



Test Report

Product Name : Home Gateway
Model No. : EchoLife HG531, EchoLife HG531a
FCC ID : QISHG531X

Applicant : Huawei Technologies Co., Ltd.
Address : Administration Building, Huawei Base, Bantian,
Longgang District, Shenzhen 518129 P.R.C.

Date of Receipt : 2009/06/12
Issued Date : 2009/06/27
Report No. : 096S069R-RF-US-P05V01
Report Version : 1.3

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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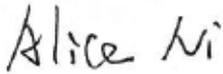
Test Report Certification

Issued Date : 2009/06/27

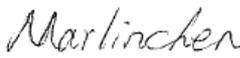
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Applicant : Huawei Technologies Co., Ltd.
Address : Administration Building, Huawei Base, Bantian,
Longgang District, Shenzhen 518129 P.R.C.
Manufacturer : Huawei Technologies Co., Ltd.
Model No. : EchoLife HG531, EchoLife HG531a
FCC ID : QISHG531X
Rated Voltage : AC 100~240V / 50~60Hz
EUT Voltage : DC 12 V
Trade Name : HUAWEI
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2008
ANSI C63.4: 2003
Test Result : Complied
Performed Location : SuZhou EMC laboratory
No.99 Hongye Rd., Suzhou Industrial Park Loufeng
Hi-Tech Development Zone., SuZhou, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392

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Laboratory Information

We , **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	: BSMI, DGT, CNLA
Germany	: TÜV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>
 The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>
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1. General Information

1.1. EUT Description

Product Name	Home Gateway
Trade Name	HUAWEI
Model No.	EchoLife HG531, EchoLife HG531a
Working Voltage	DC 12 V
Frequency Range	802.11b/g/n(20MHz): 2412 ~ 2462 MHz 802.11n(40MHz): 2422 ~ 2452 MHz
Channel Number	802.11b/g/n(20MHz): 11 802.11n(40MHz): 7
Type of Modulation	802.11b: DSSS 802.11g/n: OFDM
Data Rate	802.11b: 1/2/5.5/11 Mbps 802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11n: up to 135Mbps
Channel Control	Auto
Antenna Delivery	1*TX + 1*RX
Antenna Type	Dipole Antenna
Antenna Gain	2dBi

Note: This product includes two models EchoLife HG531 and EchoLife HG531a. The difference between the two models as show below:

Model No.	Power	11n (2*2)	11n (1*1)	USB Port
HG531	12V 1A		√	√
HG531a	12V 0.7A		√	

Note: EchoLife HG531 was used for testing with number 2 adapter listed as follows.

Component	
AC Adapter #1	<p>I.T.E POWER SUPPLY Manufacturer: Global Yeou Diann Electric Industrial Co., Ltd. Model: AMS9-1200700FU2 Input: 100-240V~, 50/60Hz, 0.5A Output: 12VDC, 0.7A</p>
AC Adapter #2	<p>I.T.E POWER SUPPLY Manufacturer: Global Yeou Diann Electric Industrial Co., Ltd. Model: AMS9-1201000FU2 Input: 100-240V~, 50/60Hz, 0.5A Output: 12VDC, 1.0A</p>
AC Adapter #3	<p>SWITCHING MODE POWER ADAPTER Manufacturer: SHENZHEN FRECOM ELECTRONICS CO., LTD. Model: FM120007-US Input: 100-240V~, 50/60Hz, 0.6A Output: 12VDC, 0.7A</p>
AC Adapter #4	<p>SWITCHING MODE POWER ADAPTER Manufacturer: SHENZHEN FRECOM ELECTRONICS CO., LTD. Model: FM120010-US Input: 100-240V~, 50/60Hz, 0.6A Output: 12VDC, 1.0A</p>
AC Adapter #5	<p>SWITCHING POWER ADAPTER Manufacturer: Dongguan Shilong Fuhua Electronic Co., Ltd. Model: UE09L-120070SPAU Input: 100-240V~, 50/60Hz, 0.3A Output: 12VDC, 0.7A</p>
AC Adapter #6	<p>SWITCHING POWER ADAPTER Manufacturer: Dongguan Shilong Fuhua Electronic Co., Ltd. Model: UE12L-120100SPAU Input: 100-240V~, 50/60Hz, 0.3A Output: 12VDC, 1.0A</p>

802.11b/g/n(20MHz) Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz	04	2427 MHz
05	2432 MHz	06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	10	2457 MHz	11	2462 MHz	N/A	N/A

802.11n(40MHz) Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz	N/A	N/A

1.2. Mode of Operation

Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit at 802.11b
Mode 2: Transmit at 802.11g
Mode 3: Transmit at 802.11n (20MHz)
Mode 4: Transmit at 802.11n (40MHz)

Note:

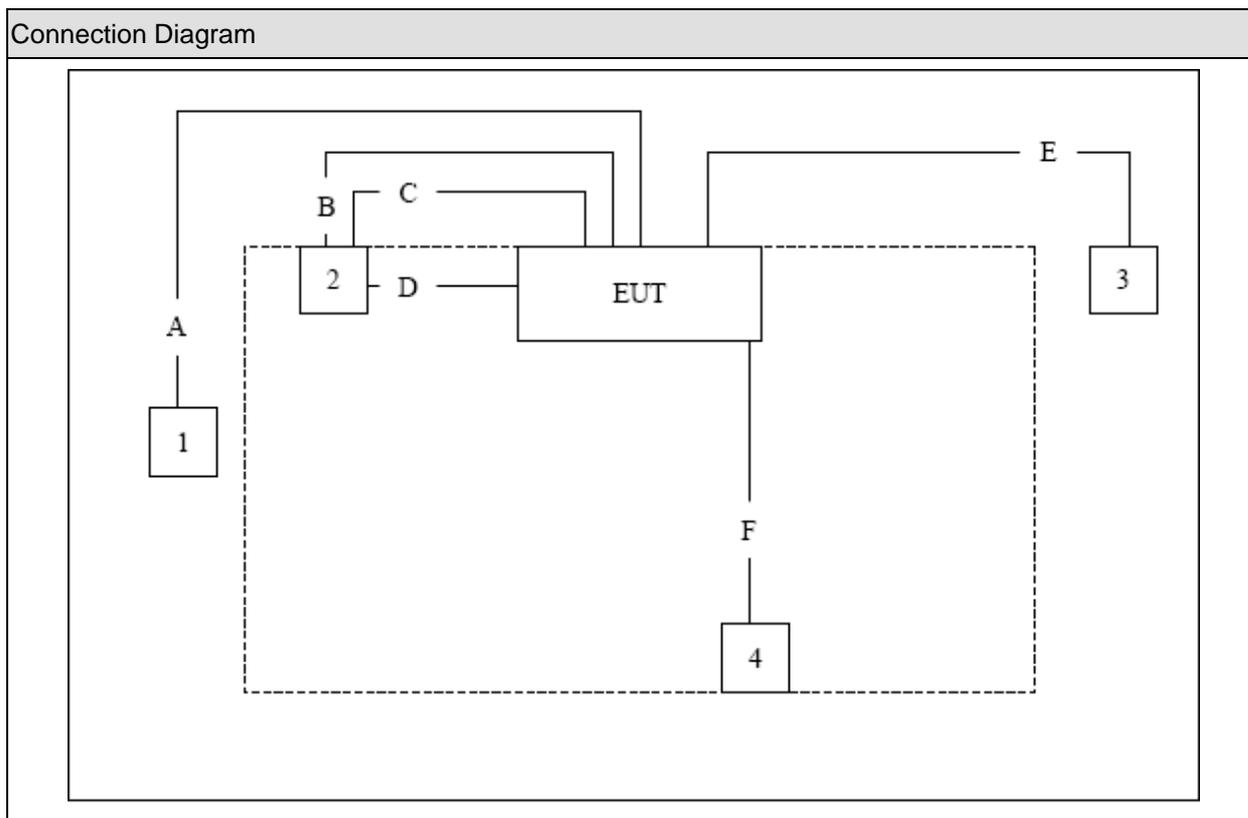
1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations.
The function for the receiver was measured and made a test report that the report number is 096S069-IT-US-P01V02.

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 Notebook	DELL	PP19L	JH097 A01	Power by adapter
2 Switch	D-Link	DES-1016D	F30A15B001906	Non-Shielded, 1.8m
3 IP Express	ZyXEL	IES-1248-71	S523825530	Non-Shielded, 1.8m
4 iPod	Apple	A1199	6U715UY9VQ5	Power by PC

1.4. Configuration of Tested System



Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, >10m
B	LAN Cable	Non-Shielded, 1.8m
C	LAN Cable	Non-Shielded, 1.8m
D	LAN Cable	Non-Shielded, 1.8m
E	Telecom Cable	Non-Shielded, >10m
F	ipod USB Cable	Shielded, 1.0m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Input the command in DOS on the PC.
4	Select the test mode and test channel, then press ok to start test.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
 Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.209	Yes	No
RF Antenna Conducted Spurious	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.247(d)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2008 15.247(d)	Yes	No
Operation Frequency Range of 20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2008 15.215(c)	Yes	No
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.247(a)(2)	Yes	No
Power Output	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.247(b)(3)	Yes	No
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.247(e)	Yes	No

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	51
Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

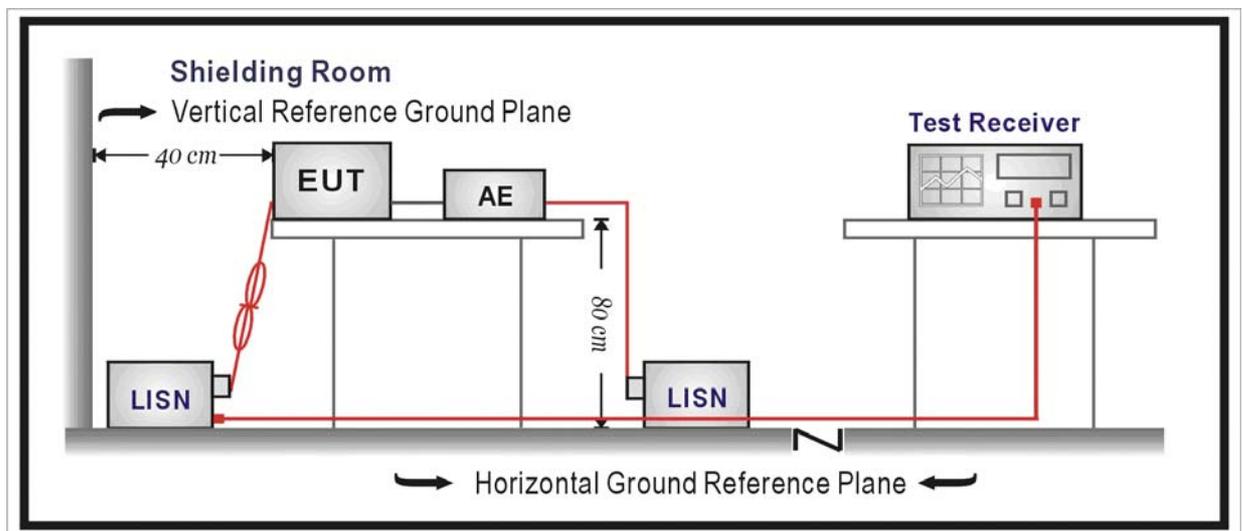
3.1. Test Equipment

Conducted Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100726	2009/04/23
Two-Line V-Network	R&S	ENV216	100013	2009/06/11
Two-Line V-Network	R&S	ENV216	100014	2009/04/23
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2008/11/24
50ohm Termination	SHX	TF2	07081401	2008/09/28
Coaxial Cable	Luthi	RG214	519358	2009/05/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2009/03/31

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

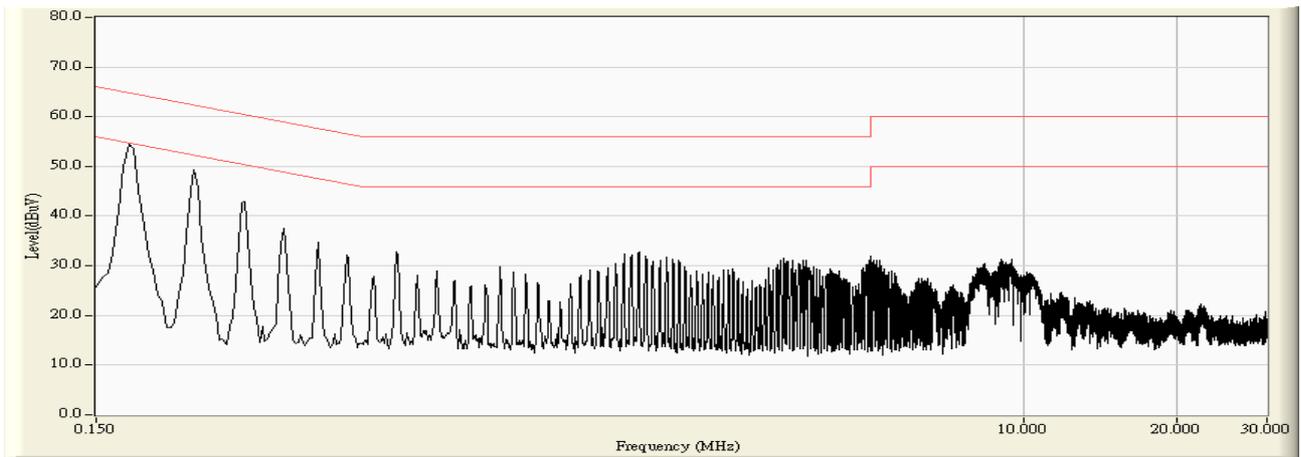
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Uncertainty

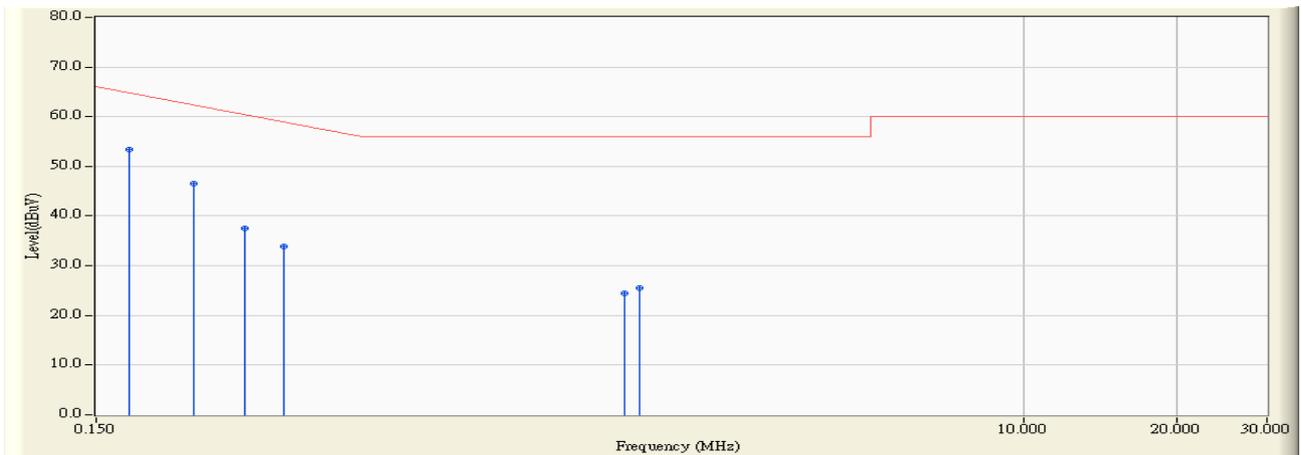
The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/06/19 - 14:17
Limit : FCC_Part15.207_00M_QP	Margin : 10
EUT : Home Gateway	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b



Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/06/19 - 14:20
Limit : FCC_Part15.207_00M_QP	Margin : 0
EUT : Home Gateway	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b

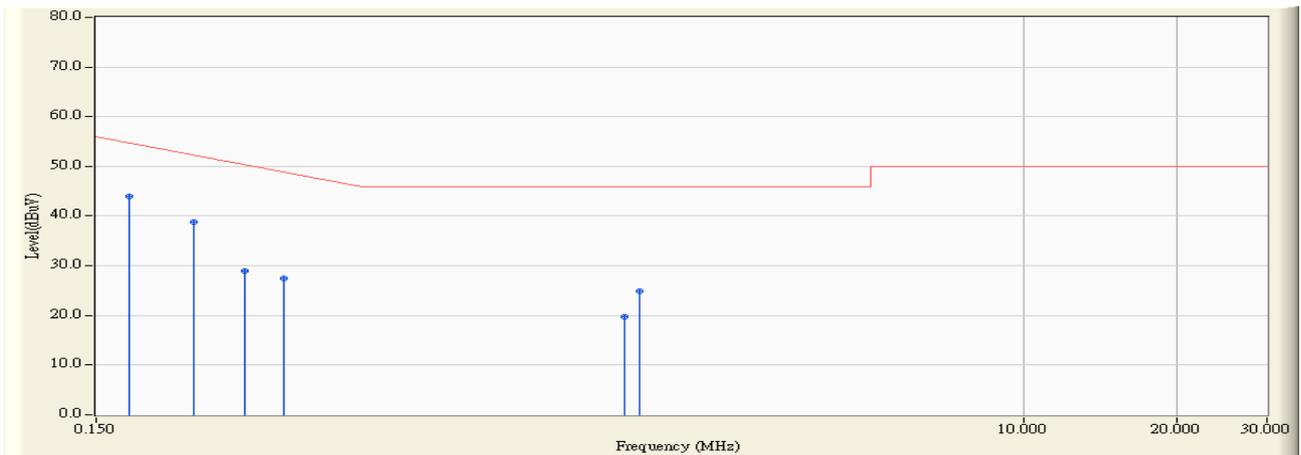


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.174	9.929	43.500	53.429	-11.338	64.767	QUASIPeAK
2		0.234	9.450	37.000	46.450	-15.857	62.307	QUASIPeAK
3		0.294	9.490	28.100	37.590	-22.821	60.411	QUASIPeAK
4		0.350	9.527	24.300	33.827	-25.135	58.962	QUASIPeAK
5		1.634	9.690	14.800	24.490	-31.510	56.000	QUASIPeAK
6		1.750	9.689	15.900	25.589	-30.411	56.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/06/19 - 14:20
Limit : FCC_Part15.207_00M_AV	Margin : 0
EUT : Home Gateway	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b

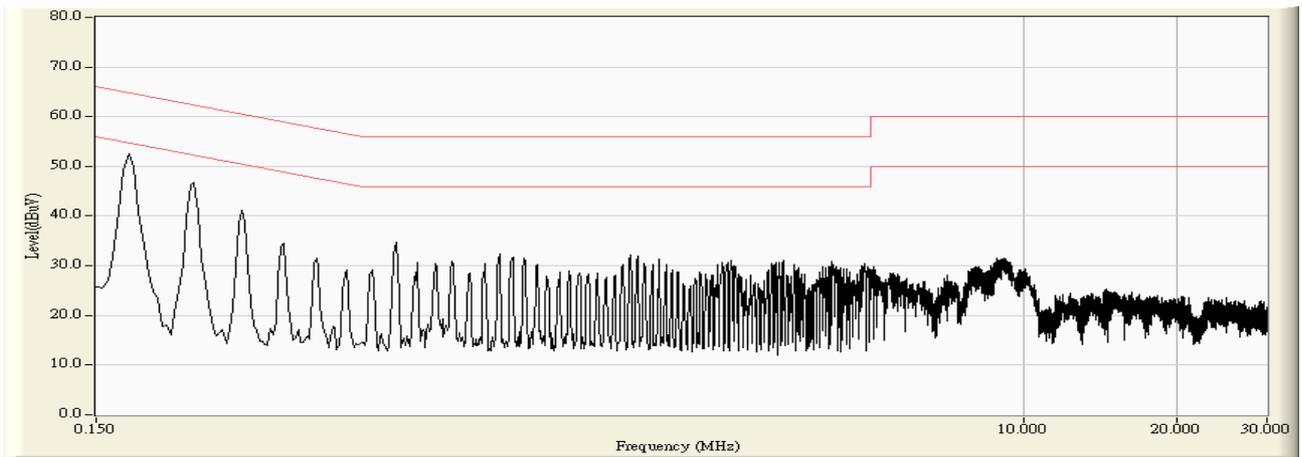


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.174	9.929	34.000	43.929	-10.838	54.767	AVERAGE
2		0.234	9.450	29.400	38.850	-13.457	52.307	AVERAGE
3		0.294	9.490	19.400	28.890	-21.521	50.411	AVERAGE
4		0.350	9.527	18.000	27.527	-21.435	48.962	AVERAGE
5		1.634	9.690	10.100	19.790	-26.210	46.000	AVERAGE
6		1.750	9.689	15.100	24.789	-21.211	46.000	AVERAGE

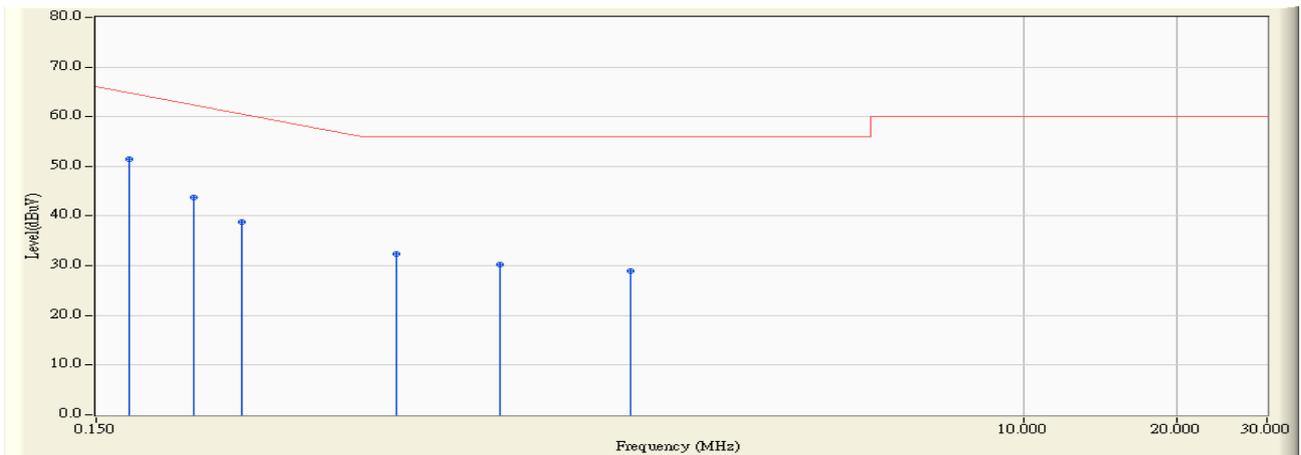
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/06/19 - 14:23
Limit : FCC_Part15.207_00M_QP	Margin : 10
EUT : Home Gateway	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b



Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/06/19 - 14:24
Limit : FCC_Part15.207_00M_QP	Margin : 0
EUT : Home Gateway	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b

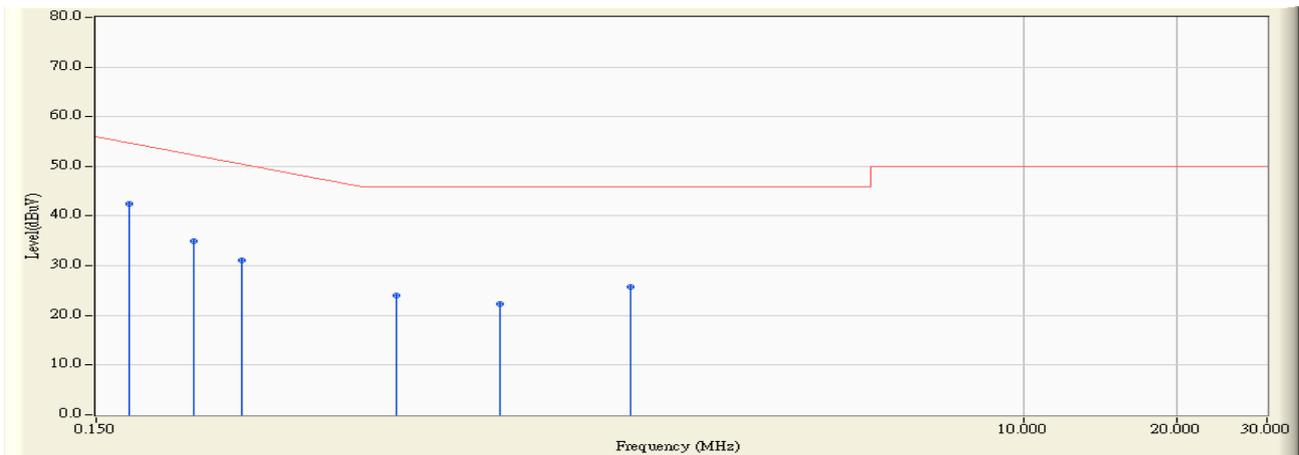


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.174	9.864	41.600	51.464	-13.303	64.767	QUASIPeAK
2		0.234	9.580	34.200	43.780	-18.527	62.307	QUASIPeAK
3		0.290	9.590	29.300	38.890	-21.634	60.524	QUASIPeAK
4		0.582	9.682	22.800	32.482	-23.518	56.000	QUASIPeAK
5		0.930	9.770	20.500	30.270	-25.730	56.000	QUASIPeAK
6		1.682	9.690	19.200	28.890	-27.110	56.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/06/19 - 14:24
Limit : FCC_Part15.207_00M_AV	Margin : 0
EUT : Home Gateway	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.174	9.864	32.600	42.464	-12.303	54.767	AVERAGE
2		0.234	9.580	25.400	34.980	-17.327	52.307	AVERAGE
3		0.290	9.590	21.600	31.190	-19.334	50.524	AVERAGE
4		0.582	9.682	14.300	23.982	-22.018	46.000	AVERAGE
5		0.930	9.770	12.500	22.270	-23.730	46.000	AVERAGE
6		1.682	9.690	16.100	25.790	-20.210	46.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

4. Radiated Emission

4.1. Test Equipment

Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2008/11/12
EMI Test Receiver	R&S	ESCI	100573	2009/04/23
Preamplifier	Quietek	AP-025C	QT-AP003	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602012	2008/11/24
Bilog Type Antenna	Schaffner	CBL6112B	2932	2009/02/25
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2009/06/11
High-Pass Filter	Wainwright	WHKX2.8/18G-12SS	SN1	2009/03/03
Band Reject Filter	Wainwright	WRCG2400/2485-2375 /2510-60/11SS	SN9	2009/03/03
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2009/03/03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2009/03/03
50ohm Coaxial Switch	Anritsu	MP59B	6200447304	2008/11/24
Coaxial Cable	Huber+Suhner	AC2-C	04	2009/05/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2009/03/31

Radiated Emission / AC-3

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2009/04/23
EMI Test Receiver	R&S	ESCI	100176	2008/11/15
Preamplifier	Quietek	AP-025C	QT-AP004	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602012	2009/05/05
Bilog Type Antenna	Schaffner	CBL6112D	22254	2009/02/25
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2009/06/11
High-Pass Filter	Wainwright	WHKX2.8/18G-12SS	SN1	2009/03/03
Band Reject Filter	Wainwright	WRCG2400/2485-2375 /2510-60/11SS	SN9	2009/03/03
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2009/03/03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2009/03/03
50ohm Coaxial Switch	Anritsu	MP59B	6200464463	2008/11/24
Coaxial Cable	Huber+Suhner	AC2-C	05	2009/05/25

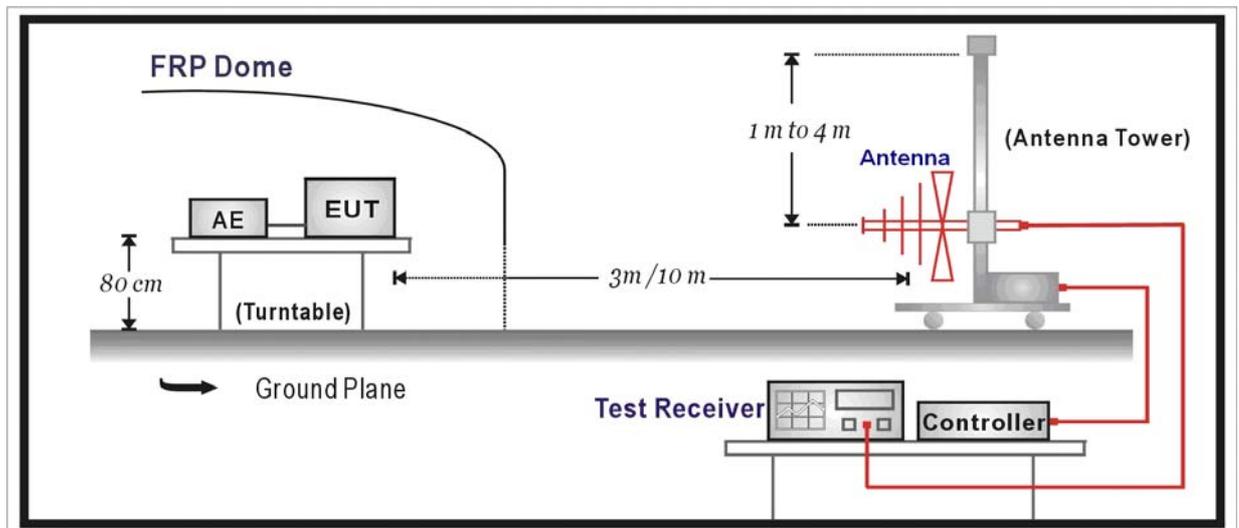
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2009/03/31
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Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

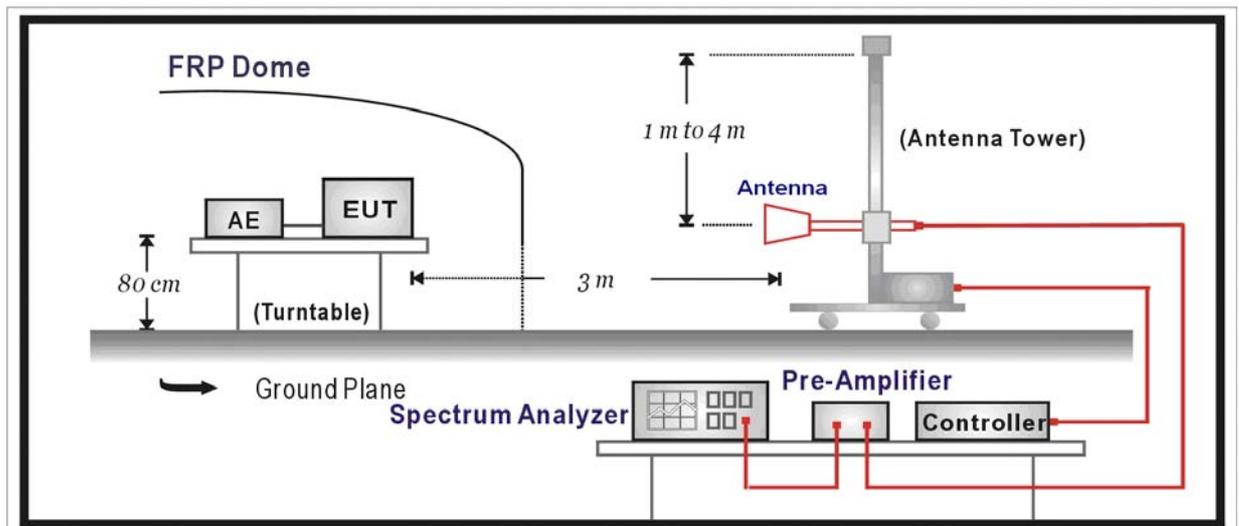
Note 2: The test instruments marked with "X" are used to measure the final test results.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Distance (m)	Level (dBuV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When measurement above 1GHz, the horn antenna will bend down a little (as horn antenna have the narrow beamwidth) in order to find the maximum emission of EUT.

