

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

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

OF

Product Name: Radionet RN WLAN access/link products
(sister variants based on RN-900 platform)

Brand Name: Radionet RN-6xx/900 products

Model Name: RN-610FCC, RN-620FCC, RN-700FCC,
RN-800-FCC, RN-810FCC, RN-820FCC,
RN-900FCC

Model Different: Models RN-6xx/7xx/8xx are subsets of RN-functions
and features

IC Number: 5885A-2004

ID Number: S5LRNFCC1

Report No.: ER/2005/50002~3

Issue Date: Jun. 16, 2005

Rule Part: FCC §15.247, RSS 210, Section 6.2.2(o)

Prepared for Radionet Ltd.
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Prepared by SGS Taiwan Ltd.
No. 134, Wu Kung Rd., Wuku Industrial Zone,
Taipei County, Taiwan.

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VERIFICATION OF COMPLIANCE

Applicant: Radionet Ltd.
Valkjärventie 7 C, 02130 Espoo, Finland

Equipment Under Test: Radionet RN WLAN access/link products
(sister variants based on RN-900 platform)

Brand Name: Radionet RN-6xx/900 products

IC / IDNumber: 5885A-2004 / S5LRNFCC1

Model No.: RN-610FCC, RN-620FCC, RN-700FCC, RN-800-FCC, RN-810FCC,
RN-820FCC, RN-900FCC

Model Difference: Models RN-6xx/7xx/8xx are subsets of RN-functions and features

File Number: ER/2005/50002~3

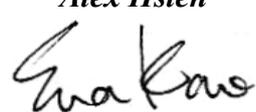
Date of test: May. 04, 2005 ~ Jun. 05, 2005

Date of EUT Received: May 03, 2005

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 and IC RSS 210 section 6.2.2(o).

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

Test By:		Date	Jun. 16, 2005
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Prepared By:		Date	Jun. 16, 2005
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Version

Version No.	Date
00	Jun. 06, 2005
00	Jun. 16, 2005

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1. GENERAL INFORMATION

1.1. Product Description

The Radionet Ltd., Model: RN-610FCC, RN-620FCC, RN-700FCC, RN-800-FCC, RN-810FCC, RN-820FCC, RN-900FCC (referred to as the EUT in this report) is Radionet RN WLAN access/link products.

A major technical descriptions of EUT is described as following:

- A). Operation Frequency: 802.11 b/g mode: 2.412GHz – 2.462GHz; 11 channels;
802.11a mode: 5745 – 5825MHz, 5 channels
- B). Transmit Power: 802.11 b/g mode :19dBm; 802.11 a mode :17dBm;
- C). Modulation type: Direct Sequence Spread Spectrum, (CCK; DQPSK; DBPSK, OFDM)
- D). Transition Speed: 802.11 b mode: 1/2/5.5/11Mbps;
802.11 g/a mode: 1/2/5.5/11/ 54Mbps;
- E). Antenna Designation: refer to antenna list
802.11b/g mode: Plane Type Antenna, +14dBi max; standard type connector, profession Installation.
802.11 a mode: External antenna, Plane Type Antenna, +22dBi max; standard type connector, professional installation,
Integral Antenna Plane Type Antenna, +20dBi max.
- F). Power Supply: MODEL: PSU-3
Input: 100~240Vac 50-60Hz 0.5A; Output: 12V

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

This submittal(s) (test report) is intended for FCC ID: S5LRNFCC1 filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules. And IC: 5885A-2004 filing to comply with industry CANADA RSS 210. Section 6.2.2(o)

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.

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1.5. Accreditation and Listing

The test facilities used to perform radiated and conducted emissions tests are listed In Canada, Certification and Engineering Bureau, IC4620. for 3m & 10m Open Area Test Site. FCC Site No. 1(3 &10 meters) Registration Number: 94644, Anechoic chamber (3 meters) Registration Number: 573967

1.6. Special Accessories

Not available for this EUT intended for grant.

1.7. Equipment Modifications

Not available for this EUT intended for grant.

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2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

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

2.2. EUT Exercise

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

2.3. Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 7 and 13 of ANSI C63.4-2003. 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

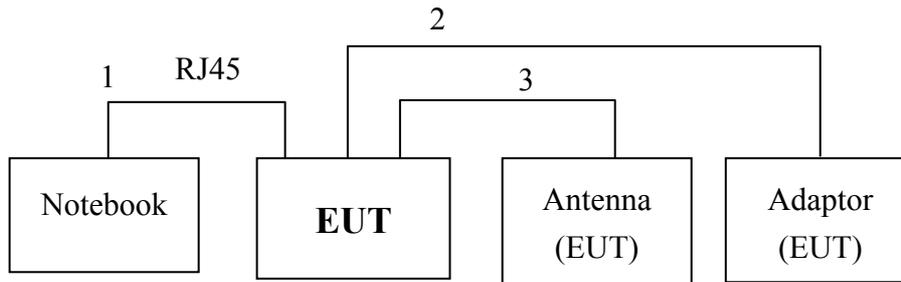


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	FCC ID	Series No.
1.	Notebook	TOSHIBA	PSA10L-3V1JDP	DoC	Z3062680P

Table 2-2 Cable Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	FCC ID	Series No.
1.	Cross over RJ45	HARTING	N/A	N/A	N/A
2.	Adaptor	Power Corne	PSU-3	N/A	N/A
3.	Antenna Cable	NK cable	NKJ333BHF	N/A	W1107726-0004

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3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§15.207(a)/ §6.6	AC Power Line Conducted Emission	Compliant
§15.247(b) (3),(4)(c)/ §6.2.2(o)(b)	Peak Output Power and EIRP	Compliant
§15.247(a)(2)	6dB Bandwidth	Compliant
§15.247(d) §6.2.2(o)(e1)	100 KHz Bandwidth Of Frequency Band Edges	Compliant
§15.247(d) §6.2.2(o)(e1)	Spurious Emission	Compliant
§15.247(e) §6.2.2(o)(b)	Peak Power Density	Compliant
§5.9.1	99% Power Bandwidth	Compliant
§15.203 §5.5	Antenna Requirement	Compliant
§1.1310	RF Exposure	Compliant

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.

802.11 b mode: Channel low (2412MHz) 、 mid (2437MHz) and high (2462MHz) with 11Mbps highest data rate are chosen for full testing.

802.11 g mode: Channel low (2412MHz) 、 mid (2437MHz) and high (2462MHz) with 54Mbps highest data rate are chosen for full testing.

802.11 a mode: Channel low (5745MHz) 、 mid (5785MHz) and high (5825MHz) with 54Mbps highest data rate are chosen at both internal and external antenna port for full testing.

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5. CONDUCTED EMISSION TEST

5.1. Standard Applicable

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

Frequency range MHz	Limits dB(uV)	
	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

- 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.

According to section RSS 210, section 6.6 Transmitter AC Wireline Conducted Emissions. Limits is as following.

Frequency range MHz	Limits dB (uV)
	Average
0.45 to 30	48

Note:

1. if the level of the emission measured using the quasi-peak instrumentation is 6 dB, or more, higher than the level of the same emission measured with instrumentation having an average detector and a 9 kHz minimum bandwidth, that emission is considered broadband and the level obtained with the quasi-peak detector may be reduced by 13 dB for comparison to the limits.

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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.

5.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMC Analyzer	HP	8594EM	3624A00203	12/31/2004	12/30/2005
EMI Test Receiver	R&S	ESCS30	828985/004	01/15/2005	01/14/2006
LISN	Rolf-Heine	NNB-2/16Z	99012	12/30/2004	12/29/2005
LISN	Rolf-Heine	NNB-2/16Z	99013	11/06/2004	11/05/2005

5.5. Measurement Result

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

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AC POWER LINE CONDUCTED EMISSION TEST DATA

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

Operation Mode:	Normal Operating (802.11b)			Test Date :	Jun. 06, 2005
Temperature :	25 °C	Humidity:	65%	Test By:	Alex

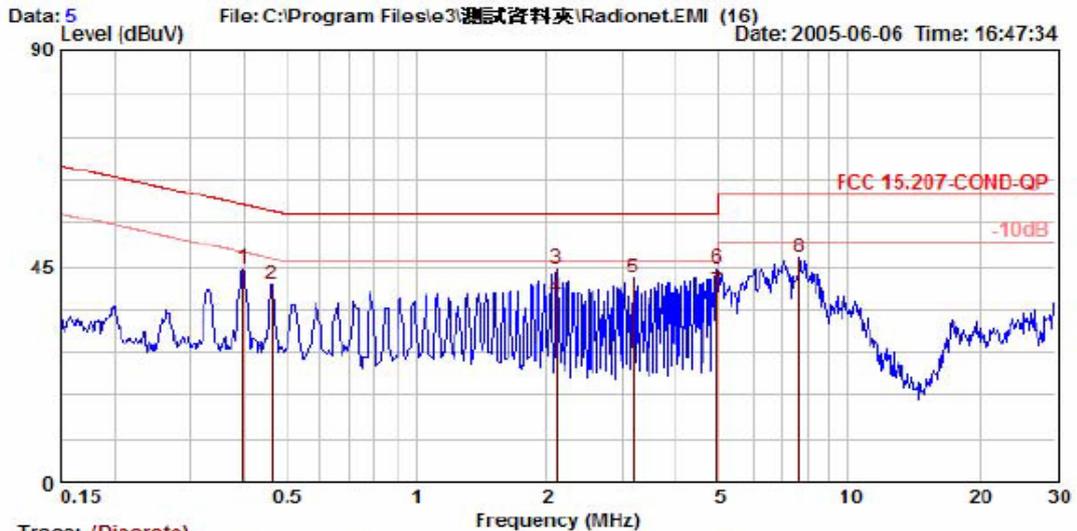
MHz	Raw dBuV	Raw dBuV	Limit dBuV	Limit dBuV	Margin dB	Margin dB	
0.398	44.47	---	57.90	47.90	-13.43	---	L1
0.464	41.15	---	56.62	46.62	-15.47	---	L1
2.110	44.54	38.54	56.00	46.00	-11.46	-7.46	L1
3.173	42.61	---	56.00	46.00	-13.39	---	L1
4.952	44.61	39.47	56.00	46.00	-11.39	-6.53	L1
7.687	46.81	---	60.00	50.00	-13.19	---	L1
0.398	43.99	---	57.90	47.90	-13.91	---	L2
0.857	39.64	---	56.00	46.00	-16.36	---	L2
1.716	41.33	---	56.00	46.00	-14.67	---	L2
3.623	43.17	---	56.00	46.00	-12.83	---	L2
4.874	43.09	---	56.00	46.00	-12.91	---	L2
7.646	46.37	---	60.00	50.00	-13.63	---	L2

Remark :

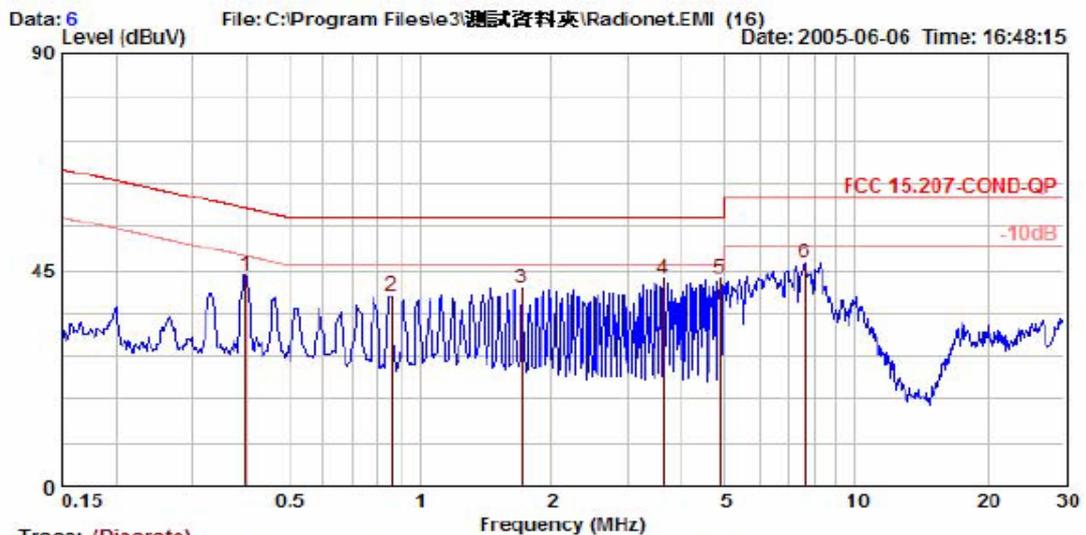
- (1) Measuring frequencies from 0.15 MHz to 30MHz °
- (2) The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Qusia-Peak detector and Average detector.
- (3) “---” denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.
- (4) The IF bandwidth of SPA between 0.15MHz to 30MHz was 10KHz;
The IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9KHz;
- (5) L1 = Line One (Hot side) / L2 = Line Two (Neutral side)

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Conducted Emission Test Plot Line



Trace: (Discrete)
Condition : FCC 15.207-COND-QP NNB-2/16Z (99012) LINE
Applicant : Radionet
Project No. :
EUT Description :
EUT Model :
Test Mode : B normal operation
Temp./Humid. : 25/65
Operator : Alex



Trace: (Discrete)
Condition : FCC 15.207-COND-QP NNB-2/16Z (99012) NEUTRAL
Applicant : Radionet
Project No. :
EUT Description :
EUT Model :
Test Mode : B normal operation
Temp./Humid. : 25/65
Operator : Alex

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AC POWER LINE CONDUCTED EMISSION TEST DATA

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

Operation Mode:	Normal Operating (802.11g)			Test Date :	Jun. 06, 2005
Temperature :	25 °C	Humidity:	65%	Test By:	Alex

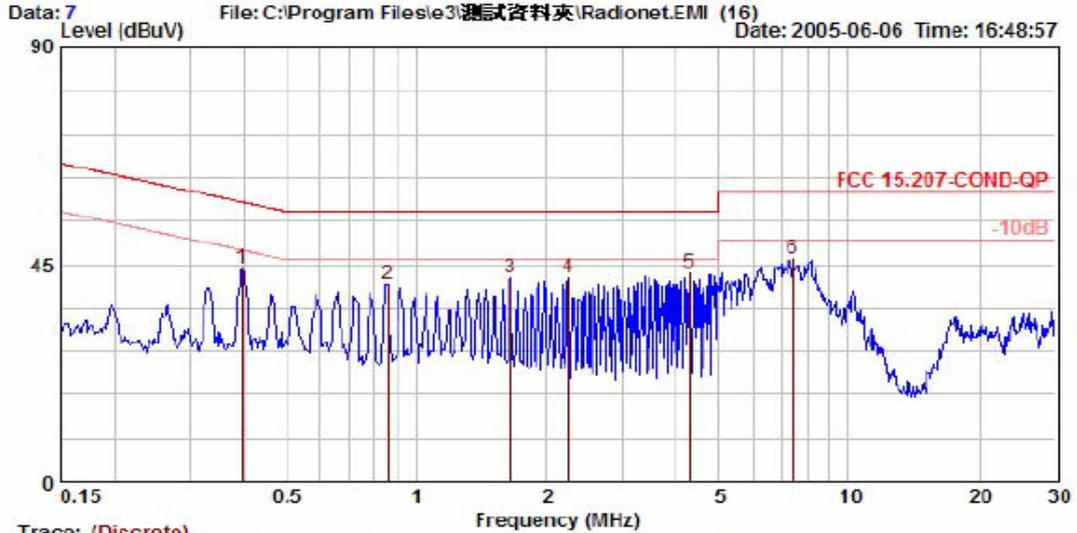
MHz	Raw dBuV	Raw dBuV	Limit dBuV	Limit dBuV	Margin dB	Margin dB	
0.396	44.06	---	57.94	47.94	-13.88	---	L1
0.857	40.88	---	56.00	46.00	-15.12	---	L1
1.654	42.33	---	56.00	46.00	-13.67	---	L1
2.249	42.08	---	56.00	46.00	-13.92	---	L1
4.292	43.19	---	56.00	46.00	-12.81	---	L1
7.446	46.31	---	60.00	50.00	-13.69	---	L1
0.398	44.25	---	57.90	47.90	-13.65	---	L2
7.000	40.50	---	60.00	50.00	-19.50	---	L2
1.654	41.92	---	56.00	46.00	-14.08	---	L2
5.031	44.92	---	60.00	50.00	-15.08	---	L2
7.062	47.91	---	60.00	50.00	-12.09	---	L2
7.935	47.82	---	60.00	50.00	-12.18	---	L2

Remark :

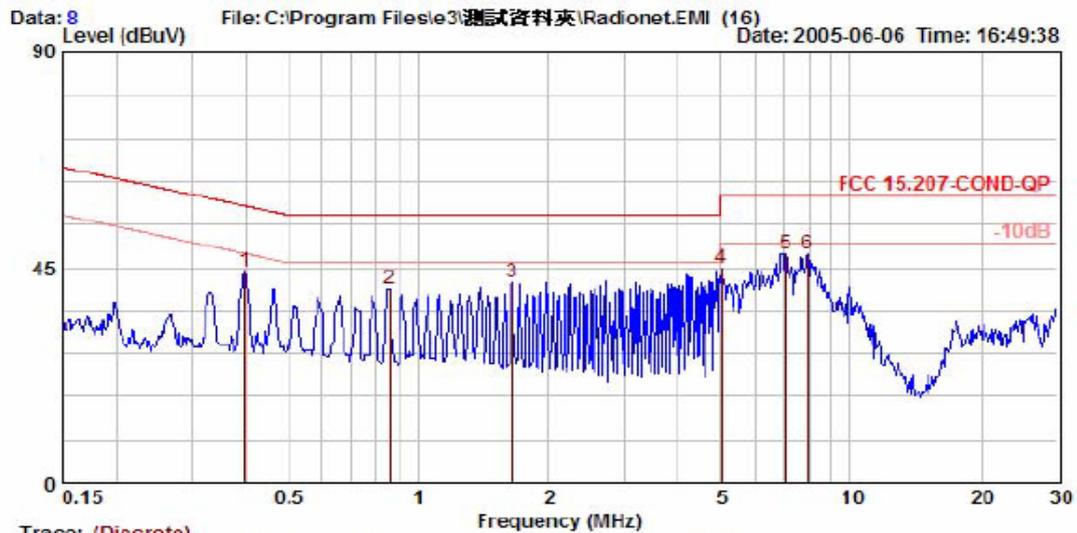
- (1) Measuring frequencies from 0.15 MHz to 30MHz °
- (2) The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Qusia-Peak detector and Average detector.
- (3) “---” denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.
- (4) The IF bandwidth of SPA between 0.15MHz to 30MHz was 10KHz;
The IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9KHz;
- (5) L1 = Line One (Hot side) / L2 = Line Two (Neutral side)

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Conducted Emission Test Plot Line



Trace: (Discrete)
Condition : FCC 15.207-COND-QP NNB-2/16Z (99012) LINE
Applicant: : Radionet
Project No.: :
EUT Description::
EUT Model: :
Test Mode: : G normal operation
Temp./Humid. : 25/65
Operator: : Alex



Trace: (Discrete)
Condition : FCC 15.207-COND-QP NNB-2/16Z (99012) NEUTRAL
Applicant: : Radionet
Project No.: :
EUT Description::
EUT Model: :
Test Mode: : G normal operation
Temp./Humid. : 25/65
Operator: : Alex

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AC POWER LINE CONDUCTED EMISSION TEST DATA

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

Operation Mode:	Normal Operating (802.11a Internal Antenna)		Test Date :	Jun. 06, 2005	
Temperature :	25 °C	Humidity:	65%	Test By:	Alex

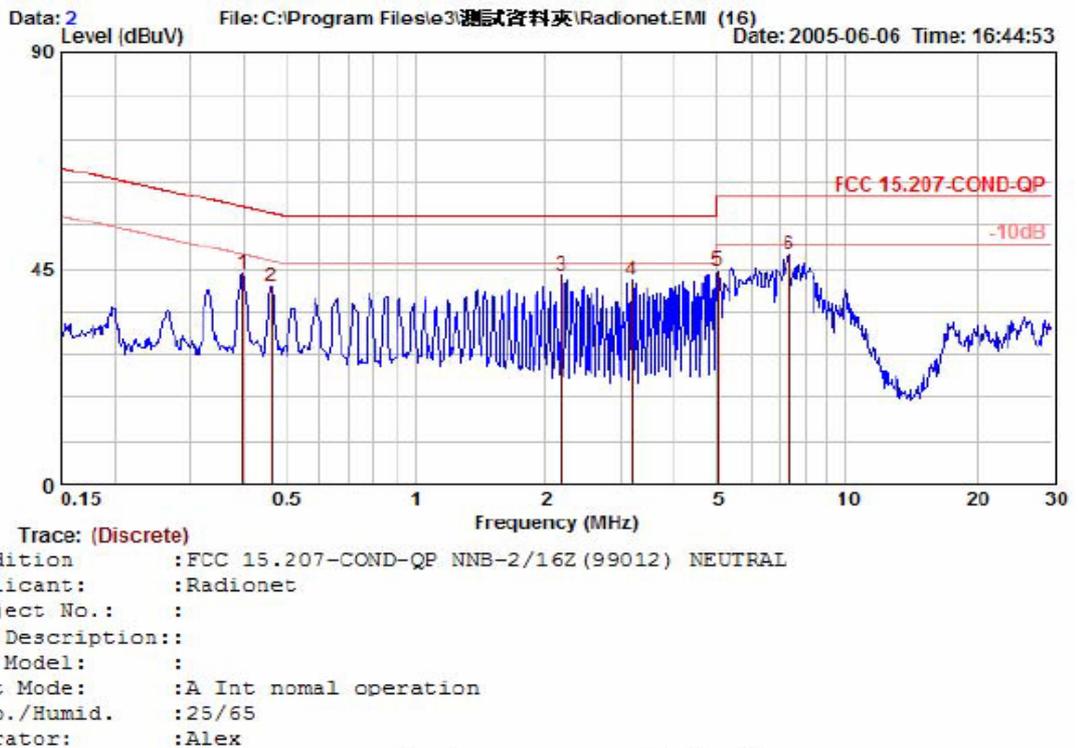
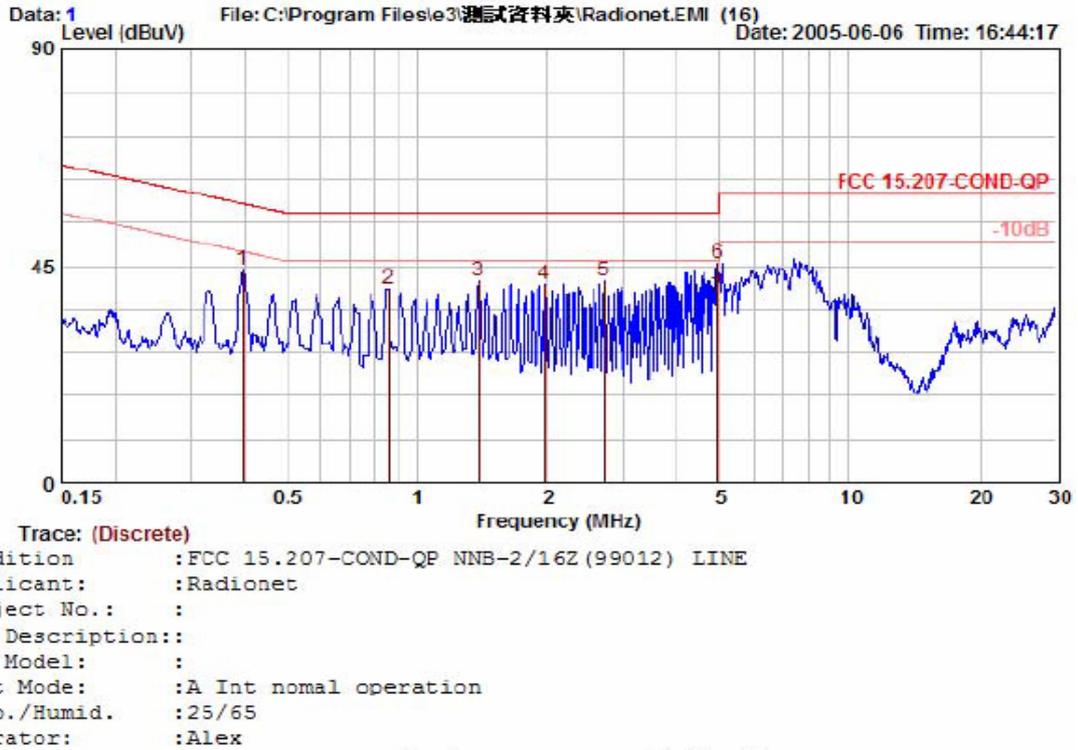
MHz	Raw dBuV	Raw dBuV	Limit dBuV	Limit dBuV	Margin dB	Margin dB	
0.396	44.05	---	57.94	47.94	-13.89	---	L1
0.857	40.32	---	56.00	46.00	-15.68	---	L1
1.381	41.71	---	56.00	46.00	-14.29	---	L1
1.970	41.10	---	56.00	46.00	-14.90	---	L1
2.707	41.75	---	56.00	46.00	-14.25	---	L1
4.952	45.35	38.47	56.00	46.00	-10.65	-7.53	L1
0.398	43.85	---	57.90	47.90	-14.05	---	L2
0.464	41.18	---	56.62	46.62	-15.44	---	L2
2.178	43.47	---	56.00	46.00	-12.53	---	L2
3.173	42.41	---	56.00	46.00	-13.59	---	L2
5.031	44.37	---	60.00	50.00	-15.63	---	L2
7.368	47.96	---	60.00	50.00	-12.04	---	L2

Remark :

- (1) Measuring frequencies from 0.15 MHz to 30MHz °
- (2) The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Qusia-Peak detector and Average detector.
- (3) “---” denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.
- (4) The IF bandwidth of SPA between 0.15MHz to 30MHz was 10KHz;
The IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9KHz;
- (5) L1 = Line One (Hot side) / L2 = Line Two (Neutral side)

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Conducted Emission Test Plot Line



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AC POWER LINE CONDUCTED EMISSION TEST DATA

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

Operation Mode:	Normal Operating (802.11a External Antenna)		Test Date :	Jun. 06, 2005	
Temperature :	25 °C	Humidity:	65%	Test By:	Alex

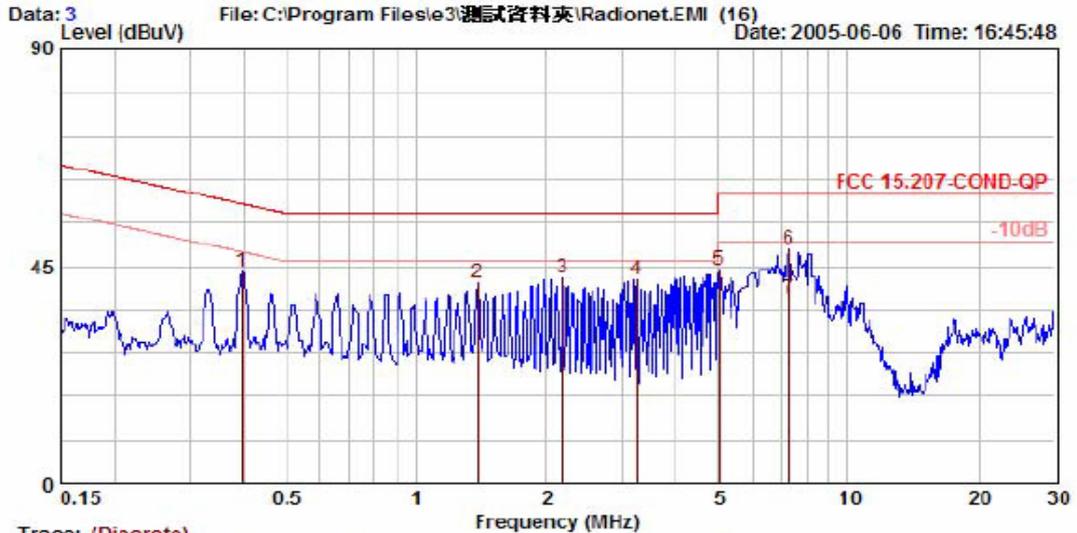
MHz	Raw dBuV	Raw dBuV	Limit dBuV	Limit dBuV	Margin dB	Margin dB	
0.396	43.81	---	57.94	47.94	-14.13	---	L1
1.381	41.43	---	56.00	46.00	-14.57	---	L1
2.178	42.41	---	56.00	46.00	-13.59	---	L1
3.241	42.24	---	56.00	46.00	-13.76	---	L1
5.031	44.28	---	60.00	50.00	-15.72	---	L1
7.290	48.40	38.40	60.00	50.00	-11.60	-11.60	L1
0.398	44.76	---	57.90	47.90	-13.14	---	L2
1.918	43.05	---	56.00	46.00	-12.95	---	L2
3.436	42.59	---	56.00	46.00	-13.41	---	L2
4.952	45.13	37.99	56.00	46.00	-10.87	-8.01	L2
6.662	47.58	---	60.00	50.00	-12.42	---	L2
7.566	48.25	38.71	60.00	50.00	-11.75	-11.29	L2

Remark :

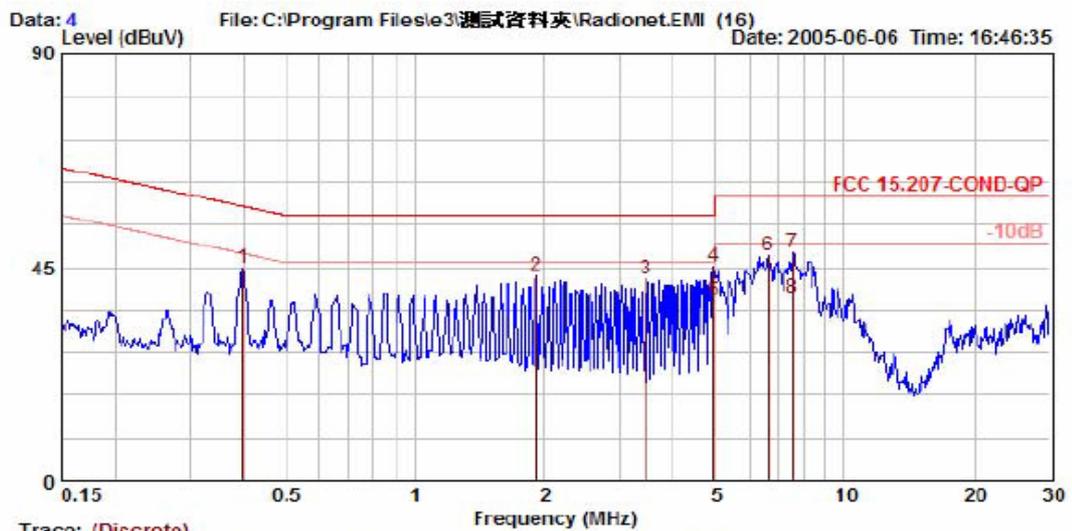
- (1) Measuring frequencies from 0.15 MHz to 30MHz °
- (2) The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Qusia-Peak detector and Average detector.
- (3) “---” denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.
- (4) The IF bandwidth of SPA between 0.15MHz to 30MHz was 10KHz;
The IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9KHz;
- (5) L1 = Line One (Hot side) / L2 = Line Two (Neutral side)

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Conducted Emission Test Plot Line



Trace: (Discrete)
Condition : FCC 15.207-COND-QP NNB-2/16Z (99012) LINE
Applicant: : Radionet
Project No.: :
EUT Description::
EUT Model: :
Test Mode: : A Ext normal operation
Temp./Humid. : 25/65
Operator: : Alex



Trace: (Discrete)
Condition : FCC 15.207-COND-QP NNB-2/16Z (99012) NEUTRAL
Applicant: : Radionet
Project No.: :
EUT Description::
EUT Model: :
Test Mode: : A Ext normal operation
Temp./Humid. : 25/65
Operator: : Alex

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6. PEAK OUTPUT POWER MEASUREMENT

6.1. Standard Applicable

According to §15.247(a)(2), (b)

(3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(c) Operation with directional antenna gains greater than 6 dBi.

