
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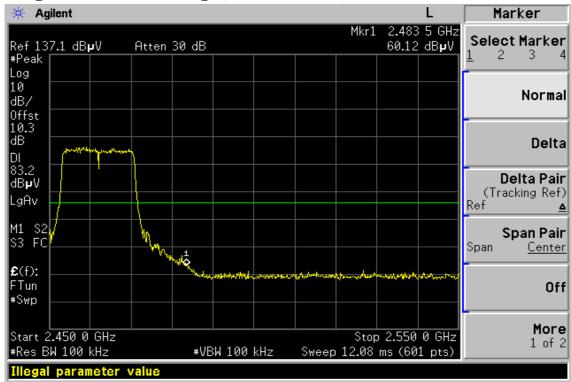
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# Band Edges Test Data CH-Low, 802.11n\_20M, 6.5M mode



## Band Edges Test Data CH-High, 802.11n\_20M, 6.5M mode



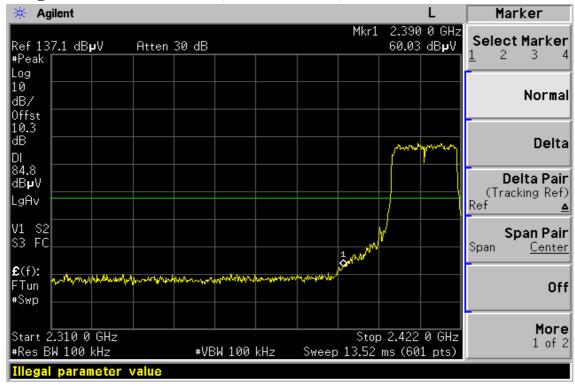
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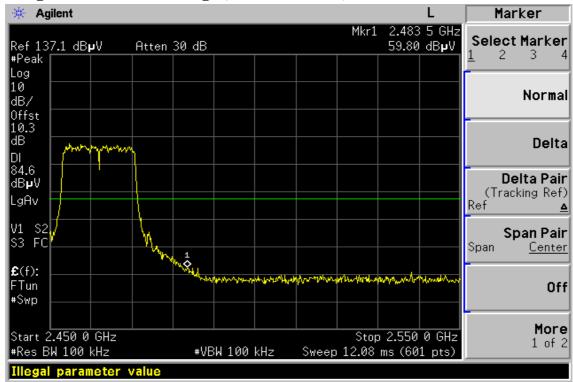
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# Band Edges Test Data CH-Low, 802.11n\_20M, 65M mode



## Band Edges Test Data CH-High, 802.11n\_20M, 65M mode



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## **Radiated Emission: The Worst Mode**

Operation Mode TX CH Low 802.11n\_20M, 65M mode Test Date Sep. 18, 2007

Fundamental Frequency 2412 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

	Peak	$\mathbf{AV}$		Actua	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/n	<b>n</b> ) ( <b>dB</b> )	
2390.00	43.81		-1.39	42.42		74.00	54.00	-11.58	Peak
Operation 2	Mode	TX C	H Low 80	02.11n_20M	, 65M mode	Test	Date	Sep. 18, 20	007
Fundament	tal Frequer	ncy 2412	MHz			Test	By	Jason	
Temperatu	re	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)	
2390.00	48.83		-1.39	47.44		74.00	54.00	-6.56	Peak

#### Remark:

- (1) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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: The worst mode**

Operation Mode TX CH High 802.11n\_20M, 65M mode Test Date Sep. 18, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

	Peak	$\mathbf{AV}$		Actua	ıl 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	( <b>dB</b> )	
2483.56	47.62		-0.92	46.70		74.00	54.00	-7.30	Peak
Operation 2 Fundament Temperatu Humidity	tal Frequer		MHz	02.11n_20M	, 65M mode	Test Pol	By .	Sep. 18, 20 Jason Hor.	007

	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	50.77		-0.92	49.85		74.00	54.00	-4.15	Peak

#### Remark:

- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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.

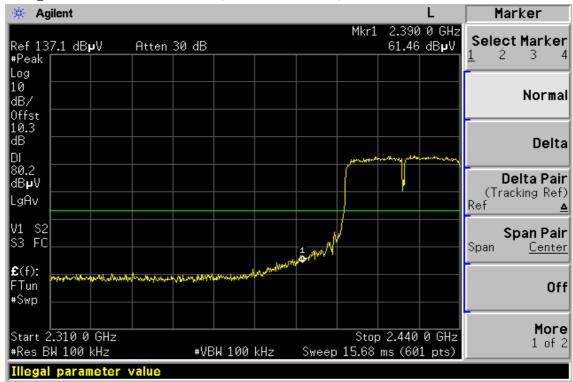
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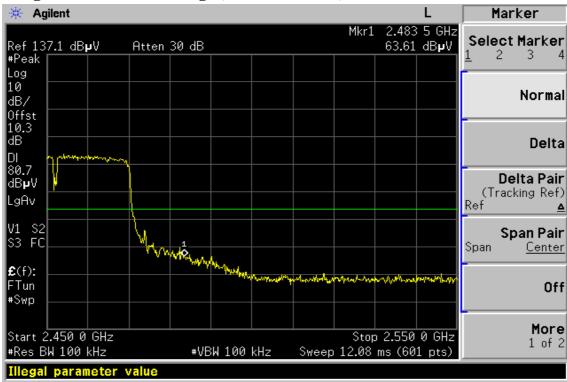
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# Band Edges Test Data CH-Low, 802.11n\_40M, 6.5M mode



## Band Edges Test Data CH-High, 802.11n\_40M, 6.5M mode



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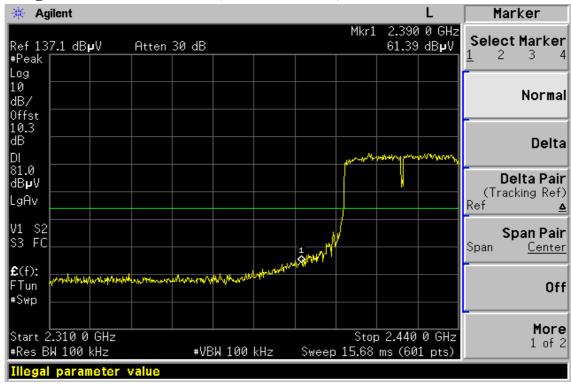
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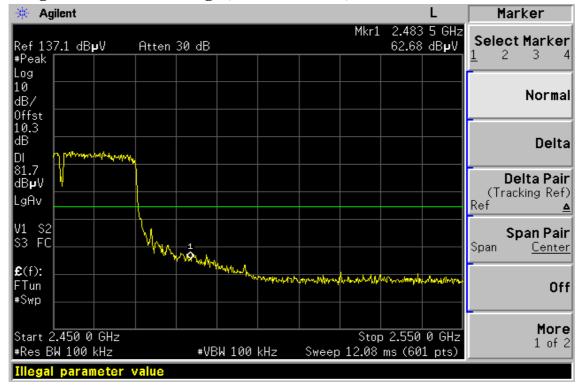
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# Band Edges Test Data CH-Low, 802.11n\_40M, 65M mode



## Band Edges Test Data CH-High, 802.11n\_40M, 65M mode



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## **Radiated Emission: The worst mode**

Operation Mode TX CH Low 802.11n\_40M, 65M Mode Test Date Sep. 18, 2007

Fundamental Frequency 2422 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

	Peak	$\mathbf{AV}$		Actua	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/n	(dB)	
2390.00	43.77		-1.39	42.38		74.00	54.00	-11.62	Peak
Operation 1	Mode	TX C	H Low 80	02.11n_40M	, 65M Mode	Test	Date	Sep. 18, 20	007
Fundament	tal Frequer	ncy 2422	MHz			Test	By	Jason	
Temperatu	re	25				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	53.40		-1.39	52.01		74.00	54.00	-1.99	Peak

#### Remark:

- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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:**

Operation Mode TX CH High 802.11n\_40M, 65M mode Test Date Sep. 18, 2007

Fundamental Frequency 2452 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

	Peak	$\mathbf{AV}$		Actua	l 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/n	(dB)	
2483.56	49.70		-0.92	48.78		74.00	54.00	-5.22	Peak
Operation I				02.11n_40M	, 65M mode	e Test Test		Sep. 18, 20 Jason	007
Temperatu	re	25				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)	
2483.56	53.92		-0.92	53.00		74.00	54.00	-1.00	Peak

#### Remark:

- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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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# 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.

According to §6.2.2(o) (e1): In any 100 kHz bandwidth outside the operating frequency bands, between 30 MHz and 5 times the carrier frequency, the unwanted emission spectral density shall be either at least 20 dB below the inband spectral density, or shall not exceed the levels specified in Table 3, whichever is less stringent. Note: For frequency hopping systems, the inband density Si shall be measured with the hopping sequence stopped at the lowest channel and the highest channel in turn, as well as with the hopping running normally. The 20 dB shall be with reference to the lowest of the three Si values.

# 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.

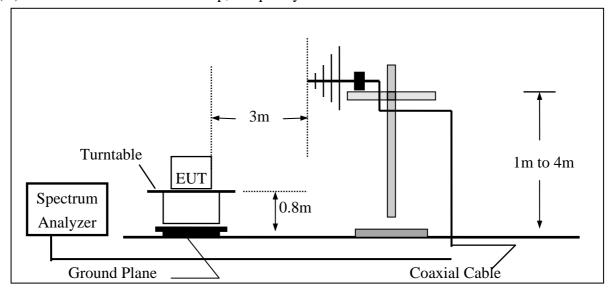


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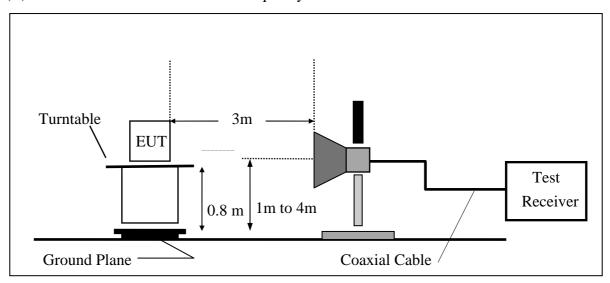
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# 9.4 Test SET-UP (Block Diagram of Configuration)

(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:

	9	66 Chamber			_
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
ТҮРЕ		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2008
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2007	03/28/2008
Bi-log Antenna	SCHWAZBECK	VULB9160	9160-3158	10/17/2006	10/16/2007
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	12/14/2006	12/13/2007
Horn antenna	SCHWAZBECK	BBHA 9170	184/185	12/13/2007	12/12/2008
Pre-Amplifier	HP	8447D	2944A09469	01/05/2007	01/04/2008
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
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	10/09/2006	10/08/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 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	e FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

### 9.7 Measurement Result

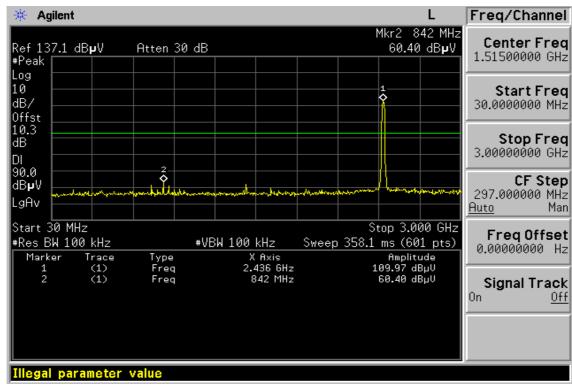
Refer to attach tabular data sheets.



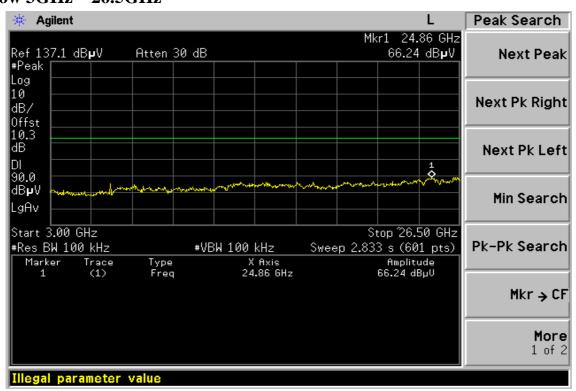
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# Conducted Spurious Emission Measurement Result (802.11b), 1M Ch Low 30MHz - 3GHz



### Ch Low 3GHz – 26.5GHz

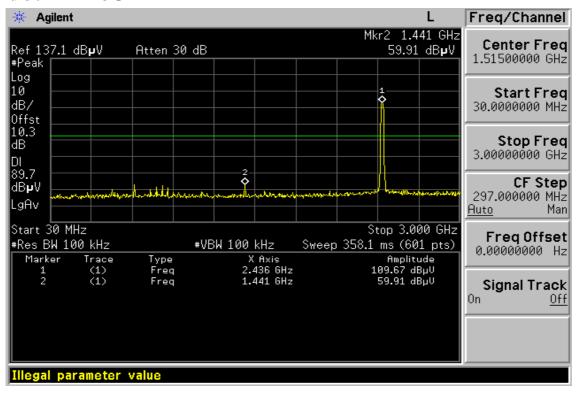




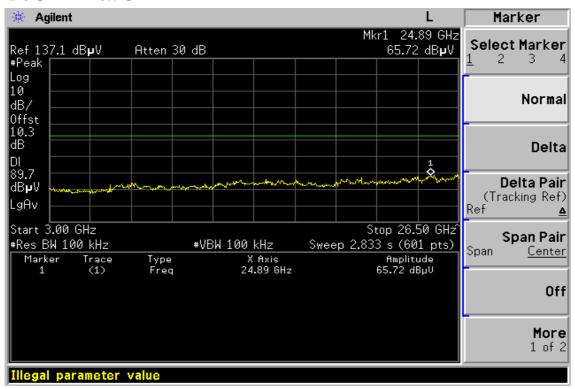
Report No.: ER/2007/90020 **Issue Date: Sep. 20, 2007** 

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## Ch Mid 30MHz - 3GHz



### Ch Mid 3GHz – 26.5GHz

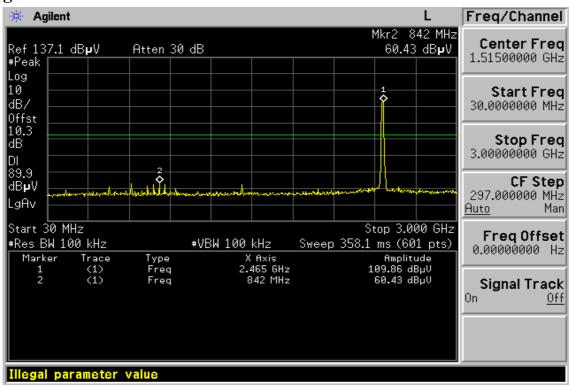




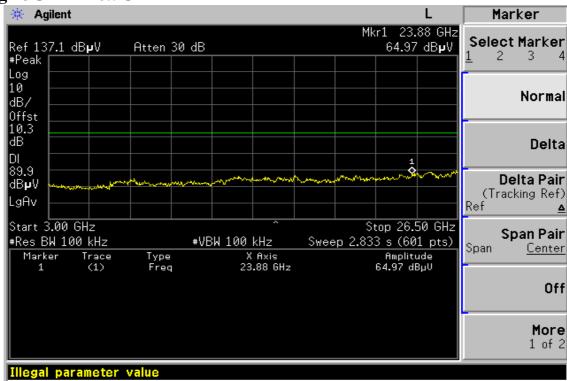
Report No.: ER/2007/90020 Issue Date: Sep. 20, 2007