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB

below 1G is defined as ± 3.8 dB

4.6. Test Result

Below 1GHz

Mode 1: 802.11b							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
248.782	H	38.847	-7.173	46.020	QP	116.5	238.0
531.457	H	28.366	-17.654	46.020	QP	100.2	95.0
852.854	H	31.643	-14.377	46.020	QP	120.4	219.0
248.782	V	35.776	-10.244	46.020	QP	105.6	116.0
531.457	V	32.090	-13.930	46.020	QP	119.3	157.4
852.854	V	37.030	-8.990	46.020	QP	100.0	100.0
Channel 6 (2437MHz)							
248.782	H	29.913	-16.107	46.020	QP	122.5	208.0
531.457	H	32.269	-13.751	46.020	QP	100.0	195.0
852.854	H	37.815	-8.205	46.020	QP	121.4	206.0
248.782	V	39.246	-6.774	46.020	QP	115.6	106.0
531.457	V	30.693	-15.327	46.020	QP	109.3	163.4
852.854	V	30.711	-15.309	46.020	QP	100.0	70.0
Channel 11 (2462MHz)							
248.782	H	30.348	-15.672	46.020	QP	116.5	228.0
531.457	H	34.293	-11.727	46.020	QP	100.0	165.0
852.854	H	34.417	-11.603	46.020	QP	111.4	226.0
248.782	V	33.868	-12.152	46.020	QP	113.6	116.0
531.457	V	36.236	-9.784	46.020	QP	116.3	143.4
852.854	V	37.294	-8.726	46.020	QP	100.0	85.0

Mode 2: 802.11g							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
248.782	H	35.608	-10.412	46.020	QP	126.5	328.0
531.457	H	33.588	-12.432	46.020	QP	100.0	265.0
852.854	H	32.299	-13.721	46.020	QP	121.4	206.0
248.782	V	32.338	-13.682	46.020	QP	105.6	66.0
531.457	V	32.028	-13.992	46.020	QP	118.3	173.4
852.854	V	37.162	-8.858	46.020	QP	100.0	77.0
Channel 6 (2437MHz)							
248.782	H	35.595	-10.425	46.020	QP	121.5	314.0
531.457	H	35.944	-10.076	46.020	QP	100.0	165.0
852.854	H	32.364	-13.656	46.020	QP	147.4	214.0
248.782	V	33.851	-12.169	46.020	QP	105.6	86.0
531.457	V	34.641	-11.379	46.020	QP	125.3	163.4
852.854	V	37.053	-8.967	46.020	QP	100.0	97.0
Channel 11 (2462MHz)							
248.782	H	39.918	-6.102	46.020	QP	118.5	307.0
531.457	H	31.380	-14.640	46.020	QP	100.0	135.0
852.854	H	32.093	-13.927	46.020	QP	144.7	154.0
248.782	V	32.657	-13.363	46.020	QP	105.6	96.0
531.457	V	35.306	-10.714	46.020	QP	121.3	143.4
852.854	V	38.023	-7.997	46.020	QP	100.0	107.0

Mode 3: 802.11n(20MHz)							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
248.782	H	30.034	-15.986	46.020	QP	110.000	36.400
531.457	H	32.078	-13.942	46.020	QP	114.500	93.300
852.854	H	37.477	-8.543	46.020	QP	115.200	265.300
248.782	V	34.782	-11.238	46.020	QP	100.000	84.700
531.457	V	35.084	-10.936	46.020	QP	100.000	172.600
852.854	V	36.343	-9.677	46.020	QP	100.000	49.000
Channel 6 (2437MHz)							
248.782	H	34.840	-11.180	46.020	QP	114.600	78.400
531.457	H	36.354	-9.666	46.020	QP	122.600	46.200
852.854	H	31.094	-14.926	46.020	QP	112.600	136.900
248.782	V	31.346	-14.674	46.020	QP	109.500	83.000
531.457	V	33.002	-13.018	46.020	QP	100.000	74.900
852.854	V	36.716	-9.304	46.020	QP	106.200	115.700
Channel 11 (2462MHz)							
248.782	H	36.192	-9.828	46.020	QP	110.000	65.900
531.457	H	35.976	-10.044	46.020	QP	112.500	46.900
852.854	H	30.331	-15.689	46.020	QP	104.600	117.000
248.782	V	34.558	-11.462	46.020	QP	100.000	99.300
531.457	V	36.373	-9.647	46.020	QP	100.000	114.700
852.854	V	36.173	-9.847	46.020	QP	100.000	89.400

Mode 4: 802.11n(40MHz)							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector	Height (cm)	Azimuth (degree)
Channel 3 (2422MHz)							
248.782	H	39.203	-6.817	46.020	QP	125.200	74.600
531.457	H	27.114	-18.906	46.020	QP	116.400	85.900
852.854	H	29.748	-16.272	46.020	QP	112.500	96.000
248.782	V	33.477	-12.543	46.020	QP	104.000	117.500
531.457	V	36.934	-9.086	46.020	QP	103.000	77.500
852.854	V	34.275	-11.745	46.020	QP	116.000	228.000
Channel 6 (2437MHz)							
248.782	H	38.295	-7.725	46.020	QP	110.000	74.600
531.457	H	31.346	-14.674	46.020	QP	112.600	45.300
852.854	H	33.002	-13.018	46.020	QP	120.000	92.500
248.782	V	30.034	-15.986	46.020	QP	100.000	322.800
531.457	V	32.078	-13.942	46.020	QP	100.000	42.500
852.854	V	37.477	-8.543	46.020	QP	100.000	115.800
Channel 9 (2452MHz)							
248.782	H	30.331	-15.689	46.020	QP	125.000	116.400
531.457	H	32.225	-13.795	46.020	QP	115.300	96.500
852.854	H	34.558	-11.462	46.020	QP	101.000	73.200
248.782	V	29.748	-16.272	46.020	QP	115.200	12.500
531.457	V	29.220	-16.800	46.020	QP	104.200	88.100
852.854	V	33.477	-12.543	46.020	QP	116.200	65.600

Above 1GHz

Mode 1: 802.11b							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
4824.000	H	55.321	-18.649	73.970	PK	114.5	65.8
4824.000	H	52.951	-1.019	53.970	AV	114.5	65.8
4824.000	V	53.459	-20.511	73.970	PK	100.0	144.8
4824.000	V	51.760	-2.210	53.970	AV	100.0	144.8
Channel 6 (2437MHz)							
4874.000	H	54.952	-19.018	73.970	PK	112.8	106.4
4874.000	H	52.788	-1.182	53.970	AV	112.8	106.4
4874.000	V	51.487	-22.483	73.970	PK	100.0	225.0
4874.000	V	49.354	-4.616	53.970	AV	100.0	225.0
Channel 11 (2462MHz)							
4924.000	H	54.669	-19.301	73.970	PK	116.3	83.5
4924.000	H	52.174	-1.796	53.970	AV	116.3	83.5
4924.000	V	51.496	-22.474	73.970	PK	103.7	189.3
4924.000	V	49.385	-4.585	53.970	AV	103.7	189.3

Mode 2: 802.11g							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
4824.000	H	51.501	-22.469	73.970	PK	119.3	304.6
4824.000	H	40.264	-13.706	53.970	AV	119.3	304.6
4824.000	V	49.944	-24.026	73.970	PK	104.0	167.0
4824.000	V	38.563	-15.407	53.970	AV	104.0	167.0
Channel 6 (2437MHz)							
4874.000	H	51.552	-22.418	73.970	PK	122.7	233.5
4874.000	H	40.286	-13.684	53.970	AV	122.7	233.5
4874.000	V	49.052	-24.918	73.970	PK	100.0	214.9
4874.000	V	38.445	-15.525	53.970	AV	100.0	214.9
Channel 11 (2462MHz)							
4924.000	H	53.141	-20.829	73.970	PK	107.7	226.5
4924.000	H	41.843	-12.127	53.970	AV	107.7	226.5
4924.000	V	46.979	-26.991	73.970	PK	100.0	126.0
4924.000	V	36.496	-17.474	53.970	AV	100.0	126.0

Mode 3: 802.11n(20MHz)							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
4824.000	H	53.879	-20.091	73.970	PK	105.3	184.6
4824.000	H	39.227	-14.743	53.970	AV	105.3	184.6
4824.000	V	49.802	-24.168	73.970	PK	102.3	137.0
4824.000	V	35.763	-18.207	53.970	AV	102.3	137.0
Channel 6 (2437MHz)							
4874.000	H	54.655	-19.315	73.970	PK	114.7	246.5
4874.000	H	40.826	-13.144	53.970	AV	114.7	246.5
4874.000	V	50.807	-23.163	73.970	PK	100.0	204.9
4874.000	V	36.832	-17.138	53.970	AV	100.0	204.9
Channel 11 (2462MHz)							
4924.000	H	52.823	-21.147	73.970	PK	108.7	216.5
4924.000	H	39.840	-14.130	53.970	AV	108.7	216.5
4924.000	V	49.124	-24.846	73.970	PK	100.0	96.0
4924.000	V	35.474	-18.496	53.970	AV	100.0	96.0

Mode 4: 802.11n(40MHz)							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector	Height (cm)	Azimuth (degree)
Channel 3 (2422MHz)							
4844.000	H	48.208	-25.762	73.970	PK	114.3	274.6
4844.000	H	34.285	-19.685	53.970	AV	114.3	274.6
4844.000	V	44.555	-29.415	73.970	PK	102.0	137.0
4844.000	V	30.485	-23.485	53.970	AV	102.0	137.0
Channel 6 (2437MHz)							
4874.000	H	47.617	-26.353	73.970	PK	112.7	213.5
4874.000	H	33.429	-20.541	53.970	AV	112.7	213.5
4874.000	V	45.581	-28.389	73.970	PK	100.0	214.9
4874.000	V	31.204	-22.766	53.970	AV	100.0	214.9
Channel 9 (2452MHz)							
4904.000	H	48.076	-25.894	73.970	PK	117.7	256.3
4904.000	H	34.856	-19.114	53.970	AV	117.7	256.3
4904.000	V	44.598	-29.372	73.970	PK	100.0	156.0
4904.000	V	30.424	-23.546	53.970	AV	100.0	156.0

5. RF Antenna Conducted Spurious

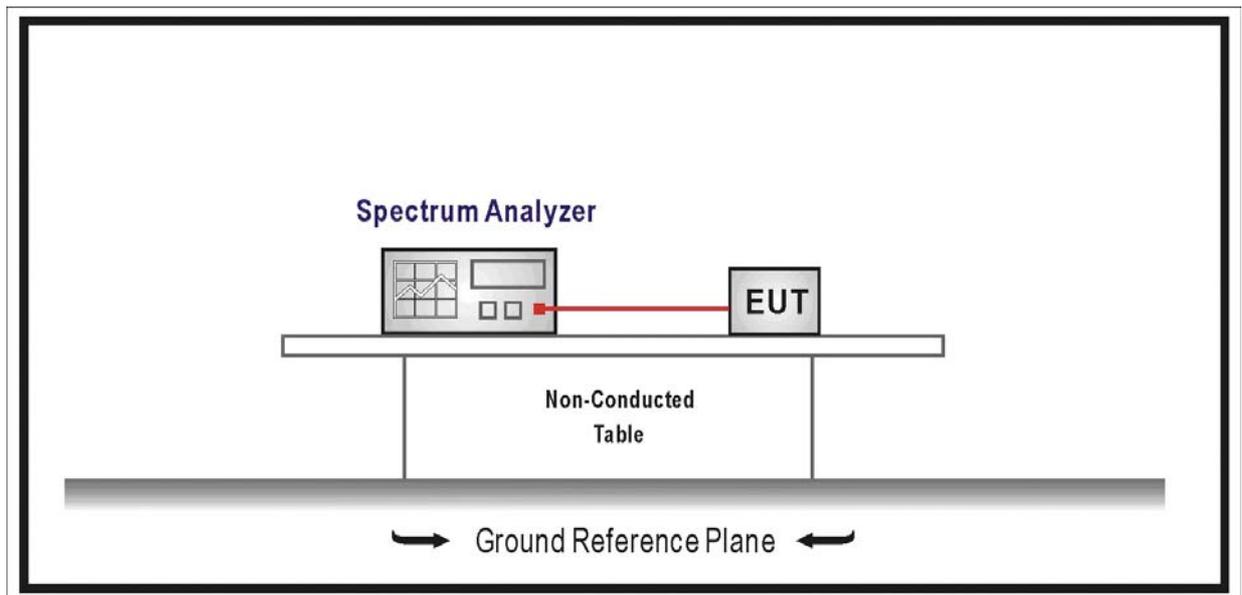
5.1. Test Equipment

RF Antenna Conducted Spurious / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2009/05/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/31

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2. Test Setup



5.3. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

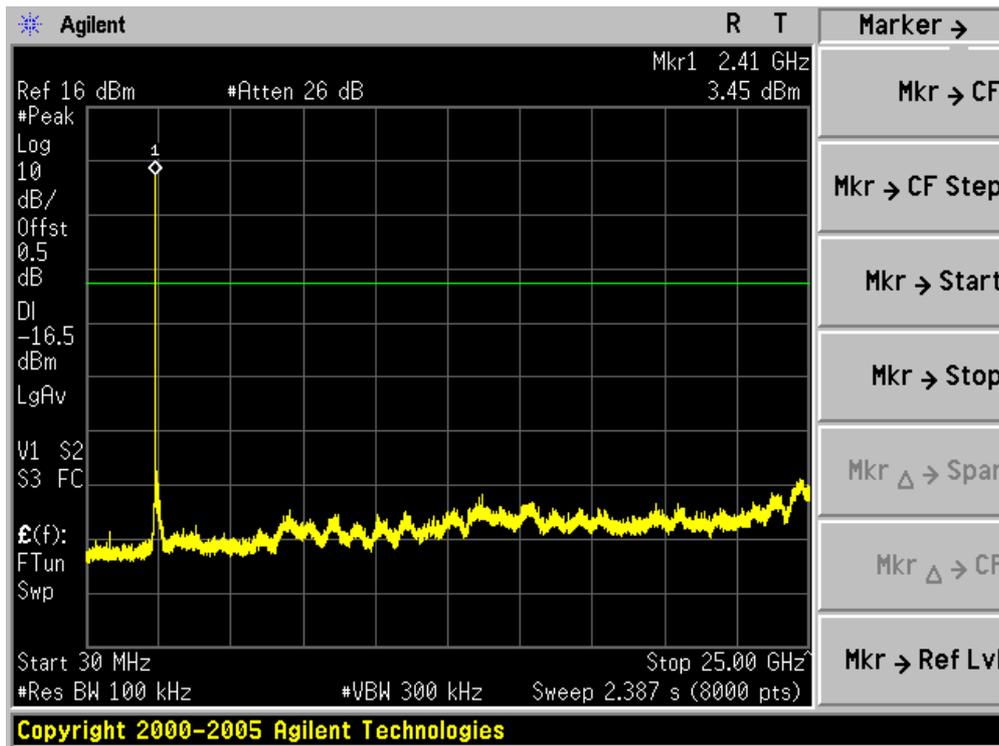
5.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

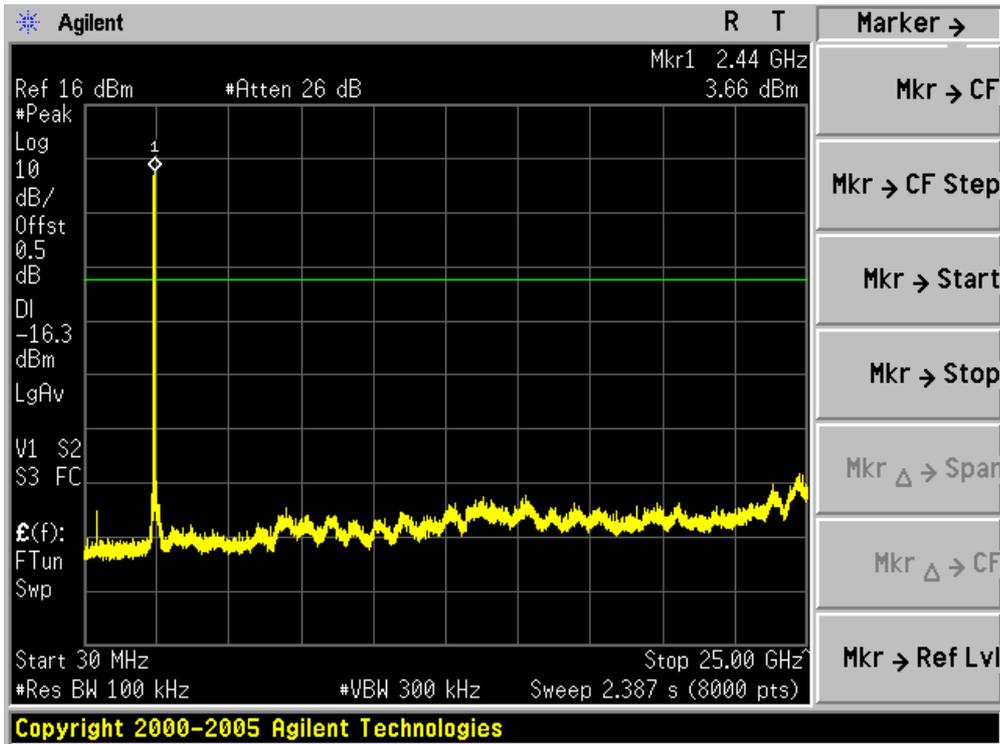
5.6. Test Result

Product	:	Home Gateway
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11b

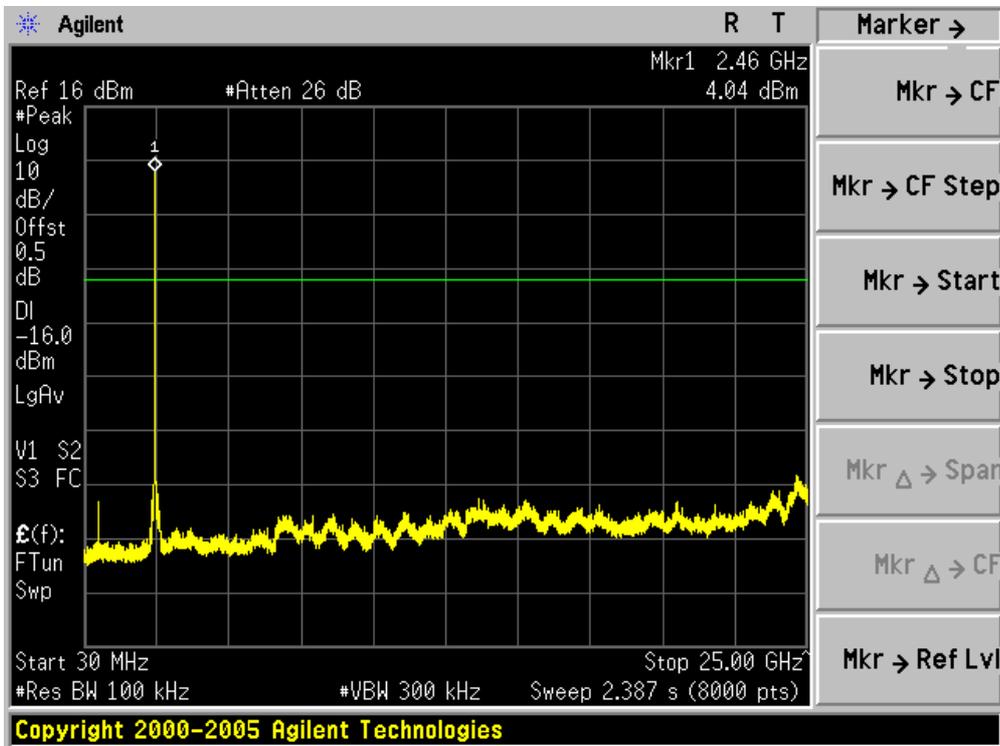
Channel 01 (2412MHz)



Channel 06 (2437MHz)

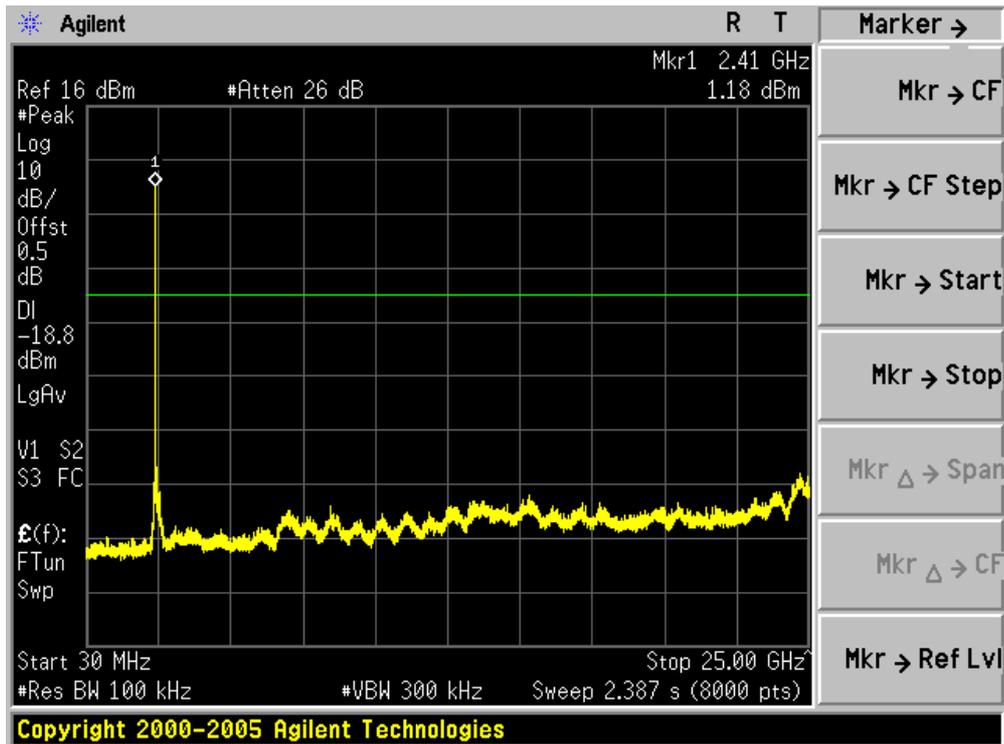


Channel 11 (2462MHz)

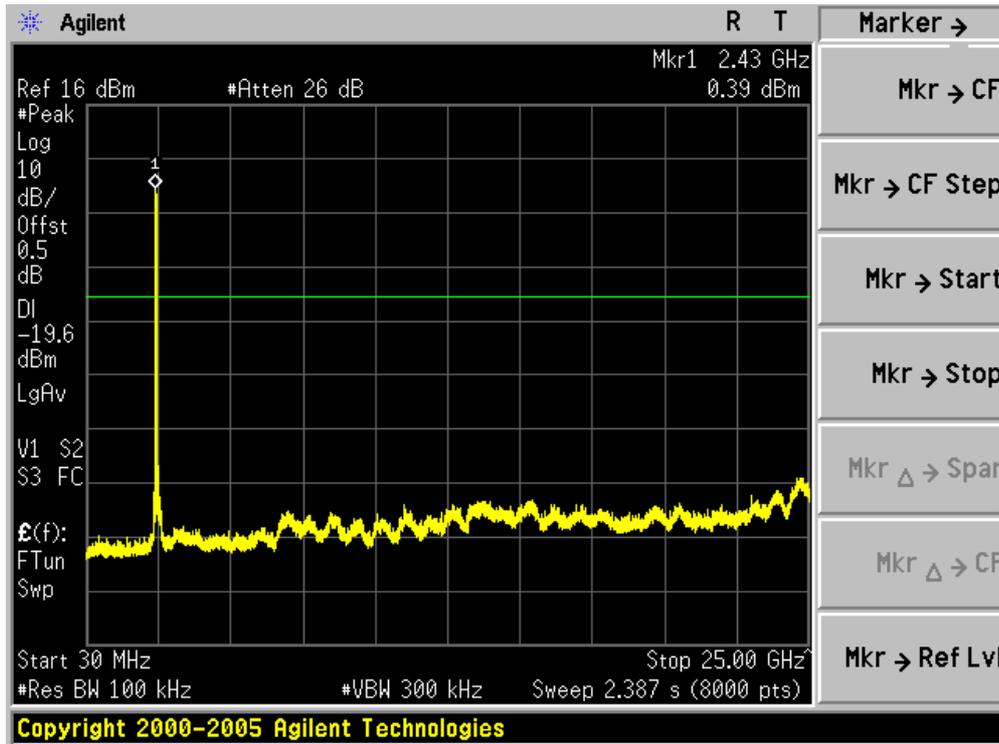


Product	:	Home Gateway
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11g

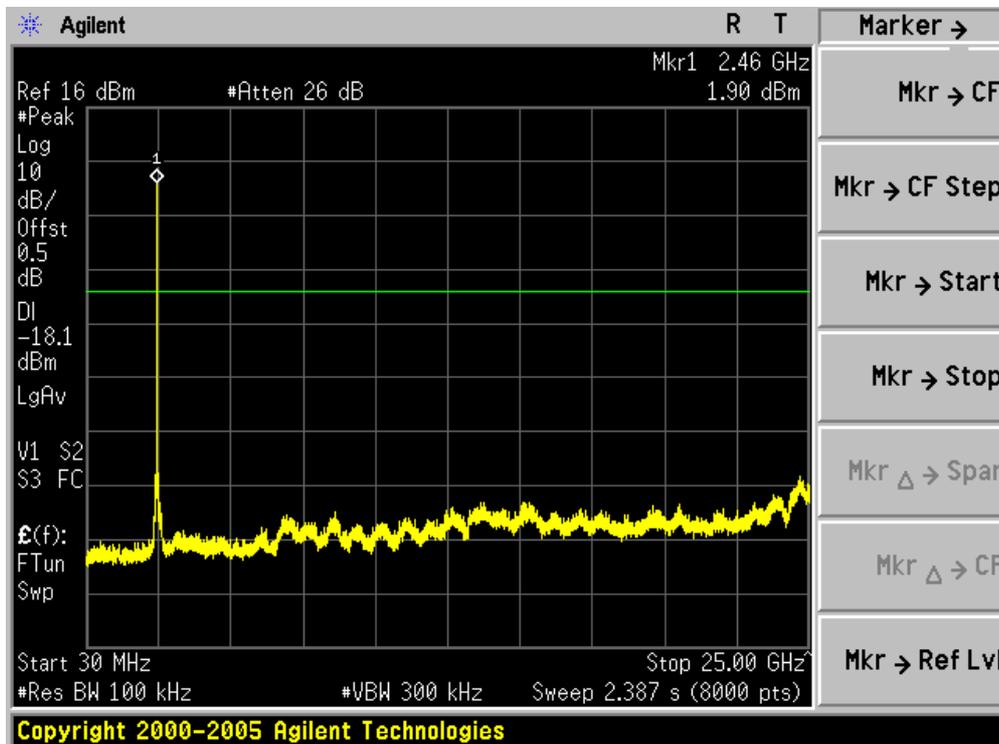
Channel 01 (2412MHz)