(1) Fixed point-to-point operation:

(i) Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

(ii) Systems operating in the 5725-5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted output power.

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According to §6.2.2(o)(b), For the band 2400-2483.5 MHz, the transmitter output power shall not exceed 1.0 watt. See (d) below for special conditions.

For the bands 902-928 MHz and 5725-5850 MHz, the transmitter output power shall not exceed 1.0 watt and the EIRP shall not exceed 4 watts. However, point-to-point systems in the 5725-5850 MHz band are permitted any EIRP necessary for satisfactory operation by increase in antenna gain.

Point-to-multipoint systems and multiple co-located transmitters transmitting the same information are **prohibited** from using this high EIRP category. However, remote stations of point-to-multipoint systems shall be permitted to operate at the point-to-point EIRP limit provided that the higher EIRP is achieved by employing higher gain directional antennas and not higher transmitter output powers.

6.2. Measurement Procedure

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

6.3. Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/24/2005	03/23/2006
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2004	08/27/2005
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2004	10/06/2005

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6.4. Measurement Result

802.11b

CH	Frequency (MHz)	Reading Power (dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dBm)	Result
LOW	2412.00	18.74	0.00	18.74	27	PASS
MID	2437.00	18.37	0.00	18.37	27	PASS
HIGH	2462.00	18.27	0.00	18.27	27	PASS

Note: The data is offset 20.5dB for loss.

Note: Max. Antenna gain is 14dBi, therefore the max output power is calculated as:

$$14\text{dBi} - 6\text{dBi} = 8\text{dBi};$$

$$8\text{dBi} / 3 = 2.67$$

$$30 \text{ dBm} - 2.67 = 27\text{dBm}$$

802.11g

CH	Frequency (MHz)	Reading Power (dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dBm)	Result
LOW	2412.00	16.13	0.00	16.13	27	PASS
MID	2437.00	16.83	0.00	16.83	27	PASS
HIGH	2462.00	17.35	0.00	17.35	27	PASS

Note: The data is offset 20.5dB for loss.

Note: Max. Antenna gain is 14dBi, therefore the max output power is calculated as:

$$14\text{dBi} - 6\text{dBi} = 8\text{dBi};$$

$$8\text{dBi} / 3 = 2.67$$

$$30 \text{ dBm} - 2.67 = 27\text{dBm}$$

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802.11a External Antenna

CH	Frequency (MHz)	Reading Power (dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dB)	Result
LOW	5745.00	14.98	0.00	14.98	30	PASS
MID	5785.00	14.88	0.00	14.88	30	PASS
HIGH	5825.00	14.99	0.00	14.99	30	PASS

Note: The data is offset 20.5dB for loss.

802.11a Internal Antenna

CH	Frequency (MHz)	Reading Power (dBm)	Cable Loss (dB)	Output Power (dBm)	Limit (dB)	Result
LOW	5745.00	14.48	0.00	14.48	30	PASS
MID	5785.00	14.08	0.00	14.08	30	PASS
HIGH	5825.00	14.56	0.00	14.56	30	PASS

Note: The data is offset 20.5dB for loss.

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802.11b

Peak Power Output Data Plot (CH Low)

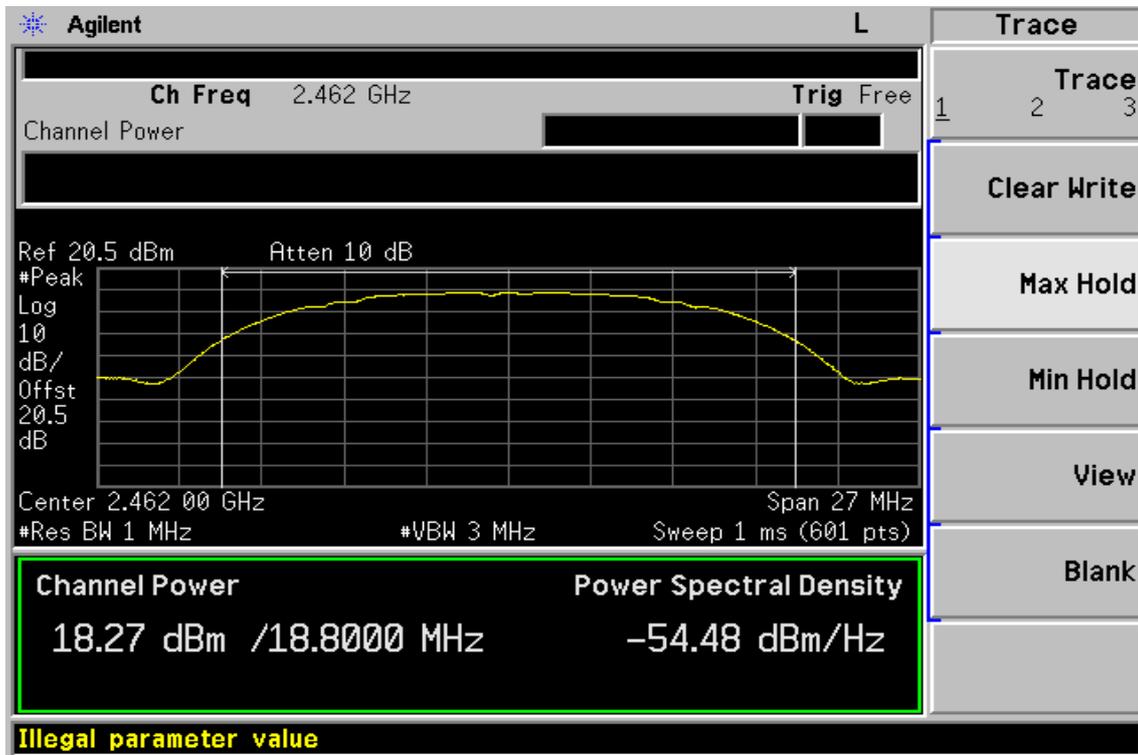


Peak Power Output Data Plot (CH Mid)



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Peak Power Output Data Plot (CH High)

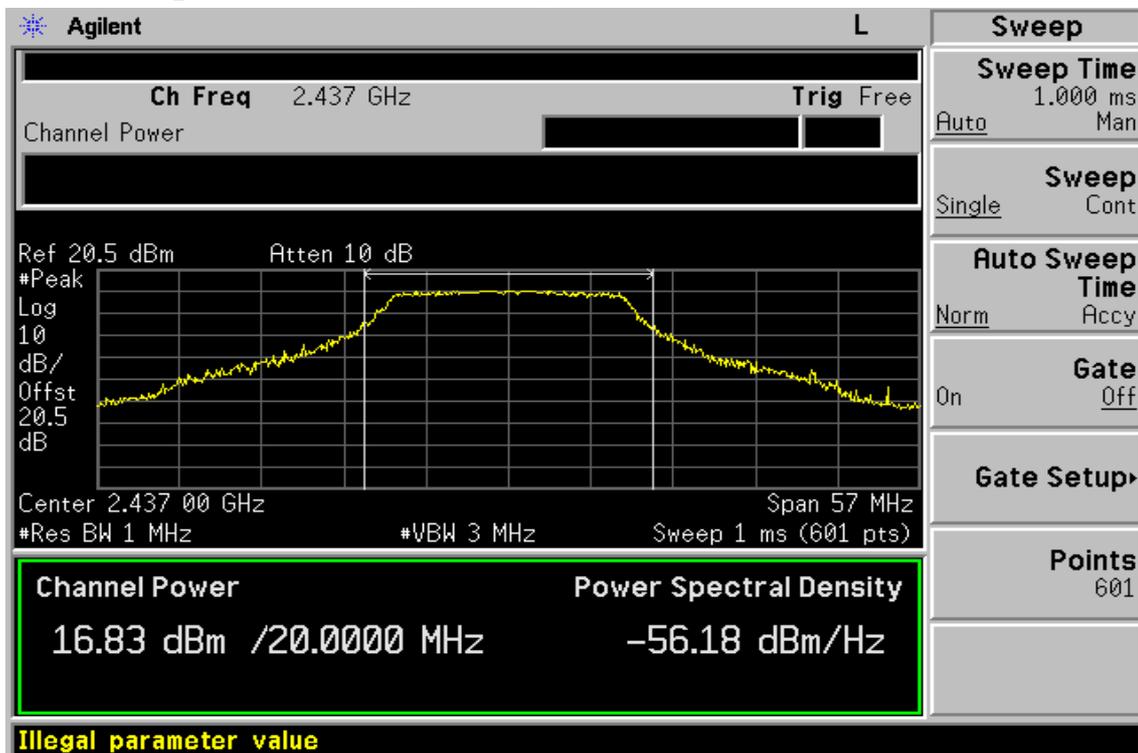


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802.11g Peak Power Output Data Plot (CH Low)

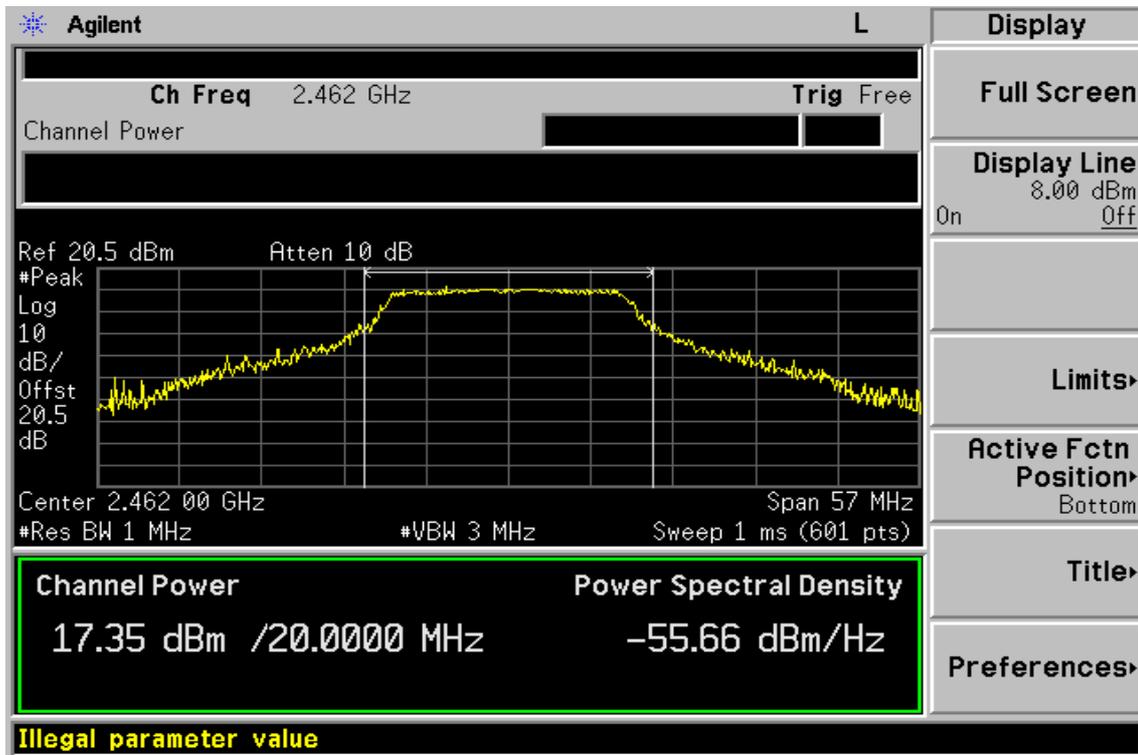


Peak Power Output Data Plot (CH Mid)



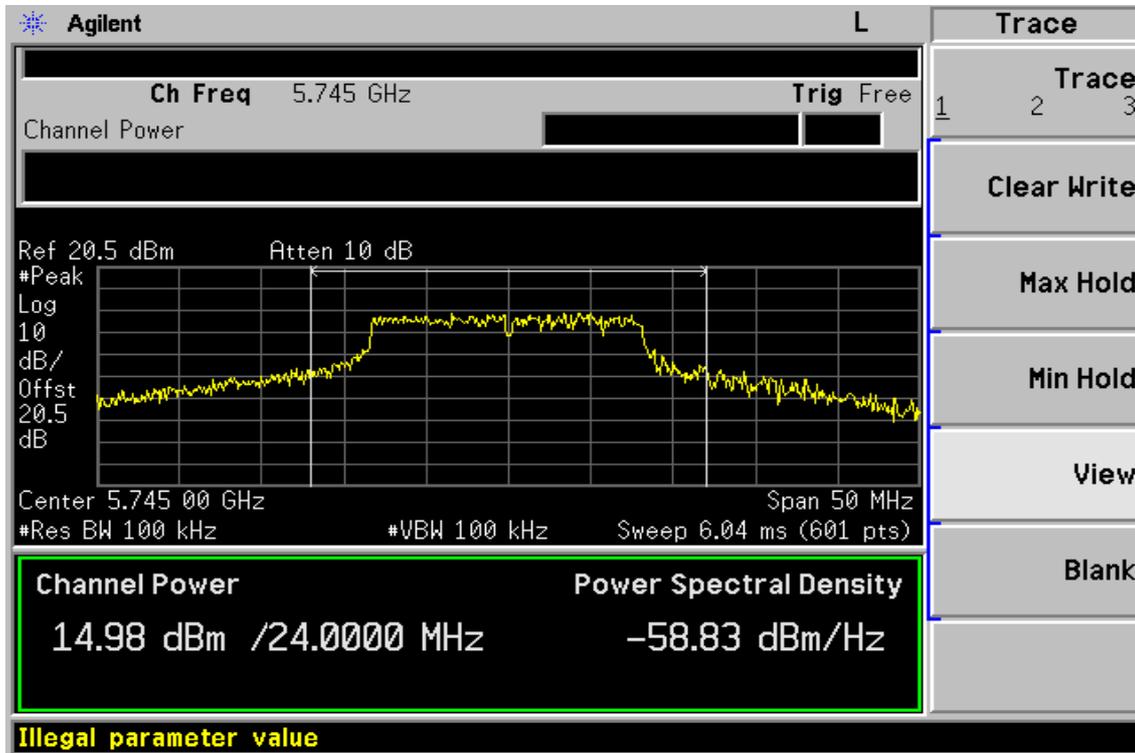
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

Peak Power Output Data Plot (CH High)

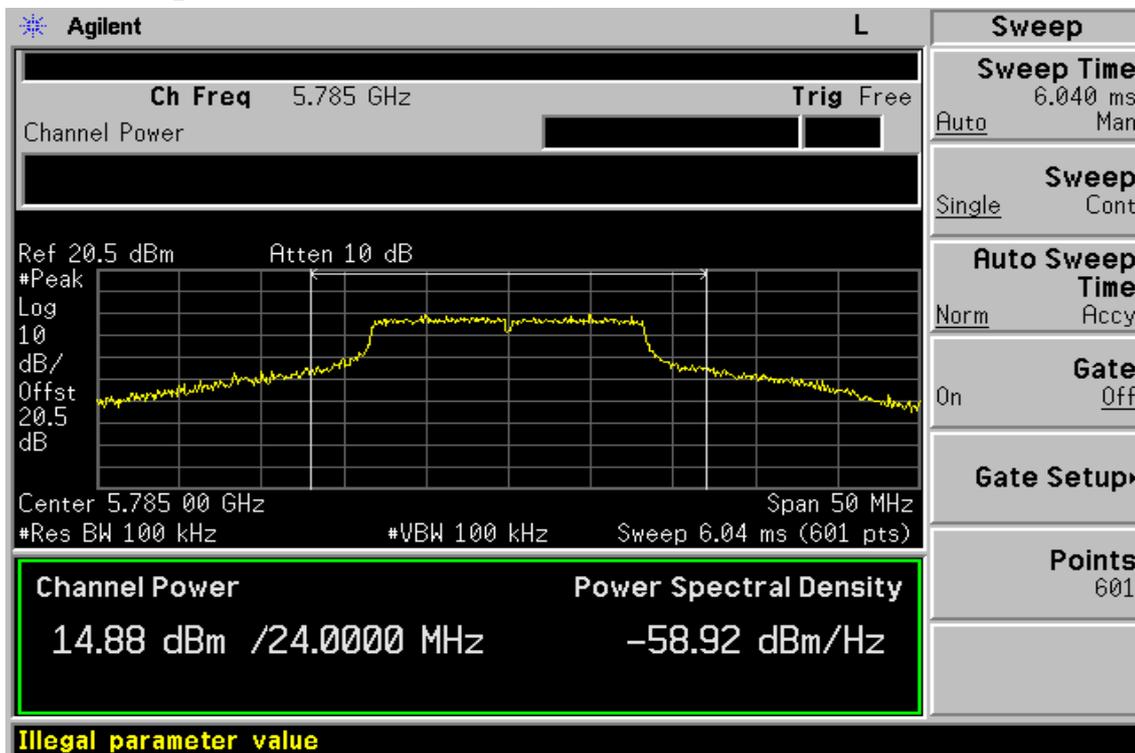


The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11a External Antenna Peak Power Output Data Plot (CH Low)

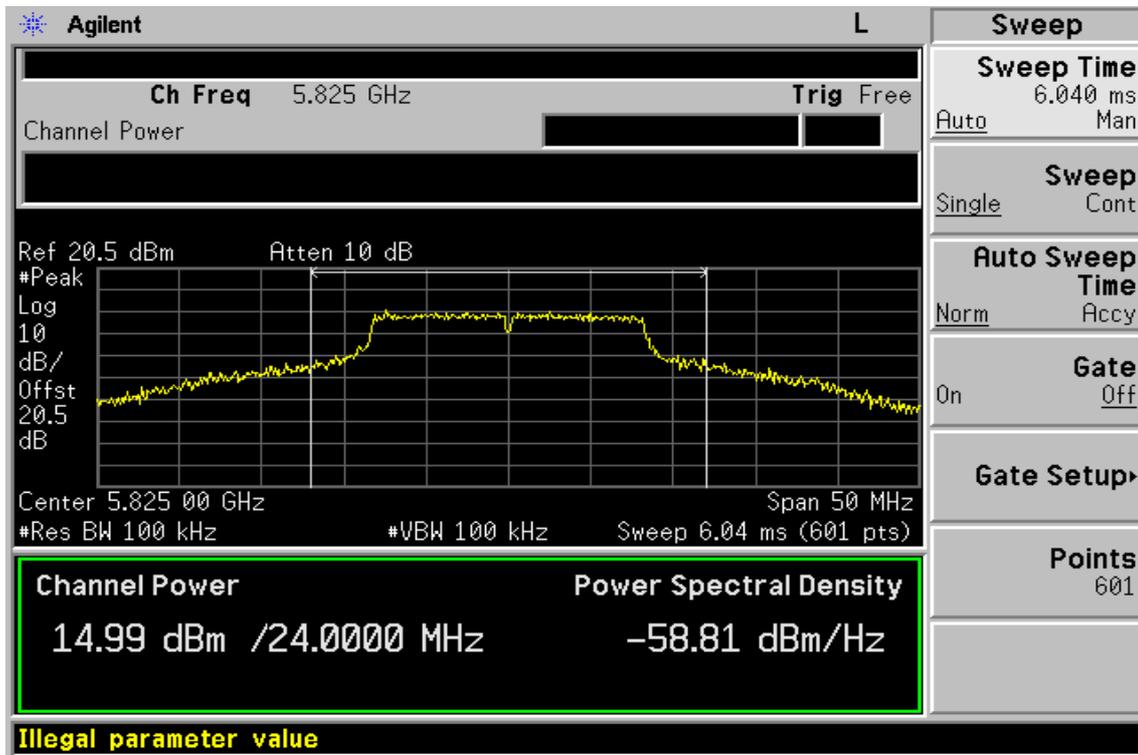


Peak Power Output Data Plot (CH Mid)



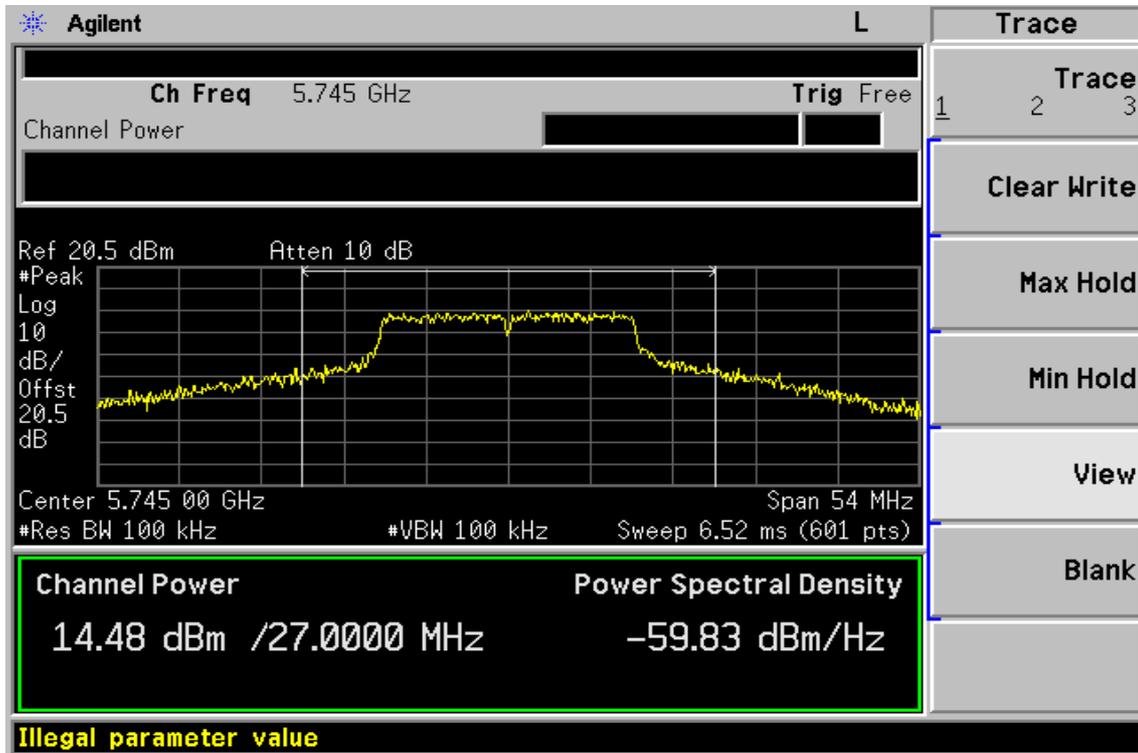
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

Peak Power Output Data Plot (CH High)

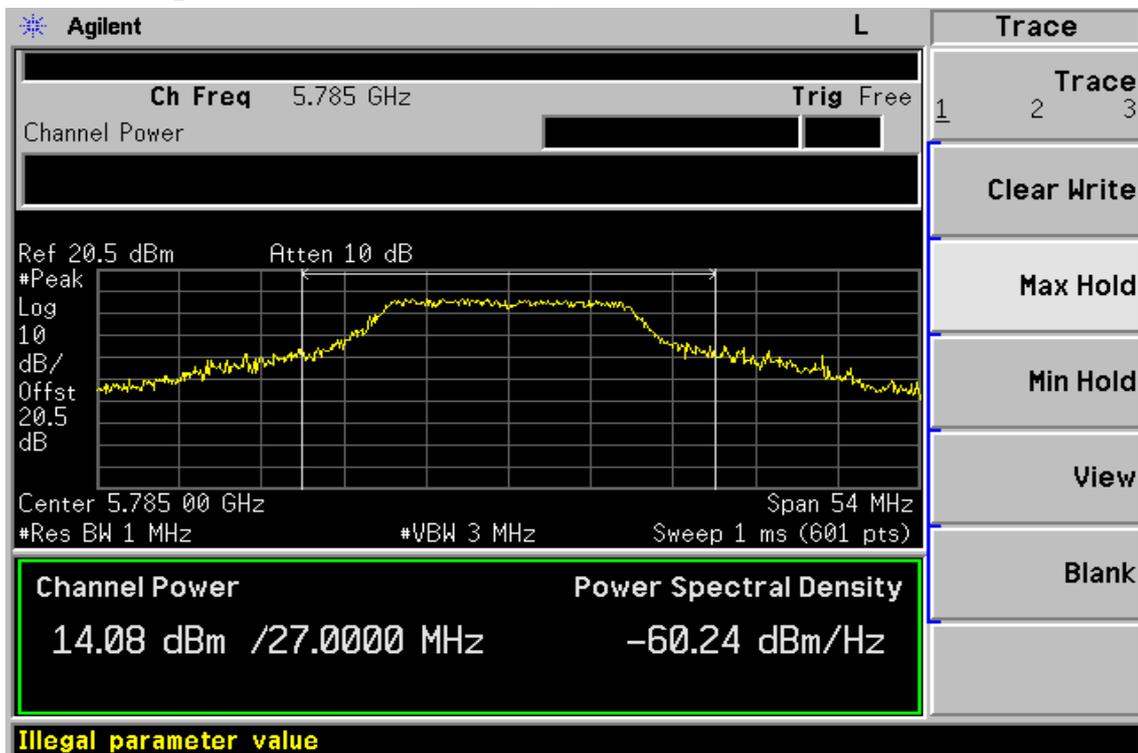


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802.11a Internal Antenna Peak Power Output Data Plot (CH Low)

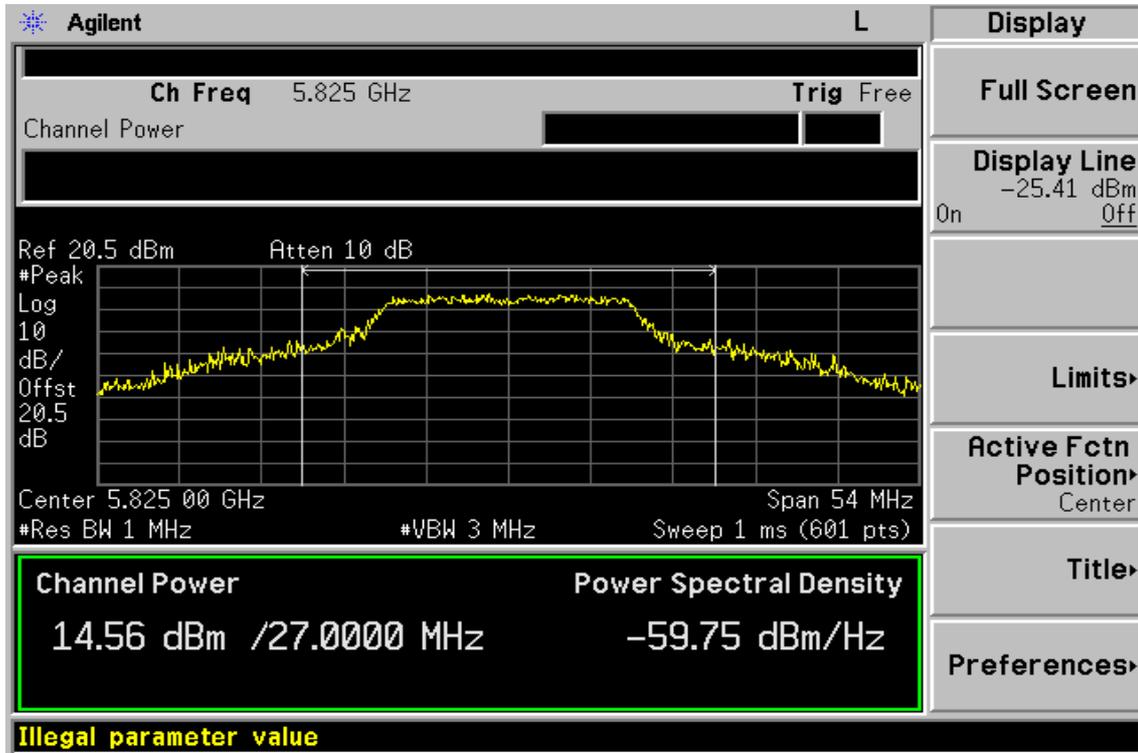


Peak Power Output Data Plot (CH Mid)



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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.