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# Ch High 30MHz - 3GHz



# Ch High 3GHz – 26.5GHz

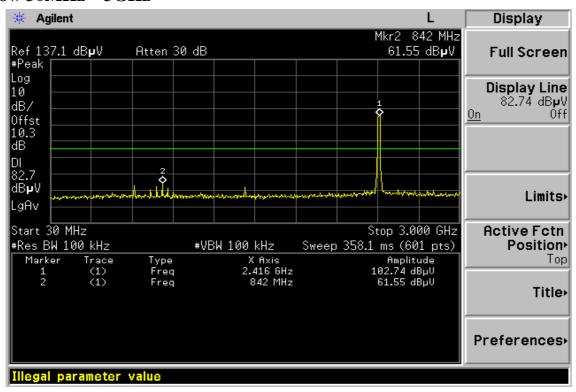




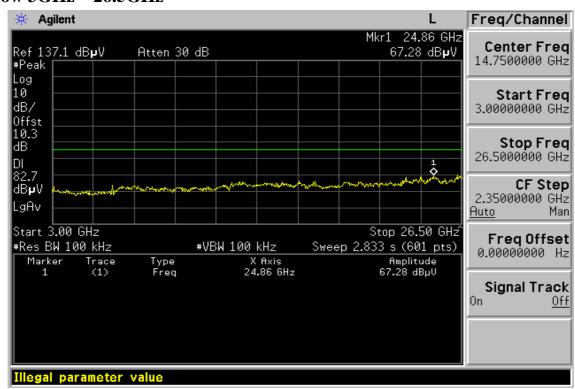
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# Conducted Spurious Emission Measurement Result (802.11g), 6M Ch Low 30MHz - 3GHz



### Ch Low 3GHz – 26.5GHz

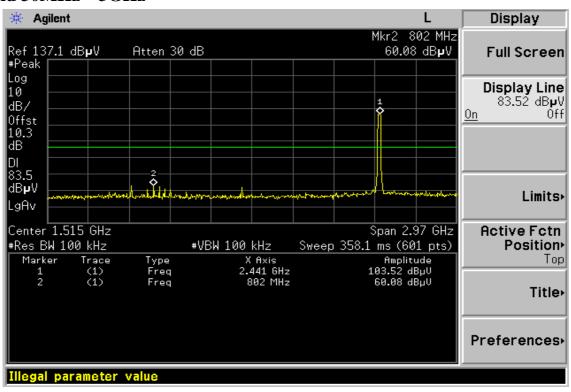




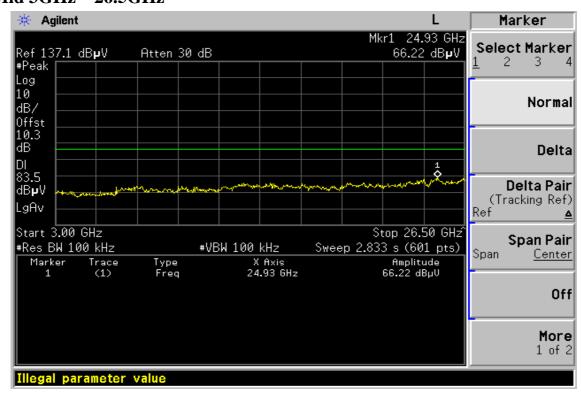
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# Ch Mid 30MHz - 3GHz



## Ch Mid 3GHz – 26.5GHz

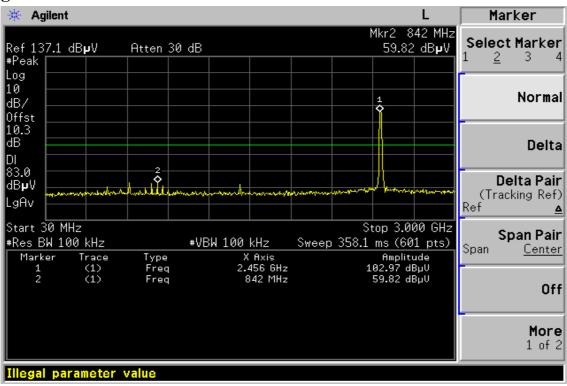




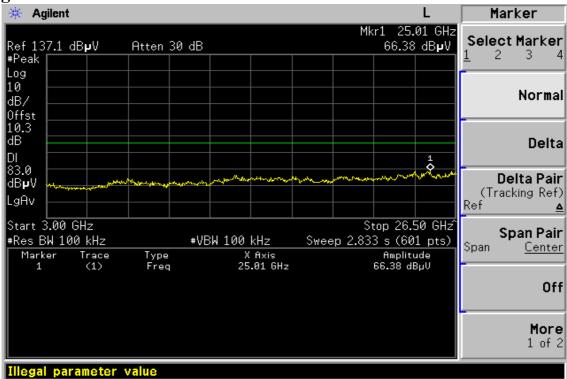
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# Ch High 30MHz - 3GHz



# Ch High 3GHz – 26.5GHz

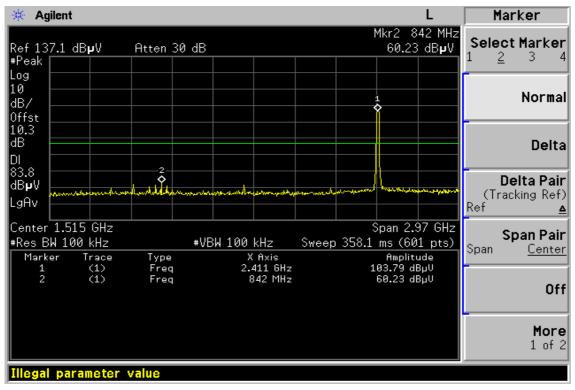




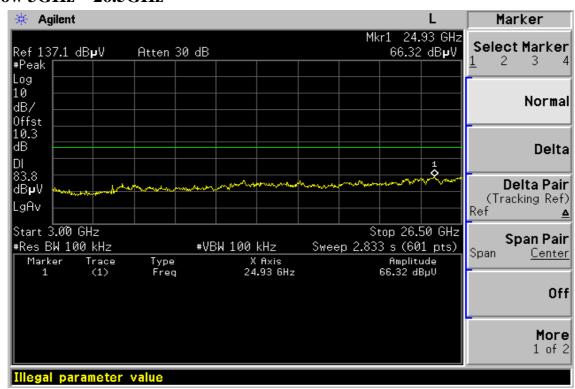
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# Conducted Spurious Emission Measurement Result (802.11n 20M) 6.5M Ch Low 30MHz - 3GHz



### Ch Low 3GHz – 26.5GHz

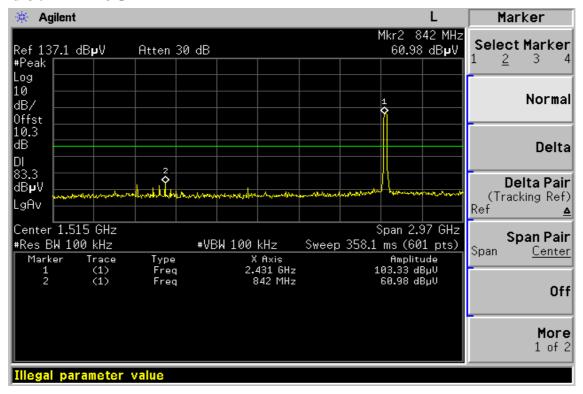




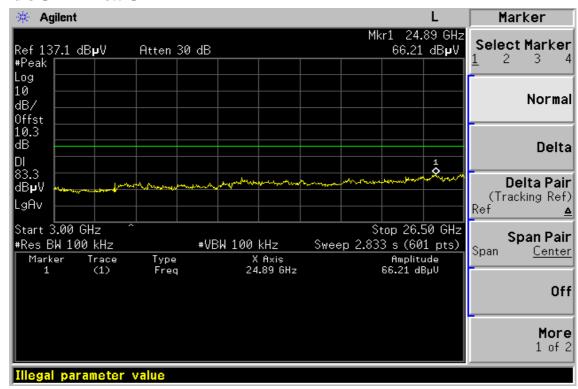
Report No.: ER/2007/90020 **Issue Date: Sep. 20, 2007** 

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## Ch Mid 30MHz - 3GHz



### Ch Mid 3GHz – 26.5GHz

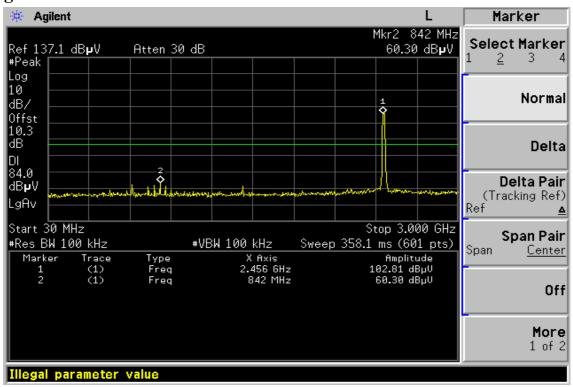




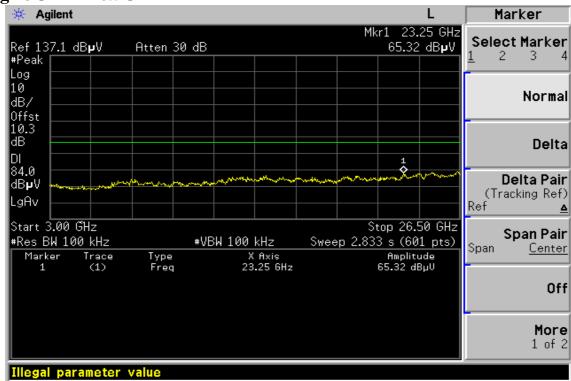
Report No.: ER/2007/90020 Issue Date: Sep. 20, 2007

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# Ch High 30MHz – 3GHz



# Ch High 3GHz – 26.5GHz

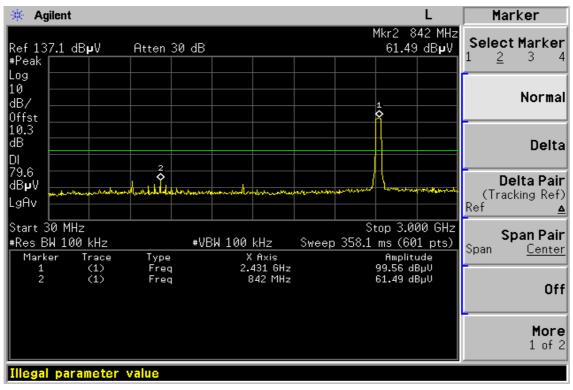




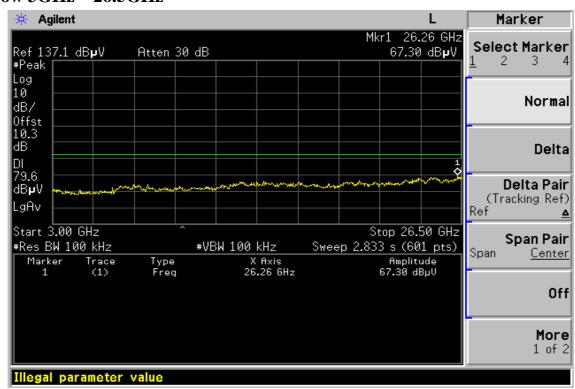
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# Conducted Spurious Emission Measurement Result (802.11n 40M) 6.5M Ch Low 30MHz - 3GHz



### Ch Low 3GHz – 26.5GHz

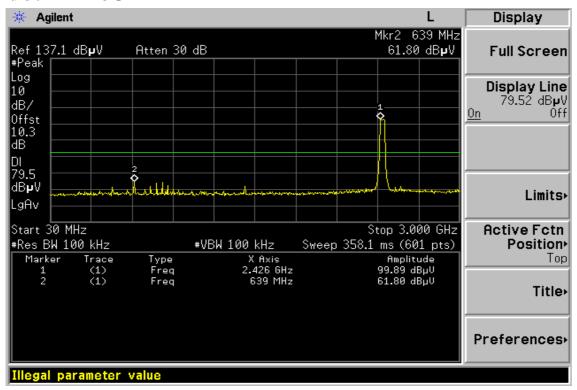




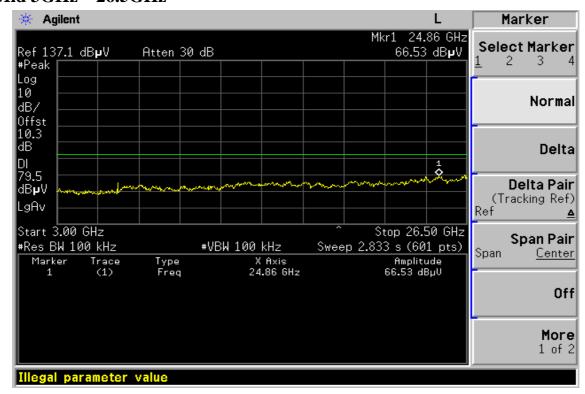
Report No.: ER/2007/90020 Issue Date: Sep. 20, 2007

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## Ch Mid 30MHz - 3GHz



# Ch Mid 3GHz - 26.5GHz

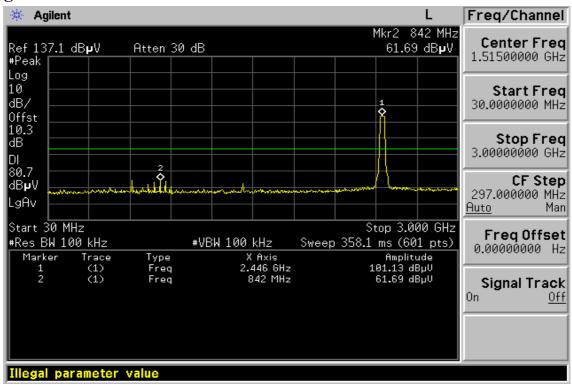




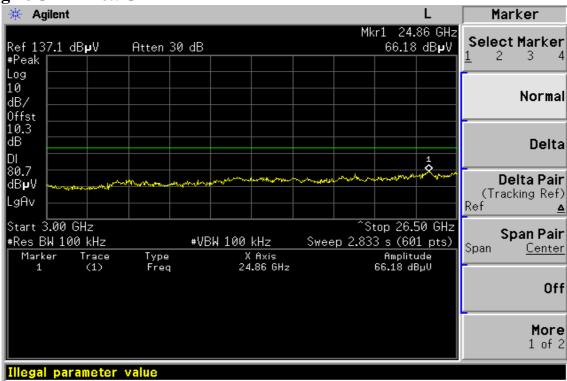
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# Ch High 30MHz - 3GHz



# Ch High 3GHz – 26.5GHz

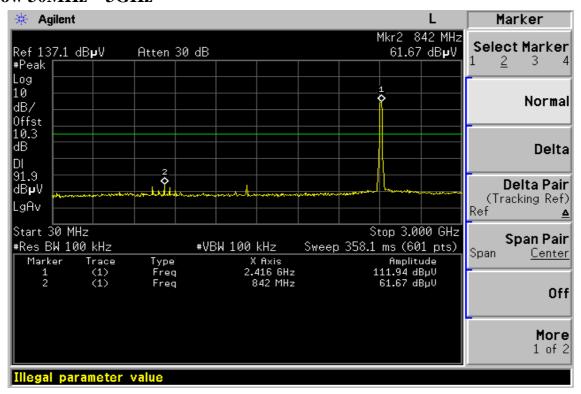




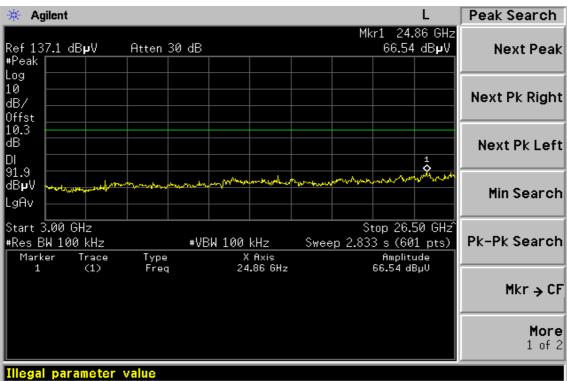
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# Conducted Spurious Emission Measurement Result (802.11b) 11M Ch Low 30MHz - 3GHz



