

Report No.: ER/2007/60025 **Issue Date: Oct. 17, 2007**

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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT

Product Name: Smartphone

Brand Name: N/A

Model Name: WING200

Model Different: N/A

ID Number: NM8WG

Report No.: ER/2007/60025

Issue Date: Oct. 17, 2007

Rule Part: §15.247

HIGH TECH COMPUTER CORP.

Prepared for

No. 23 Xinghua Rd., Taoyuan 330, Taiwan

Prepared by SGS Taiwan Ltd.

No. 134, Wu Kung Rd., Wuku Industrial

Zone, Taipei County, Taiwan.



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VERIFICATION OF COMPLIANCE

Applicant: HIGH TECH COMPUTER CORP.

No. 23 Xinghua Rd., Taoyuan 330, Taiwan

Equipment Under Test: Smartphone

Brand Name: N/A

FCC ID Number: NM8WG Model No.: WING200

Model Difference: N/A

File Number: ER/2007/60025

Jul. 02, 2007 ~ Jul. 27, 2007 Date of test:

Jul. 02, 2007 **Date of EUT Received:**

We hereby certify that:

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

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

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Prepared By:	Enakono	Date	Oct. 17, 2007	
_	Eva Kao / Sr. Engineer			
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Version

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00	Oct. 17, 2007



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GENERAL INFORMATION

1.1. Product Description

Product Name:	Smartphone		
Brand Name:	N/A		
Model Name:	WING200		
Model Difference: N/A			
Simple Hands-Free (SHF):	 Mode No.: CHM-311STU08001, Supplier: COTRON Mode No.: G-EP-A404, Supplier: MEC 		
Data Cable (USB):	1 cable, model:	N/A	
	3.7 Vdc re-char	geable battery or 5Vdc by AC/DC power adapter	
Power Supply	Battery:	 Mode: LIBR160, Supplier: Simplo Mode: LIBR160, Supplier: Sanyo Mode: WING160, Supplier: Samsung 	
	Adapter:	 Mode: ADP-5FH, Supplier: DELTA Mode: PSAA05A-050, Supplier: PHIHONG 	

GSM and WCDMA:

	GSM/GPRS 850	824 MHz- 849MHz	33 dBm	
Cellular Phone Standards	EDGE 850	824 MHz- 849MHz	27 dBm	
Frequency	GSM/GPRS 1900	1850MHz – 1910MHz	30 dBm	
Range and	EDGE 1900	1850MHz – 1910MHz	26 dBm	
Power	WCDMA Band II	1850MHz – 1910MHz	24 dBm	
	WCDMA Band V	824 MHz- 849MHz	24 dBm	
	GSM: 300KGXW			
Type of Emission	EDGE: 300KG7W			
	WCDMA: 4M20F9W			
IMEI	35348601002054701			



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WLAN:

Frequency Range	2412 – 2462 MHz
Channel number	11 channels
Rated Power	802.11 b: 16.66 dBm 802.11 g: 13.58 dBm
Modulation Technology	DSSS, OFDM
Modulation type	CCK, DQPSK, DBPSK for DSSS 64QAM. 16QAM, QPSK, BPSK for OFDM
Transition Rate:	802.11 b: 1/2/5.5/11/54 Mbps; 802.11 g: 6/9/12/18/24/36/48/54 Mbps
Antenna Designation	PIFA Antenna, 2 dBi.
Type of Emission	16M5M7D

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

Bluetooth:

Diactootii.	
Frequency Range	2402 – 2480MHz
Channel number	79 channels
Rated Power	3.58 dBm (Peak)
Modulation type	Frequency Hopping Spread Spectrum (FHSS)(FGSK)
Antenna Designation	PIFA Antenna, 2 dBi
Type of Emission	1M39F1D

The EUT is compliance with Bluetooth Standard. Bluetooth share with the same antenna with WLAN.

This test report applies for 80211b/g WLAN.



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

This submittal(s) (test report) is intended for FCC ID: NM8WG filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules. The composite system (digital device) is compliance with Subpart B is authorized under a DoC procedure.

1.3. Test Methodology

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

1.4. Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the address of SGS Taiwan Ltd. No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003 and CISPR 22/EN 55022 requirements. Site No. 1(3 &10 meters) Registration Number: 94644, 3m Semi-Anechoic chamber FCC Registration Number: 23194 and Canada Registration Number: 4620A-1.

1.5. Special Accessories

Not available for this EUT intended for grant.

1.6. Equipment Modifications

Not available for this EUT intended for grant.



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SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

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

2.2. EUT Exercise

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

2.3. Test Procedure

2.3.1 Conducted Emissions

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

2.3.2 Radiated Emissions

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



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2.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System

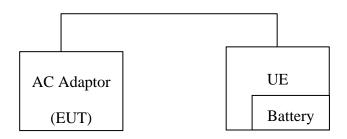


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1	n/a					



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3. SUMMARY OF TEST RESULTS

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

Co-Antenna test

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



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4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

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

The field strength of radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for 802.11b/g WLAN Transmitter for channel Low, Mid and High, the worst case H position was reported. All tests were carried out for worst adaptor: PSAA05A-050.

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

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

Co-Antenna test, the worst case of WLAN lowest channel with BT lowest channel, WLAN middle channel with BT middle channel, WLAN highest channel with BT highest channel were reported.



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CONDUCTED EMISSION TEST

5.1. Standard Applicable

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

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

Note

5.2. EUT Setup

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

5.3. Measurement Procedure

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

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

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



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5.4. Measurement Equipment Used:

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

5.5. Measurement Result

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



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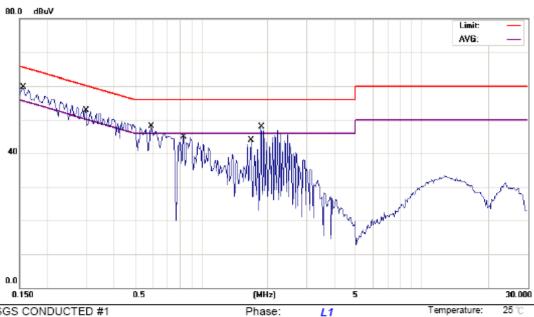
Humidity:

Air Pressure:

hpa

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	Normal Operation Mode			Test Date:	Jul. 26, 2007		
Temperature:	25 ℃	Humidity:	Sky	Test By:	Sky		
Adaptor:	Supply: DELTA / model: ADP-5FH B						



Power:

Distance:

AC 120V/60Hz

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: WING200 M/N: WING200

Note: WLAN+DELTA ADAPTER

No. Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1550	47.00	1.07	48.07	65.73	-17.66	QP	
2	0.1550	33.00	1.07	34.07	55.73	-21.66	AVG	
3	0.3000	42.60	0.02	42.62	60.24	-17.62	QP	
4	0.3000	26.50	0.02	26.52	50.24	-23.72	AVG	
5	0.5900	38.60	0.02	38.62	56.00	-17.38	QP	
6	0.5900	28.50	0.02	28.52	46.00	-17.48	AVG	
7	0.8300	37.00	0.01	37.01	56.00	-18.99	QP	
8	0.8300	30.30	0.01	30.31	46.00	-15.69	AVG	
9	1.6850	38.50	0.03	38.53	56.00	-17.47	QP	
10	1.6850	21.00	0.03	21.03	46.00	-24.97	AVG	
11 *	1.8650	42.60	0.04	42.64	56.00	-13.36	QP	
12	1.8650	24.50	0.04	24.54	46.00	-21.46	AVG	

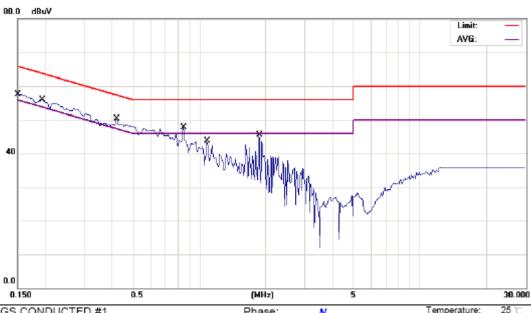


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Humidity:

Air Pressure:



Phase:

Power:

Distance:

AC 120V/60Hz

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: WING200 M/N: WING200

Note: WLAN+DELTA ADAPTER

No. Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over			
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	0.1500	48.00	1.18	49.18	66.00	-16.82	QP		
2	0.1500	20.00	1.18	21.18	56.00	-34.82	AVG		
3	0.1950	46.50	0.14	46.64	63.82	-17.18	QP		
4	0.1950	32.60	0.14	32.74	53.82	-21.08	AVG		
5	0.4200	41.80	0.02	41.82	57.45	-15.63	QP		
6	0.4200	30.00	0.02	30.02	47.45	-17.43	AVG		
7	0.8450	36.00	0.01	36.01	56.00	-19.99	QP		
8	0.8450	26.00	0.01	26.01	46.00	-19.99	AVG		
9	1.0850	35.50	0.01	35.51	56.00	-20.49	QP		
10	1.0850	26.50	0.01	26.51	46.00	-19.49	AVG		
11 *	1.8650	43.20	0.04	43.24	56.00	-12.76	QP		
12	1.8650	28.00	0.04	28.04	46.00	-17.96	AVG		



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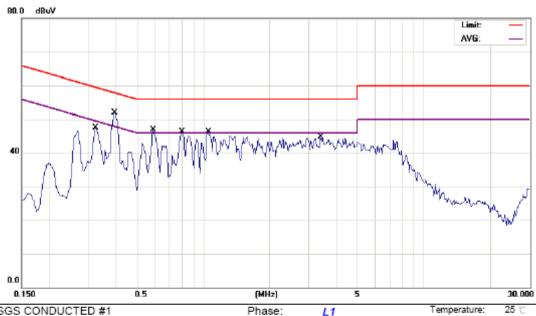
Humidity:

Air Pressure:

hpa

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	Normal Operation	on Mode		Test Date:	Jul. 26, 2007		
Temperature:	25 ℃	Humidity:	Sky	Test By:	Sky		
Adaptor:	Supply: PHIHONG / model: PSAA05A-050						



Power:

Distance:

AC 120V/60Hz

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: WING200 M/N: WING200

Note: WLAN+PHINONG ADAPTER

No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		0.3250	45.40	0.02	45.42	59.58	-14.16	QP		
2		0.3250	38.00	0.02	38.02	49.58	-11.56	AVG		
3		0.3950	49.70	0.02	49.72	57.96	-8.24	QP		
4	*	0.3950	42.30	0.02	42.32	47.96	-5.64	AVG		
5		0.5900	44.50	0.02	44.52	56.00	-11.48	QP		
6		0.5900	36.50	0.02	36.52	46.00	-9.48	AVG		
7		0.8000	42.80	0.01	42.81	56.00	-13.19	QP		
8		0.8000	32.00	0.01	32.01	46.00	-13.99	AVG		
9		1.0550	42.10	0.01	42.11	56.00	-13.89	QP		
10		1.0550	32.60	0.01	32.61	46.00	-13.39	AVG		
11		3.4100	39.00	0.06	39.06	56.00	-16.94	QP		
12		3.4100	28.60	0.06	28.66	46.00	-17.34	AVG		

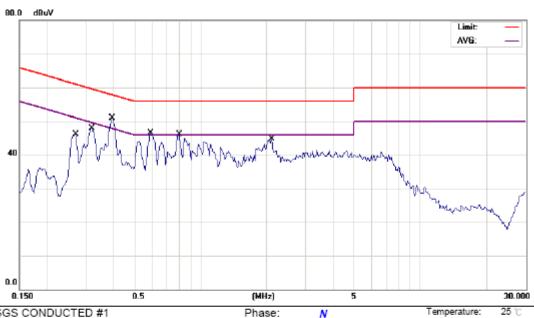


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Humidity:

Air Pressure:



Power:

Distance:

AC 120V/60Hz

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: WING200

M/N: WING200

Note: WLAN+PHINONG ADAPTER

No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		0.2700	43.00	0.02	43.02	61.12	-18.10	QP		
2		0.2700	32.20	0.02	32.22	51.12	-18.90	AVG		
3		0.3200	46.00	0.02	46.02	59.71	-13.69	QP		
4		0.3200	36.80	0.02	36.82	49.71	-12.89	AVG		
5		0.3950	46.80	0.02	46.82	57.96	-11.14	QP		
6	*	0.3950	38.10	0.02	38.12	47.96	-9.84	AVG		
7		0.5900	38.80	0.02	38.82	56.00	-17.18	QP		
8		0.5900	29.00	0.02	29.02	46.00	-16.98	AVG		
9		0.8000	39.20	0.01	39.21	56.00	-16.79	QP		
10		0.8000	25.80	0.01	25.81	46.00	-20.19	AVG		
11		2.1050	36.80	0.04	36.84	56.00	-19.16	QP		
12		2.1050	25.40	0.04	25.44	46.00	-20.56	AVG		



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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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6.2. Measurement Procedure

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

6.3. Measurement Equipment Used:

	Conducted Emission Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.					
TYPE		NUMBER	NUMBER	CAL.						
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008					
Spectrum Analyzer	Agilent	E7405A	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-Circuit	BW-S6W5	N/A	01/05/2007	01/04/2008					



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6.4. Measurement Result

802.11b

Frequency (MHz)	Reading Power (dBm)	Cable Loss	Output Power (dBm)	Output Power (W)	Limit (W)
2412.00	16.02	0.00	16.02	0.03999	1
2437.00	16.20	0.00	16.20	0.04169	1
2462.00	16.66	0.00	16.66	0.04634	1

*Note: Offset 11.5dB

802.11g

Frequency (MHz)	Reading Power (dBm)	Cable Loss	Output Power (dBm)	Output Power (W)	Limit (W)
2412.00	12.89	0.00	12.89	0.01945	1
2437.00	12.94	0.00	12.94	0.01968	1
2462.00	13.58	0.00	13.58	0.02280	1

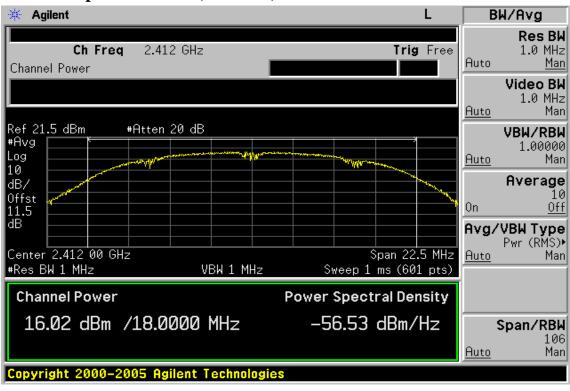
*Note: Offset 11.5dB



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802.11b Peak Power Output Data Plot (CH Low)



Peak Power Output Data Plot (CH Mid)





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Peak Power Output Data Plot (CH High)

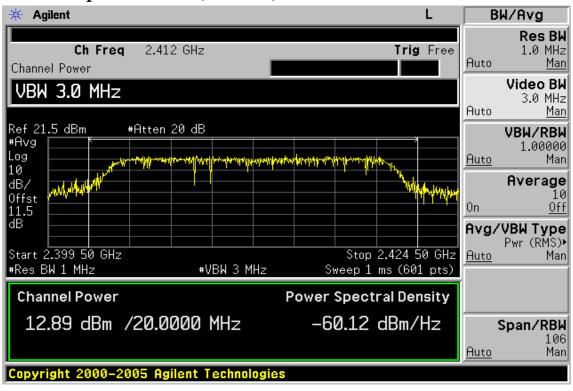




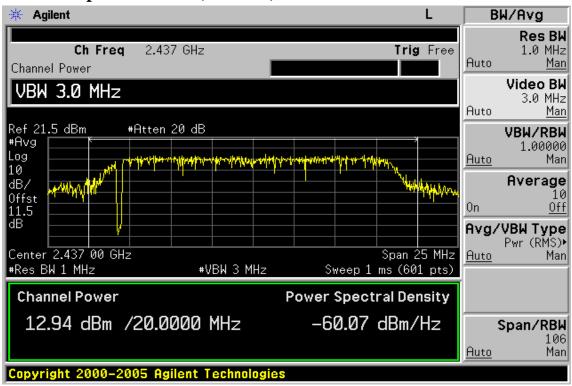
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802.11g Peak Power Output Data Plot (CH Low)



Peak Power Output Data Plot (CH Mid)

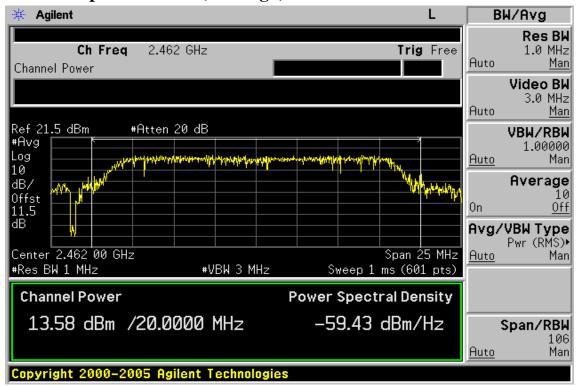




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Peak Power Output Data Plot (CH High)





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7. 6dB Bandwidth

7.1. Standard Applicable

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

7.2. Measurement Procedure

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

7.3. Measurement Equipment Used:

	Conducted Emission Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.					
TYPE		NUMBER	NUMBER	CAL.						
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008					
Spectrum Analyzer	Agilent	E7405A	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-Circuit	BW-S6W5	N/A	01/05/2007	01/04/2008					



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7.4. Measurement Result

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CH Bandwidth (MHz)		Bandwidth (KHz)	Result
Lower	10.215	> 500	PASS
Mid	9.935	> 500	PASS
Higher	9.621	> 500	PASS

802.11g

0020115					
СН	Bandwidth (MHz)	Bandwidth (KHz)	Result		
Lower	16.422	> 500	PASS		
Mid	16.512	> 500	PASS		
Higher	16.369	> 500	PASS		



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6dB Band Width Test Data CH-Low



6dB Band Width Test Data CH-Mid





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6dB Band Width Test Data CH-High



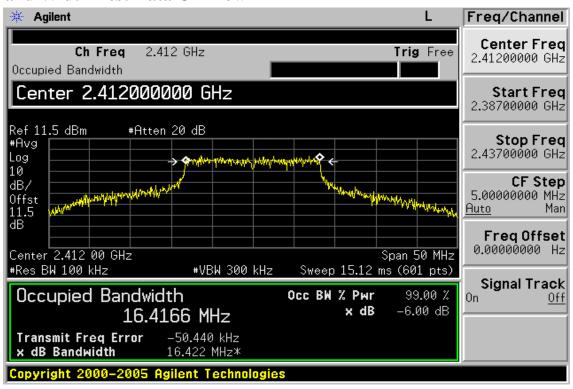


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6dB Band Width Test Data CH-Low



6dB Band Width Test Data CH-Mid

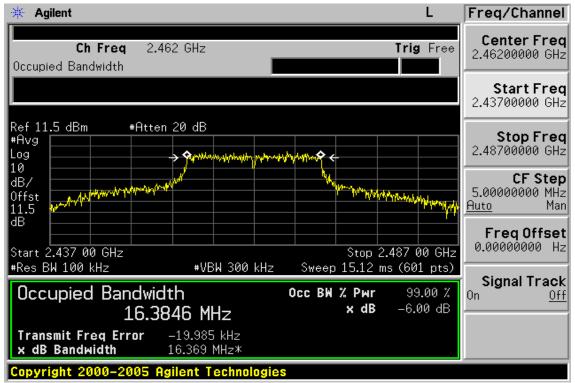




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6dB Band Width Test Data CH-High





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100KHz BANDWIDTH OF BAND EDGES MEASUREMENT

8.1. Standard Applicable

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

8.2. Measurement Procedure

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

8.3. Measurement Equipment Used:

Conducted Emission Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.				
ТҮРЕ		NUMBER	NUMBER	CAL.					
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008				
Spectrum Analyzer	Agilent	E7405A	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-Circuit	BW-S6W5	N/A	01/05/2007	01/04/2008				

8.4. Measurement Result

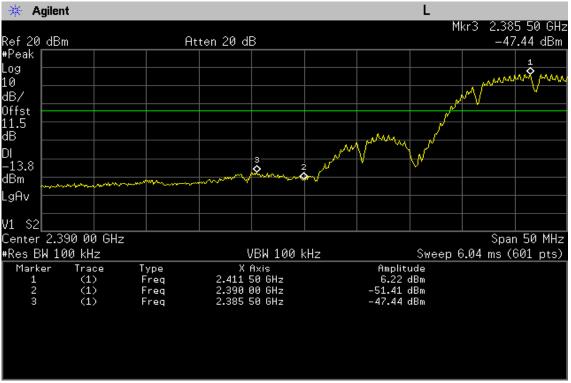
Refer to attach spectrum analyzer data chart.