According to RSS 210, Amend. 5, (iv) Systems employing digital modulation techniques (which includes direct sequence) can now be certified under RSS-210 provided they comply with the following requirements: The minimum 6 dB bandwidth shall be at least 500 kHz.

7.2. Measurement Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the 3. antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW=100KHz, VBW = 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:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/24/2005	03/23/2006
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2004	08/27/2005
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2004	10/06/2005

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7.4. Measurement Result

802.11b

CH	Bandwidth (MHz)	Bandwidth (KHz)	Result
Lower	12.114	> 500	PASS
Mid	11.121	> 500	PASS
Higher	12.100	> 500	PASS

802.11g

CH	Bandwidth (MHz)	Bandwidth (KHz)	Result
Lower	15.725	> 500	PASS
Mid	15.295	> 500	PASS
Higher	15.944	> 500	PASS

802.11a External Antenna

CH	Bandwidth (MHz)	Bandwidth (KHz)	Result
Lower	16.384	> 500	PASS
Mid	16.450	> 500	PASS
Higher	16.430	> 500	PASS

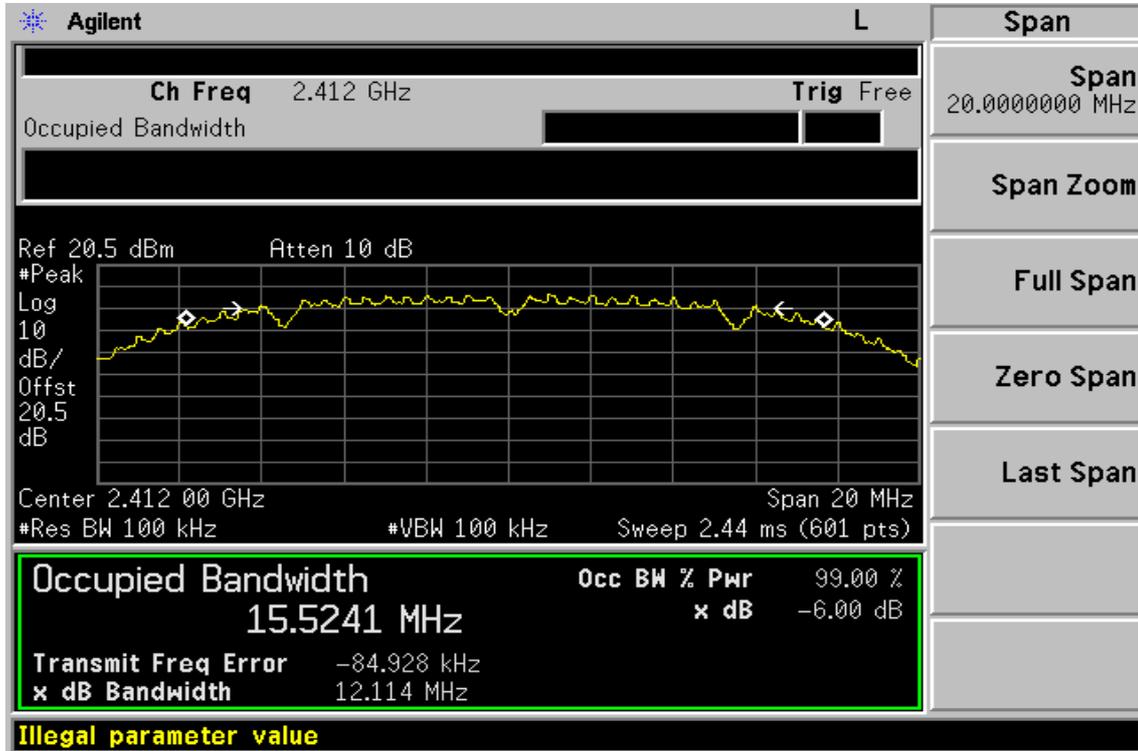
802.11a Internal Antenna

CH	Bandwidth (MHz)	Bandwidth (KHz)	Result
Lower	16.498	> 500	PASS
Mid	16.485	> 500	PASS
Higher	16.497	> 500	PASS

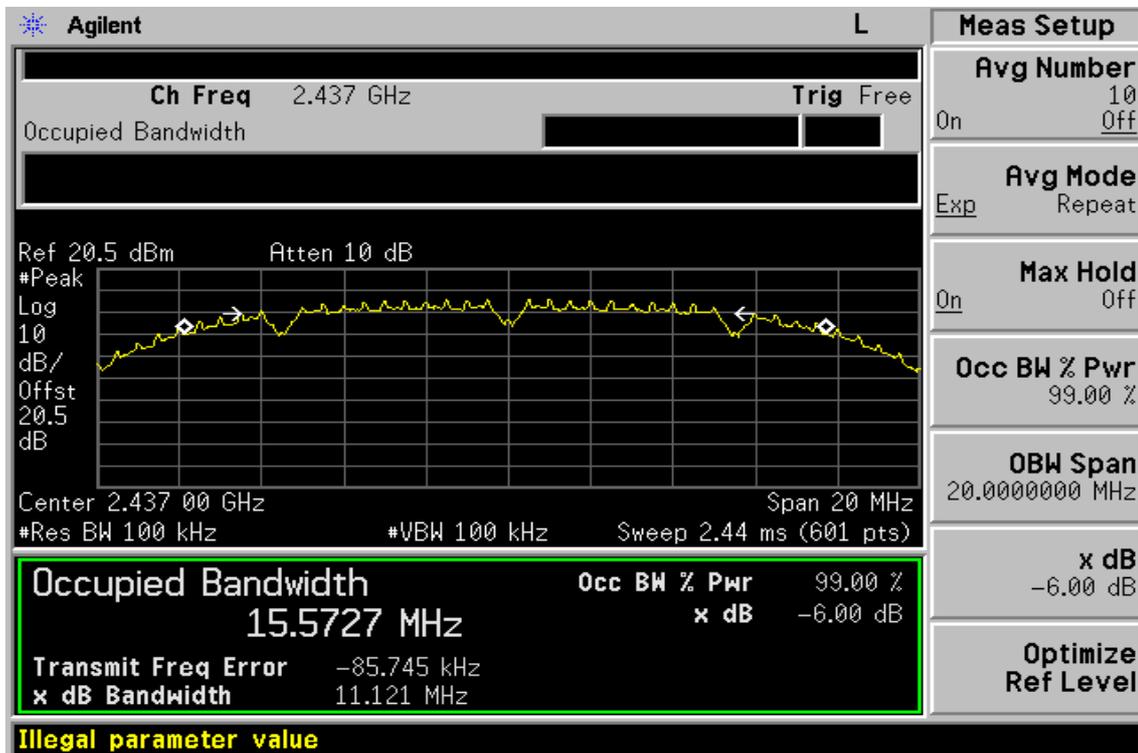
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11b

6dB Band Width Test Data CH-Low

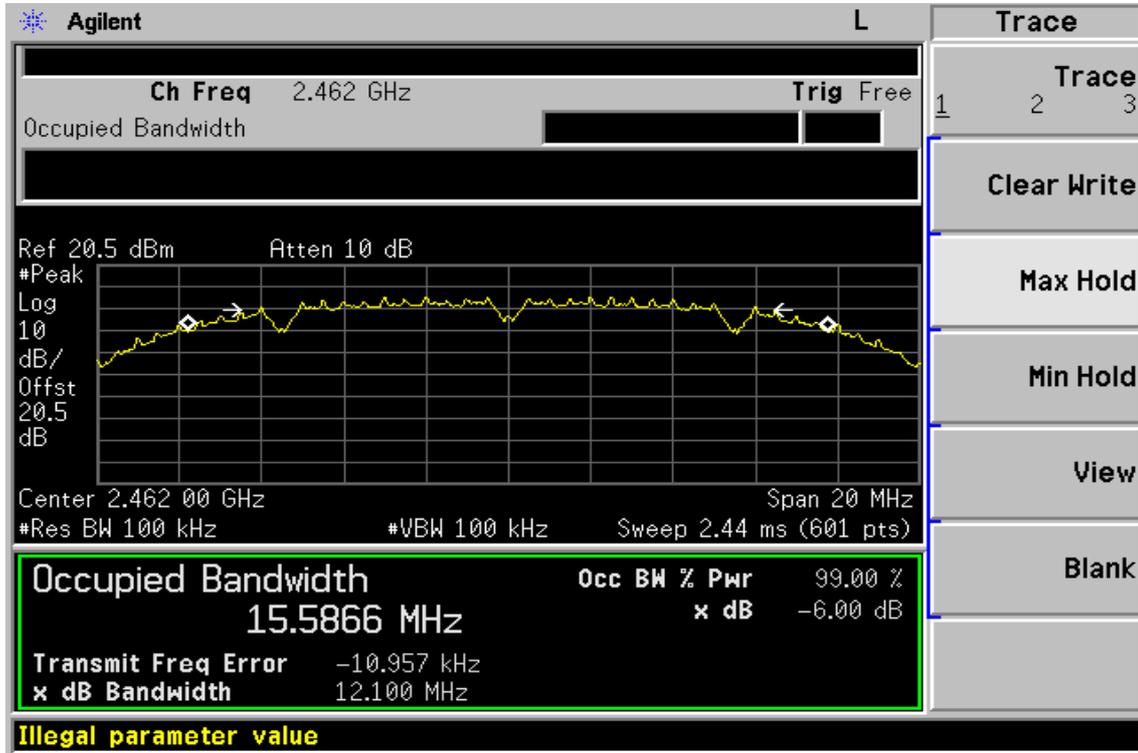


6dB Band Width Test Data CH-Mid



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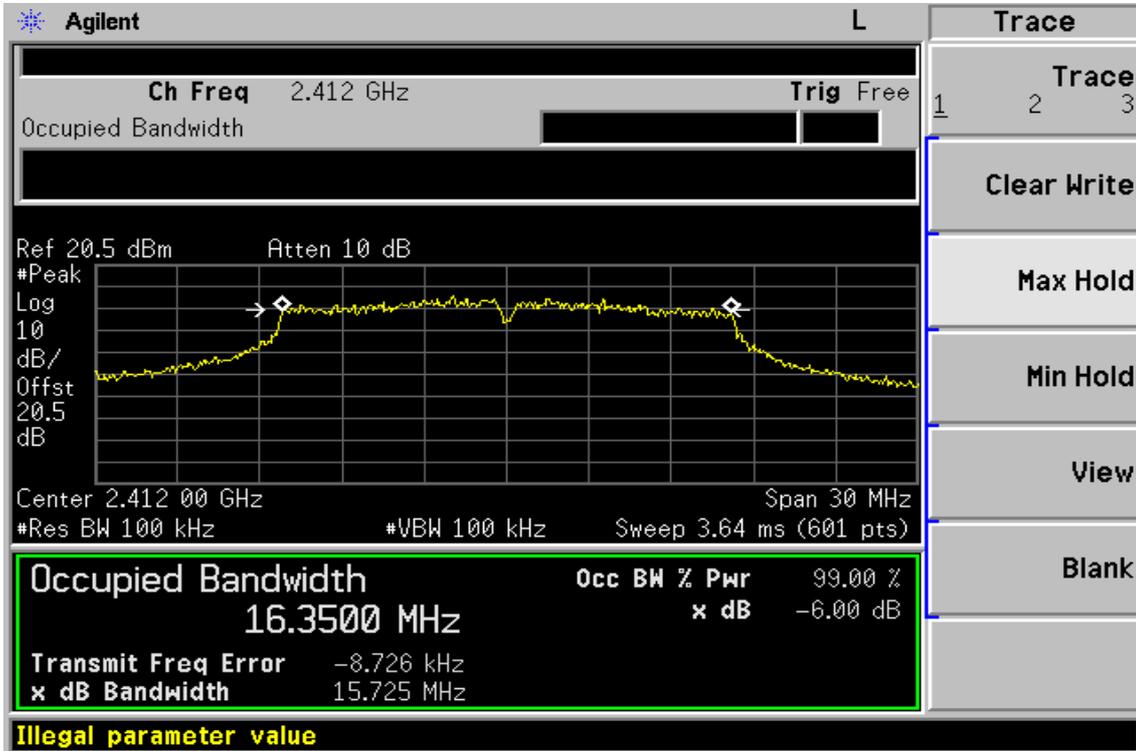
6dB Band Width Test Data CH-High



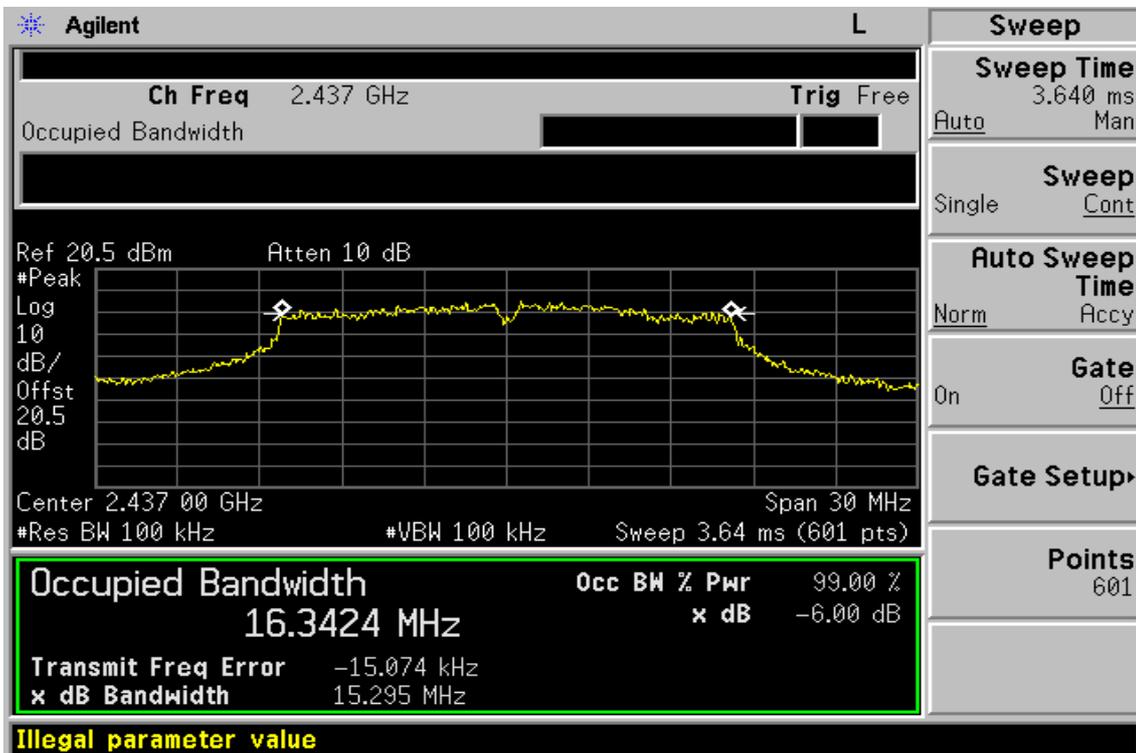
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802.11g

6dB Band Width Test Data CH-Low

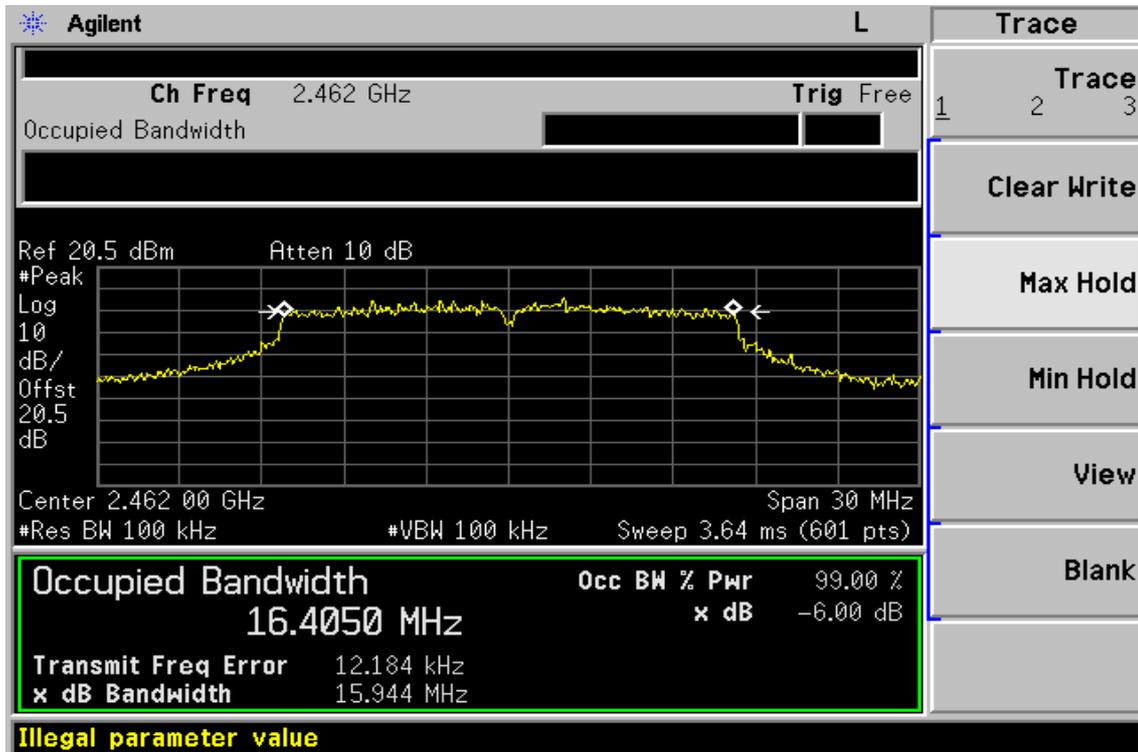


6dB Band Width Test Data CH-Mid



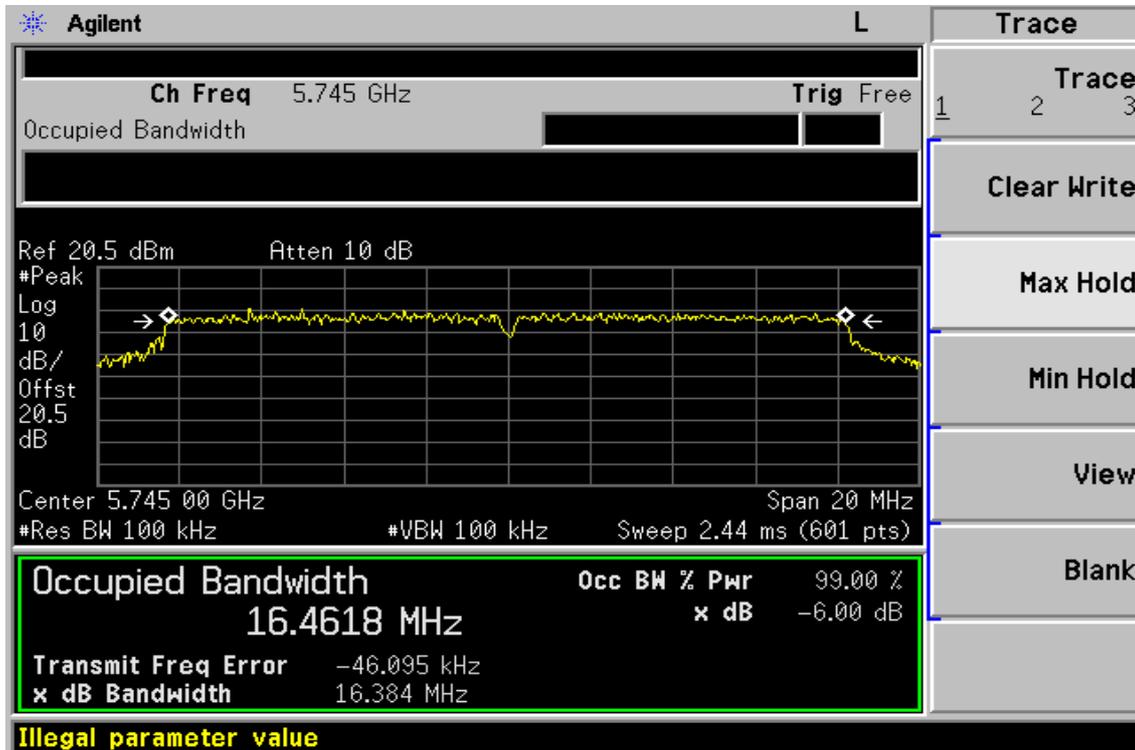
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

6dB Band Width Test Data CH-High

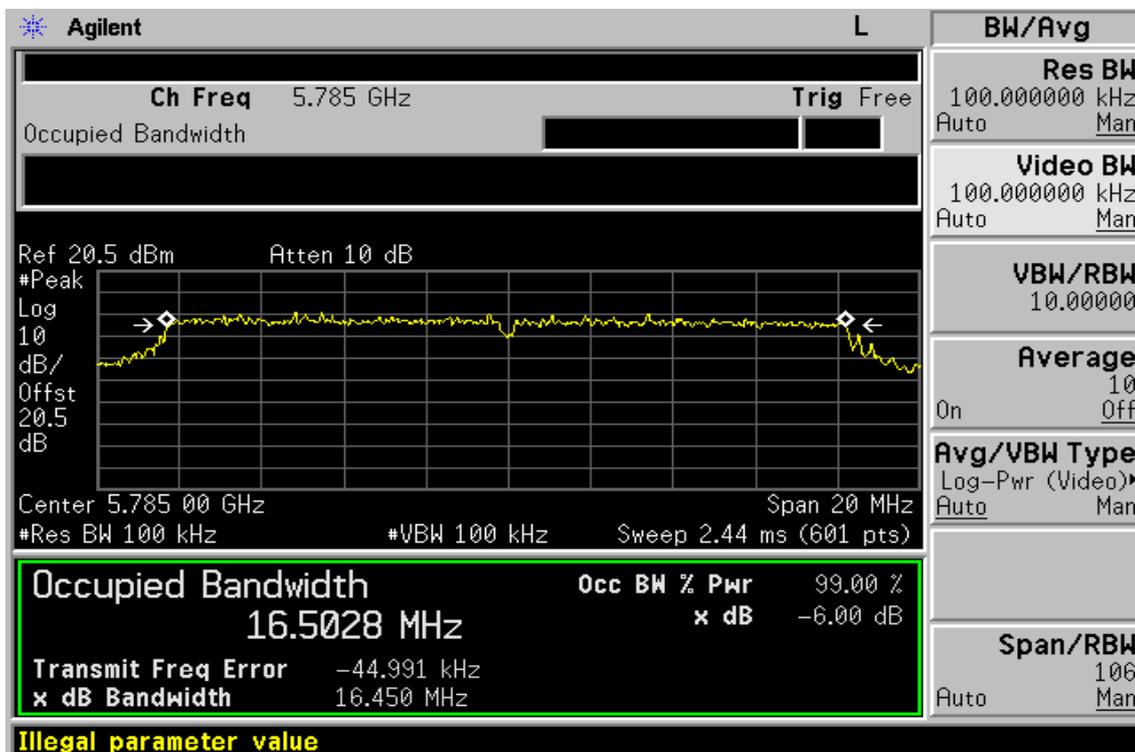


The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11a External Photo
6dB Band Width Test Data CH-Low

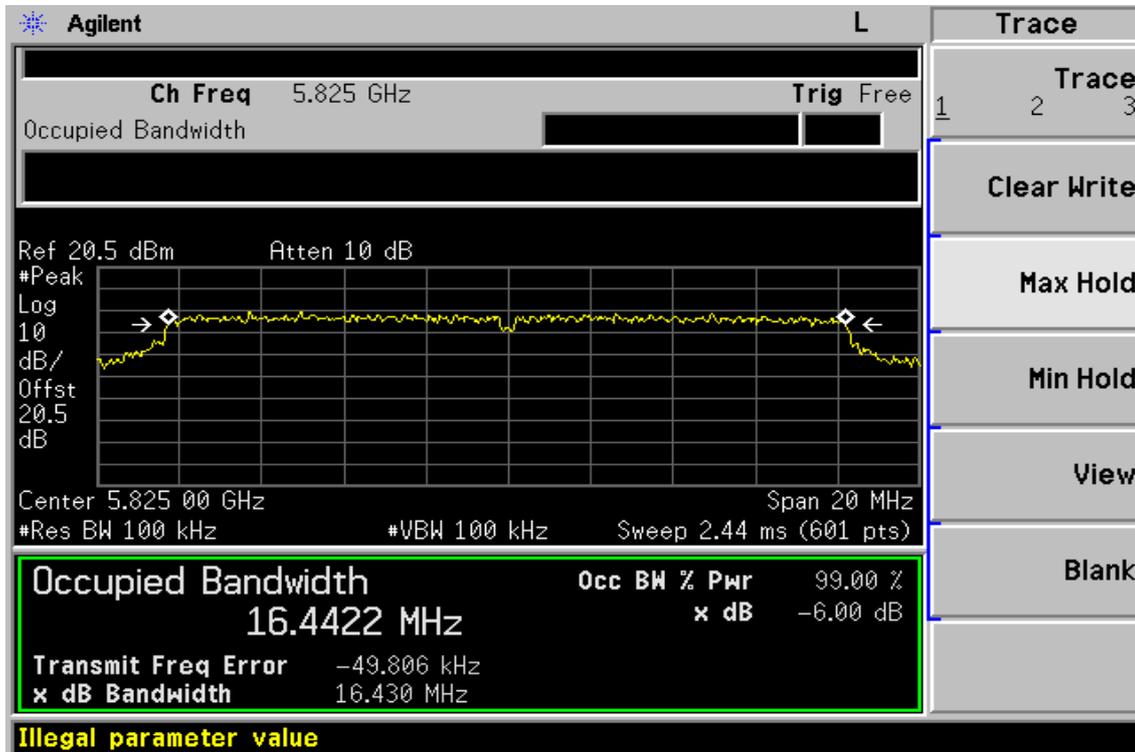


6dB Band Width Test Data CH-Mid



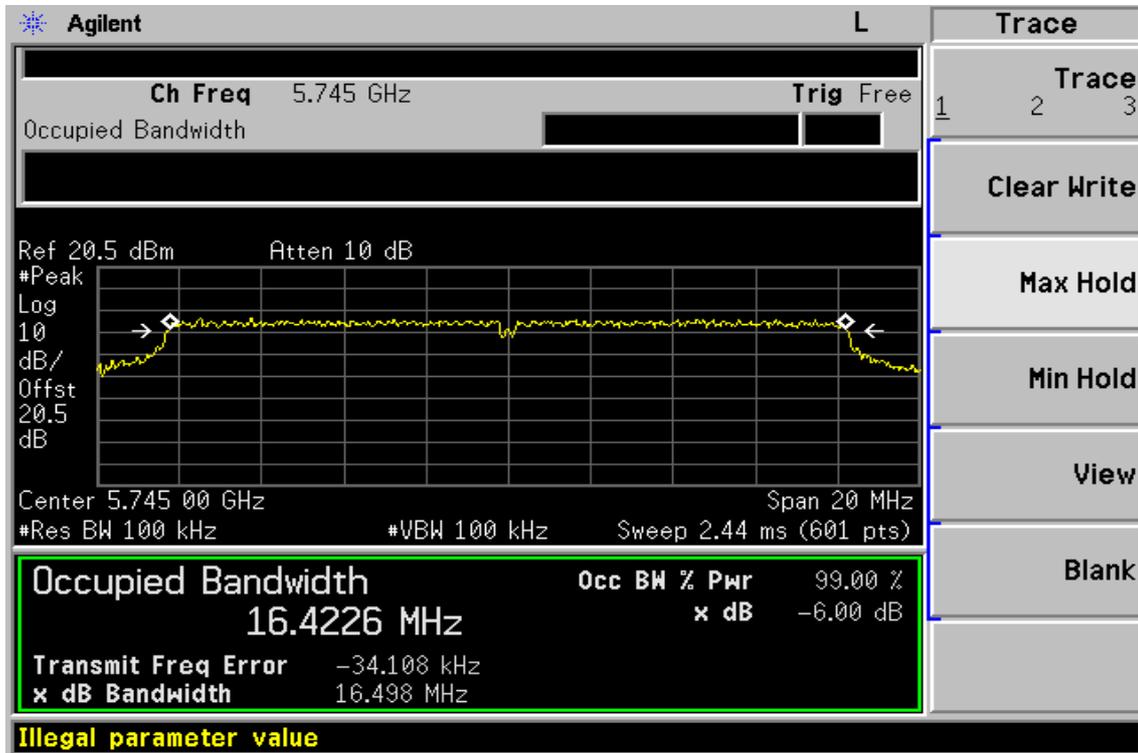
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