Channel 06 (2437MHz)

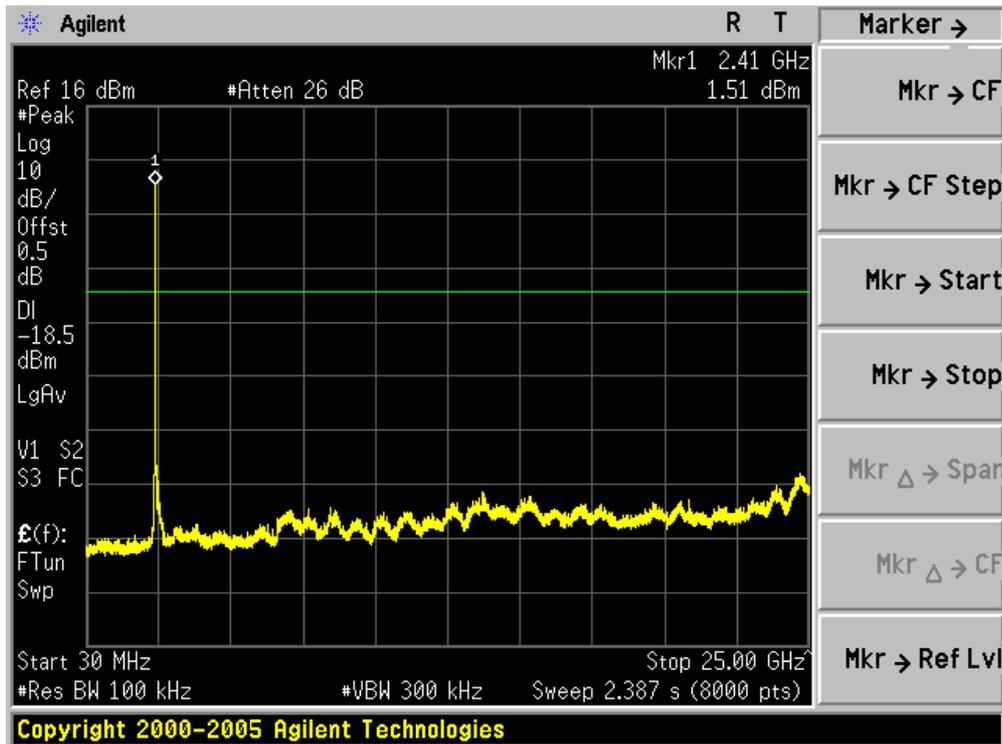


Channel 11 (2462MHz)

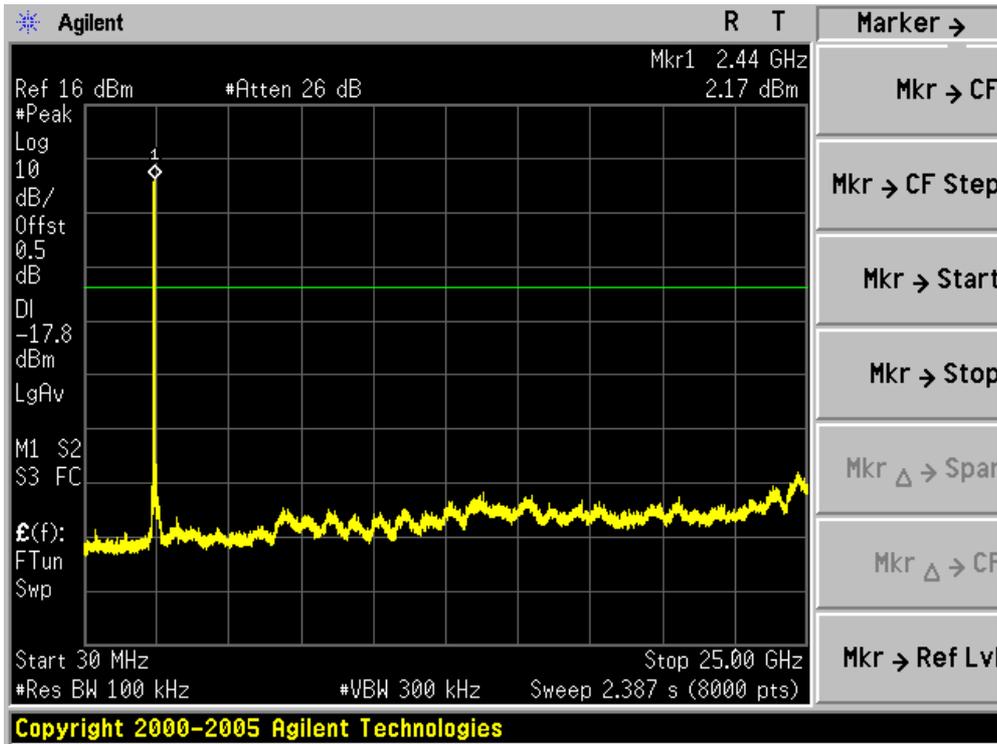


Product	:	Home Gateway
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit at 802.11n (20MHz)

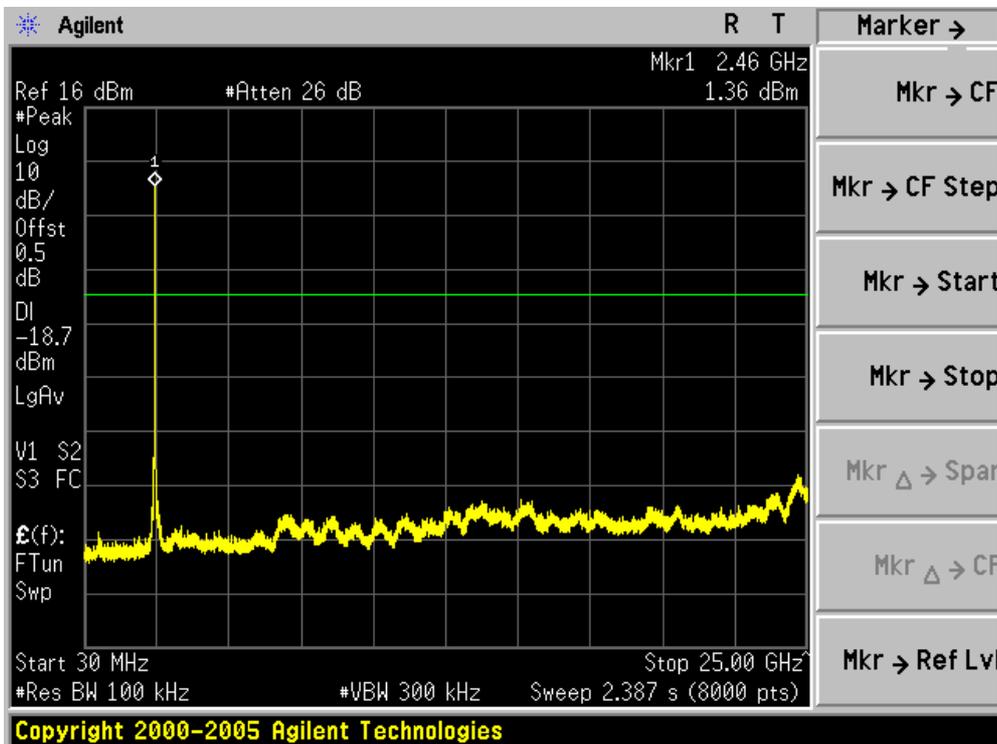
Channel 01 (2412MHz)



Channel 06 (2437MHz)

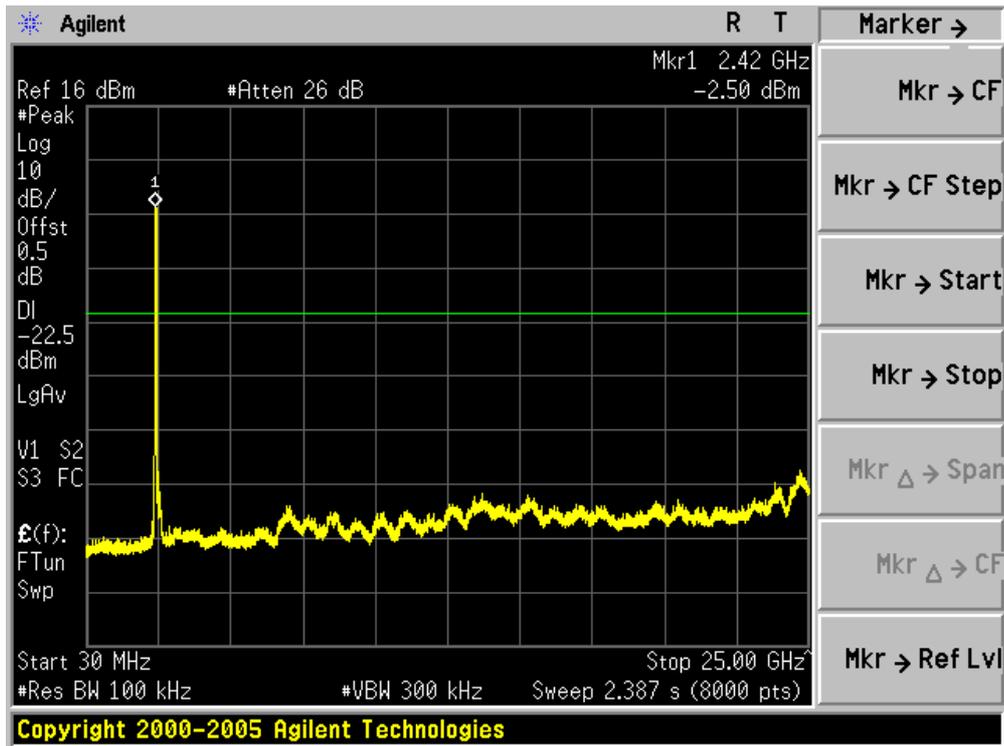


Channel 11 (2462MHz)

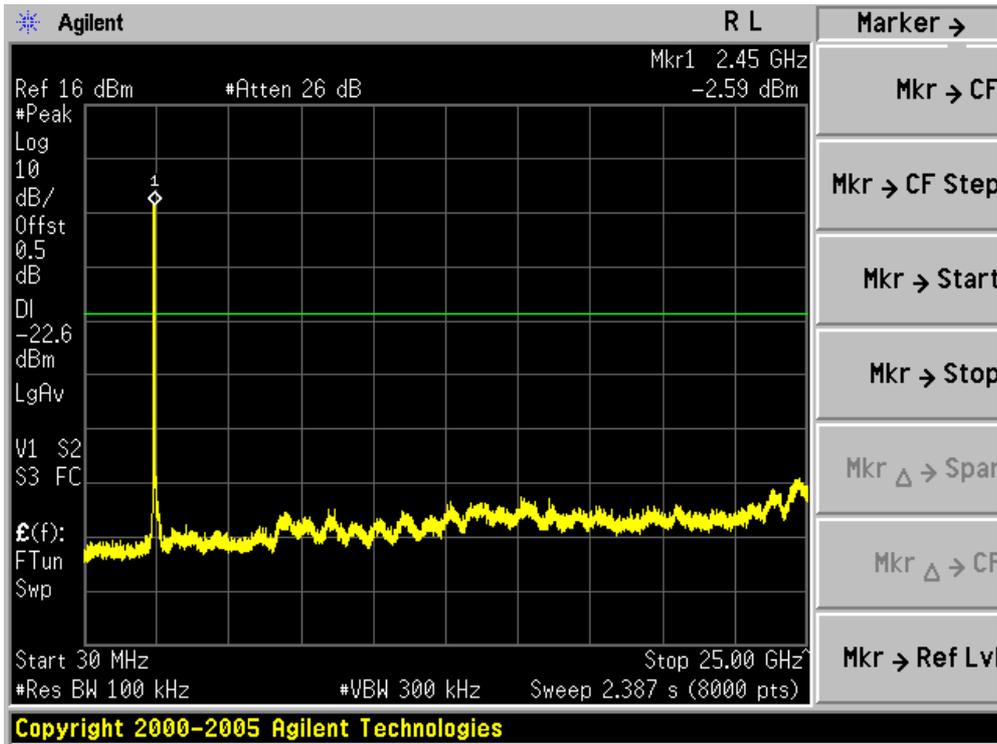


Product	:	Home Gateway
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit at 802.11n (40MHz)

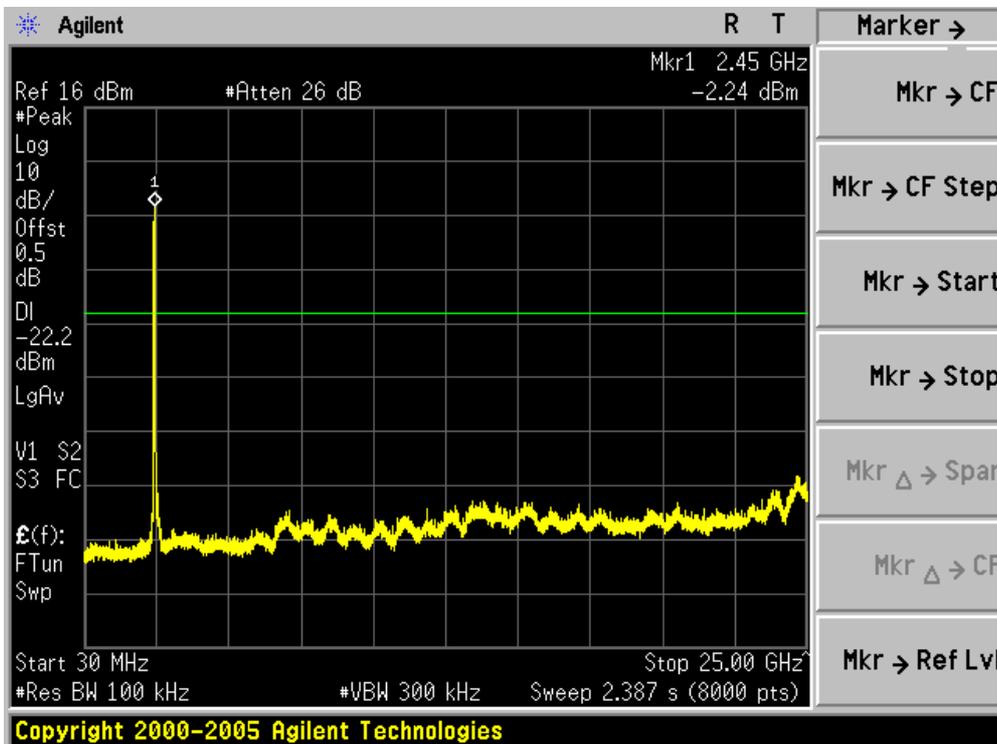
Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



6. Radiated Emission Band Edge

6.1. Test Equipment

Radiated Emission / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2009/04/23
EMI Test Receiver	R&S	ESCI	100573	2009/04/23
Preamplifier	Quietek	AP-025C	QT-AP003	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602012	2009/05/05
Bilog Type Antenna	Schaffner	CBL6112B	2932	2009/02/25
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2009/06/11
50ohm Coaxial Switch	Anritsu	MP59B	6200447304	2008/11/24
Coaxial Cable	Huber+Suhner	AC2-C	04	2009/05/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2009/03/31

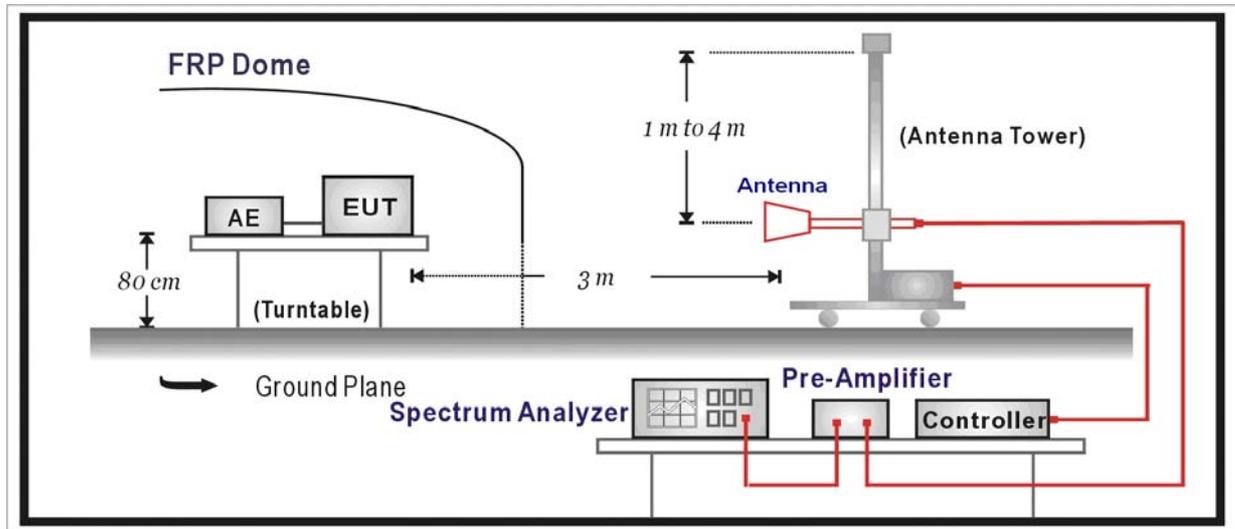
Radiated Emission / AC-3

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2009/04/23
EMI Test Receiver	R&S	ESCI	100176	2008/11/15
Preamplifier	Quietek	AP-025C	QT-AP004	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602012	2009/05/05
Bilog Type Antenna	Schaffner	CBL6112D	22254	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2009/06/11
50ohm Coaxial Switch	Anritsu	MP59B	6200464463	2008/11/24
Coaxial Cable	Huber+Suhner	AC2-C	05	2009/05/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2009/03/31

Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Note 2: The test instruments marked with "X" are used to measure the final test results.

6.2. Test Setup



6.3. Limit

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

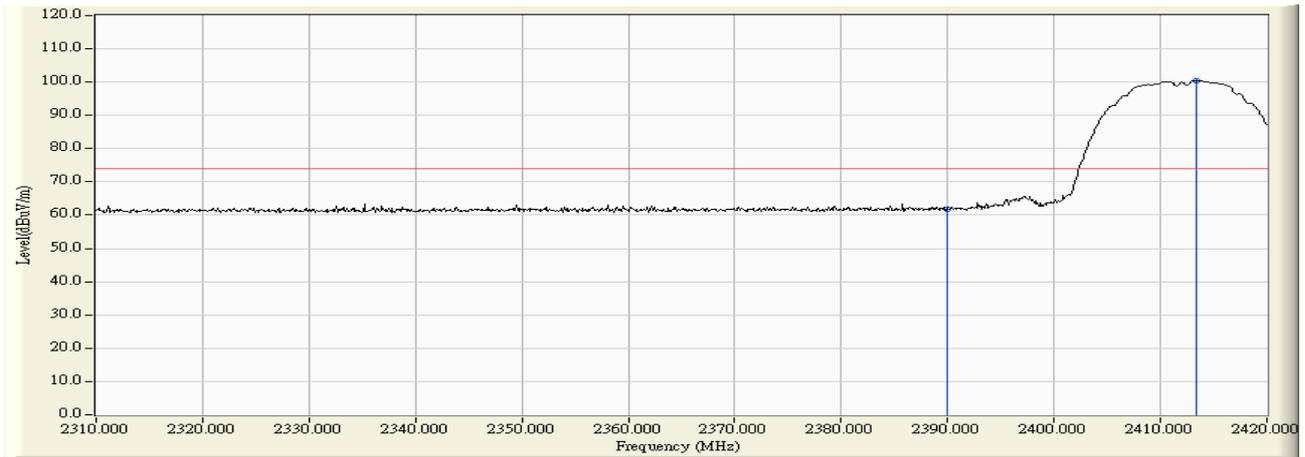
Peak detector set as follows, RBW = 1MHz, VBW = 3MHz, sweep time = 500ms;
 Average detector set as follows, RBW = 1MHz, VBW = 10Hz, sweep time = Auto.

6.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB

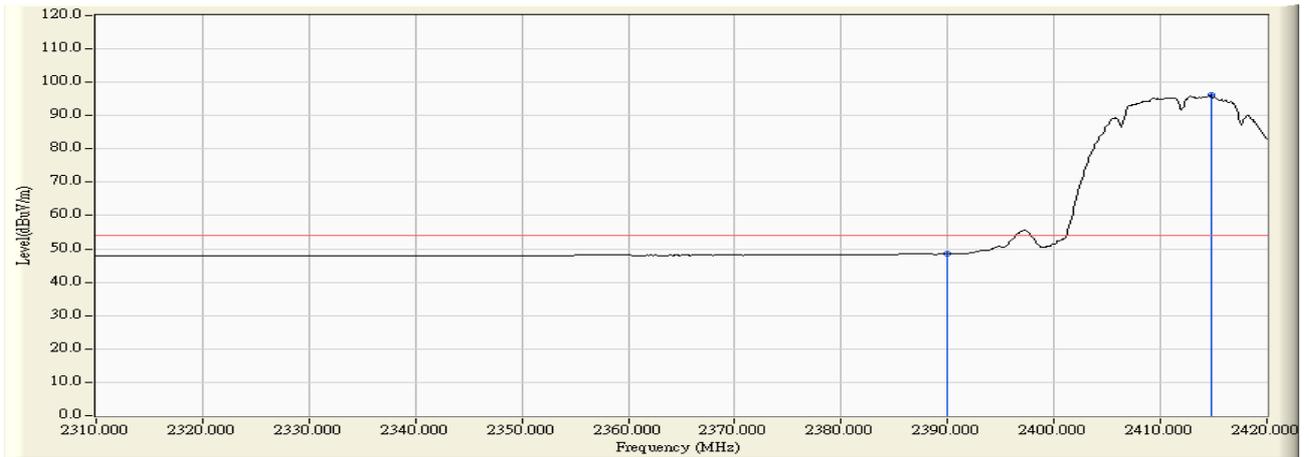
6.6. Test Result

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 09:55
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b at channel 2412MHz



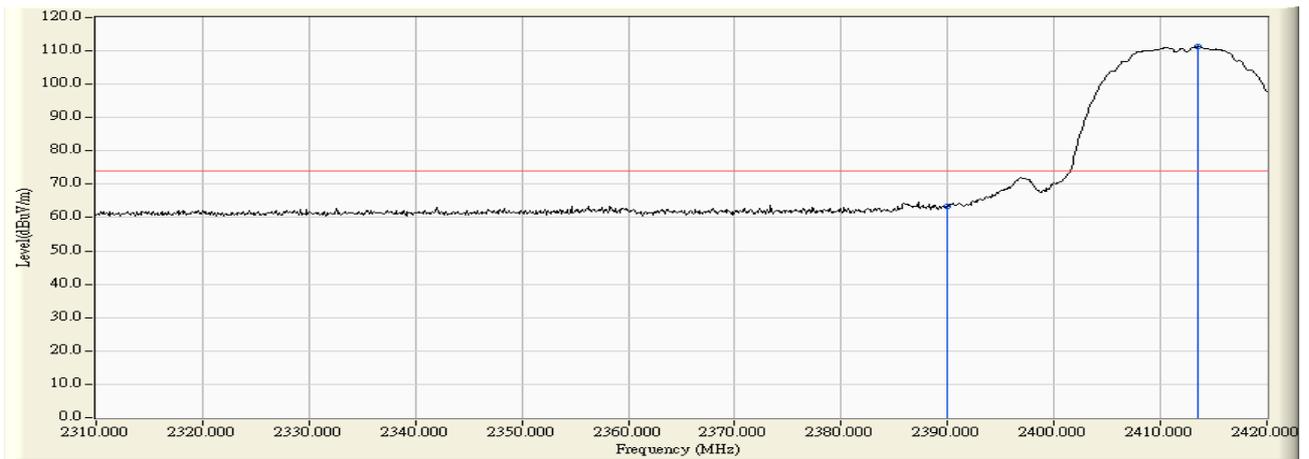
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	30.657	61.841	-12.129	73.970	PEAK
2	*	2413.400	31.192	69.339	100.531	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 09:56
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b at channel 2412MHz



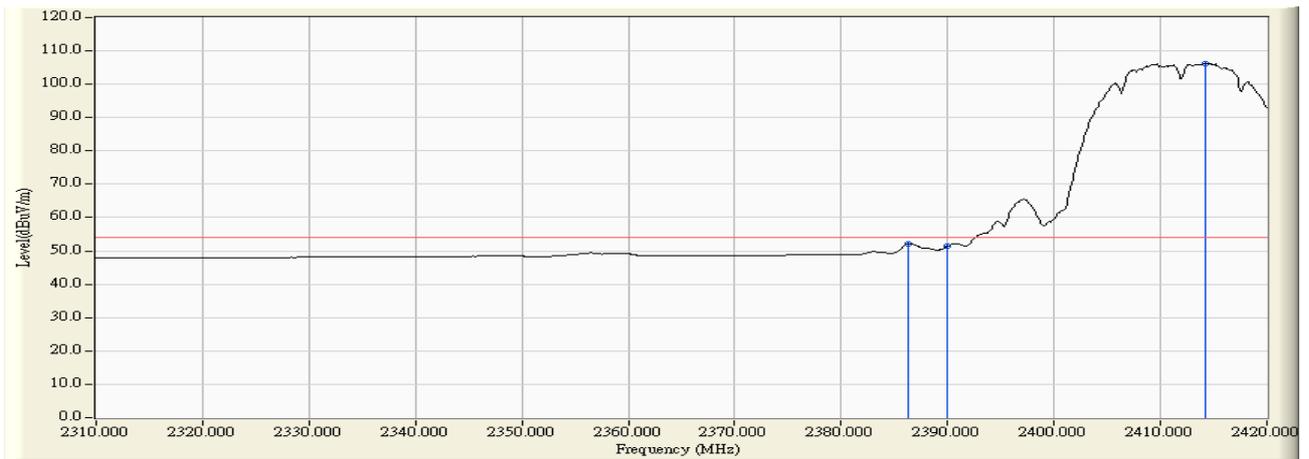
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	17.403	48.587	-5.383	53.970	AVERAGE
2	*	2414.720	31.193	64.900	96.093	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 09:46
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b at channel 2412MHz



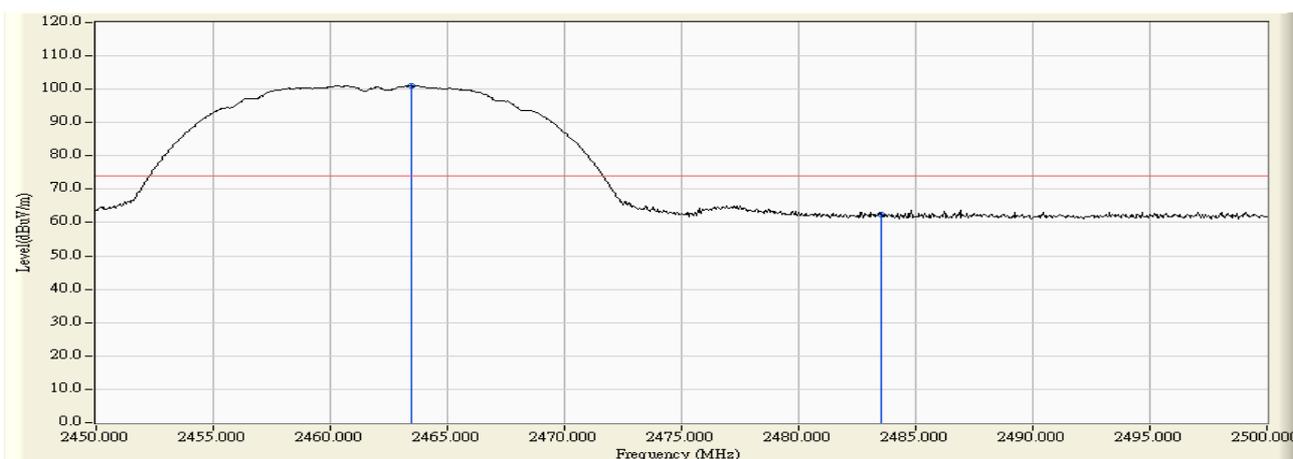
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	32.101	63.285	-10.685	73.970	PEAK
2	*	2413.510	31.192	80.054	111.246	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 09:47
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b at channel 2412MHz