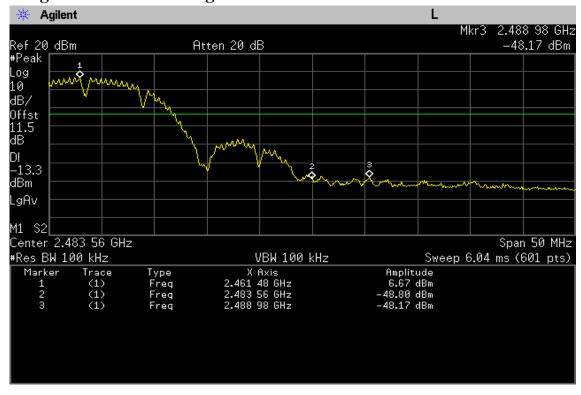
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802.11b Band Edges Test Data CH-Low



Band Edges Test Data CH-High





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Radiated Emission: 802.11 b mode

Operation Mode TX CH Low Test Date Jul. 26, 2007 Fundamental Frequency 2412 MHz Test By Danny Tmperature 25 $^{\circ}$ C Pol Ver. Humidity 65 $^{\circ}$

	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	43.14		-1.39	41.75		74.00	54.00	-12.25	Peak
Operation 1	Mode	TX C	H Low			Test	Date .	Jul. 26, 20	07
Fundament	tal Frequer	ncy 2412	MHz			Test	By	Danny	
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	43 83		-1 39	42.44		74 00	54 00	-11 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 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (3) Spectrum Peak Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (4) Spectrum AV Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



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Radiated Emission: 802.11 b mode

Operation Mode TX CH High Test Date Jul. 26, 2007 Fundamental Frequency 2462 MHz Test By Danny Temperature 25 °C Pol Ver. Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	dBuV/m	(dB)	
2483.56	40.29		-0.92	39.37		74.00	54.00	-14.63	Peak
Operation :	Mode	TX C	H High			Test	Date J	ful. 26, 20	07
Fundamen	tal Frequer	ncy 2462	MHz			Test	By 1	Danny	
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	41.07		-0.92	40.15		74.00	54.00	-13.85	Peak

Remark:

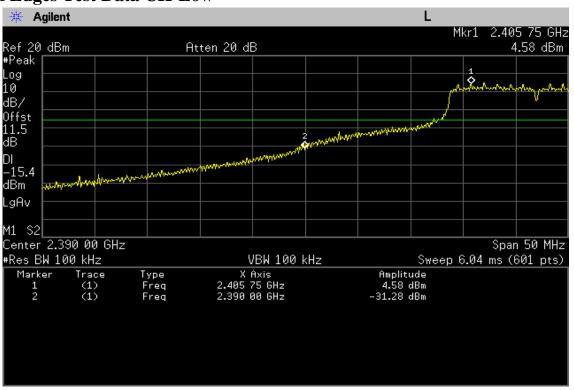
- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an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



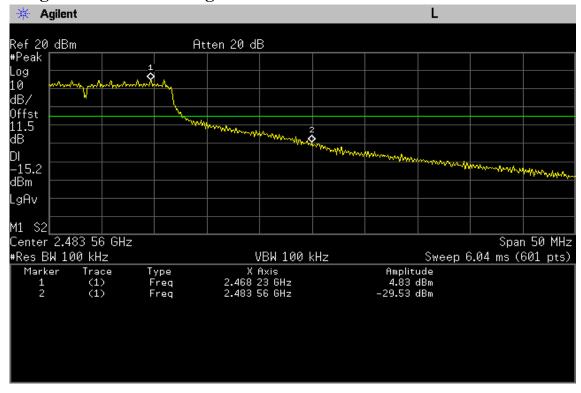
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802.11g Band Edges Test Data CH-Low



Band Edges Test Data CH-High





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Radiated Emission: 802.11 g mode

Operation Mode	TX CH Low	Test Date	Jul. 26, 2007
Fundamental Frequency	2412 MHz	Test By	Danny
Tmperature	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	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m	(\mathbf{dB})	
2390.00	53.23		-1.39	51.84		74.00	54.00	-2.16	Peak
Operation Fundament Temperatu Humidity	tal Freque					Test Test Pol	By	Jul. 26, 20 Danny Hor.	07

		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	54 72		-1 39	53 33		74 00	54.00	-0.67	Peak

- (1) 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.
- (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.
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Emission: 802.11 g mode

Operation Mode TX CH High Test Date Jul. 26, 2007 Fundamental Frequency 2462 MHz Test By Danny 25 °C Pol Ver. Temperature 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	43.09		-0.92	42.17		74.00	54.00	-11.83	Peak
Operation Fundamen Temperatu	tal Frequer					Test Test Pol	Ву	Jul. 26, 20 Danny Hor.	07
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	45 34		-0.92	44 42		74 00	54.00	-9.58	Peak

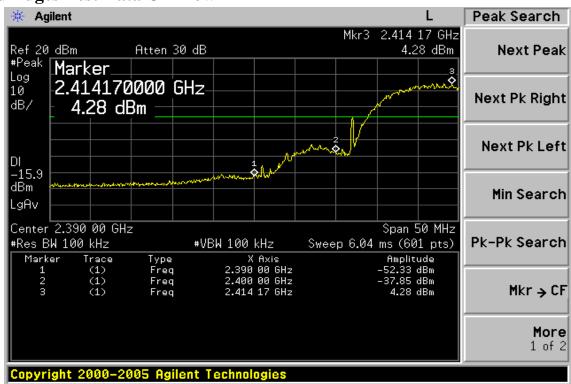
- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an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



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Co-Location (802.11b / Bluetooth) **Band Edges Test Data CH-Low**



Band Edges Test Data CH-High





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Radiated Emission: Co-Location mode

Operation Mode 802.11b TX CH Low / BT TX CH Low Test Date Oct. 05, 2007

Fundamental Frequency 2412 MHz / 2402 MHz Test By Jazz Tmperature $25 \,^{\circ}\text{C}$ Pol Ver.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m) (dBuV/m)	(dBuV/m	(dB)	
2390.00	47.41		-1.39	46.02		74.00	54.00	-7.98	Peak
Operation 1	Mode	802.1	1b TX CI	H Low / BT	TX CH Low	Test	Date	Oct. 05, 20	007
Fundament	tal Frequer	ncy 2412	MHz / 240	02MHz		Test	By .	Jazz	
Temperatu	re	25 °C				Pol]	Hor.	
Humidity		65 %							

Peak AV Actual FS Peak AV

Reading Reading Ant./CL **Peak** AVLimit Limit Margin Remark Freq. (dBuV) (dBuV) CF(dB) (dBuV/m) (dBuV/m) (dBuV/m)(MHz)(dB) 2390.00 42.42 -1.3941.03 74.00 54.00 -12.97Peak

- (1) 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.
- (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.
- (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: Co-Location mode

Operation Mode 802.11b TX CH High / BT TX CH High Test Date Oct. 05, 2007

Fundamental Frequency 2462MHz / 2480MHz Test By Jazz Pol Ver. **Temperature** 25 °C

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	n) (dB)	
2483.56	40.83		-0.92	39.91		74.00	54.00	-14.09	Peak
Operation 1	Mode	802.1	1b TX CI	H High / BT	TX CH Hig	gh Tes	st Date	Oct. 05, 20	007
Fundament	tal Frequer	ncy 2462	MHz / 248	80MHz		Tes	st By	Jazz	
Temperatu	re	25 °C	2			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	36.62		-0.92	35.70		74 00	54.00	-18 30	Peak

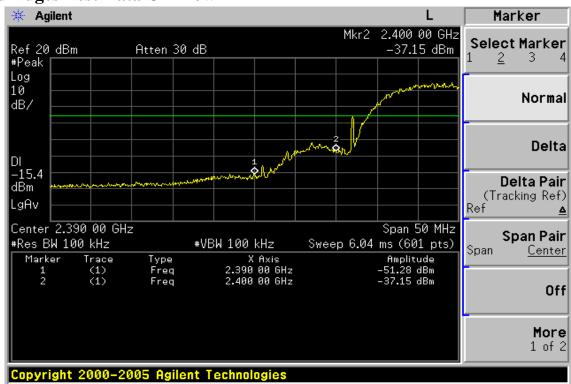
- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an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