6dB Band Width Test Data CH-High

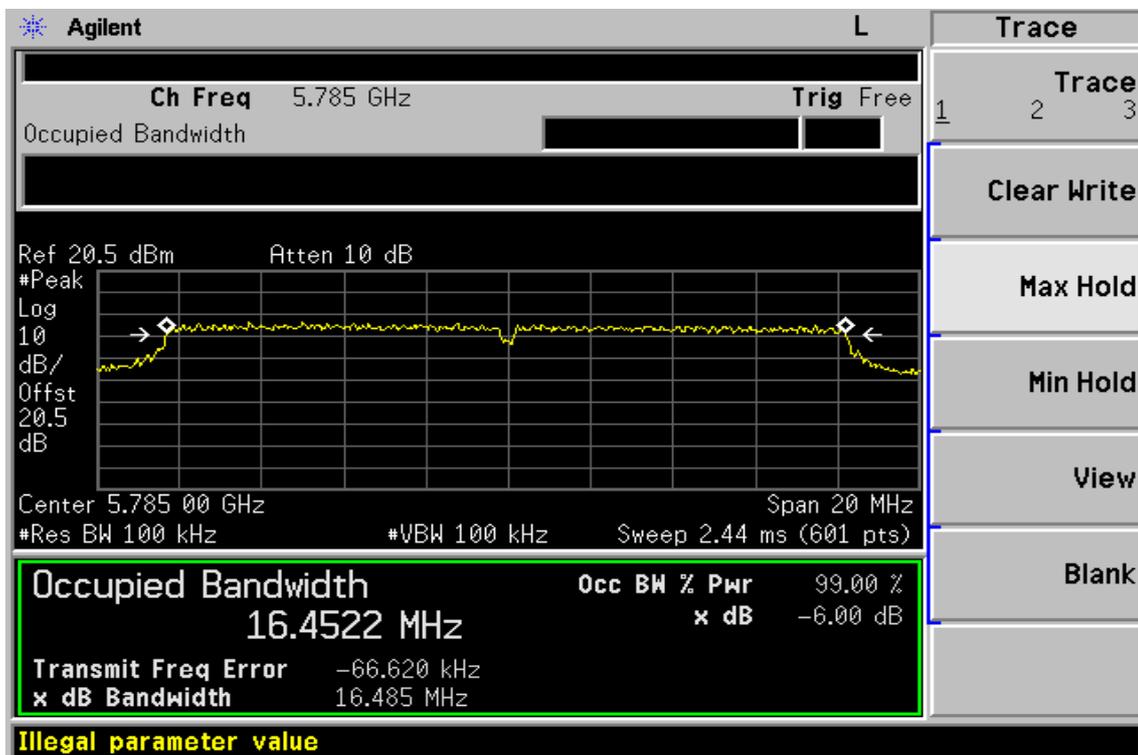


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**802.11a Internal Antenna
6dB Band Width Test Data CH-Low**

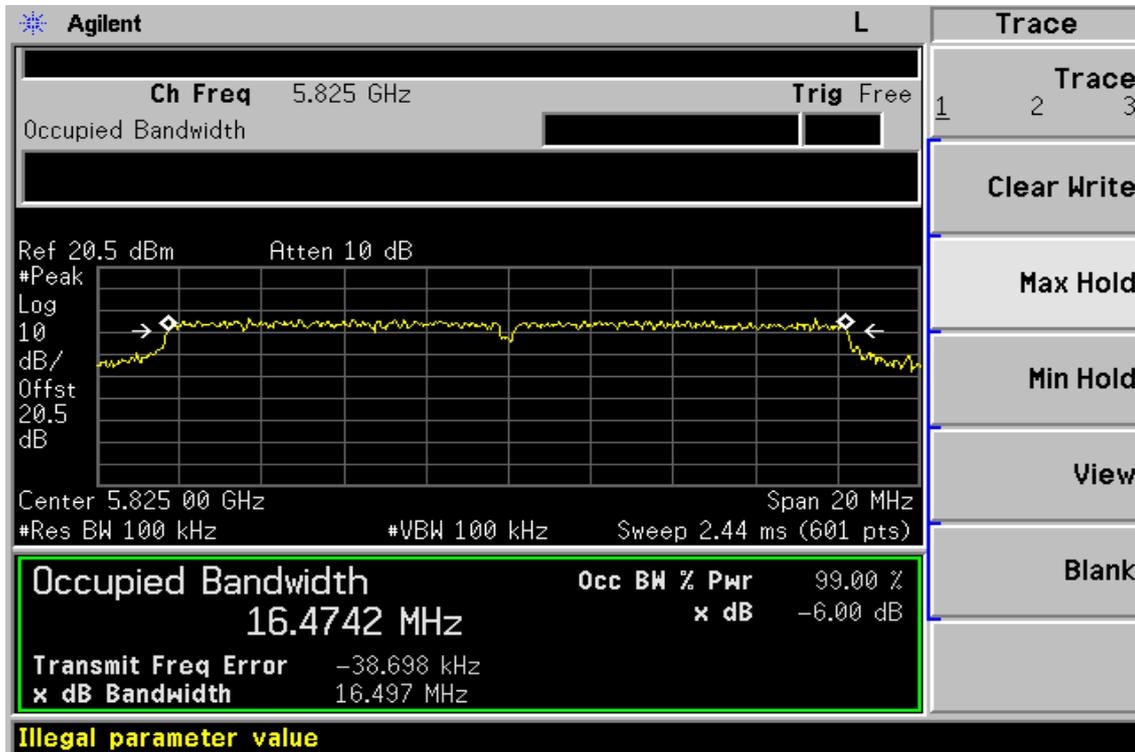


6dB Band Width Test Data CH-Mid



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6dB Band Width Test Data CH-High



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8. 100KHz BANDWIDTH OF BAND EDGES MEASUREMENT

8.1. Standard Applicable

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

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

8.2. Measurement Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set center frequency of spectrum analyzer = operating frequency.
4. Set the spectrum analyzer as RBW, VBW=100KHz, Span=25MHz, Sweep = auto
5. Mark Peak, 2.390GHz and 2.488GHz and record the max. level.
6. Repeat above procedures until all frequency measured were complete.

8.3. Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/24/2005	03/23/2006
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2004	08/27/2005
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2004	10/06/2005

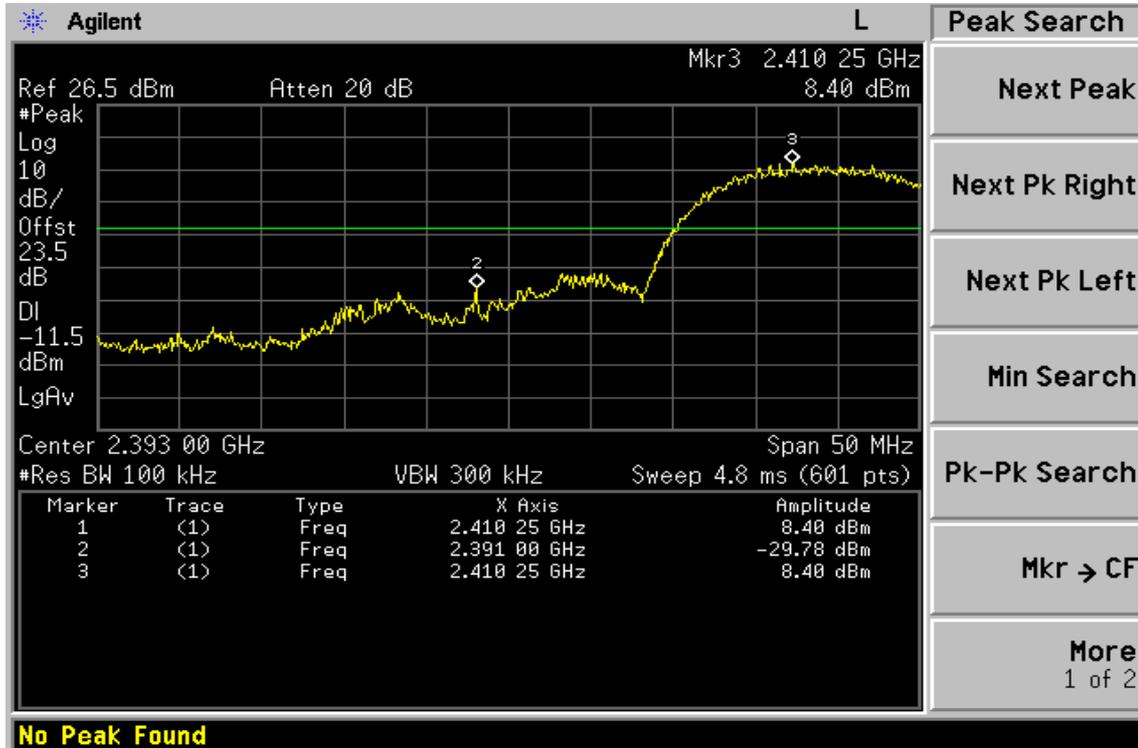
8.4. Measurement Result

Refer to attach spectrum analyzer data chart.

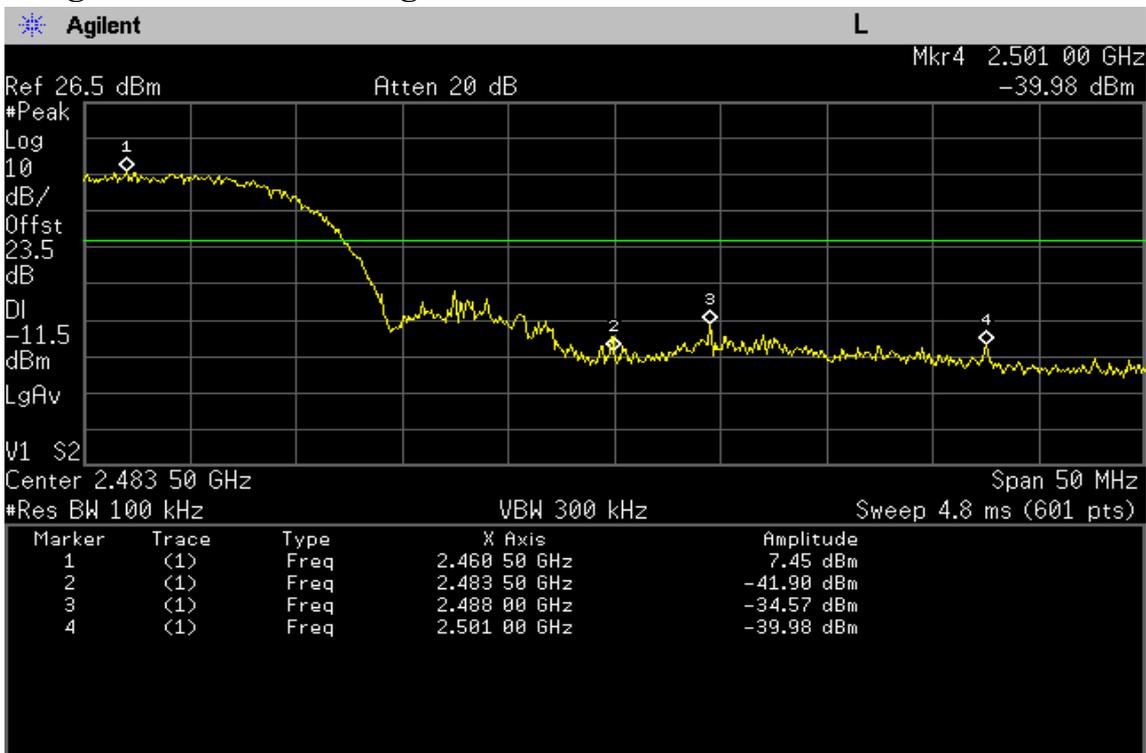
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11b

Band Edges Test Data CH-Low



Band Edges Test Data CH-High



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Radiated Emission:

Operation Mode	TX CH Low	Test Date	May 13, 2005
Fundamental Frequency	2412 MHz	Test By	Alex
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2390.00	---	---	---	---	---	74.00	54.00	---	---

Operation Mode	TX CH Low	Test Date	May 13, 2005
Fundamental Frequency	2412 MHz	Test By	Alex
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2390.00	---	---	---	---	---	74.00	54.00	---	---

Remark :

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

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Radiated Emission:

Operation Mode	TX CH High	Test Date	May 13, 2005
Fundamental Frequency	2462 MHz	Test By	Alex
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2483.50	---	---	---	---	---	74.00	54.00	---	---
2488.00	---	---	---	---	---	74.00	54.00	---	---

Operation Mode	TX CH High	Test Date	May 13, 2005
Fundamental Frequency	2462 MHz	Test By	Alex
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

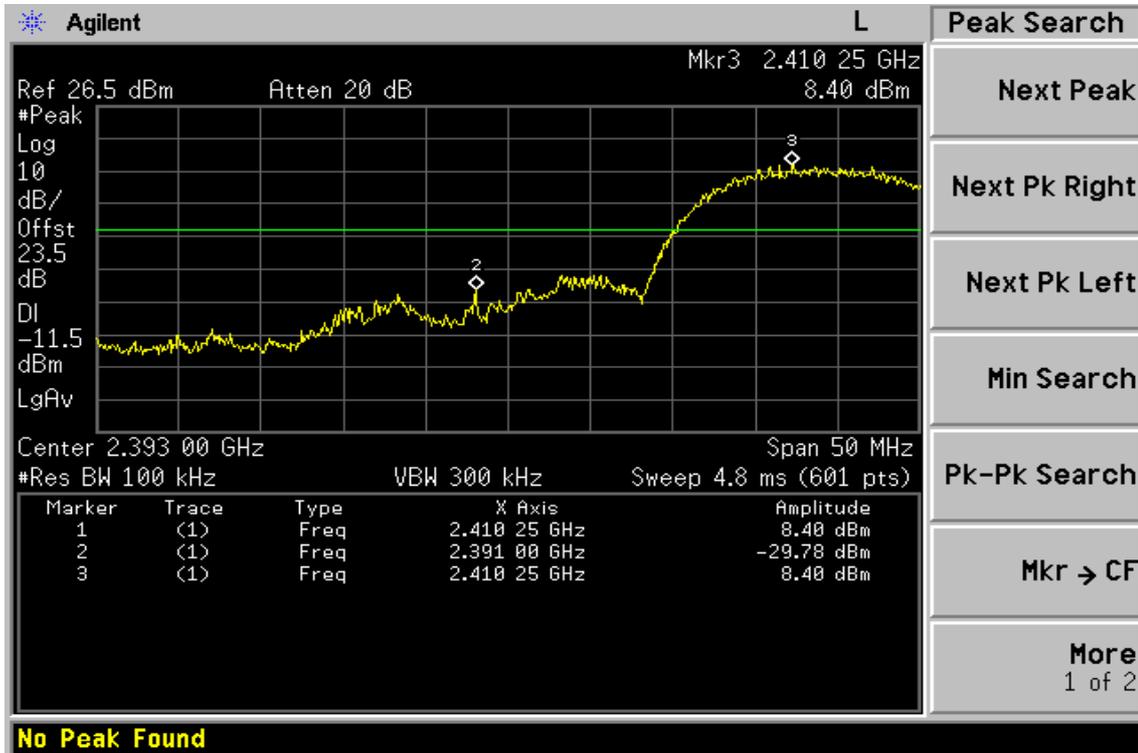
Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2483.50	---	---	---	---	---	74.00	54.00	---	---
2488.00	---	---	---	---	---	74.00	54.00	---	---

Remark :

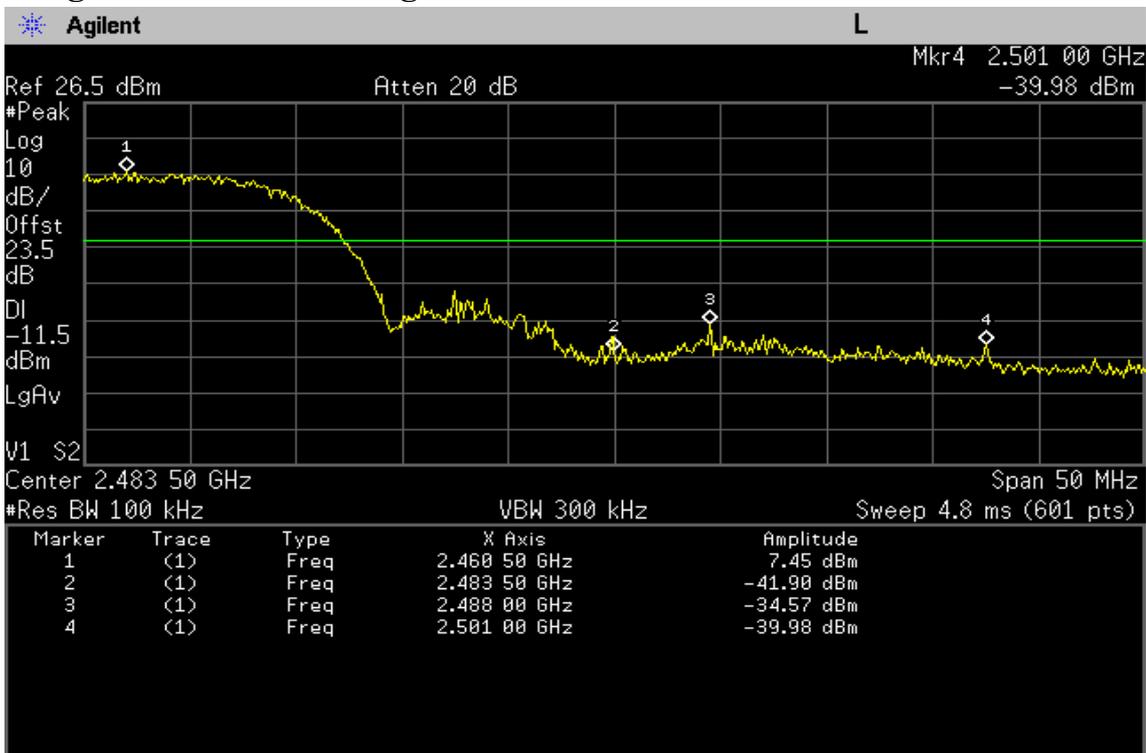
- (1) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °
- (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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802.11g Band Edges Test Data CH-Low



Band Edges Test Data CH-High



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

Radiated Emission:

Operation Mode	TX CH Low	Test Date	May 13, 2005
Fundamental Frequency	2412 MHz	Test By	Alex
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2390.00	---	---	---	---	---	74.00	54.00	---	---

Operation Mode	TX CH Low	Test Date	May 13, 2005
Fundamental Frequency	2412 MHz	Test By	Alex
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2390.00	---	---	---	---	---	74.00	54.00	---	---

Remark :

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

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Radiated Emission:

Operation Mode	TX CH High	Test Date	May 13, 2005
Fundamental Frequency	2462 MHz	Test By	Alex
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2483.50	---	---	---	---	---	74.00	54.00	---	---
2488.00	---	---	---	---	---	74.00	54.00	---	---

Operation Mode	TX CH High	Test Date	May 13, 2005
Fundamental Frequency	2462 MHz	Test By	Alex
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

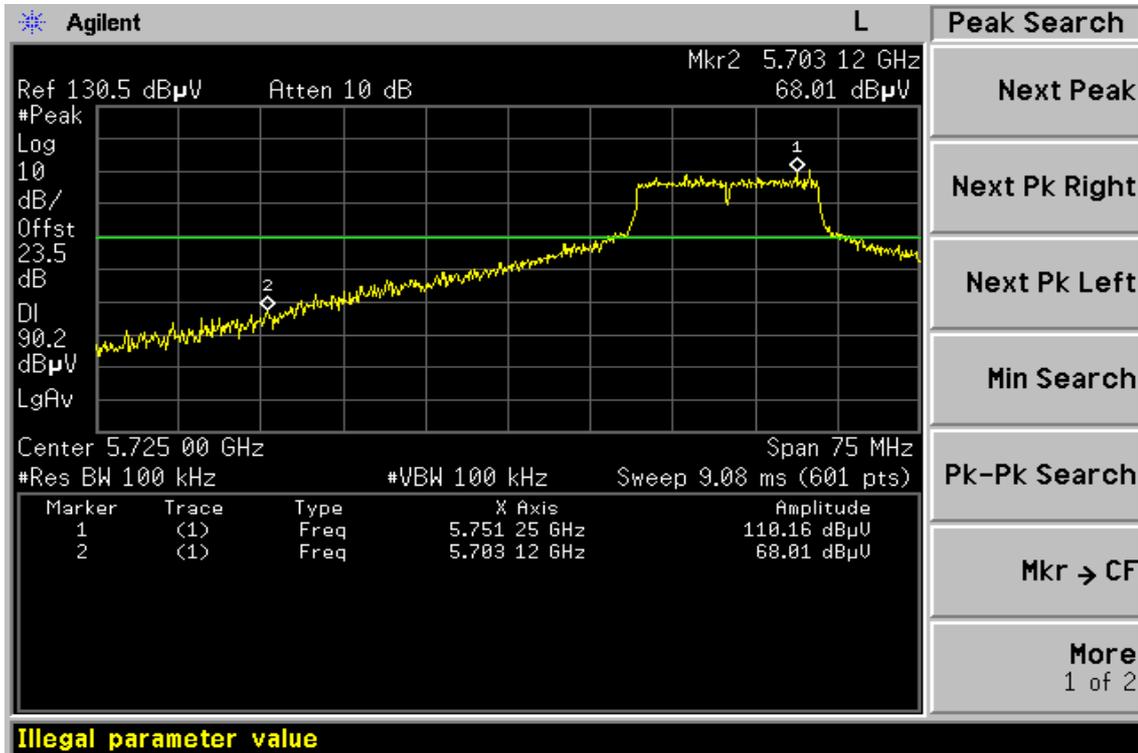
Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2483.50	---	---	---	---	---	74.00	54.00	---	---
2488.00	---	---	---	---	---	74.00	54.00	---	---

Remark :

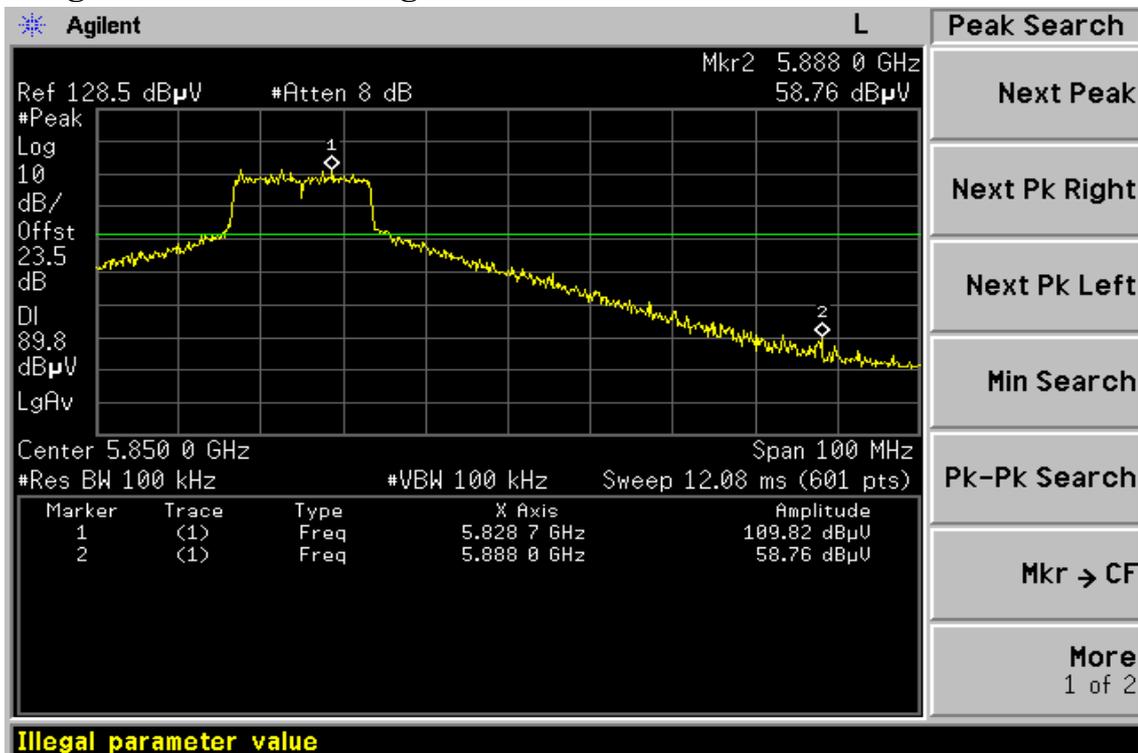
- (1) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °
- (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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802.11a External Antenna Band Edges Test Data CH-Low

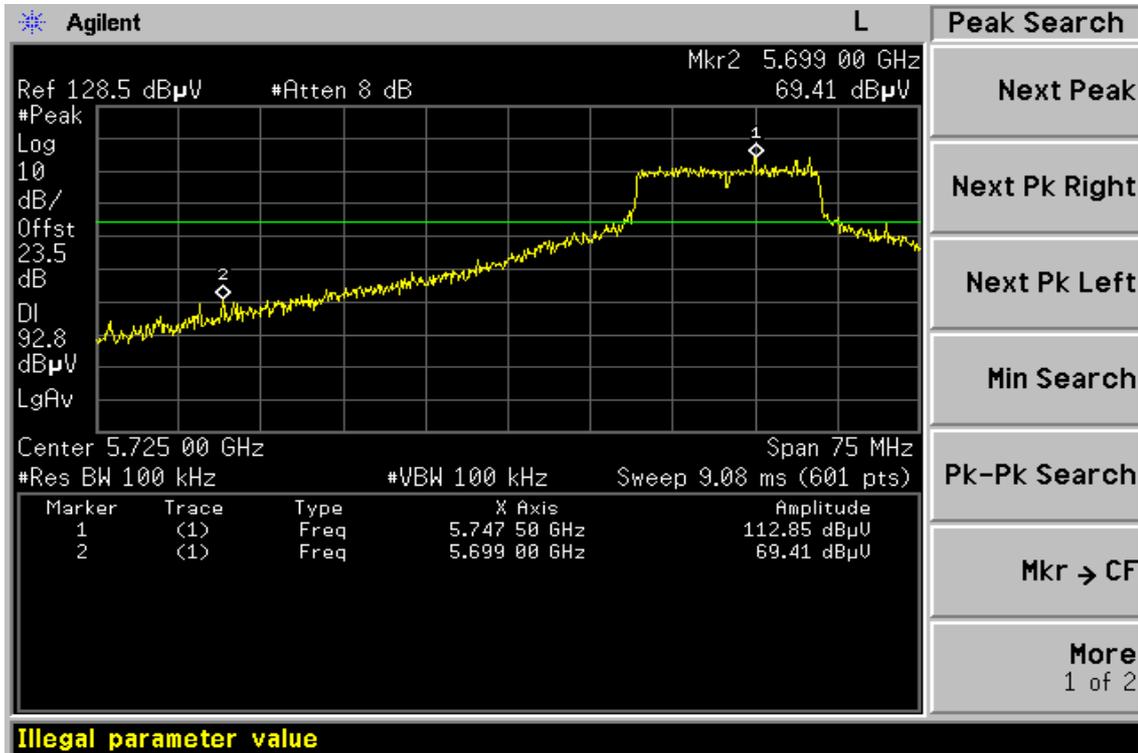


Band Edges Test Data CH-High

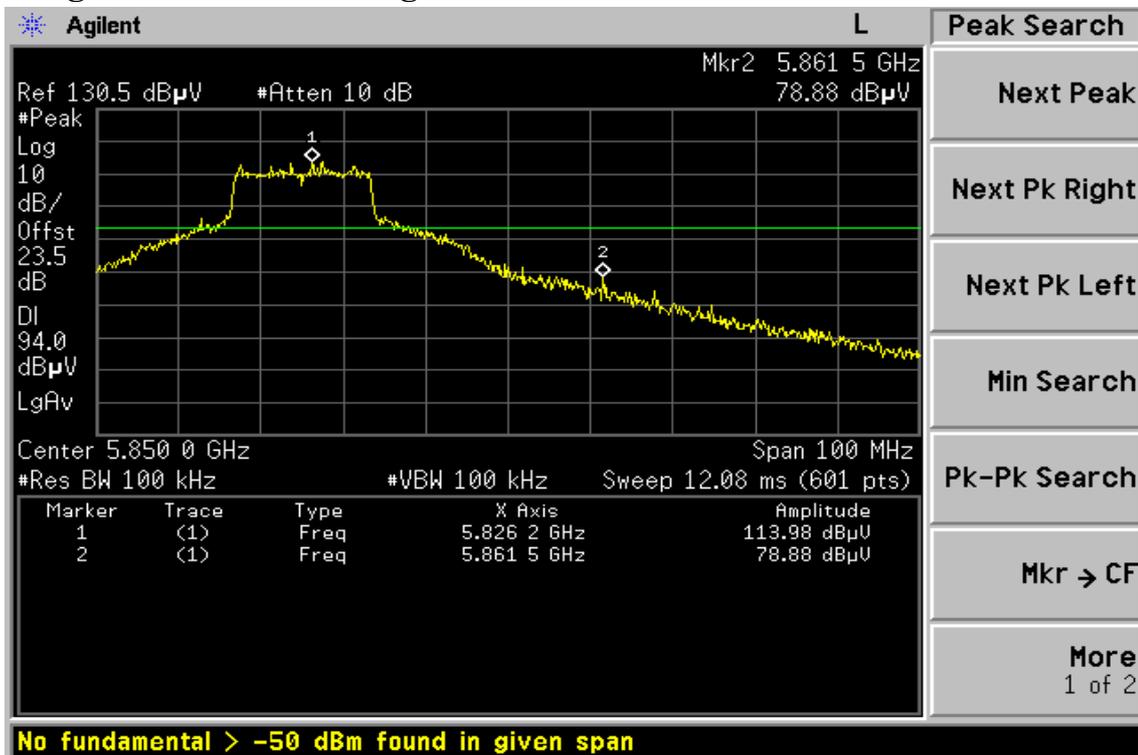


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802.11a Internal Antenna Band Edges Test Data CH-Low