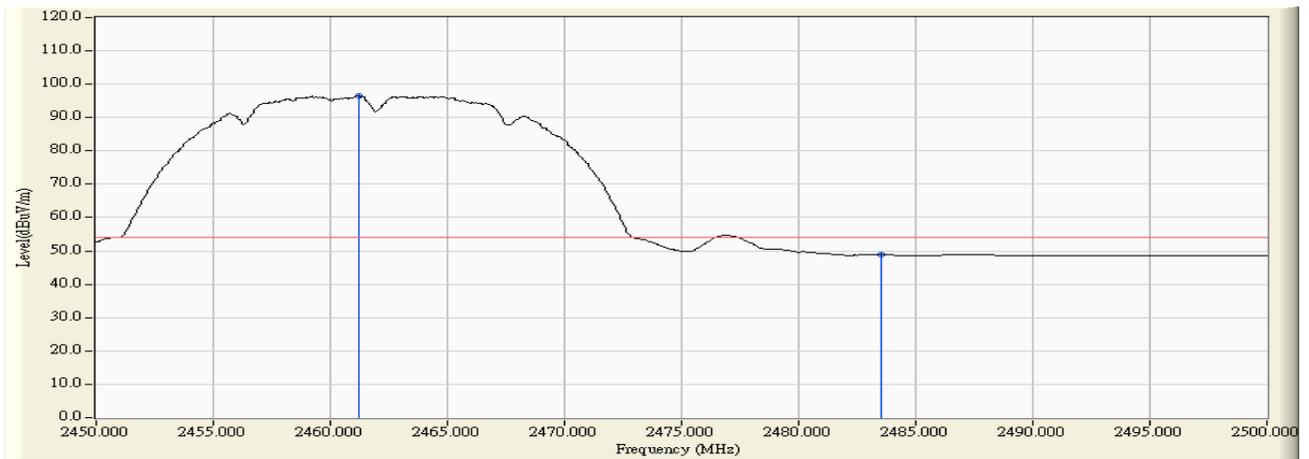
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2386.230	31.189	20.976	52.164	-1.806	53.970	AVERAGE
2		2390.000	31.184	20.270	51.454	-2.516	53.970	AVERAGE
3	*	2414.280	31.192	75.111	106.303	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:01
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b at channel 2462MHz



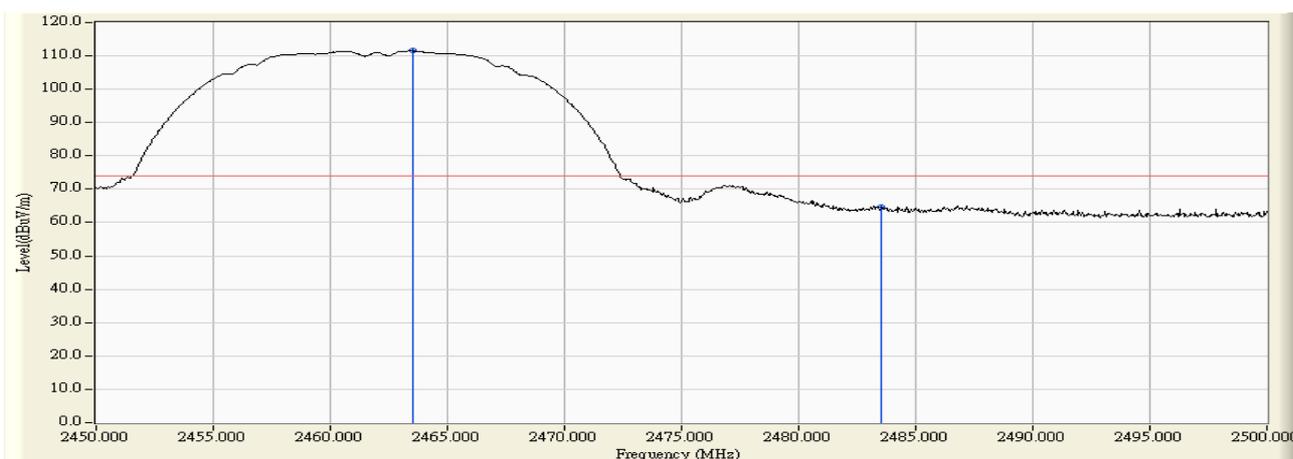
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.450	31.224	69.859	101.083	N/A	N/A	PEAK
2		2483.500	31.212	31.134	62.346	-11.624	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:01
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b at channel 2462MHz



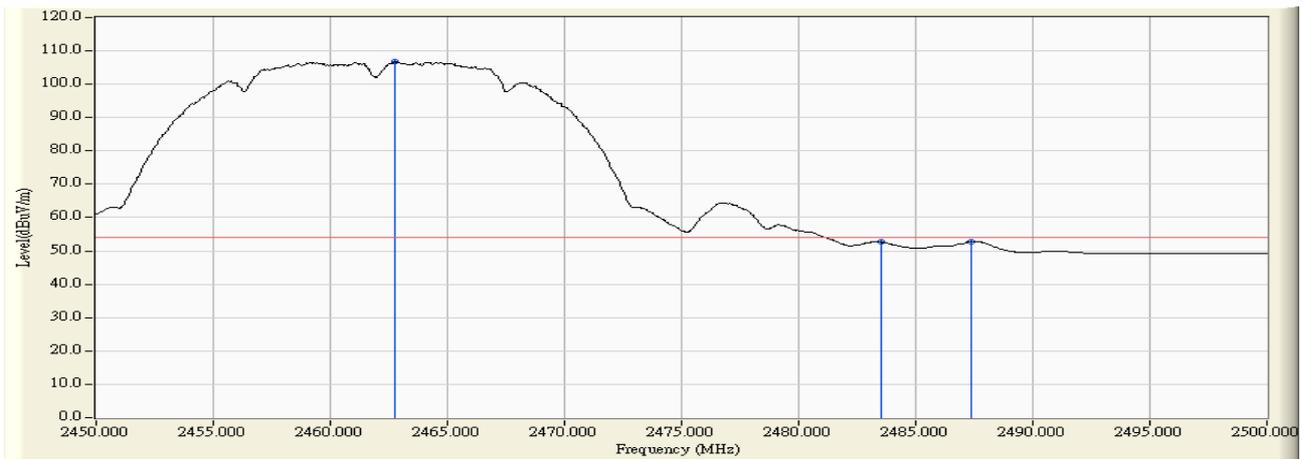
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.250	31.225	65.197	96.422	N/A	N/A	AVERAGE
2		2483.500	31.212	17.717	48.929	-5.041	53.970	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:05
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b at channel 2462MHz



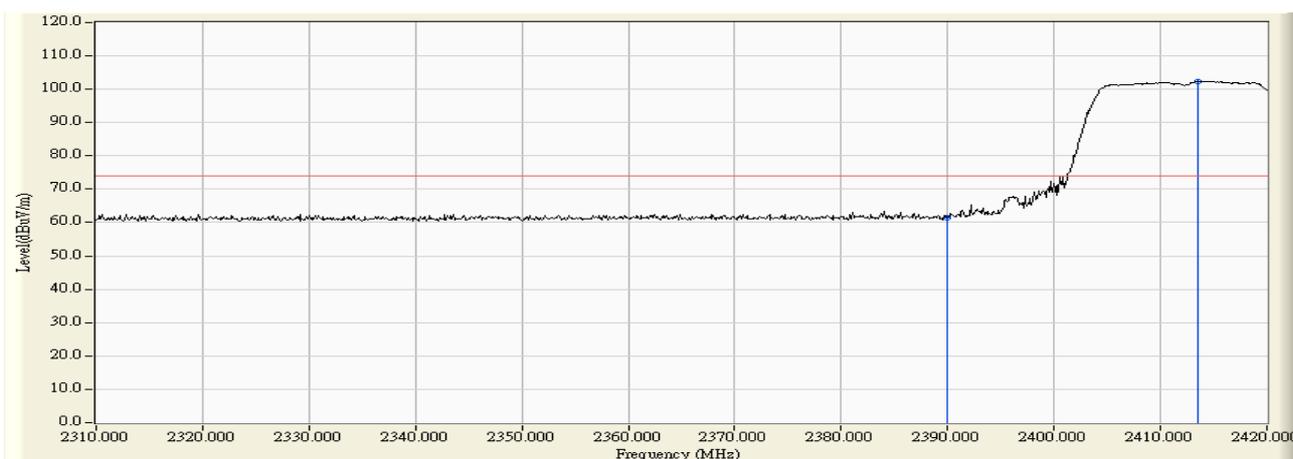
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.500	31.224	80.289	111.513	N/A	N/A	PEAK
2		2483.500	31.212	33.550	64.762	-9.208	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:06
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1:Transmit by 802.11b at channel 2462MHz



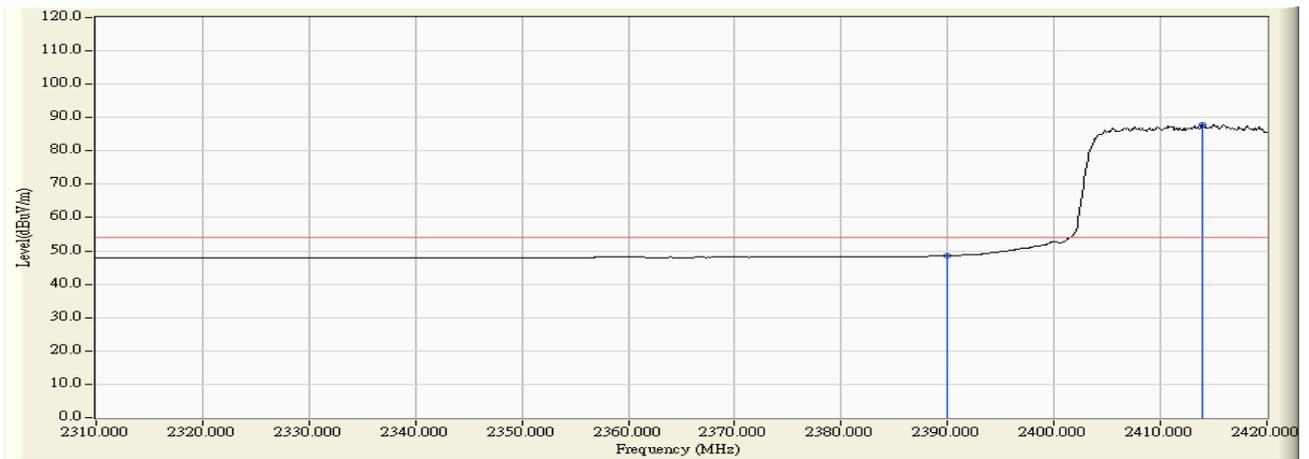
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2462.750	31.225	75.461	106.686	N/A	N/A	AVERAGE
2		2483.500	31.212	21.460	52.672	-1.298	53.970	AVERAGE
3		2487.350	31.210	21.681	52.891	-1.079	53.970	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:31
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2:Transmit by 802.11g at channel 2412MHz



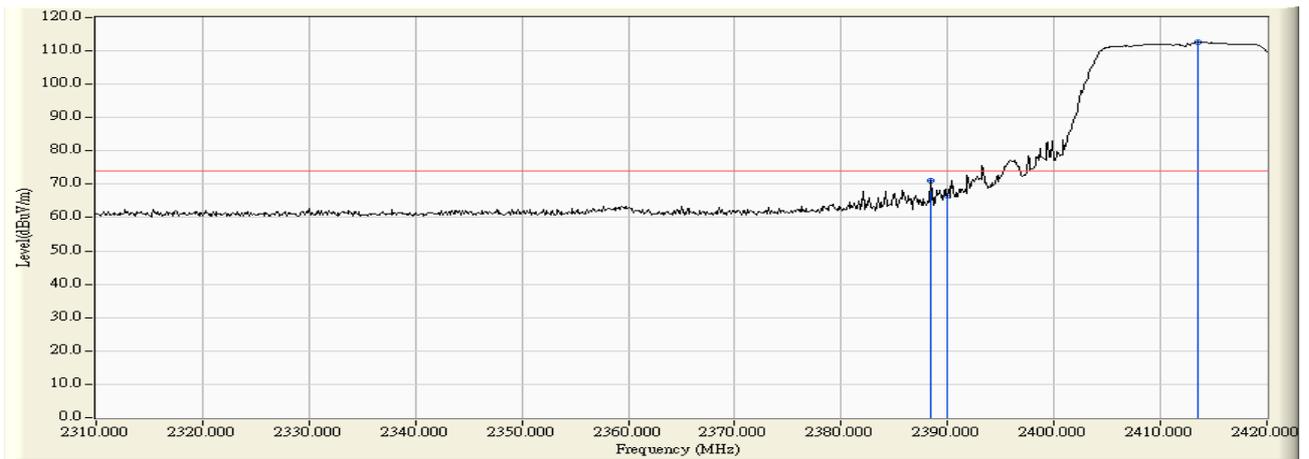
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	30.399	61.583	-12.387	73.970	PEAK
2	*	2413.510	31.192	71.242	102.434	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:32
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2:Transmit by 802.11g at channel 2412MHz



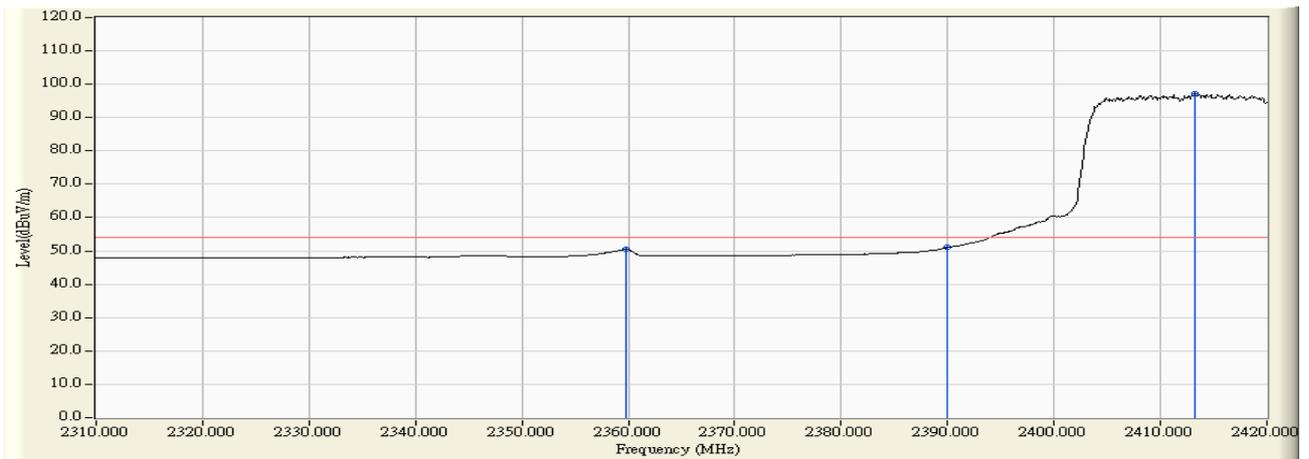
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	17.422	48.606	-5.364	53.970	AVERAGE
2	*	2413.950	31.192	56.659	87.851	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:27
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2:Transmit by 802.11g at channel 2412MHz



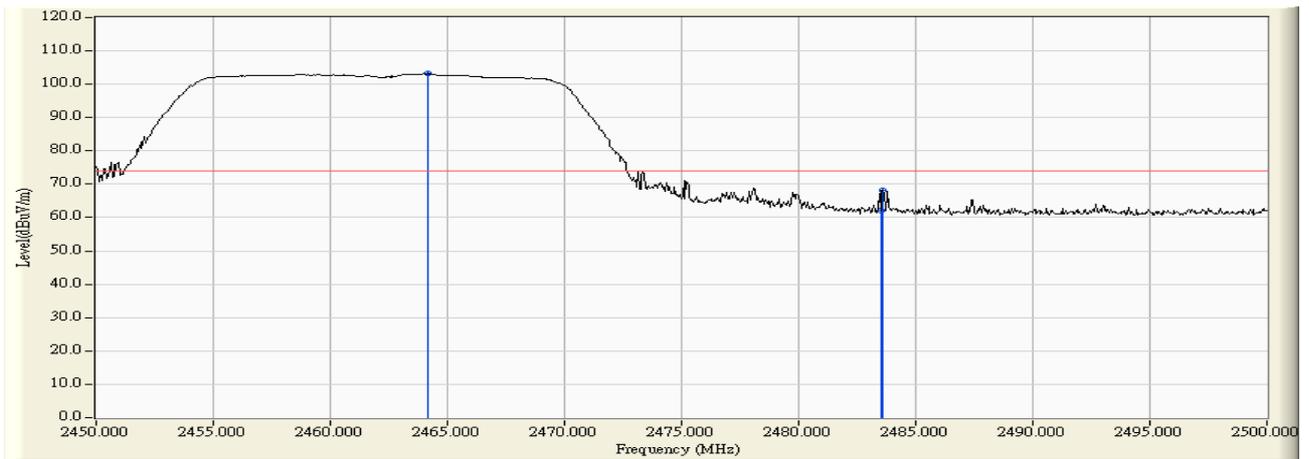
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2388.430	31.186	39.927	71.113	-2.857	73.970	PEAK
2		2390.000	31.184	35.448	66.632	-7.338	73.970	PEAK
3	*	2413.510	31.192	81.343	112.535	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:28
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2:Transmit by 802.11g at channel 2412MHz



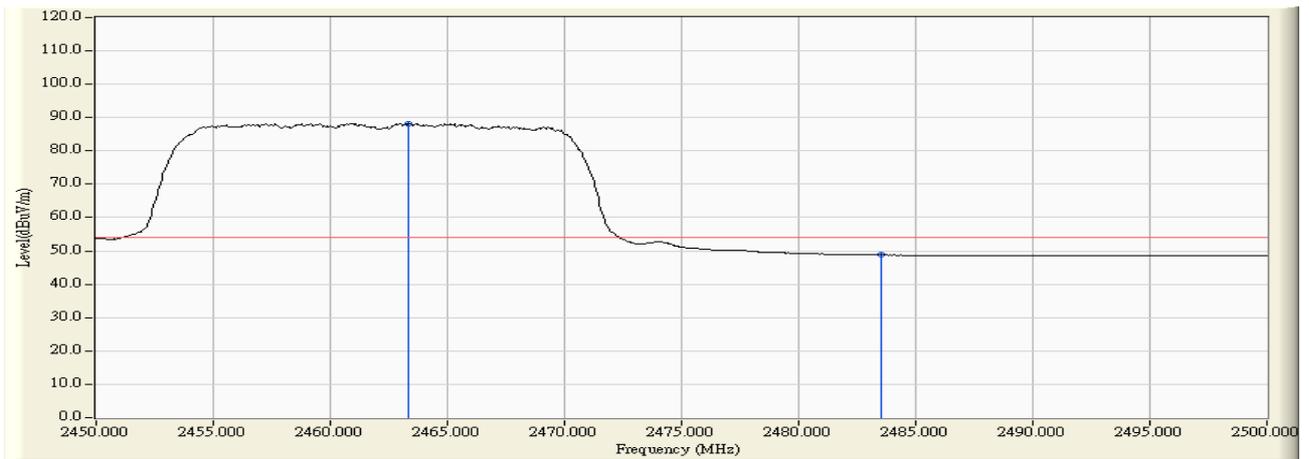
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2359.720	31.218	19.249	50.467	-3.503	53.970	AVERAGE
2		2390.000	31.184	19.841	51.025	-2.945	53.970	AVERAGE
3	*	2413.290	31.192	65.875	97.066	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:23
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2:Transmit by 802.11g at channel 2462MHz



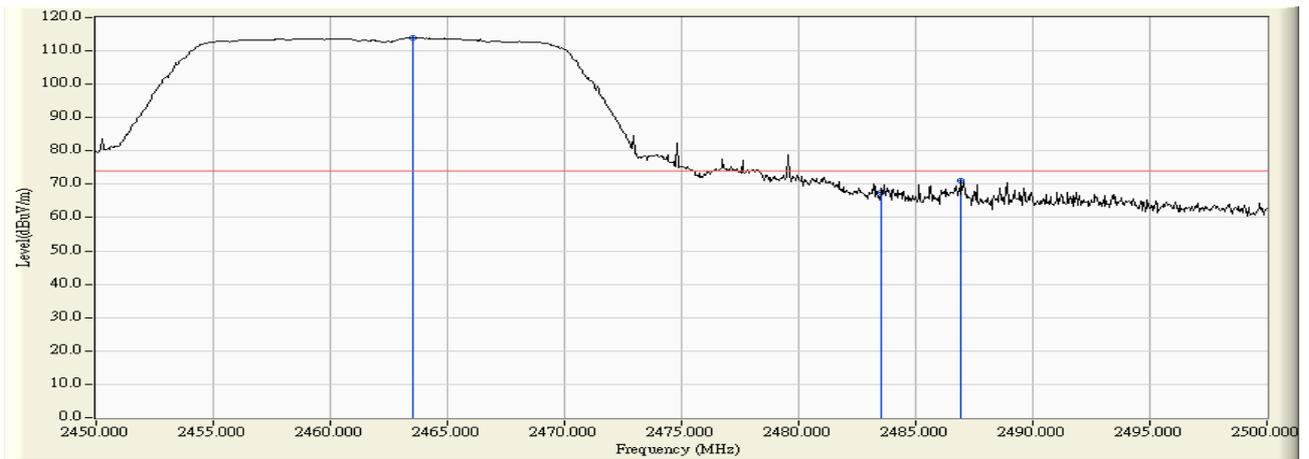
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.150	31.224	72.081	103.305	N/A	N/A	PEAK
2		2483.500	31.212	30.751	61.963	-12.007	73.970	PEAK
3		2483.600	31.212	37.117	68.329	-5.641	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2:Transmit by 802.11g at channel 2462MHz



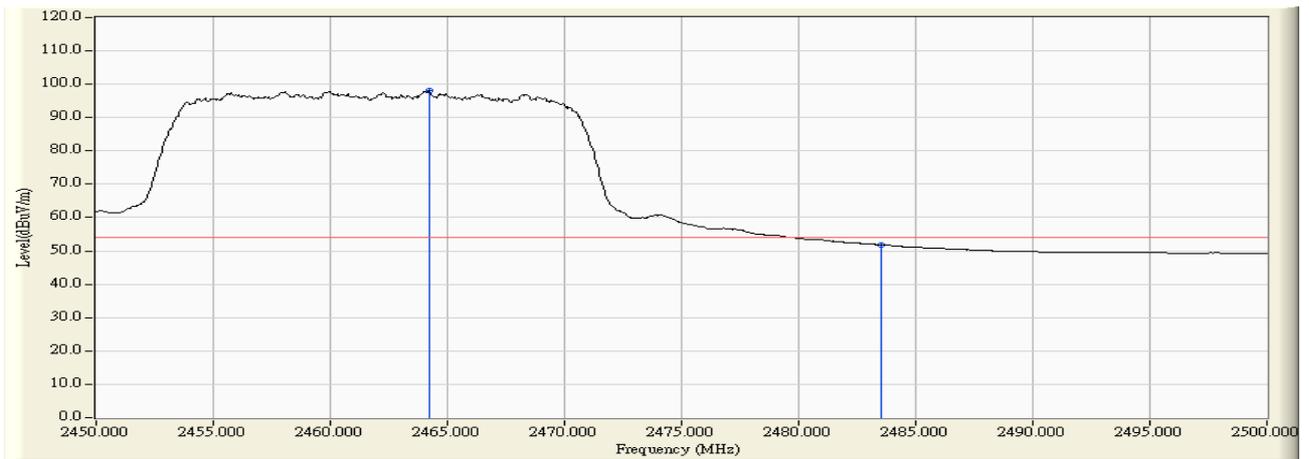
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.350	31.224	57.047	88.271	N/A	N/A	AVERAGE
2		2483.500	31.212	17.546	48.758	-5.212	53.970	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:19
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2:Transmit by 802.11g at channel 2462MHz



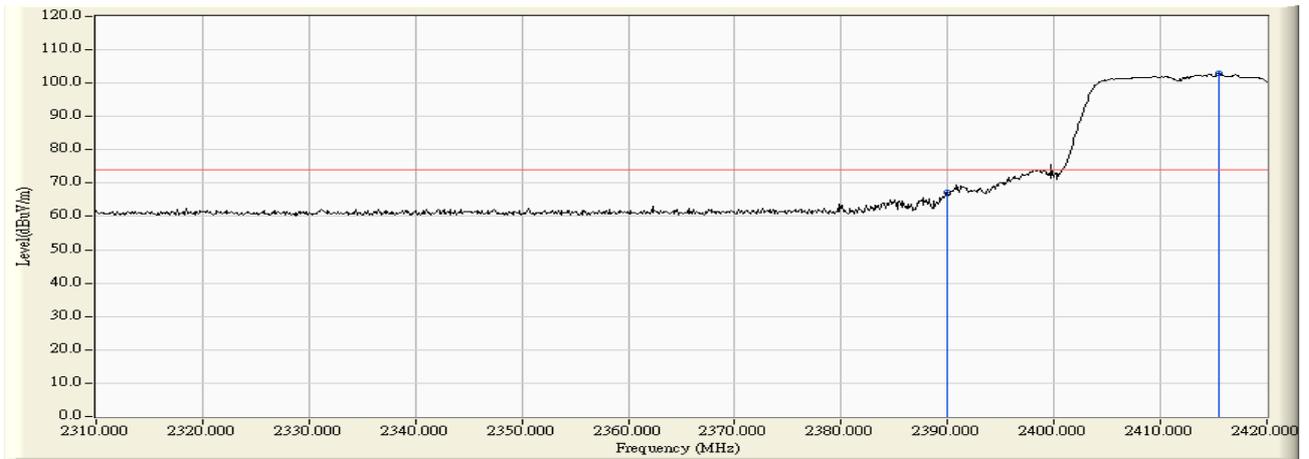
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.500	31.224	82.712	113.936	N/A	N/A	PEAK
2		2483.500	31.212	36.357	67.569	-6.401	73.970	PEAK
3		2486.950	31.210	39.995	71.205	-2.765	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2:Transmit by 802.11g at channel 2462MHz



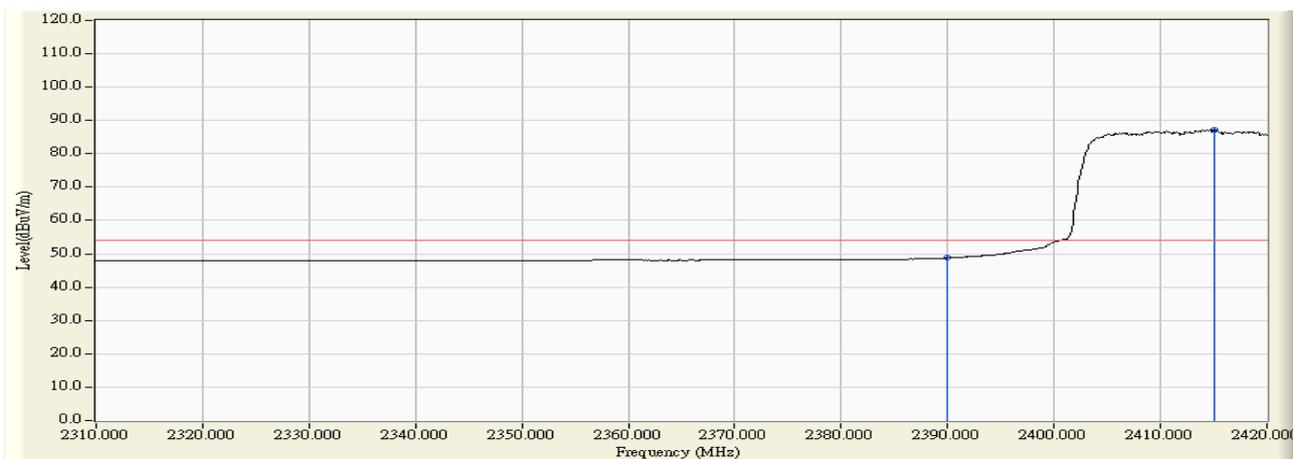
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.200	31.224	66.789	98.013	N/A	N/A	AVERAGE
2		2483.500	31.212	20.610	51.822	-2.148	53.970	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:40
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 3:Transmit by 802.11n(20MHz) at channel 2412MHz



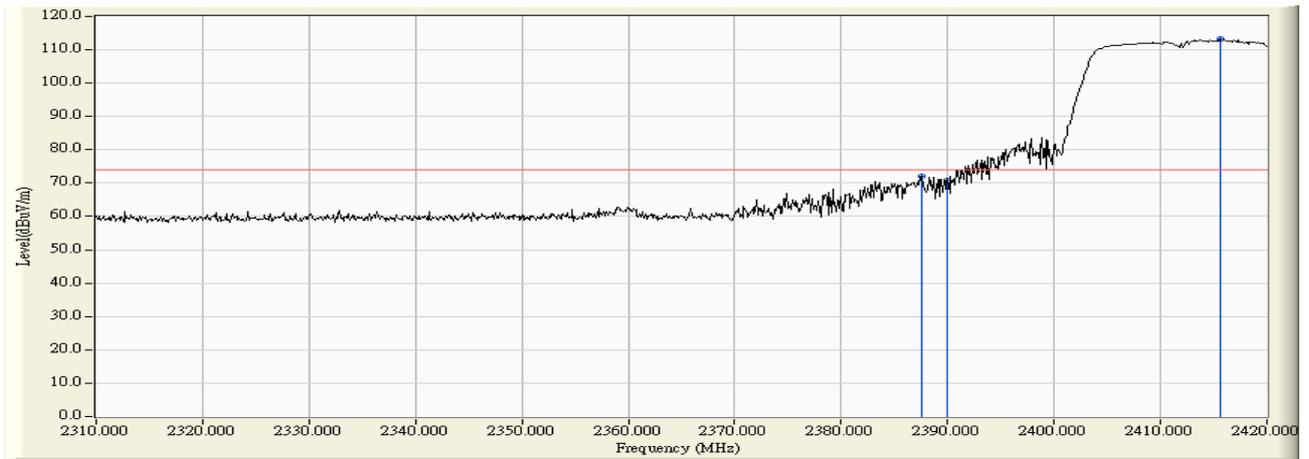
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	35.895	67.079	-6.891	73.970	PEAK
2	*	2415.490	31.193	71.640	102.833	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:41
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 3:Transmit by 802.11n(20MHz) at channel 2412MHz