# Ch Low 3GHz – 26.5GHz

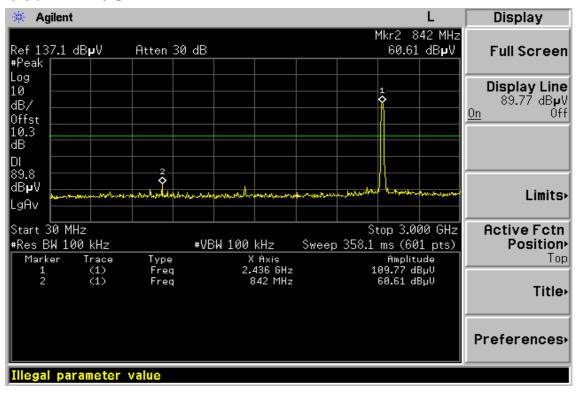




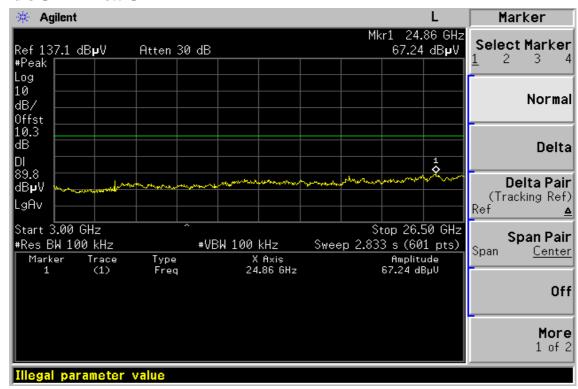
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## Ch Mid 30MHz - 3GHz



### Ch Mid 3GHz – 26.5GHz

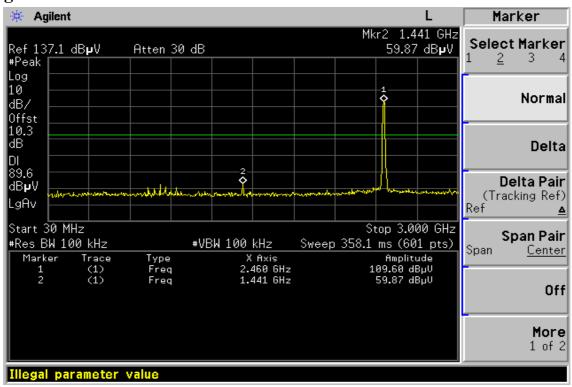




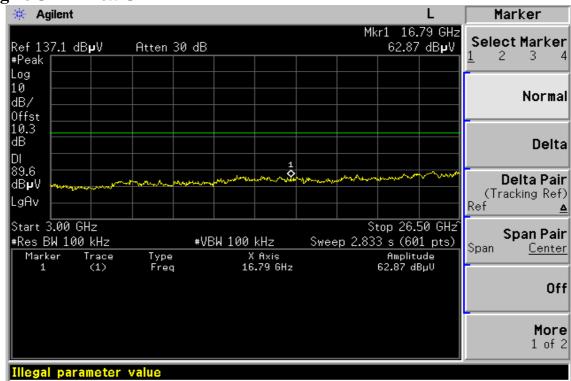
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# Ch High 30MHz - 3GHz



# Ch High 3GHz - 26.5GHz

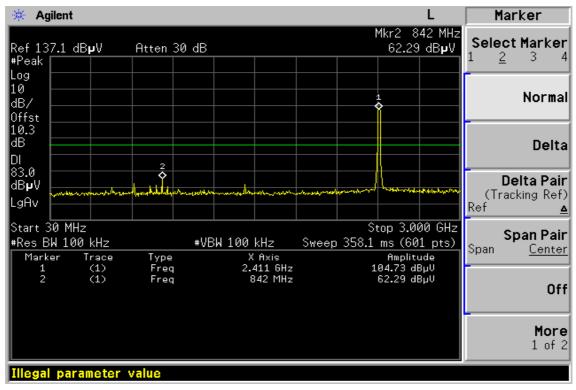




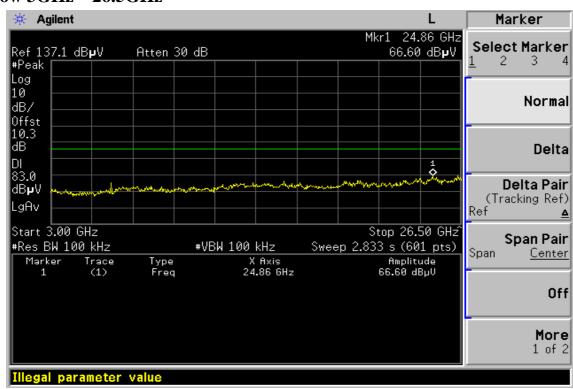
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# Conducted Spurious Emission Measurement Result (802.11g), 54M Ch Low 30MHz - 3GHz



### Ch Low 3GHz – 26.5GHz

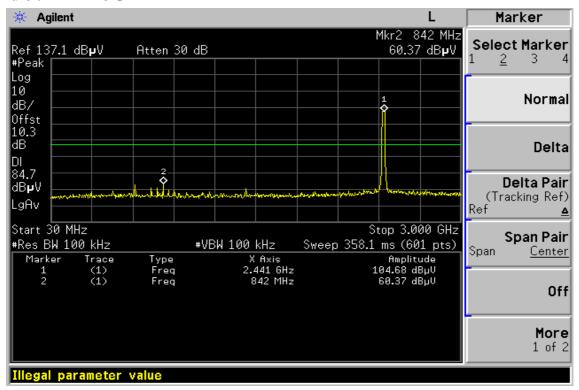




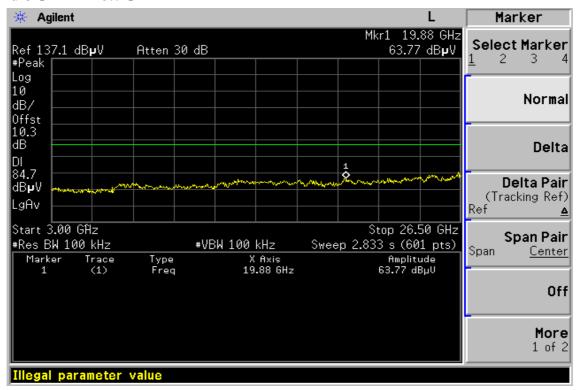
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## Ch Mid 30MHz - 3GHz



#### Ch Mid 3GHz – 26.5GHz

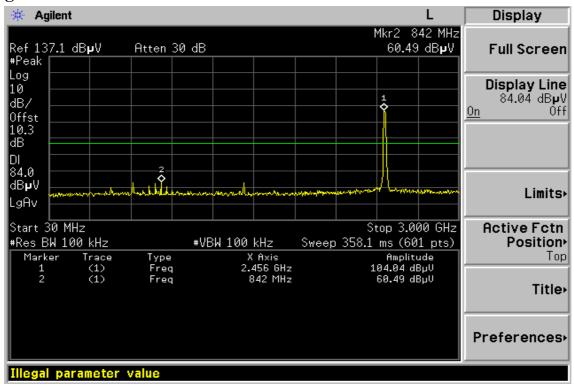




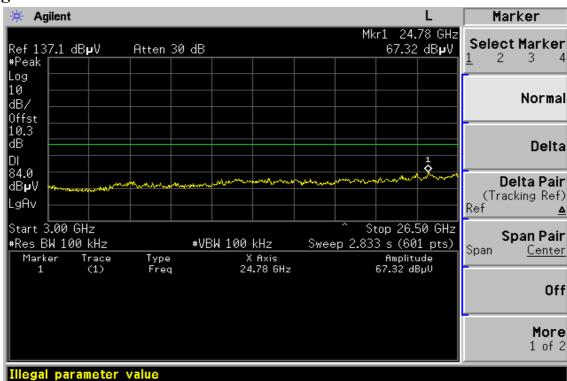
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# Ch High 30MHz – 3GHz



# Ch High 3GHz - 26.5GHz

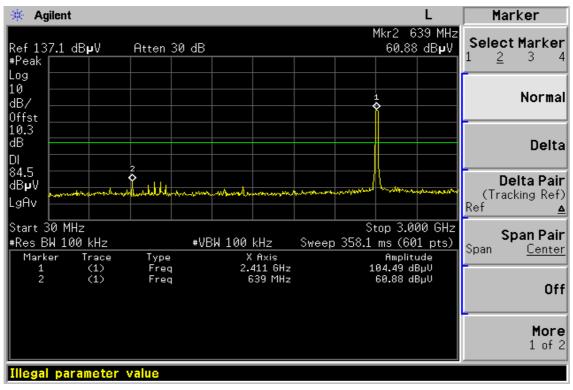




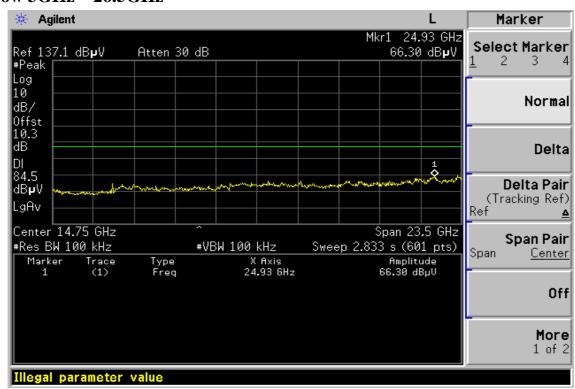
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# Conducted Spurious Emission Measurement Result (802.11n 20M), 65M Ch Low 30MHz - 3GHz



### Ch Low 3GHz – 26.5GHz

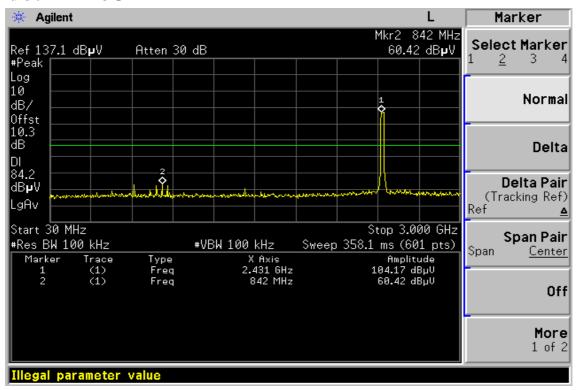




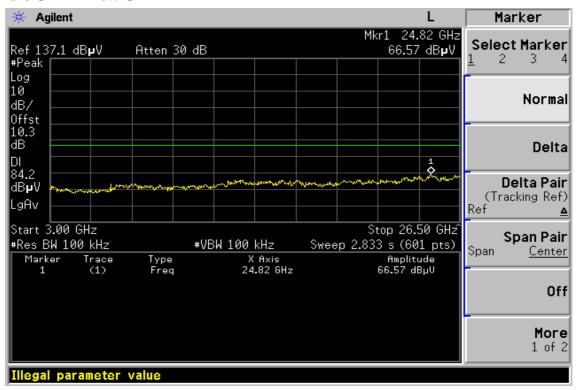
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## Ch Mid 30MHz - 3GHz



#### Ch Mid 3GHz – 26.5GHz

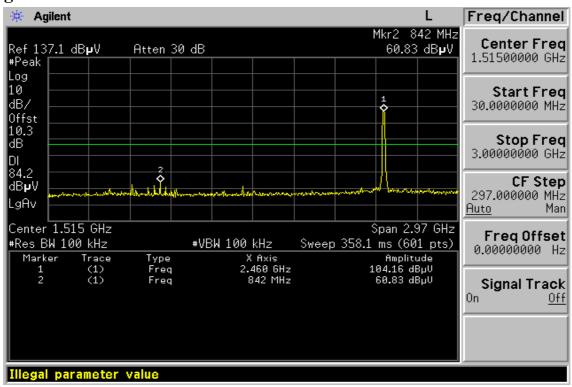




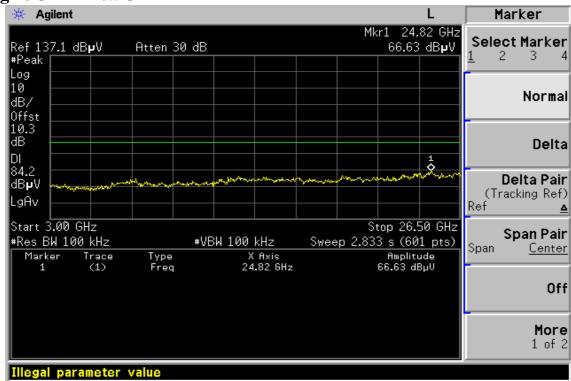
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# Ch High 30MHz - 3GHz



# Ch High 3GHz – 26.5GHz

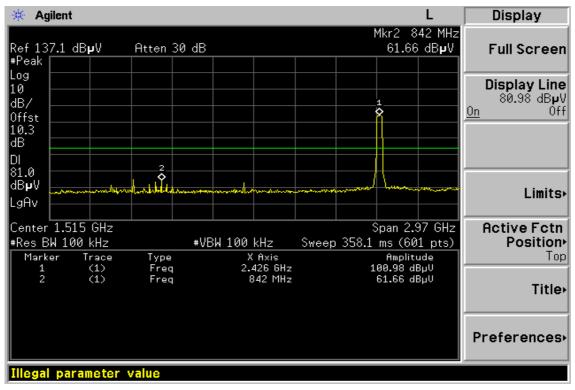




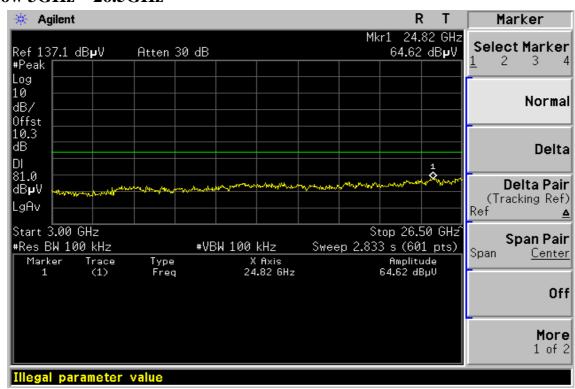
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# Conducted Spurious Emission Measurement Result (802.11n 40M), 65M Ch Low 30MHz - 3GHz



### Ch Low 3GHz – 26.5GHz

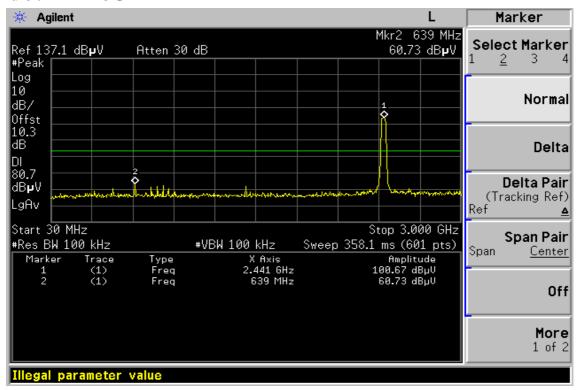




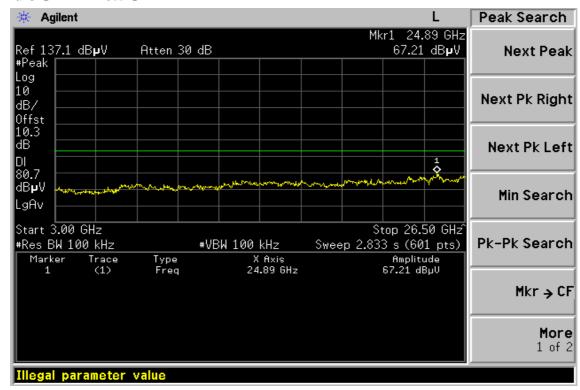
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## Ch Mid 30MHz - 3GHz