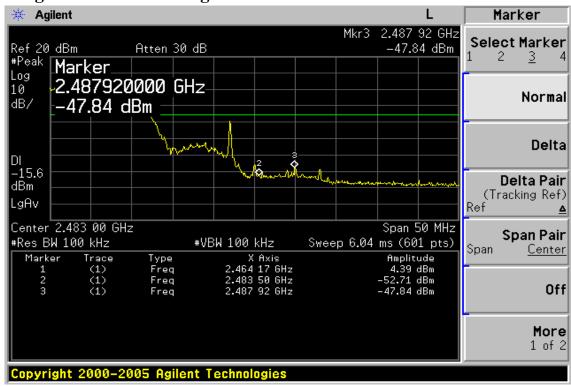
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Co-Location (802.11g / Bluetooth) **Band Edges Test Data CH-Low**



Band Edges Test Data CH-High





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Radiated Emission: Co-Location mode

Operation Mode 802.11g TX CH Low / BT TX CH Low Test Date Oct. 05, 2007

Fundamental Frequency 2412 MHz / 2402 MHz Test By Jazz Tmperature $25 \,^{\circ}\text{C}$ 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)	
2390.00	48.02		-1.39	46.63		74.00	54.00	-7.37	Peak
Operation 1	Mode	802.1	1g TX CI	H Low / BT	TX CH Low	Test	Date	Oct. 05, 20	007
Fundament	tal Frequer	ncy 2412	MHz / 240	02MHz		Test	By	Jazz	
Temperatu	re	25 °C				Pol		Hor.	
Humidity		65 %							

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	52.09		-1 39	50.70		74.00	54.00	-3 30	Peak

- (1) 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.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (4) Spectrum AV Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



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Radiated Emission: Co-Location mode

Operation Mode 802.11g TX CH High / BT TX CH High Test Date Oct. 05, 2007

Fundamental Frequency 2462MHz / 2480MHz Test By Jazz Pol Ver. **Temperature** 25 °C

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	46.68		-0.92	45.76		74.00	54.00	-8.24	Peak
Operation 1	Mode		_	_	TX CH Hig	gh Test	t Date	Oct. 05, 20	007
Fundament	tal Frequer	ncy 2462	MHz / 248	80MHz		Tes	t By	Jazz	
Temperatu	re	25 °C				Pol]	Hor.	
Humidity		65 %							

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m))(dBuV/m)	(dB)	
2483.56	51.28		-0.92	50.36		74.00	54.00	-3.64	Peak

- (1) 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.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (3) Spectrum Peak Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200
- (4) Spectrum AV Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.



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SPURIOUS RADIATED EMISSION TEST

9.1. Standard Applicable

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

9.2. EUT Setup

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

9.3. Measurement Procedure

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

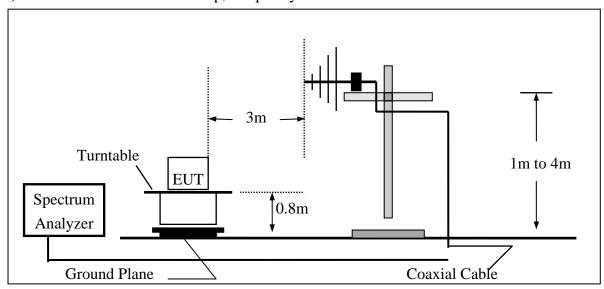


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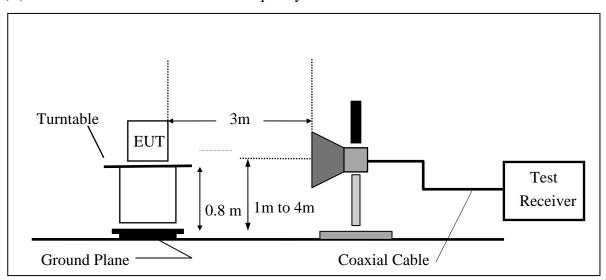
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9.4. Test SET-UP (Block Diagram of Configuration)

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



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



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9.5. **Measurement Equipment Used:**

	9	66 Chamber			
EQUIPMENT TYPE			SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/08/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2008
Bi-log Antenna	SCHWAZBECK	VULB9160	3224	11/14/2006	11/13/2007
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	12/14/2006	12/13/2007
Horn antenna	SCHWAZBECK	BBHA 9170	184/185	12/13/2006	12/12/2007
Pre-Amplifier	HP	8447D	2944A09469	07/19/2007	07/18/2008
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	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

9.7. Measurement Result

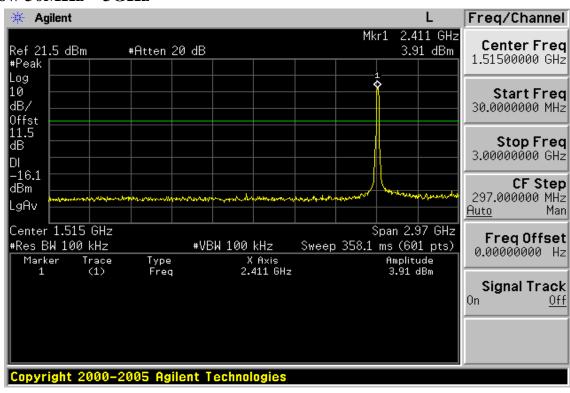
Refer to attach tabular data sheets.



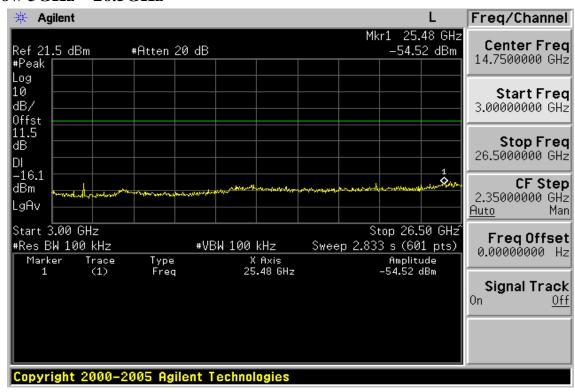
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Conducted Spurious Emission Measurement Result (802.11b) Ch Low 30MHz – 3GHz



Ch Low 3GHz - 26.5GHz

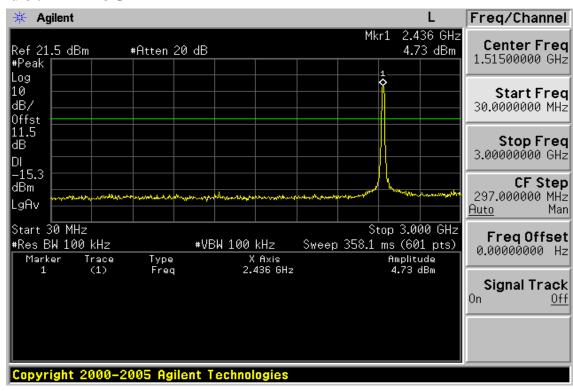




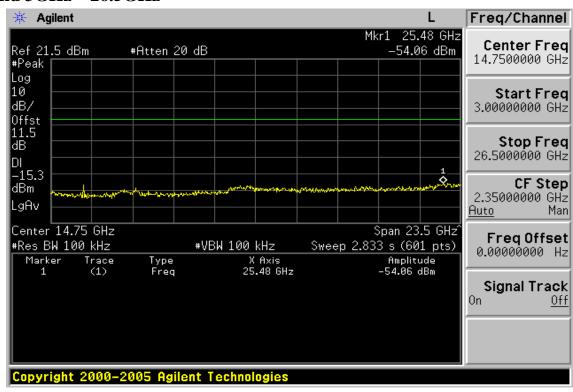
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Ch Mid 30MHz - 3GHz



Ch Mid 3GHz - 26.5GHz

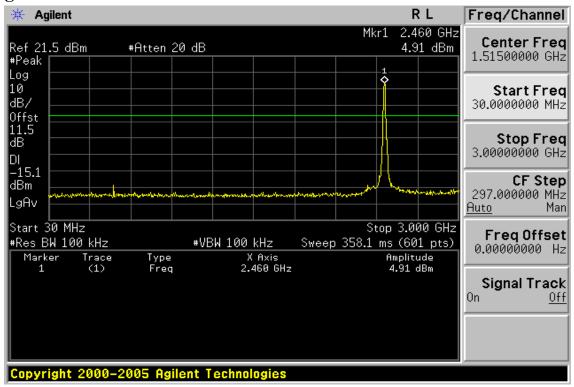




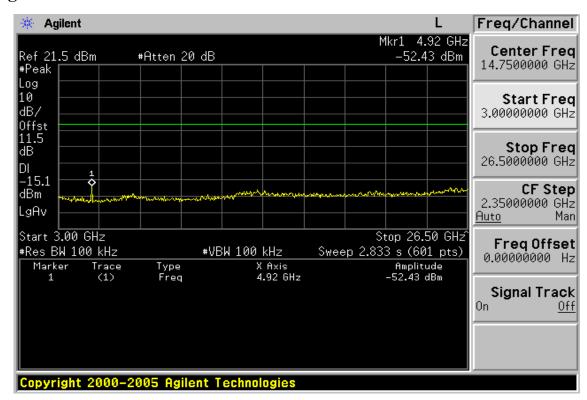
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Ch High 30MHz – 3GHz



Ch High 3GHz – 26.5GHz

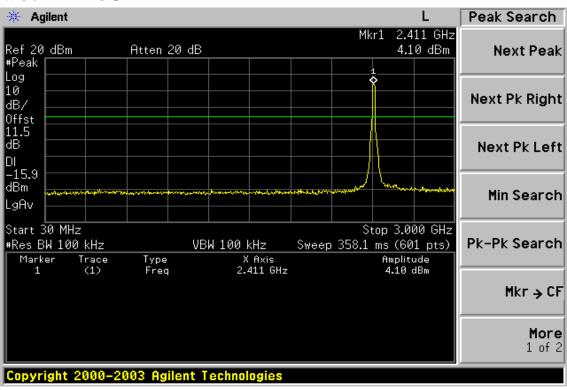




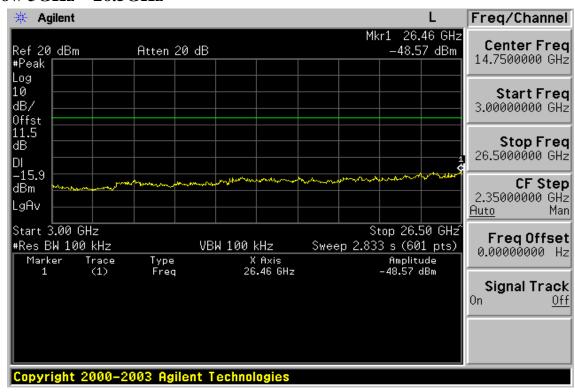
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Conducted Spurious Emission Measurement Result (802.11g) Ch Low 30MHz - 3GHz