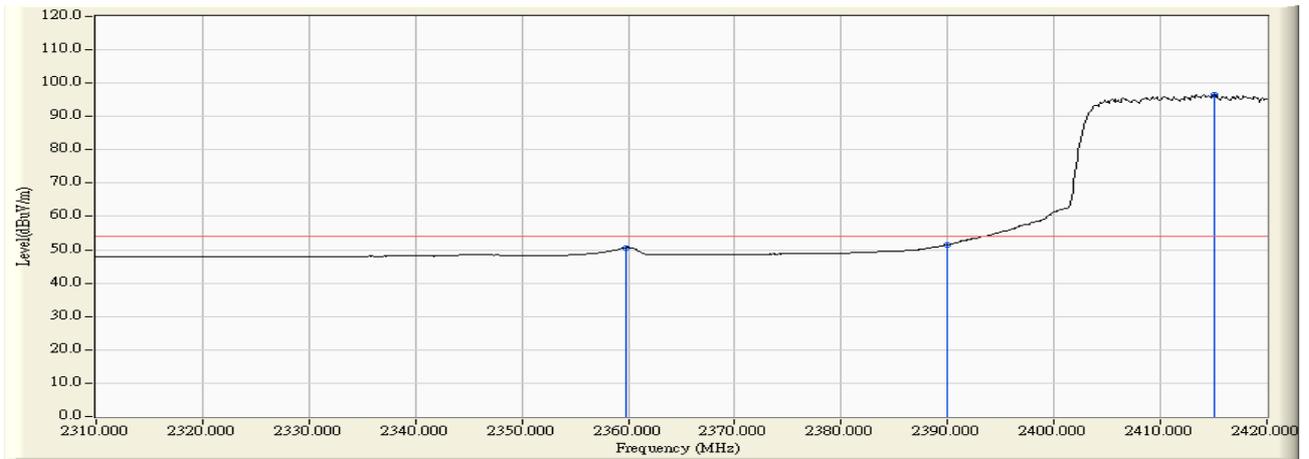
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	17.572	48.756	-5.214	53.970	AVERAGE
2	*	2415.050	31.193	55.904	87.097	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:35
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 3:Transmit by 802.11n(20MHz) at channel 2412MHz



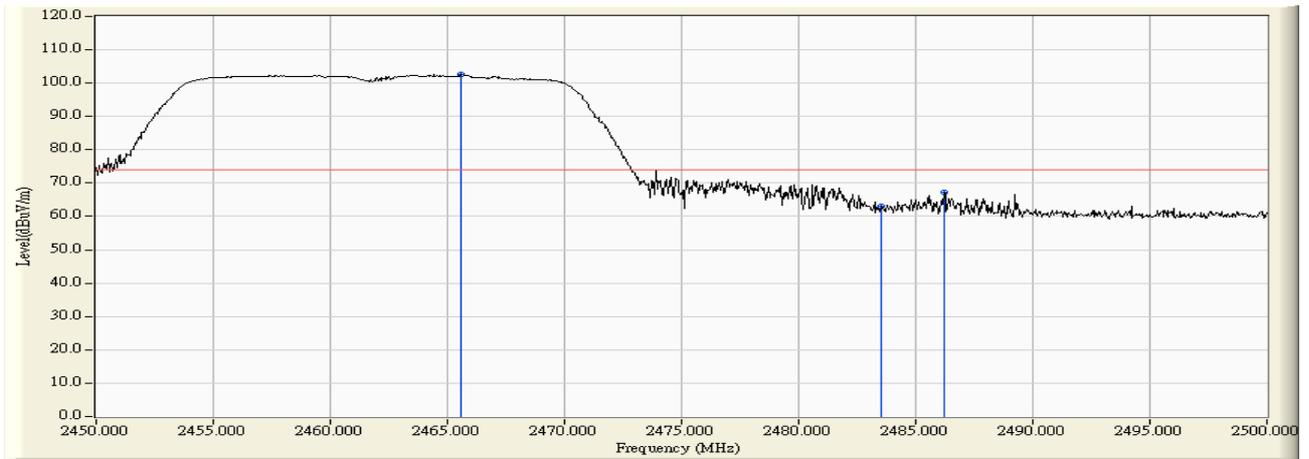
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2387.550	31.187	40.982	72.169	-1.801	73.970	PEAK
2		2390.000	31.184	39.710	70.894	-3.076	73.970	PEAK
3	*	2415.600	31.193	82.205	113.398	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:37
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 3:Transmit by 802.11n(20MHz) at channel 2412MHz



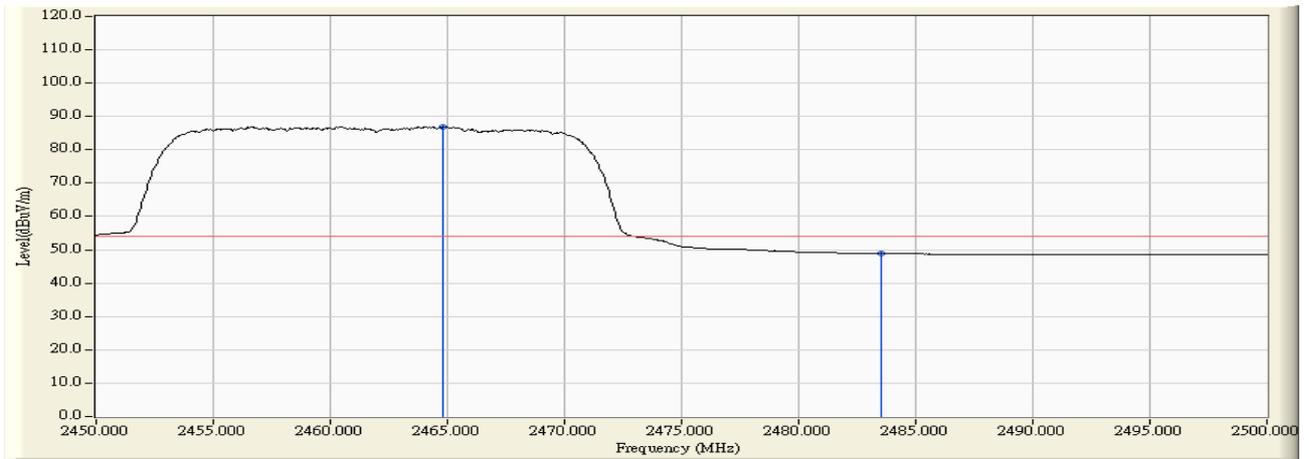
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2359.720	31.218	19.363	50.581	-3.389	53.970	AVERAGE
2		2390.000	31.184	20.352	51.536	-2.434	53.970	AVERAGE
3	*	2415.050	31.193	65.305	96.498	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:51
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 3:Transmit by 802.11n(20MHz) at channel 2462MHz



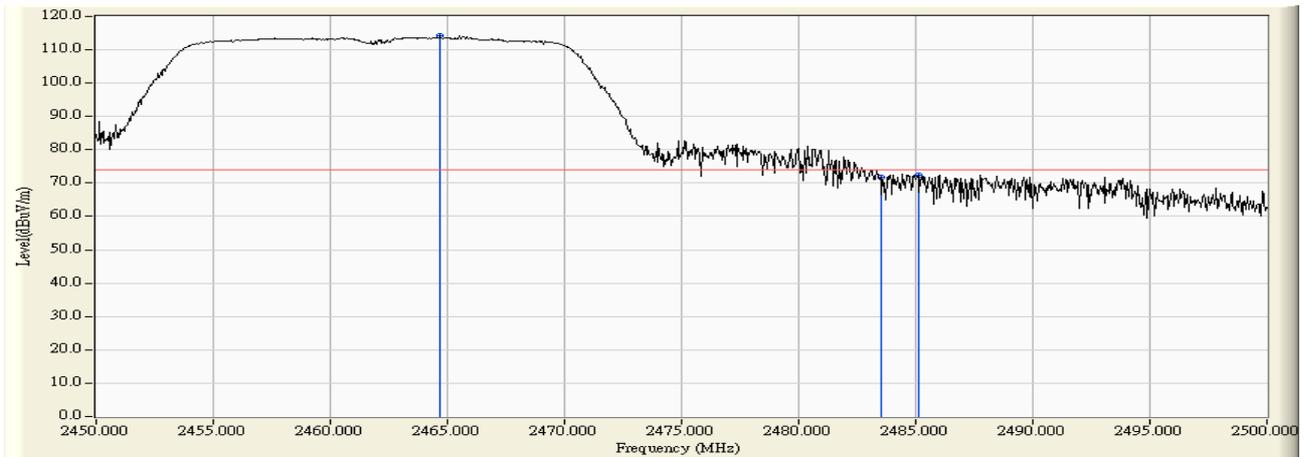
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2465.550	31.223	71.509	102.732	N/A	N/A	PEAK
2		2483.500	31.212	31.875	63.087	-10.883	73.970	PEAK
3		2486.200	31.211	36.178	67.388	-6.582	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:51
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 3:Transmit by 802.11n(20MHz) at channel 2462MHz



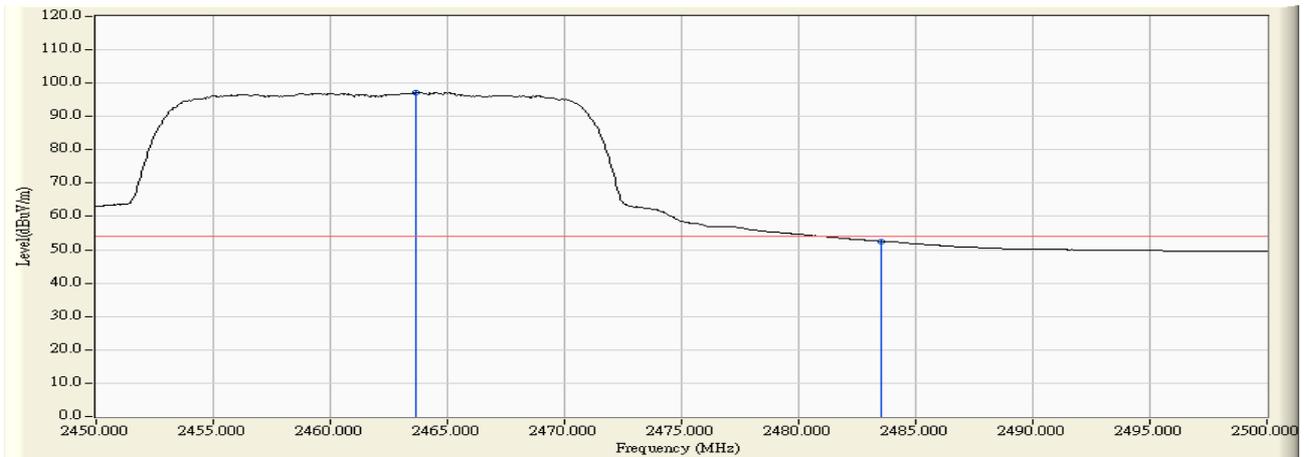
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.800	31.223	55.678	86.902	N/A	N/A	AVERAGE
2		2483.500	31.212	17.715	48.927	-5.043	53.970	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:45
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 3:Transmit by 802.11n(20MHz) at channel 2462MHz



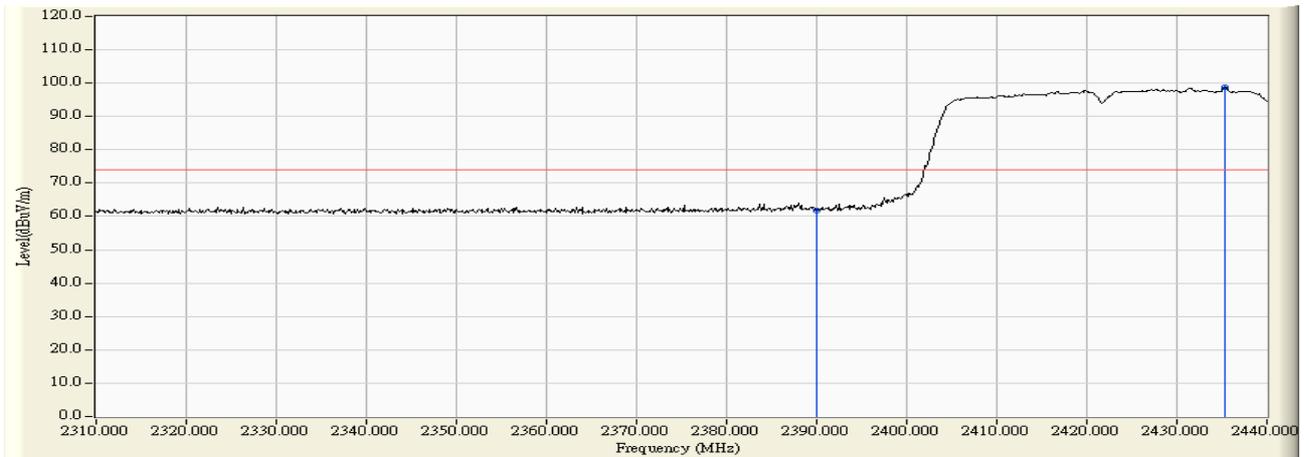
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.700	31.223	82.870	114.094	N/A	N/A	PEAK
2		2483.500	31.212	40.635	71.847	-2.123	73.970	PEAK
3		2485.100	31.211	41.335	72.546	-1.424	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 10:48
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 3:Transmit by 802.11n(20MHz) at channel 2462MHz



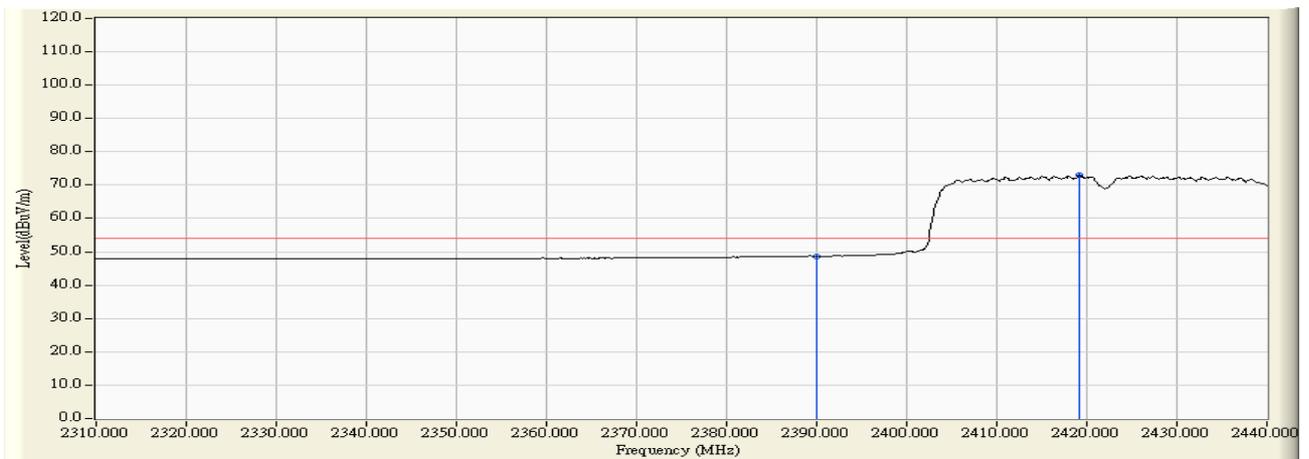
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.650	31.224	65.855	97.079	N/A	N/A	AVERAGE
2		2483.500	31.212	21.356	52.568	-1.402	53.970	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 11:08
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 4:Transmit by 802.11n(40MHz) at channel 2422MHz



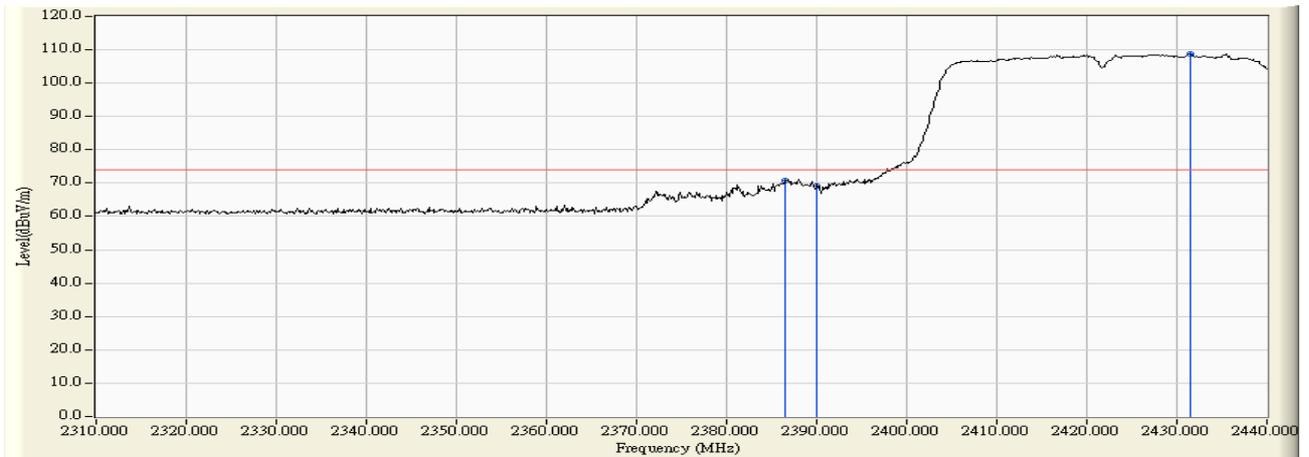
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	30.686	61.870	-12.100	73.970	PEAK
2	*	2435.320	31.211	67.502	98.712	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 11:09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 4:Transmit by 802.11n(40MHz) at channel 2422MHz



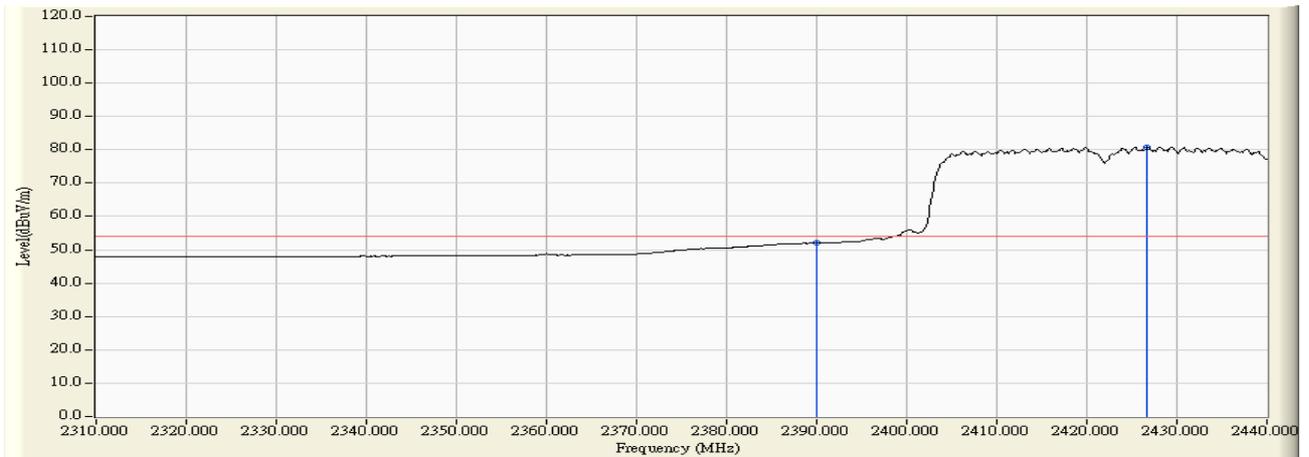
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	17.506	48.690	-5.280	53.970	AVERAGE
2	*	2419.200	31.196	41.683	72.879	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 11:17
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 4:Transmit by 802.11n(40MHz) at channel 2422MHz



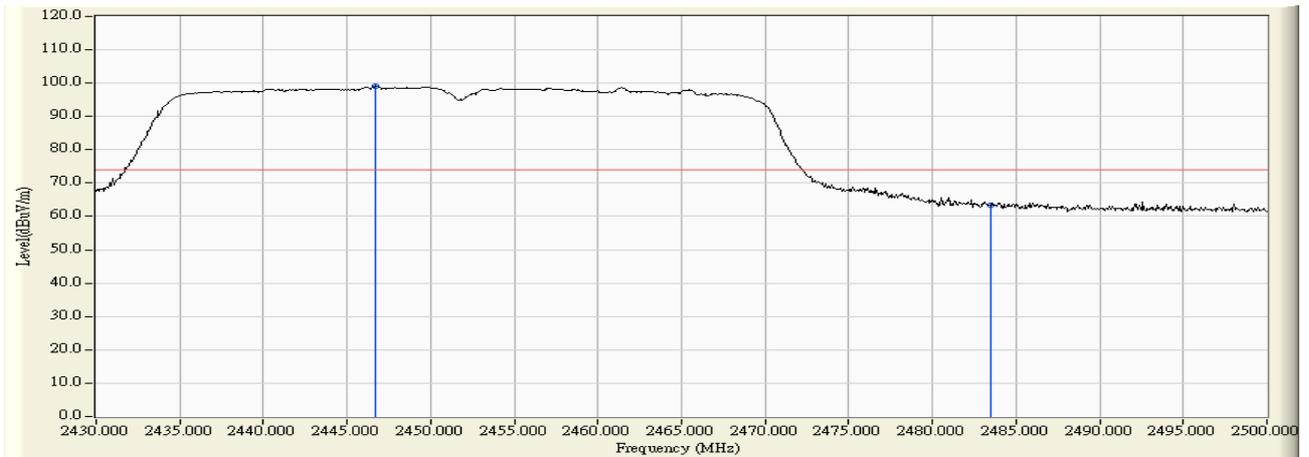
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2386.440	31.188	39.648	70.836	-3.134	73.970	PEAK
2		2390.000	31.184	38.085	69.269	-4.701	73.970	PEAK
3	*	2431.420	31.207	77.678	108.885	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 11:19
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 4:Transmit by 802.11n(40MHz) at channel 2422MHz



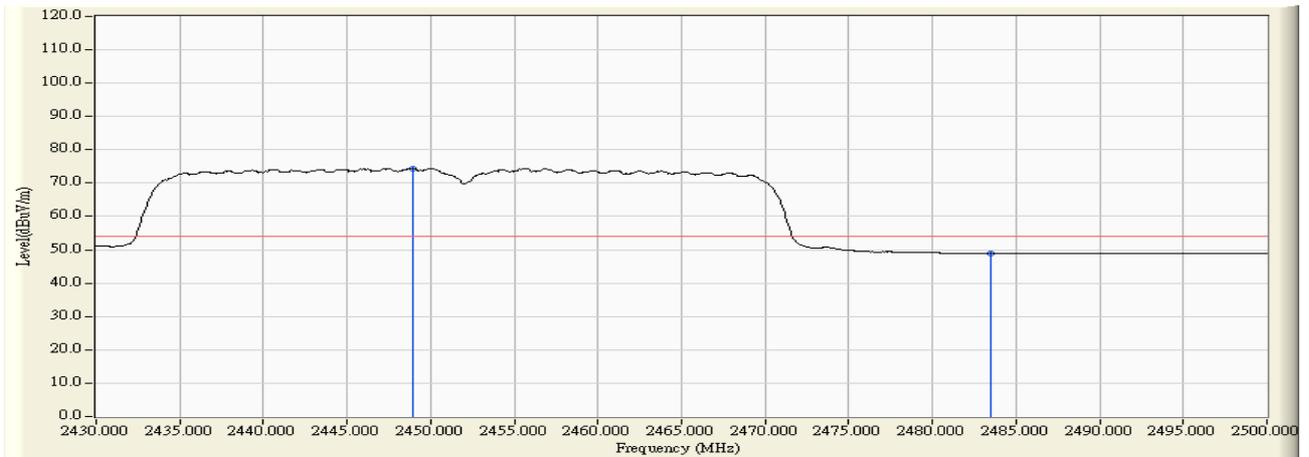
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	20.896	52.080	-1.890	53.970	AVERAGE
2	*	2426.740	31.203	49.619	80.822	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 11:01
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 4:Transmit by 802.11n(40MHz) at channel 2452MHz



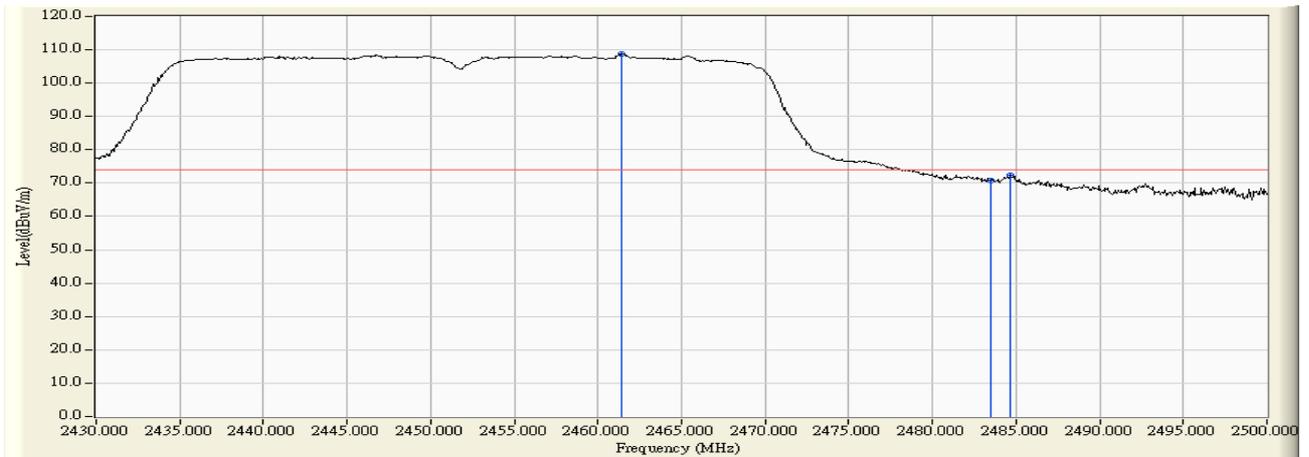
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2446.730	31.219	67.853	99.072	N/A	N/A	PEAK
2		2483.500	31.212	32.182	63.394	-10.576	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 11:02
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 4:Transmit by 802.11n(40MHz) at channel 2452MHz



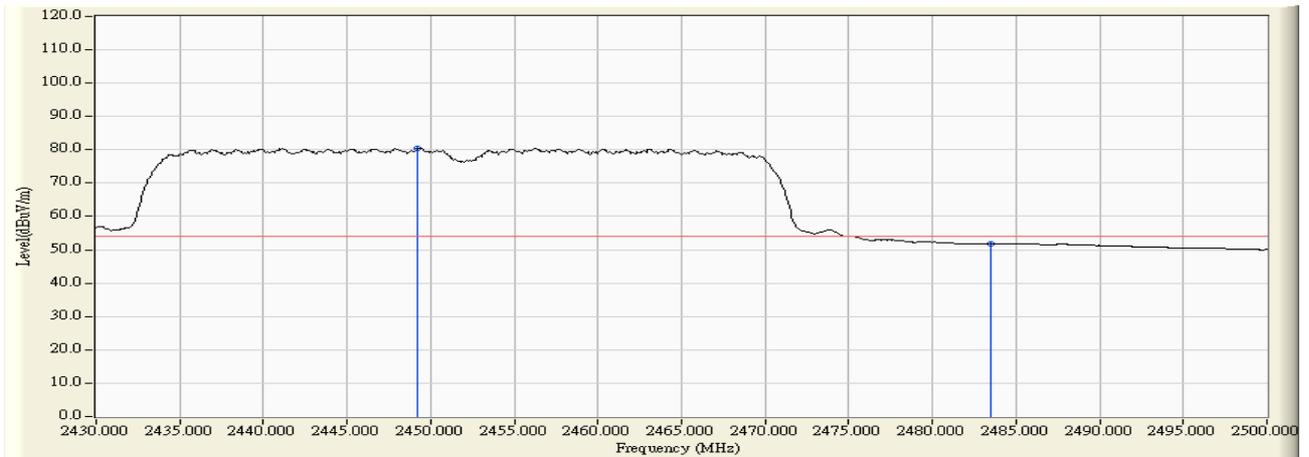
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2448.970	31.220	43.224	74.444	N/A	N/A	AVERAGE
2		2483.500	31.212	17.748	48.960	-5.010	53.970	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 11:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 4:Transmit by 802.11n(40MHz) at channel 2452MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.430	31.225	77.484	108.709	N/A	N/A	PEAK
2		2483.500	31.212	39.606	70.818	-3.152	73.970	PEAK
3		2484.670	31.212	41.260	72.471	-1.499	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/06/18 - 11:22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Home Gateway	Probe : 9120D_499(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 4:Transmit by 802.11n(40MHz) at channel 2452MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2449.250	31.220	49.252	80.472	N/A	N/A	AVERAGE
2		2483.500	31.212	20.586	51.798	-2.172	53.970	AVERAGE

7. Operation Frequency Range of 20dB Bandwidth

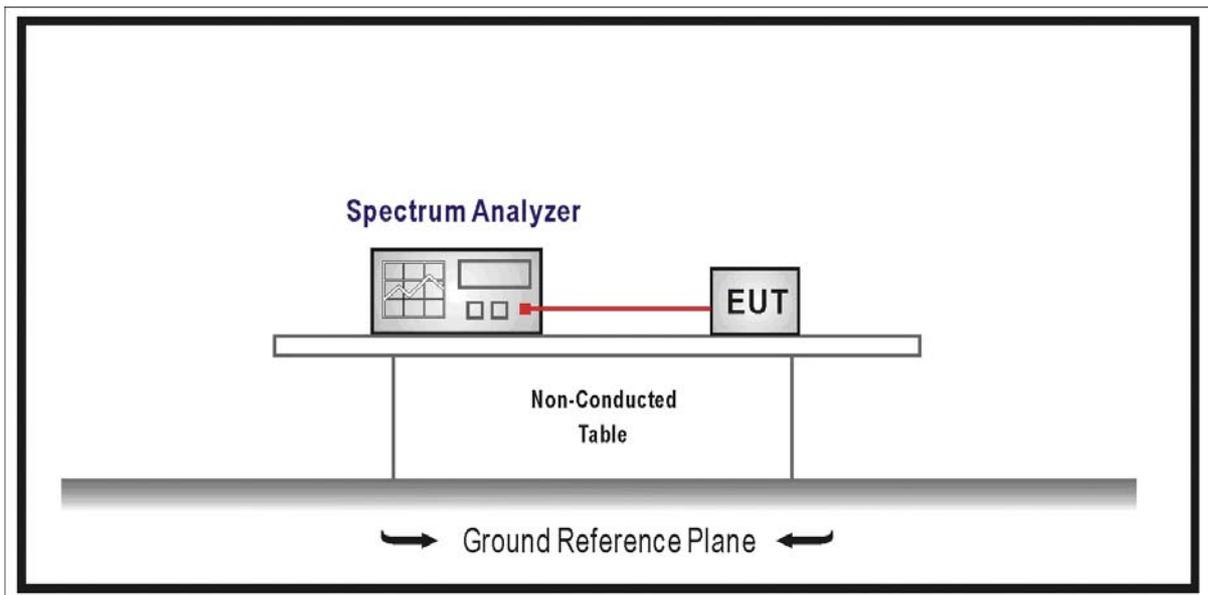
7.1. Test Equipment

Operation Frequency Range of 20dB Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2009/05/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/31s

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

7.2. Test Setup



7.3. Limit

20 dB bandwidth of the emission is contained within the operation frequency band.

