Test Report

Product Name ： Home Gateway

Model No. ： EchoLife HG521

FCC ID ： QISHG521

Applicant ： Huawei Technologies Co., Ltd.

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

Date of Receipt ： 2009/06/23

Issued Date ： 2009/06/30

Report No. ： 097S019R-RF-US-P05V01

Report Version ： V3.0

Test Report Certification

Issued Date : 2009/06/30
Report No. : 097S019R-RF-US-P05V01

QuieTek

Product Name	:	Home Gateway
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 HG521
FCC ID	:	QISHG521
Rated Voltage	:	AC 100-240V, 50-60Hz
EUT Voltage	:	DC 5V
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

Documented By : Alice Ni
(Alice Ni)

Reviewed By : Marlin Chen
(Marlin Chen)

Approved By : Gene Chang
(Gene Chang)

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	**:**	**TUV 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/
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory :
No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

NVLAP Lab Code : 200347-0

LinKou Testing Laboratory :
No. 5, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan, R.O.C.
TEL : +886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

NVLAP Lab Code: 200533-0

Suzhou Testing Laboratory :
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TEL : +86-512-6251-5088 / FAX : 86-512-6251-5098 E-Mail : service@quietek.com

NVLAP Lab Code : 200743-0

TABLE OF CONTENTS

1. General Information

1.1. EUT Description

Product Name	Home Gateway
Trade Name	HUAWEI
Model No.	EchoLife HG521
Working Voltage	DC 5V
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 300Mbps
Channel Control	Auto
Antenna Delivery	1*TX + 2*RX
Antenna Type	Printed Antenna
Antenna Gain	2dBi

Component	
AC Adapter #1	Manufacturer: Dongguan Shilong Fuhua Electronic Co., Ltd. Model: UE05L1-050100SPAU Input: 100-240V~, 50/60Hz, 0.2A MAX Output: 5.0VDC, 1.0A
AC Adapter #2	Manufacturer: SHENZHEN FRECOM ELECTRONICS CO., LTD. Model: FM050010-US Input: 100-240V~, 50/60Hz, 0.3A Output: 5.0VDC, 1.0A

Note: The EUT has two adapters. Number 1 is used for RF test.

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:

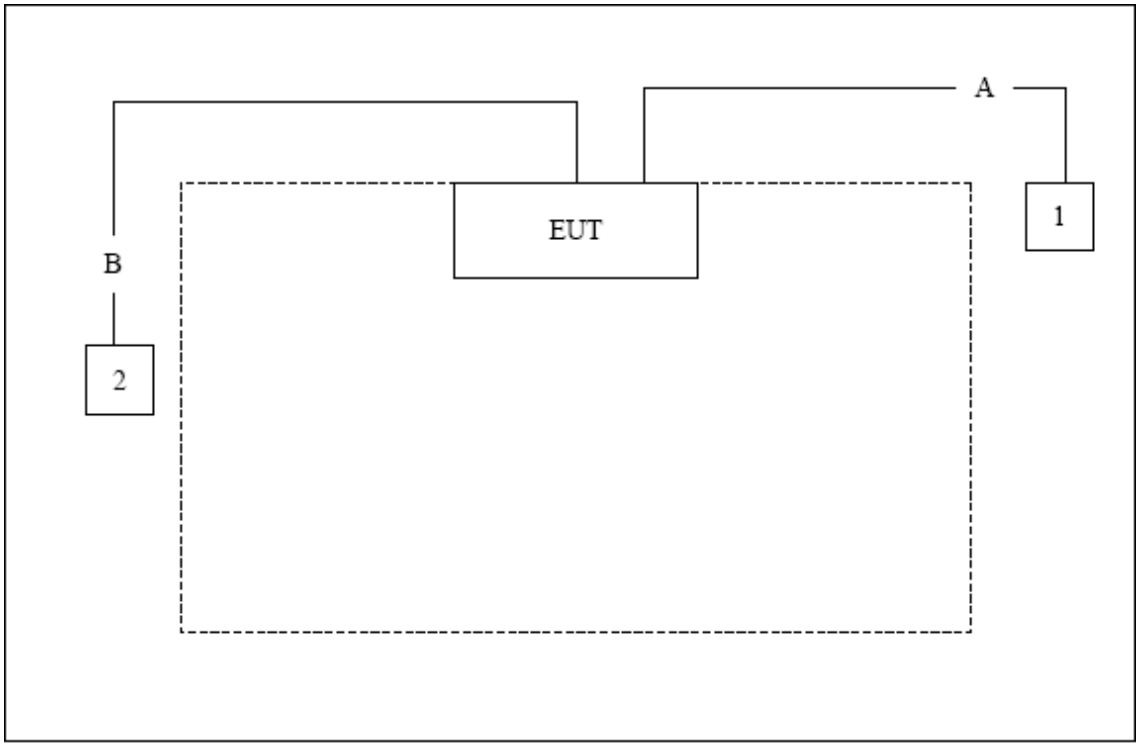
1. Regards to the frequency band operation: the lowest、middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations. The function for the receiver was measured and made a test 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	IP Express	ZyXEL	IES-1248-71	S523825530	Non-Shielded, 1.8m

1.4. Configuration of Tested System

Connection Diagram


Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, >10m
B	Telecom Cable	Non-Shielded, >10m

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 the Notebook (1), make the EUT transmit or receive, then 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

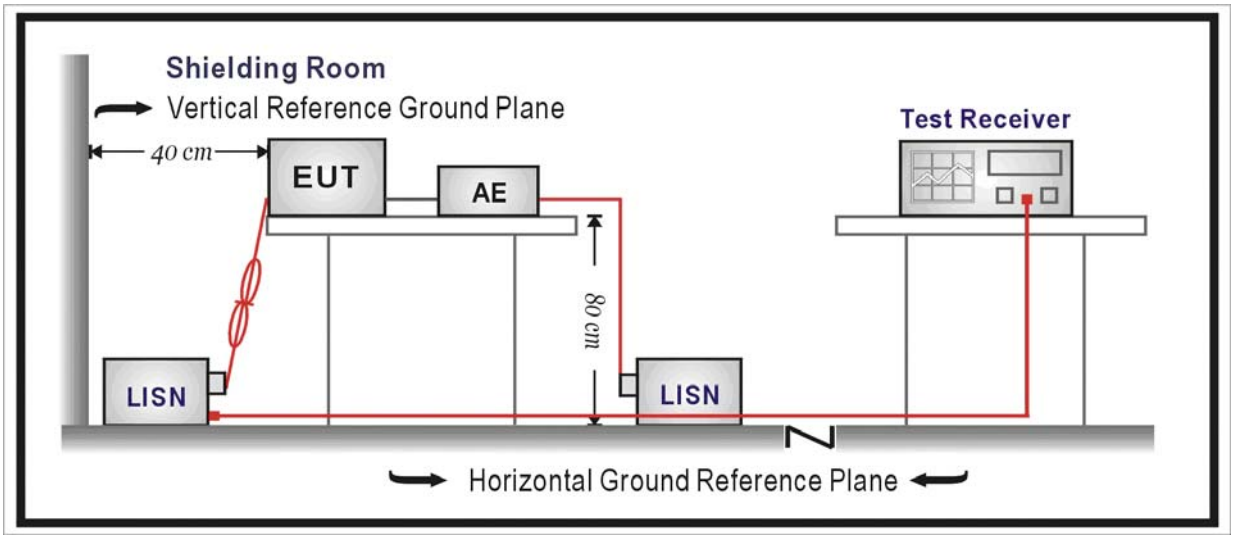
3.1. Test Equipment

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

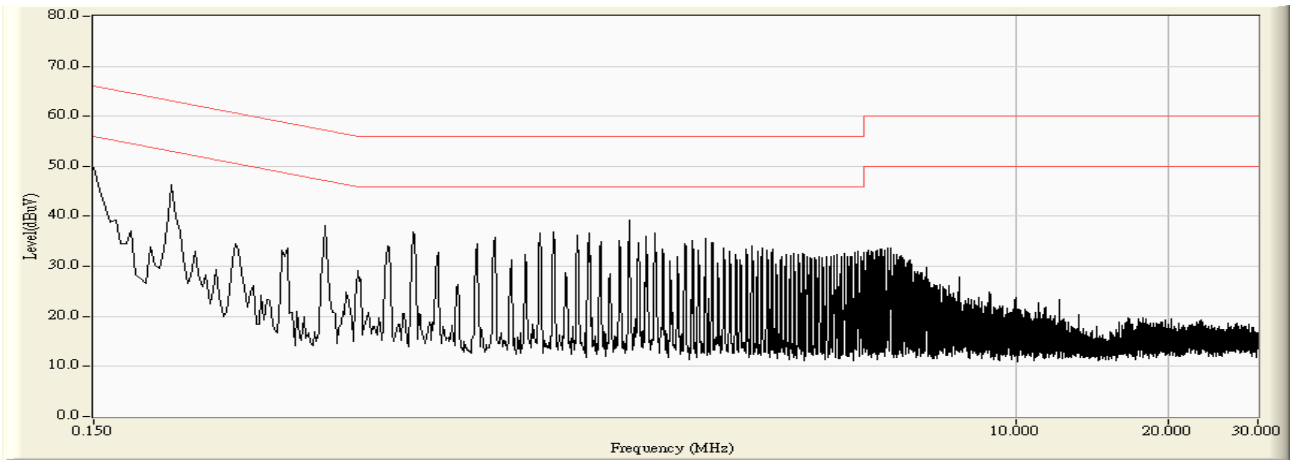
The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane 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

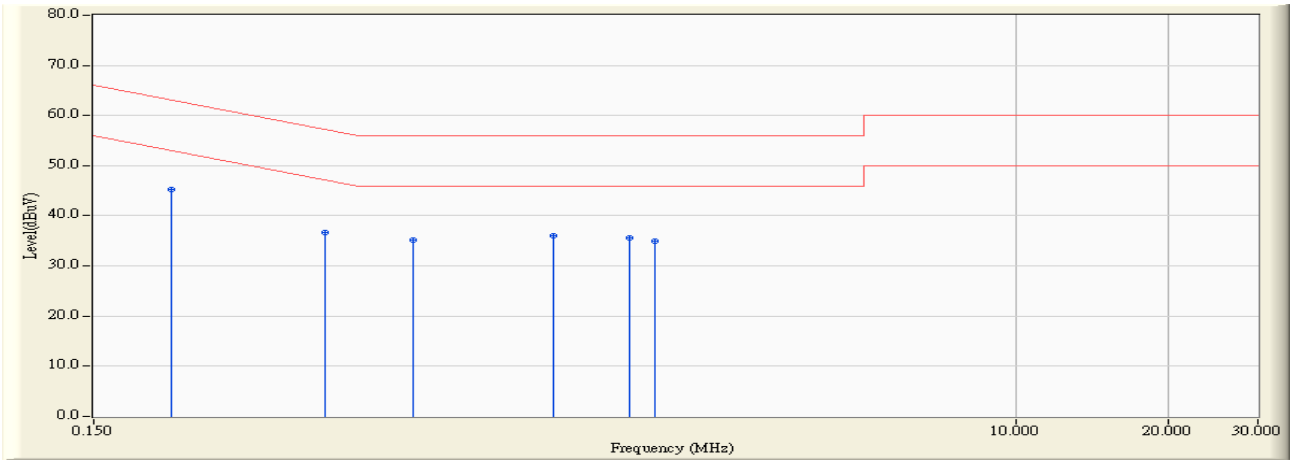
The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/06/24 - 14:59**
Limit : FCC_Part15_B_00M_QP	**Margin : 10**
EUT : Home Gateway	**Probe : ENV216_100014(0.009-30MHz) - Line1**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at 802.11b**

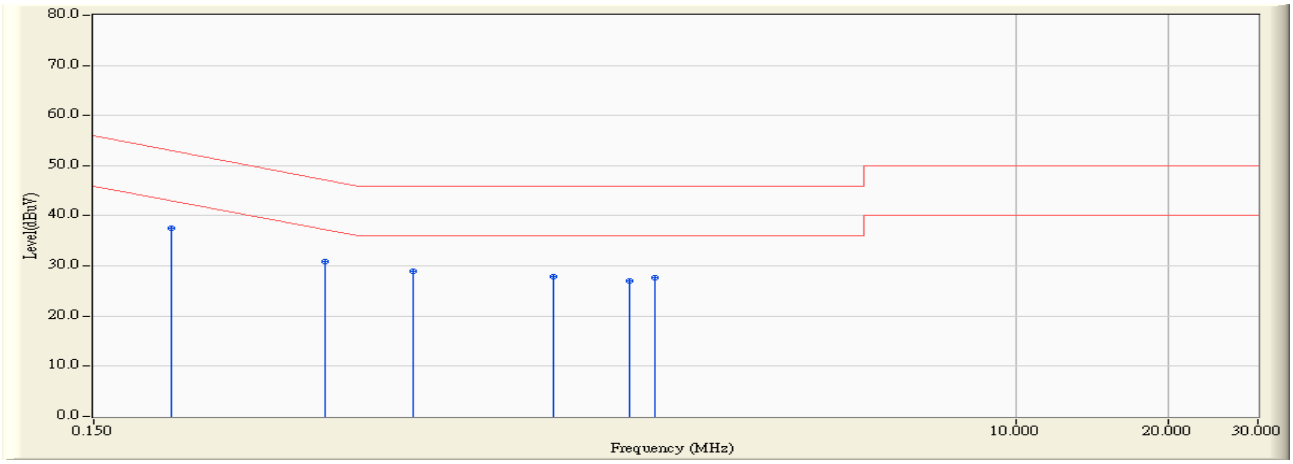


Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/06/24 - 15:01**
Limit : FCC_Part15_B_00M_QP	**Margin : 10**
EUT : Home Gateway	**Probe : ENV216_100014(0.009-30MHz) - Line1**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at 802.11b**



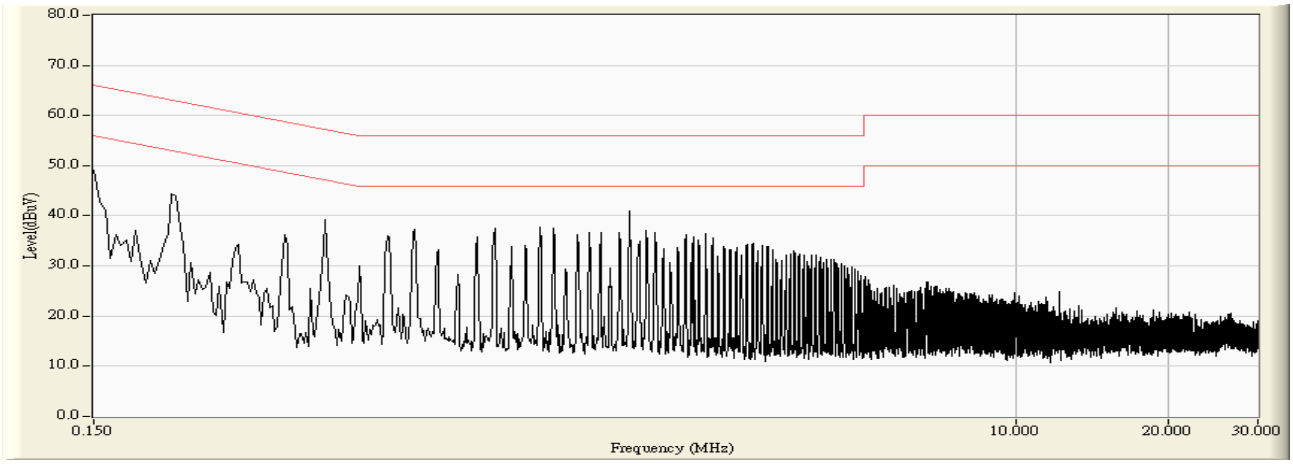
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.214	9.473	35.700	45.173	-17.876	63.049	QUASIPEAK
2		0.430	9.581	27.200	36.781	-20.472	57.253	QUASIPEAK
3		0.642	9.660	25.600	35.260	-20.740	56.000	QUASIPEAK
4		1.218	9.710	26.300	36.010	-19.990	56.000	QUASIPEAK
5		1.718	9.690	26.000	35.690	-20.310	56.000	QUASIPEAK
6		1.930	9.680	25.300	34.980	-21.020	56.000	QUASIPEAK

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/06/24 - 15:01**
Limit : FCC_Part15_B_00M_AV	**Margin : 10**
EUT : Home Gateway	**Probe : ENV216_100014(0.009-30MHz) - Line1**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at 802.11b**

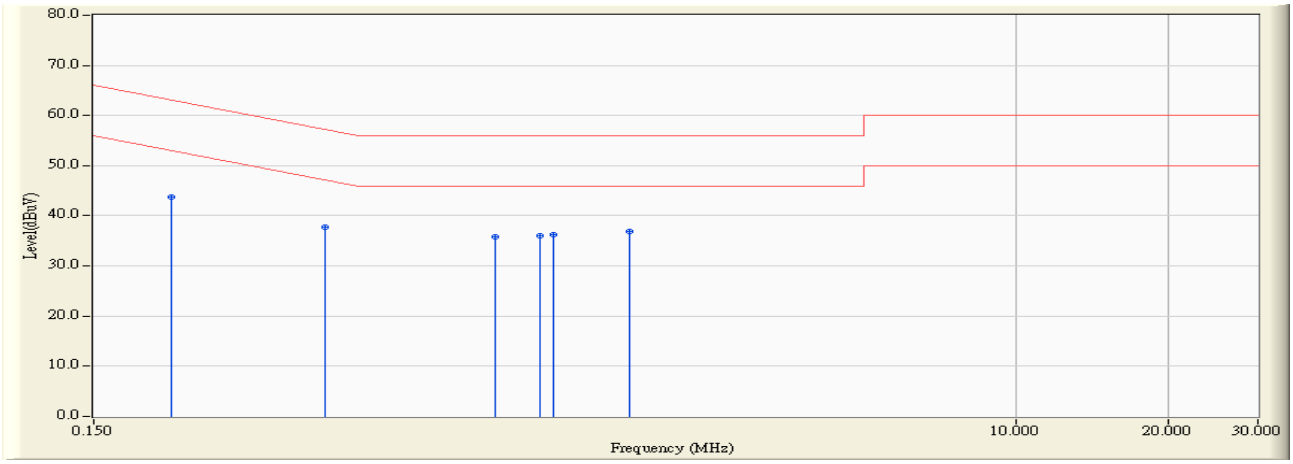


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.214	9.473	28.100	37.573	-15.476	53.049	AVERAGE
2		0.430	9.581	21.200	30.781	-16.472	47.253	AVERAGE
3		0.642	9.660	19.400	29.060	-16.940	46.000	AVERAGE
4		1.218	9.710	18.200	27.910	-18.090	46.000	AVERAGE
5		1.718	9.690	17.300	26.990	-19.010	46.000	AVERAGE
6		1.930	9.680	18.000	27.680	-18.320	46.000	AVERAGE