Band Edges Test Data CH-High



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9. SURIOUS RADIATED EMISSION TEST

9.1. Standard Applicable

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

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

9.2. EUT Setup

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

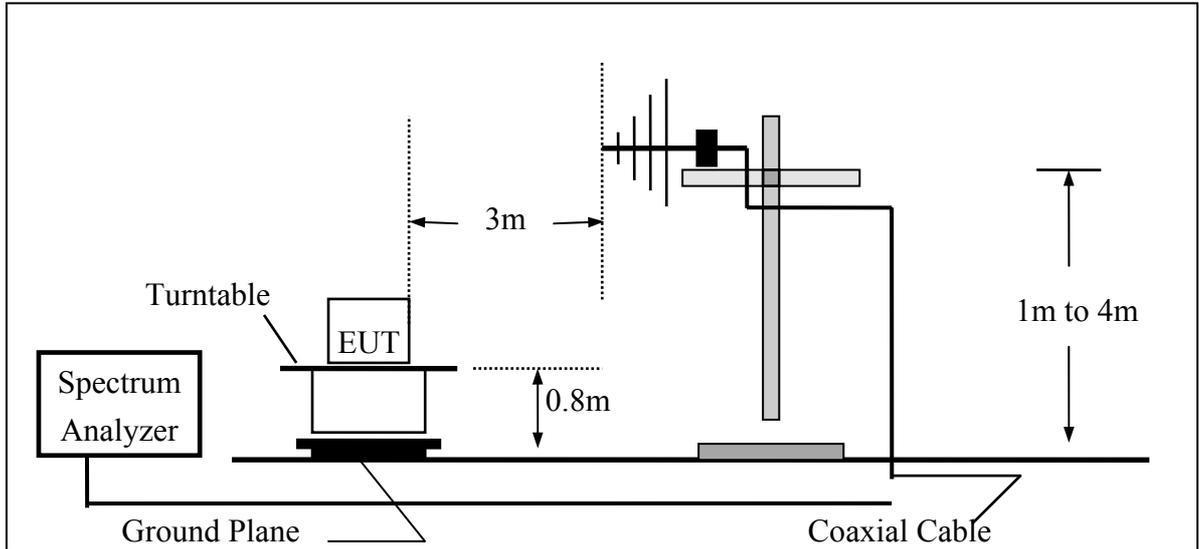
9.3. Measurement Procedure

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

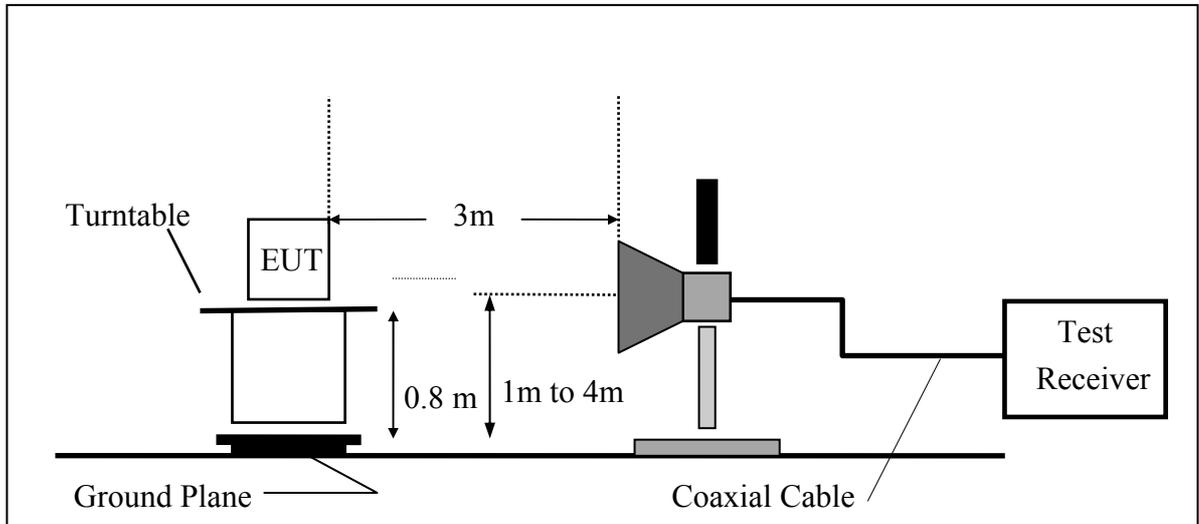
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

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

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



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



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9.5. Measurement Equipment Used:

966 Chamber					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2005	05/26/2006
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2004	08/27/2005
Bilog Antenna	SCHWAZBECK	VULB9163	152	06/03/2004	06/02/2005
Horn antenna	Schwarzbeck	BBHA 9120D	309/320	08/16/2004	08/15/2005
Horn antenna	Schwarzbeck	BBHA 9170	184/185	07/04/2004	07/03/2005
Pre-Amplifier	HP	8447D	2944A09469	07/19/2004	07/18/2005
Pre-Amplifier	HP	8494B	3008A00578	02/26/2005	02/25/2006
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	10/09/2004	10/08/2005
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2004	10/08/2005
Site NSA	SGS	966 chamber	N/A	11/17/2004	11/16/2005

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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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11b TX CH Low	Test Date	May 30, 2005
Fundamental Frequency	2412MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
43.58	V	QP	51.50	-14.64	36.86	40.00	-3.14
400.54	V	Peak	43.99	-10.58	33.41	46.00	-12.59
701.24	V	Peak	44.33	-5.36	38.97	46.00	-7.03
900.09	V	Peak	43.55	-2.16	41.39	46.00	-4.61
300.63	H	Peak	52.44	-13.37	39.07	46.00	-6.93
623.64	H	Peak	41.08	-7.10	33.98	46.00	-12.02
701.24	H	Peak	41.17	-5.36	35.81	46.00	-10.19
900.09	H	Peak	46.93	-2.16	44.77	46.00	-1.23

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11b TX CH Mid	Test Date	May 30, 2005
Fundamental Frequency	2437MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
43.58	V	QP	52.10	-14.64	37.46	40.00	-2.54
300.63	V	Peak	45.89	-13.37	32.52	46.00	-13.48
701.24	V	Peak	44.33	-5.36	38.97	46.00	-7.03
900.09	V	Peak	44.24	-2.16	42.08	46.00	-3.92
300.63	H	Peak	53.64	-13.37	40.27	46.00	-5.73
623.64	H	Peak	40.77	-7.10	33.67	46.00	-12.33
701.24	H	Peak	40.96	-5.36	35.60	46.00	-10.40
800.18	H	Peak	38.61	-3.50	35.11	46.00	-10.89
900.09	H	Peak	46.79	-2.16	44.63	46.00	-1.37

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11b TX CH High	Test Date	May 30, 2005
Fundamental Frequency	2462MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
43.58	V	QP	51.78	-14.64	37.14	40.00	-2.86
300.63	V	Peak	45.28	-13.37	31.91	46.00	-14.09
599.39	V	Peak	41.79	-7.64	34.15	46.00	-11.85
701.24	V	Peak	44.44	-5.36	39.08	46.00	-6.92
900.09	V	Peak	44.20	-2.16	42.04	46.00	-3.96
300.63	H	Peak	53.53	-13.37	40.16	46.00	-5.84
623.64	H	Peak	40.98	-7.10	33.88	46.00	-12.12
701.24	H	Peak	41.71	-5.36	36.35	46.00	-9.65
900.09	H	Peak	46.33	-2.16	44.17	46.00	-1.83

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11g TX CH Low	Test Date	May 30, 2005
Fundamental Frequency	2412MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
43.58	V	QP	51.40	-14.64	36.76	40.00	-3.24
599.39	V	Peak	42.00	-7.64	34.36	46.00	-11.64
701.24	V	Peak	44.95	-5.36	39.59	46.00	-6.41
900.09	V	Peak	44.23	-2.16	42.07	46.00	-3.93
300.63	H	Peak	53.59	-13.37	40.22	46.00	-5.78
480.08	H	Peak	41.11	-9.48	31.63	46.00	-14.37
701.24	H	Peak	41.13	-5.36	35.77	46.00	-10.23
751.68	H	Peak	39.06	-4.42	34.64	46.00	-11.36
900.09	H	Peak	46.86	-2.16	44.70	46.00	-1.30

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11g TX CH Mid	Test Date	May 30, 2005
Fundamental Frequency	2437MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
43.58	V	QP	51.45	-14.64	36.81	40.00	-3.19
400.54	V	Peak	42.67	-14.64	28.03	46.00	-17.97
599.39	V	Peak	42.44	-10.58	31.86	46.00	-14.14
701.24	V	Peak	44.41	-5.36	39.05	46.00	-6.95
900.09	V	Peak	44.53	-2.16	42.37	46.00	-3.63
300.63	H	Peak	51.42	-13.37	38.05	46.00	-7.95
480.08	H	Peak	40.80	-9.48	31.32	46.00	-14.68
599.39	H	Peak	39.29	-7.64	31.65	46.00	-14.35
701.24	H	Peak	41.42	-5.36	36.06	46.00	-9.94
900.09	H	Peak	46.95	-2.16	44.79	46.00	-1.21

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11g TX CH High	Test Date	May 30, 2005
Fundamental Frequency	2462MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
43.58	V	QP	51.37	-14.64	36.73	40.00	-3.27
300.63	V	Peak	45.50	-13.37	32.13	46.00	-13.87
400.54	V	Peak	42.46	-10.58	31.88	46.00	-14.12
701.24	V	Peak	45.19	-5.36	39.83	46.00	-6.17
900.09	V	Peak	44.00	-2.16	41.84	46.00	-4.16
300.63	H	Peak	54.10	-13.37	40.73	46.00	-5.27
623.64	H	Peak	41.37	-7.10	34.27	46.00	-11.73
701.24	H	Peak	40.70	-5.36	35.34	46.00	-10.66
800.18	H	Peak	39.36	-3.50	35.86	46.00	-10.14
900.09	H	Peak	47.11	-2.16	44.95	46.00	-1.05

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11a TX CH Low (External Antenna)	Test Date	May 30, 2005
Fundamental Frequency	5745MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
43.58	V	QP	51.60	-14.64	36.96	40.00	-3.04
300.63	V	Peak	47.27	-13.37	33.90	46.00	-12.10
599.39	V	Peak	42.74	-7.64	35.10	46.00	-10.90
701.24	V	Peak	44.45	-5.36	39.09	46.00	-6.91
900.09	V	Peak	43.31	-2.16	41.15	46.00	-4.85
300.63	H	Peak	55.59	-13.37	42.22	46.00	-3.78
480.08	H	Peak	40.49	-9.48	31.01	46.00	-14.99
701.24	H	Peak	41.16	-5.36	35.80	46.00	-10.20
759.33	H	Peak	39.26	-3.59	35.67	46.00	-10.33
900.09	H	Peak	47.02	-2.16	44.86	46.00	-1.14

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11a TX CH Mid (External Antenna)	Test Date	May 30, 2005
Fundamental Frequency	5785MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
43.58	V	QP	50.98	-14.64	36.34	40.00	-3.66
300.63	V	Peak	49.74	-13.37	36.37	46.00	-9.63
701.24	V	Peak	44.63	-5.36	39.27	46.00	-6.73
900.09	V	Peak	44.85	-2.16	42.69	46.00	-3.31
300.63	H	Peak	52.66	-13.37	39.29	46.00	-6.71
480.08	H	Peak	41.08	-9.48	31.60	46.00	-14.40
701.24	H	Peak	40.83	-5.36	35.47	46.00	-10.53
900.09	H	Peak	46.86	-2.16	44.70	46.00	-1.30

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11a TX CH High (External Antenna)	Test Date	May 30, 2005
Fundamental Frequency	5825MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
43.58	V	QP	51.50	-14.64	36.86	40.00	-3.14
300.63	V	Peak	47.36	-13.37	33.99	46.00	-12.01
599.39	V	Peak	42.51	-7.64	34.87	46.00	-11.13
701.24	V	Peak	44.95	-5.36	39.59	46.00	-6.41
900.09	V	Peak	44.24	-2.16	42.08	46.00	-3.92
43.58	H	Peak	46.79	-14.64	32.15	40.00	-7.85
300.63	H	Peak	52.84	-13.37	39.47	46.00	-6.53
701.24	H	Peak	40.40	-5.36	35.04	46.00	-10.96
900.09	H	QP	45.20	-2.16	43.04	46.00	-2.96

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11a TX CH Low (Internal Antenna)	Test Date	May 30, 2005
Fundamental Frequency	5745MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
56.19	V	QP	51.85	-14.95	36.90	40.00	-3.10
92.08	V	Peak	55.00	-17.77	37.23	43.50	-6.27
128.94	V	Peak	51.84	-14.79	37.05	43.50	-6.45
300.63	V	Peak	53.70	-13.37	40.33	46.00	-5.67
701.24	V	Peak	44.86	-2.16	42.70	46.00	-3.30
92.08	H	Peak	55.75	-17.77	37.98	43.50	-5.52
300.63	H	Peak	52.23	-13.37	38.86	46.00	-7.14
480.08	H	Peak	43.50	-9.48	34.02	46.00	-11.98
497.54	H	Peak	45.67	-9.32	36.35	46.00	-9.65
749.74	H	Peak	41.72	-4.46	37.26	46.00	-8.74
900.09	H	Peak	38.57	-2.16	36.41	46.00	-9.59

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11a TX CH Mid (Internal Antenna)	Test Date	May 30, 2005
Fundamental Frequency	5785MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
51.34	V	QP	51.28	-14.83	36.45	40.00	-3.55
128.94	V	Peak	52.38	-14.79	37.59	43.50	-5.91
300.63	V	Peak	51.26	-13.37	37.89	46.00	-8.11
599.39	V	Peak	41.68	-7.64	34.04	46.00	-11.96
701.24	V	Peak	45.24	-5.36	39.88	46.00	-6.12
900.09	V	Peak	39.74	-2.16	37.58	46.00	-8.42
92.08	H	Peak	55.00	-17.77	37.23	43.50	-6.27
300.63	H	Peak	47.80	-13.37	34.43	46.00	-11.57
499.48	H	Peak	46.43	-9.30	37.13	46.00	-8.87
900.09	H	Peak	38.72	-2.16	36.56	46.00	-9.44

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	802.11a TX CH High (Internal Antenna)	Test Date	May 30, 2005
Fundamental Frequency	5825MHz	Test By	Alex
Temperature	25 °C	Pol	Ver./Hor
Humidity	60 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
43.58	V	QP	51.47	-14.64	36.83	40.00	-3.17
145.43	V	Peak	53.12	-13.58	39.54	43.50	-3.96
300.63	V	Peak	49.65	-13.37	36.28	46.00	-9.72
426.73	V	Peak	44.81	-10.12	34.69	46.00	-11.31
701.24	V	Peak	45.14	-5.36	39.78	46.00	-6.22
900.09	V	Peak	44.59	-2.16	42.43	46.00	-3.57
300.63	H	Peak	55.41	-13.37	42.04	46.00	-3.96
623.64	H	Peak	40.44	-7.10	33.34	46.00	-12.66
701.24	H	Peak	40.86	-5.36	35.50	46.00	-10.50
795.33	H	Peak	41.96	-3.59	38.37	46.00	-7.63
900.09	H	Peak	46.97	-2.16	44.81	46.00	-1.19

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11b TX CH Low	Test Date	May 31, 2005
Fundamental Frequency	2412MHz	Test By	Alex
Temperature	23 °C	Pol	Ver.
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1045.5	52.08	--	-9.25	42.83	--	74.00	54.00	-11.17
1091.0	52.20	--	-9.04	43.16	--	74.00	54.00	-10.84
1188.5	51.71	--	-8.65	43.06	--	74.00	54.00	-10.94
1305.5	51.20	--	-8.08	43.12	--	74.00	54.00	-10.88
4824.0	----							
7236.0	----							
9648.0	----							
12060.0	----							
14472.0	----							
16884.0	----							
19296.0	----							
21708.0	----							
24120.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11b TX CH Low	Test Date	May 31, 2005
Fundamental Frequency	2412MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
4824.0	----							
7236.0	----							
9648.0	----							
12060.0	----							
14472.0	----							
16884.0	----							
19296.0	----							
21708.0	----							
24120.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11b TX CH Mid	Test Date	May 31, 2005
Fundamental Frequency	2437MHz	Test By	Alex
Temperature	23 °C	Pol	Ver
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1091.0	52.89	--	-9.40	43.49	--	74.00	54.00	-10.51
1188.5	51.30	--	-8.65	42.65	--	74.00	54.00	-11.35
1305.5	49.93	--	-8.08	41.85	--	74.00	54.00	-12.15
3158.0	43.42	--	-1.70	41.72	--	74.00	54.00	-12.28
4874.0	----							
7311.0	----							
9748.0	----							
12185.0	----							
14622.0	----							
17059.0	----							
19496.0	----							
21933.0	----							
24370.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11b TX CH Mid	Test Date	May 31, 2005
Fundamental Frequency	2437MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1188.5	53.11	--	-8.65	44.46	--	74.00	54.00	-9.54
1305.5	50.10	--	-8.08	42.02	--	74.00	54.00	-11.98
4874.0	----							
7311.0	----							
9748.0	----							
12185.0	----							
14622.0	----							
17059.0	----							
19496.0	----							
21933.0	----							
24370.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11b TX CH High	Test Date	May 31, 2005
Fundamental Frequency	2462MHz	Test By	Alex
Temperature	23 °C	Pol	Ver
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1091.0	52.26	--	-9.04	43.22	--	74.00	54.00	-10.78
1305.5	50.56	--	-8.08	42.48	--	74.00	54.00	-11.52
1728.0	48.72	--	-6.22	42.50	--	74.00	54.00	-11.50
4924.0	----							
7386.0	----							
9848.0	----							
12310.0	----							
14772.0	----							
17234.0	----							
19696.0	----							
22158.0	----							
24620.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11b TX CH High	Test Date	May 31, 2005
Fundamental Frequency	2462MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1188.5	53.33	--	-8.65	44.68	--	74.00	54.00	-9.32
1305.5	49.24	--	-8.08	41.16	--	74.00	54.00	-12.84
1728.0	50.21	--	-6.22	43.99	--	74.00	54.00	-10.01
4924.0	----							
7386.0	----							
9848.0	----							
12310.0	----							
14772.0	----							
17234.0	----							
19696.0	----							
22158.0	----							
24620.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11g TX CH Low	Test Date	May 31, 2005
Fundamental Frequency	2412MHz	Test By	Alex
Temperature	25 °C	Pol	Ver.
Humidity	60 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1091.0	53.62	--	-9.04	44.58	--	74.00	54.00	-9.42
1188.5	48.99	--	-8.65	40.34	--	74.00	54.00	-13.66
1305.5	50.08	--	-8.08	42.00	--	74.00	54.00	-12.00
1403.0	48.52	--	-7.62	40.90	--	74.00	54.00	-13.10
4824.0	----							
7236.0	----							
9648.0	----							
12060.0	----							
14472.0	----							
16884.0	----							
19296.0	----							
21708.0	----							
24120.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11g TX CH Low	Test Date	May 31, 2005
Fundamental Frequency	2412MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1091.0	53.62	--	-9.04	44.58	--	74.00	54.00	-9.42
1188.5	50.81	--	-8.65	42.16	--	74.00	54.00	-11.84
1305.5	50.59	--	-8.08	42.51	--	74.00	54.00	-11.49
4824.0	----							
7236.0	----							
9648.0	----							
12060.0	----							
14472.0	----							
16884.0	----							
19296.0	----							
21708.0	----							
24120.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11g TX CH Mid	Test Date	May 31, 2005
Fundamental Frequency	2437MHz	Test By	Alex
Temperature	23 °C	Pol	Ver
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1091.0	51.75	--	-9.40	42.35	--	74.00	54.00	-11.65
1188.5	51.72	--	-8.65	43.07	--	74.00	54.00	-10.93
1305.5	51.78	--	-8.08	43.70	--	74.00	54.00	-10.30
1403.0	48.07	--	-7.62	40.45	--	74.00	54.00	-13.55
4874.0	----							
7311.0	----							
9748.0	----							
12185.0	----							
14622.0	----							
17059.0	----							
19496.0	----							
21933.0	----							
24370.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11g TX CH Mid	Test Date	May 31, 2005
Fundamental Frequency	2437MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1091.0	50.75	--	-9.04	41.71	--	74.00	54.00	-12.29
1188.5	52.52	--	-8.65	43.87	--	74.00	54.00	-10.13
1305.5	49.41	--	-8.08	41.33	--	74.00	54.00	-12.67
4874.0	----							
7311.0	----							
9748.0	----							
12185.0	----							
14622.0	----							
17059.0	----							
19496.0	----							
21933.0	----							
24370.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11g TX CH High	Test Date	May 31, 2005
Fundamental Frequency	2462MHz	Test By	Alex
Temperature	23 °C	Pol	Ver
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1091.0	52.88	--	-9.04	43.84	--	74.00	54.00	-10.16
1188.5	50.90	--	-8.65	42.25	--	74.00	54.00	-11.75
1305.5	52.06	--	-8.08	43.98	--	74.00	54.00	-10.02
3158.0	43.35	--	-1.70	41.65	--	74.00	54.00	-12.35
4924.0	----							
7386.0	----							
9848.0	----							
12310.0	----							
14772.0	----							
17234.0	----							
19696.0	----							
22158.0	----							
24620.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11g TX CH High	Test Date	May 31, 2005
Fundamental Frequency	2462MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	
1188.5	53.06	--	-8.65	44.41	--	74.00	54.00	-9.59
1305.5	51.88	--	-8.08	43.80	--	74.00	54.00	-10.20
4924.0	----							
7386.0	----							
9848.0	----							
12310.0	----							
14772.0	----							
17234.0	----							
19696.0	----							
22158.0	----							
24620.0	----							

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH Low (External Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5745MHz	Test By	Alex
Temperature	25 °C	Pol	Ver.
Humidity	60 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBUV)	Reading (dBUV)		Peak (dBUV/m)	AV (dBUV/m)	Limit (dBUV/m)	Limit (dBUV/m)		
4588.0	53.82	42.78	2.41	56.23	45.19	74.00	54.00	-8.81	AV
5121.0	51.40	41.75	3.92	55.32	45.67	74.00	54.00	-8.33	AV
5186.0	54.05	40.50	4.10	58.15	44.60	74.00	54.00	-9.40	AV
5303.0	51.96	40.25	4.51	56.47	44.76	74.00	54.00	-9.24	AV
6050.5	44.38	--	5.86	50.24	--	74.00	54.00	-3.76	Peak
11490.0	----								
17235.0	----								
22980.0	----								
28725.0	----								
34470.0	----								
40215.0	----								
45960.0	----								
51705.0	----								
57450.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH Low (External Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5745MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	58.20	----	-9.04	49.16	----	74.00	54.00	-4.84	Peak
1188.5	55.34	----	-8.65	46.69	----	74.00	54.00	-7.31	Peak
1305.5	52.61	----	-8.08	44.53	----	74.00	54.00	-9.47	Peak
4588.0	42.34	----	2.41	44.75	----	74.00	54.00	-9.25	Peak
11490.0	----								
17235.0	----								
22980.0	----								
28725.0	----								
34470.0	----								
40215.0	----								
45960.0	----								
51705.0	----								
57450.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH Mid (External Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5785MHz	Test By	Alex
Temperature	23 °C	Pol	Ver
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2410.5	57.74	42.78	-3.35	54.39	39.43	74.00	54.00	-14.57	AV
4620.5	54.66	42.78	2.49	57.15	45.27	74.00	54.00	-8.73	AV
5121.0	52.44	41.75	3.92	56.36	45.67	74.00	54.00	-8.33	AV
5186.0	53.47	40.50	4.10	57.57	44.60	74.00	54.00	-9.40	AV
5238.0	52.16	40.25	4.26	56.42	44.51	74.00	54.00	-9.49	AV
6050.5	46.52	--	5.86	52.38	--	74.00	54.00	-1.62	Peak
11570.0	----								
17355.0	----								
23140.0	----								
28925.0	----								
34710.0	----								
40495.0	----								
46280.0	----								
52065.0	----								
57850.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH Mid (External Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5785MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Actual FS CF(dB)	Peak	AV	Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Ant./CL	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)		
1091.0	57.76	----	-9.04	48.72	----	74.00	54.00	-5.28	Peak
1188.5	54.12	----	-8.65	45.47	----	74.00	54.00	-8.53	Peak
4620.5	48.60	----	2.49	51.09	----	74.00	54.00	-2.91	Peak
11570.0	----								
17355.0	----								
23140.0	----								
28925.0	----								
34710.0	----								
40495.0	----								
46280.0	----								
52065.0	----								
57850.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH High (External Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5825MHz	Test By	Alex
Temperature	23 °C	Pol	Ver
Humidity	54 %		