7.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Span greater than RBW.

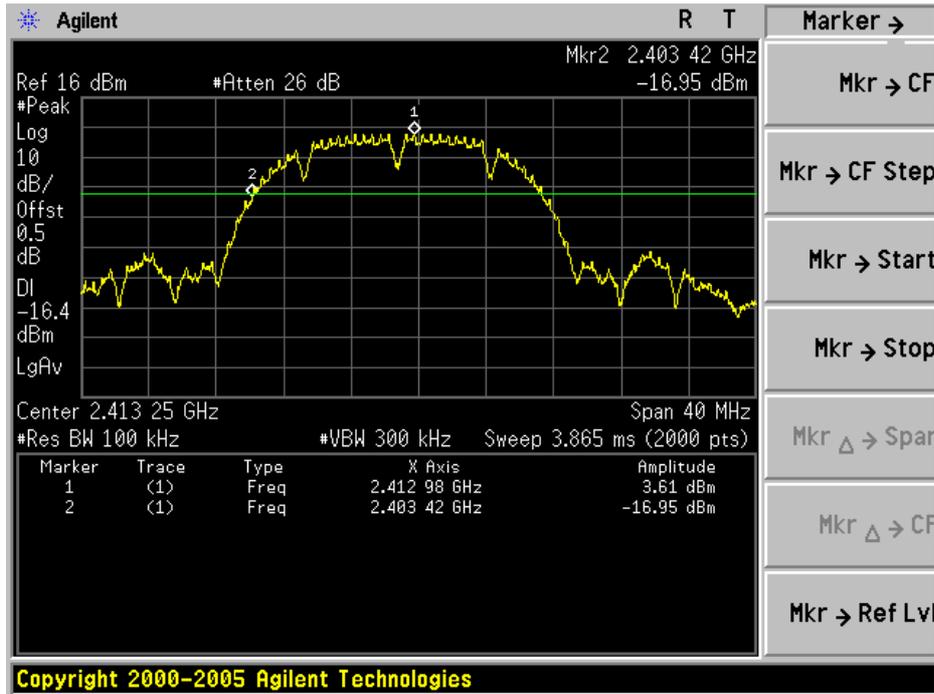
7.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

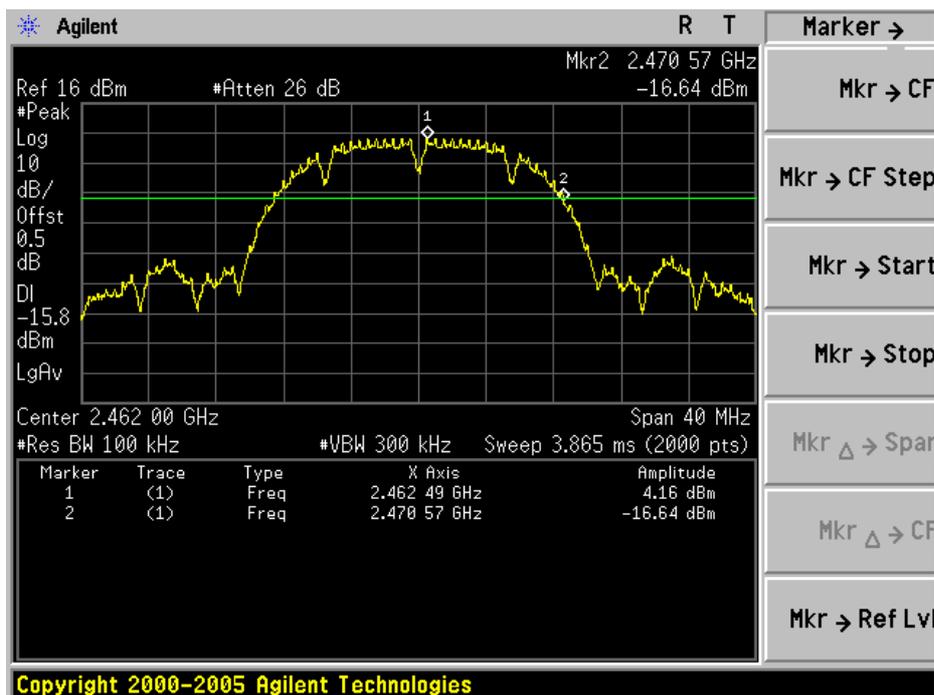
7.6. Test Result

Product	:	Home Gateway
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11b

Channel 01 (2412MHz)

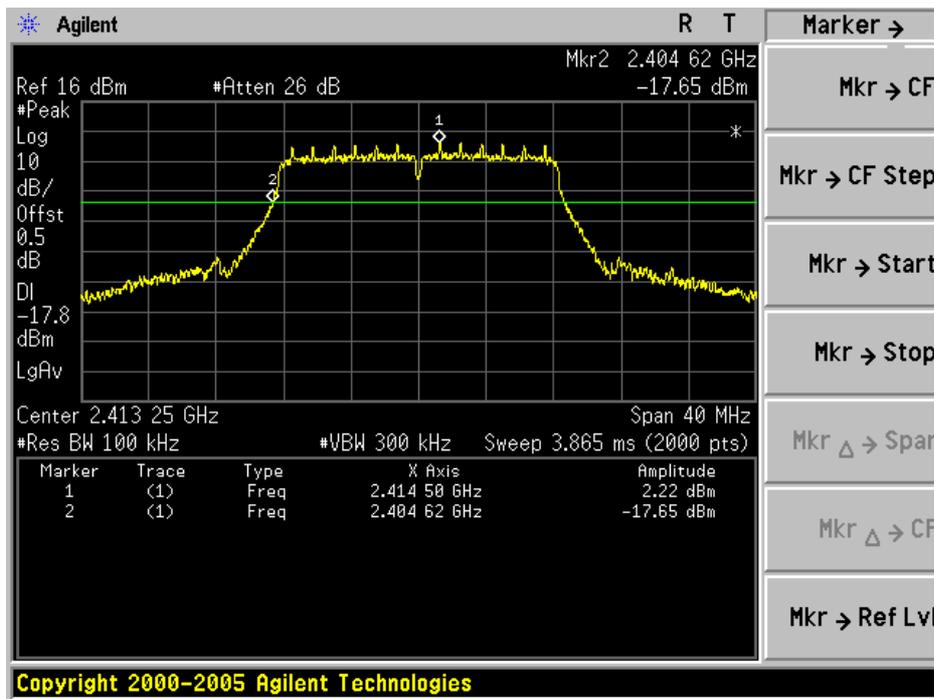


Channel 11 (2462MHz)

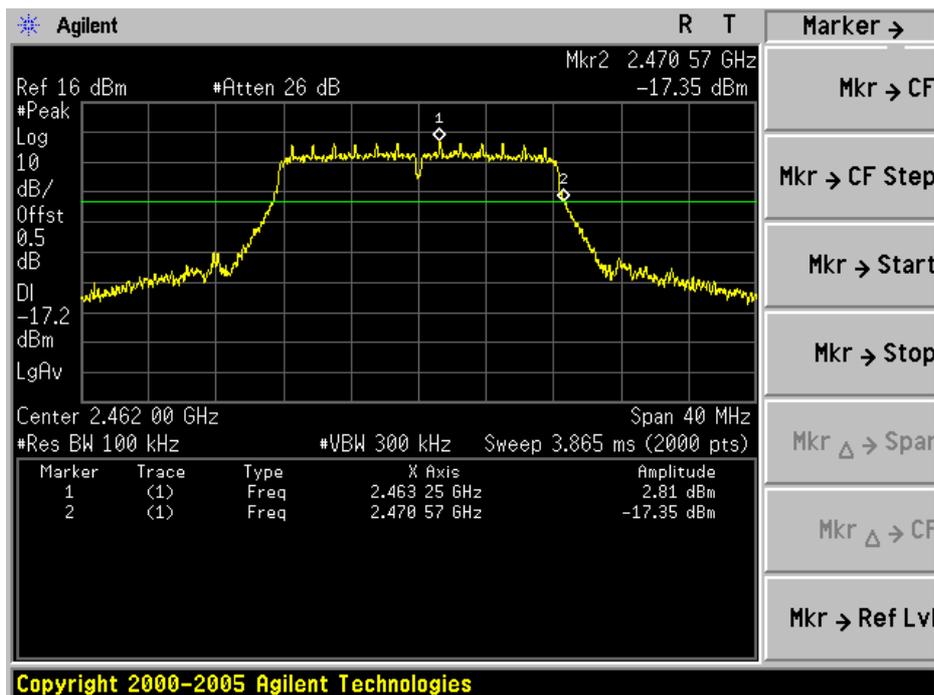


Product	:	Home Gateway
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11g

Channel 01 (2412MHz)

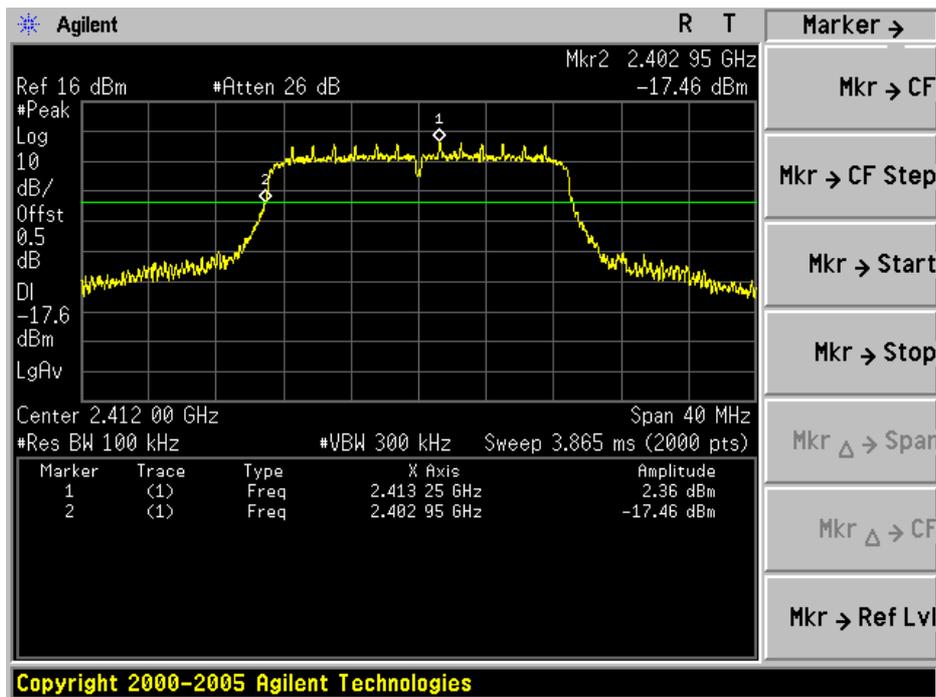


Channel 11 (2462MHz)

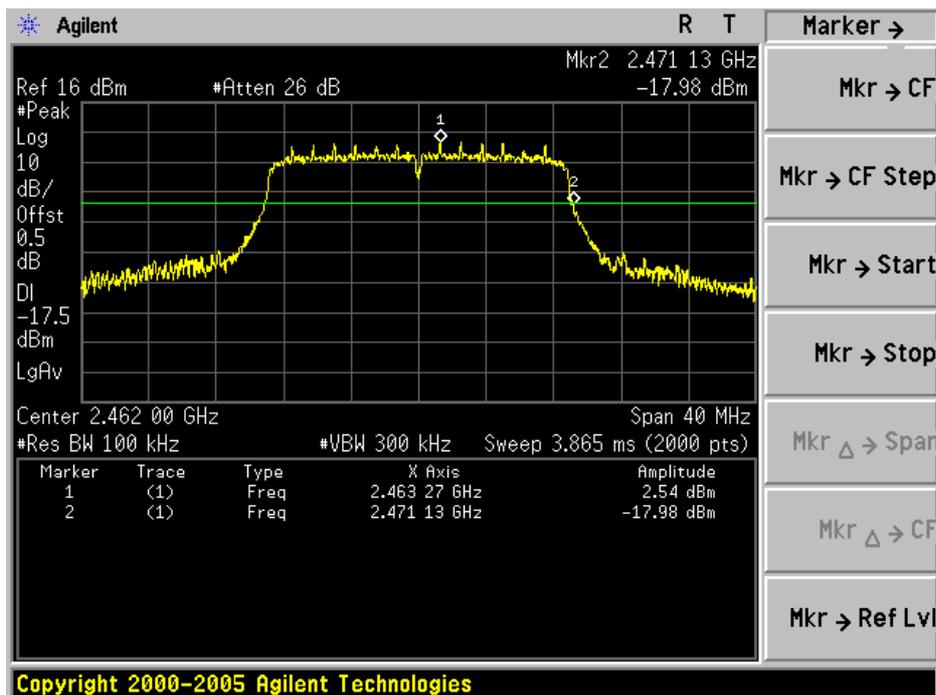


Product	:	Home Gateway
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit at 802.11n (20MHz)

Channel 01 (2412MHz)

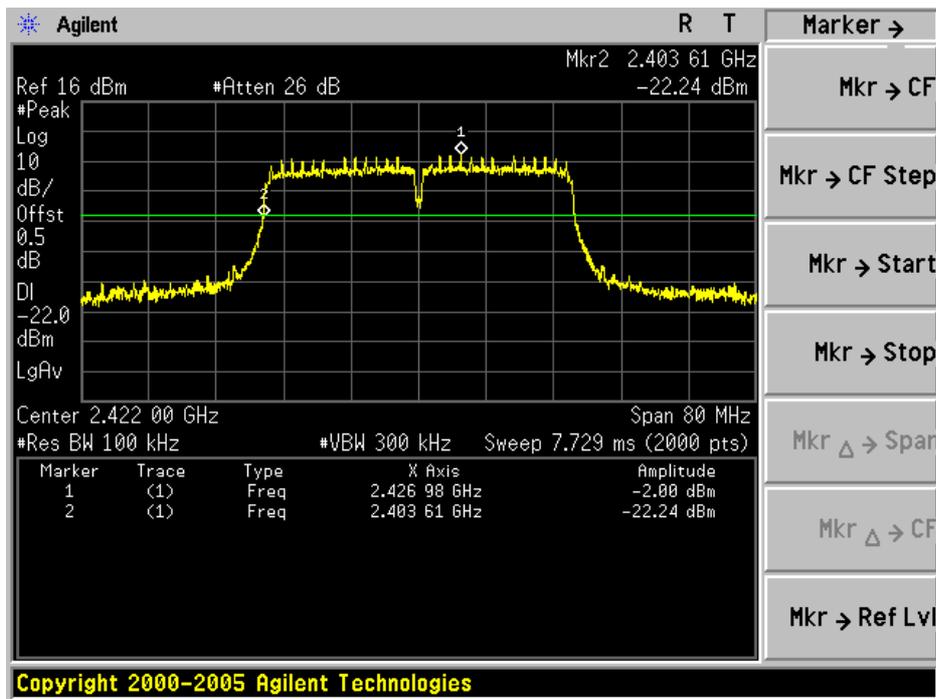


Channel 11 (2462MHz)

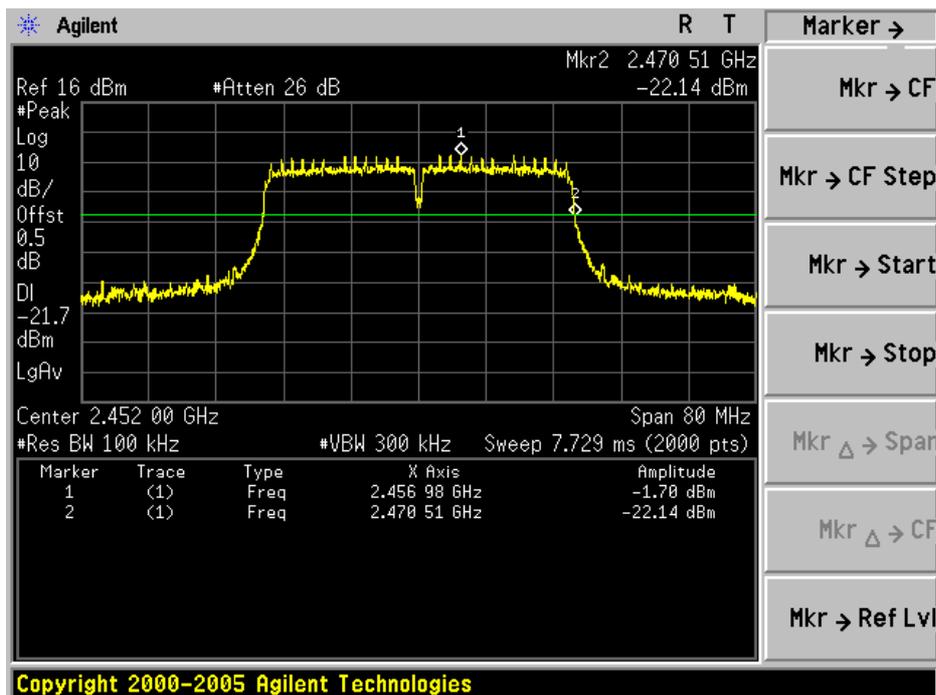


Product	:	Home Gateway
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit at 802.11n (40MHz)

Channel 03 (2422MHz)



Channel 09 (2452MHz)



8. Occupied Bandwidth

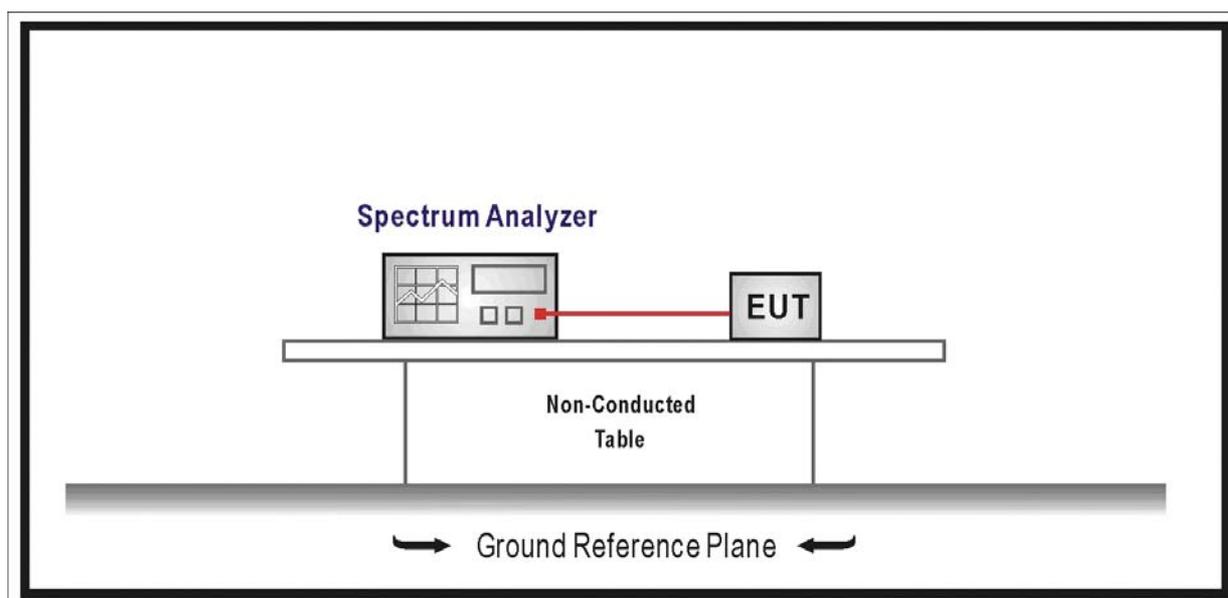
8.1. Test Equipment

Occupied Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2009/05/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/31

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



8.3. Limit

The minimum 6 dB bandwidth shall be at least 500 kHz.

8.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Span greater than RBW.

8.5. Uncertainty

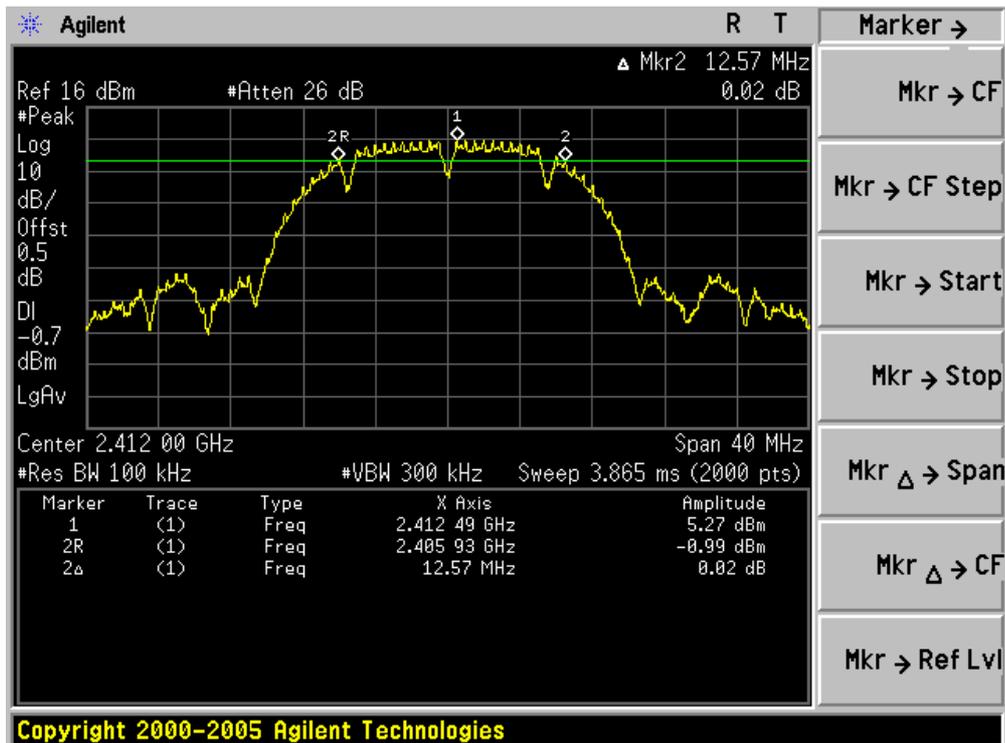
The measurement uncertainty is defined as ± 1 kHz

8.6. Test Result

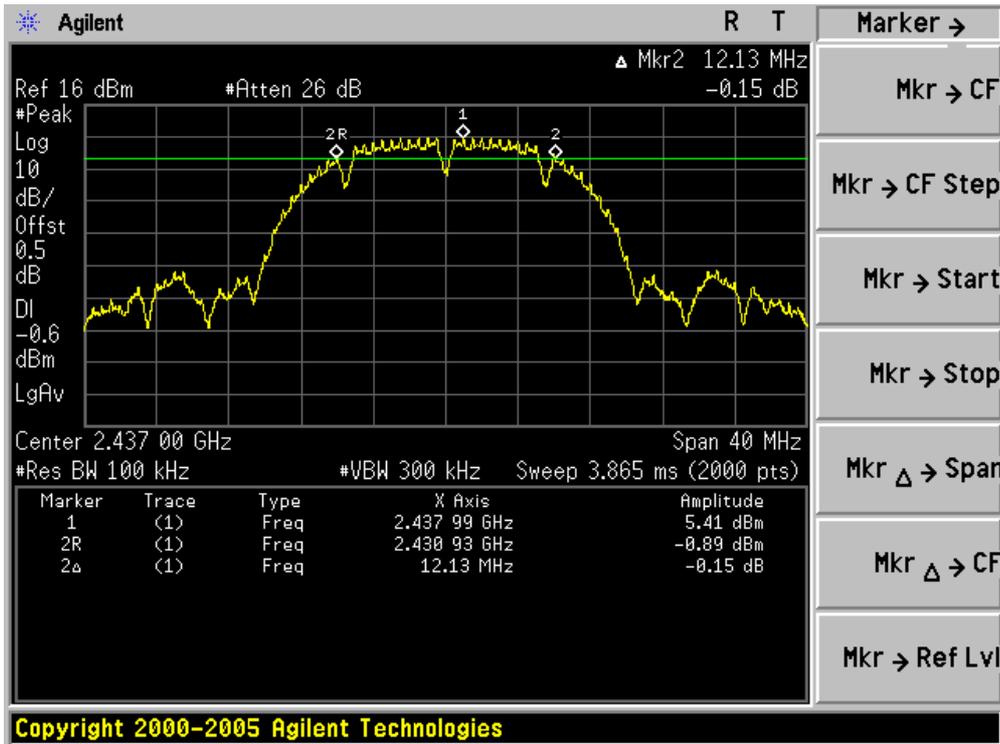
Product	:	Home Gateway
Test Item	:	Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	12570	500	Pass
06	2437	12130	500	Pass
11	2462	12110	500	Pass

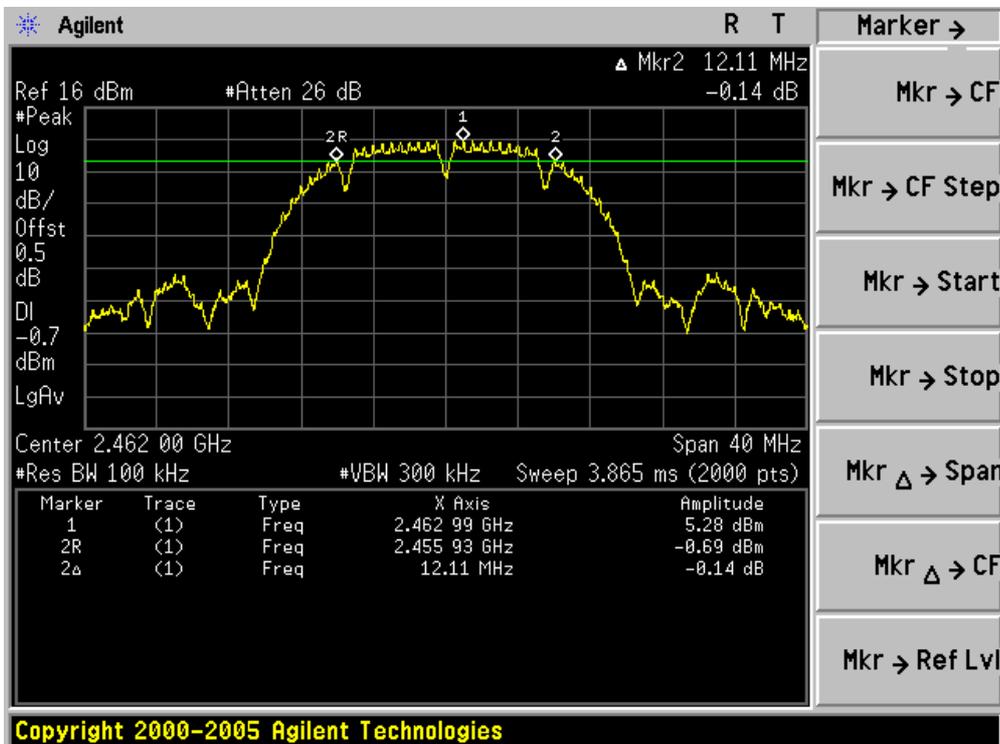
Channel 01 (2412MHz)