Ch Low 3GHz - 26.5GHz

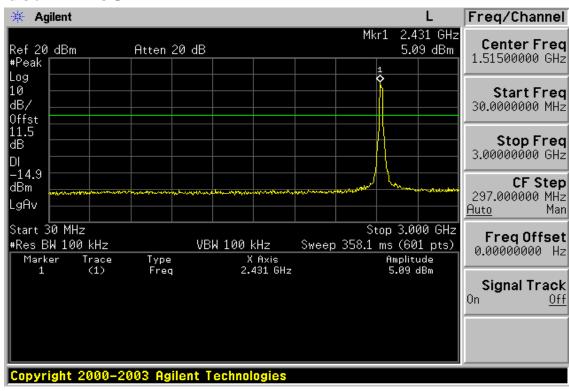




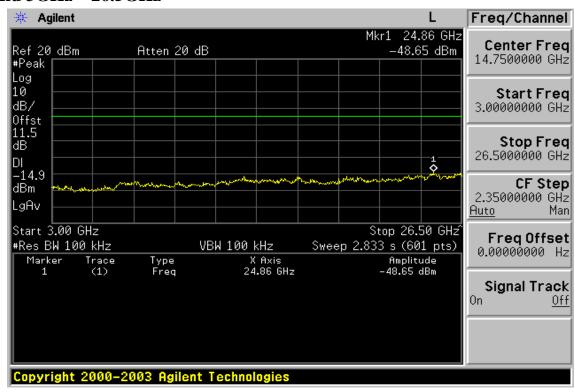
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Ch Mid 30MHz - 3GHz



Ch Mid 3GHz - 26.5GHz

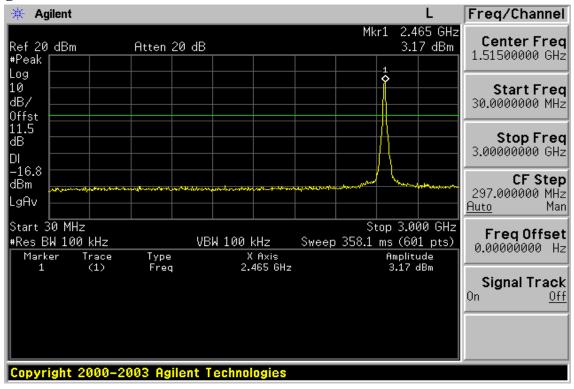




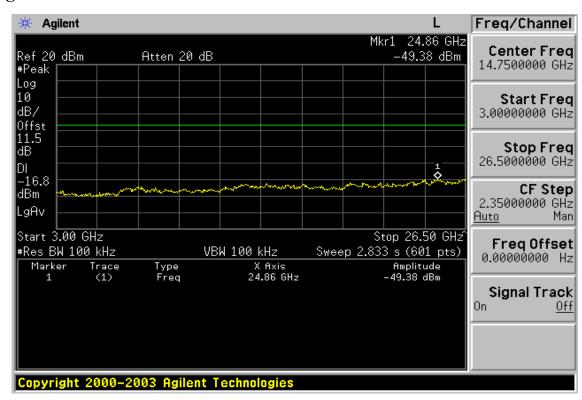
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Ch High 30MHz – 3GHz



Ch High 3GHz – 26.5GHz

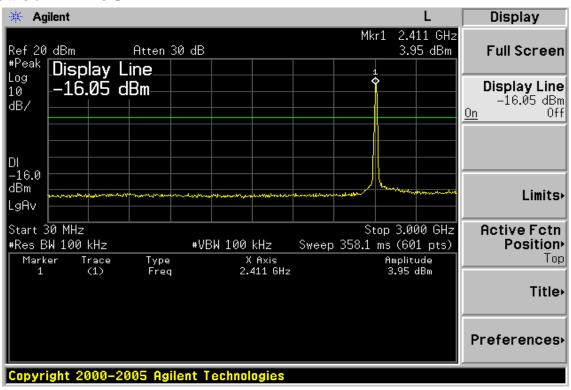




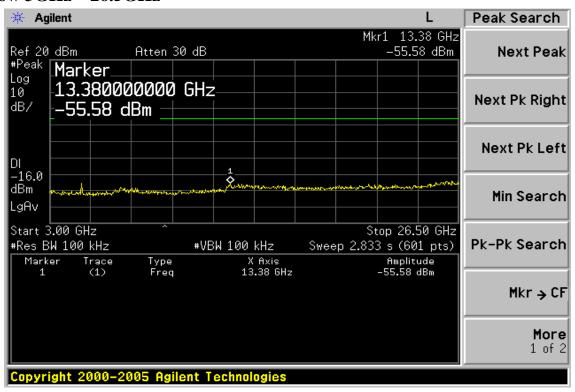
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Conducted Spurious Emission Measurement Result (Co-Location) (802.11b / BT) Ch Low 30MHz – 3GHz



Ch Low 3GHz - 26.5GHz

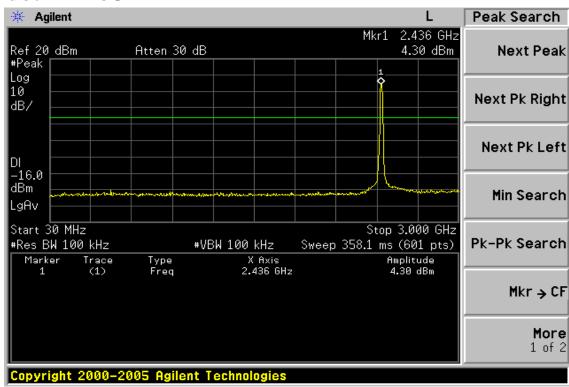




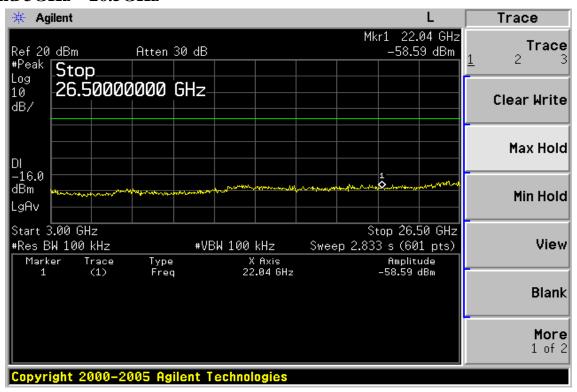
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Ch Mid 30MHz - 3GHz



Ch Mid 3GHz - 26.5GHz

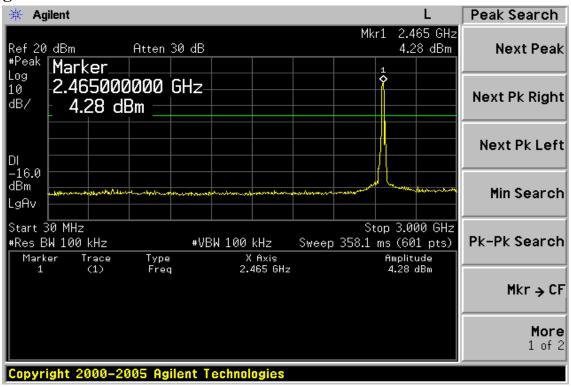




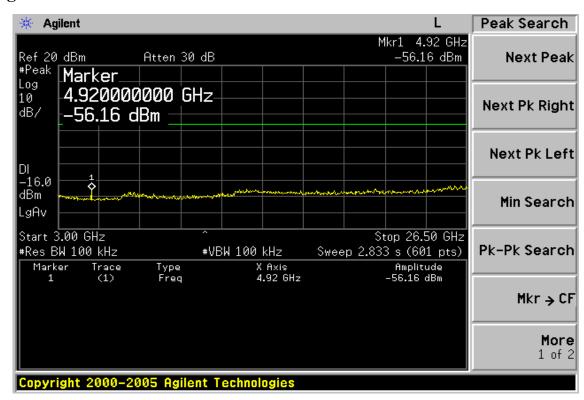
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Ch High 30MHz – 3GHz



Ch High 3GHz – 26.5GHz

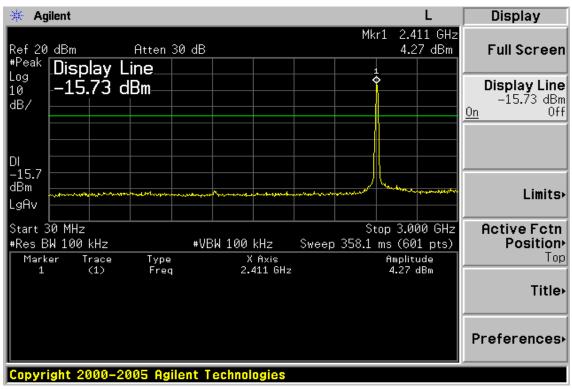




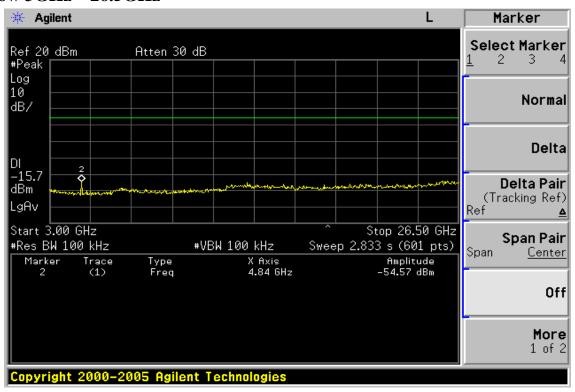
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Conducted Spurious Emission Measurement Result (Co-Location) (802.11g / BT) Ch Low 30MHz – 3GHz