#### Ch Mid 3GHz – 26.5GHz

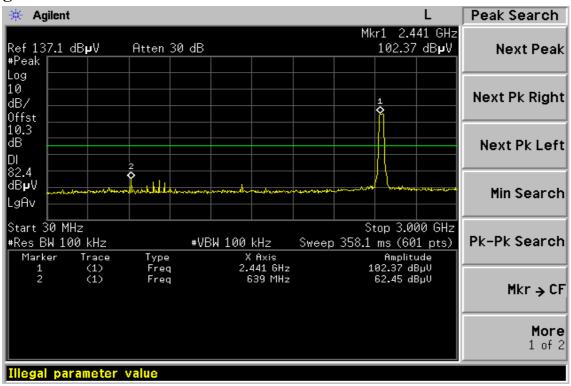




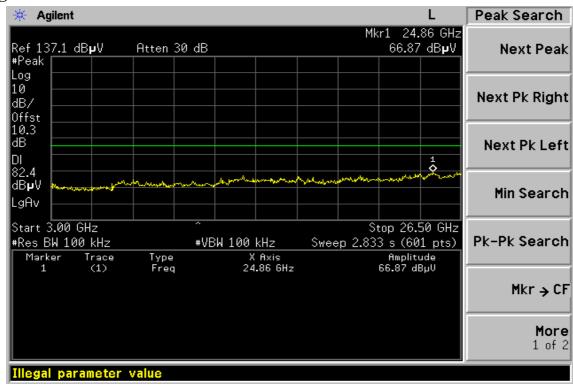
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# Ch High 30MHz – 3GHz



# Ch High 3GHz - 26.5GHz





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### Radiated Spurious Emission Measurement Result (below 1GHz), The worst mode

Operation Mode 802.11b TX CH Low 11Mbps Test Date Sep. 19, 2007

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

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	50.37	-16.87	33.50	43.50	-10.00
240.49	V	Peak	50.03	-14.11	35.92	46.00	-10.08
358.83	V	Peak	50.65	-11.43	39.22	46.00	-6.78
453.89	V	Peak	44.93	-8.60	36.33	46.00	-9.67
41.64	Н	Peak	46.26	-13.76	32.50	40.00	-7.50
101.78	Н	Peak	47.77	-16.87	30.90	43.50	-12.60
240.49	Н	Peak	46.75	-14.11	32.64	46.00	-13.36
298.69	Н	Peak	47.56	-13.13	34.43	46.00	-11.57

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 6dB 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 Mid 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2437 MHz Test By Jason Temperature  $25 \,^{\circ}\text{C}$  Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	50.63	-16.87	33.76	43.50	-9.74
240.49	V	Peak	50.03	-14.11	35.92	46.00	-10.08
358.83	V	Peak	50.40	-11.43	38.97	46.00	-7.03
455.83	V	Peak	43.43	-8.61	34.82	46.00	-11.18
38.73	Н	Peak	47.06	-13.84	33.22	40.00	-6.78
101.78	Н	Peak	46.39	-16.87	29.52	43.50	-13.98
240.49	Н	Peak	45.98	-14.11	31.87	46.00	-14.13
298.69	Н	Peak	44.55	-13.13	31.42	46.00	-14.58

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature  $25 \,^{\circ}\text{C}$  Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	49.61	-16.87	32.74	43.50	-10.76
198.78	V	Peak	46.63	-15.56	31.07	43.50	-12.43
240.49	V	Peak	49.96	-14.11	35.85	46.00	-10.15
358.83	V	Peak	50.85	-11.43	39.42	46.00	-6.58
39.70	Н	Peak	46.20	-13.73	32.47	40.00	-7.53
101.78	Н	Peak	46.13	-16.87	29.26	43.50	-14.24
240.49	Н	Peak	46.78	-14.11	32.67	46.00	-13.33
298.69	Н	Peak	45.55	-13.13	32.42	46.00	-13.58

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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), The worst mode

Operation Mode 802.11b TX CH Low 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412 MHz Test By Jason Temperature 25  $^{\circ}\text{C}$  Pol Ver.

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	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)	ı
2001.0	39.33		-3.41	35.92		74.00	54.00	-18.08	Peak
3203.0	37.21		1.07	38.28		74.00	54.00	-15.72	Peak
4824.0									
6421.0	37.23		9.59	46.82		74.00	54.00	-7.18	Peak
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

#### Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412 MHz Test By Jason Temperature 25  $^{\circ}\mathrm{C}$  Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq.	Reading	Reading	Ant./CL	Peak	$\mathbf{AV}$	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1435.5	42.04		-6.22	35.82		74.00	54.00	-18.18	Peak
3203.5	43.87		1.07	44.94		74.00	54.00	-9.06	Peak
4824.0									
6421.0	40.61		9.59	50.20		74.00	54.00	-3.80	Peak
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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)

802.11b TX CH Mid 11Mbps Sep. 19, 2007 Operation Mode Test Date

Fundamental Frequency 2437 MHz Test By Jason **Temperature** 25 °C Pol Ver

65 % 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)	
3236.0	37.12		1.20	38.32		74.00	54.00	-15.68	Peak
4874.0									
6486.0	37.46		9.71	47.17		74.00	54.00	-6.83	Peak
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200
- (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 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2437 MHz Test By Jason Temperature 25  $^{\circ}\text{C}$  Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	ıal 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)	ſ
1435.5	41.10		-6.22	34.88		74.00	54.00	-19.12	Peak
3236.0	42.64		1.20	43.84		74.00	54.00	-10.16	Peak
4874.0									
6486.0	42.23		9.71	51.94		74.00	54.00	-2.06	Peak
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency  $_{\circ}$
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature 25  $^{\circ}\mathrm{C}$  Pol Ver

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	ıal FS	Peak	$\mathbf{AV}$		
Freq.	Reading	Reading	Ant./CL	Peak	$\mathbf{AV}$	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	1
4924.0									
5140.5	35.52		6.73	42.25		74.00	54.00	-11.75	Peak
6570.5	36.88		10.12	47.00		74.00	54.00	-7.00	Peak
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature 25  $^{\circ}\text{C}$  Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq.	Reading	Reading		Peak	$\mathbf{AV}$	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1435.5	42.82		-6.22	36.60		74.00	54.00	-17.40	Peak
3288.0	40.87		1.36	42.23		74.00	54.00	-11.77	Peak
4924.0									
6570.5	40.29		10.12	50.41		74.00	54.00	-3.59	Peak
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 (below 1GHz)

Operation Mode 802.11g TX CH Low 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412MHz Test By Jason Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	49.64	-16.87	32.77	43.50	-10.73
240.49	V	Peak	51.01	-14.11	36.90	46.00	-9.10
358.83	V	Peak	50.85	-11.43	39.42	46.00	-6.58
453.89	V	Peak	42.01	-8.60	33.41	46.00	-12.59
38.73	Н	Peak	45.69	-13.84	31.85	40.00	-8.15
101.78	Н	Peak	46.35	-16.87	29.48	43.50	-14.02
240.49	Н	Peak	46.12	-14.11	32.01	46.00	-13.99
358.83	Н	Peak	46.92	-11.43	35.49	46.00	-10.51

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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), The worst mode

Operation Mode 802.11g TX CH Mid 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2437MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	<b>Actual FS</b>	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
37.76	V	Peak	44.26	-14.24	30.02	40.00	-9.98
101.78	V	Peak	49.38	-16.87	32.51	43.50	-10.99
240.49	V	Peak	49.51	-14.11	35.40	46.00	-10.60
358.83	V	Peak	51.07	-11.43	39.64	46.00	-6.36
38.73	Н	Peak	46.06	-13.84	32.22	40.00	-7.78
101.78	Н	Peak	46.59	-16.87	29.72	43.50	-13.78
240.49	Н	Peak	46.81	-14.11	32.70	46.00	-13.30
300.63	Н	Peak	47.51	-13.11	34.40	46.00	-11.60

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11g TX CH High 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462MHz Test By Jason Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	50.50	-16.87	33.63	43.50	-9.87
240.49	V	Peak	50.51	-14.11	36.40	46.00	-9.60
358.83	V	Peak	51.21	-11.43	39.78	46.00	-6.22
455.83	V	Peak	42.21	-8.61	33.60	46.00	-12.40
101.78	Н	Peak	46.38	-16.87	29.51	43.50	-13.99
240.49	Н	Peak	46.86	-14.11	32.75	46.00	-13.25
298.69	Н	Peak	45.54	-13.13	32.41	46.00	-13.59
358.83	Н	Peak	47.44	-11.43	36.01	46.00	-9.99

## Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11g TX CH Low 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq.	· ·	Reading			AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(aBuV/m)	(aBuv/m)	(dBuV/m)	(aBuv/m)	(dB)	I
4824.0									
6421.0	37.01		9.59	46.60		74.00	54.00	-7.40	Peak
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 Low 54Mbps Operation Mode Test Date Sep. 19, 2007

Fundamental Frequency 2412 MHz Test By Jason Temperature Pol Hor 25

65 % Humidity

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
1435.5	40.84		-6.22	34.62		74.00	54.00	-19.38	Peak
3203.5	44.68		1.07	45.75		74.00	54.00	-8.25	Peak
4824.0									
6421.0	40.02		9.59	49.61		74.00	54.00	-4.39	Peak
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200
- (5) Spectrum AV Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200



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# Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11g TX CH Mid 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2437 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit ) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3775.5	36.10		2.94	39.04		74.00	54.00	-14.96	Peak
4874.0									
6486.0	35.90		9.71	45.61		74.00	54.00	-8.39	Peak
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2437 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	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)	i
1435.5	40.96		-6.22	34.74		74.00	54.00	-19.26	Peak
3236.0	42.59		1.20	43.79		74.00	54.00	-10.21	Peak
4874.0									
6486.0	41.05		9.71	50.76		74.00	54.00	-3.24	Peak
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	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)	1
4924.0									
6570.5	36.59		10.12	46.71		74.00	54.00	-7.29	Peak
6798.0	36.55		11.56	48.11		74.00	54.00	-5.89	Peak
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	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)	İ
1435.5	40.51		-6.22	34.29		74.00	54.00	-19.71	Peak
3288.0	39.24		1.36	40.60		74.00	54.00	-13.40	Peak
4924.0									
6570.5	39.43		10.12	49.55		74.00	54.00	-4.45	Peak
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 (below 1GHz)

Operation Mode 802.11n 20M TX CH Low 65Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	50.09	-16.87	33.22	43.50	-10.28
240.49	V	Peak	49.09	-14.11	34.98	46.00	-11.02
358.83	V	Peak	51.07	-11.43	39.64	46.00	-6.36
455.83	V	Peak	42.51	-8.61	33.90	46.00	-12.10
39.70	Н	Peak	46.04	-13.73	32.31	40.00	-7.69
58.13	Н	Peak	42.37	-14.66	27.71	40.00	-12.29
101.78	Н	Peak	46.14	-16.87	29.27	43.50	-14.23
240.49	Н	Peak	16.86	-14.11	2.75	46.00	-43.25

### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 20M TX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437MHz Test By Jason

Temperature Pol Ver./Hor 25

Humidity 65 %

Ant.Pol.	Detector Mode	Reading	Factor	<b>Actual FS</b>	Limit3m	Safe Margin
H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
V	Peak	49.09	-16.87	32.22	43.50	-11.28
V	Peak	49.77	-14.11	35.66	46.00	-10.34
V	Peak	51.01	-11.43	39.58	46.00	-6.42
V	Peak	43.62	-8.61	35.01	46.00	-10.99
Н	Peak	45.79	-13.76	32.03	40.00	-7.97
Н	Peak	46.65	-16.87	29.78	43.50	-13.72
Н	Peak	46.04	-14.11	31.93	46.00	-14.07
Н	Peak	42.75	-13.13	29.62	46.00	-16.38
	H/V  V  V  V  H  H  H	Ant.Pol. Mode H/V (PK/QP)  V Peak V Peak V Peak V Peak H Peak H Peak H Peak H Peak	Ant.Pol.         Mode         Reading           H/V         (PK/QP)         (dBuV)           V         Peak         49.09           V         Peak         49.77           V         Peak         51.01           V         Peak         43.62           H         Peak         46.65           H         Peak         46.04	Ant.Pol.         Mode Mode (PK/QP)         Reading (dBuV)         Factor (dB)           V         Peak 49.09 -16.87         -14.11           V         Peak 49.77 -14.11         -11.43           V         Peak 51.01 -11.43           V         Peak 43.62 -8.61           H         Peak 46.65 -16.87           H         Peak 46.04 -14.11	Ant.Pol.         Mode Mode Mode Mode Mode Mode Mode Mode	Ant.Pol.         Mode         Reading         Factor         Actual FS         Limit3m           H/V         (PK/QP)         (dBuV)         (dB)         (dBuV/m)         (dBuV/m)           V         Peak         49.09         -16.87         32.22         43.50           V         Peak         49.77         -14.11         35.66         46.00           V         Peak         51.01         -11.43         39.58         46.00           V         Peak         43.62         -8.61         35.01         46.00           H         Peak         45.79         -13.76         32.03         40.00           H         Peak         46.65         -16.87         29.78         43.50           H         Peak         46.04         -14.11         31.93         46.00

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 20M TX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2462MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Ant.Pol.	Detector Mode	Reading	Factor	<b>Actual FS</b>	Limit3m	Safe Margin
H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
V	Peak	49.59	-16.87	32.72	43.50	-10.78
V	Peak	49.94	-14.11	35.83	46.00	-10.17
V	Peak	51.12	-11.43	39.69	46.00	-6.31
V	Peak	42.05	-8.60	33.45	46.00	-12.55
Н	Peak	46.17	-16.87	29.30	43.50	-14.20
Н	Peak	46.27	-14.11	32.16	46.00	-13.84
Н	Peak	45.38	-13.11	32.27	46.00	-13.73
Н	Peak	47.36	-11.43	35.93	46.00	-10.07
	H/V  V  V  V  H  H  H	Ant.Pol. Mode H/V (PK/QP)  V Peak V Peak V Peak V Peak H Peak H Peak H Peak H Peak	Ant.Pol.         Mode         Reading           H/V         (PK/QP)         (dBuV)           V         Peak         49.59           V         Peak         49.94           V         Peak         51.12           V         Peak         42.05           H         Peak         46.17           H         Peak         46.27           H         Peak         45.38	Ant.Pol.         Mode Mode Mode Mode Mode Mode Mode Mode	Ant.Pol.         Mode Mode Mode Mode Mode Mode Mode Mode	Ant.Pol.         Mode Mode Mode Mode Mode Mode Mode H/V         Reading Mode (dBuV)         Factor Actual FS         Limit3m Limit3m (dBuV/m)           V         Peak Mode (PK/QP)         49.59         -16.87         32.72         43.50           V         Peak Mode Mode Mode Mode Mode Mode Mode Mode

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 20M TX CH Low Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2412 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

	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									
6421.0	38.62		9.59	48.21		74.00	54.00	-5.79	Peak
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

#### Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 20M TX CH Low Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2412 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	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)	
1435.5	39.26		-6.22	33.04		74.00	54.00	-20.96	Peak
3203.5	42.37		1.07	43.44		74.00	54.00	-10.56	Peak
4824.0									
6421.0	39.61		9.59	49.20		74.00	54.00	-4.80	Peak
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 20M TX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437 MHz Test By Jason Pol Ver Temperature 25

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)			AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3236.0	38.92		1.20	40.12		74.00	54.00	-13.88	Peak
4874.0									
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200
- (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 802.11n 20M TX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq.	· ·	Reading (dBuV)	Ant./CL CF(dB)	Peak	AV	Limit (dPuV/m)	Limit (dPuV/m)	Margin	
(MHz)	(dBuV)	(ubuv)	Cr(ab)	(dBuV/m)	(ubu v/III)	(uDu v/III)	(ubu v/III)	(dB)	
3236.0	41.45		1.20	42.65		74.00	54.00	-11.35	Peak
4874.0									
6486.0	39.80		9.71	49.51		74.00	54.00	-4.49	Peak
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 20M TX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	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)	ſ
4924.0									
6570.5	36.92		10.12	47.04		74.00	54.00	-6.96	Peak
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

# Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 20M TX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq.	O	Reading		Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	İ
3288.0	38.10		1.36	39.46		74.00	54.00	-14.54	Peak
4924.0									
6570.5	40.28		10.12	50.40		74.00	54.00	-3.60	Peak
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 (below 1GHz)

Operation Mode 802.11n 40M TX CH Low Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2422MHz Test By Jason

Temperature 25 Pol Ver./Hor Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	48.66	-16.87	31.79	43.50	-11.71
240.49	V	Peak	48.46	-14.11	34.35	46.00	-11.65
358.83	V	Peak	50.19	-11.43	38.76	46.00	-7.24
455.83	V	Peak	42.56	-8.61	33.95	46.00	-12.05
101.78	Н	Peak	46.25	-16.87	29.38	43.50	-14.12
240.79	Н	Peak	46.45	-14.11	32.34	46.00	-13.66
298.69	Н	Peak	45.04	-13.13	31.91	46.00	-14.09
358.83	Н	Peak	47.85	-11.43	36.42	46.00	-9.58

### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 40M TX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	<b>Actual FS</b>	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
39.70	V	Peak	44.84	-13.73	31.11	40.00	-8.89
101.78	V	Peak	49.39	-16.87	32.52	43.50	-10.98
240.49	V	Peak	49.55	-14.11	35.44	46.00	-10.56
358.83	V	Peak	50.78	-11.43	39.35	46.00	-6.65
38.73	Н	Peak	47.32	-13.84	33.48	40.00	-6.52
101.78	Н	Peak	46.25	-16.87	29.38	43.50	-14.12
240.49	Н	Peak	46.42	-14.11	32.31	46.00	-13.69
298.69	Н	Peak	44.64	-13.13	31.51	46.00	-14.49

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 40M TX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2452MHz Test By Jason Temperature Pol Ver./Hor 25

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	<b>Actual FS</b>	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
41.64	V	Peak	45.38	-13.76	31.62	40.00	-8.38
58.13	V	Peak	43.32	-14.66	28.66	40.00	-11.34
101.78	V	Peak	48.56	-16.87	31.69	43.50	-11.81
240.49	V	Peak	49.41	-14.11	35.30	46.00	-10.70
101.78	Н	Peak	47.55	-16.87	30.68	43.50	-12.82
240.49	Н	Peak	46.34	-14.11	32.23	46.00	-13.77
298.69	Н	Peak	43.40	-13.13	30.27	46.00	-15.73
358.83	Н	Peak	46.71	-11.43	35.28	46.00	-10.72

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 40M TX CH Low Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2422 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq.	· ·	Reading		Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Ī
4328.0	35.97		4.79	40.76		74.00	54.00	-13.24	Peak
4844.0									
6440.5	38.18		9.64	47.82		74.00	54.00	-6.18	Peak
7266.0									
9688.0									
12110.0									
14532.0									
16954.0									
19376.0									
21798.0									
24220.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 40M TX CH Low Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2422 MHz Test By Jason 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	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Ī
1435.5	41.48		-6.22	35.26		74.00	54.00	-18.74	Peak
2390.0	34.09		-1.39	32.70		74.00	54.00	-21.30	Peak
4844.0									
6440.5	39.26		9.64	48.90		74.00	54.00	-5.10	Peak
7266.0									
9688.0									
12110.0									
14532.0									
16954.0									
19376.0									
21798.0									
24220.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 40M TX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437 MHz Test By Jason Pol Ver Temperature 25

Humidity 65 %

	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)	1
4874.0									
6486.0	37.46		9.71	47.17		74.00	54.00	-6.83	Peak
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200
- (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 802.11n 40M TX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437 MHz Test By Jason Temperature Pol Hor 25

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq.	· ·	Reading	Ant./CL	Peak	$\mathbf{AV}$	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	I
1435.5	41.30		-6.22	35.08		74.00	54.00	-18.92	Peak
3236.0	41.51		1.20	42.71		74.00	54.00	-11.29	Peak
4874.0									
6486.0	40.54		9.71	50.25		74.00	54.00	-3.75	Peak
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200



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## Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11n 40M TX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2452 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	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)	Í
4904.0									
6538.0	37.95		9.93	47.88		74.00	54.00	-6.12	Peak
7356.0									
9808.0									
12260.0									
14712.0									
17164.0									
19616.0									
22068.0									
24520.0									

#### Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 40M TX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2452 MHz Test By Jason 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	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	İ
1435.5	40.08		-6.22	33.86		74.00	54.00	-20.14	Peak
3268.5	40.40		1.30	41.70		74.00	54.00	-12.30	Peak
4904.0									
6538.0	40.16		9.93	50.09		74.00	54.00	-3.91	Peak
7356.0									
9808.0									
12260.0									
14712.0									
17164.0									
19616.0									
22068.0									
24520.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 (below 1GHz)

Operation Mode 802.11b RX CH Low 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412MHz Test By Jason Pol Temperature Ver./Hor 25

65 % Humidity

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	50.07	-16.87	33.20	43.50	-10.30
240.49	V	Peak	50.43	-14.11	36.32	46.00	-9.68
300.63	V	Peak	41.73	-13.11	28.62	46.00	-17.38
453.89	V	Peak	43.32	-8.60	34.72	46.00	-11.28
38.73	Н	Peak	46.91	-13.84	33.07	40.00	-6.93
101.78	Н	Peak	45.90	-16.87	29.03	43.50	-14.47
201.69	Н	Peak	41.83	-15.55	26.28	43.50	-17.22
240.49	Н	Peak	46.57	-14.11	32.46	46.00	-13.54

### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data 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 RX CH Mid 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2437MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	50.11	-16.87	33.24	43.50	-10.26
240.49	V	Peak	49.08	-14.11	34.97	46.00	-11.03
298.69	V	Peak	44.60	-13.13	31.47	46.00	-14.53
390.84	V	Peak	41.90	-10.31	31.59	46.00	-14.41
39.70	Н	Peak	45.54	-13.73	31.81	40.00	-8.19
101.78	Н	Peak	46.40	-16.87	29.53	43.50	-13.97
240.49	Н	Peak	46.70	-14.11	32.59	46.00	-13.41
298.69	Н	Peak	45.34	-13.13	32.21	46.00	-13.79

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 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 RX CH High 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462MHz Test By Jason Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	49.41	-16.87	32.54	43.50	-10.96
240.49	V	Peak	49.24	-14.11	35.13	46.00	-10.87
266.68	V	Peak	47.90	-13.57	34.33	46.00	-11.67
363.68	V	Peak	43.14	-11.27	31.87	46.00	-14.13
39.70	Н	Peak	45.67	-13.73	31.94	40.00	-8.06
101.78	Н	Peak	46.86	-16.87	29.99	43.50	-13.51
203.63	Н	Peak	42.93	-15.48	27.45	43.50	-16.05
240.49	Н	Peak	47.56	-14.11	33.45	46.00	-12.55

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 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 RX CH Low 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)		AV (dBuV/m)	Limit ) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3203.0	40.83		1.07	41.90		74.00	54.00	-12.10	Peak
4824.0									
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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)

802.11b RX CH Low 11Mbps Test Date Sep. 19, 2007 Operation Mode

Fundamental Frequency 2412 MHz Test By Jason Pol Temperature Hor 25

65 % Humidity

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3203.5	41.90		1.07	42.97		74.00	54.00	-11.03	Peak
4824.0									
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200
- (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 RX CH Mid 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2437 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3236.0	38.81		1.20	40.01		74.00	54.00	-13.99	Peak
4874.0									
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 RX CH Mid 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2437 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq.	J	Reading		Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
3236.0	40.19		1.20	41.39		74.00	54.00	-12.61	Peak
4874.0									
6486.0	35.91		9.71	45.62		74.00	54.00	-8.38	Peak
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 RX CH High 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq.	Ü	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
3288.0	38.97		1.36	40.33		74.00	54.00	-13.67	Peak
4924.0									
5140.5	35.52		6.73	42.25		74.00	54.00	-11.75	Peak
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 RX CH High 11Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	ıal FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3288.0	41.92		1.36	43.28		74.00	54.00	-10.72	Peak
4924.0									
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 (below 1GHz)

Operation Mode 802.11g RX CH Low 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412MHz Test By Jason Pol Temperature Ver./Hor 25

65 % Humidity

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	49.75	-16.87	32.88	43.50	-10.62
240.49	V	Peak	50.55	-14.11	36.44	46.00	-9.56
298.69	V	Peak	43.75	-13.13	30.62	46.00	-15.38
455.83	V	Peak	43.21	-8.61	34.60	46.00	-11.40
58.13	Н	Peak	42.53	-14.66	27.87	40.00	-12.13
101.78	Н	Peak	45.64	-16.87	28.77	43.50	-14.73
240.49	Н	Peak	47.22	-14.11	33.11	46.00	-12.89
300.63	Н	Peak	45.66	-13.11	32.55	46.00	-13.45

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 6dB 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 802.11g RX CH Mid 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2437MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	49.65	-16.87	32.78	43.50	-10.72
240.49	V	Peak	49.25	-14.11	35.14	46.00	-10.86
387.93	V	Peak	42.25	-10.41	31.84	46.00	-14.16
453.89	V	Peak	43.74	-8.60	35.14	46.00	-10.86
41.64	Н	Peak	46.32	-13.76	32.56	40.00	-7.44
101.78	Н	Peak	46.05	-16.87	29.18	43.50	-14.32
240.49	Н	Peak	46.34	-14.11	32.23	46.00	-13.77
298.69	Н	Peak	44.48	-13.13	31.35	46.00	-14.65

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11g RX CH High 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	49.64	-16.87	32.77	43.50	-10.73
240.49	V	Peak	48.26	-14.11	34.15	46.00	-11.85
390.84	V	Peak	39.85	-10.31	29.54	46.00	-16.46
455.83	V	Peak	41.88	-8.61	33.27	46.00	-12.73
101.78	Н	Peak	45.94	-16.87	29.07	43.50	-14.43
240.49	Н	Peak	46.12	-14.11	32.01	46.00	-13.99
298.69	Н	Peak	46.20	-13.13	33.07	46.00	-12.93
366.59	Н	Peak	42.94	-11.17	31.77	46.00	-14.23

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11g RX CH Low 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	ıal 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)	1
1936.0	40.19		-3.73	36.46		74.00	54.00	-17.54	Peak
3203.5	40.00		1.07	41.07		74.00	54.00	-12.93	Peak
4824.0									
6310.5	35.94		9.38	45.32		74.00	54.00	-8.68	Peak
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

#### Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 RX CH Low 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3203.5	42.58		1.07	43.65		74.00	54.00	-10.35	Peak
4824.0									
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 RX CH Mid 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2437 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3236.0	38.80		1.20	40.00		74.00	54.00	-14.00	Peak
4874.0									
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 RX CH Mid 54Mbps Operation Mode Test Date Sep. 19, 2007

Fundamental Frequency 2437 MHz Test By Jason Temperature Pol Hor 25

65 % 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)	
3236.0	42.26		1.20	43.46		74.00	54.00	-10.54	Peak
4874.0									
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200
- (5) Spectrum AV Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200



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# Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode 802.11g RX CH High 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	•
3288.0	38.25		1.36	39.61		74.00	54.00	-14.39	Peak
4924.0									
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 RX CH High 54Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	ıal FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3288.0	40.37		1.36	41.73		74.00	54.00	-12.27	Peak
4924.0									
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 (below 1GHz)

Operation Mode 802.11n 20M RX CH Low 65Mbps Test Date Sep. 19, 2007

Fundamental Frequency 2412MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	50.04	-16.87	33.17	43.50	-10.33
240.49	V	Peak	50.46	-14.11	36.35	46.00	-9.65
298.69	V	Peak	42.44	-13.13	29.31	46.00	-16.69
455.83	V	Peak	42.05	-8.61	33.44	46.00	-12.56
39.70	Н	Peak	45.01	-13.73	31.28	40.00	-8.72
101.78	Н	Peak	47.10	-16.87	30.23	43.50	-13.27
240.49	Н	Peak	47.15	-14.11	33.04	46.00	-12.96
298.69	Н	Peak	44.13	-13.13	31.00	46.00	-15.00

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 20M RX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437MHz Test By Jason

Temperature 25 Pol Ver./Hor Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	49.65	-16.87	32.78	43.50	-10.72
240.49	V	Peak	49.59	-14.11	35.48	46.00	-10.52
259.89	V	Peak	47.29	-13.64	33.65	46.00	-12.35
366.59	V	Peak	41.64	-11.17	30.47	46.00	-15.53
58.13	Н	Peak	42.28	-14.66	27.62	40.00	-12.38
101.78	Н	Peak	45.40	-16.87	28.53	43.50	-14.97
240.49	Н	Peak	47.26	-14.11	33.15	46.00	-12.85
298.69	Н	Peak	45.39	-13.13	32.26	46.00	-13.74

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 20M RX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2462MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	49.63	-16.87	32.76	43.50	-10.74
240.49	V	Peak	49.75	-14.11	35.64	46.00	-10.36
266.68	V	Peak	46.19	-13.57	32.62	46.00	-13.38
453.89	V	Peak	43.64	-8.60	35.04	46.00	-10.96
101.78	Н	Peak	45.74	-16.87	28.87	43.50	-14.63
240.49	Н	Peak	47.36	-14.11	33.25	46.00	-12.75
300.63	Н	Peak	46.50	-13.11	33.39	46.00	-12.61
366.59	Н	Peak	39.89	-11.17	28.72	46.00	-17.28

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 20M RX CH Low Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2412 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

	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)	ı
1936.0	39.69		-3.73	35.96		74.00	54.00	-18.04	Peak
3203.5	39.38		1.07	40.45		74.00	54.00	-13.55	Peak
4824.0									
7236.0									
9648.0									
12060.0									
14472.0									
16884.0									
19296.0									
21708.0									
24120.0									

### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 20M RX CH Low Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2412 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	S	Reading (dBuV)	Ant./CL CF(dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3203.5	`		1.07	43.49		74.00	54.00	-10.51	Peak
4824.0									
6421.0	36.47		9.59	46.06		74.00	54.00	-7.94	Peak
7236.0									
9648.0									
12060.0	)								
14472.0	)								
16884.0	)								
19296.0	)								
21708.0	)								
24120.0	)								

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 20M RX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	ıal 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)	1
1936.0	39.98		-3.73	36.25		74.00	54.00	-17.75	Peak
3236.0	39.85		1.20	41.05		74.00	54.00	-12.95	Peak
4471.0	35.76		5.22	40.98		74.00	54.00	-13.02	Peak
4874.0									
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 20M RX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)		AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3236.0	40.87		1.20	42.07		74.00	54.00	-11.93	Peak
4874.0									
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 20M RX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	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)	
3288.0	39.02		1.36	40.38		74.00	54.00	-13.62	Peak
4924.0									
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

# Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 20M RX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2462 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3288.0	39.97		1.36	41.33		74.00	54.00	-12.67	Peak
4924.0									
6570.5	36.34		10.12	46.46		74.00	54.00	-7.54	Peak
7386.0									
9848.0									
12310.0									
14772.0									
17234.0									
19696.0									
22158.0									
24620.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 (below 1GHz)

Operation Mode 802.11n 40M RX CH Low Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2422MHz Test By Jason
Temperature 25 Pol Ver./Hor

Temperature 25 Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	44.60	-16.87	27.73	43.50	-15.77
240.49	V	Peak	48.62	-14.11	34.51	46.00	-11.49
387.93	V	Peak	49.64	-10.41	39.23	46.00	-6.77
455.83	V	Peak	40.32	-8.61	31.71	46.00	-14.29
101.78	Н	Peak	46.05	-16.87	29.18	43.50	-14.32
240.79	Н	Peak	46.57	-14.11	32.46	46.00	-13.54
300.63	Н	Peak	46.08	-13.11	32.97	46.00	-13.03
366.59	Н	Peak	43.96	-11.17	32.79	46.00	-13.21

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 40M RX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	<b>Actual FS</b>	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
41.64	V	Peak	43.89	-13.76	30.13	40.00	-9.87
101.78	V	Peak	48.66	-16.87	31.79	43.50	-11.71
240.49	V	Peak	49.56	-14.11	35.45	46.00	-10.55
366.59	V	Peak	40.52	-11.17	29.35	46.00	-16.65
39.70	Н	Peak	45.46	-13.73	31.73	40.00	-8.27
101.78	Н	Peak	46.68	-16.87	29.81	43.50	-13.69
240.49	Н	Peak	45.87	-14.11	31.76	46.00	-14.24
298.69	Н	Peak	44.51	-13.13	31.38	46.00	-14.62

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 40M RX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2452MHz Test By Jason
Temperature 25 Pol Ver./Hor

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	<b>Actual FS</b>	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
41.64	V	Peak	44.57	-13.76	30.81	40.00	-9.19
58.13	V	Peak	42.70	-14.66	28.04	40.00	-11.96
101.78	V	Peak	48.79	-16.87	31.92	43.50	-11.58
240.49	V	Peak	49.78	-14.11	35.67	46.00	-10.33
101.78	Н	Peak	46.61	-16.87	29.74	43.50	-13.76
240.49	Н	Peak	46.84	-14.11	32.73	46.00	-13.27
298.69	Н	Peak	45.78	-13.13	32.65	46.00	-13.35
366.59	Н	Peak	40.31	-11.17	29.14	46.00	-16.86

#### Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz<sub>o</sub>
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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 802.11n 40M RX CH Low Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2422 MHz Test By Jason Temperature 25 Pol Ver.