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/06/24 - 15:03**
Limit : FCC_Part15_B_00M_QP	**Margin : 10**
EUT : Home Gateway	**Probe : ENV216_100014(0.009-30MHz) - Line2**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at 802.11b**

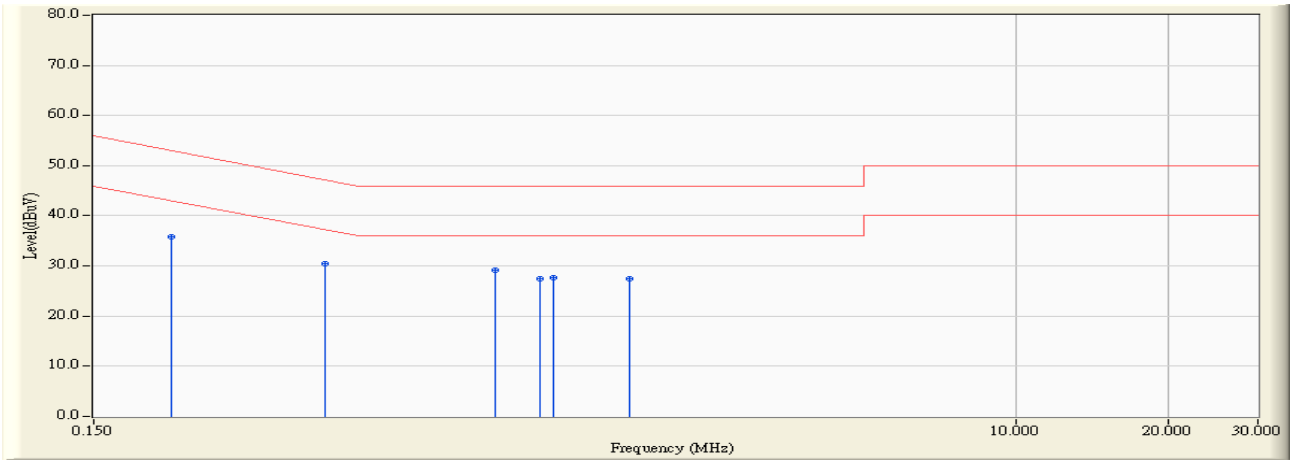


Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/06/24 - 15:06**
Limit : FCC_Part15_B_00M_QP	**Margin : 10**
EUT : Home Gateway	**Probe : ENV216_100014(0.009-30MHz) - Line2**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at 802.11b**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.214	9.600	34.100	43.700	-19.349	63.049	QUASIPEAK
2		0.430	9.610	28.200	37.810	-19.443	57.253	QUASIPEAK
3		0.930	9.770	26.100	35.870	-20.130	56.000	QUASIPEAK
4		1.142	9.750	26.300	36.050	-19.950	56.000	QUASIPEAK
5		1.218	9.740	26.600	36.340	-19.660	56.000	QUASIPEAK
6	*	1.722	9.689	27.300	36.989	-19.011	56.000	QUASIPEAK

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	**Time : 2009/06/24 - 15:06**
Limit : FCC_Part15_B_00M_AV	**Margin : 10**
EUT : Home Gateway	**Probe : ENV216_100014(0.009-30MHz) - Line2**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at 802.11b**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.214	9.600	26.200	35.800	-17.249	53.049	AVERAGE
2		0.430	9.610	20.800	30.410	-16.843	47.253	AVERAGE
3	*	0.930	9.770	19.400	29.170	-16.830	46.000	AVERAGE
4		1.142	9.750	17.600	27.350	-18.650	46.000	AVERAGE
5		1.218	9.740	17.900	27.640	-18.360	46.000	AVERAGE
6		1.722	9.689	17.700	27.389	-18.611	46.000	AVERAGE

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

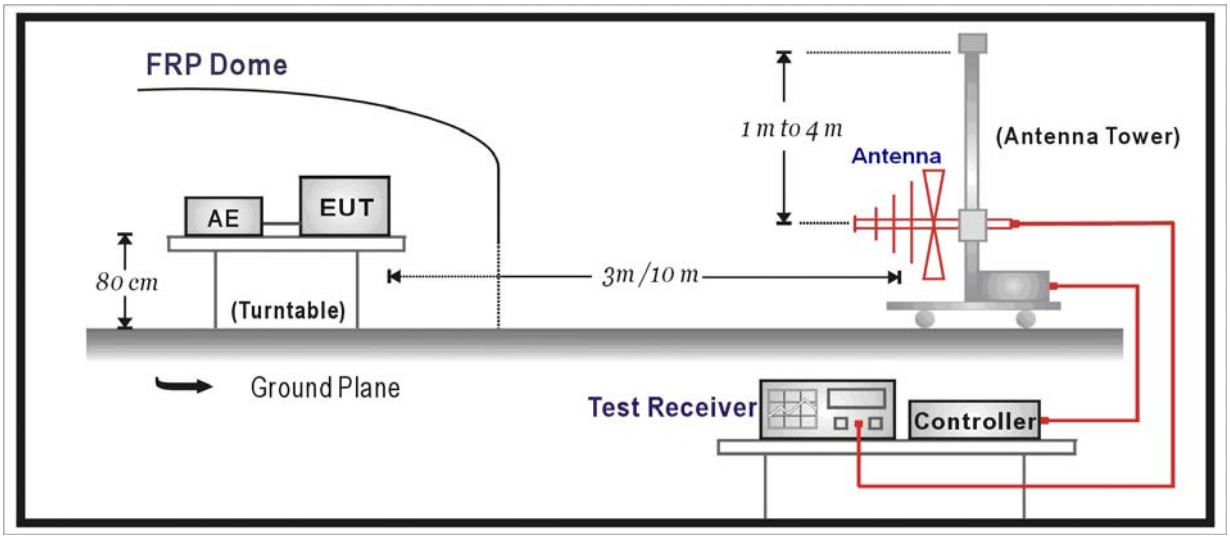
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2009/03/31

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

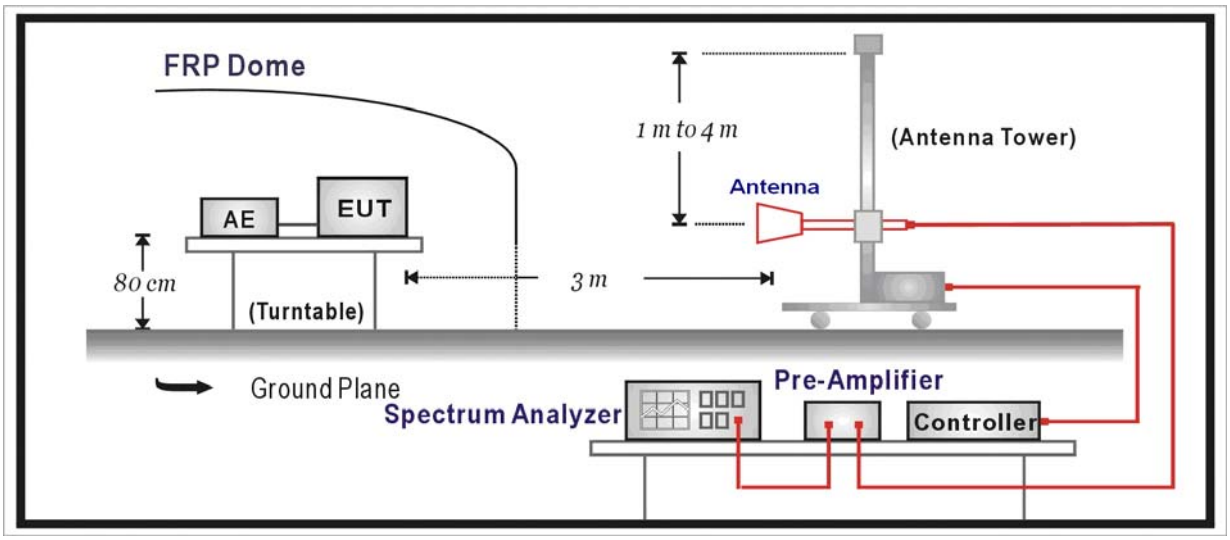
Note 2: The test instruments marked with “X” are used to measure the final test results.

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)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
142.2	H	36.4	43.5	-7.1	QP	120.5	125.8
332.0	H	33.1	46.0	-12.9	QP	125.0	195.8
423.0	H	35.6	46.0	-10.4	QP	114.2	144.8
142.2	V	32.0	43.5	-11.5	QP	114.2	144.8
332.0	V	34.1	46.0	-11.9	QP	120.5	65.8
423.0	V	35.7	46.0	-10.3	QP	110.5	105.8
Channel 6 (2437MHz)							
213.9	H	32.0	43.5	-11.5	QP	100.0	12.0
618.5	H	39.9	46.0	-6.1	QP	104.0	42.0
634.0	H	38.7	46.0	-7.3	QP	110.0	264.0
213.9	V	31.3	43.5	-12.2	QP	100.0	128.0
618.5	V	37.1	46.0	-8.9	QP	106.0	328.0
634.0	V	37.3	46.0	-8.7	QP	112.0	86.0
Channel 11 (2462MHz)							
142.2	H	36.4	43.5	-7.1	QP	120.0	28.0
213.9	H	32.0	43.5	-11.5	QP	140.0	20.0
423.0	H	35.6	46.0	-10.4	QP	162.0	262.0
142.2	V	32.0	43.5	-11.5	QP	124.0	164.0
213.9	V	31.3	43.5	-12.2	QP	147.0	188.0
423.0	V	35.7	46.0	-10.3	QP	150.0	206.0

Mode 2: 802.11g							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
142.2	H	36.4	43.5	-7.1	QP	120.5	65.8
332.0	H	33.1	46.0	-12.9	QP	120.5	65.8
423.0	H	35.6	46.0	-10.4	QP	114.2	144.8
142.2	V	32.0	43.5	-11.5	QP	114.2	144.8
332.0	V	34.1	46.0	-11.9	QP	120.5	65.8
423.0	V	35.7	46.0	-10.3	QP	120.5	65.8
Channel 6 (2437MHz)							
142.2	H	36.4	43.5	-7.1	QP	120.5	65.8
213.9	H	32.0	43.5	-11.5	QP	120.5	65.8
423.0	H	35.6	46.0	-10.4	QP	114.2	144.8
142.2	V	32.0	43.5	-11.5	QP	114.2	144.8
213.9	V	31.3	43.5	-12.2	QP	120.5	65.8
423.0	V	35.7	46.0	-10.3	QP	120.5	65.8
Channel 11 (2462MHz)							
213.9	H	32.0	43.5	-11.5	QP	120.5	65.8
618.5	H	39.9	46.0	-6.1	QP	120.5	65.8
634.0	H	38.7	46.0	-7.3	QP	114.2	144.8
213.9	V	31.3	43.5	-12.2	QP	114.2	144.8
618.5	V	37.1	46.0	-8.9	QP	120.5	65.8
634.0	V	37.3	46.0	-8.7	QP	120.5	65.8

Mode 3: 802.11n(20MHz)							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
142.2	H	36.4	43.5	-7.1	QP	100.0	12.0
332.0	H	33.1	46.0	-12.9	QP	102.0	40.0
423.0	H	35.6	46.0	-10.4	QP	112.0	260.0
142.2	V	32.0	43.5	-11.5	QP	100.0	132.0
332.0	V	34.1	46.0	-11.9	QP	105.0	330.0
423.0	V	35.7	46.0	-10.3	QP	110.0	88.0
Channel 6 (2437MHz)							
142.2	H	36.4	43.5	-7.1	QP	124.0	26.0
332.0	H	33.1	46.0	-12.9	QP	144.0	22.0
423.0	H	35.6	46.0	-10.4	QP	160.0	260.0
142.2	V	32.0	43.5	-11.5	QP	125.0	164.0
332.0	V	34.1	46.0	-11.9	QP	146.0	189.0
423.0	V	35.7	46.0	-10.3	QP	150.0	204.0
Channel 11 (2462MHz)							
213.9	H	32.0	43.5	-11.5	QP	100.0	15.0
618.5	H	39.9	46.0	-6.1	QP	102.0	40.0
634.0	H	38.7	46.0	-7.3	QP	112.0	260.0
213.9	V	31.3	43.5	-12.2	QP	100.0	133.0
618.5	V	37.1	46.0	-8.9	QP	105.0	330.0
634.0	V	37.3	46.0	-8.7	QP	110.0	88.0

Mode 4: 802.11n(40MHz)							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (degree)
Channel 3 (2422MHz)							
142.2	H	36.4	43.5	-7.1	QP	124.0	26.0
332.0	H	33.1	46.0	-12.9	QP	142.0	22.0
423.0	H	35.6	46.0	-10.4	QP	160.0	260.0
142.2	V	32.0	43.5	-11.5	QP	125.0	164.0
332.0	V	34.1	46.0	-11.9	QP	146.0	189.0
423.0	V	35.7	46.0	-10.3	QP	150.0	204.0
Channel 6 (2437MHz)							
248.7	H	33.7	46.0	-12.3	QP	100.0	24.0
415.2	H	28.4	46.0	-17.6	QP	102.0	40.0
767.6	H	34.9	46.0	-11.1	QP	112.0	260.0
248.7	V	26.0	46.0	-20.0	QP	100.0	133.0
415.2	V	25.9	46.0	-20.1	QP	105.0	330.0
767.6	V	31.4	46.0	-14.6	QP	110.0	88.0
Channel 9 (2452MHz)							
142.2	H	36.4	43.5	-7.1	QP	124.0	26.0
213.9	H	32.0	43.5	-11.5	QP	141.0	22.0
423.0	H	35.6	46.0	-10.4	QP	160.0	262.0
142.2	V	32.0	43.5	-11.5	QP	125.0	164.0
213.9	V	31.3	43.5	-12.2	QP	146.0	189.0
423.0	V	35.7	46.0	-10.3	QP	150.0	204.0

Above 1GHz

Mode 1: 802.11b							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
4825.0	H	64.8	74	-9.2	PK	160.5	225.2
4825.0	H	49.2	54	-4.8	AV	160.5	225.2
7239.0	H	58.8	74	-15.2	PK	160.5	184.8
7239.0	H	44.3	54	-9.7	AV	160.5	184.8
4825.0	V	64.2	74	-9.8	PK	160.5	225.2
4825.0	V	49.8	54	-4.2	AV	160.5	225.2
7239.0	V	60.1	74	-13.9	PK	160.5	184.8
7239.0	V	45.8	54	-8.2	AV	160.5	184.8
Channel 6 (2437MHz)							
4876.0	H	63.9	74	-10.1	PK	155.2	222.6
4876.0	H	49.5	54	-4.5	AV	155.2	222.6
7307.0	H	56.8	74	-17.2	PK	160.5	184.8
7307.0	H	32.4	54	-21.6	AV	160.5	184.8
4876.0	V	62.8	74	-11.2	PK	155.2	222.6
4876.0	V	48.4	54	-5.6	AV	155.2	222.6
7307.0	V	56.9	74	-17.1	PK	160.5	184.8
7307.0	V	42.3	54	-11.7	AV	160.5	184.8
Channel 11 (2462MHz)							
4927.0	H	62.2	74	-11.8	PK	152.0	200.0
4927.0	H	49.7	54	-4.3	AV	152.0	200.0
7392.0	H	56.3	74	-17.7	PK	152.0	188.1
7392.0	H	42.0	54	-12.0	AV	152.0	188.1
4927.0	V	61.6	74	-12.4	PK	152.0	200.0
4927.0	V	47.2	54	-6.8	AV	152.0	200.0
7392.0	V	57.0	74	-17.0	PK	152.0	188.1
7392.0	V	42.7	54	-11.3	AV	152.0	188.1

Mode 2: 802.11g							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
4825.0	H	61.4	74	-12.6	PK	160.5	225.2
4825.0	H	47.0	54	-7.0	AV	160.5	225.2
4825.0	V	60.1	74	-13.9	PK	160.5	184.8
4825.0	V	45.7	54	-8.3	AV	160.5	184.8
Channel 6 (2437MHz)							
4876.0	H	62.3	74	-11.7	PK	155.2	222.6
4876.0	H	48.1	54	-5.9	AV	155.2	222.6
4876.0	V	58.6	74	-15.4	PK	160.5	184.8
4876.0	V	44.1	54	-9.9	AV	160.5	184.8
Channel 11 (2462MHz)							
4927.0	H	61.7	74	-12.3	PK	152.0	200.0
4927.0	H	47.2	54	-6.8	AV	152.0	200.0
4927.0	V	57.0	74	-17.0	PK	152.0	188.1
4927.0	V	42.7	54	-11.3	AV	152.0	188.1

Mode 3: 802.11n(20MHz)							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (degree)
Channel 1 (2412MHz)							
4825.0	H	60.9	74	-13.1	PK	160.5	225.2
4825.0	H	46.4	54	-7.6	AV	160.5	225.2
4825.0	V	59.1	74	-14.9	PK	160.5	184.8
4825.0	V	34.8	54	-19.2	AV	160.5	184.8
Channel 6 (2437MHz)							
4876.0	H	62.3	74	-11.7	PK	155.2	222.6
4876.0	H	48.0	54	-6.0	AV	155.2	222.6
4876.0	V	60.1	74	-13.9	PK	160.5	184.8
4876.0	V	45.5	54	-8.5	AV	160.5	184.8
Channel 11 (2462MHz)							
4927.0	H	61.6	74	-12.4	PK	152.0	200.0
4927.0	H	47.2	54	-6.8	AV	152.0	200.0
4927.0	V	57.9	74	-16.1	PK	152.0	188.1
4927.0	V	43.6	54	-10.4	AV	152.0	188.1