Ch Low 3GHz - 26.5GHz

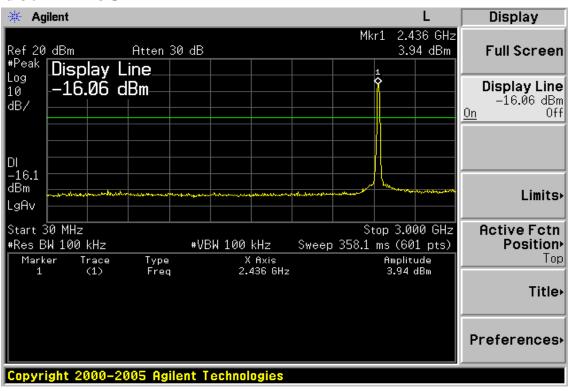




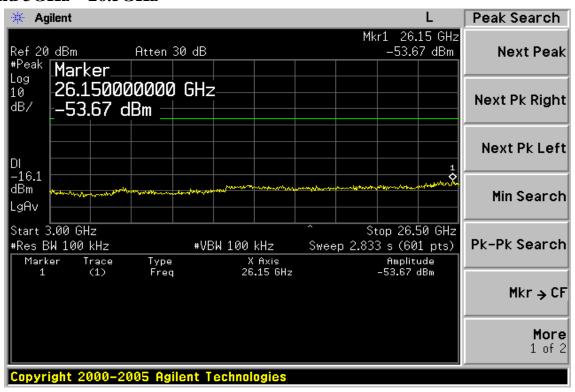
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Ch Mid 30MHz - 3GHz



Ch Mid 3GHz - 26.5GHz

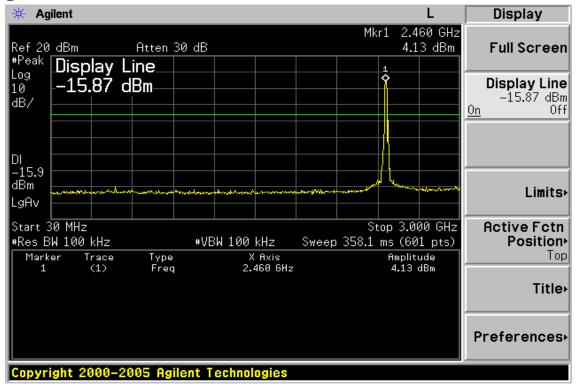




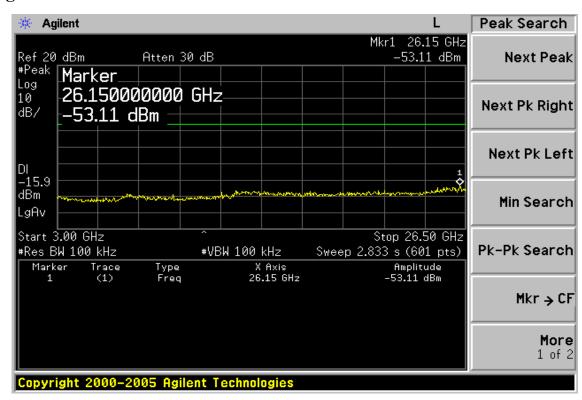
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Ch High 30MHz – 3GHz



Ch High 3GHz – 26.5GHz





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Radiated Spurious Emission Measurement Result (below 1GHz) (802.11b)

Operation Mode 802.11b TX CH Low **Test Date** Jul. 26, 2007 Fundamental Frequency 2412MHz Test By Danny Temperature 25 °C Pol Ver./Hor

Humidity 60 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
58.13	V	Peak	48.27	-14.66	33.61	40.00	-6.39
104.69	V	Peak	40.68	-16.63	24.05	43.50	-19.45
153.19	V	Peak	33.41	-13.00	20.41	43.50	-23.09
61.40	H	Peak	43.24	-14.75	28.49	40.00	-11.51
90.14	Н	Peak	42.67	-17.62	25.05	43.50	-18.45
101.78	Н	Peak	39.92	-16.87	23.05	43.50	-20.45

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) 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) (802.11b)

Operation Mode 802.11b TX CH Mid Test Date Jul. 26, 2007 Fundamental Frequency 2437MHz Test By Danny Temperature 25 °C Pol Ver./Hor

Humidity 60 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
58.13	V	Peak	47.10	-14.66	32.44	40.00	-7.56
90.14	V	Peak	43.04	-17.62	25.42	43.50	-18.08
60.07	Н	Peak	42.27	-14.69	27.58	40.00	-12.42
90.14	Н	Peak	42.88	-17.62	25.26	43.50	-18.24

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) 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) (802.11b)

Operation Mode 802.11b TX CH High **Test Date** Jul. 26, 2007 Fundamental Frequency 2462MHz Test By Danny 25 °C Pol Ver./Hor Temperature

Humidity 60 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
58.13	V	Peak	46.67	-14.66	32.01	40.00	-7.99
90.14	V	Peak	43.11	-17.62	25.49	43.50	-18.01
158.04	V	Peak	33.63	-13.28	20.35	43.50	-23.15
61.04	H	Peak	43.56	-14.75	28.81	40.00	-11.19
90.14	Н	Peak	42.58	-17.62	24.96	43.50	-18.54

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/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) (802.11g)

Operation Mode 802.11g TX CH Low Test Date Jul. 26, 2007 Fundamental Frequency 2412MHz Test By Danny 25 °C Pol Ver./Hor Temperature

Humidity 60 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
56.19	V	Peak	46.60	-14.63	31.97	40.00	-8.03
104.69	V	Peak	45.62	-16.63	28.99	43.50	-14.51
56.19	Н	Peak	43.76	-14.63	29.13	40.00	-10.87
104.69	Н	Peak	42.08	-16.63	25.45	43.50	-18.05

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) 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) (802.11g)

Operation Mode 802.11g TX CH Mid Test Date Jul. 26, 2007 Fundamental Frequency 2437MHz Test By Danny Temperature 25 °C Pol Ver./Hor

Humidity 60 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
57.16	V	Peak	45.82	-14.64	31.18	40.00	-8.82
104.69	V	Peak	45.20	-16.63	28.57	43.50	-14.93
59.10	H	Peak	42.25	-14.67	27.58	40.00	-12.42
104.69	H	Peak	41.38	-16.63	24.75	43.50	-18.75

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) 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) (802.11g)

Operation Mode 802.11g TX CH High Test Date Jul. 26, 2007 Fundamental Frequency 2462MHz Test By Danny Temperature 25 °C Pol Ver./Hor

Humidity 60 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
56.19	V	Peak	48.98	-14.63	34.35	40.00	-5.65
104.69	V	Peak	44.93	-16.63	28.30	43.50	-15.20
58.13	Н	Peak	43.08	-14.66	28.42	40.00	-11.58
104.69	Н	Peak	41.72	-16.63	25.09	43.50	-18.41

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) 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) (Co-Location)

Operation Mode 802.11b TX CH Low / BT TX CH Low Test Date Oct. 05, 2007

Fundamental Frequency 2412MHz / 2402MHz Test By Jazz
Temperature 25 °C Pol Ver./Hor

Humidity 60 %

	Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
_	(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
	101.78	V	Peak	46.23	-16.87	29.36	43.50	-14.14
	155.13	V	Peak	38.07	-13.12	24.95	43.50	-18.55
	101.78	H	Peak	44.98	-16.87	28.11	43.50	-15.39
	150.28	Н	Peak	37.64	-12.83	24.81	43.50	-18.69

Remark:

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) 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) (Co-Location)

Operation Mode 802.11b TX CH Mid / BT TX CH Mid Test Date Oct. 05, 2007

Fundamental Frequency 2437MHz / 2441MHz Test By Jazz Ver./Hor Pol **Temperature** 25 °C

Humidity 60 %

	Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
_	(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
	101.78	V	Peak	47.73	-16.87	30.86	43.50	-12.64
	148.34	V	Peak	38.06	-12.90	25.16	43.50	-18.34
	101.78	Н	Peak	46.38	-16.87	29.51	43.50	-13.99
	150.28	Н	Peak	38.54	-12.83	25.71	43.50	-17.79

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) 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) (Co-Location)

Operation Mode 802.11b TX CH High / BT TX CH High Test Date Oct. 05, 2007

Fundamental Frequency 2462MHz / 2480MHz Test By Jazz Ver./Hor Pol **Temperature** 25 °C

Humidity 60 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
 (MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	46.45	-16.87	29.58	43.50	-13.92
101.78	Н	Peak	44.84	-16.87	27.97	43.50	-15.53
150.28	Н	Peak	37.20	-12.83	24.37	43.50	-19.13

- (1) Measuring frequencies from 30 MHz to the 1GHz \circ
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/OP 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) (Co-Location)

Operation Mode 802.11g TX CH Low / BT TX CH Low Test Date Oct. 05, 2007

Fundamental Frequency 2412MHz / 2402MHz Test By Jazz Pol **Temperature** 25 °C Ver./Hor

Humidity 60 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
101.78	V	Peak	48.57	-16.87	31.70	43.50	-11.80
150.28	V	Peak	37.27	-12.83	24.44	43.50	-19.06
56.19	Н	Peak	43.76	-14.63	29.13	40.00	-10.87
104.69	Н	Peak	42.08	-16.63	25.45	43.50	-18.05

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) 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) (Co-Location)

Operation Mode 802.11g TX CH Mid / BT TX CH Mid Test Date Oct. 05, 2007

Fundamental Frequency 2437MHz / 2441MHz Test By Jazz Ver./Hor Pol **Temperature** 25 °C

Humidity 60 %

	Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
_	(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
	101.78	V	Peak	43.10	-16.87	26.23	43.50	-17.27
	126.03	V	Peak	39.32	-14.78	24.54	43.50	-18.96
	101.78	Н	Peak	45.58	-16.87	28.71	43.50	-14.79
	148.34	Н	Peak	38.33	-12.90	25.43	43.50	-18.07

- (1) Measuring frequencies from 30 MHz to the 1GHz •
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- (3) 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) (Co-Location)

Operation Mode 802.11g TX CH High / BT TX CH High Test Date Oct. 05, 2007

Fundamental Frequency 2462MHz / 2480MHz Test By Jazz Ver./Hor Pol **Temperature** 25 °C

Humidity 60 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Mar- gin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
126.03	V	Peak	39.16	-14.78	24.38	43.50	-19.12
151.25	V	Peak	36.68	-12.89	23.79	43.50	-19.71
101.78	Н	Peak	48.34	-16.87	31.47	43.50	-12.03

- (1) Measuring frequencies from 30 MHz to the 1GHz \circ
- (2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/OP 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 (above 1GHz) (802.11b)

Operation Mode802.11b TX CH LowTest DateJul. 26, 2007Fundamental Frequency2412MHzTest ByDannyTemperature23 °CPolVer.