Channel 06 (2437MHz)



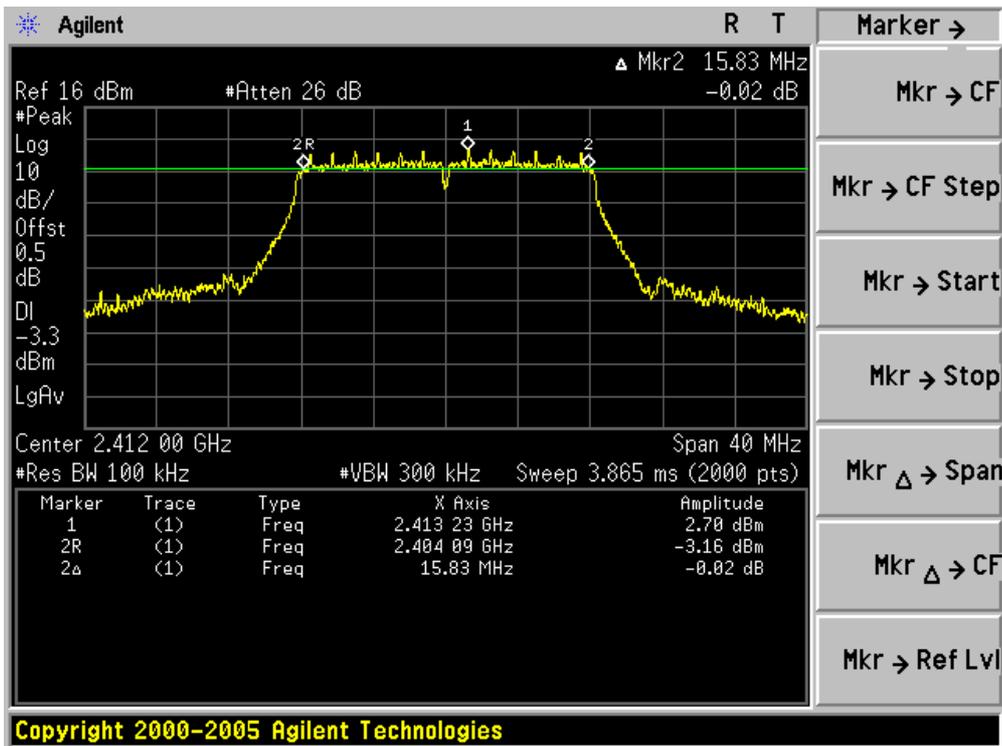
Channel 11 (2462MHz)



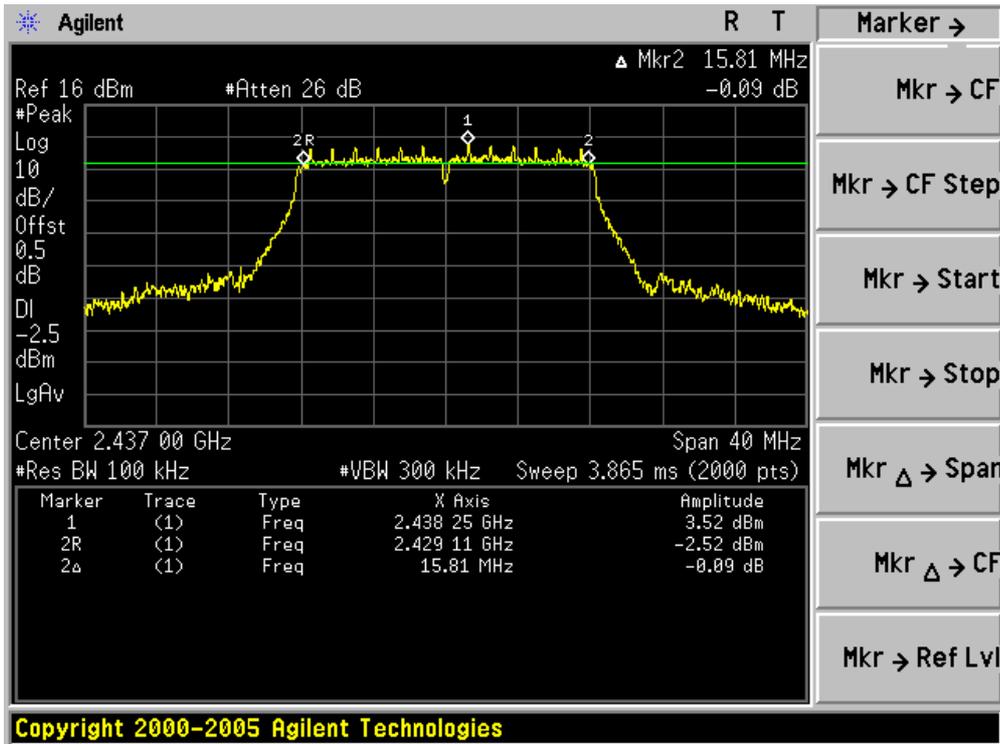
Product	:	Home Gateway
Test Item	:	Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit at 802.11g

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	15830	500	Pass
06	2437	15810	500	Pass
11	2462	15830	500	Pass

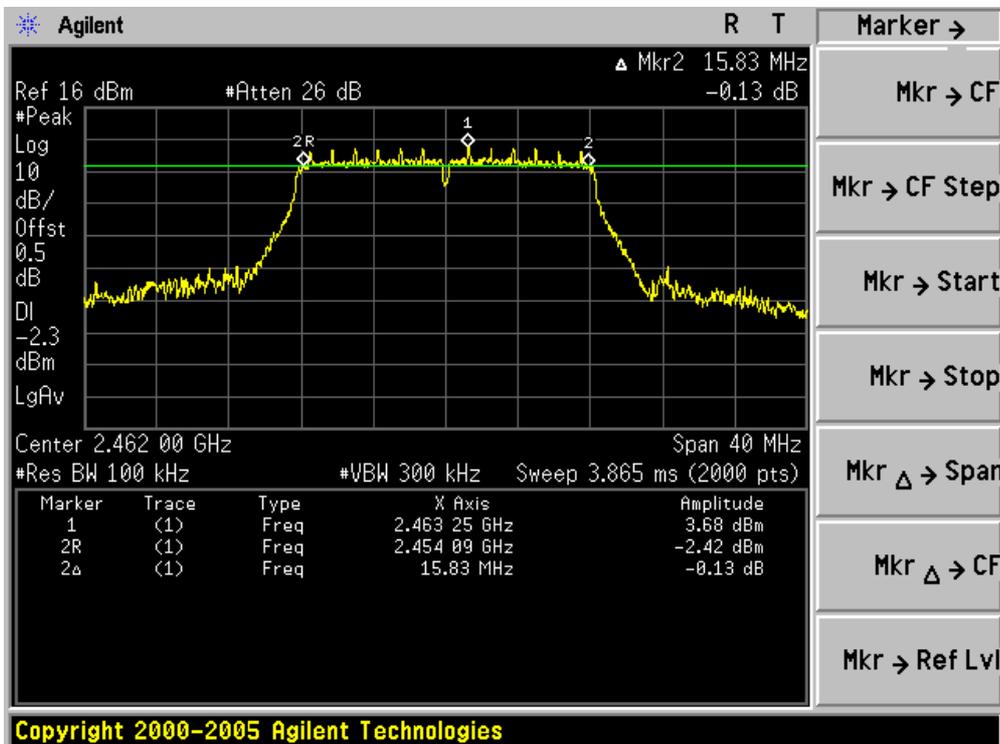
Channel 01 (2412MHz)



Channel 06 (2437MHz)



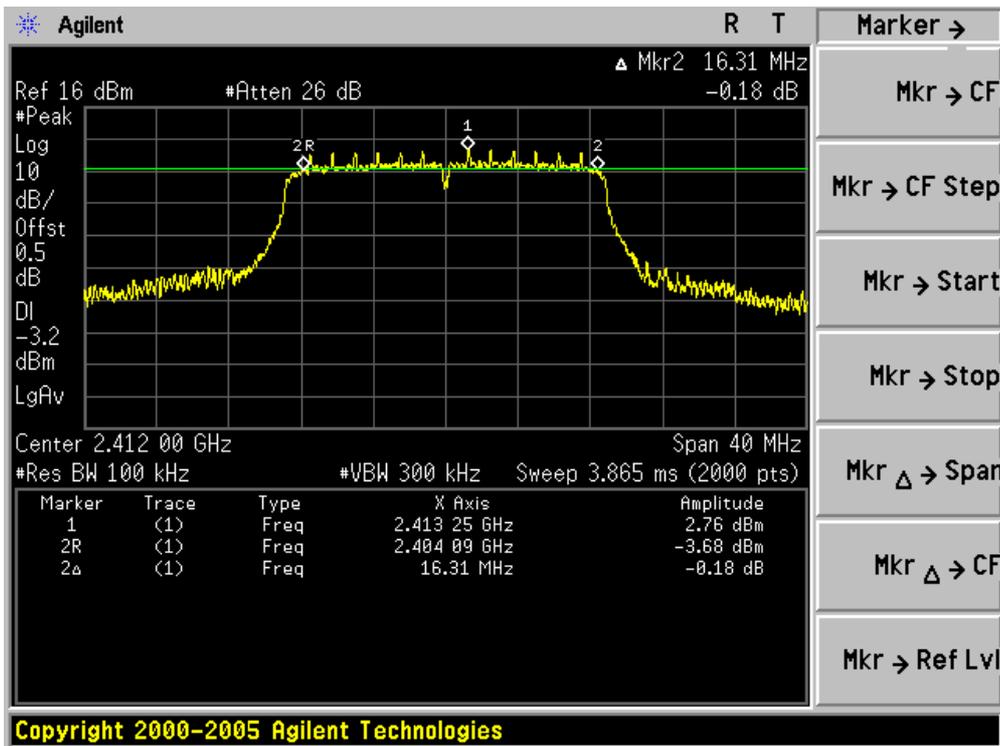
Channel 11 (2462MHz)



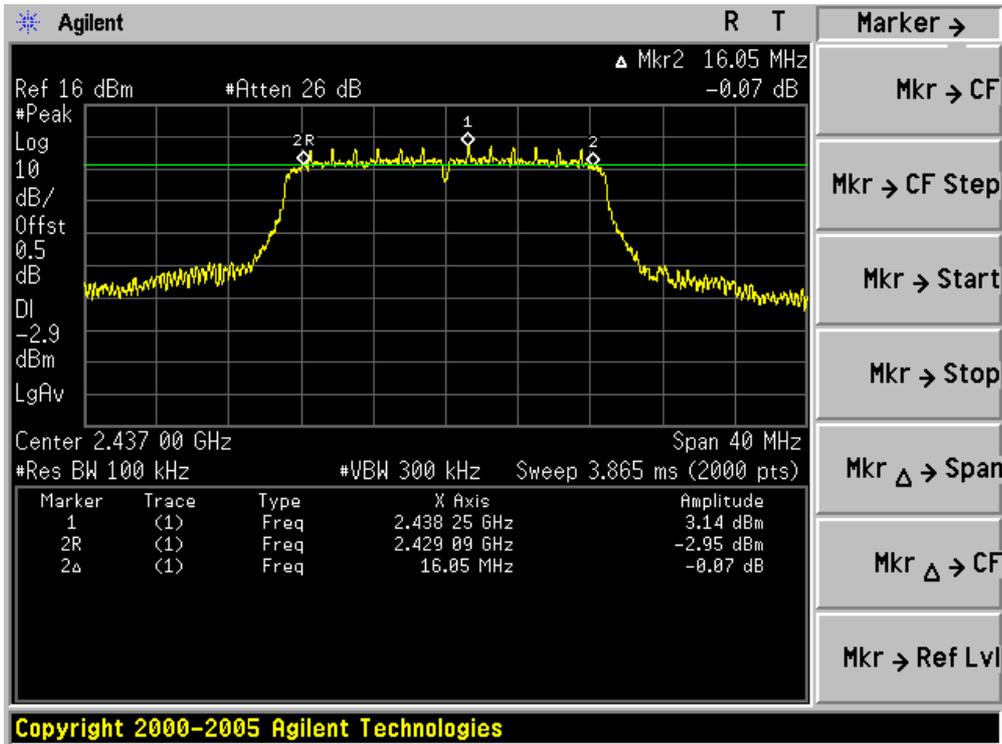
Product	:	Home Gateway
Test Item	:	Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit at 802.11n (20MHz)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	16310	500	Pass
06	2437	16050	500	Pass
11	2462	16030	500	Pass

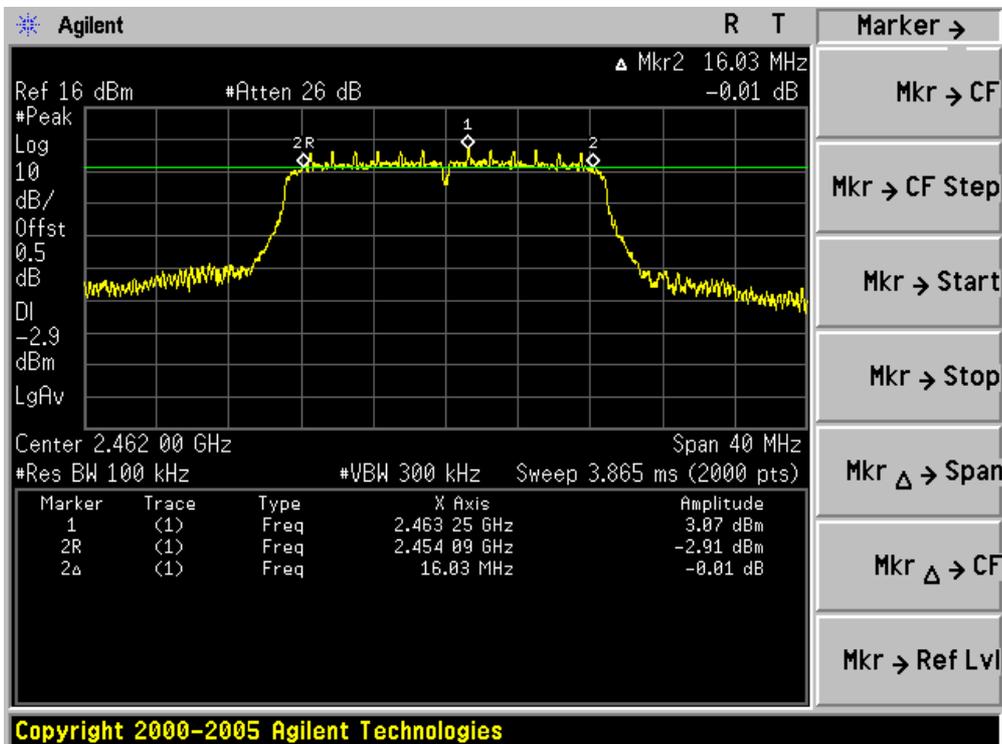
Channel 01 (2412MHz)



Channel 06 (2437MHz)



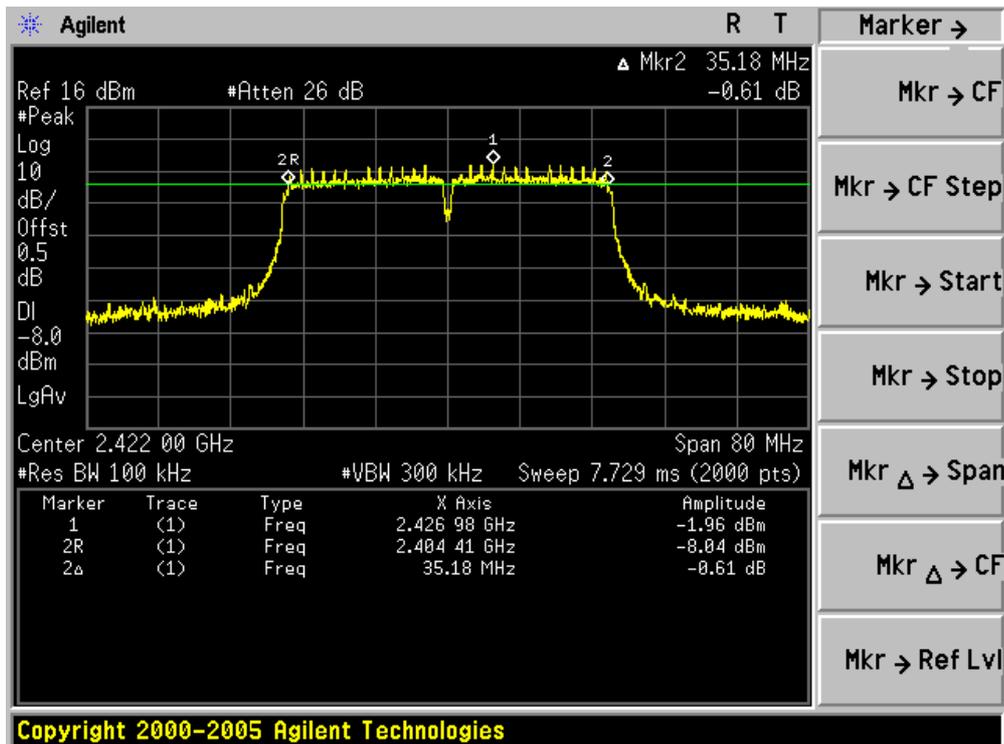
Channel 11 (2462MHz)



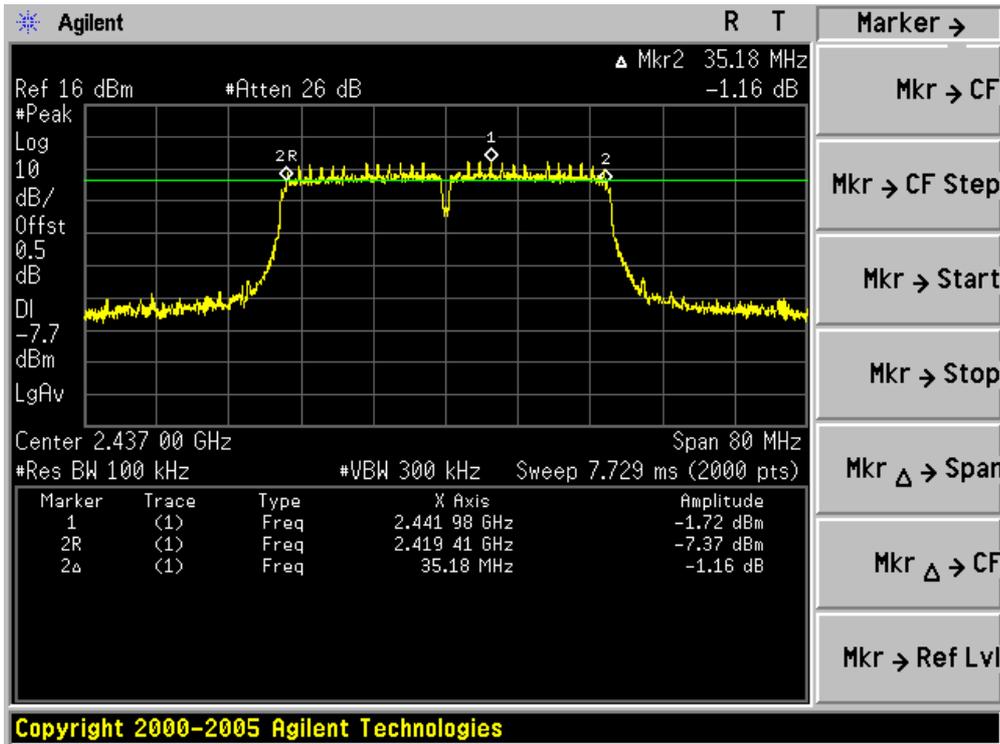
Product	:	Home Gateway
Test Item	:	Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit at 802.11n (40MHz)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
03	2422	35180	500	Pass
06	2437	35180	500	Pass
09	2452	35180	500	Pass

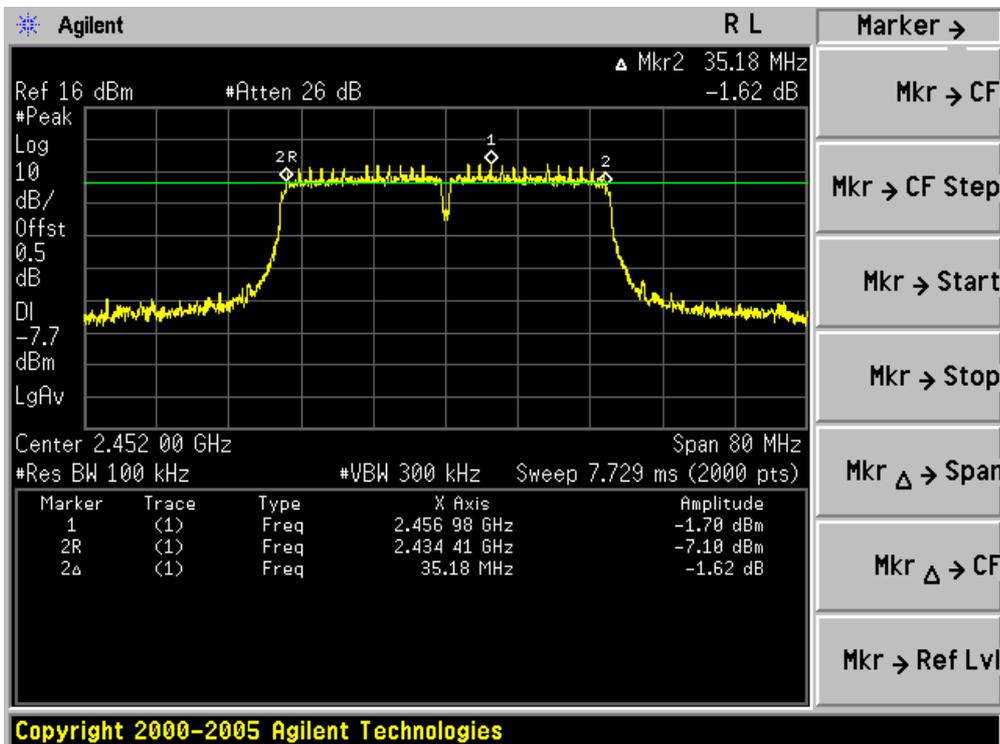
Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



9. Power Output

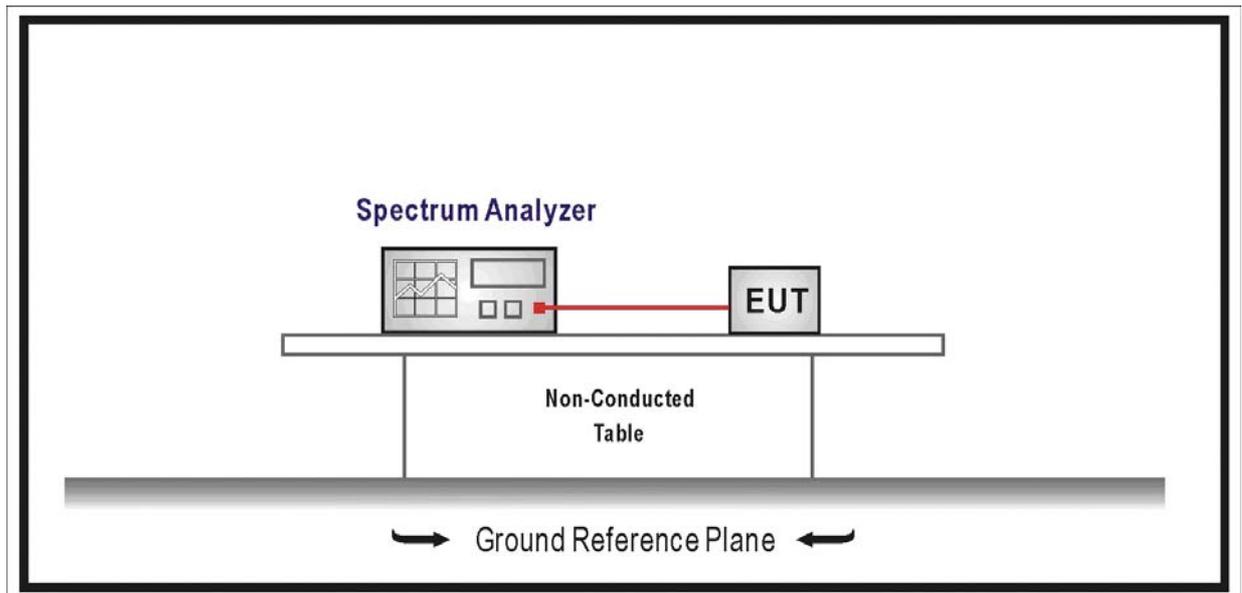
9.1. Test Equipment

Power Output / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2009/02/12
Power Sensor	Anritsu	MA2411B	0846014	2009/01/12
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/01

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

9.2. Test Setup



9.3. Limit

The maximum peak power shall be less 1 Watt (30dBm).

Note: the conducted output power limit specified above is based on the use the antennas with directional gains that do not exceed 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values above, as appropriate, by the amount in dB that the directional gain of antenna exceeds 6 dBi.

9.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Power output measurement allowed per Section 15.247(b)(3).

Use the wideband power meter to test peak power and record the result.

9.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

9.6. Test Result

Product	:	Home Gateway
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Peak Power (dBm)				Limit (dBm)	Result
		1	2	5.5	11		
01	2412	16.12	--	--	--	30	Pass
06	2437	16.64	16.60	16.53	16.49	30	Pass
11	2462	16.64	--	--	--	30	Pass

Note: The antenna gain of transmitter is less than 6 dBi and other than fixed, point-to-point operation, therefore the limit is 30 dBm.

Product	:	Home Gateway
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Peak Power (dBm)								Limit (dBm)	Result
		6	9	12	18	24	36	48	54		
01	2412	17.11	--	--	--	--	--	--	--	30	Pass
06	2437	17.63	17.59	17.52	17.47	17.40	17.33	17.28	17.20	30	Pass
11	2462	17.67	--	--	--	--	--	--	--	30	Pass

Note: The antenna gain of transmitter is less than 6 dBi and other than fixed, point-to-point operation, therefore the limit is 30 dBm.

Product	:	Home Gateway
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	Peak Power (dBm)								Limit (dBm)	Result
		6.5	13	19.5	26	39	52	58.5	65		
01	2412	17.29	--	--	--	--	--	--	--	30	Pass
06	2437	17.83	17.78	17.70	17.63	17.58	17.51	17.46	17.42	30	Pass
11	2462	17.83	--	--	--	--	--	--	--	30	Pass

Note: The antenna gain of transmitter is less than 6 dBi and other than fixed, point-to-point operation, therefore the limit is 30 dBm.

Product	:	Home Gateway
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit by 802.11n(40MHz)

Channel No.	Frequency (MHz)	Peak Power (dBm)								Limit (dBm)	Result
		13.5	27	40.5	54	81	108	121.5	135		
03	2422	14.97	--	--	--	--	--	--	--	30	Pass
06	2437	15.14	15.08	15.02	14.96	14.91	14.88	14.82	14.77	30	Pass
09	2452	15.13	--	--	--	--	--	--	--	30	Pass

Note: The antenna gain of transmitter is less than 6 dBi and other than fixed, point-to-point operation, therefore the limit is 30 dBm.