Mode 4: 802.11n(40MHz)							
Frequency (MHz)	Polarization (H/V)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (degree)
Channel 3 (2422MHz)							
4842.0	H	59.0	74	-15.0	PK	160.5	225.2
4842.0	H	44.8	54	-9.2	AV	160.5	225.2
4842.0	V	55.6	74	-18.4	PK	160.5	184.8
4842.0	V	41.3	54	-12.7	AV	160.5	184.8
Channel 6 (2437MHz)							
4876.0	H	59.2	74	-14.8	PK	155.2	222.6
4876.0	H	45.0	54	-9.0	AV	155.2	222.6
4876.0	V	57.8	74	-16.2	PK	155.2	182.2
4876.0	V	43.5	54	-10.5	AV	155.2	182.2
Channel 9 (2452MHz)							
4893.0	H	57.9	74	-16.1	PK	152.0	200.0
4893.0	H	43.3	54	-10.7	AV	152.0	200.0
4893.0	V	56.0	74	-18.0	PK	152.0	188.1
4893.0	V	41.6	54	-12.4	AV	152.0	188.1

5. RF Antenna Conducted Spurious

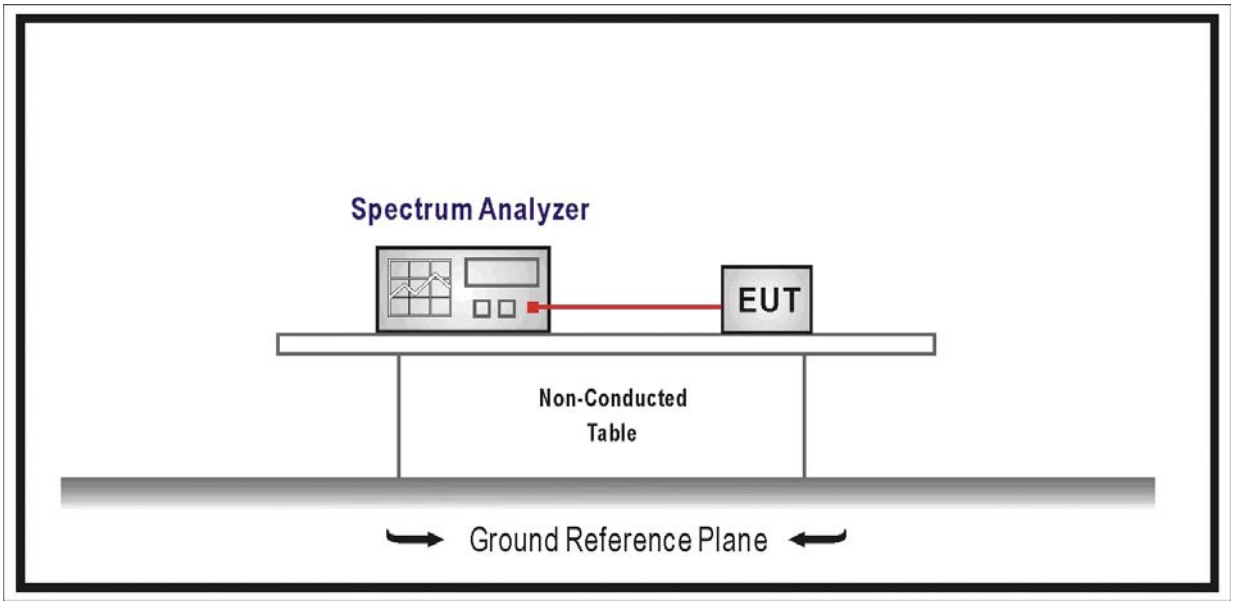
5.1. Test Equipment

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	SUCOFLEX 104	AC6-RF1	2009.05.25
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	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.

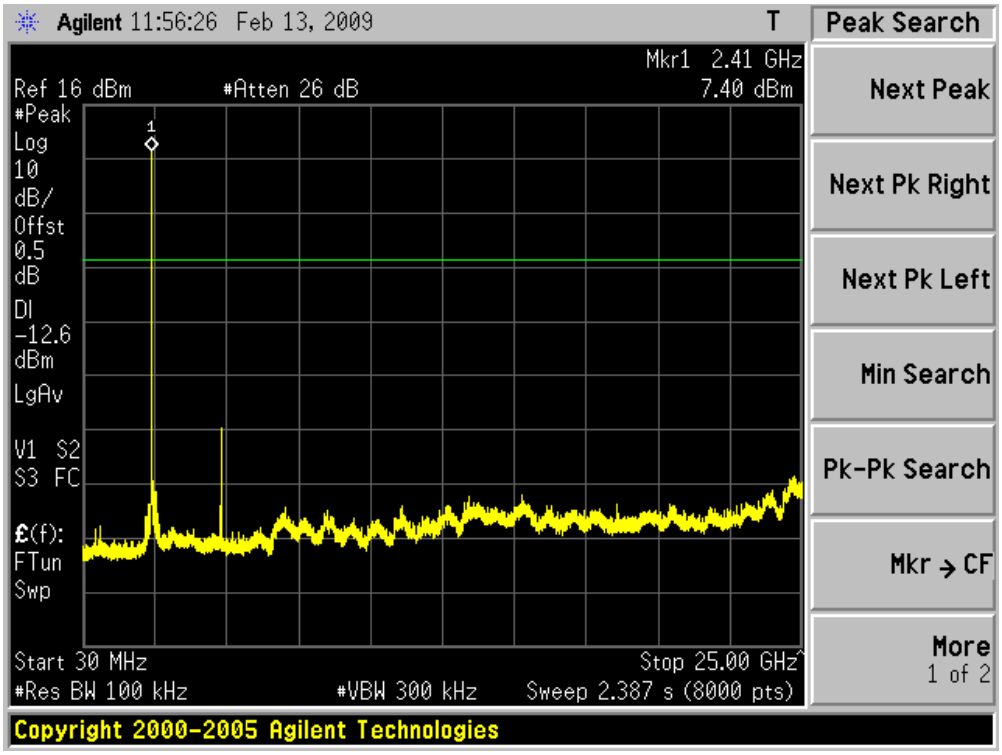
5.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

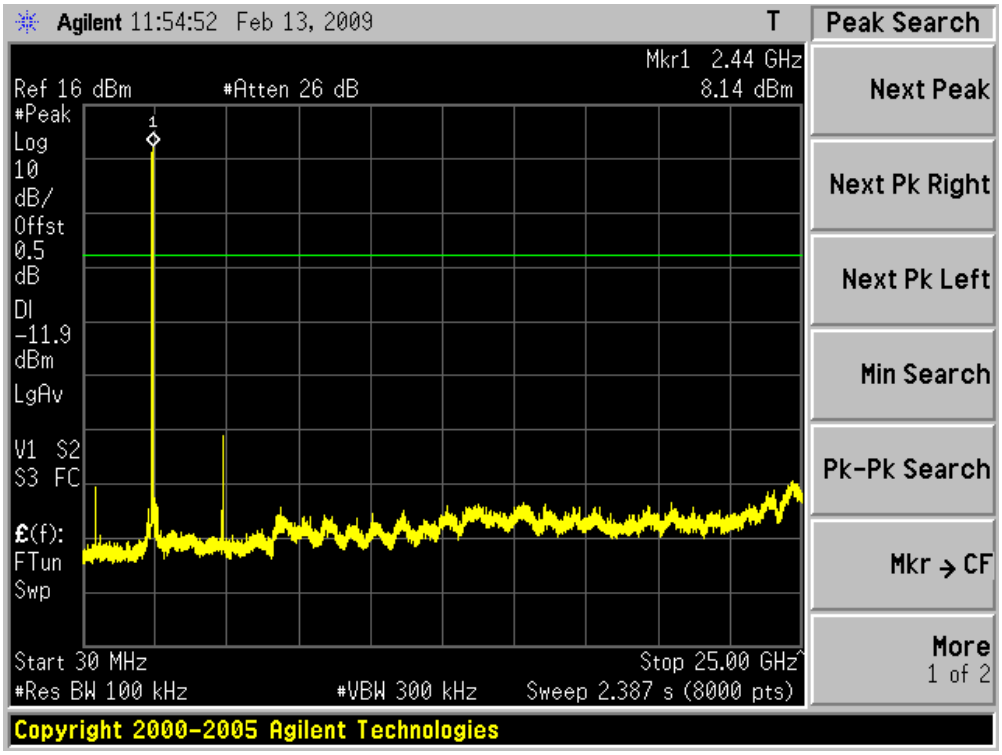
5.6. Test Result

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

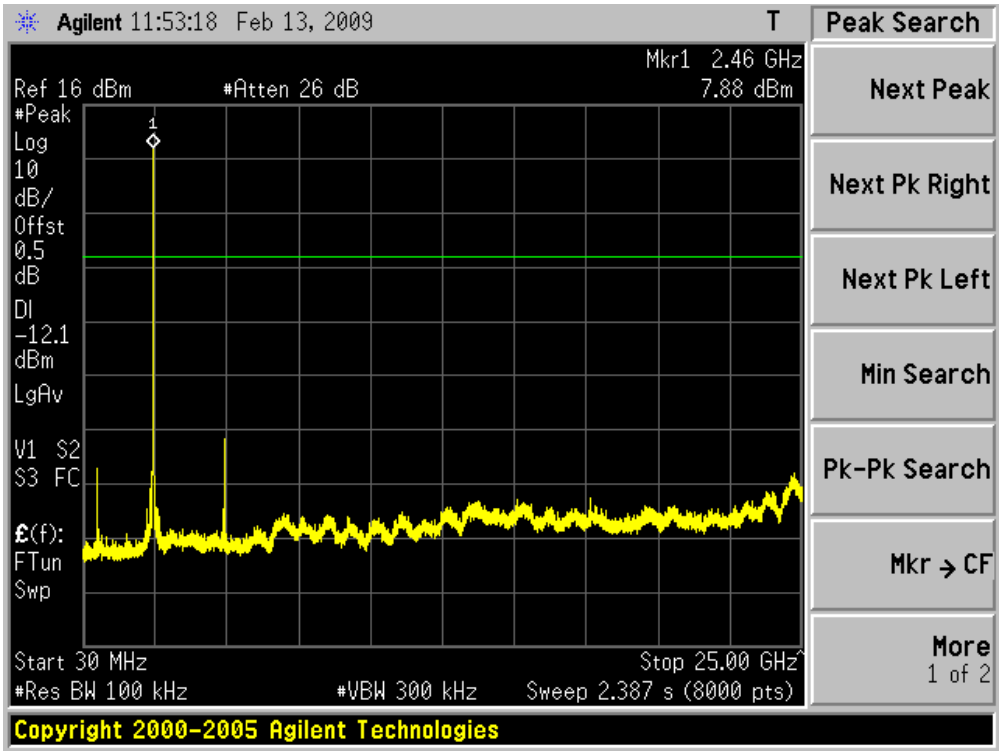
Channel 01 (2412MHz)



Channel 06 (2437MHz)

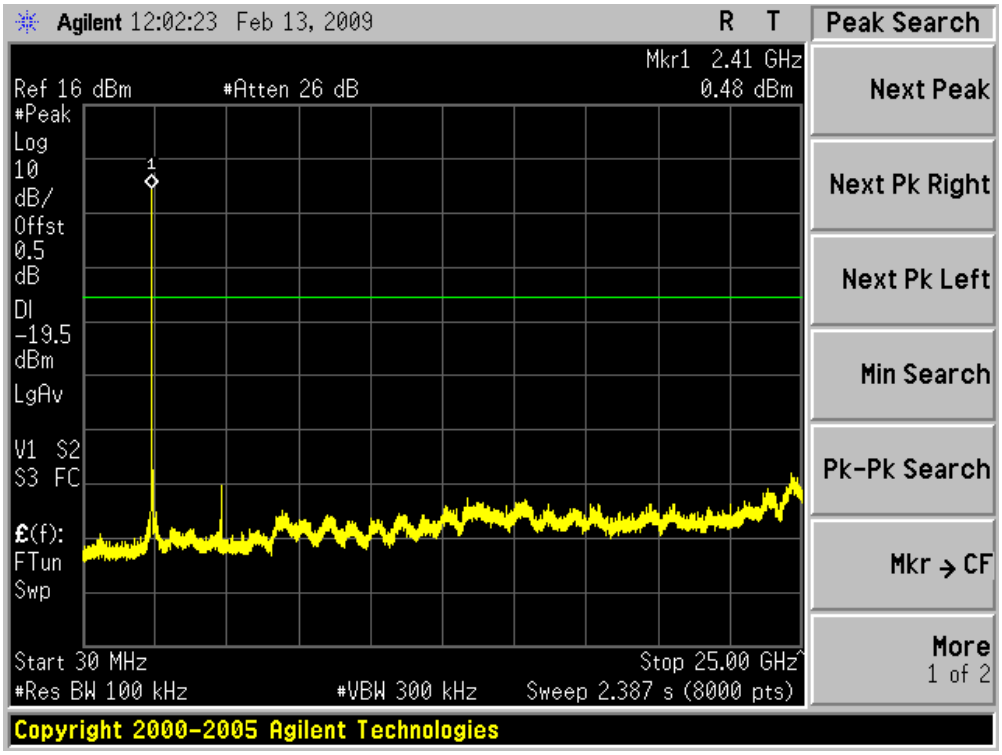


Channel 11 (2462MHz)

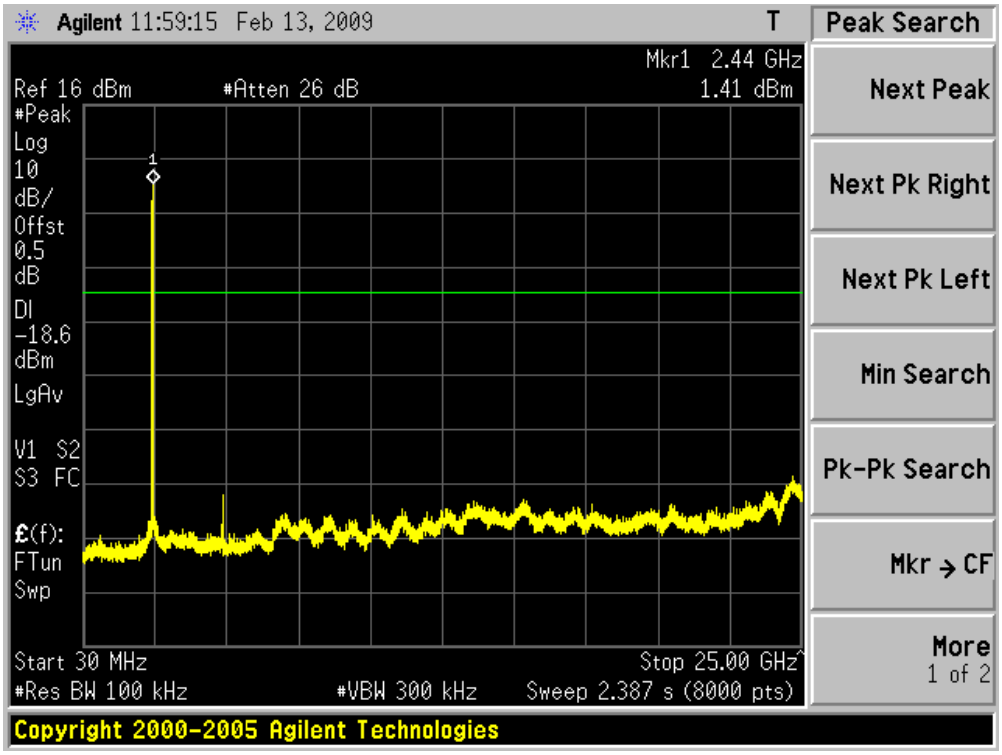


Product	:	Home Gateway
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit at 802.11g

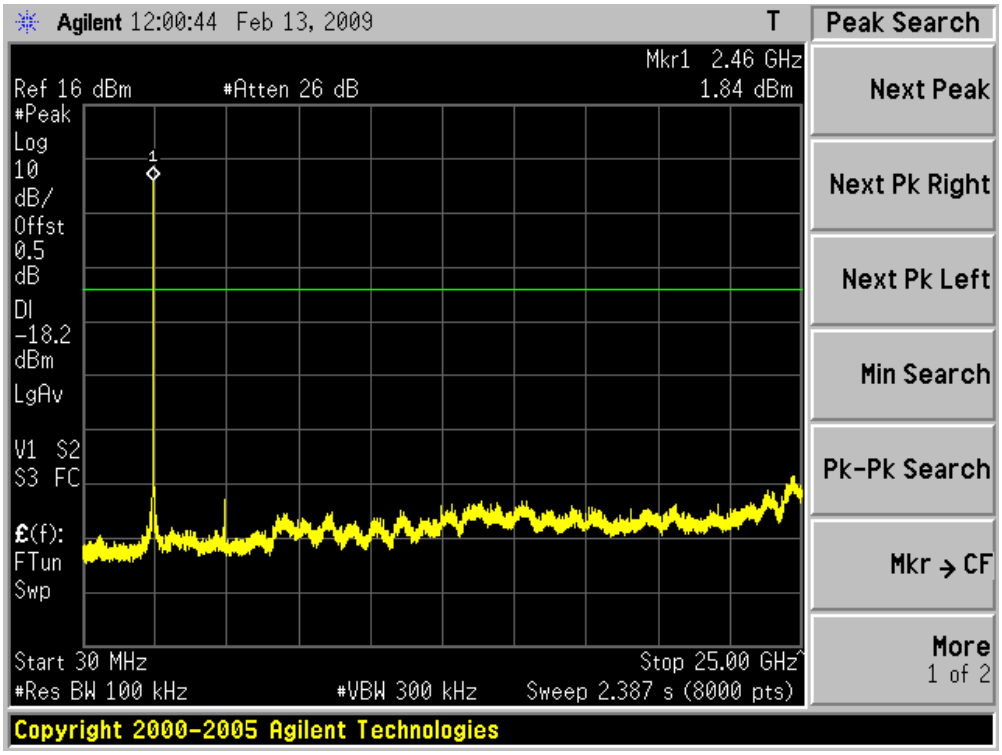
Channel 01 (2412MHz)