Humidity 65 %

Peak	$\mathbf{AV}$		Actu	ıal FS	Peak	$\mathbf{AV}$		
Reading	Reading	Ant./CL	Peak	$\mathbf{AV}$	Limit	Limit	Margin	
(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	) (dBuV/m)	(dBuV/m)	(dB)	
40.44		1.15	41.59		74.00	54.00	-12.41	Peak
	Reading (dBuV) 40.44  	Reading         Reading           (dBuV)         (dBuV)           40.44 <t< th=""><th>Reading (dBuV)         Reading (dBuV)         Ant./CL (cF(dB))           40.44          1.15  </th><th>Reading (dBuV)         Reading (dBuV)         Ant./CL (dBuV/m)         Peak (dBuV/m)           40.44          1.15         41.59   </th><th>Reading (dBuV)         Ant./CL (dBuV)         Peak (dBuV)         AV (dBuV)           40.44          1.15         41.59           </th><th>Reading (dBuV)         Ant./CL (dBuV)         Peak (dBuV/m) (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)           40.44          1.15         41.59          74.00                           </th><th>Reading (dBuV)         Ant./CL (dBuV)         Peak (dBuV/m) (dBuV/m) (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m)</th><th>Reading (dBuV)         Ant./CL (dBuV)         Peak (dBuV)         AV (dBuV/m)         Limit (dBuV/m)         Limit (dBuV/m)         Margin (dBuV/m)           40.44          1.15         41.59          74.00         54.00         -12.41                                </th></t<>	Reading (dBuV)         Reading (dBuV)         Ant./CL (cF(dB))           40.44          1.15	Reading (dBuV)         Reading (dBuV)         Ant./CL (dBuV/m)         Peak (dBuV/m)           40.44          1.15         41.59	Reading (dBuV)         Ant./CL (dBuV)         Peak (dBuV)         AV (dBuV)           40.44          1.15         41.59	Reading (dBuV)         Ant./CL (dBuV)         Peak (dBuV/m) (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)           40.44          1.15         41.59          74.00	Reading (dBuV)         Ant./CL (dBuV)         Peak (dBuV/m) (dBuV/m) (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m) (dBuV/m)         Limit (dBuV/m)	Reading (dBuV)         Ant./CL (dBuV)         Peak (dBuV)         AV (dBuV/m)         Limit (dBuV/m)         Limit (dBuV/m)         Margin (dBuV/m)           40.44          1.15         41.59          74.00         54.00         -12.41

#### Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency  $_{\circ}$
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 40M RX CH Low Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2422 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	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)	ı
3223.0	41.48		1.15	42.63		74.00	54.00	-11.37	Peak
4844.0									
6440.5	36.08		9.64	45.72		74.00	54.00	-8.28	Peak
7266.0									
9688.0									
12110.0									
14532.0									
16954.0									
19376.0									
21798.0									
24220.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 40M RX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	ıal FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)			AV (dBuV/m)	Limit ) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3236.0	37.99		1.20	39.19		74.00	54.00	-14.81	Peak
4874.0									
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 40M RX CH Mid Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2437 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)		AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3236.0	41.66		1.20	42.86		74.00	54.00	-11.14	Peak
4874.0									
7311.0									
9748.0									
12185.0									
14622.0									
17059.0									
19496.0									
21933.0									
24370.0									

#### Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency  $_{\circ}$
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 40M RX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2452 MHz Test By Jason Temperature 25 Pol Ver

Humidity 65 %

	Peak	$\mathbf{AV}$		Actu	al FS	Peak	$\mathbf{AV}$		
Freq. (MHz)	Reading (dBuV)	Reading (dBuV)	Ant./CL CF(dB)		AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	Margin (dB)	
3268.5	39.26		1.30	40.56		74.00	54.00	-13.44	Peak
4904.0									
7356.0									
9808.0									
12260.0									
14712.0									
17164.0									
19616.0									
22068.0									
24520.0									

# Remark

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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 802.11n 40M TX CH High Test Date Sep. 19, 2007

65Mbps

Fundamental Frequency 2452 MHz Test By Jason Temperature 25 Pol Hor

Humidity 65 %

	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)	
3268.5	42.01		1.30	43.31		74.00	54.00	-10.69	Peak
4904.0									
7356.0									
9808.0									
12260.0									
14712.0									
17164.0									
19616.0									
22068.0									
24520.0									

#### Remark:

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency<sub>o</sub>
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 6dB 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. When measured Peak value is under AV Limit, It doesn't need to measure AV value again.
- (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.

According to RSS-Annex 8.2(2) The transmitter power spectral density (into the antenna) shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission or over 1.0 second if the transmission exceeds 1.0 second duration.

### 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								
<b>EQUIPMENT</b>	MFR	MODEL	SERIAL	LAST	CAL DUE.				
TYPE		NUMBER	NUMBER	CAL.					
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2007	03/28/2008				
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2007	07/03/2008				
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	ZFSC-2-10G	N/A	10/07/2006	10/06/2007				



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### 10.4 Measurement Result

# 802.11b, 1M

СН	RF Power Density	Cable loss	RF Power Density	Maximum Limit
	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	-19.76	0.00	-19.76	8
Mid	-19.04	0.00	-19.04	8
High	-14.64	0.00	-14.64	8

# 802.11g, 6M

СН	RF Power Density	Cable loss	RF Power Density	Maximum Limit
	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	-18.35	0.00	-18.35	8
Mid	-18.35	0.00	-18.35	8
High	-19.07	0.00	-19.07	8

# 802.11n\_20M, 6.5M

СН	RF Power Density	Cable loss	RF Power Density	Maximum Limit
	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	-17.06	0.00	-17.06	8
Mid	-17.67	0.00	-17.67	8
High	-18.07	0.00	-18.07	8

# 802.11n\_40M, 6.5M

СН	RF Power Density	Cable loss	RF Power Density	Maximum Limit
	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	-21.82	0.00	-21.82	8
Mid	-24.61	0.00	-24.61	8
High	-21.11	0.00	-21.11	8

Note: offset 10.3 dB for insertion loss



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# 802.11b, 11M

CH	RF Power Density	Cable loss	RF Power Density	Maximum Limit
	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	-14.70	0.00	-14.70	8
Mid	-14.69	0.00	-14.69	8
High	-15.24	0.00	-15.24	8

802.11g, 54M

002.115, 5 111							
CH	RF Power Density	Cable loss	RF Power Density	Maximum Limit			
	Reading (dBm)	(dB)	Level (dBm)	(dBm)			
Low	-15.39	0.00	-15.39	8			
Mid	-15.13	0.00	-15.13	8			
High	-15.74	0.00	-15.74	8			

# 802.11n 20M, 65M

СН	RF Power Density	Cable loss	RF Power Density	Maximum Limit
	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	-16.74	0.00	-16.74	8
Mid	-16.46	0.00	-16.46	8
High	-17.19	0.00	-17.19	8

# 802.11n\_40M, 65M

СН	RF Power Density	Cable loss	RF Power Density	Maximum Limit
	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	-20.56	0.00	-20.56	8
Mid	-19.89	0.00	-19.89	8
High	-19.77	0.00	-19.77	8

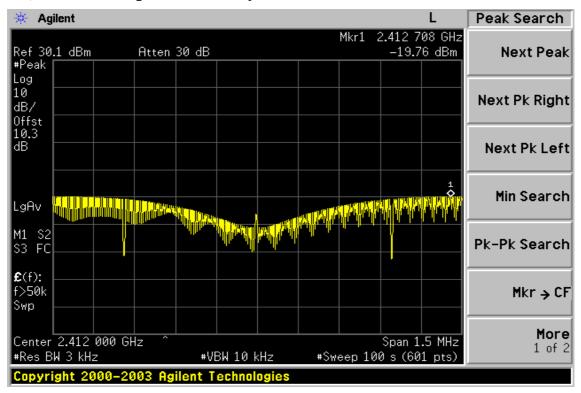
Note: offset 10.3 dB for insertion loss



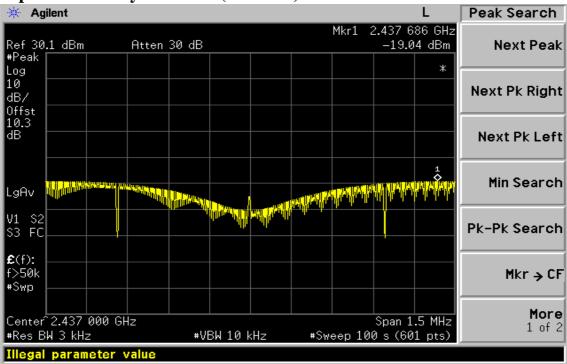
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# 802.11b, 1M Power Spectral Density Test Plot (CH-Low)



**Power Spectral Density Test Plot (CH-Mid)** 

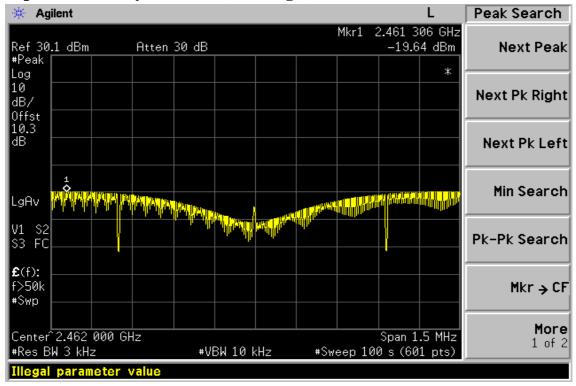




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# **Power Spectral Density Test Plot (CH-High)**

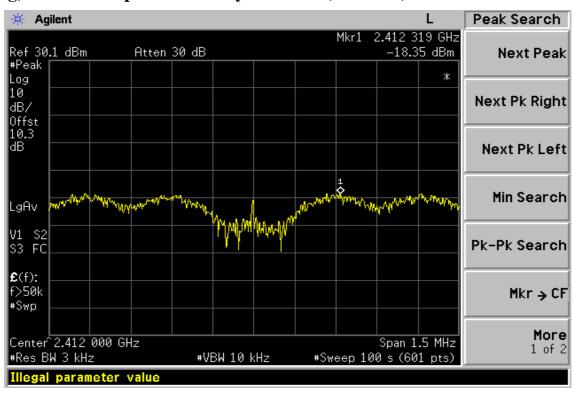




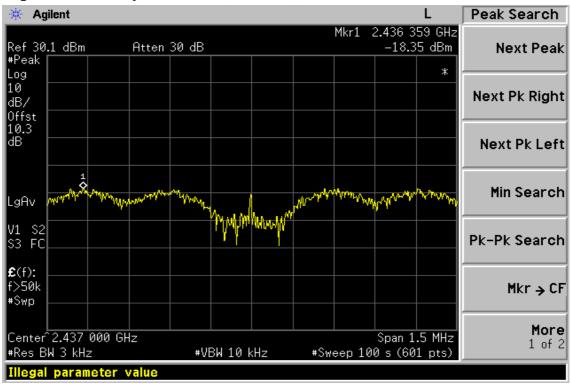
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# 802.11g, 6M Power Spectral Density Test Plot (CH-Low)



# **Power Spectral Density Test Plot (CH-Mid)**

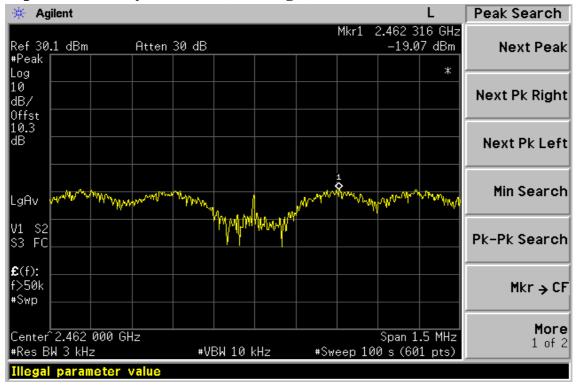




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# **Power Spectral Density Test Plot (CH-High)**

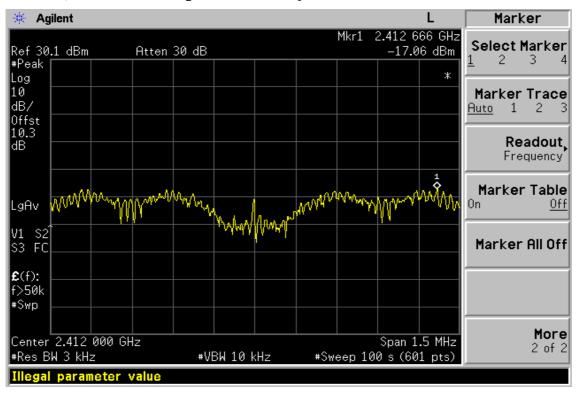




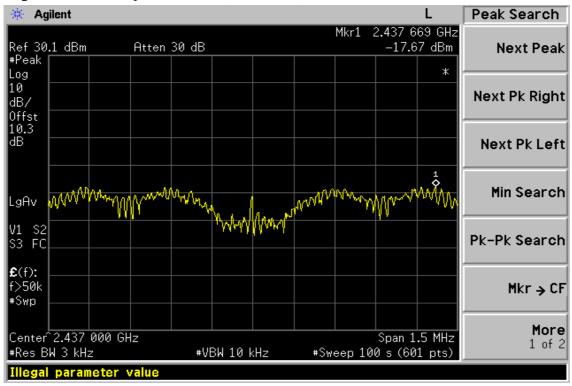
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# 802.11n\_20M, 6.5M Power Spectral Density Test Plot (CH-Low)



### **Power Spectral Density Test Plot (CH-Mid)**

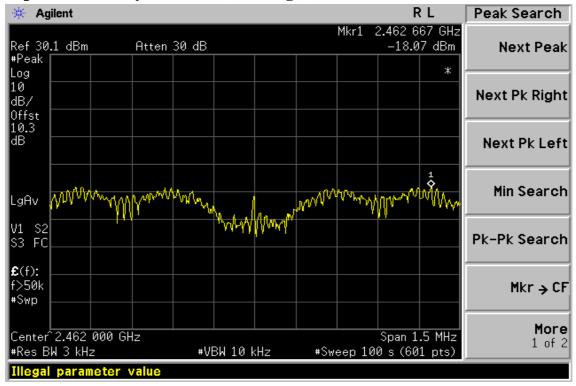




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## **Power Spectral Density Test Plot (CH-High)**