Freq. (MHz)	Peak	AV	Actual FS Ant./CL CF(dB)	Peak	AV	Peak Limit (dBuV/m)	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)		Limit (dBuV/m)		
1091.0	57.79	--	-9.04	48.75	--	74.00	54.00	-5.25	Peak
4653.0	57.87	46.03	2.58	60.45	48.61	74.00	54.00	-5.39	AV
5121.0	52.47	44.12	3.92	56.39	48.04	74.00	54.00	-5.96	AV
5186.0	54.69	42.74	4.10	58.79	46.84	74.00	54.00	-7.16	AV
5303.0	52.54	43.69	4.51	57.05	48.20	74.00	54.00	-5.80	AV
5530.5	50.43	40.89	4.57	55.00	45.46	74.00	54.00	-8.54	AV
5823.0	47.32	--	5.24	52.56	--	74.00	54.00	-1.44	Peak
11650.0	----								
17475.0	----								
23300.0	----								
29125.0	----								
34950.0	----								
40775.0	----								
46600.0	----								
52425.0	----								
58250.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH High (External Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5825MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Actual FS Ant./CL CF(dB)	Peak	AV	Peak Limit (dBuV/m)	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)		Limit (dBuV/m)		
1091.0	57.10	--	-9.04	48.06	--	74.00	54.00	-5.94	Peak
1188.5	54.64	--	-8.65	45.99	--	74.00	54.00	-8.01	Peak
2443.0	46.00	--	-3.18	42.82	--	74.00	54.00	-11.18	Peak
4653.0	46.70	--	2.58	49.28	--	74.00	54.00	-4.72	Peak
11650.0	----								
17475.0	----								
23300.0	----								
29125.0	----								
34950.0	----								
40775.0	----								
46600.0	----								
52425.0	----								
58250.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH Low (Internal Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5745MHz	Test By	Alex
Temperature	25 °C	Pol	Ver.
Humidity	60 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	59.31	--	-9.04	50.27	--	74.00	54.00	-3.73	Peak
1305.5	54.28	--	-8.08	46.20	--	74.00	54.00	-7.80	Peak
4588.0	59.77	48.00	2.41	62.18	50.41	74.00	54.00	-3.59	AV
5270.5	48.73	--	4.36	53.09	--	74.00	54.00	-0.91	Peak
6115.5	44.36	--	6.08	50.44	--	74.00	54.00	-3.56	Peak
11490.0	----								
17235.0	----								
22980.0	----								
28725.0	----								
34470.0	----								
40215.0	----								
45960.0	----								
51705.0	----								
57450.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH Low (Internal Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5745MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.00	59.85	----	-9.04	50.81	----	74.00	54.00	-3.19	Peak
4588.0	58.41	45.30	2.41	60.82	47.71	74.00	54.00	-6.29	AV
5186.0	45.86	----	4.10	49.96	----	74.00	54.00	-4.04	Peak
6050.5	43.70	----	5.86	49.56	----	74.00	54.00	-4.44	Peak
11490.0	----								
17235.0	----								
22980.0	----								
28725.0	----								
34470.0	----								
40215.0	----								
45960.0	----								
51705.0	----								
57450.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH Mid (Internal Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5785MHz	Test By	Alex
Temperature	23 °C	Pol	Ver
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	58.82	----	-9.40	49.42	----	74.00	54.00	-4.58	Peak
1305.5	54.49	----	-8.08	46.41	----	74.00	54.00	-7.59	Peak
1695.5	52.93	----	-6.40	46.53	----	74.00	54.00	-7.47	Peak
2443.0	50.64	----	-3.18	47.46	----	74.00	54.00	-6.54	Peak
4620.5	57.52	44.59	2.49	60.01	47.08	74.00	54.00	-6.92	AV
11570.0	----								
17355.0	----								
23140.0	----								
28925.0	----								
34710.0	----								
40495.0	----								
46280.0	----								
52065.0	----								
57850.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH Mid (Internal Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5785MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	60.34	----	-9.04	51.30	----	74.00	54.00	-2.70	Peak
1305.5	57.35	----	-8.08	49.27	----	74.00	54.00	-4.73	Peak
1403.0	57.42	----	-7.62	49.80	----	75.00	54.00	-4.20	Peak
1500.5	62.52	60.15	-7.17	55.35	52.98	75.00	54.00	-1.02	AV
4620.5	50.05	----	2.49	52.54	----	74.00	54.00	-1.46	Peak
11570.0	----								
17355.0	----								
23140.0	----								
28925.0	----								
34710.0	----								
40495.0	----								
46280.0	----								
52065.0	----								
57850.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH High (Internal Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5825MHz	Test By	Alex
Temperature	23 °C	Pol	Ver
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	58.80	----	-9.04	49.76	----	74.00	54.00	-4.24	Peak
1305.5	55.72	----	-8.08	47.64	----	74.00	54.00	-6.36	Peak
4653.0	60.19	47.12	2.58	62.77	49.70	74.00	54.00	-4.30	AV
5186.0	41.68	----	4.10	45.78	----	74.00	54.00	-8.22	Peak
5823.0	42.75	----	5.24	47.99	----	74.00	54.00	-6.01	Peak
10521.5	41.08	31.68	14.74	55.82	46.42	74.00	54.00	-7.58	AV
11650.0	----								
17475.0	----								
23300.0	----								
29125.0	----								
34950.0	----								
40775.0	----								
46600.0	----								
52425.0	----								
58250.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	802.11a TX CH High (Internal Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5825MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	60.25	----	-9.04	51.21	----	74.00	54.00	-2.79	Peak
1403.0	58.04	----	-7.62	50.42	----	74.00	54.00	-3.58	Peak
1500.5	62.15	60.35	-7.17	54.98	53.18	74.00	54.00	-0.82	AV
4653.0	52.88	40.91	2.58	55.46	43.49	75.00	54.00	-10.51	AV
11648.6	47.49	34.81	15.62	63.11	50.43	74.00	54.00	-3.57	AV
11650.0	----								
17475.0	----								
23300.0	----								
29125.0	----								
34950.0	----								
40775.0	----								
46600.0	----								
52425.0	----								
58250.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (below 1GHz) Worst Case

Operation Mode	802.11b RX CH Low	Test Date	May 31, 2005
Fundamental Frequency	2412MHz	Test By	Alex
Temperature	23 °C	Pol	Ver./Hor
Humidity	54 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margir (dB)
90.14	V	Peak	46.75	-17.89	28.86	43.50	-14.64
499.48	V	Peak	47.64	-9.30	38.34	46.00	-7.66
633.34	V	Peak	39.90	-6.88	33.02	46.00	-12.98
701.24	V	Peak	42.14	-5.36	36.78	46.00	-9.22
900.09	V	Peak	35.67	-2.16	33.51	46.00	-12.49
48.43	H	Peak	41.50	-14.70	26.80	40.00	-13.20
499.48	H	Peak	38.15	-9.30	28.85	46.00	-17.15
599.39	H	Peak	37.86	-7.64	30.22	46.00	-15.78
633.34	H	Peak	37.53	-6.88	30.65	46.00	-15.35
701.24	H	Peak	41.26	-5.36	35.90	46.00	-10.10

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.
- (5) Worst mode

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Radiated Spurious Emission Measurement Result (below 1GHz) Worst Case

Operation Mode	802.11g RX CH Low	Test Date	May 31, 2005
Fundamental Frequency	2412MHz	Test By	Alex
Temperature	23 °C	Pol	Ver./Hor
Humidity	54 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margir (dB)
90.14	V	Peak	47.01	-17.89	29.12	43.50	-14.38
499.48	V	Peak	47.16	-9.30	37.86	46.00	-8.14
633.34	V	Peak	41.52	-6.88	34.64	46.00	-11.36
701.24	V	Peak	42.13	-5.36	36.77	46.00	-9.23
900.09	V	Peak	36.38	-2.16	34.22	46.00	-11.78
36.79	H	Peak	42.55	-14.93	27.62	40.00	-12.38
499.48	H	Peak	38.02	-9.30	28.72	46.00	-17.28
599.39	H	Peak	38.09	-7.64	30.45	46.00	-15.55
633.34	H	Peak	37.53	-6.88	30.65	46.00	-15.35
701.24	H	Peak	40.35	-5.36	34.99	46.00	-11.01
900.09	H	Peak	35.62	-2.16	33.46	46.00	-12.54

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.
- (5) Worst mode

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Radiated Spurious Emission Measurement Result (below 1GHz) Worst Case

Operation Mode	802.11a RX CH Low (External Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5745MHz	Test By	Alex
Temperature	23 °C	Pol	Ver./Hor
Humidity	54 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
30.97	V	Peak	52.70	-15.25	37.45	40.00	-2.55
48.43	V	Peak	51.62	-14.70	36.92	40.00	-3.08
128.94	V	Peak	53.01	-14.79	38.22	43.50	-5.28
300.63	V	Peak	43.62	-13.37	30.25	46.00	-15.75
701.24	V	Peak	43.86	-5.36	38.50	46.00	-7.50
900.09	V	Peak	39.16	-2.16	37.00	46.00	-9.00
72.68	H	Peak	49.71	-17.40	32.31	40.00	-7.69
135.73	H	Peak	45.28	-14.23	31.05	43.50	-12.45
300.63	H	Peak	43.91	-13.37	30.54	46.00	-15.46
499.48	H	Peak	37.23	-9.30	27.93	46.00	-18.07
701.24	H	Peak	35.58	-5.36	30.22	46.00	-15.78
900.09	H	Peak	34.00	-2.16	31.84	46.00	-14.16

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.
- (5) Worst mode

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Radiated Spurious Emission Measurement Result (below 1GHz) Worst Case

Operation Mode	802.11a RX CH Low (Internal Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5745MHz	Test By	Alex
Temperature	23 °C	Pol	Ver./Hor
Humidity	54 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margir (dB)
33.88	V	QP	52.30	-15.13	37.17	40.00	-2.83
53.28	V	Peak	52.78	-14.91	37.87	40.00	-2.13
300.63	V	Peak	43.44	-13.37	30.07	46.00	-15.93
499.48	V	Peak	41.10	-9.30	31.80	46.00	-14.20
701.24	V	Peak	43.26	-5.36	37.90	46.00	-8.10
900.09	V	Peak	38.52	-2.16	36.36	46.00	-9.64
53.28	H	Peak	48.75	-14.91	33.84	40.00	-6.16
67.83	H	Peak	51.28	-15.88	35.40	40.00	-4.60
300.63	H	Peak	43.58	-13.37	30.21	46.00	-15.79
701.24	H	Peak	37.32	-5.36	31.96	46.00	-14.04

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) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.
- (5) Worst mode

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Radiated Spurious Emission Measurement Result (above 1GHz) Worst Case

Operation Mode	802.11b RX CH Low	Test Date	May 31, 2005
Fundamental Frequency	2412 MHz	Test By	Alex
Temperature	23 °C	Pol	Ver.
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	57.23	---	-9.04	48.19	---	74.00	54.00	-5.81	Peak
1188.5	54.53	---	-8.65	45.88	---	74.00	54.00	-8.12	Peak
1305.5	49.13	---	-8.08	41.05	---	74.00	54.00	-12.95	Peak
1403.0	47.71	---	-7.62	40.09	---	74.00	54.00	-13.91	Peak
4824.0	----								
7236.0	----								
9648.0	----								
12060.0	----								
14472.0	----								
16884.0	----								
19296.0	----								
21708.0	----								
24120.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz) Worst Case

Operation Mode	802.11b RX CH Low	Test Date	May 31, 2005
Fundamental Frequency	2412 MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	53.92	---	-9.04	44.88	---	74.00	54.00	-9.12	Peak
1188.5	53.48	---	-8.65	44.83	---	74.00	54.00	-9.17	Peak
1305.5	49.91	---	-8.08	41.83	---	74.00	54.00	-12.17	Peak
1403.0	44.22	---	-7.62	36.60	---	74.00	54.00	-17.40	Peak
4824.0	----								
7236.0	----								
9648.0	----								
12060.0	----								
14472.0	----								
16884.0	----								
19296.0	----								
21708.0	----								
24120.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz) Worst Case

Operation Mode	802.11g RX CH Low	Test Date	May 31, 2005
Fundamental Frequency	2412 MHz	Test By	Alex
Temperature	23 °C	Pol	Ver.
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	56.08	---	-9.04	47.04	---	74.00	54.00	-6.96	Peak
1188.5	54.15	---	-8.65	45.50	---	74.00	54.00	-8.50	Peak
1305.5	48.49	---	-8.08	40.41	---	74.00	54.00	-13.59	Peak
1403.0	44.36	---	-7.62	36.74	---	74.00	54.00	-17.26	Peak
4824.0	----								
7236.0	----								
9648.0	----								
12060.0	----								
14472.0	----								
16884.0	----								
19296.0	----								
21708.0	----								
24120.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz) Worst Case

Operation Mode	802.11g RX CH Low	Test Date	May 31, 2005
Fundamental Frequency	2412 MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	55.74	---	-9.04	46.70	---	74.00	54.00	-7.30	Peak
1188.5	52.62	---	-8.65	43.97	---	74.00	54.00	-10.03	Peak
1305.5	51.04	---	-8.08	42.96	---	74.00	54.00	-11.04	Peak
1403.0	44.89	---	-7.62	37.27	---	74.00	54.00	-16.73	Peak
4824.0	----								
7236.0	----								
9648.0	----								
12060.0	----								
14472.0	----								
16884.0	----								
19296.0	----								
21708.0	----								
24120.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz) Worst Case

Operation Mode	802.11a RX CH Low (External Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5745 MHz	Test By	Alex
Temperature	23 °C	Pol	Ver.
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	47.89	---	-9.04	38.85	---	74.00	54.00	-15.15	Peak
1305.5	42.51	---	-8.08	34.43	---	74.00	54.00	-19.57	Peak
11490.0	----								
17235.0	----								
22980.0	----								
28725.0	----								
34470.0	----								
40215.0	----								
45960.0	----								
51705.0	----								
57450.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz) Worst Case

Operation Mode	802.11a RX CH Low (External Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5745 MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1045.5	45.58	---	-9.25	36.33	---	74.00	54.00	-17.67	Peak
11490.0	----								
17235.0	----								
22980.0	----								
28725.0	----								
34470.0	----								
40215.0	----								
45960.0	----								
51705.0	----								
57450.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz) Worst Case

Operation Mode	802.11a RX CH Low (Internal Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5745 MHz	Test By	Alex
Temperature	23 °C	Pol	Ver.
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1091.0	44.96	---	-9.04	35.92	---	74.00	54.00	-18.08	Peak
1305.5	44.47	---	-8.08	36.39	---	74.00	54.00	-17.61	Peak
11490.0	----								
17235.0	----								
22980.0	----								
28725.0	----								
34470.0	----								
40215.0	----								
45960.0	----								
51705.0	----								
57450.0	----								

Remark :

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

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Radiated Spurious Emission Measurement Result (above 1GHz) Worst Case

Operation Mode	802.11a RX CH Low (Internal Antenna)	Test Date	May 31, 2005
Fundamental Frequency	5745 MHz	Test By	Alex
Temperature	23 °C	Pol	Hor
Humidity	54 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1078.0	47.53	---	-9.12	38.41	---	74.00	54.00	-15.59	Peak
1305.5	43.19	---	-8.08	35.11	---	74.00	54.00	-18.89	Peak
11490.0	----								
17235.0	----								
22980.0	----								
28725.0	----								
34470.0	----								
40215.0	----								
45960.0	----								
51705.0	----								
57450.0	----								

Remark :

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

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10. Peak Power Spectral Density

10.1. Standard Applicable

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

According to RSS210 (b) The transmitter power spectral density (into the antenna) shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission or over 1.0 second if the transmission exceeds 1.0 second duration.

10.2. Measurement Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW = 3KHz, VBW = 3KHz, Span = 300KHz, Sweep=100s
4. Record the max. reading.
5. Repeat above procedures until all frequency measured were complete.

10.3. Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/24/2005	03/23/2006
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2004	08/27/2005
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2004	10/06/2005

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10.4. Measurement Result

802.11b

CH	RF Power Density Reading (dBm)	Cable loss (dB)	RF Power Density Level (dBm)	Maximum Limit (dBm)
Low	-9.04	0.00	-9.04	8
Mid	-8.47	0.00	-8.47	8
High	-10.85	0.00	-10.85	8

802.11g

CH	RF Power Density Reading (dBm)	Cable loss (dB)	RF Power Density Level (dBm)	Maximum Limit (dBm)
Low	-8.80	0.00	-8.80	8
Mid	-8.59	0.00	-8.59	8
High	-10.68	0.00	-10.68	8

802.11a External Antenna

CH	RF Power Density Reading (dBm)	Cable loss (dB)	RF Power Density Level (dBm)	Maximum Limit (dBm)
Low	-13.49	0.00	-13.49	8
Mid	-15.71	0.00	-15.71	8
High	-14.68	0.00	-14.68	8

802.11a Internal Antenna

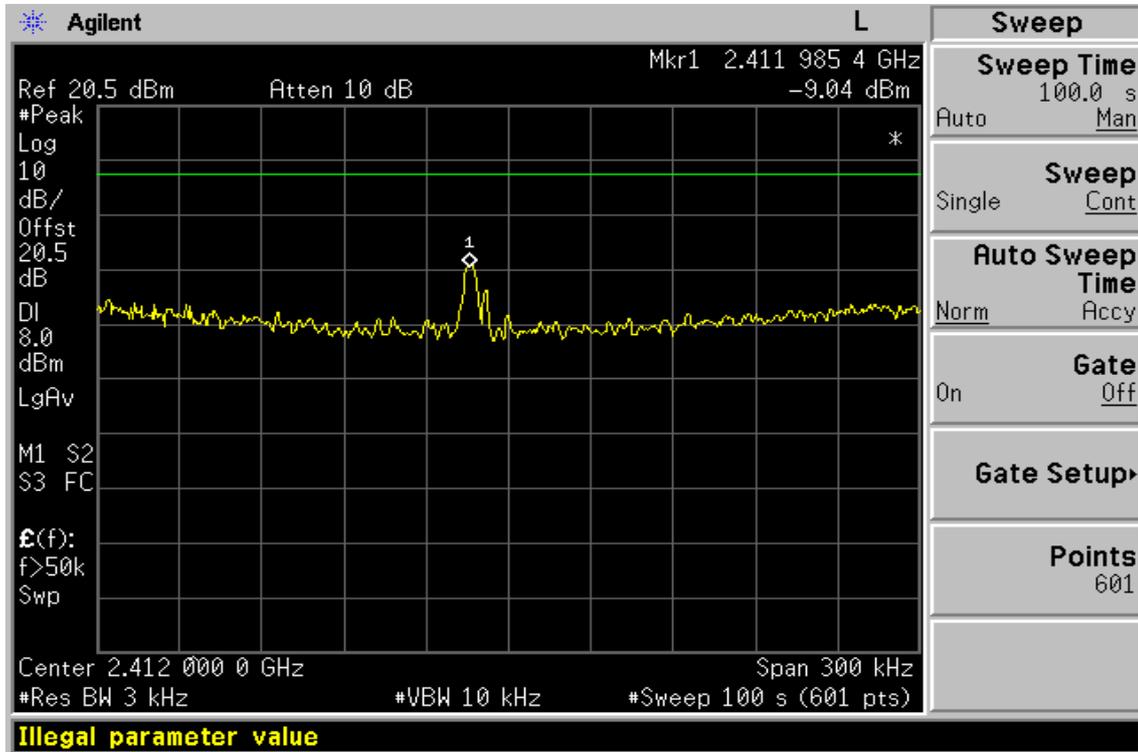
CH	RF Power Density Reading (dBm)	Cable loss (dB)	RF Power Density Level (dBm)	Maximum Limit (dBm)
Low	-13.92	0.00	-13.92	8
Mid	-17.29	0.00	-17.29	8
High	-12.71	0.00	-12.71	8

The data is offset 20.5dB.

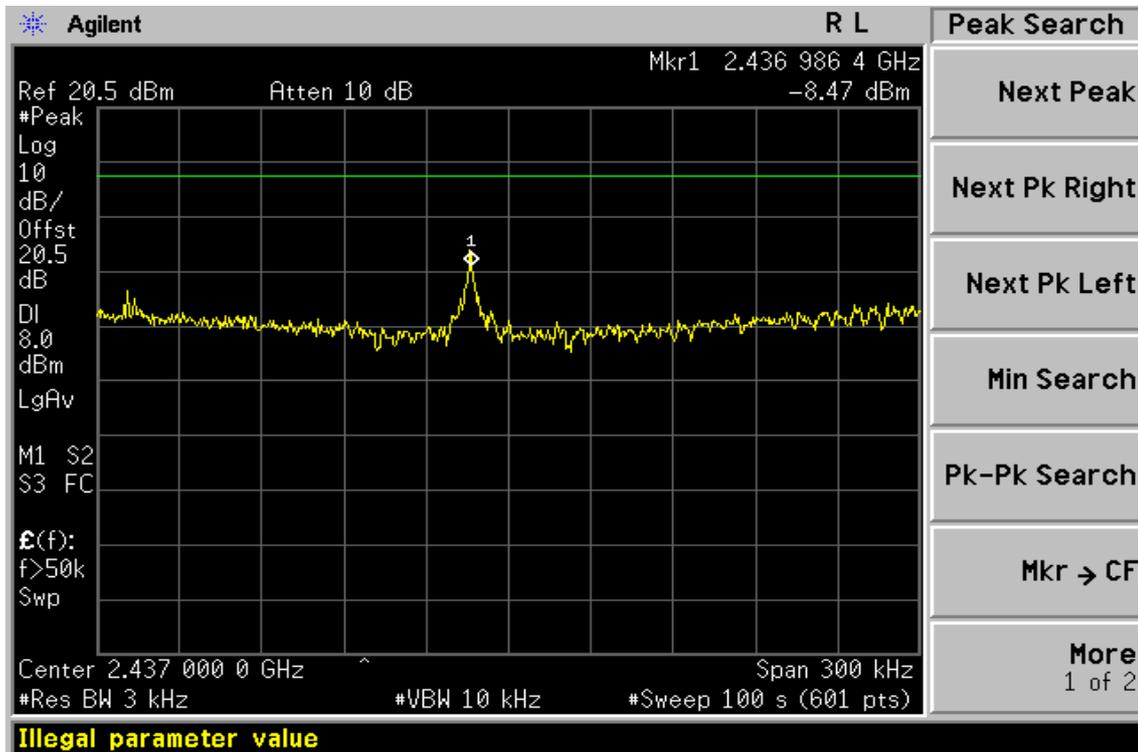
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802.11b

Power Spectral Density Test Plot (CH-Low)

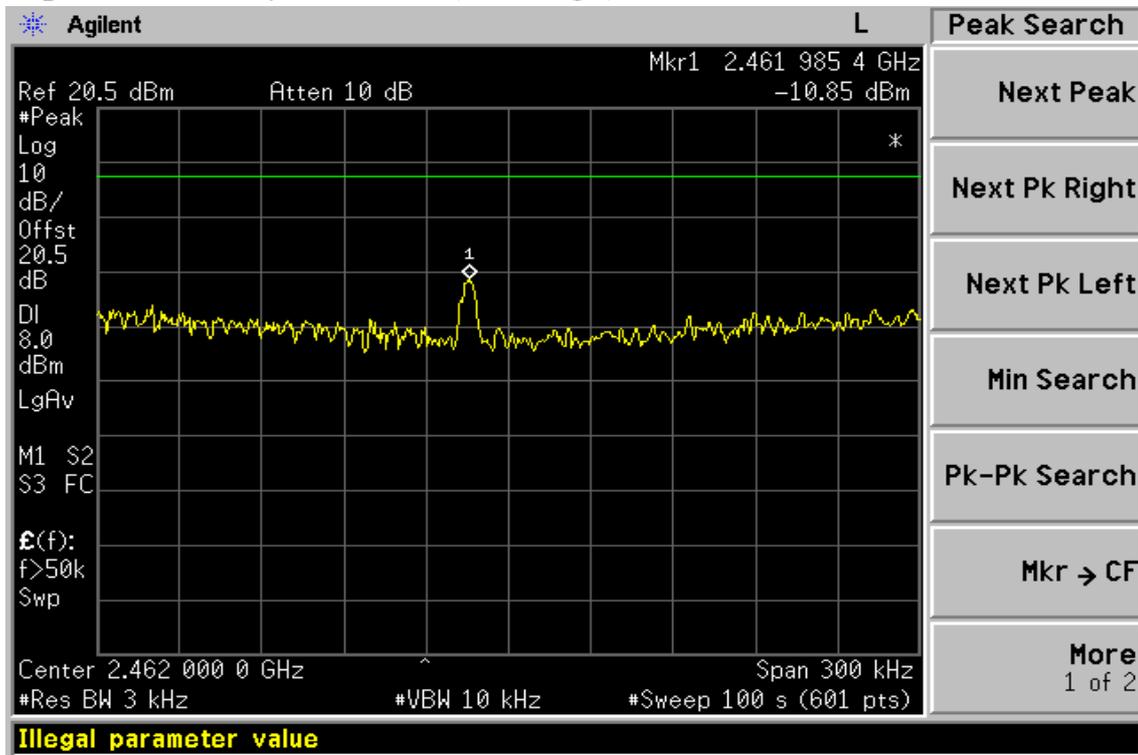


Power Spectral Density Test Plot (CH-Mid)



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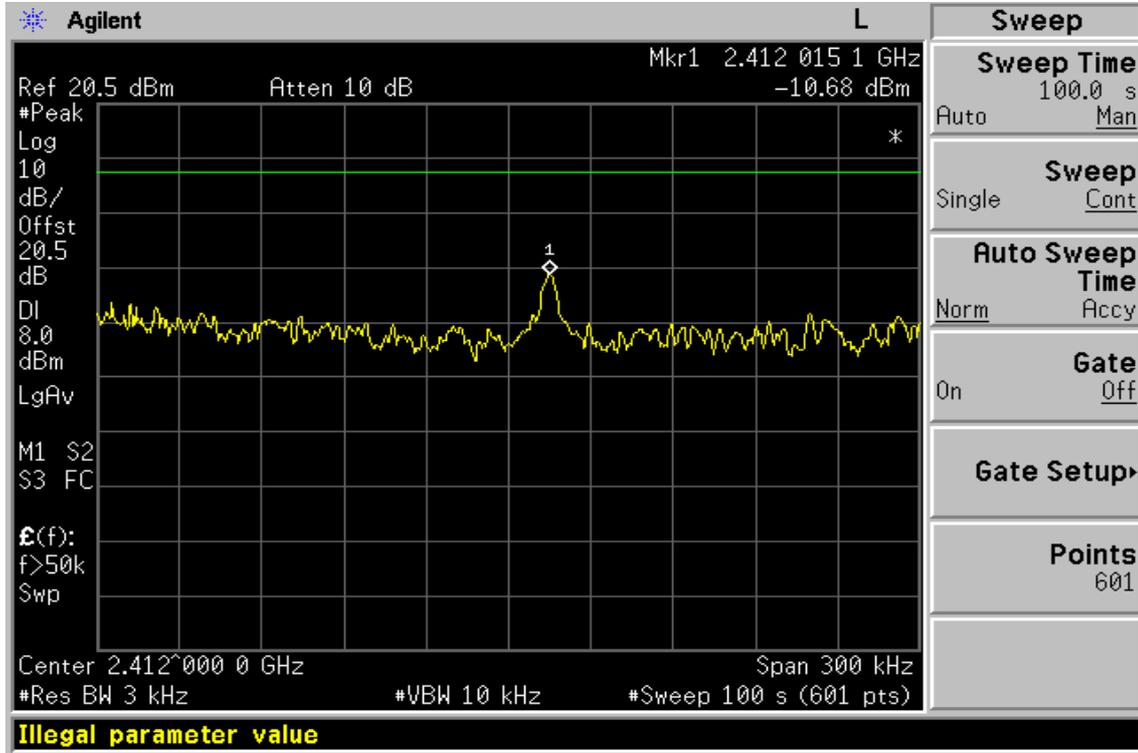
Power Spectral Density Test Plot (CH-High)



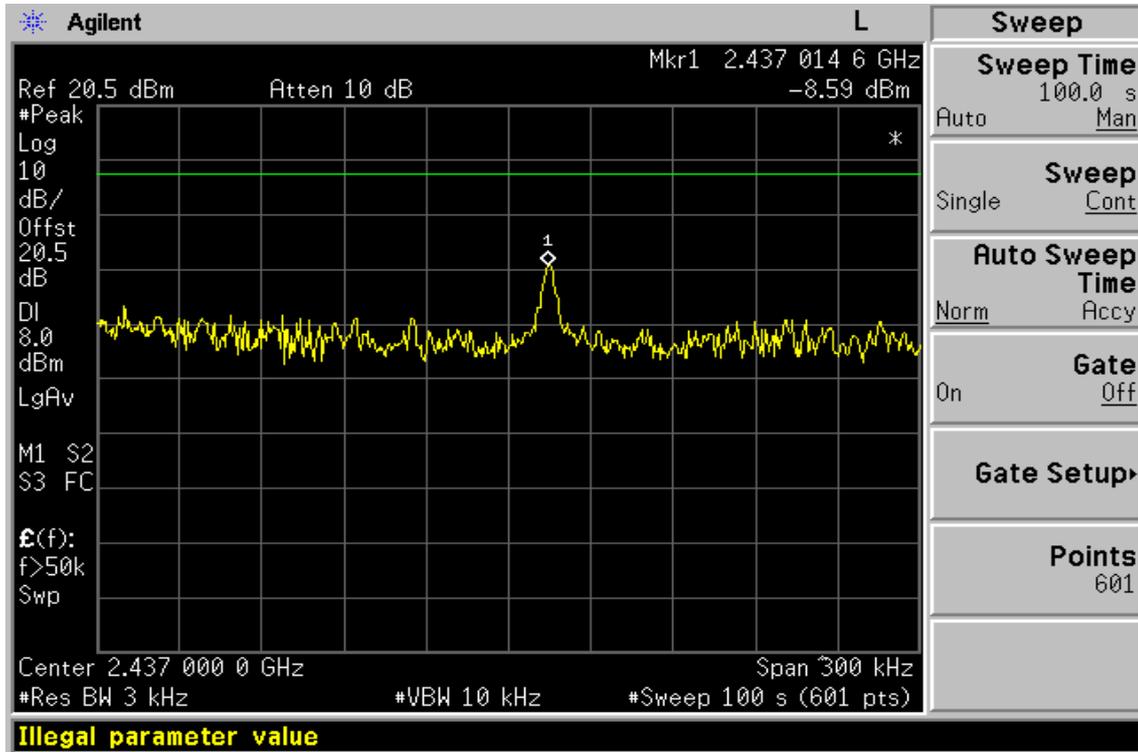
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802.11g

Power Spectral Density Test Plot (CH-Low)