Channel 06 (2437MHz)

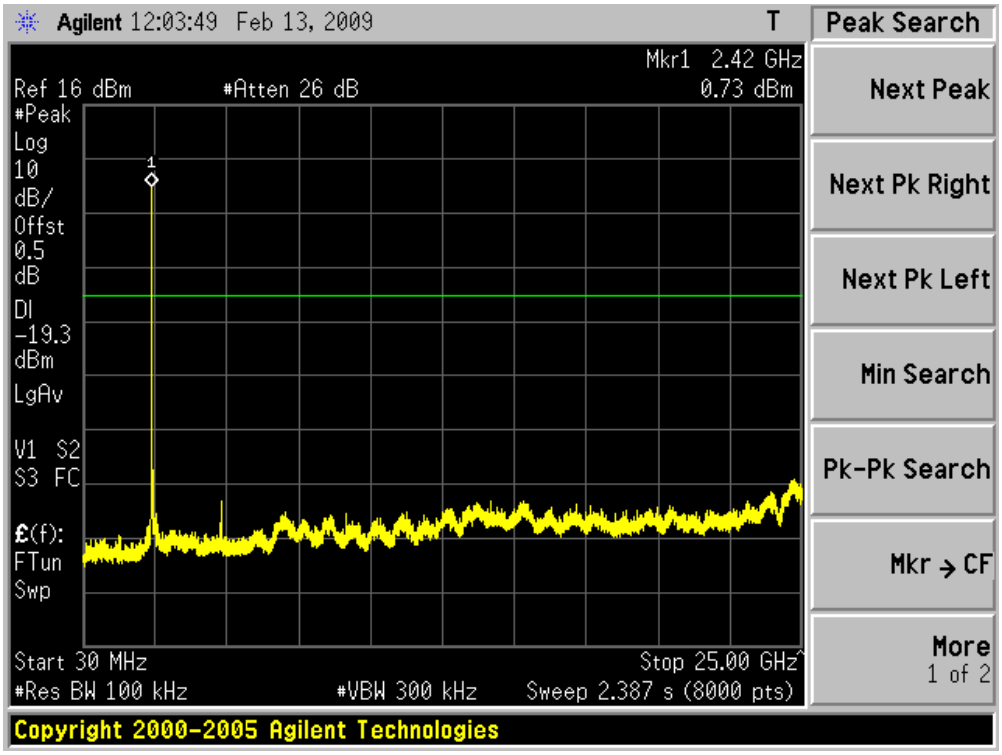


Channel 11 (2462MHz)

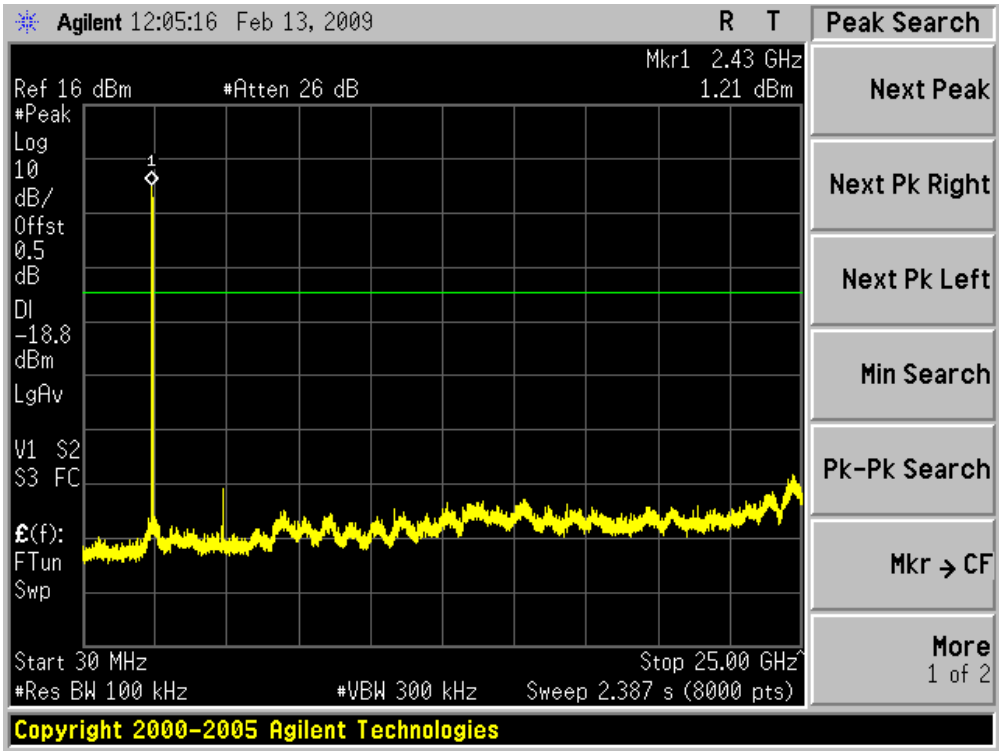


Product	:	Home Gateway
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit at 802.11n (20MHz)

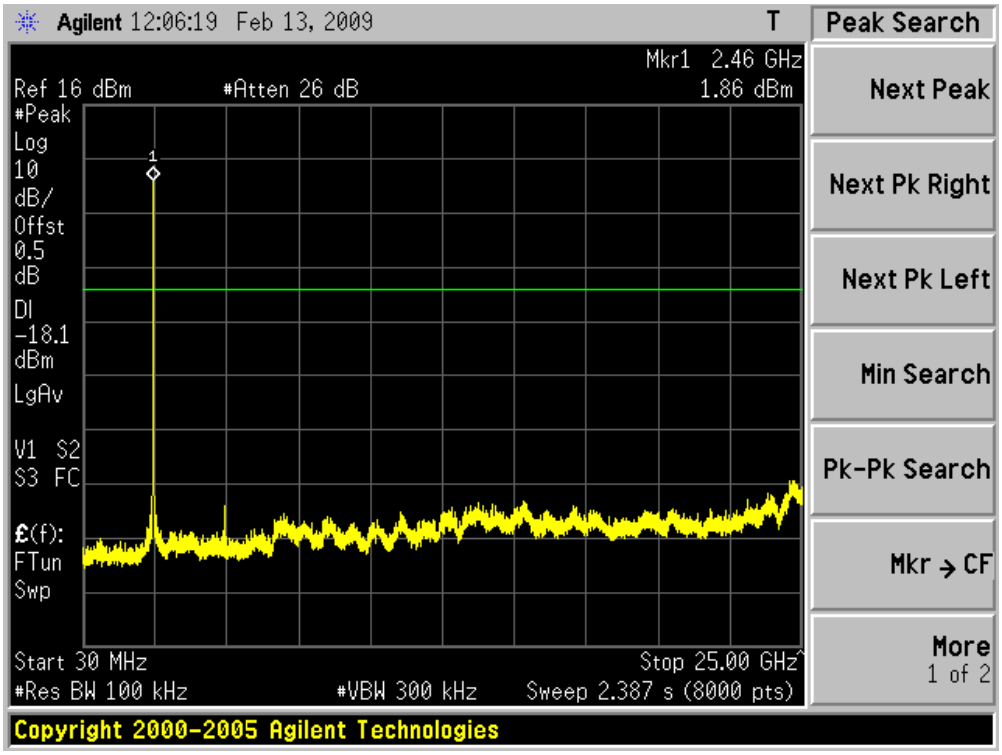
Channel 01 (2412MHz)



Channel 06 (2437MHz)

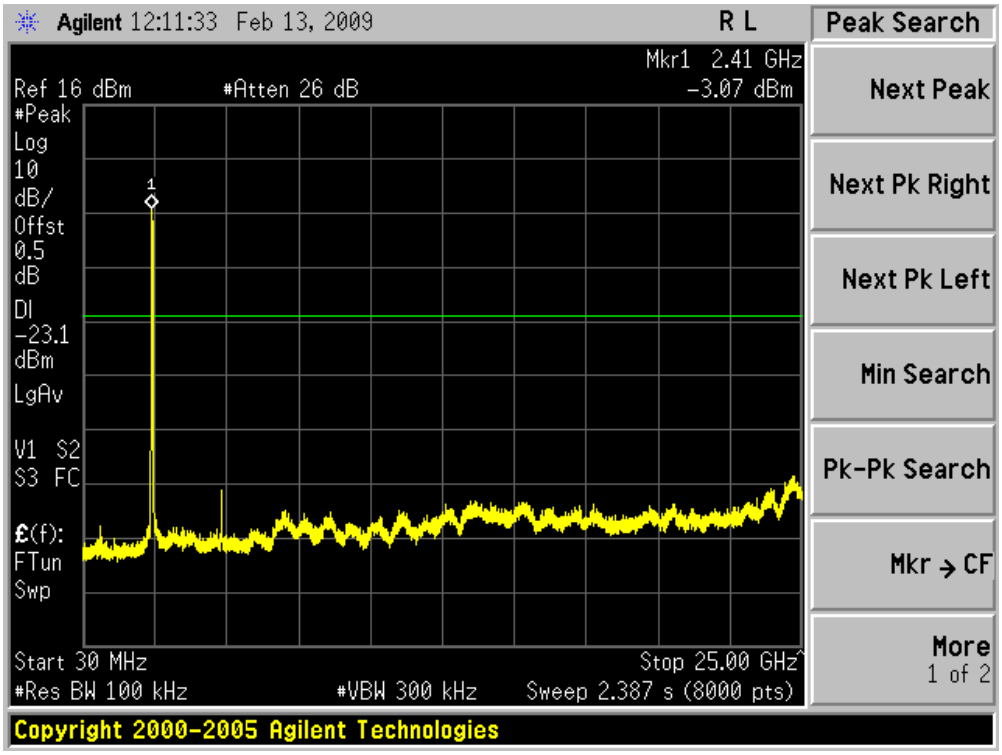


Channel 11 (2462MHz)

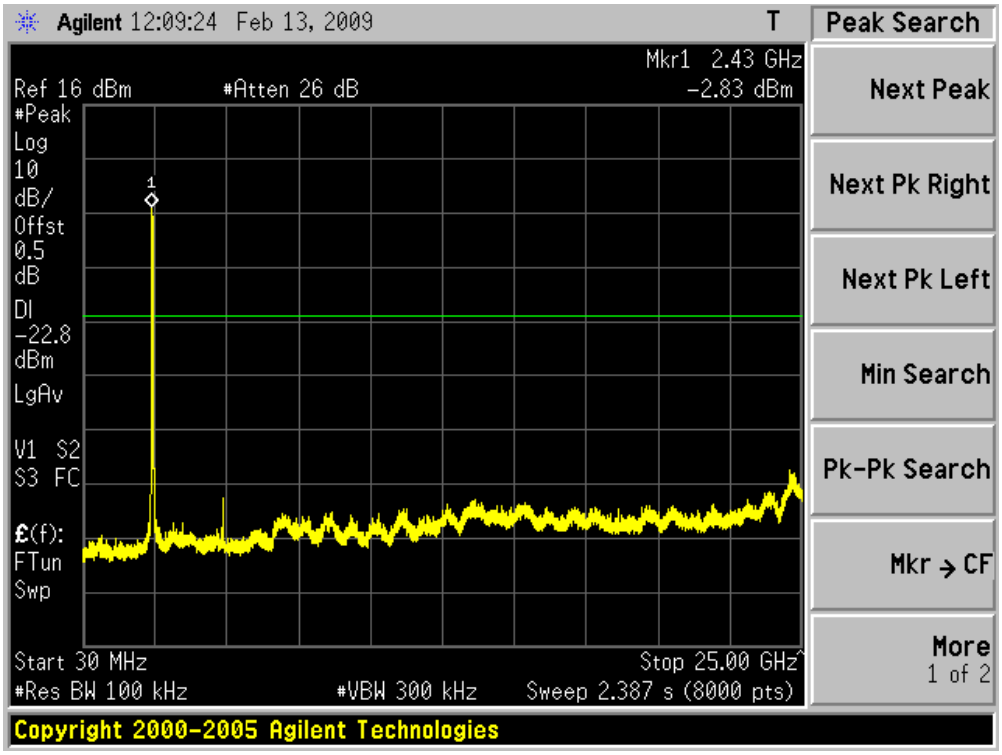


Product	:	Home Gateway
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit at 802.11n (40MHz)

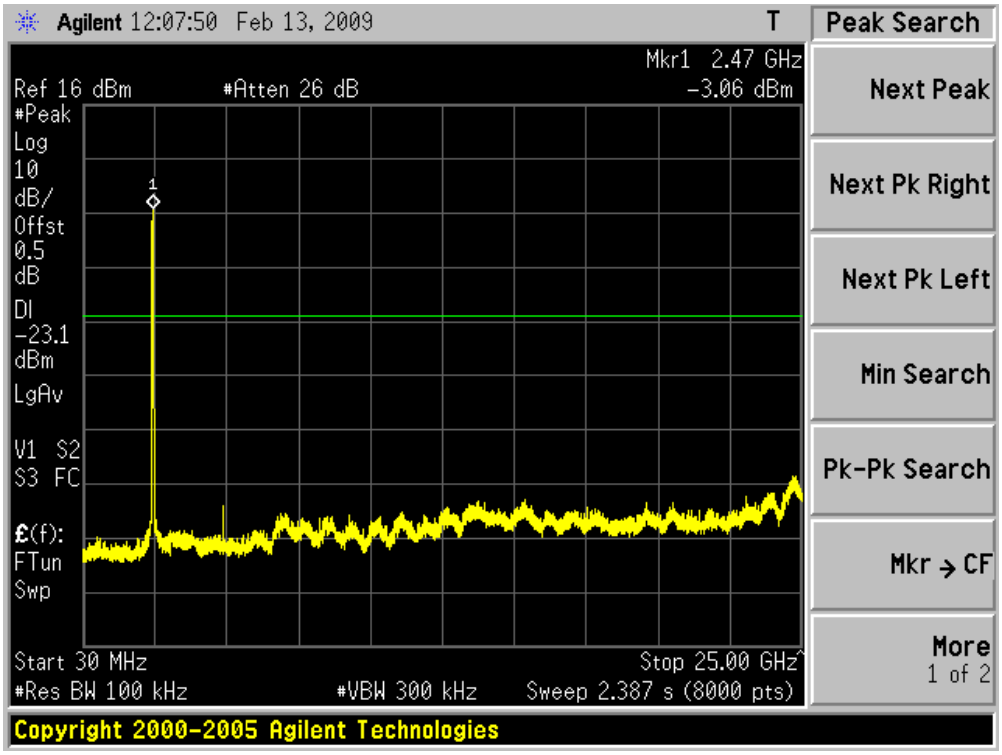
Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



6. Radiated Emission Band Edge

6.1. Test Equipment

☒Radiated Emission / AC-2

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

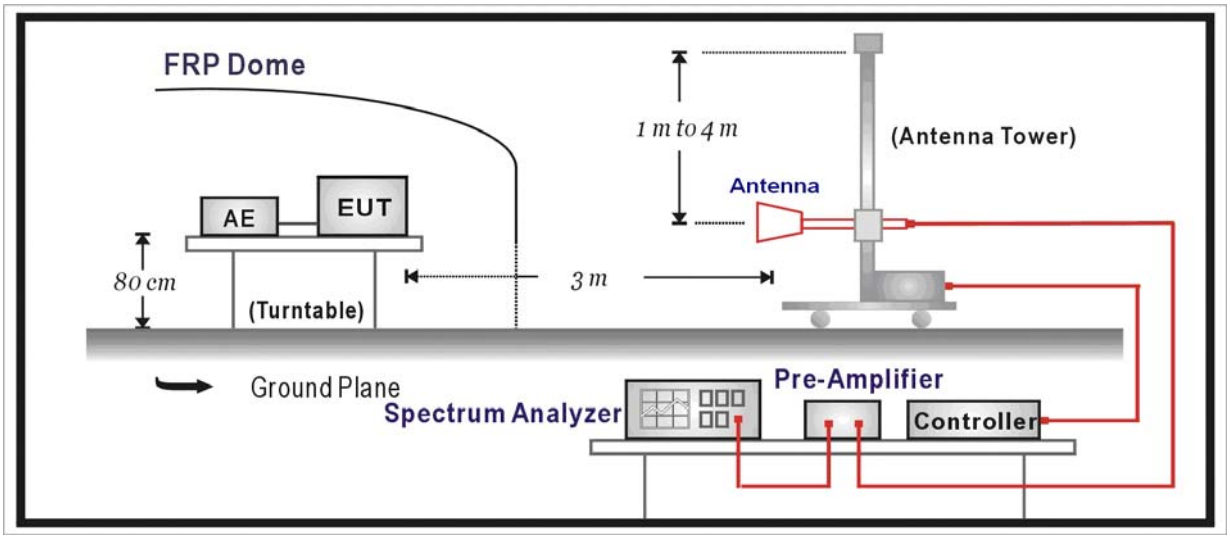
☐Radiated Emission / AC-3

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.