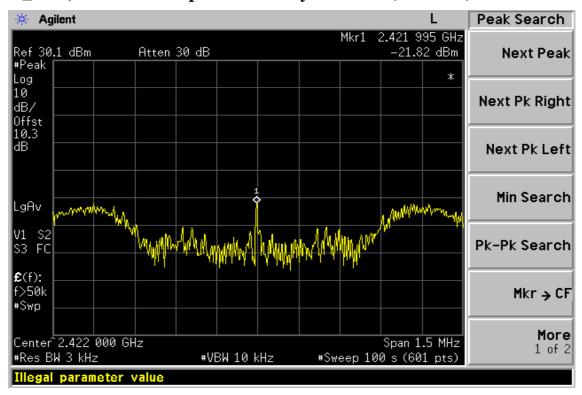




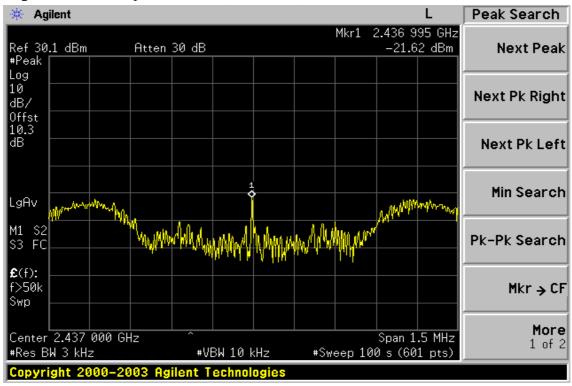
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### 802.11n\_40M, 6.5M Power Spectral Density Test Plot (CH-Low)



### **Power Spectral Density Test Plot (CH-Mid)**

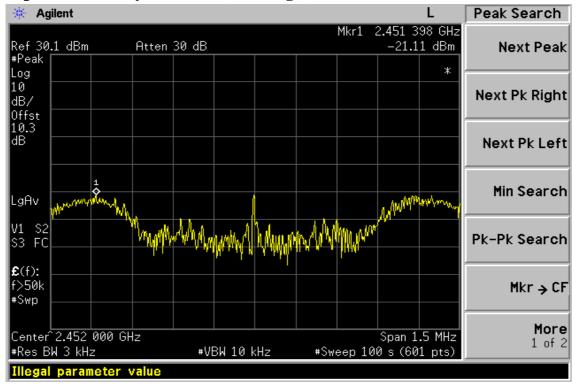




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## **Power Spectral Density Test Plot (CH-High)**

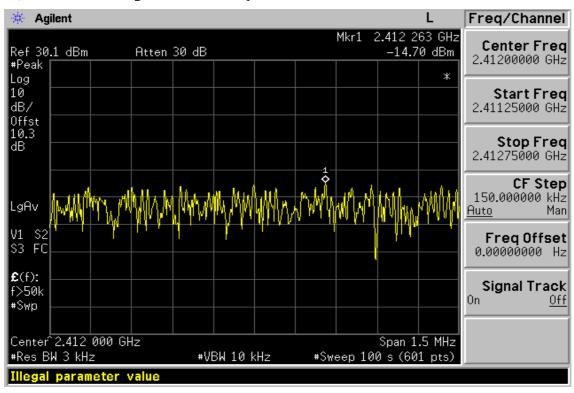




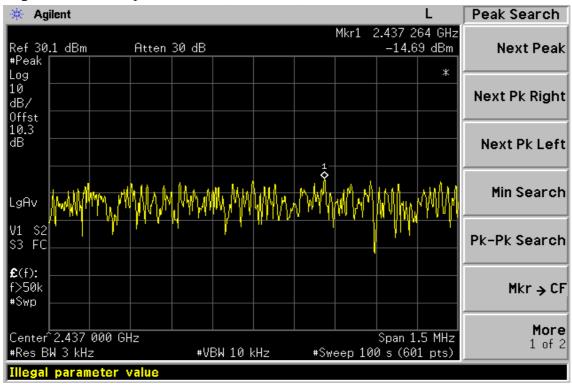
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# 802.11b, 11M Power Spectral Density Test Plot (CH-Low)



### **Power Spectral Density Test Plot (CH-Mid)**

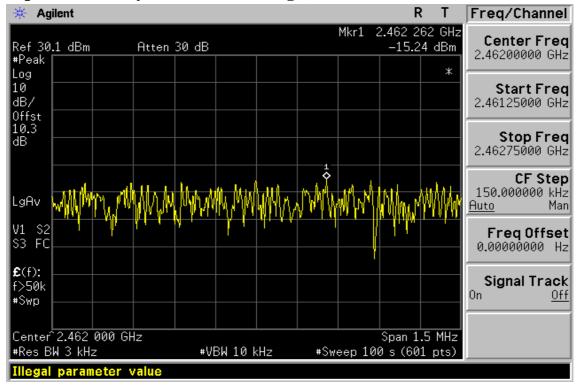




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## **Power Spectral Density Test Plot (CH-High)**

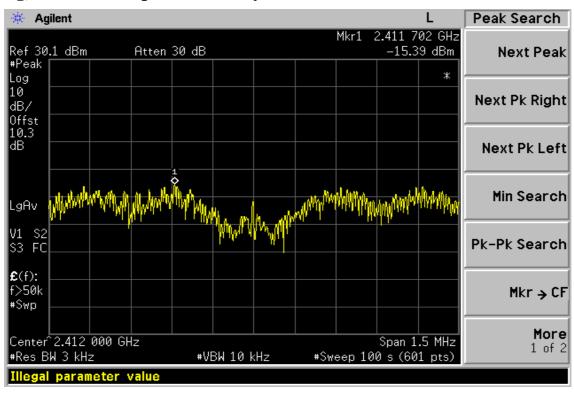




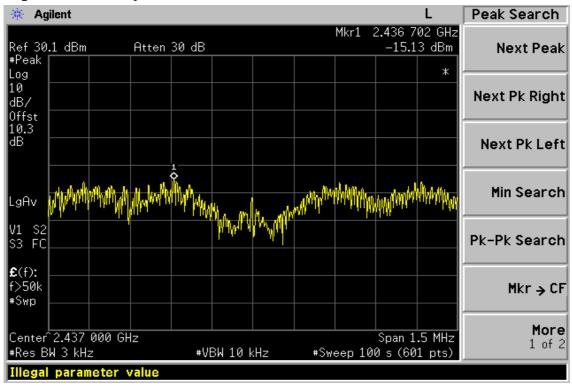
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# 802.11g, 54M Power Spectral Density Test Plot (CH-Low)



### **Power Spectral Density Test Plot (CH-Mid)**

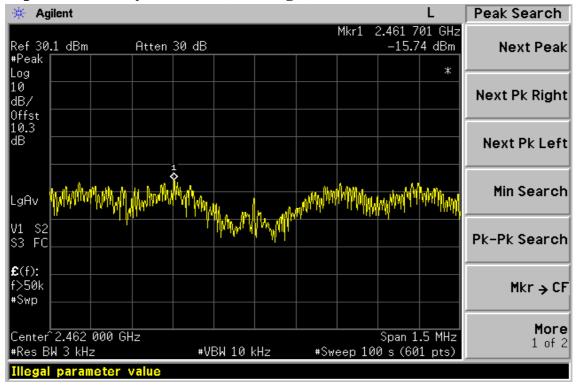




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## **Power Spectral Density Test Plot (CH-High)**

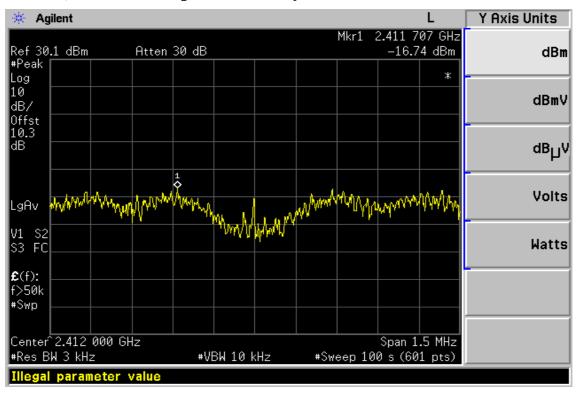




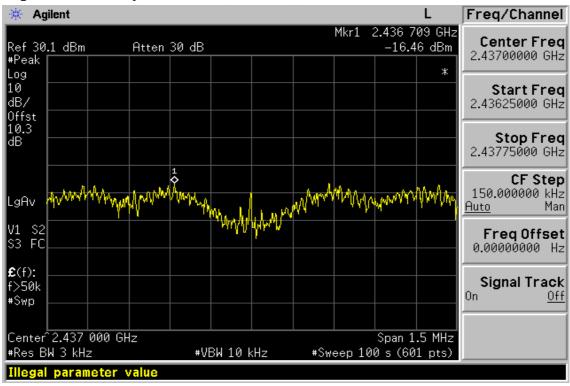
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# 802.11n\_20M, 65M Power Spectral Density Test Plot (CH-Low)



### **Power Spectral Density Test Plot (CH-Mid)**

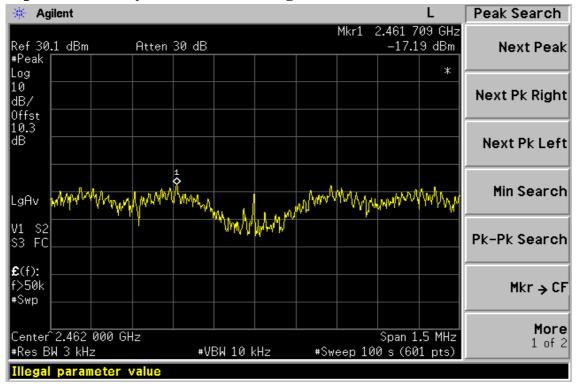




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## **Power Spectral Density Test Plot (CH-High)**

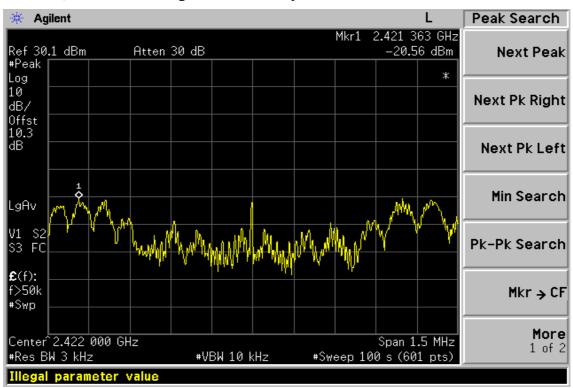




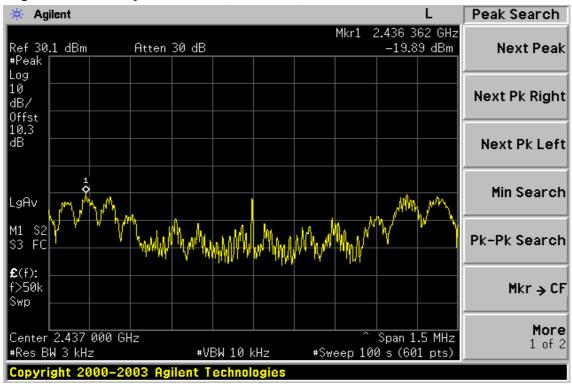
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# 802.11n\_40M, 65M Power Spectral Density Test Plot (CH-Low)



### **Power Spectral Density Test Plot (CH-Mid)**

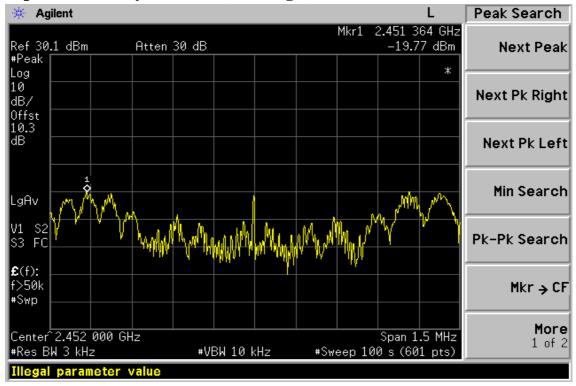




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## **Power Spectral Density Test Plot (CH-High)**





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### 11.99% Bandwidth Measurement

### 11.1 Standard Applicable

RSS-Gen, section 4.4.1, An alternative to the 20 dB bandwidth is the 99% emission bandwidth. This bandwidth is determined such that below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5% of the total mean power of the emission.

### 11.2 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2007	03/28/2008
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2007	07/03/2008
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	ZFSC-2-10G	N/A	10/07/2006	10/06/2007

#### 11.3Measurement 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=1% of the approximate emission bandwidth, VBW = 3 times RBW, Span= approximately 20dB below the peak level. Sweep=auto
- 4. Turn on the 99% bandwidth function, max reading..
- 5. Repeat above procedures until all frequency measured were complete.



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#### 11.4 Measurement Result

#### 802.11b, 1M

002.110, 111	
СН	Bandwidth
	(MHz)
Lower	14.9885
Mid	14.7734
Higher	15.3134

### 802.11g, 6M

СН	Bandwidth
	(MHz)
Lower	16.3660
Mid	16.4379
Higher	16.4026

### 802.11n\_20M, 6.5M

СН	Bandwidth
	(MHz)
Lower	17.6296
Mid	17.5393
Higher	17.5461



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#### 802.11n 40M, 6.5M

СН	Bandwidth
	(MHz)
Lower	36.0966
Mid	35.9027
Higher	36.0523

#### 802.11b, 11M

СН	Bandwidth
	(MHz)
Lower	14.5012
Mid	14.9306
Higher	15.2994

#### 802.11g, 54M

СН	Bandwidth
	(MHz)
Lower	16.3289
Mid	16.3601
Higher	16.5040



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#### 802.11n\_20M, 65M

СН	Bandwidth
	(MHz)
Lower	17.5909
Mid	17.6261
Higher	17.5293

### 802.11n\_40M,65M

СН	Bandwidth
	(MHz)
Lower	35.8271
Mid	36.1690
Higher	35.7625



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### 802.11b, 1M 99% Band Width Test Data CH-Low



### 99% Band Width Test Data CH-Mid





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## 99% Band Width Test Data CH-High

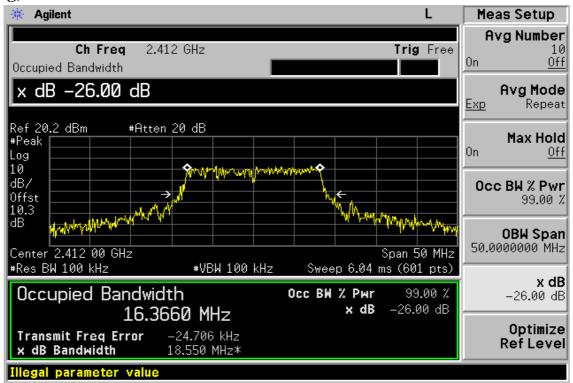




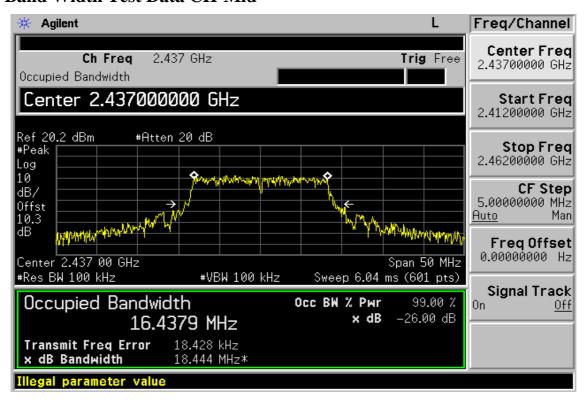
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### 802.11g, 6M 99% Band Width Test Data CH-Low