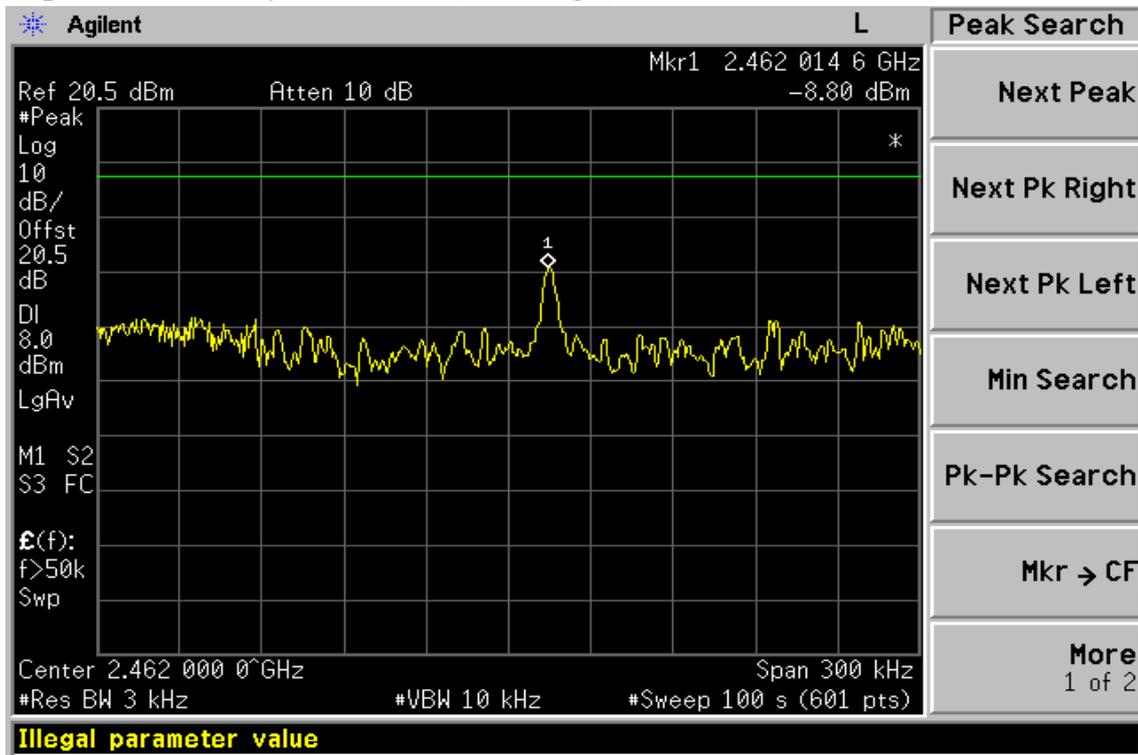


Power Spectral Density Test Plot (CH-Mid)



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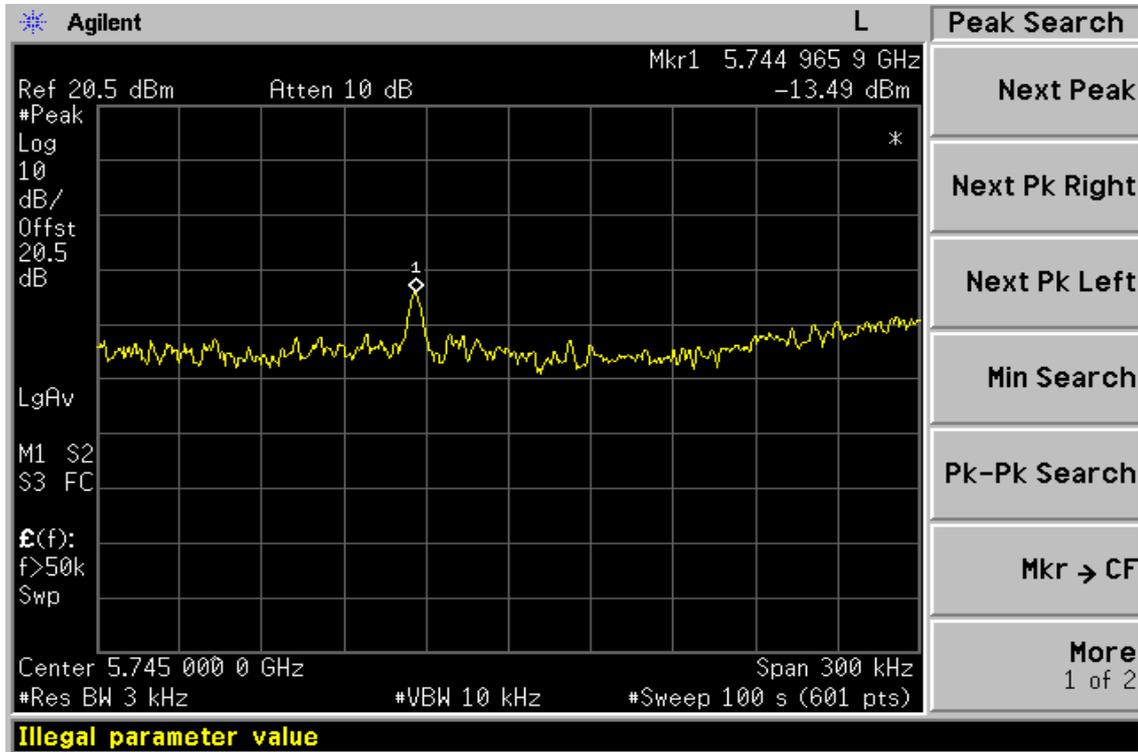
Power Spectral Density Test Plot (CH-High)



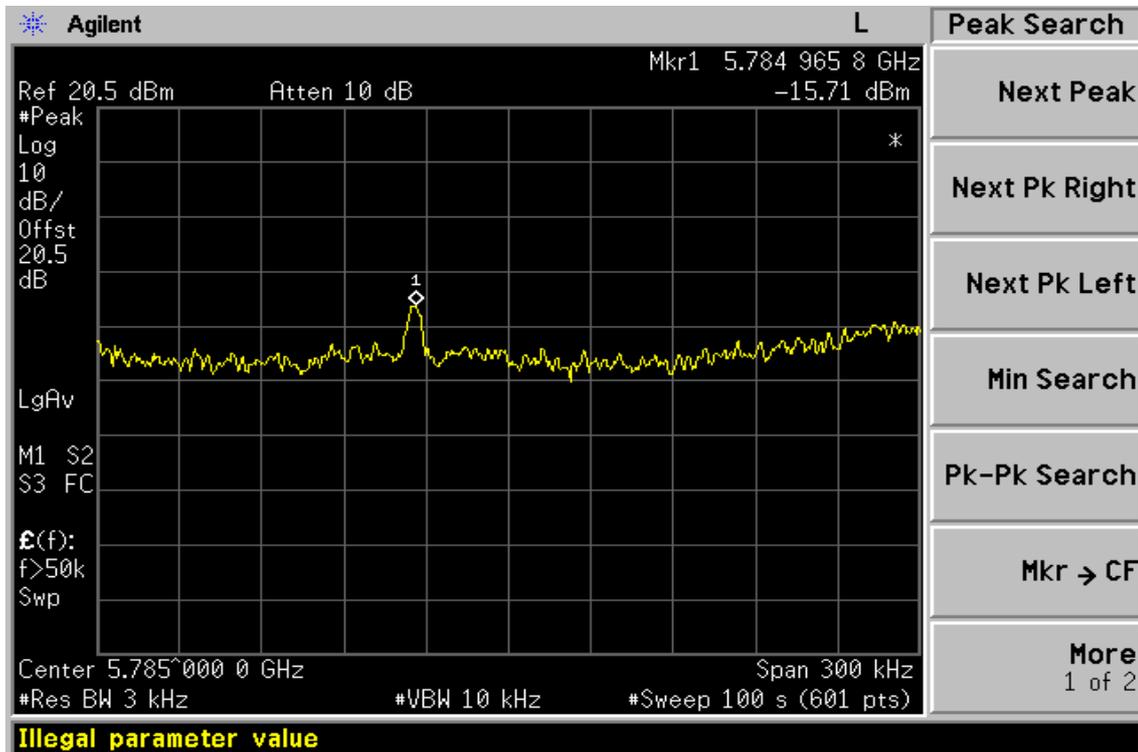
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802.11a External Antenna

Power Spectral Density Test Plot (CH-Low)

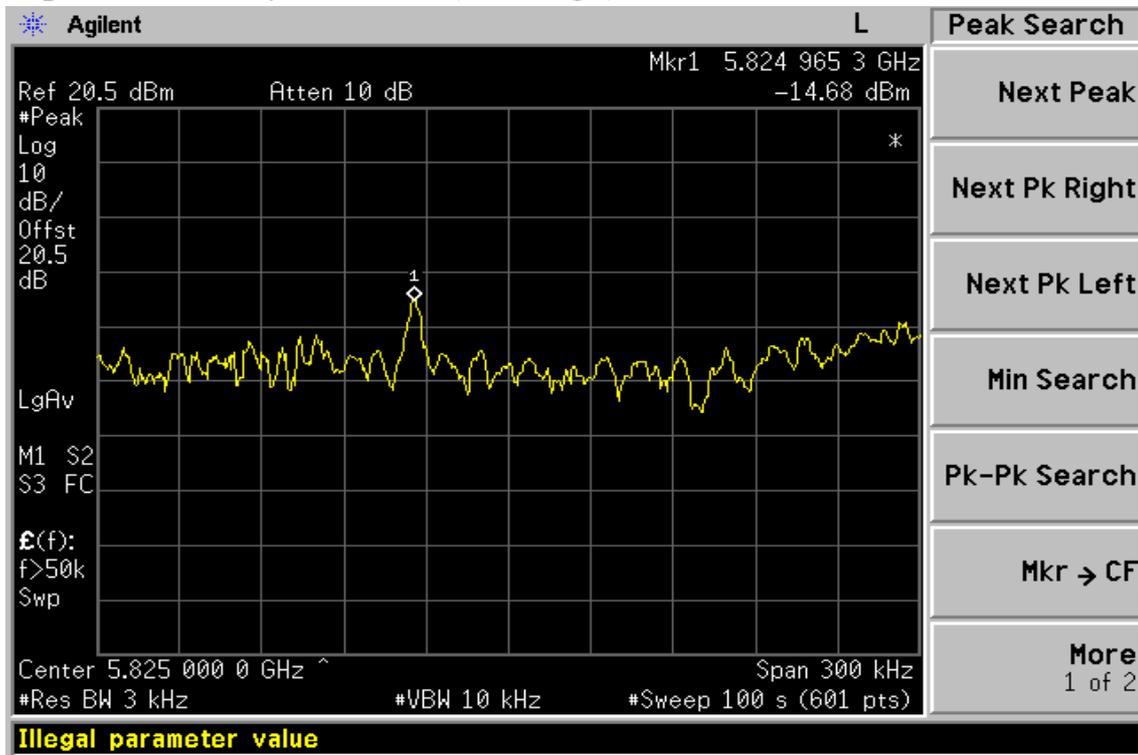


Power Spectral Density Test Plot (CH-Mid)



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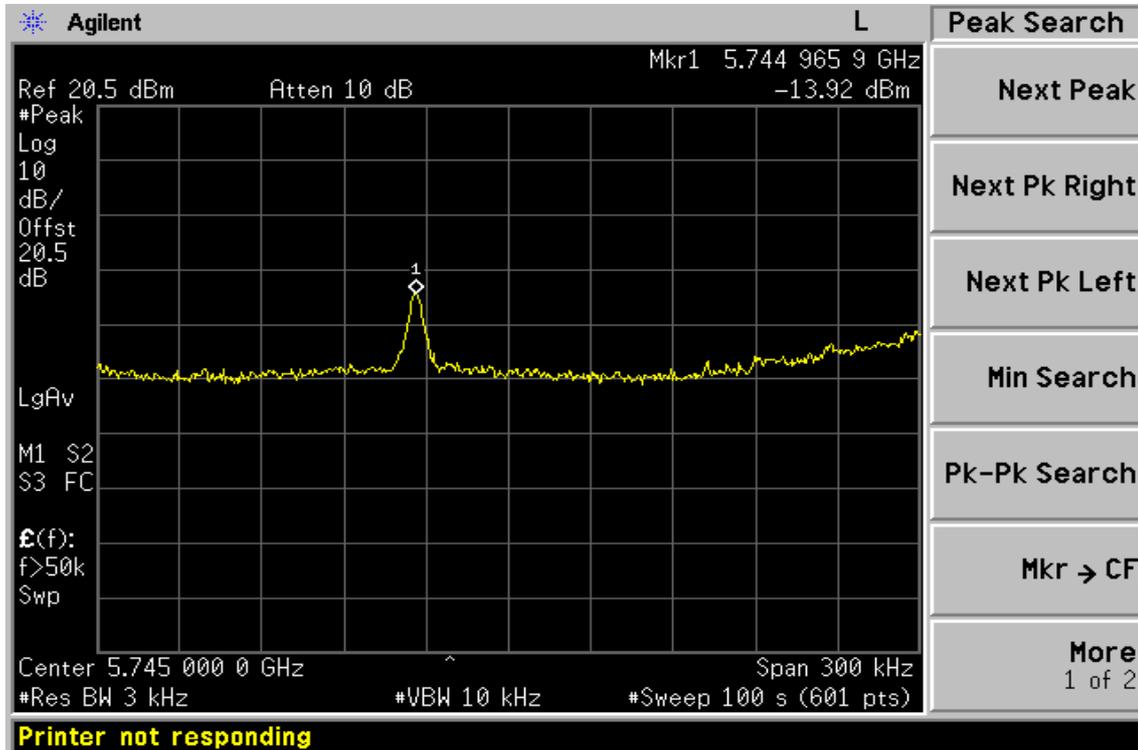
Power Spectral Density Test Plot (CH-High)



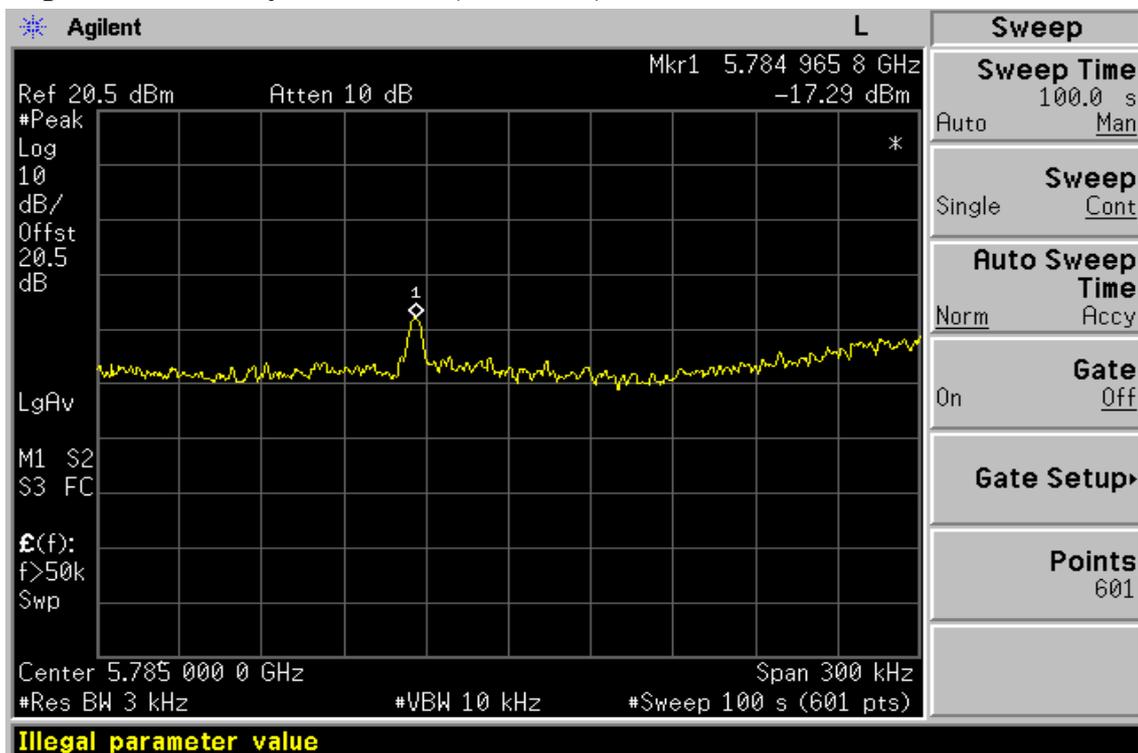
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802.11a Internal Antenna

Power Spectral Density Test Plot (CH-Low)

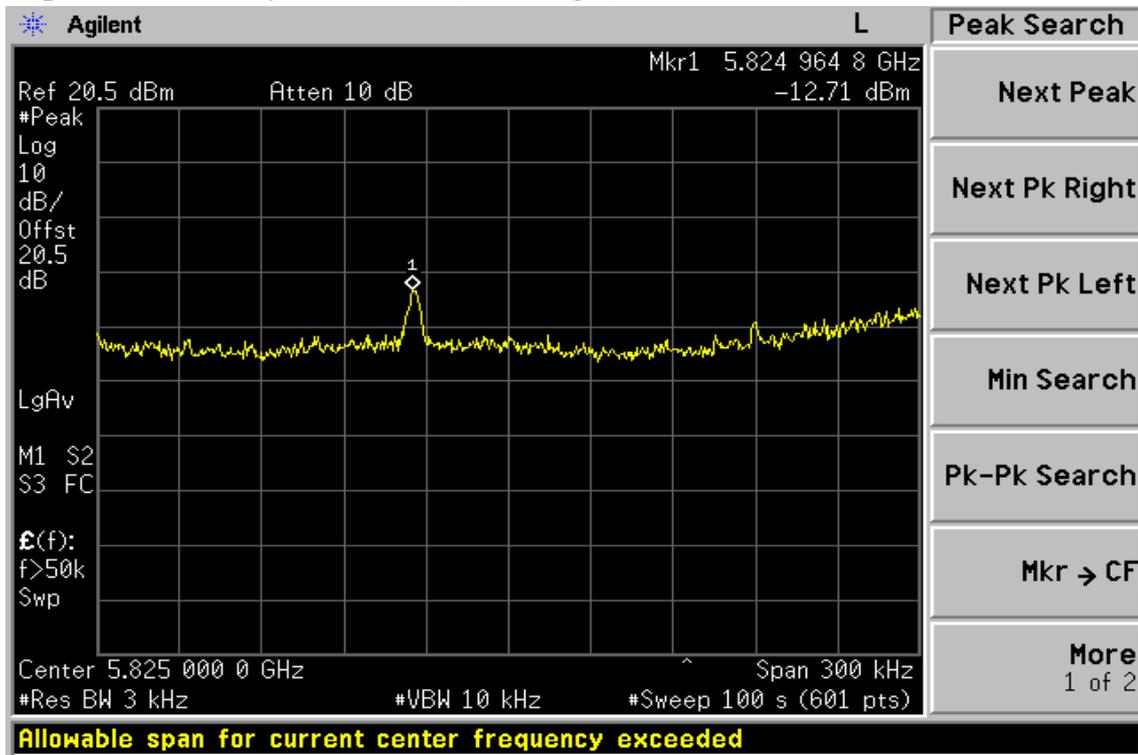


Power Spectral Density Test Plot (CH-Mid)



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Power Spectral Density Test Plot (CH-High)



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11. 99% Bandwidth Measurement

11.1. Standard Applicable

RSS 210, section 5.9.1, An alternative to the 20 dB bandwidth is the 99% emission bandwidth. This bandwidth is determined such that below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5% of the total mean power of the emission.

11.2. Measurement Equipment Used:

EQUIPMENT TYPE	MFR	Model No.	Serial No.	LAST CAL.	Cal. Due.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/24/2005	03/23/2006
low loss cable	Huber + Suhner	Sucoflex 104	N/A	N/A	N/A

11.3. Test Set-up:

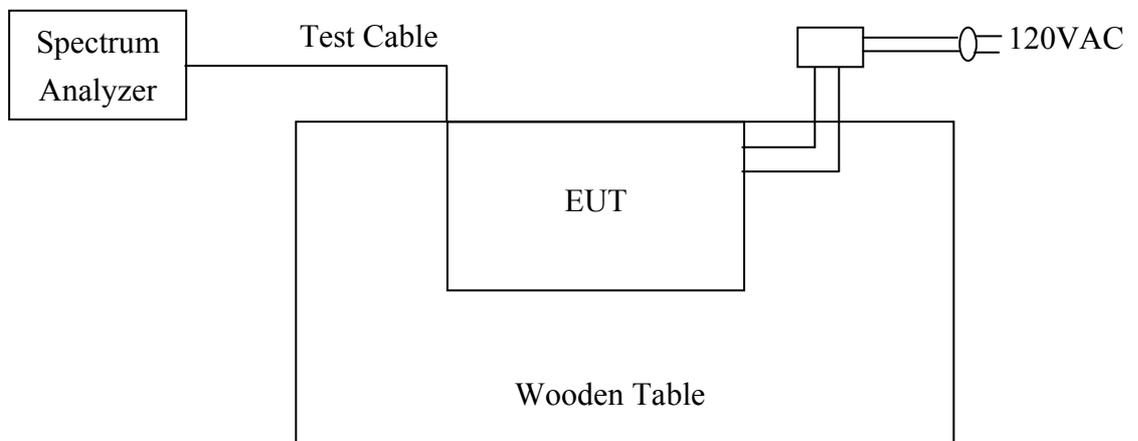


Fig. 4

Fig. 4 : Measurement setup for testing on Antenna connector

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11.4. 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=1% of the approximate emission bandwidth, VBW = 3 times RBW, Span= approximately 20dB below the peak level. Sweep=auto
4. Turn on the 99% bandwidth function, max reading..
5. Repeat above procedures until all frequency measured were complete.

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11.5. Measurement Result

802.11b

CH	Bandwidth (MHz)
Lower	15.5241
Mid	15.5727
Higher	15.5866

802.11g

CH	Bandwidth (MHz)
Lower	16.3500
Mid	16.3424
Higher	16.4050

802.11a External Antenna

CH	Bandwidth (MHz)
Lower	16.4618
Mid	16.5028
Higher	16.4422

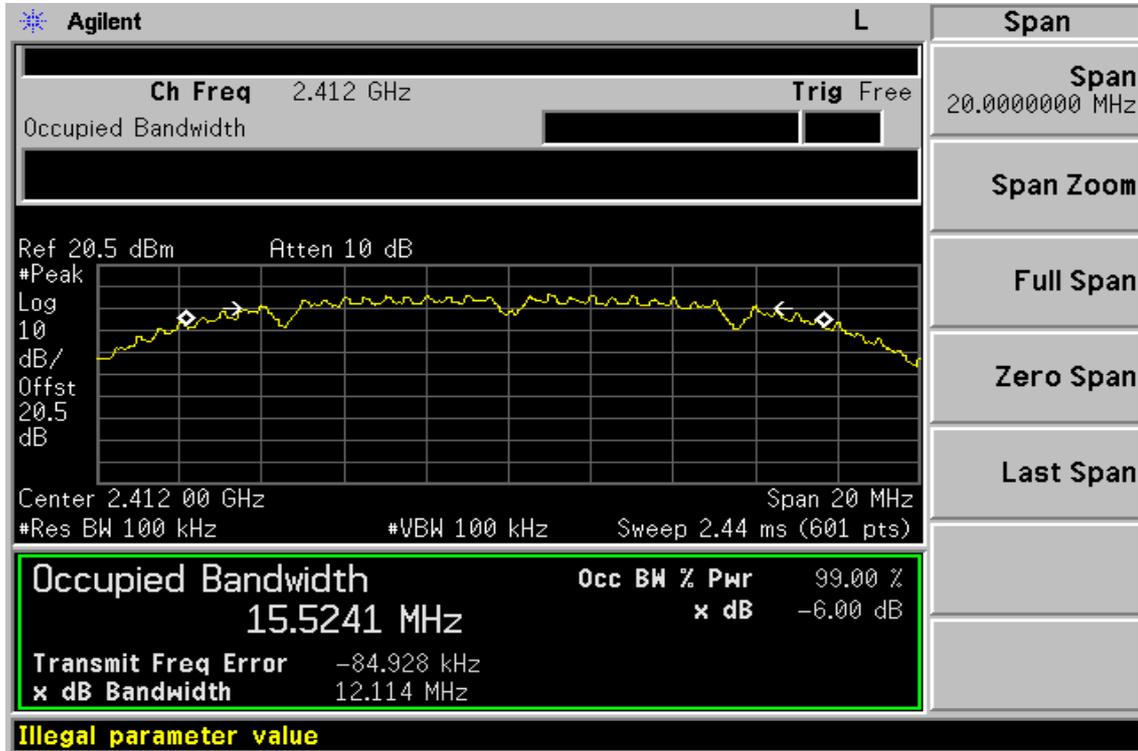
802.11a Internal Antenna

CH	Bandwidth (MHz)
Lower	16.4226
Mid	16.4522
Higher	16.4742

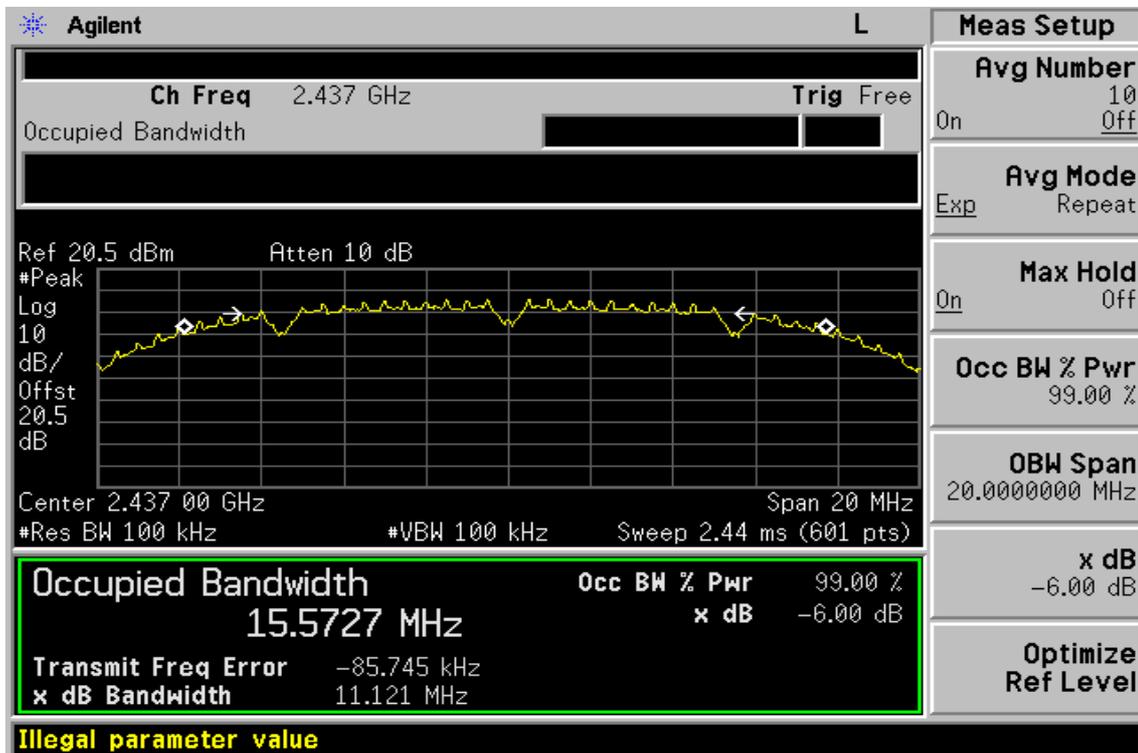
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802.11b