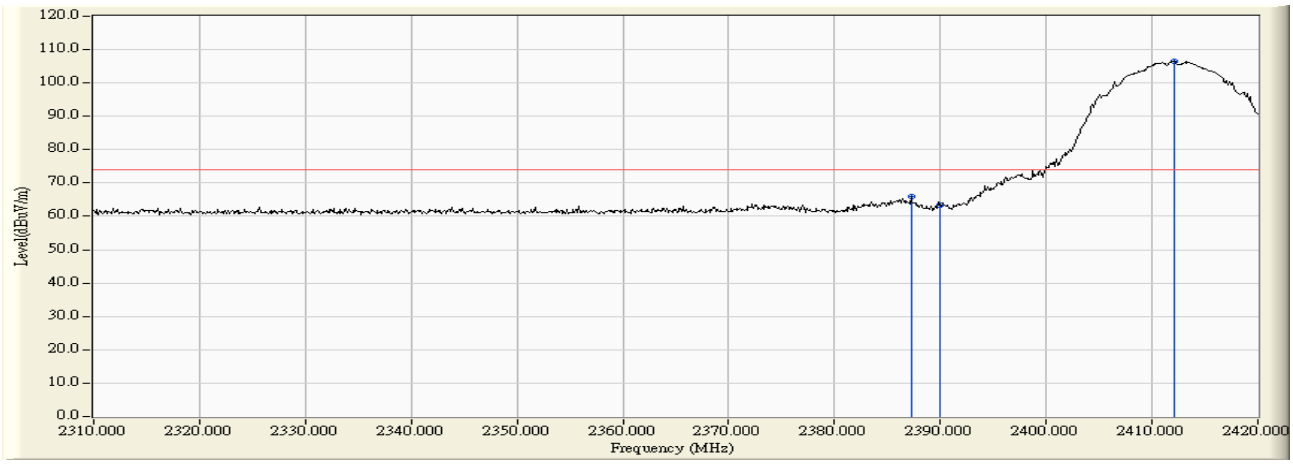
Peak detector set as follows, RBW = 1MHz, VBW = 3MHz, sweep time = 500ms;
Average detector set as follows, RBW = 1MHz, VBW = 10Hz, sweep time = Auto.

6.5. Uncertainty

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

6.6. Test Result

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:19**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at channel 2412MHZ by 802.11b**

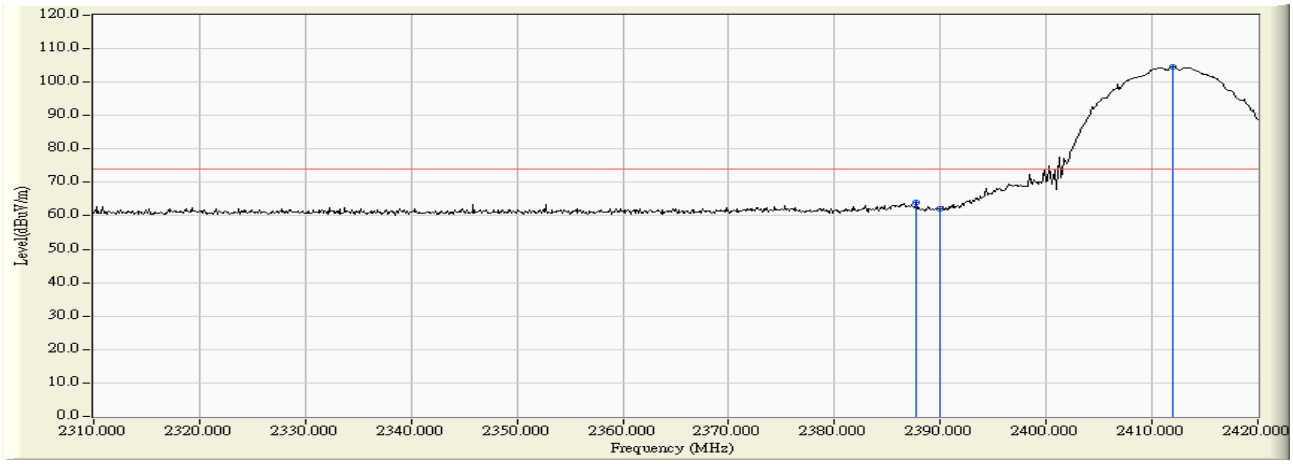


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2387.220	31.187	34.654	65.841	-8.129	73.970	PEAK
2		2390.000	31.184	32.281	63.465	-10.505	73.970	PEAK
3	*	2412.080	31.190	75.409	106.599	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:20**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at channel 2412MHZ by 802.11b**

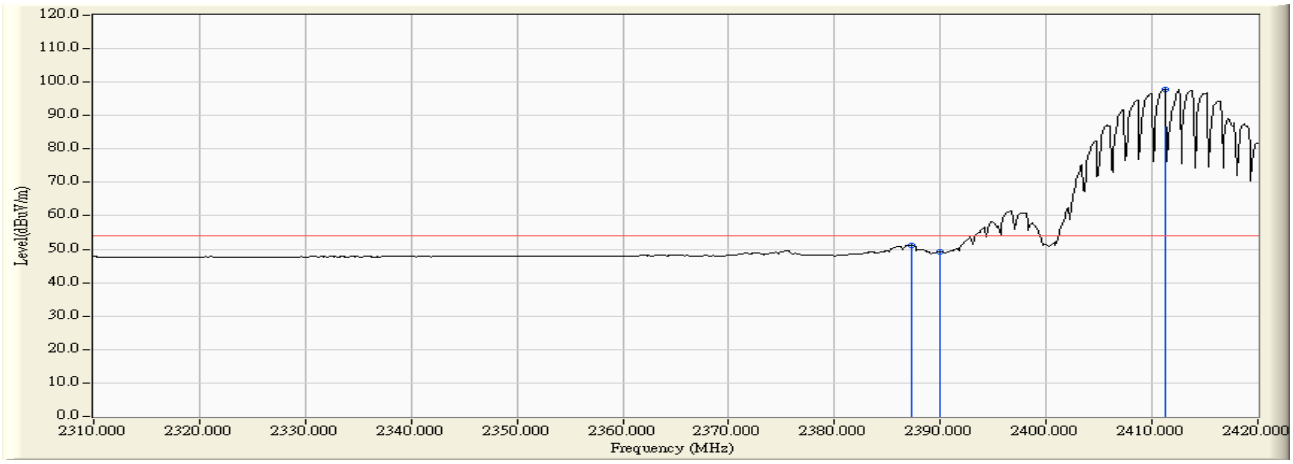
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2387.220	31.187	21.605	52.792	-1.178	53.970	AVERAGE
2		2390.000	31.184	18.960	50.144	-3.826	53.970	AVERAGE
3	*	2411.090	31.190	68.184	99.374	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at channel 2412MHZ by 802.11b**



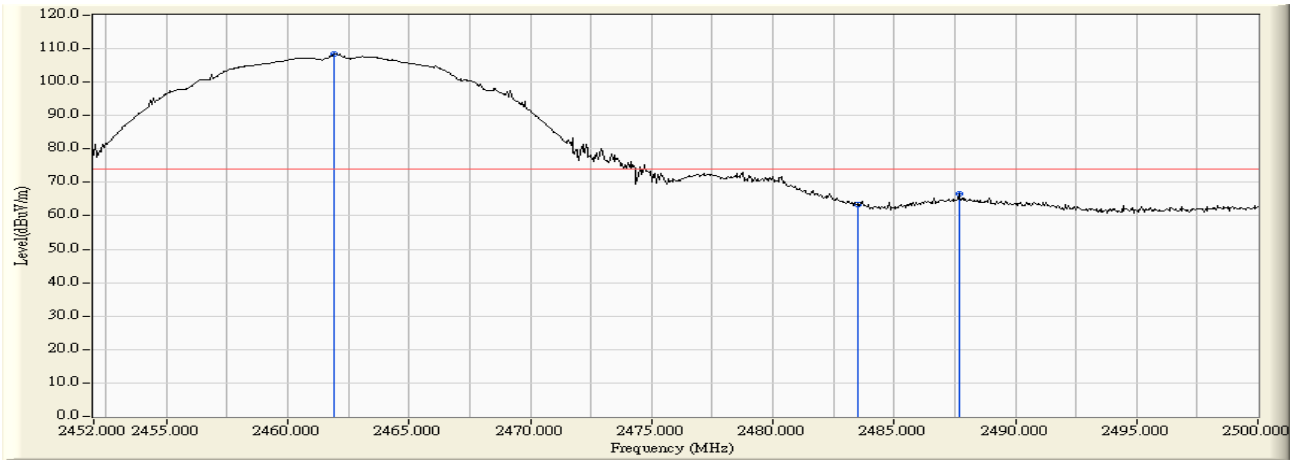
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2387.770	31.187	32.823	64.010	-9.960	73.970	PEAK
2		2390.000	31.184	30.771	61.955	-12.015	73.970	PEAK
3	*	2411.970	31.190	73.516	104.706	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:24**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at channel 2412MHZ by 802.11b**



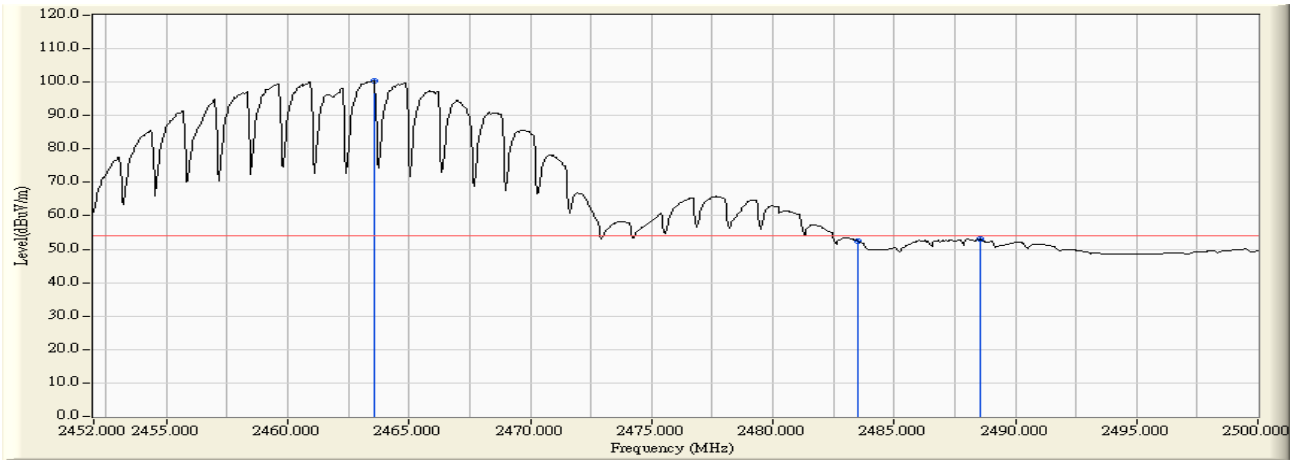
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2387.220	31.187	19.950	51.137	-2.833	53.970	AVERAGE
2		2390.000	31.184	18.155	49.339	-4.631	53.970	AVERAGE
3	*	2411.200	31.190	66.721	97.911	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:28**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at channel 2462MHZ by 802.11b**



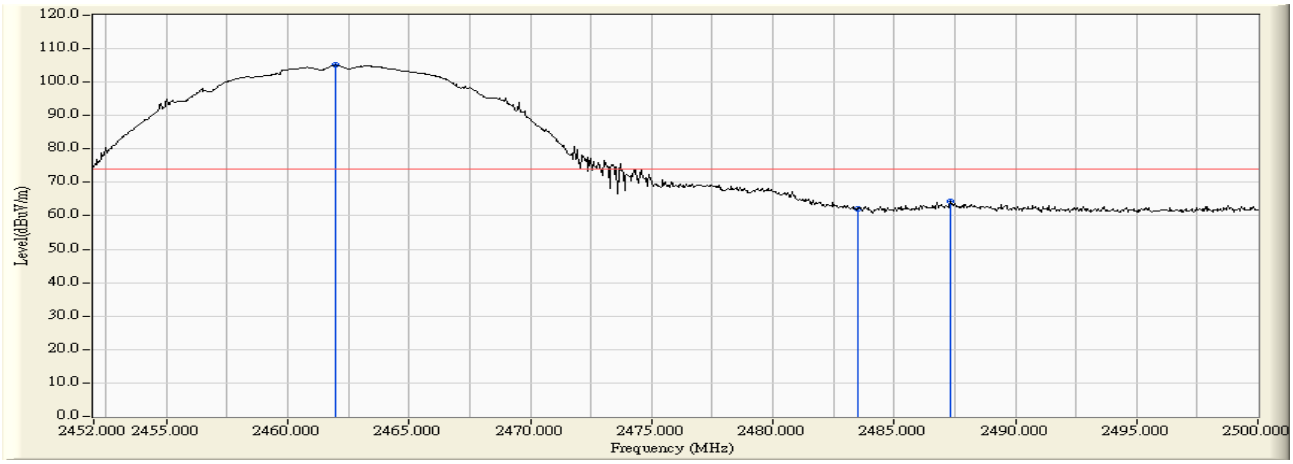
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.936	31.225	77.185	108.410	N/A	N/A	PEAK
2		2483.500	31.212	32.313	63.525	-10.445	73.970	PEAK
3		2487.664	31.210	35.314	66.523	-7.447	73.970	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:28**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at channel 2462MHZ by 802.11b**



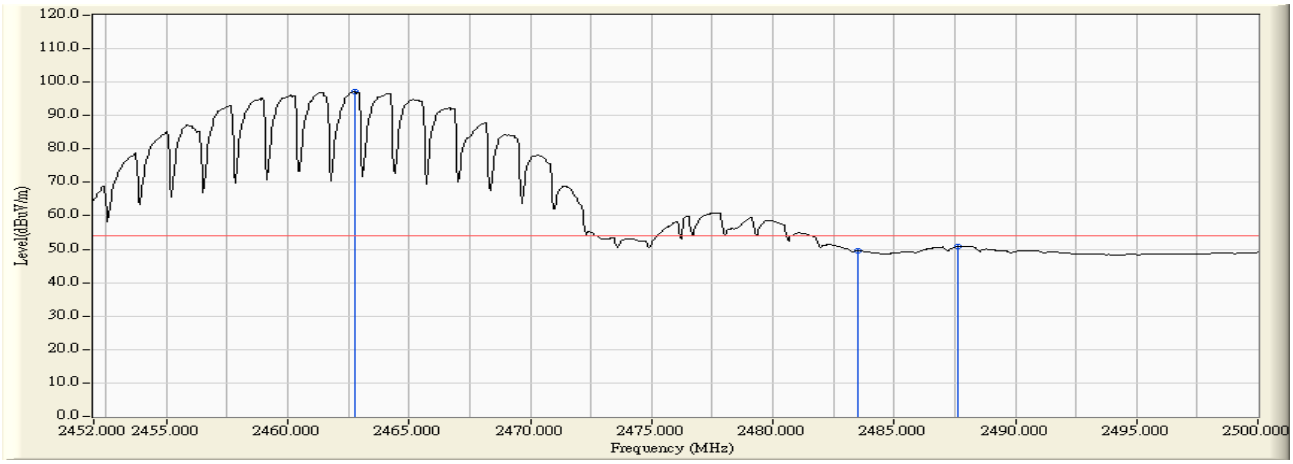
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.568	31.224	69.175	100.399	N/A	N/A	AVERAGE
2		2483.500	31.212	21.192	52.404	-1.566	53.970	AVERAGE
3		2488.528	31.209	21.735	52.944	-1.026	53.970	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:37**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at channel 2462MHZ by 802.11b**



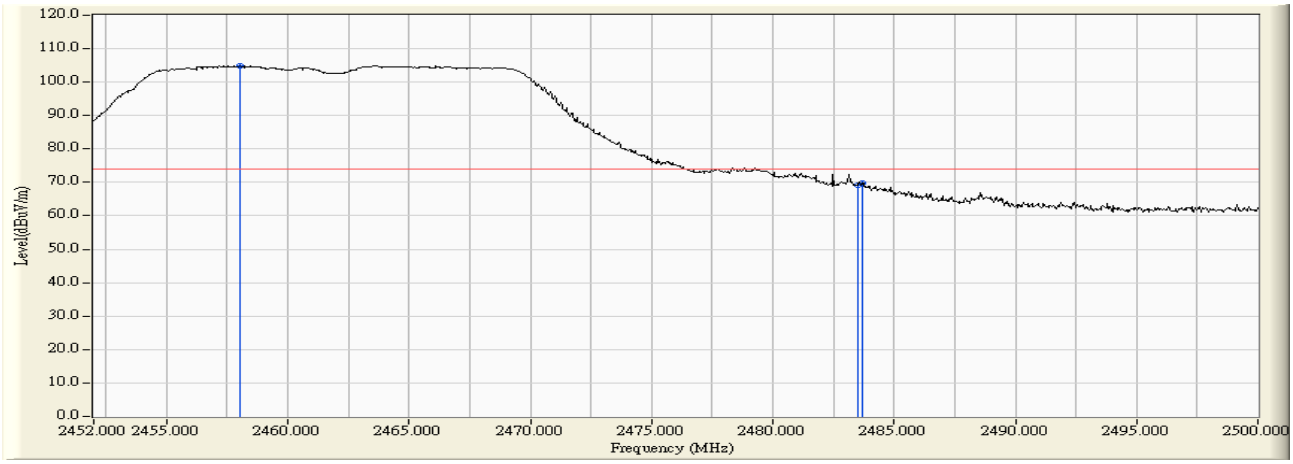
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.984	31.225	73.832	105.057	N/A	N/A	PEAK
2		2483.500	31.212	31.031	62.243	-11.727	73.970	PEAK
3		2487.328	31.210	33.095	64.305	-9.665	73.970	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:38**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 1:Transmit at channel 2462MHZ by 802.11b**



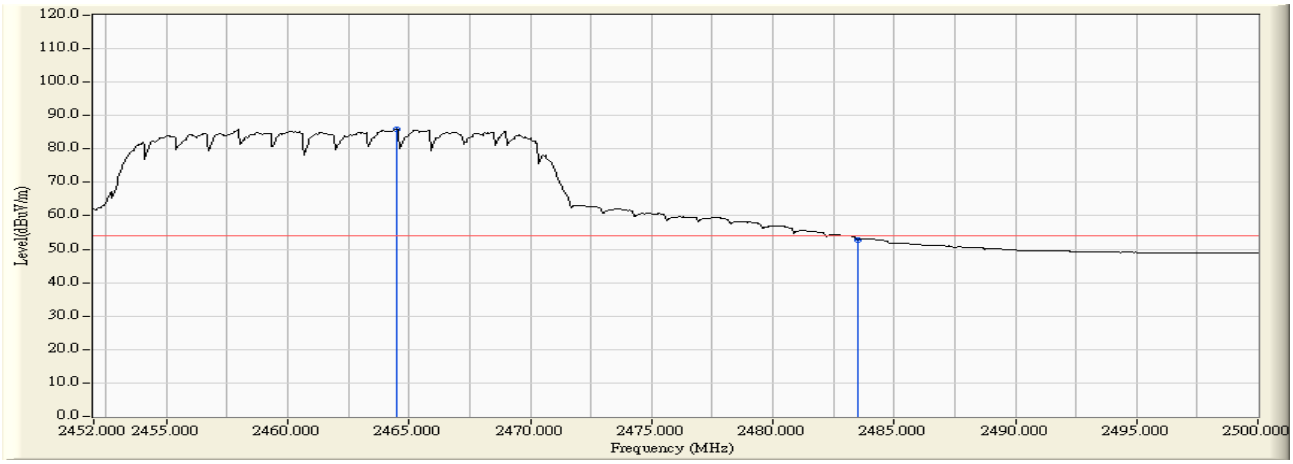
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2462.752	31.225	65.913	97.138	N/A	N/A	AVERAGE
2		2483.500	31.212	18.281	49.493	-4.477	53.970	AVERAGE
3		2487.616	31.210	19.583	50.792	-3.178	53.970	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:41**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 2:Transmit at channel 2462MHZ by 802.11g**