Humidity 54 %

	Peak	\mathbf{AV}		Actual 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						74.00	54.00	
7236.0						74.00	54.00	
9648.0						74.00	54.00	
12060.0						74.00	54.00	
14472.0						74.00	54.00	
16884.0						74.00	54.00	
19296.0						74.00	54.00	
21708.0						74.00	54.00	
24120.0						74.00	54.00	

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency $_{\circ}$
- (2) 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.
- (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.
- (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)

Operation Mode 802.11b TX CH Low Test Date Jul. 26, 2007 Fundamental Frequency 2412MHz Test By Danny Temperature 23 °C Pol Hor

Humidity 54 %

	Peak	\mathbf{AV}		Actu	Actual FS		\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						74.00	54.00	
7236.0						74.00	54.00	
9648.0						74.00	54.00	
12060.0						74.00	54.00	
14472.0						74.00	54.00	
16884.0						74.00	54.00	
19296.0						74.00	54.00	
21708.0						74.00	54.00	
24120.0						74.00	54.00	

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (802.11b)

Operation Mode 802.11b TX CH Mid Test Date Jul. 26, 2007 Fundamental Frequency 2437MHz Test By Danny 23 °C Pol Ver Temperature

Humidity 54 %

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

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (802.11b)

Operation Mode 802.11b TX CH Mid **Test Date** Jul. 26, 2007 Fundamental Frequency 2437MHz Test By Danny 23 °C Pol Hor Temperature

Humidity 54 %

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

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (802.11b)

Operation Mode 802.11b TX CH High Test Date Jul. 26, 2007 Fundamental Frequency 2462MHz Test By Danny Pol Ver Temperature 23 ℃

Humidity 54 %

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

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (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
- (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)

Operation Mode 802.11b TX CH High Test Date Jul. 26, 2007 Fundamental Frequency 2462MHz Test By Danny Temperature 23 $^{\circ}$ C Pol Hor

Humidity 54 %

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

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (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.
- (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)

Operation Mode 802.11g TX CH Low Test Date Jul. 26, 2007 Fundamental Frequency 2412MHz Test By Danny 25 °C Pol Ver. Temperature

Humidity 60 %

	Peak	\mathbf{AV}		Actual 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						74.00	54.00	
7236.0						74.00	54.00	
9648.0						74.00	54.00	
12060.0						74.00	54.00	
14472.0						74.00	54.00	
16884.0						74.00	54.00	
19296.0						74.00	54.00	
21708.0						74.00	54.00	
24120.0						74.00	54.00	

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (802.11g)

Operation Mode 802.11g TX CH Low Test Date Jul. 26, 2007 Fundamental Frequency 2412MHz Test By Danny 23 °C Pol Hor Temperature

Humidity 54 %

	Peak	\mathbf{AV}		Actu	Actual FS		\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						74.00	54.00	_
7236.0						74.00	54.00	
9648.0						74.00	54.00	
12060.0						74.00	54.00	
14472.0						74.00	54.00	
16884.0						74.00	54.00	
19296.0						74.00	54.00	
21708.0						74.00	54.00	
24120.0						74.00	54.00	

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (802.11g)

Operation Mode 802.11g TX CH Mid Test Date Jul. 26, 2007 Fundamental Frequency 2437MHz Test By Danny 23 °C Pol Ver Temperature

Humidity 54 %

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

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (802.11g)

Operation Mode 802.11g TX CH Mid Test Date Jul. 26, 2007 Fundamental Frequency 2437MHz Test By Danny 23 °C Pol Hor Temperature

Humidity 54 %

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

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (802.11g)

Operation Mode 802.11g TX CH High Test Date Jul. 26, 2007 Fundamental Frequency 2462MHz Test By Danny Pol Ver Temperature 23 ℃

Humidity 54 %

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

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (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
- (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)

Operation Mode 802.11g TX CH High Test Date Jul. 26, 2007 Fundamental Frequency 2462MHz Test By Danny 23 °C Pol Hor Temperature

Humidity 54 %

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

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Co-Location)

Operation Mode 802.11b TX CH Low / BT TX CH Low Test Date Oct. 05, 2007

Fundamental Frequency 2412MHz / 2402MHz Test By Jazz Pol **Temperature** 23 °C Ver.

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2553.5	36.57		-0.69	35.88		74.00	54.00	-18.12	Peak
4824.0						74.00	54.00		
7236.0						74.00	54.00		
9648.0						74.00	54.00		
12060.0						74.00	54.00		
14472.0						74.00	54.00		
16884.0						74.00	54.00		
19296.0						74.00	54.00		
21708.0						74.00	54.00		
24120.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequencyo
- (2) 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.
- (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 columno
- (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) (Co-Location)

Operation Mode 802.11b TX CH Low / BT TX CH Low Test Date Oct. 05, 2007

Fundamental Frequency 2412MHz / 2402MHz Test By Jazz Pol **Temperature** 23 °C Hor

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1351.0	42.93		-6.56	36.37		74.00	54.00	-17.63	Peak
1793.0	40.76		-4.47	36.29		74.00	54.00	-17.71	Peak
4824.0						74.00	54.00		
7236.0						74.00	54.00		
9648.0						74.00	54.00		
12060.0						74.00	54.00		
14472.0						74.00	54.00		
16884.0						74.00	54.00		
19296.0						74.00	54.00		
21708.0						74.00	54.00		
24120.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) 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.
- (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 columno
- (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) (Co-Location)

Operation Mode 802.11b TX CH Mid / BT TX CH Mid Test Date Oct. 05, 2007

Fundamental Frequency 2437MHz / 2441MHz Test By Jazz Pol **Temperature** Ver 23 °C

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1351.0	38.42		-6.56	31.86		74.00	54.00	-22.14	Peak
2443.0	37.38		-1.12	36.26		74.00	54.00	-17.74	Peak
4874.0						74.00	54.00		
7311.0						74.00	54.00		
9748.0						74.00	54.00		
12185.0						74.00	54.00		
14622.0						74.00	54.00		
17059.0						74.00	54.00		
19496.0						74.00	54.00		
21933.0						74.00	54.00		
24370.0						74.00	54.00		

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 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS columno
- (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) (Co-Location)

Operation Mode 802.11b TX CH Mid / BT TX CH Mid Test Date Oct. 05, 2007

Fundamental Frequency 2437MHz / 2441MHz Test By Jazz Pol **Temperature** Hor 23 °C

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1351.0	42.82		-6.56	36.26		74.00	54.00	-17.74	Peak
1786.5	38.87		-4.50	34.37		74.00	54.00	-19.63	Peak
4874.0						74.00	54.00		
7311.0						74.00	54.00		
9748.0						74.00	54.00		
12185.0						74.00	54.00		
14622.0						74.00	54.00		
17059.0						74.00	54.00		
19496.0						74.00	54.00		
21933.0						74.00	54.00		
24370.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) 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.
- (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 columno
- (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) (Co-Location)

Operation Mode 802.11b TX CH High / BT TX CH High Test Date Oct. 05, 2007

Fundamental Frequency 2462MHz / 2480MHz Test By Jazz Pol Ver **Temperature** 23 °C

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2605.5	36.84		-0.60	36.24		74.00	54.00	-17.76	Peak
4924.0						74.00	54.00		
7386.0						74.00	54.00		
9848.0						74.00	54.00		
12310.0						74.00	54.00		
14772.0						74.00	54.00		
17234.0						74.00	54.00		
19696.0						74.00	54.00		
22158.0						74.00	54.00		
24620.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Co-Location)

Operation Mode 802.11b TX CH High / BT TX CH High Test Date Oct. 05, 2007

Fundamental Frequency 2462MHz / 2480MHz Test By Jazz Pol **Temperature** Hor 23 °C

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1351.0	41.54		-6.56	34.98		74.00	54.00	-19.02	Peak
1793.0	39.11		-4.47	34.64		74.00	54.00	-19.36	Peak
4924.0						74.00	54.00		
7386.0						74.00	54.00		
9848.0						74.00	54.00		
12310.0						74.00	54.00		
14772.0						74.00	54.00		
17234.0						74.00	54.00		
19696.0						74.00	54.00		
22158.0						74.00	54.00		
24620.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) 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.
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- (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) (Co-Location)

Operation Mode 802.11g TX CH Low / BT TX CH Low Test Date Oct. 05, 2007

Fundamental Frequency 2412MHz / 2402MHz Test By Jazz Pol **Temperature** Ver. 23 °C