10. Power Spectral Density

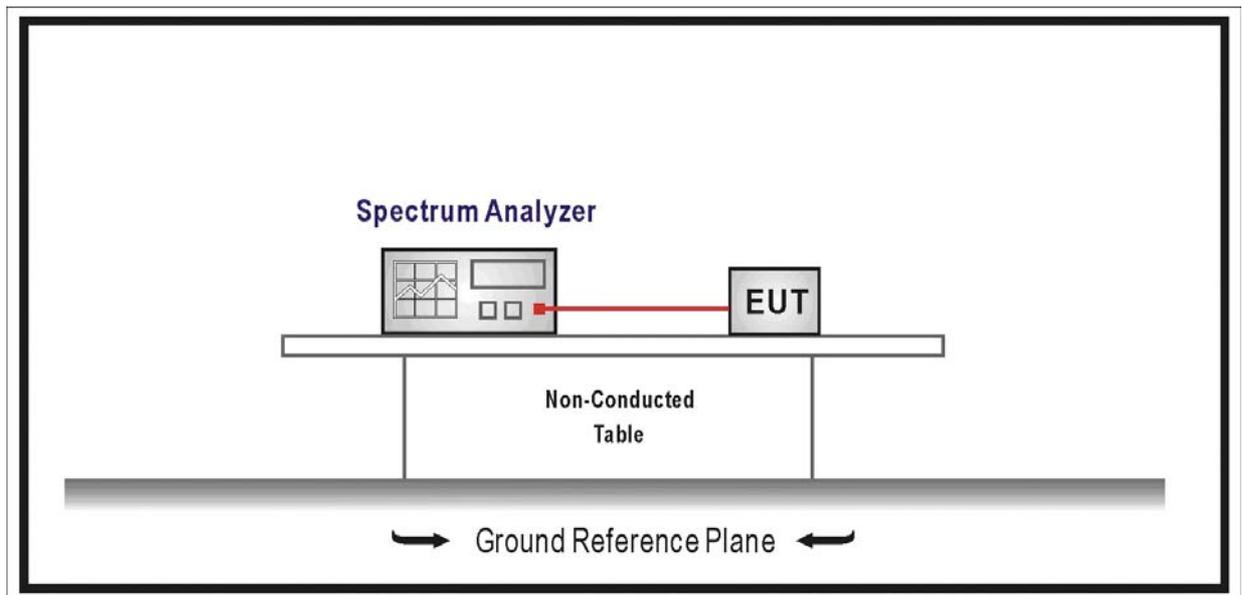
10.1. Test Equipment

Power Spectral Density / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2009/05/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/31

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

10.2. Test Setup



10.3. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiated to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

10.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW= 3 kHz, Set VBW \geq 9 kHz, Sweep time=100s, Set detector=Peak detector.

10.5. Uncertainty

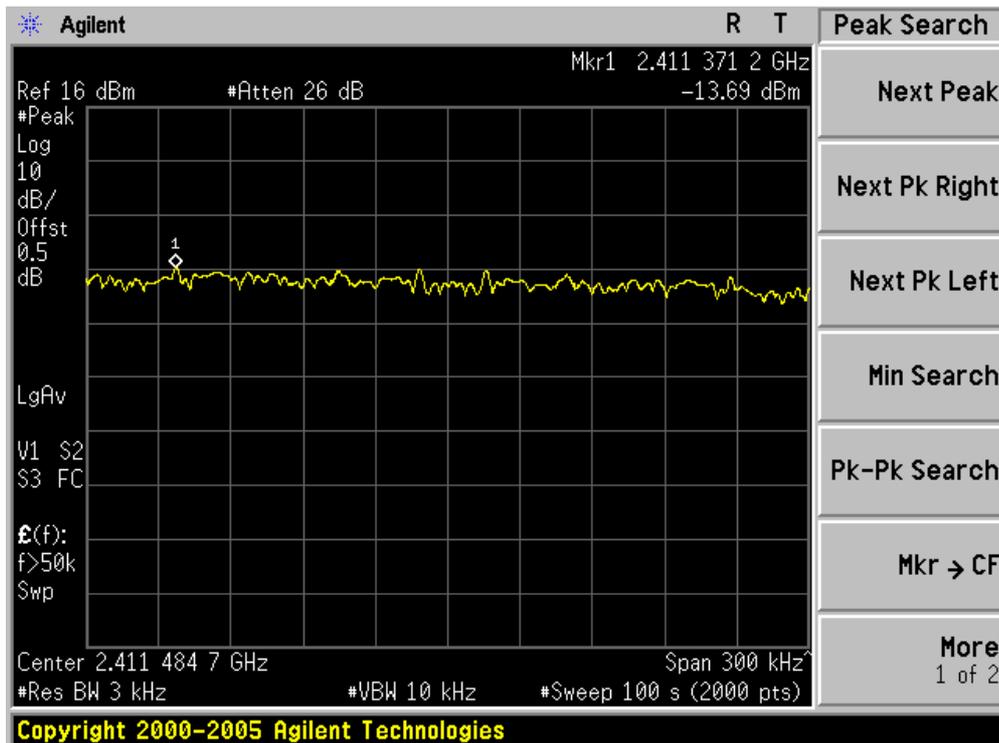
The measurement uncertainty is defined as ± 1.27 dB

10.6. Test Result

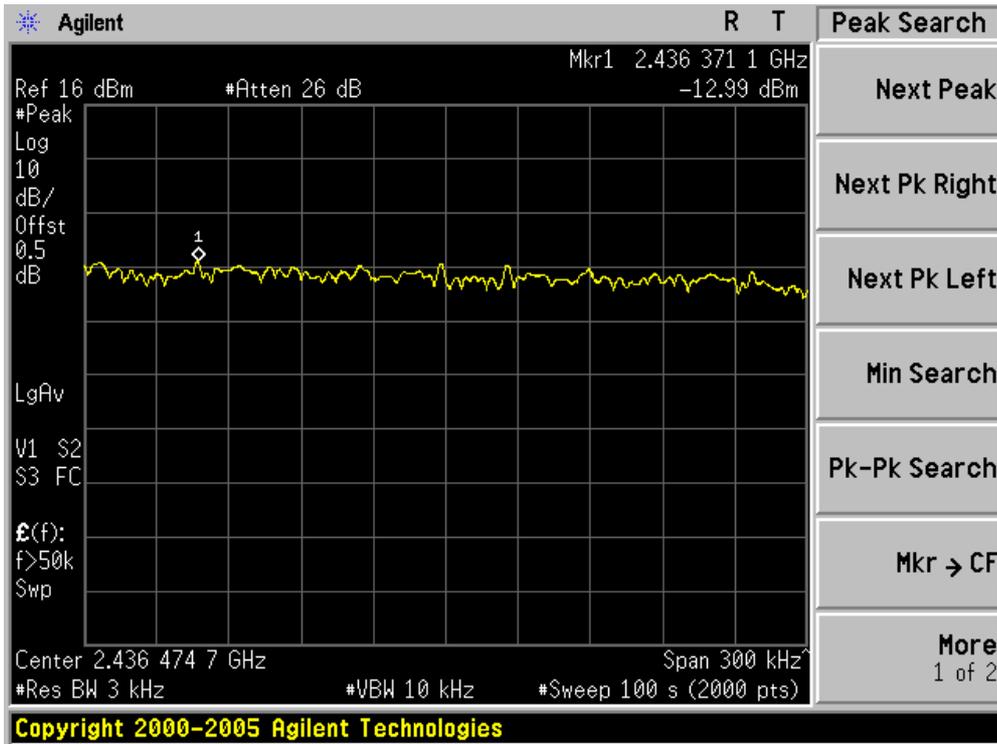
Product	:	Home Gateway
Test Item	:	Power Spectral Density
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit at 802.11b

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-13.69	8	Pass
06	2437	-12.99	8	Pass
11	2462	-13.03	8	Pass

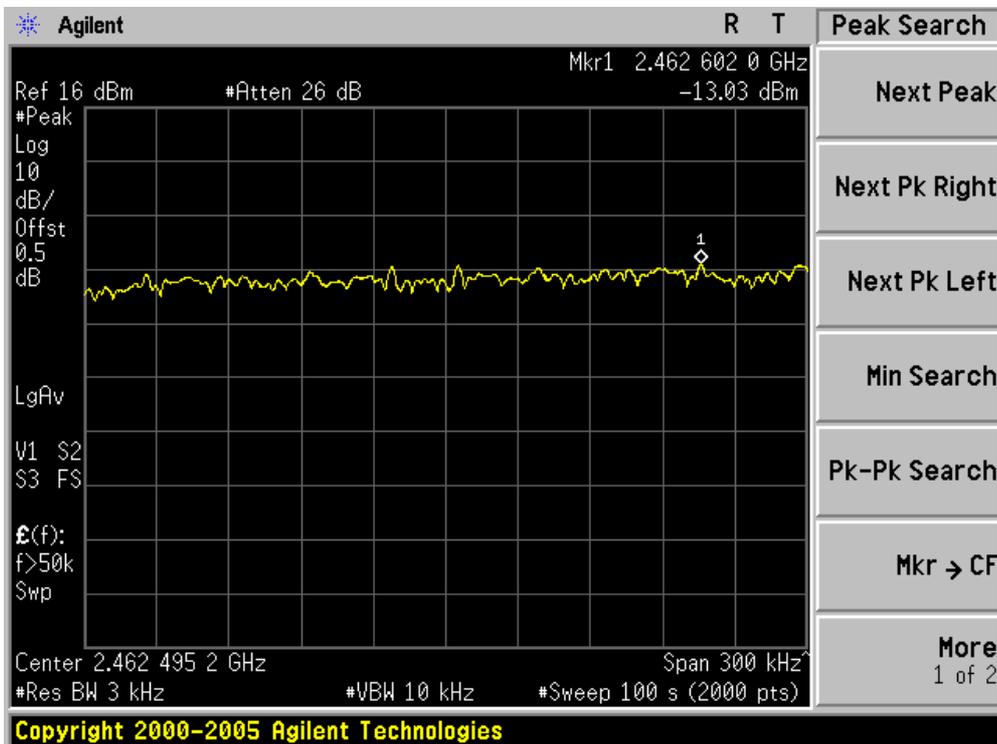
Channel 01 (2412MHz)



Channel 06 (2437MHz)



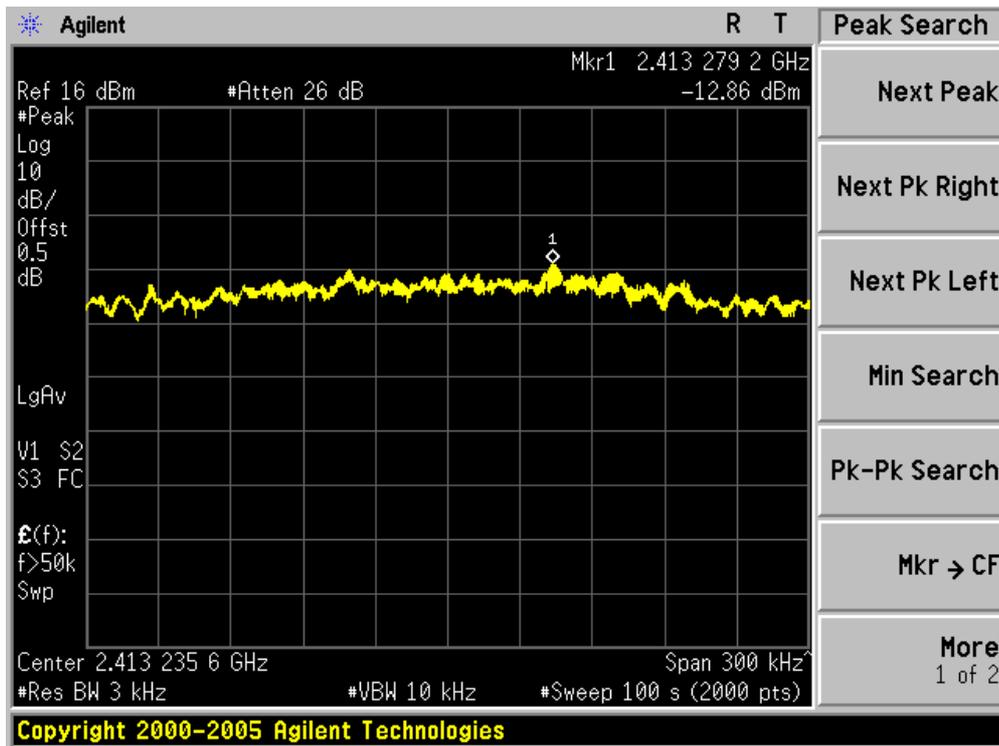
Channel 11 (2462MHz)



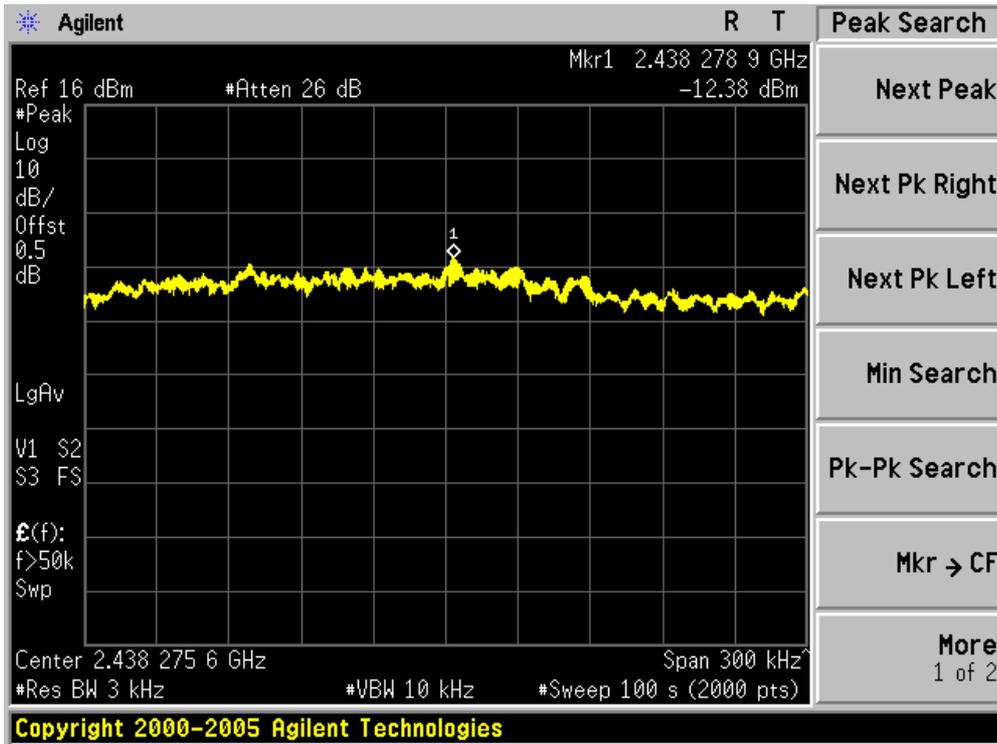
Product	:	Home Gateway
Test Item	:	Power Spectral Density
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit at 802.11g

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-12.86	8	Pass
06	2437	-12.38	8	Pass
11	2462	-12.37	8	Pass

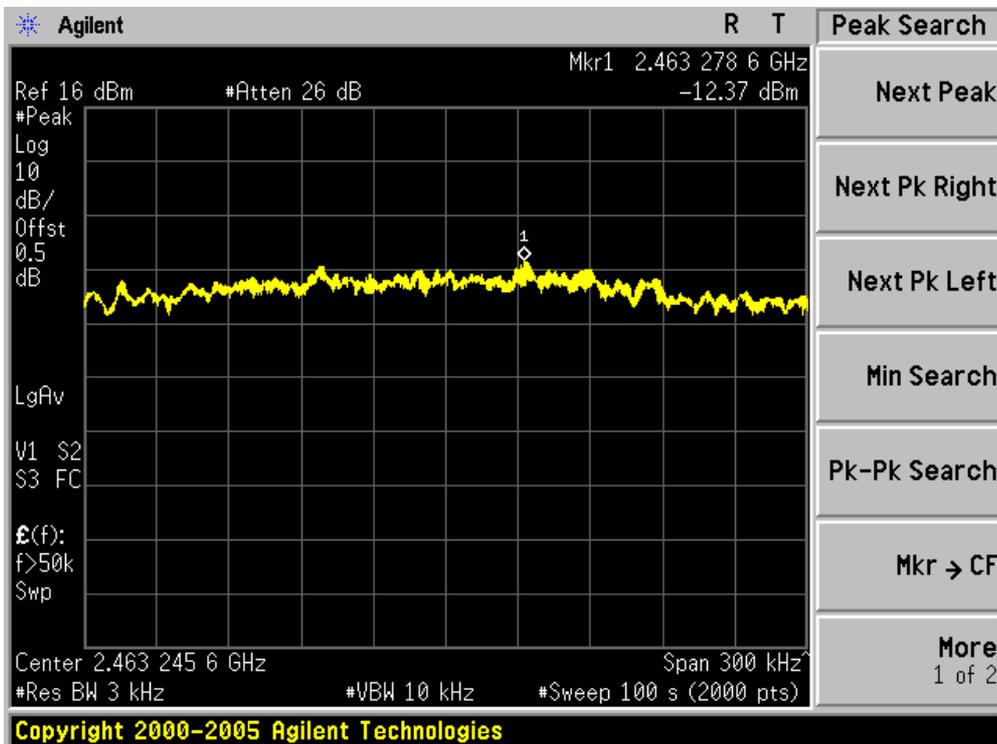
Channel 01 (2412MHz)



Channel 06 (2437MHz)



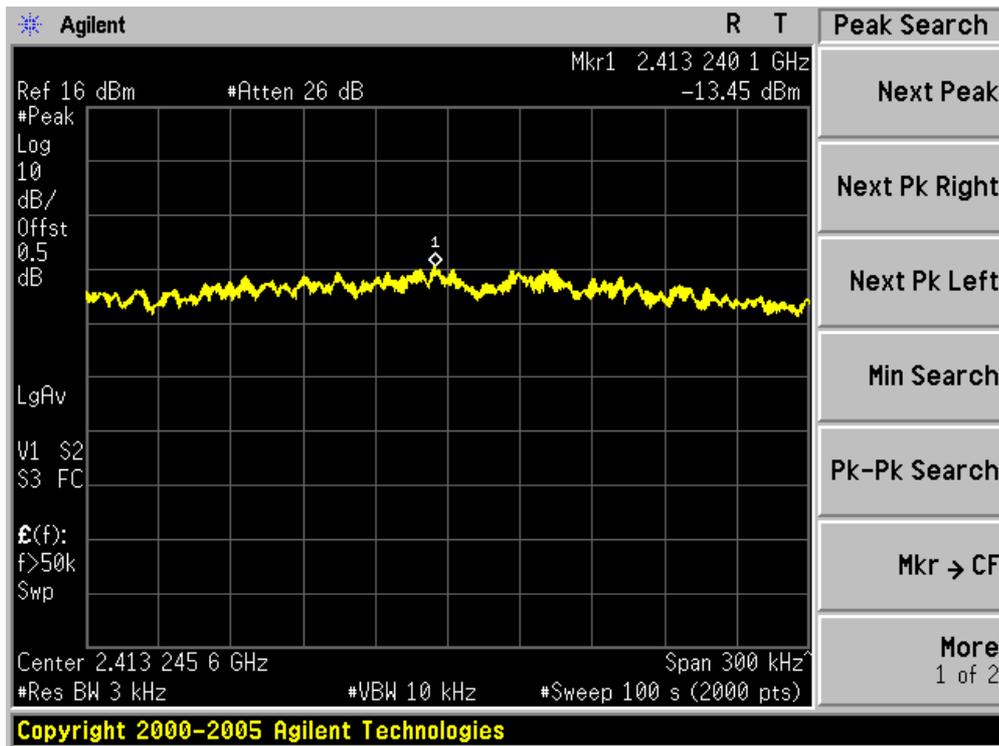
Channel 11 (2462MHz)



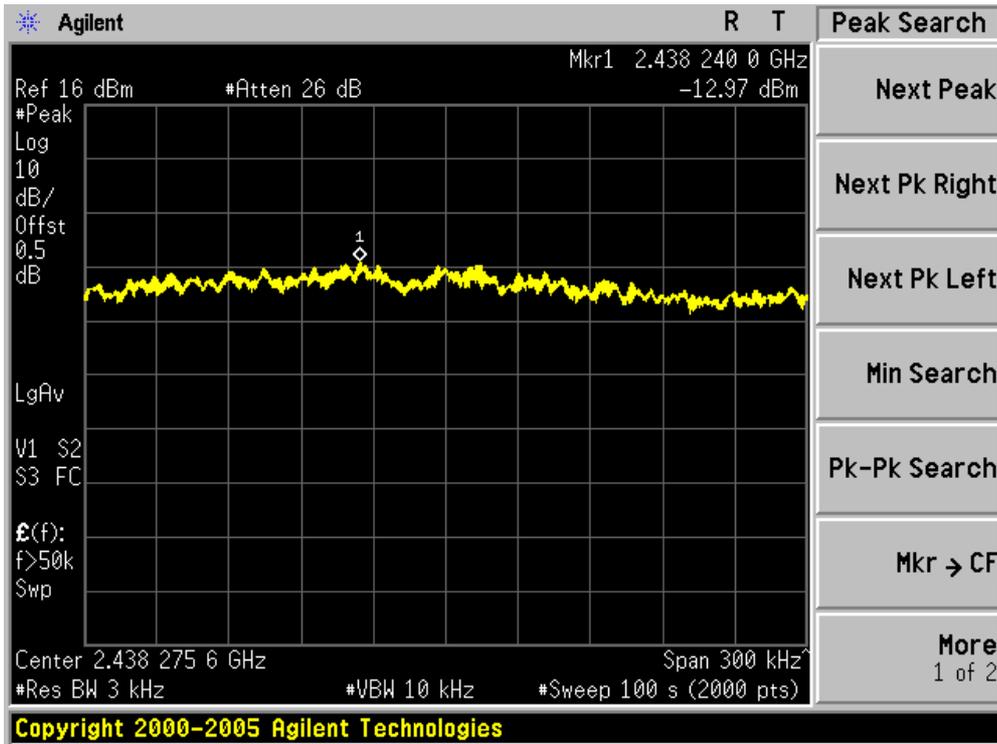
Product	:	Home Gateway
Test Item	:	Power Spectral Density
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit at 802.11n (20MHz)

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-13.45	8	Pass
06	2437	-12.97	8	Pass
11	2462	-12.78	8	Pass

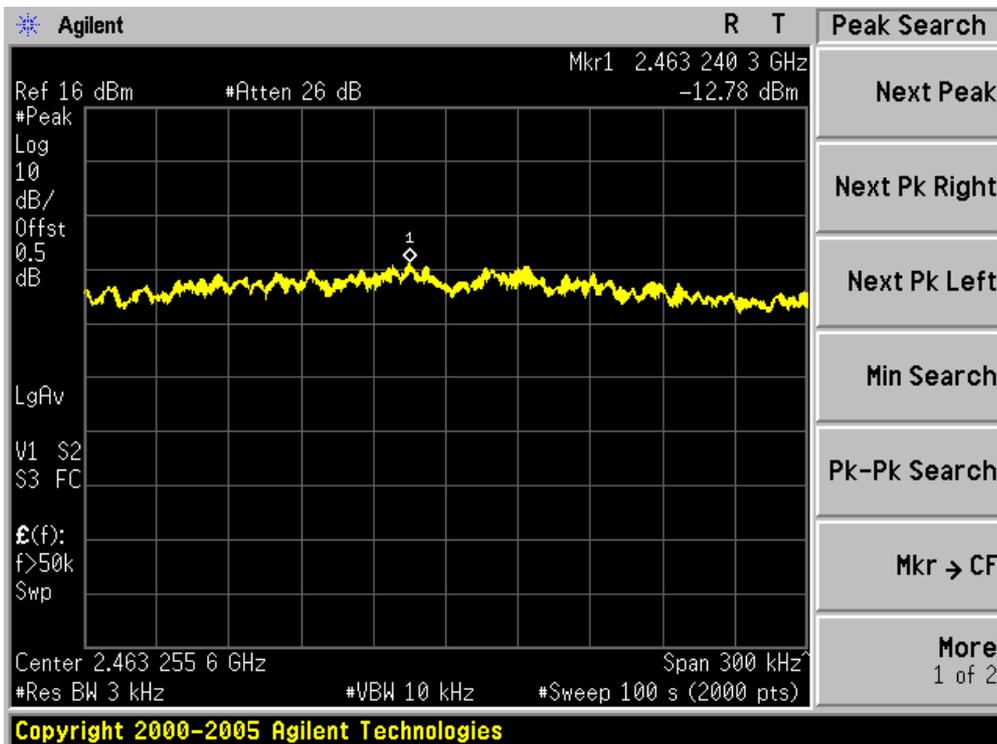
Channel 01 (2412MHz)



Channel 06 (2437MHz)



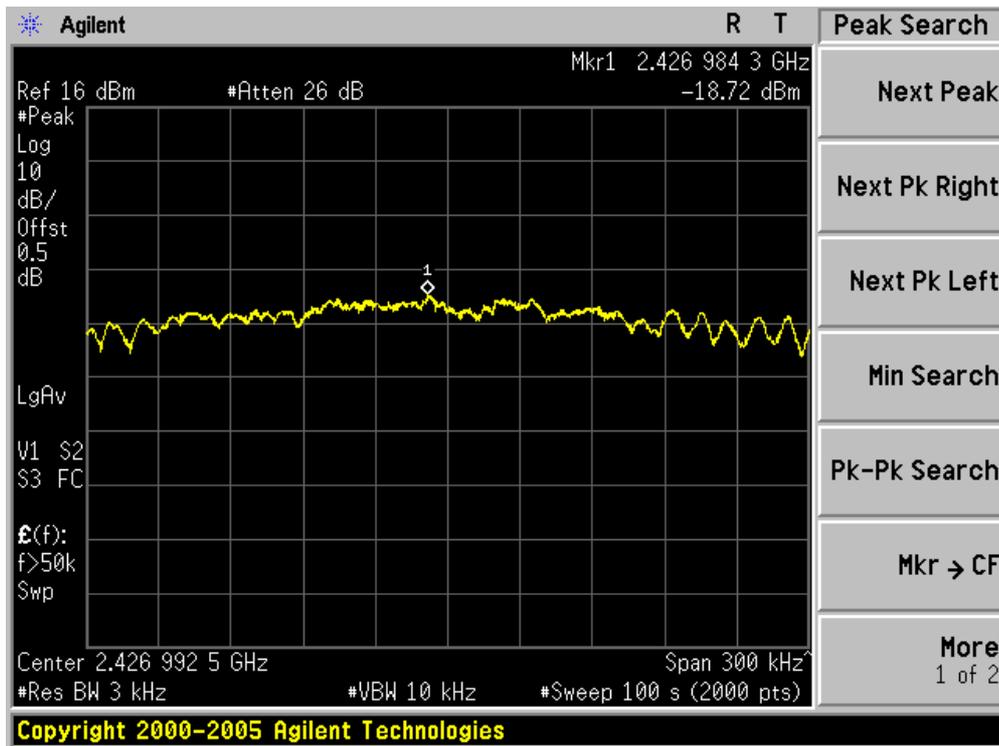
Channel 11 (2462MHz)



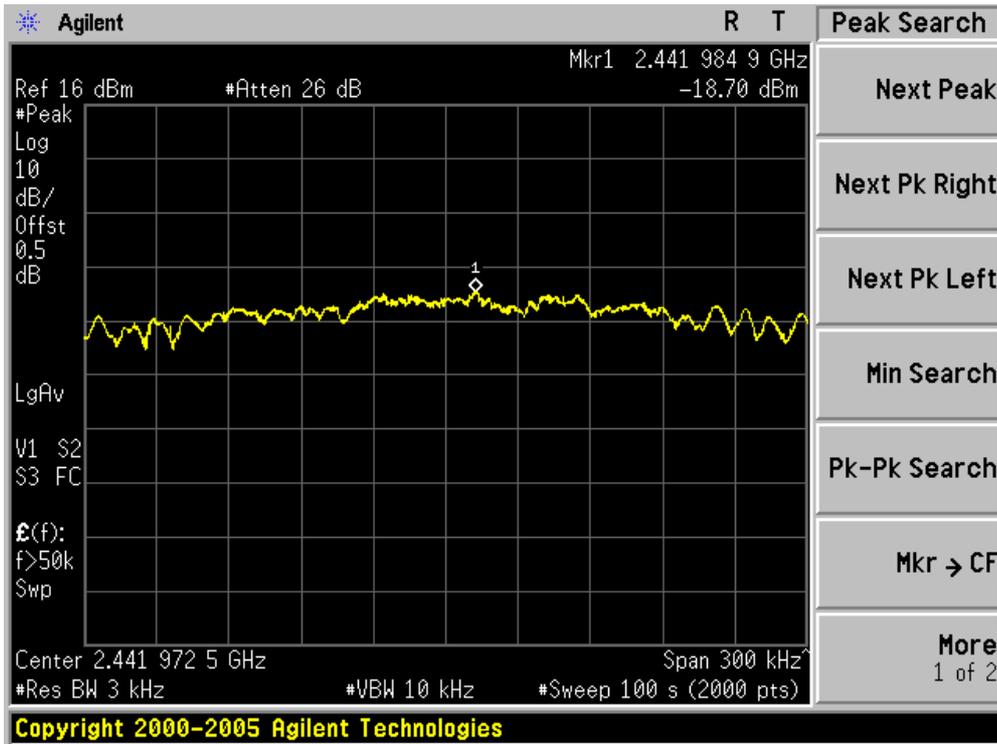
Product	:	Home Gateway
Test Item	:	Power Spectral Density
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit at 802.11n (40MHz)

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
03	2422	-18.72	8	Pass
06	2437	-18.70	8	Pass
09	2452	-18.21	8	Pass

Channel 01 (2422MHz)



Channel 06 (2437MHz)



Channel 11 (2452MHz)