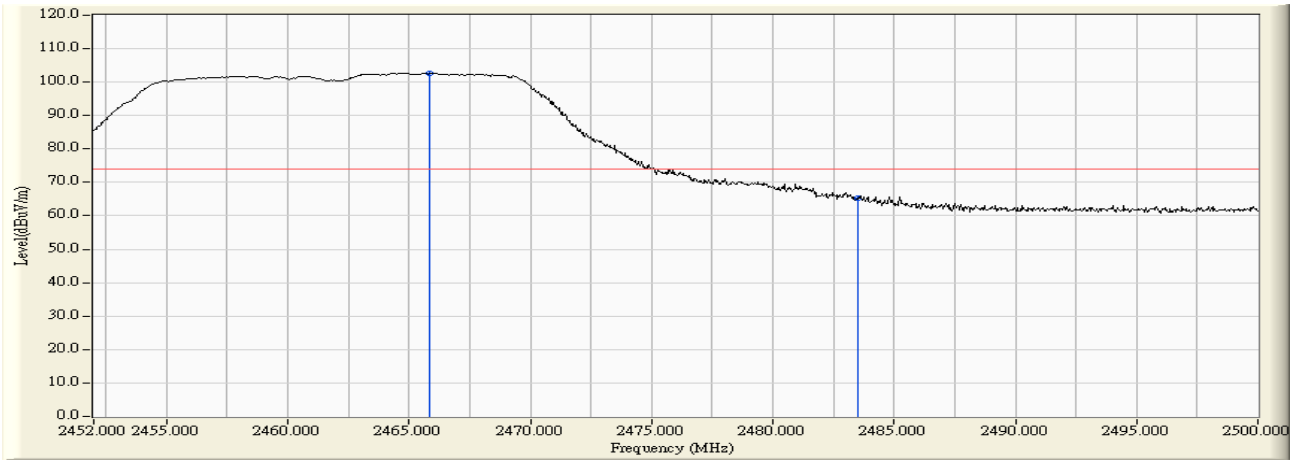
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2458.048	31.224	73.697	104.921	N/A	N/A	PEAK
2		2483.500	31.212	37.968	69.180	-4.790	73.970	PEAK
3		2483.680	31.212	38.713	69.925	-4.045	73.970	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:41**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 2:Transmit at channel 2462MHZ by 802.11g**



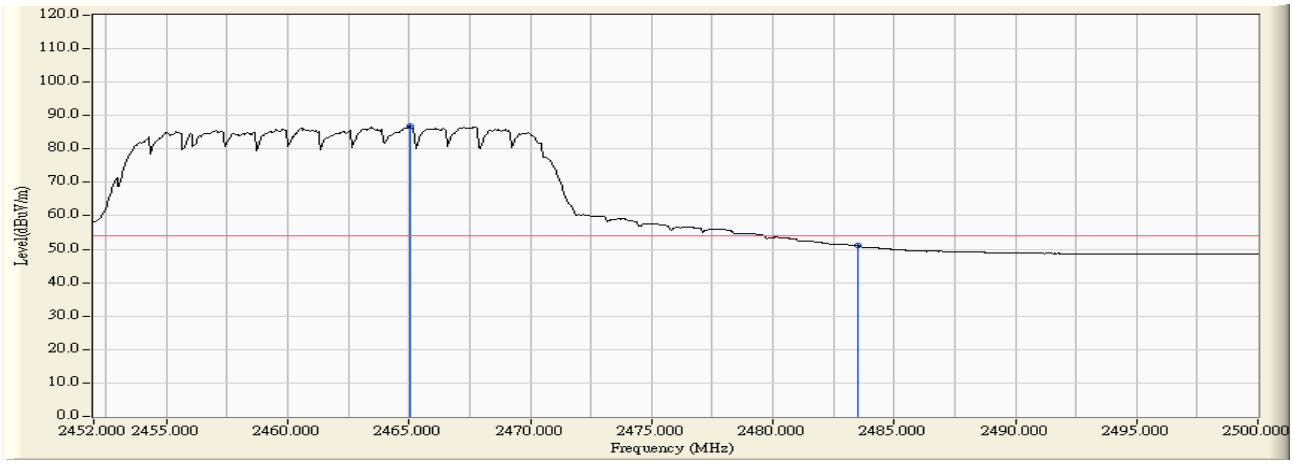
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.480	31.224	54.694	85.918	N/A	N/A	AVERAGE
2		2483.500	31.212	21.505	52.717	-1.253	53.970	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:43**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 2:Transmit at channel 2462MHZ by 802.11g**



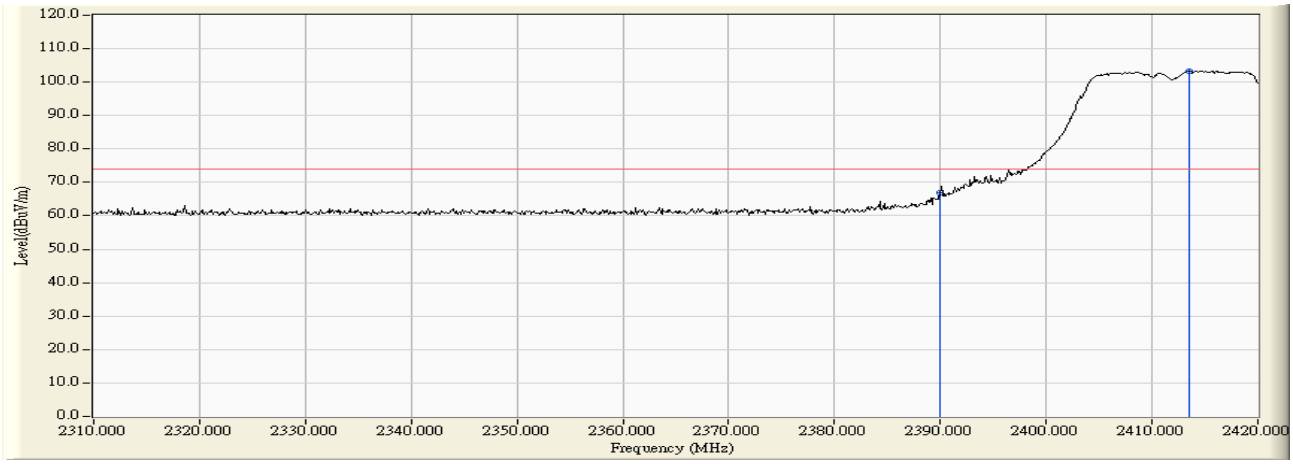
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2465.824	31.223	71.503	102.726	N/A	N/A	PEAK
2		2483.500	31.212	33.946	65.158	-8.812	73.970	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:44**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 2:Transmit at channel 2462MHZ by 802.11g**



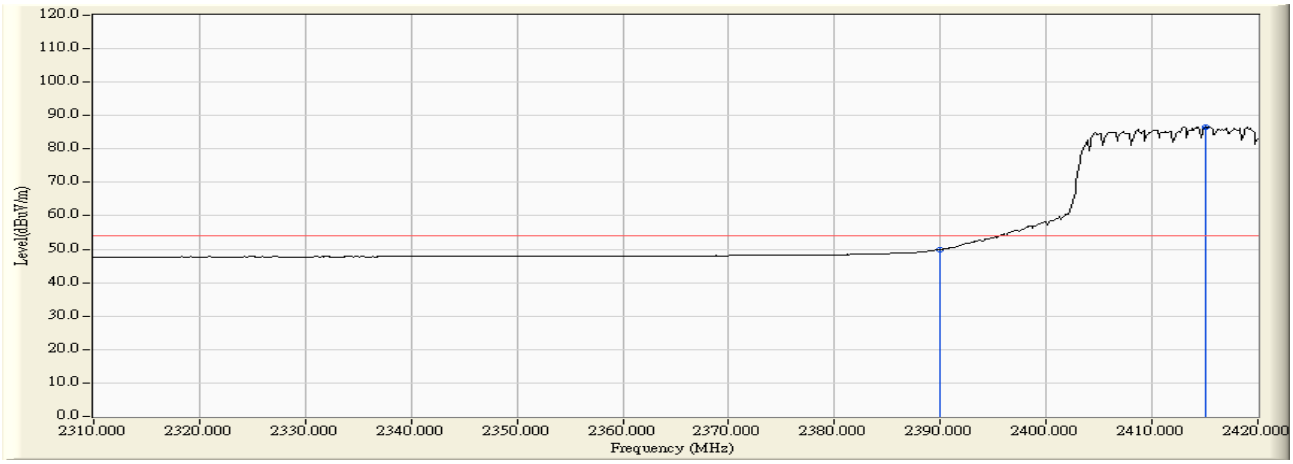
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2465.056	31.223	55.509	86.732	N/A	N/A	AVERAGE
2		2483.500	31.212	19.782	50.994	-2.976	53.970	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:46**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 2:Transmit at channel 2412MHZ by 802.11g**



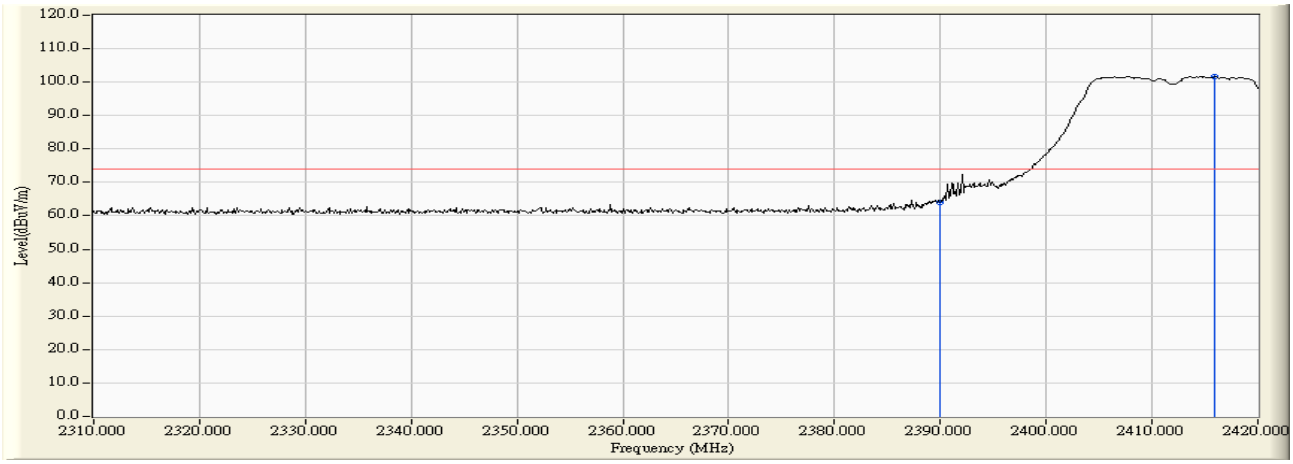
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	35.583	66.767	-7.203	73.970	PEAK
2	*	2413.510	31.192	72.013	103.205	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:47**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 2:Transmit at channel 2412MHZ by 802.11g**



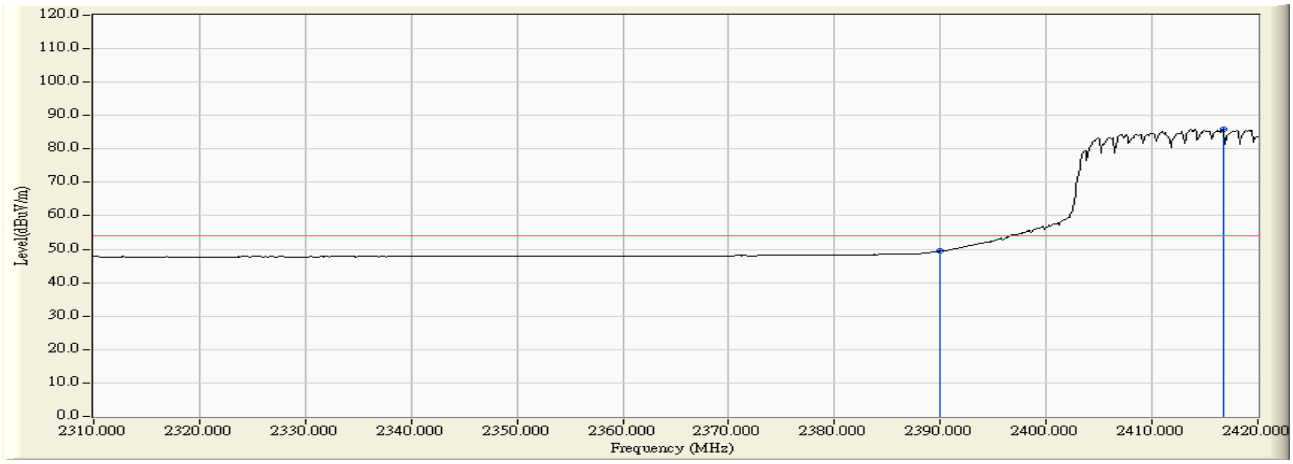
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	18.711	49.895	-4.075	53.970	AVERAGE
2	*	2415.050	31.193	55.487	86.680	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:51**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 2:Transmit at channel 2412MHZ by 802.11g**



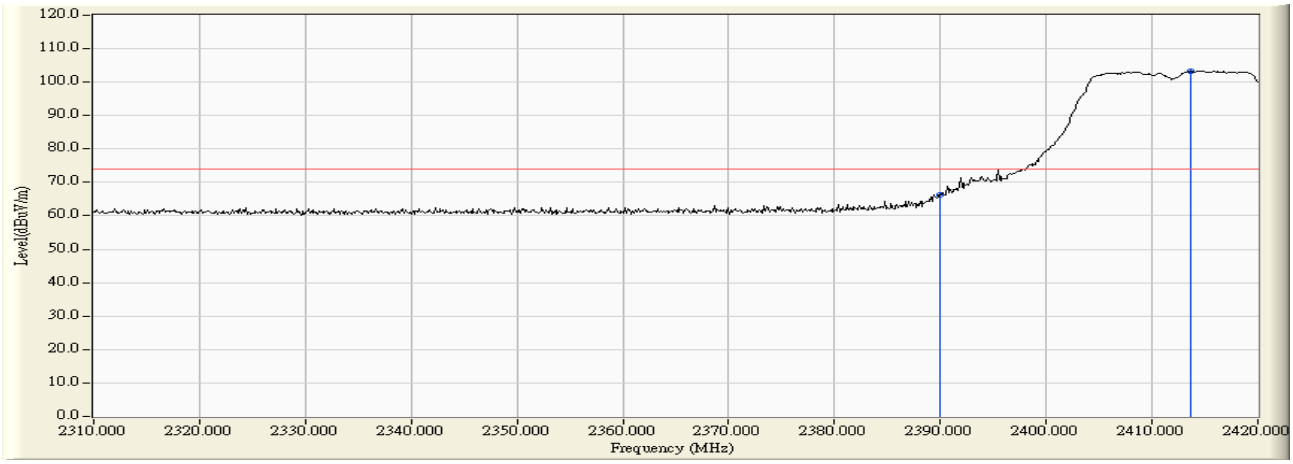
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	32.961	64.145	-9.825	73.970	PEAK
2	*	2415.930	31.194	70.424	101.618	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:51**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 2:Transmit at channel 2412MHZ by 802.11g**



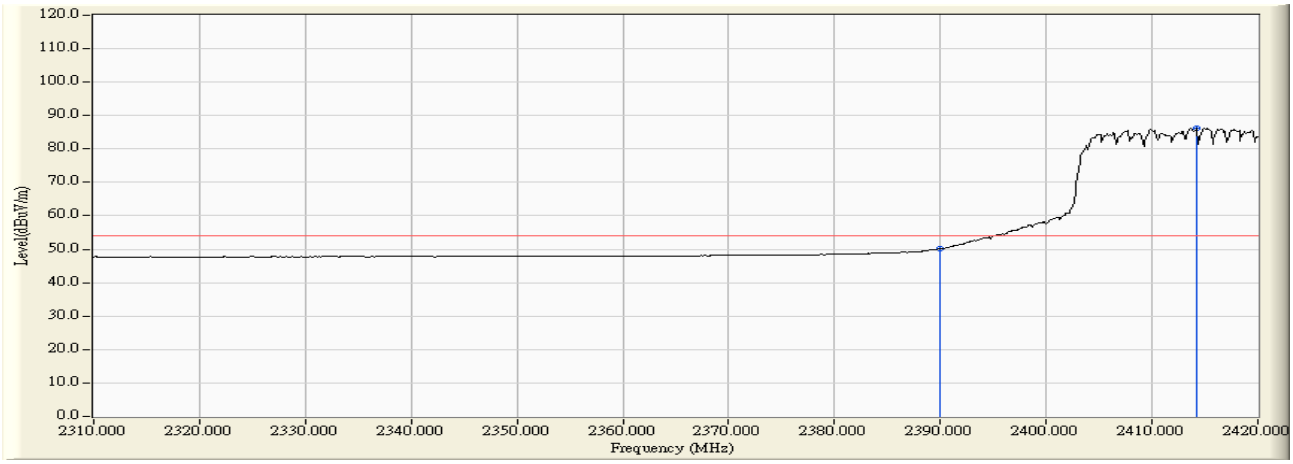
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	18.294	49.478	-4.492	53.970	AVERAGE
2	*	2416.810	31.195	54.848	86.042	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:55**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 3:Transmit at channel 2412MHZ by 802.11n(20MHz)**