### 99% Band Width Test Data CH-Mid

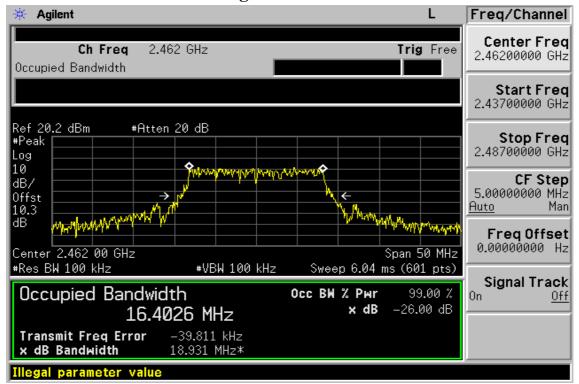




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## 99% Band Width Test Data CH-High

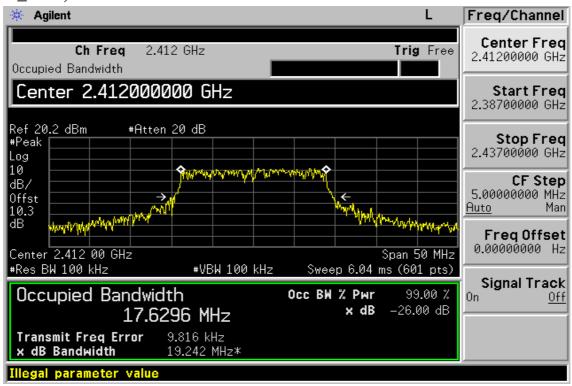




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### 802.11n 20M, 6.5M 99% Band Width Test Data CH-Low



### 99% Band Width Test Data CH-Mid



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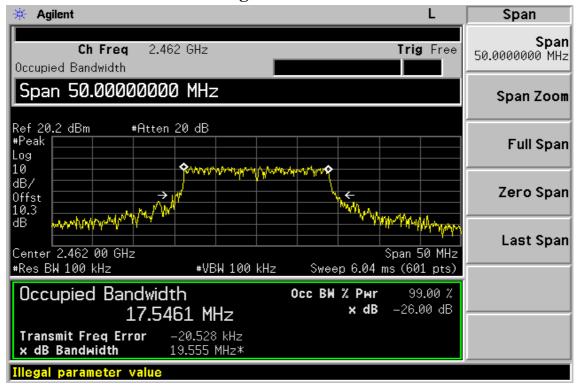
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## 99% Band Width Test Data CH-High

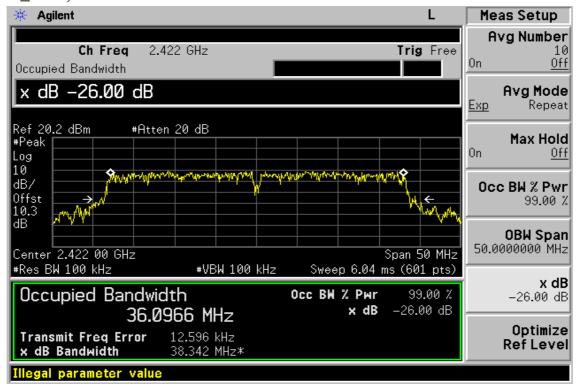




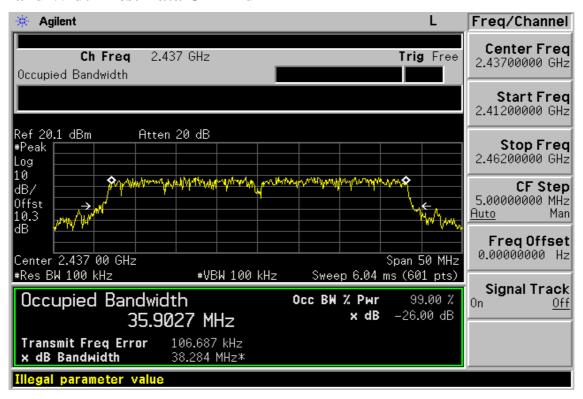
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### 802.11n\_40M, 6.5M 99% Band Width Test Data CH-Low



### 99% Band Width Test Data CH-Mid

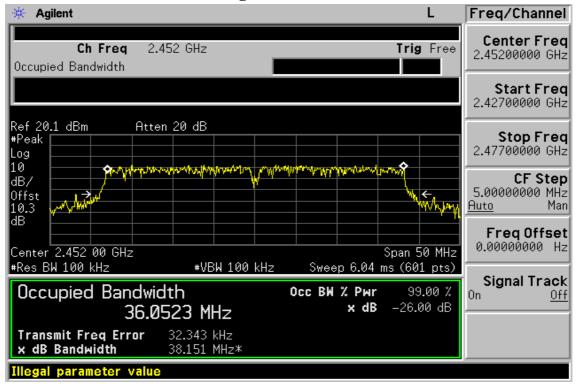




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# 99% Band Width Test Data CH-High

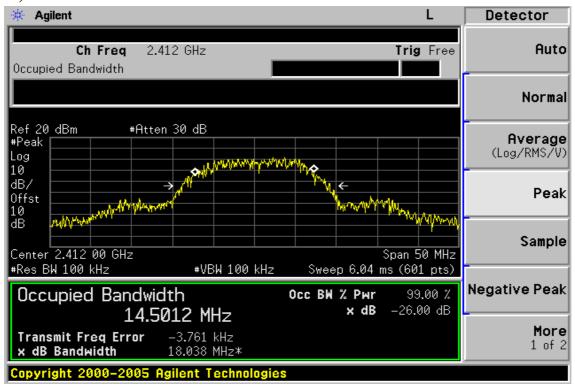




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### 802.11b, 11M 99% Band Width Test Data CH-Low



### 99% Band Width Test Data CH-Mid

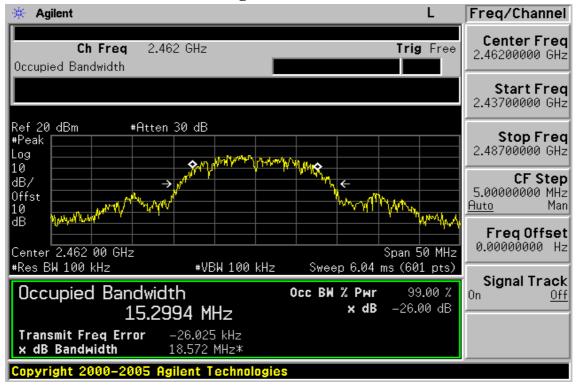




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# 99% Band Width Test Data CH-High

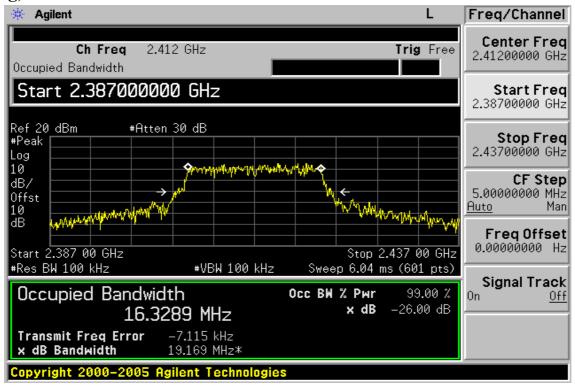




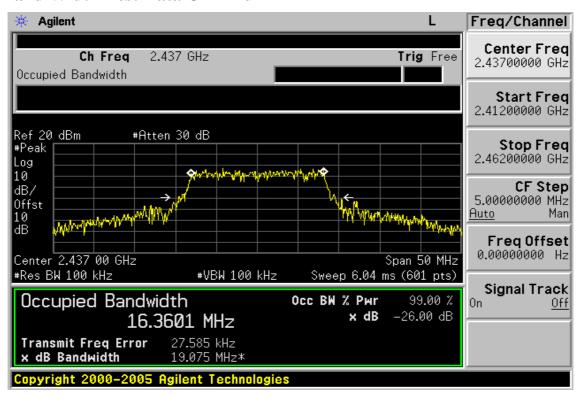
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### 802.11g, 54M 99% Band Width Test Data CH-Low



### 99% Band Width Test Data CH-Mid



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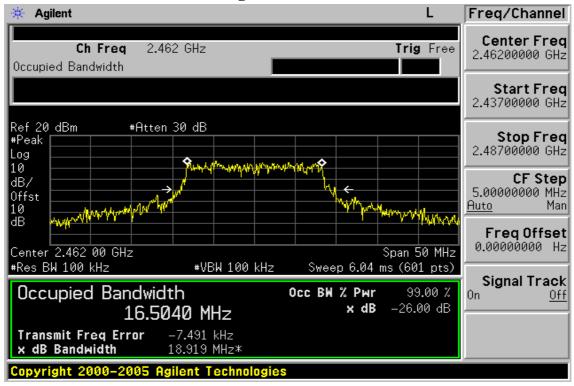
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# 99% Band Width Test Data CH-High

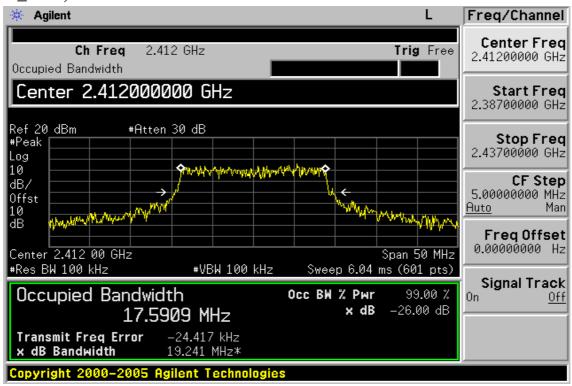




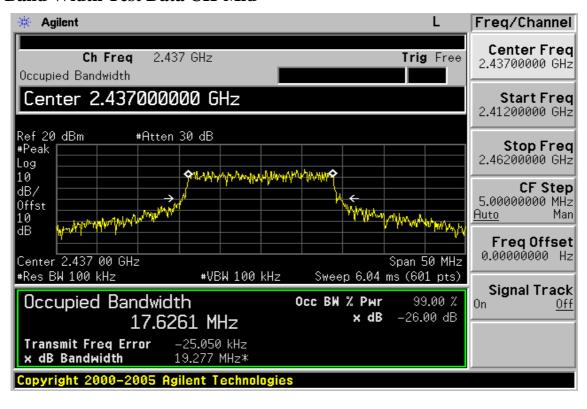
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### 802.11n 20M, 65M 99% Band Width Test Data CH-Low



### 99% Band Width Test Data CH-Mid



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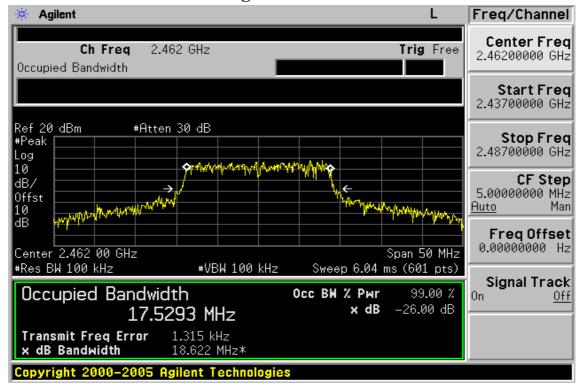
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## 99% Band Width Test Data CH-High

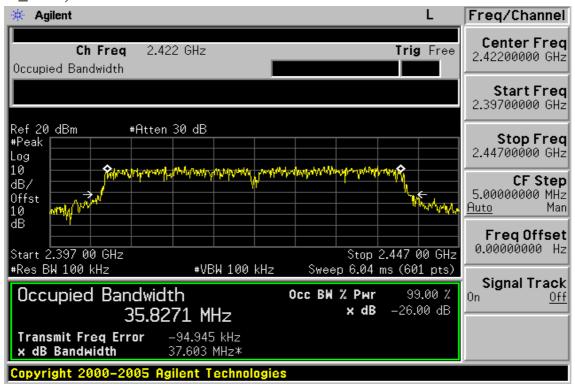




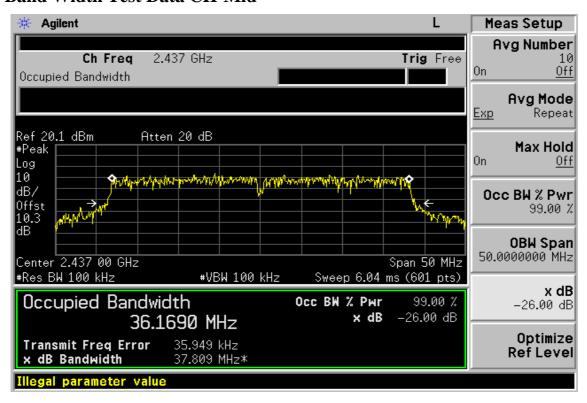
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### 802.11n 40M, 65M 99% Band Width Test Data CH-Low



### 99% Band Width Test Data CH-Mid



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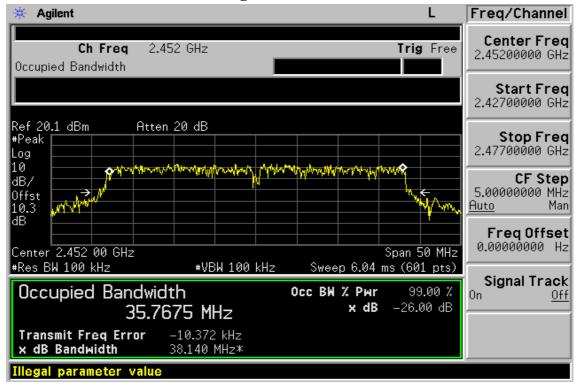
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# 99% Band Width Test Data CH-High





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### 12. ANTENNA REQUIREMENT

### 12.1. 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.

According to §RSS- 210, Annex 8.4: Note that special antenna connectors are required for spread spectrum systems (with respect to section 5.5.

section 5.5, The transmitter antenna shall be integral with the device, or the antenna coupling be so designed that no antenna other than that furnished by the party responsible for compliance shall be used. **Example:** Special antenna connectors not readily available in retail shops in Canada may be acceptable. The antenna design may be such as to allow a broken antenna to be replaced by the user, but the use of a standard jack or electrical connector is prohibited. The special antenna connector requirement does not apply to 6.2.2 (a), 6.2.2 (b), and 8.1 to 8.5. Further, this requirement does not apply to transmitters that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to transmitters which require unwanted emission measurements after installation (section 5.15). In the installation/user manual, the user shall be notified that a proper type of antenna must be employed and of the RF field limits to be met. When the standard limits the antenna gain to N dB, this limit applies only to the transmitting antenna system net gain, i.e. antenna gain minus its cabling loss.

When a measurement at the antenna connector (section 10) is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on measurement or on data from the antenna



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manufacturer. Any antenna gain in excess of 6 dBi (6 dB above isotropic gain) shall be added to the measured RF output power before using the power limits specified in this Standard for devices of RF output powers 10 milliwatts or less. In the case of devices of output powers more than 10 milliwatts, the

total antenna gain shall be added, except for the case of 6.2.2 (o) on spread spectrum systems. User Manual (for transmitter with detachable antenna): The user manual of transmitter devices equipped with a detachable antenna shall contain the following information in a conspicuous location: "This device has been designed to operate with an antenna having a maximum gain of [x] dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is [y] ohms." Equipment manufacturer shall provide proper values of x and y to comply with the

#### 12.2. Antenna Connected Construction

The antenna is designed as integrated and no consideration of replacement by the end user. Please find the antenna specification for details, The directional gains of antenna used for transmitting is 2dBi,