99% Bandwidth Test Data CH-Low

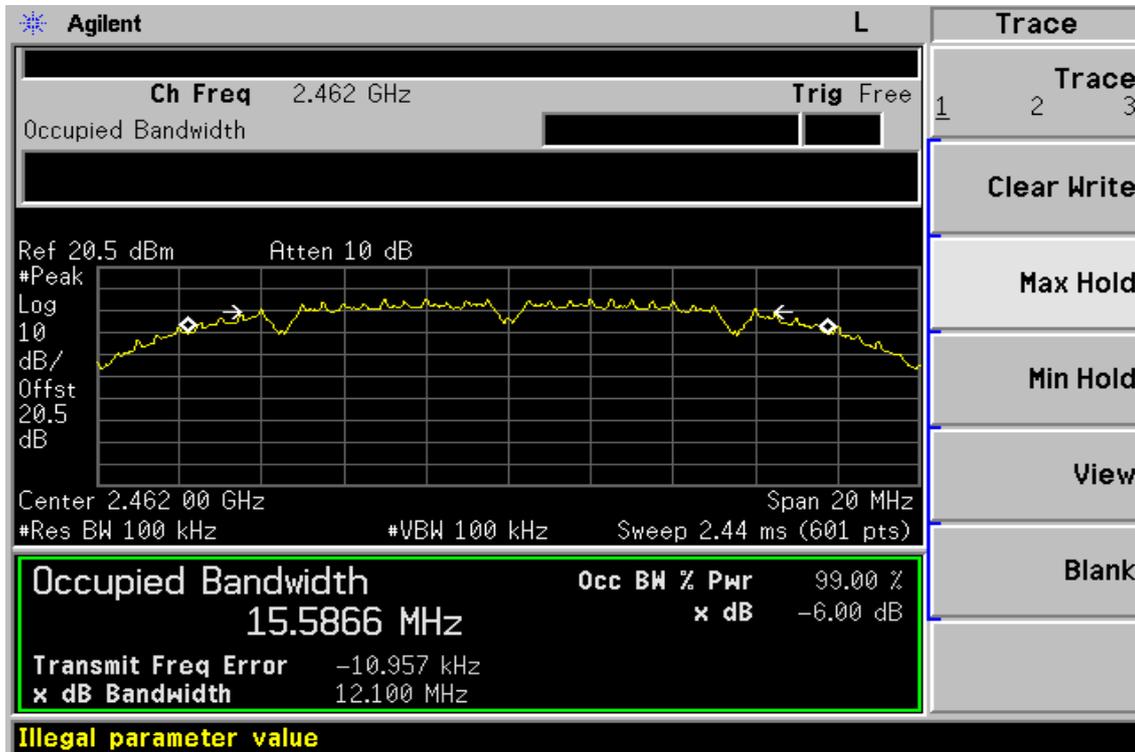


99% Bandwidth Test Data CH-Mid



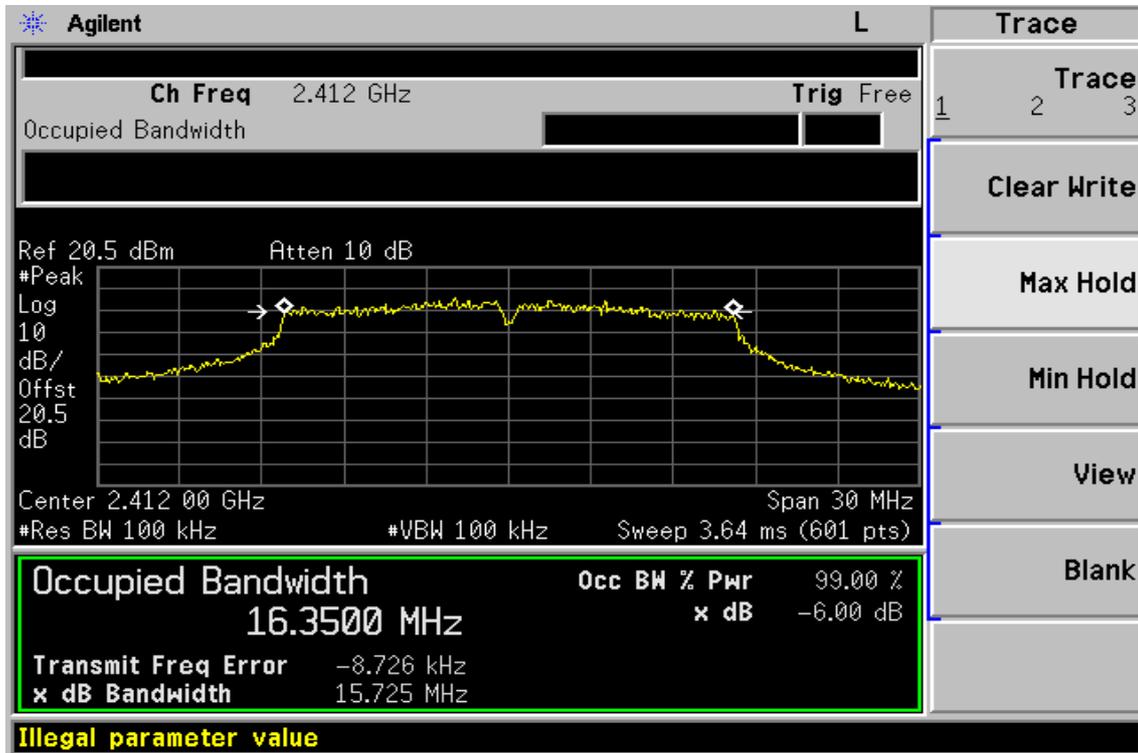
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99% Bandwidth Test Data CH-High

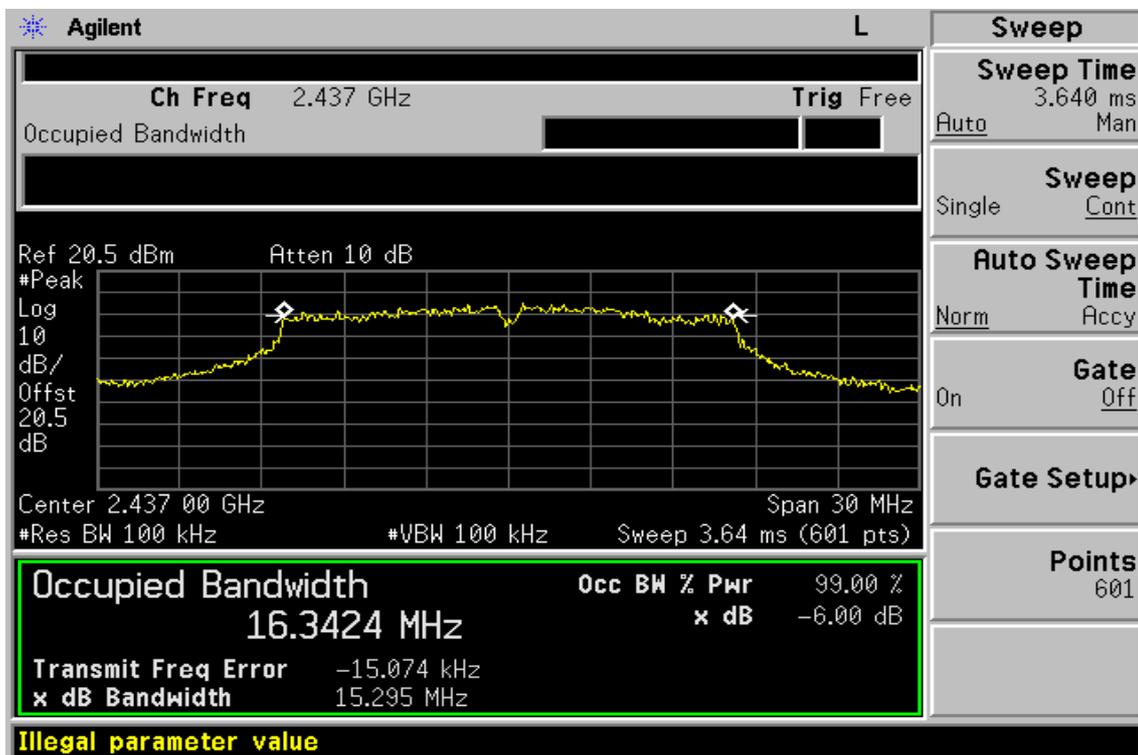


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802.11g 99% Bandwidth Test Data CH-Low

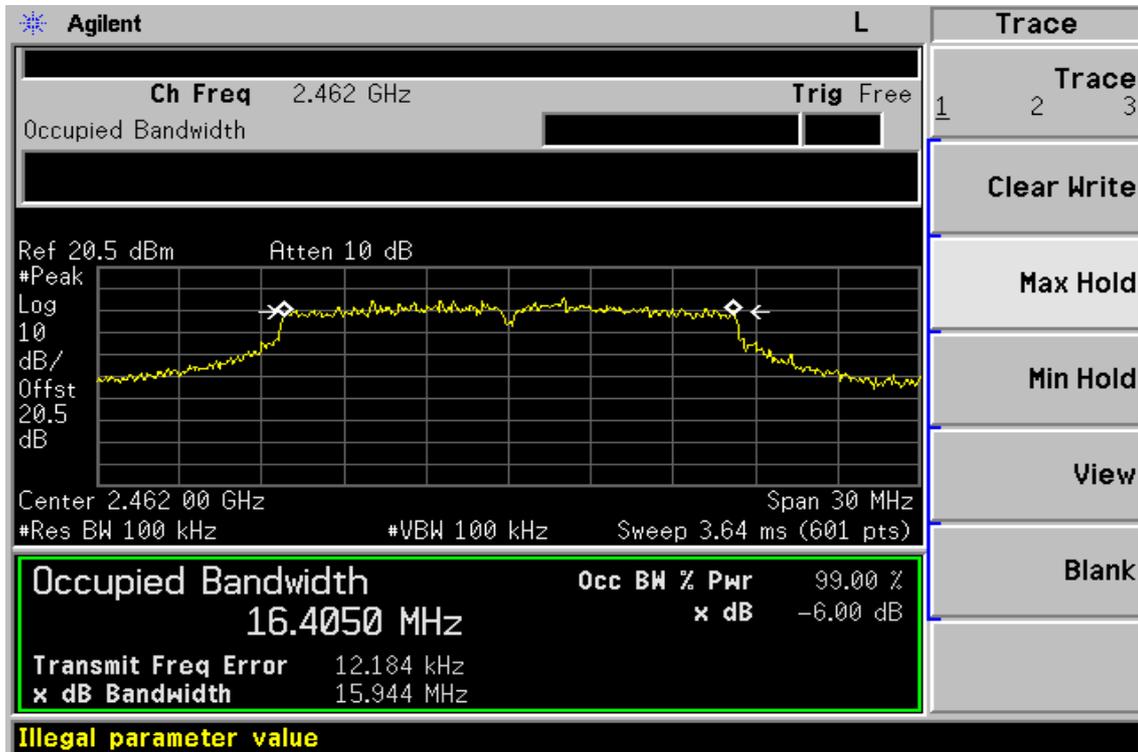


99% Bandwidth Test Data CH-Mid



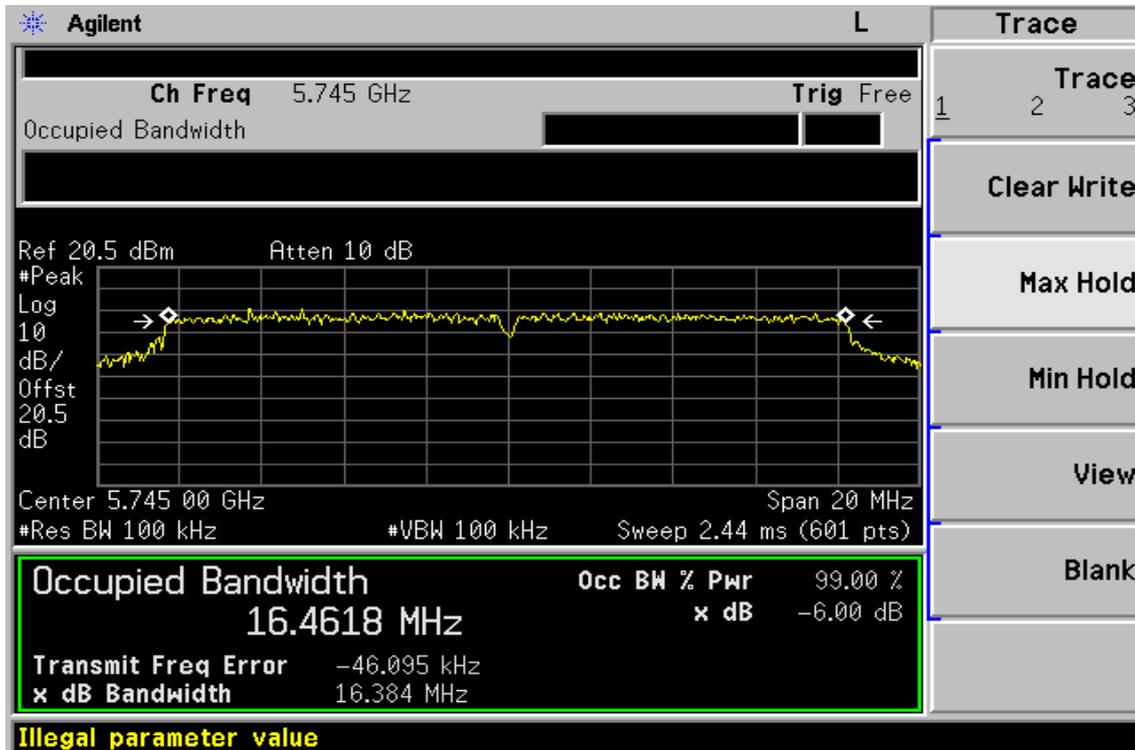
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99% Bandwidth Test Data CH-High

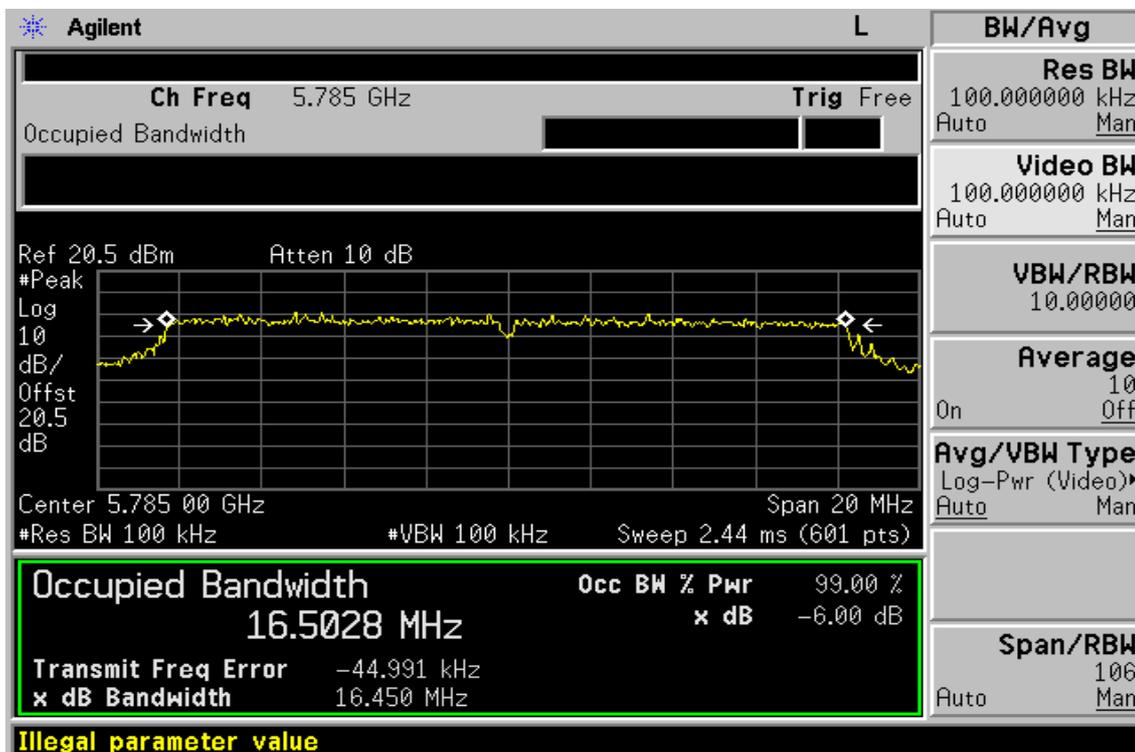


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802.11a External Photo
99% Bandwidth Test Data CH-Low

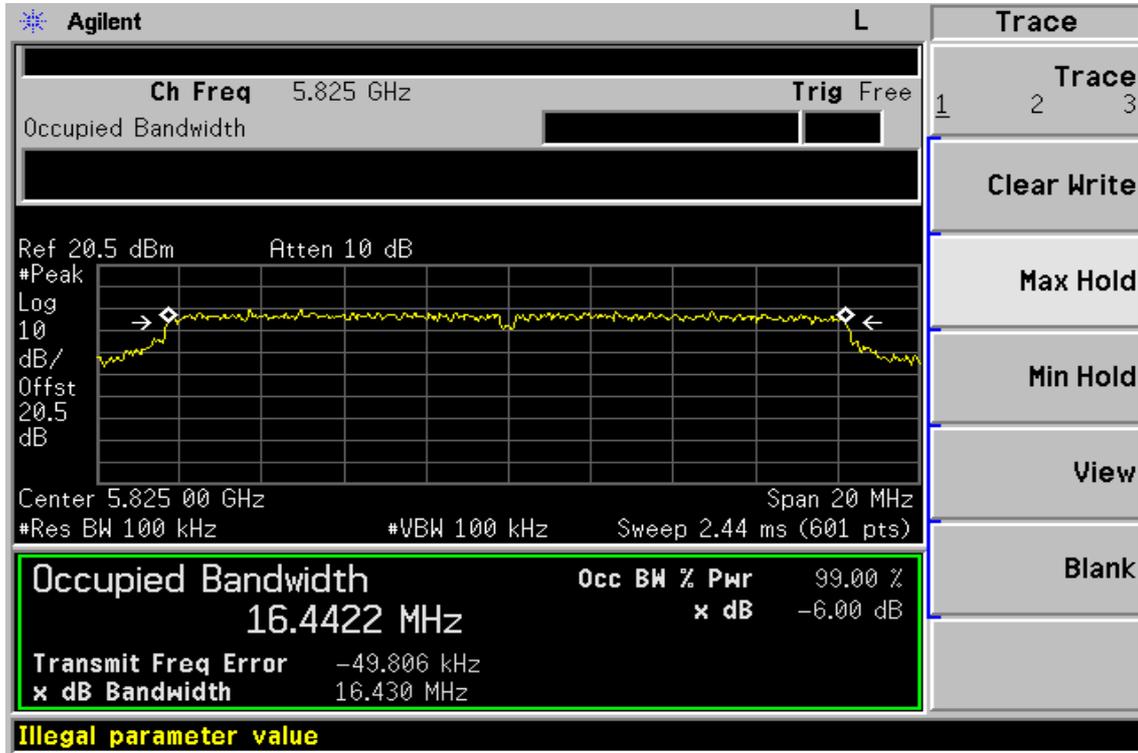


99% Bandwidth Test Data CH-Mid



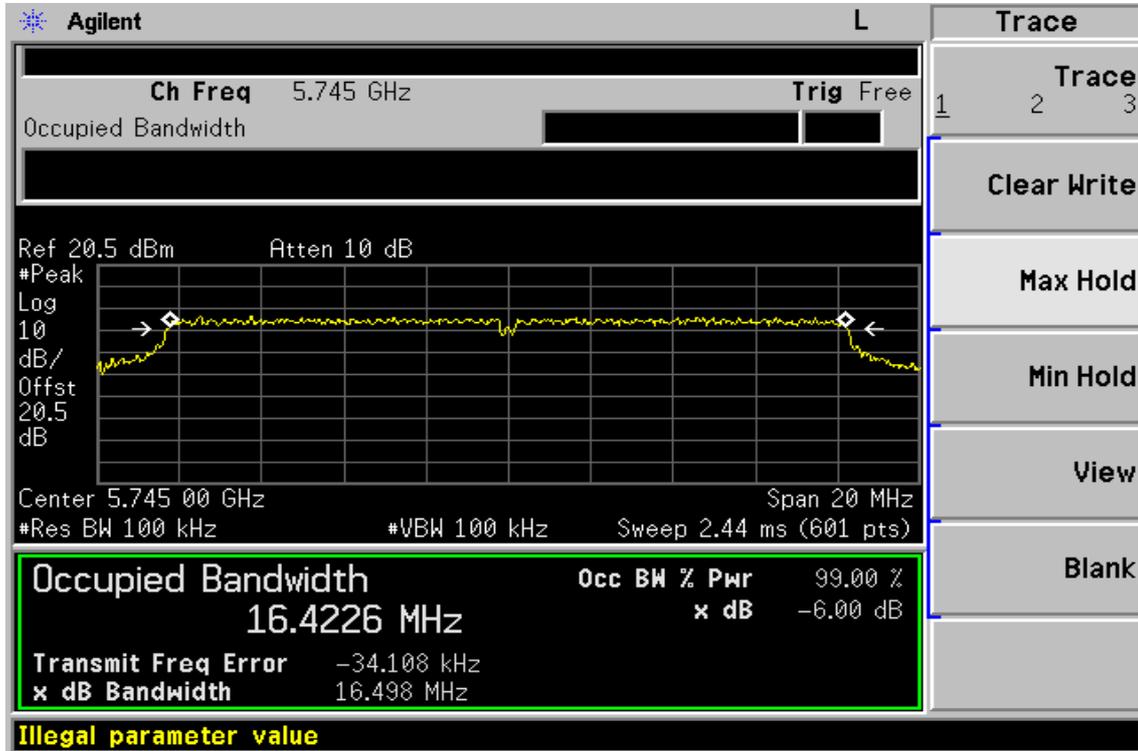
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99% Bandwidth Test Data CH-High

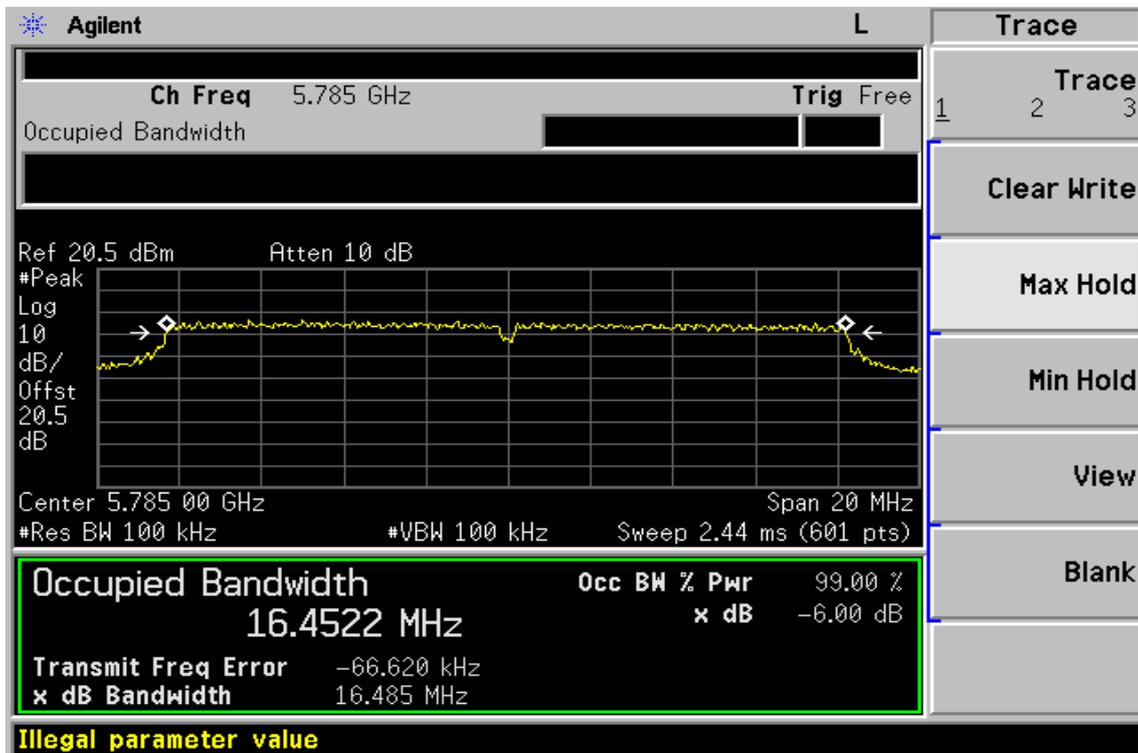


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802.11a Internal Antenna
99% Bandwidth Test Data CH-Low

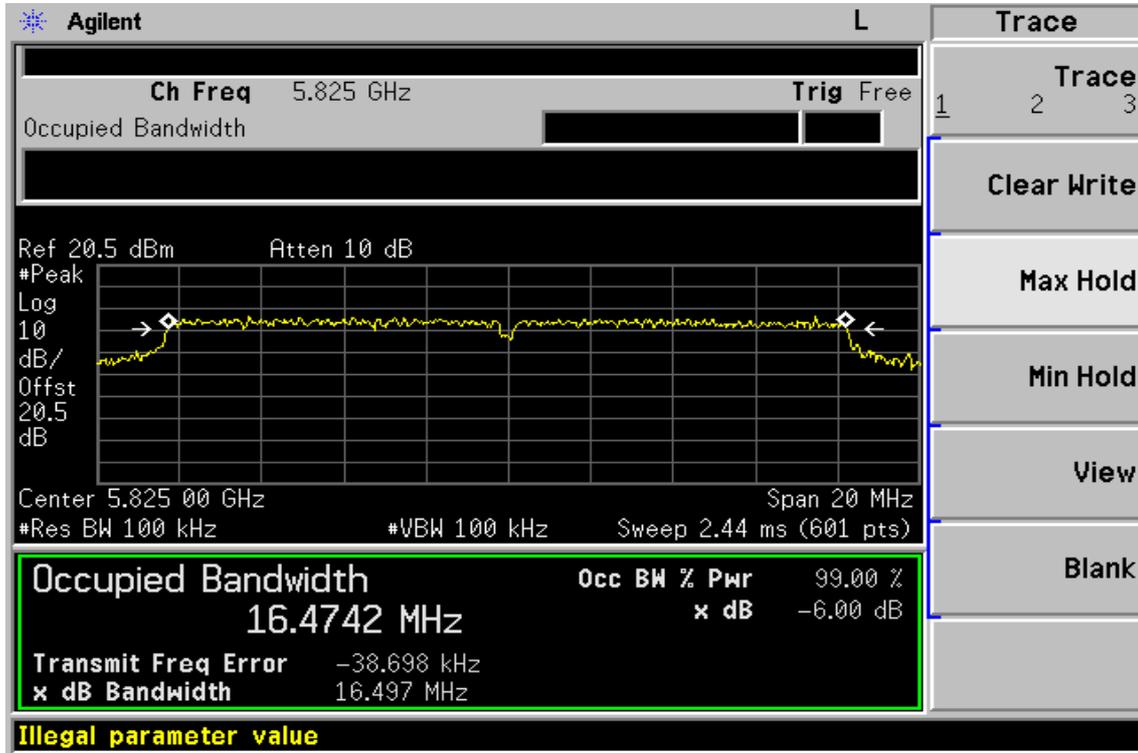


99% Bandwidth Test Data CH-Mid



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99% Bandwidth Test Data CH-High



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12. ANTENNA REQUIREMENT

12.1. Standard Applicable

According to §15.203, Antenna requirement.

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

According to §RSS 210 (e2): Note that special antenna connectors are required for spread spectrum systems (with respect to section 5.5. section 5.5, The transmitter antenna shall be integral with the device, or the antenna coupling be so designed that no antenna other than that furnished by the party responsible for compliance shall be used.

Example: Special antenna connectors not readily available in retail shops in Canada may be acceptable. The antenna design may be such as to allow a broken antenna to be replaced by the user, but the use of a standard jack or electrical connector is prohibited. The special antenna connector requirement does not apply to 6.2.2 (a), 6.2.2 (b), and 8.1 to 8.5. Further, this requirement does not apply to transmitters that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to transmitters which require unwanted emission measurements after installation (section 5.15). In the installation/ **user manual**, the user shall be notified that a proper type of antenna must be employed and of the RF field limits to be met. When the standard limits the antenna gain to N dB, this limit applies only to the transmitting antenna system net gain, i.e. antenna gain minus its cabling loss.

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When a measurement at the antenna connector (section 10) is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on measurement or on data from the antenna Manufacturer. Any antenna gain in excess of 6 dBi (6 dB above isotropic gain) shall be added to the measured RF output power before using the power limits specified in this Standard for devices of RF output powers 10 milliwatts or less. In the case of devices of output powers more than 10 milliwatts, the total antenna gain shall be added, except for the case of 6.2.2 (o) on spread spectrum systems.

User Manual (for transmitter with detachable antenna):

The user manual of transmitter devices equipped with a detachable antenna shall contain the following information in a conspicuous location:

"This device has been designed to operate with an antenna having a maximum gain of [x] dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is [y] ohms." Equipment manufacturer shall provide proper values of x and y to comply with the

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12.2. Antenna Connected Construction

Item no.	Model/Type	
1. External Antenna	Model:	PlanAir HiperLink
	Type:	RN-PLA-50-L-10
	Frequency Range:	5470-5825MHz
	Antenna Gain:	22dBi
2. External Antenna	Model:	PlanAir HiperAccess
	Type:	RN-PLA-50-A-10
	Frequency Range:	5470-5825MHz
	Antenna Gain:	14dBi
3. Integral Antenna	Model:	
	Type:	
	Frequency Range:	5470-5825MHz
	Antenna Gain:	20dBi
4. External Antenna	Model:	PlanAir Link
	Type:	RN-24-143030-H
	Frequency Range:	2400-2500MHz
	Antenna Gain:	14dBi

The antenna is designed as professional installation no consideration of replacement by the end user. Please find the antenna specification and installation instruction.

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13. RF EXPOSURE

13.1. Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1093 RF exposure is calculated.

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-15000	/	/	1.0	30

F = frequency in MHz

* = Plane-wave equipment power density

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802.11b/g MPE Prediction (2.4GHz)

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal:	18.74	(dBm)
Maximum peak output power at antenna input terminal:	74.81695	(mW)
Antenna gain (typical):	14	(dBi)
Maximum antenna gain:	25.11886	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	2402	(MHz)
MPE limit for uncontrolled exposure at prediction	1	(mW/cm ²)
Power density at predication frequency at 20 (cm)	0.374068	(mW/cm ²)
Measurement Result:		
The predicted power density level at 20 cm is	0.374068	(mW/cm ²)
This is below the uncontrolled exposure limit of 1 mW/cm	2402	MHz

13.2. Measurement Result:

The predicted power density level at 20 cm is 0.374068 mW/cm². This is below the uncontrolled exposure limit of 1 mW/cm² at 2402MHz

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802.11a MPE Prediction (5.8GHz)

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4 \pi R^2$$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal:	14.99	(dBm)
Maximum peak output power at antenna input terminal:	31.55005	(mW)
Antenna gain (typical):	22	(dBi)
Maximum antenna gain:	158.4893	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	5825	(MHz)
MPE limit for uncontrolled exposure at prediction	1	(mW/cm ²)
Power density at predication frequency at 20 (cm)	0.995292	(mW/cm ²)
Measurement Result:		
The predicted power density level at 20 cm is	0.995292	(mW/cm ²)
This is below the uncontrolled exposure limit of 1 mW/cm	5825	MHz

13.3. Measurement Result:

The predicted power density level at 20 cm is 0.995292 mW/cm². This is below the uncontrolled exposure limit of 1 mW/cm² at 5825MHz

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