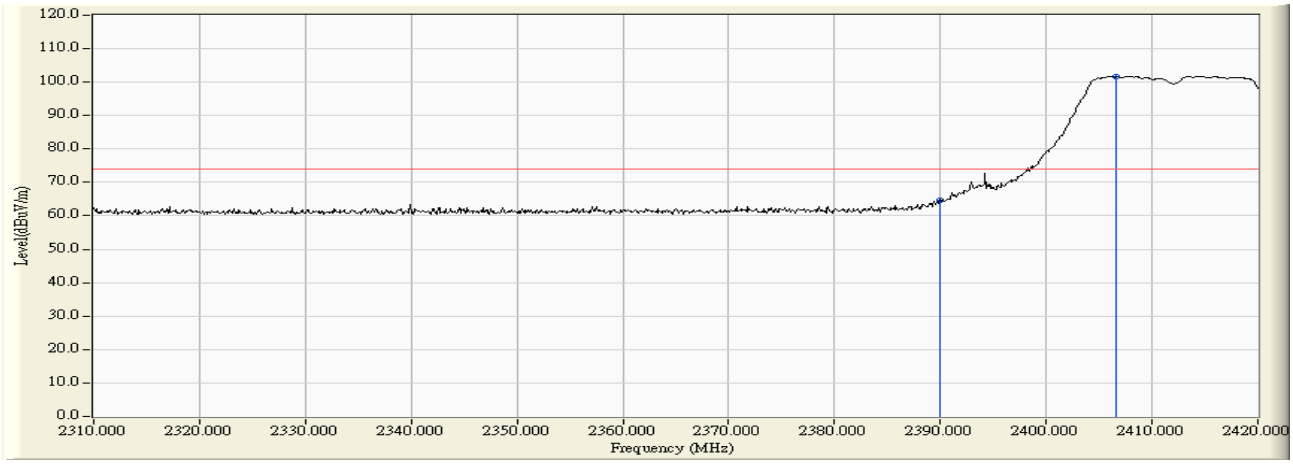
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	35.134	66.318	-7.652	73.970	PEAK
2	*	2413.620	31.191	72.073	103.265	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:55**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 3:Transmit at channel 2412MHZ by 802.11n(20MHz)**



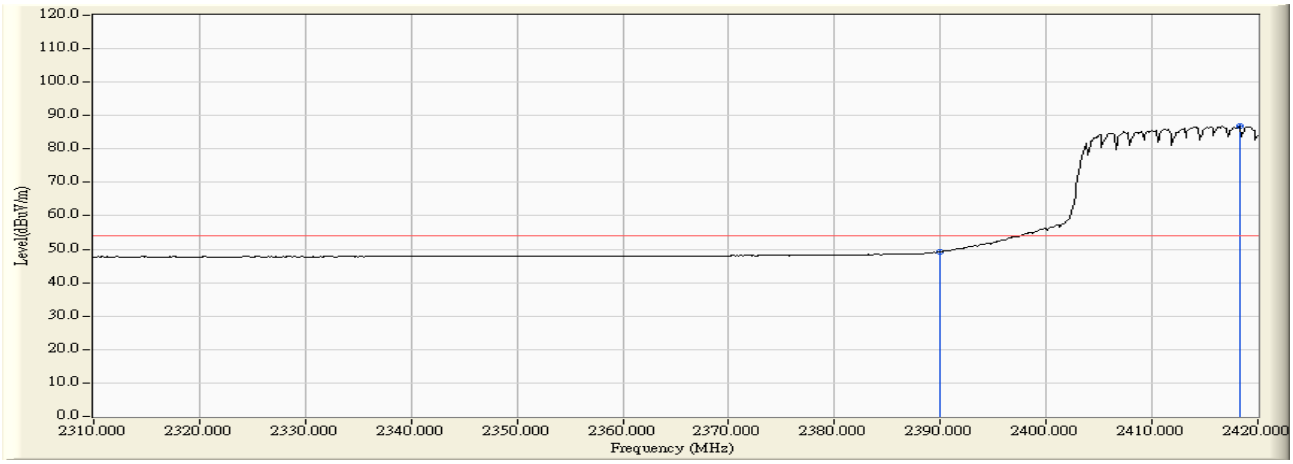
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	19.030	50.214	-3.756	53.970	AVERAGE
2	*	2414.280	31.192	54.996	86.188	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:58**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 3:Transmit at channel 2412MHZ by 802.11n(20MHz)**



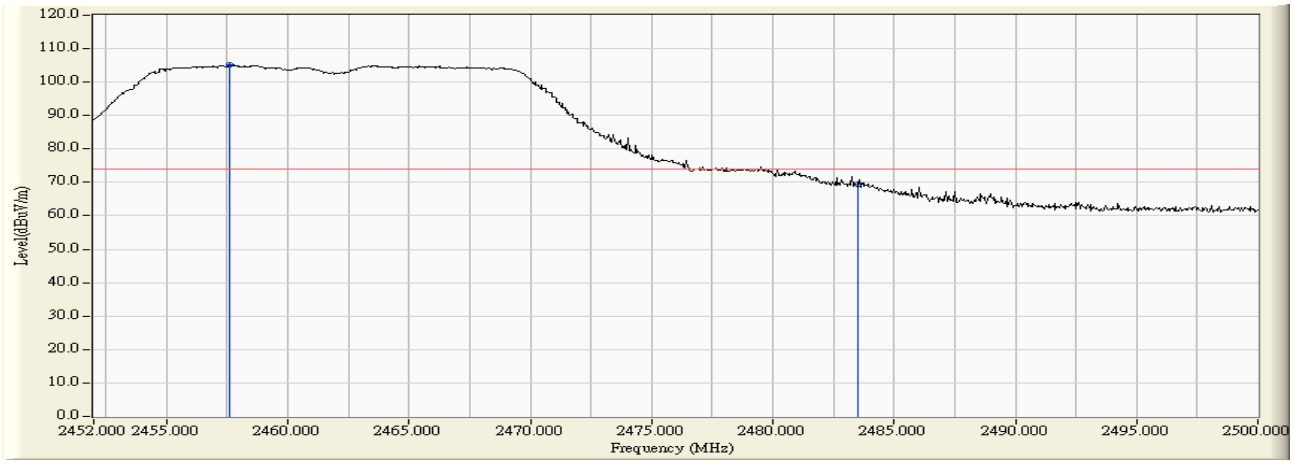
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	33.628	64.812	-9.158	73.970	PEAK
2	*	2406.580	31.187	70.550	101.737	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 09:58**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 3:Transmit at channel 2412MHZ by 802.11n(20MHz)**



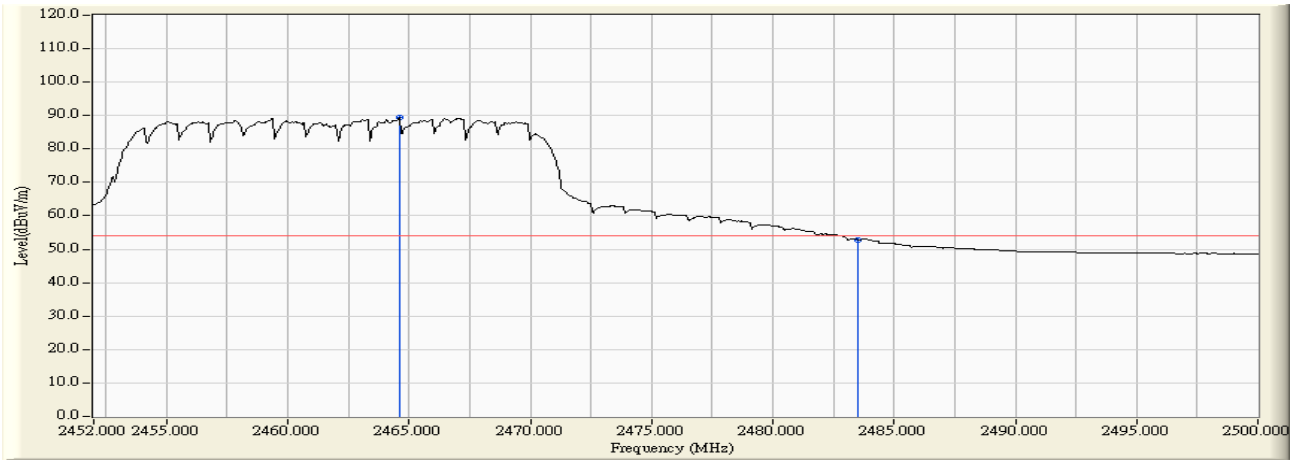
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	18.096	49.280	-4.690	53.970	AVERAGE
2	*	2418.240	31.196	55.783	86.979	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 10:01**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 3:Transmit at channel 2462MHZ by 802.11n(20MHz)**



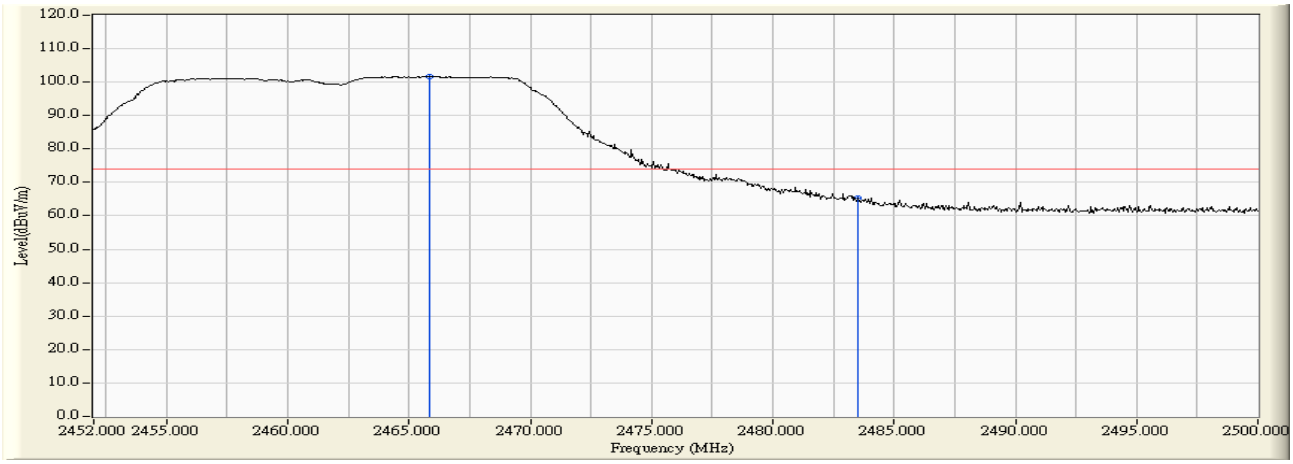
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2457.616	31.224	73.848	105.072	N/A	N/A	PEAK
2		2483.500	31.212	38.254	69.466	-4.504	73.970	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 10:01**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 3:Transmit at channel 2462MHZ by 802.11n(20MHz)**



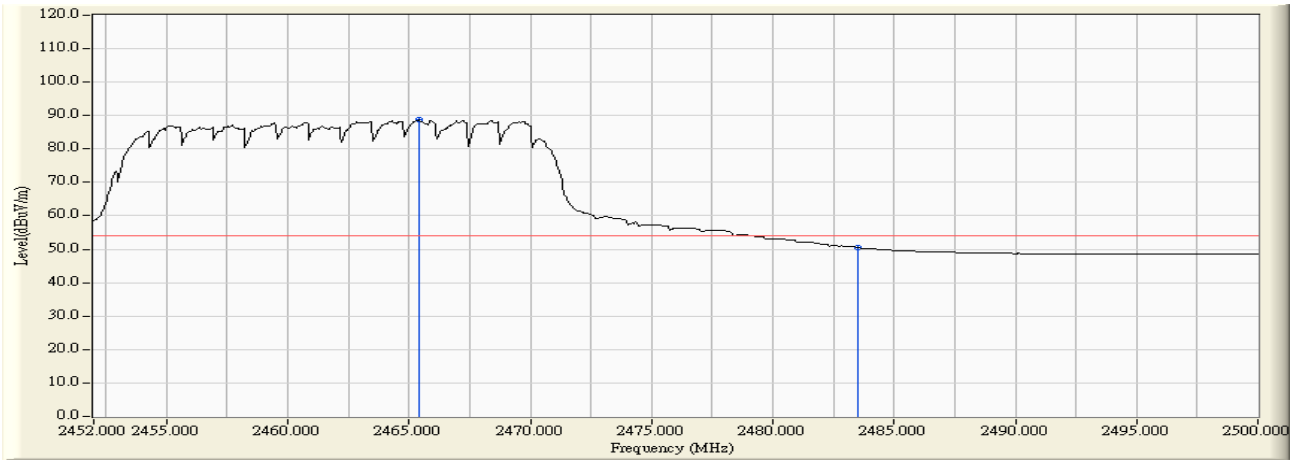
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.624	31.223	58.099	89.323	N/A	N/A	AVERAGE
2		2483.500	31.212	21.666	52.878	-1.092	53.970	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 10:04**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 3:Transmit at channel 2462MHZ by 802.11n(20MHz)**



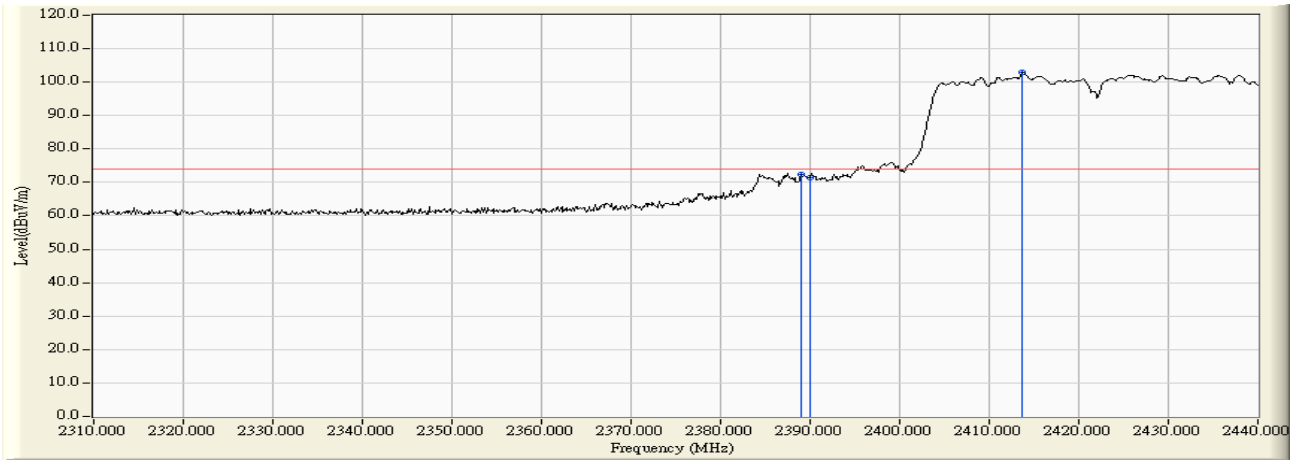
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2465.824	31.223	70.563	101.786	N/A	N/A	PEAK
2		2483.500	31.212	33.977	65.189	-8.781	73.970	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 10:05**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 3:Transmit at channel 2462MHZ by 802.11n(20MHz)**



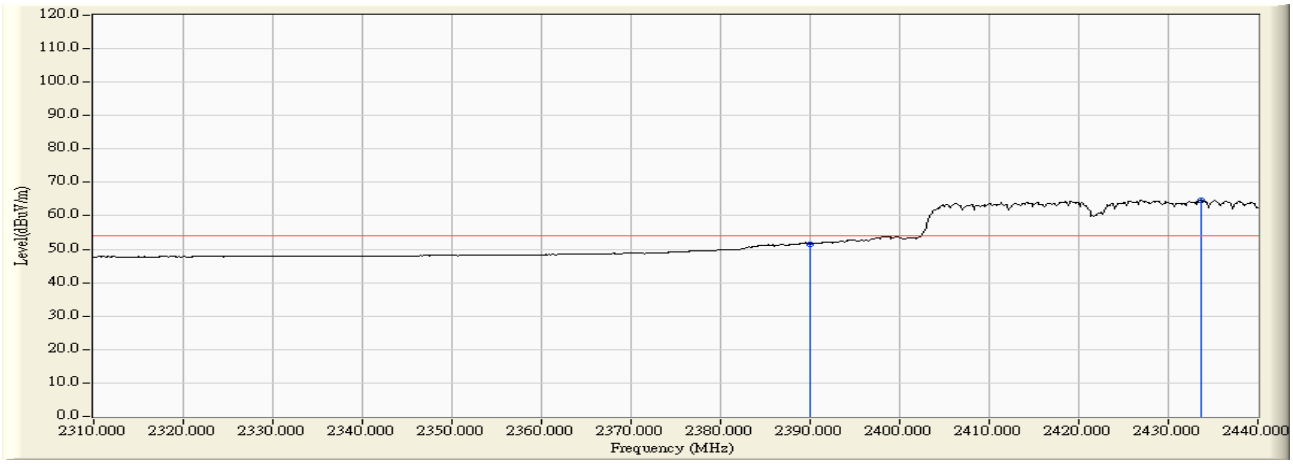
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2465.440	31.223	57.555	88.778	N/A	N/A	AVERAGE
2		2483.500	31.212	19.412	50.624	-3.346	53.970	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 11:55**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 4:Transmit at channel 2422MHz by 802.11n(40MHz)**