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2410.5	36.17		-1.30	34.87		74.00	54.00	-19.13	Peak
3743.0	36.00		2.81	38.81		74.00	54.00	-15.19	Peak
4824.0						74.00	54.00		
7236.0						74.00	54.00		
9648.0						74.00	54.00		
12060.0						74.00	54.00		
14472.0						74.00	54.00		
16884.0						74.00	54.00		
19296.0						74.00	54.00		
21708.0						74.00	54.00		
24120.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) 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.
- (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 columno
- (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) (Co-Location)

Operation Mode 802.11g TX CH Low / BT TX CH Low Test Date Oct. 05, 2007

Fundamental Frequency 2412MHz / 2402MHz Test By Jazz Pol **Temperature** Hor 23 °C

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2410.5	37.29		-1.30	35.99		74.00	54.00	-18.01	Peak
2586.0	37.50		-0.62	36.88		74.00	54.00	-17.12	Peak
4824.0						74.00	54.00		
7236.0						74.00	54.00		
9648.0						74.00	54.00		
12060.0						74.00	54.00		
14472.0						74.00	54.00		
16884.0						74.00	54.00		
19296.0						74.00	54.00		
21708.0						74.00	54.00		
24120.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
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- (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 columno
- (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) (Co-Location)

Operation Mode 802.11g TX CH Mid / BT TX CH Mid Test Date Oct. 05, 2007

Fundamental Frequency 2437MHz / 2441MHz Test By Jazz Pol **Temperature** Ver 23 °C

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2553.5	36.42		-0.69	35.73		74.00	54.00	-18.27	Peak
4874.0						74.00	54.00		
7311.0						74.00	54.00		
9748.0						74.00	54.00		
12185.0						74.00	54.00		
14622.0						74.00	54.00		
17059.0						74.00	54.00		
19496.0						74.00	54.00		
21933.0						74.00	54.00		
24370.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequencyo
- (2) 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.
- (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 columno
- (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) (Co-Location)

Operation Mode 802.11g TX CH Mid / BT TX CH Mid Test Date Oct. 05, 2007

Fundamental Frequency 2437MHz / 2441MHz Test By Jazz Pol **Temperature** Hor 23 °C

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1351.0	41.72		-6.56	35.16		74.00	54.00	-18.84	Peak
1793.0	40.37		-4.47	35.90		74.00	54.00	-18.10	Peak
4874.0						74.00	54.00		
7311.0						74.00	54.00		
9748.0						74.00	54.00		
12185.0						74.00	54.00		
14622.0						74.00	54.00		
17059.0						74.00	54.00		
19496.0						74.00	54.00		
21933.0						74.00	54.00		
24370.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) 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.
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- (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) (Co-Location)

Operation Mode 802.11g TX CH High / BT TX CH High Test Date Oct. 05, 2007

Fundamental Frequency 2462MHz / 2480MHz Test By Jazz Pol Ver Temperature 23 °C

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2248.0	36.96		-2.15	34.81		74.00	54.00	-19.19	Peak
4924.0						74.00	54.00		
7386.0						74.00	54.00		
9848.0						74.00	54.00		
12310.0						74.00	54.00		
14772.0						74.00	54.00		
17234.0						74.00	54.00		
19696.0						74.00	54.00		
22158.0						74.00	54.00		
24620.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency_o
- (2) 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.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column_o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Co-Location)

Operation Mode 802.11g TX CH High / BT TX CH High Test Date Oct. 05, 2007

Fundamental Frequency 2462MHz / 2480MHz Test By Jazz Pol **Temperature** Hor 23 °C

Humidity 54 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1351.0	43.32		-6.56	36.76		74.00	54.00	-17.24	Peak
1793.0	40.07		-4.47	35.60		74.00	54.00	-18.40	Peak
4924.0						74.00	54.00		
7386.0						74.00	54.00		
9848.0						74.00	54.00		
12310.0						74.00	54.00		
14772.0						74.00	54.00		
17234.0						74.00	54.00		
19696.0						74.00	54.00		
22158.0						74.00	54.00		
24620.0						74.00	54.00		

- (1) Measuring frequencies scanned from 1GHz to the 10th harmonic of highest fundamental frequency.
- (2) 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.
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- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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10. Peak Power Spectral Density

10.1. Standard Applicable

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

10.2. Measurement Procedure

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

10.3. Measurement Equipment Used:

	Conducted Emission Test Site											
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.							
TYPE		NUMBER	NUMBER	CAL.								
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008							
Spectrum Analyzer	Agilent	E7405A	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-Circuit	BW-S6W5	N/A	01/05/2007	01/04/2008							



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10.4. Measurement Result

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СН	RF Power Density	Cable loss	RF Power Density	Maximum Limit
	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	-6.82	0.00	-6.82	8
Mid	-6.86	0.00	-6.86	8
High	-5.01	0.00	-5.01	8

802.11g

<u> </u>				
СН	RF Power Density	Cable loss	RF Power Density	Maximum Limit
	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	-9.96	0.00	-9.96	8
Mid	-9.62	0.00	-9.62	8
High	-4.85	0.00	-4.85	8

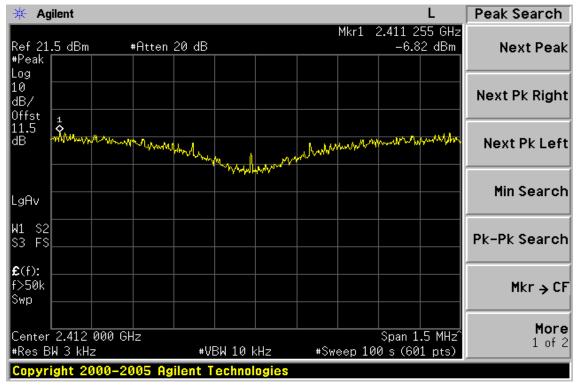
Note: offst 11.5 dB



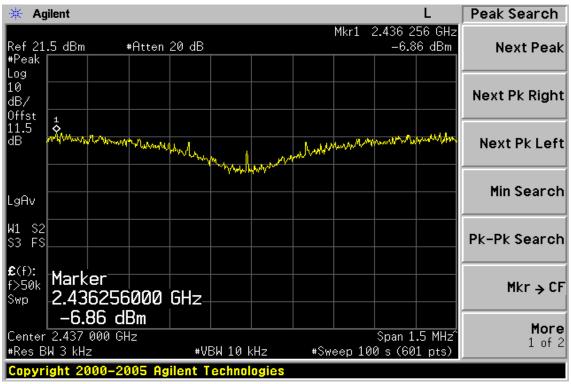
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802.11b **Power Spectral Density Test Plot (CH-Low)**



Power Spectral Density Test Plot (CH-Mid)



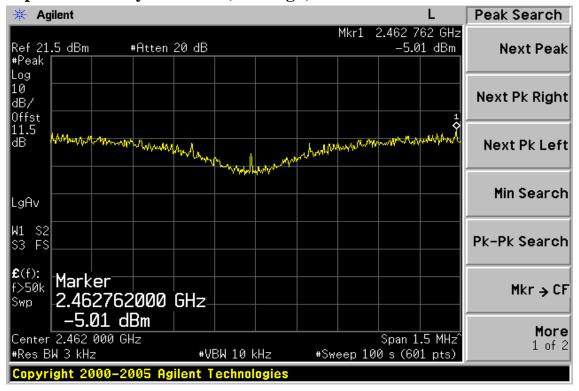
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Power Spectral Density Test Plot (CH-High)

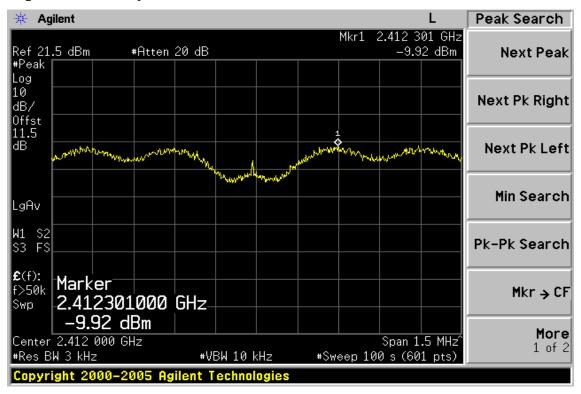




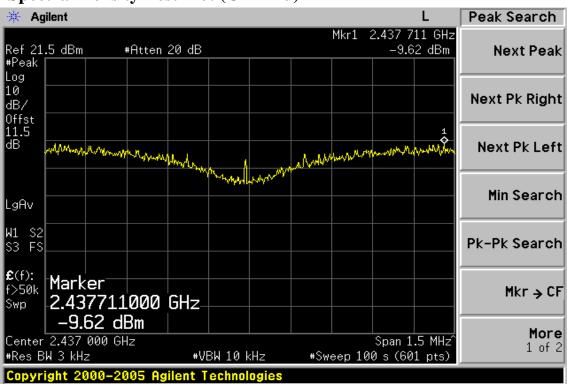
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802.11g **Power Spectral Density Test Plot (CH-Low)**



Power Spectral Density Test Plot (CH-Mid)



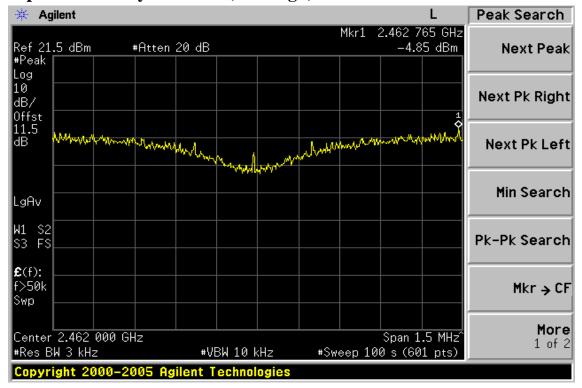
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Power Spectral Density Test Plot (CH-High)





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11. ANTENNA REQUIREMENT

11.1. Standard Applicable

According to §15.203, Antenna requirement.

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

11.2. Antenna Connected Construction

The directional gains of antenna used for transmitting is 2 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Please see EUT photo for details.