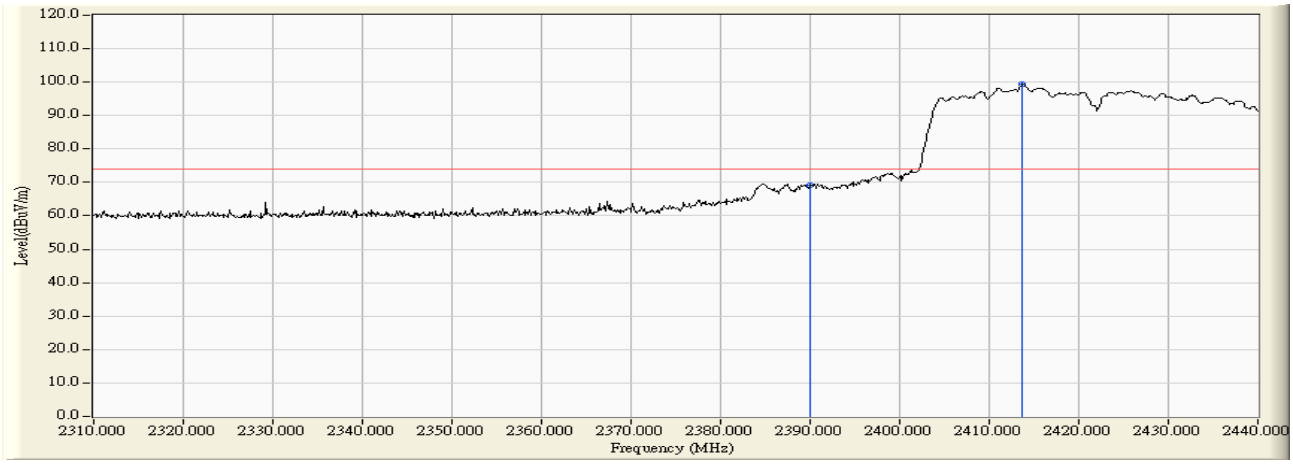
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2389.040	31.186	41.081	72.266	-1.704	73.970	PEAK
2		2390.000	31.184	40.305	71.489	-2.481	73.970	PEAK
3	*	2413.740	31.191	71.622	102.814	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 11:55**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 4:Transmit at channel 2422MHz by 802.11n(40MHz)**



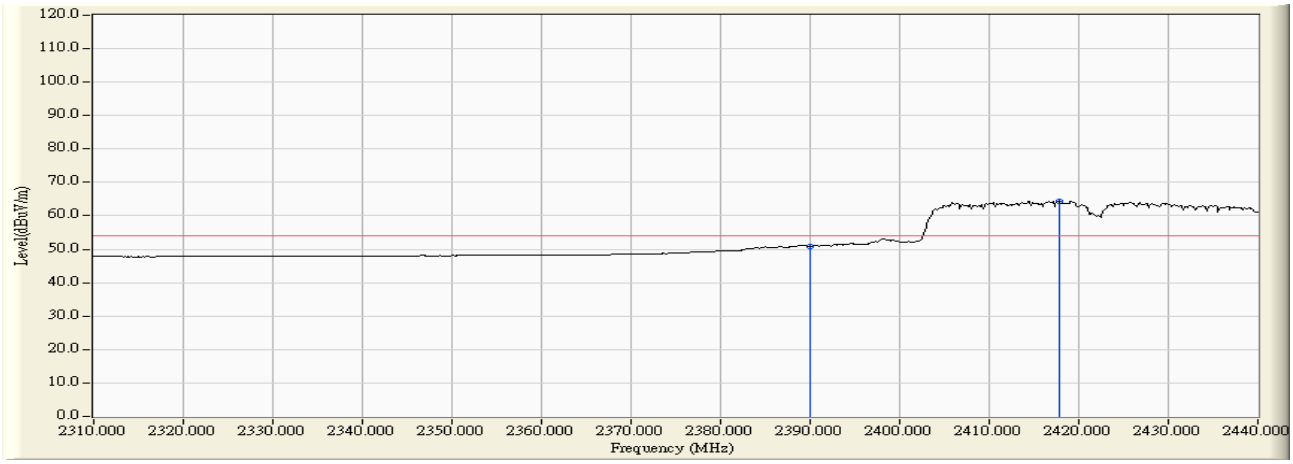
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	20.418	51.602	-2.368	53.970	AVERAGE
2	*	2433.630	31.209	33.535	64.744	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 11:52**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 4:Transmit at channel 2422MHz by 802.11n(40MHz)**



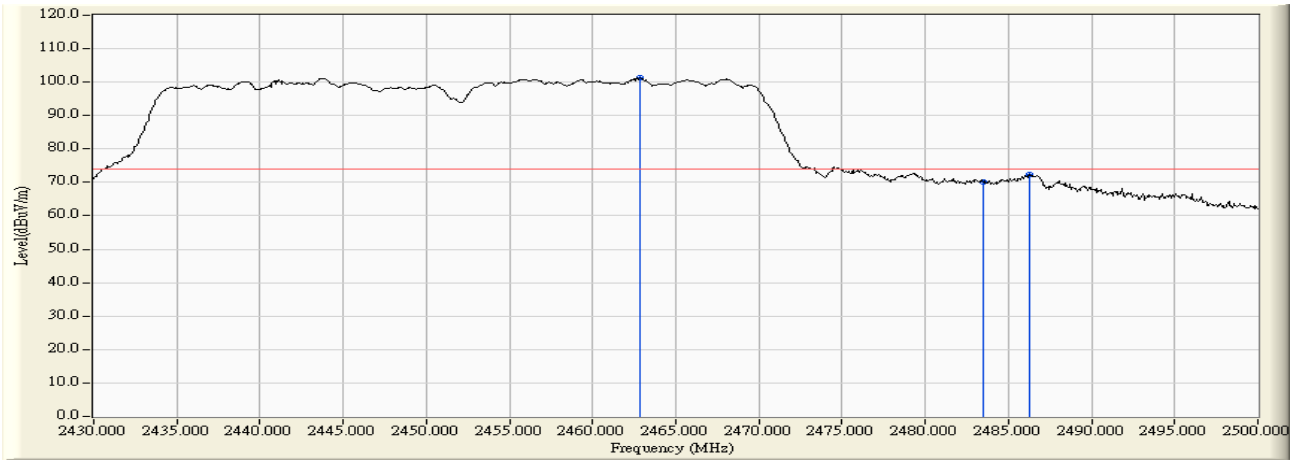
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	38.062	69.246	-4.724	73.970	PEAK
2	*	2413.740	31.191	68.125	99.317	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 11:53**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 4:Transmit at channel 2422MHz by 802.11n(40MHz)**



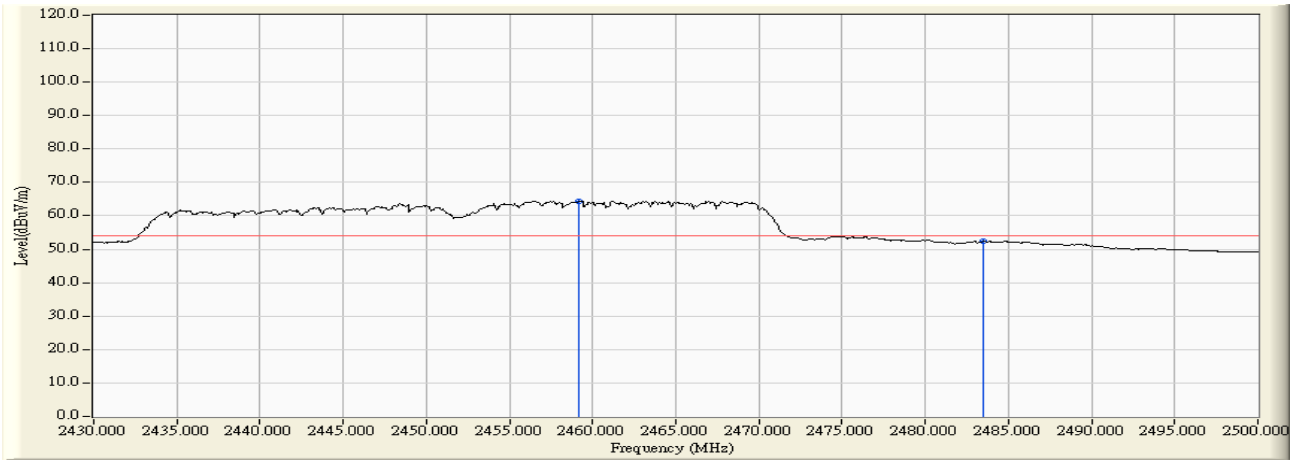
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	19.782	50.966	-3.004	53.970	AVERAGE
2	*	2417.900	31.195	33.214	64.409	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 11:58**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 4:Transmit at channel 2452MHz by 802.11n(40MHz)**



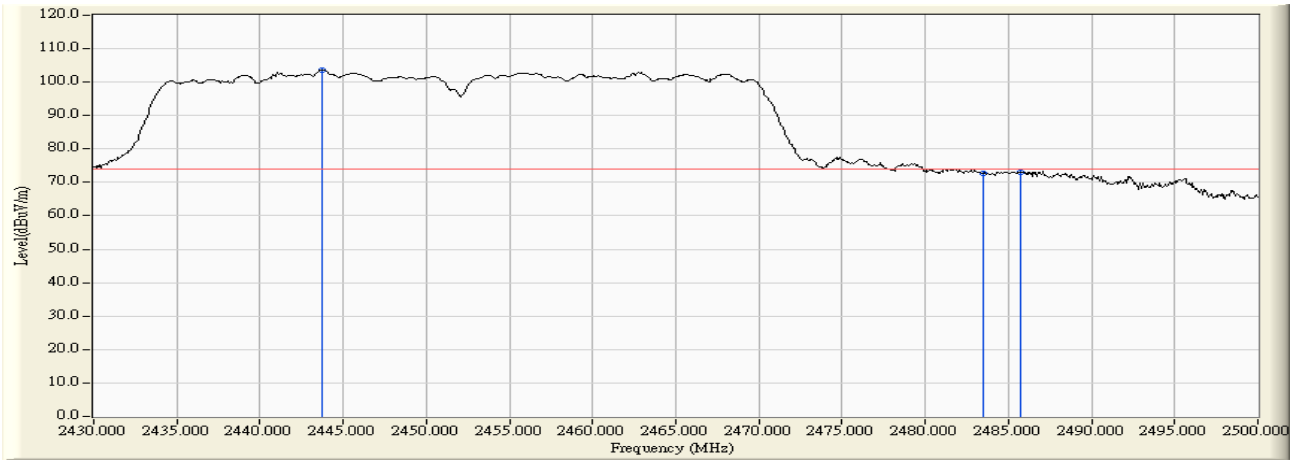
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2462.830	31.225	70.139	101.364	N/A	N/A	PEAK
2		2483.500	31.212	38.916	70.128	-3.842	73.970	PEAK
3		2486.280	31.211	41.192	72.402	-1.568	73.970	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 11:59**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 4:Transmit at channel 2452MHz by 802.11n(40MHz)**



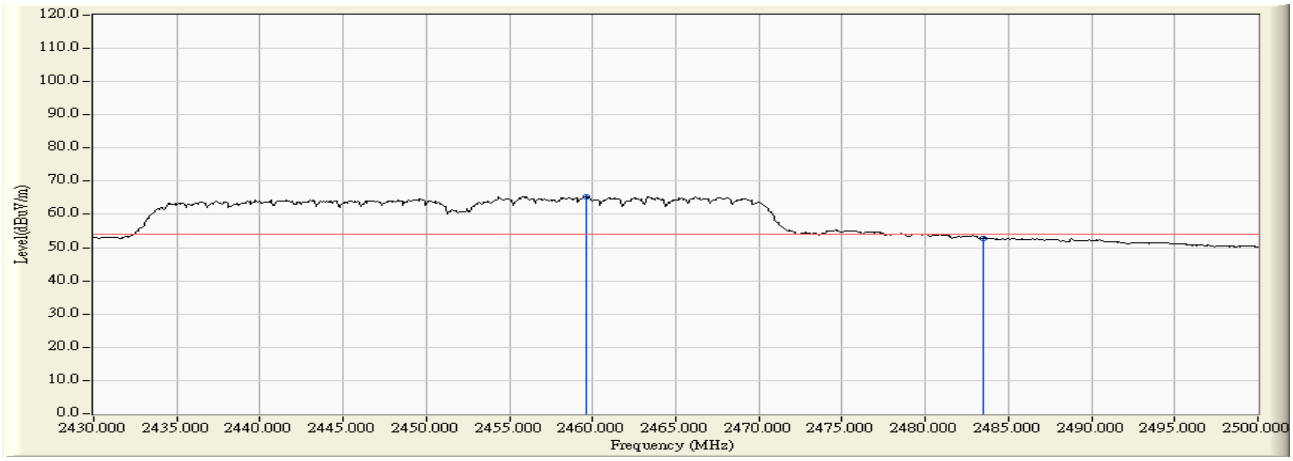
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2459.190	31.224	33.255	64.479	N/A	N/A	AVERAGE
2		2483.500	31.212	21.127	52.339	-1.631	53.970	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 11:48**
Limit : FCC_SPartB_15.109_03M_PK	**Margin : 0**
EUT : Home Gateway	**Probe : 9120D_496(1-18GHz) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 4:Transmit at channel 2452MHz by 802.11n(40MHz)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2443.720	31.218	72.496	103.713	N/A	N/A	PEAK
2		2483.500	31.212	41.457	72.669	-1.301	73.970	PEAK
3		2485.720	31.211	41.951	73.162	-0.808	73.970	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	**Time : 2009/06/26 - 11:50**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 0**
Probe : 9120D_499(1-18GHz) - HORIZONTAL	**Power : AC 120V/50Hz**
EUT : Home Gateway	**Note : Mode 4:Transmit at channel 2452MHz by 802.11n(40MHz)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2459.610	31.224	34.144	65.368	11.398	53.970	AVERAGE
2		2483.500	31.212	21.450	52.662	N/A	N/A	AVERAGE

7. Operation Frequency Range of 20dB Bandwidth

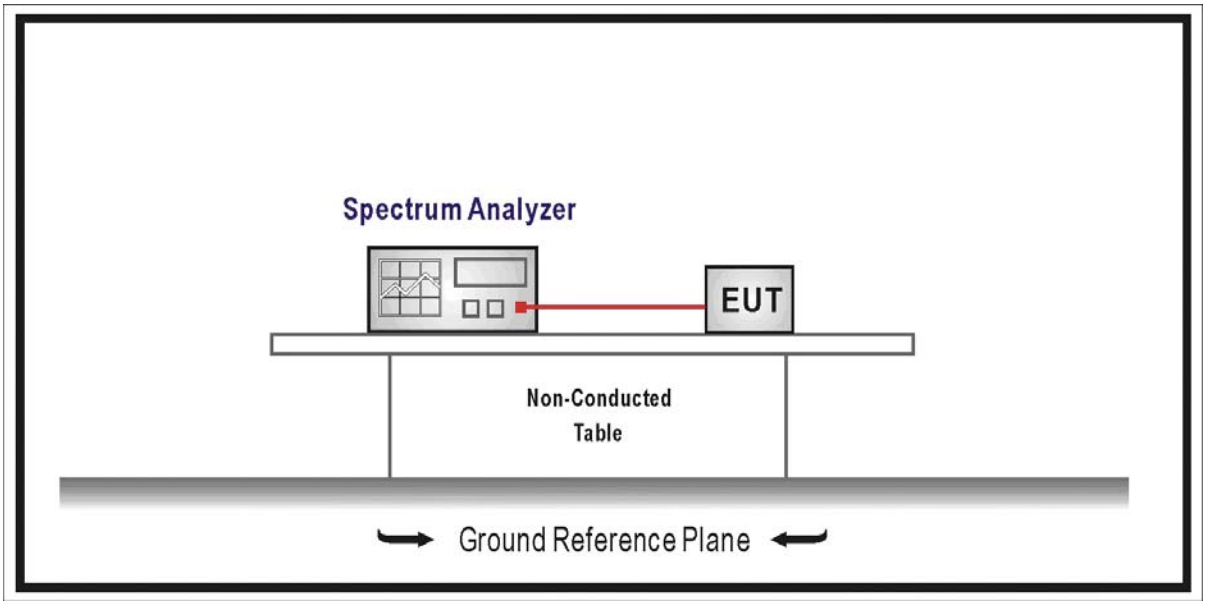
7.1. Test Equipment

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	SUCOFLEX 104	AC6-RF1	2009.05.25
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2009.03.31

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.

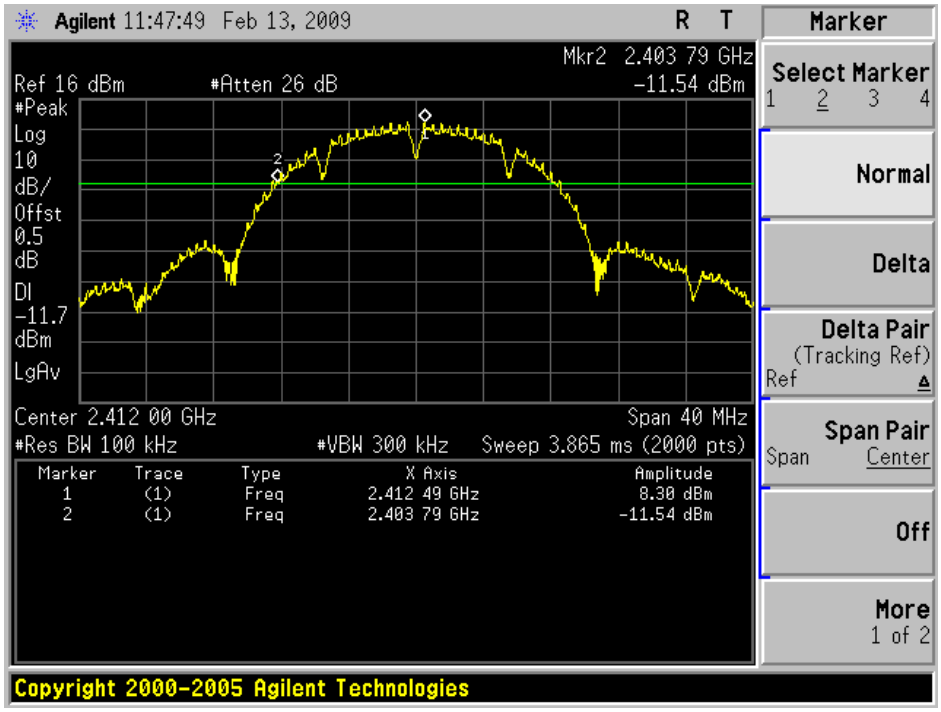
7.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

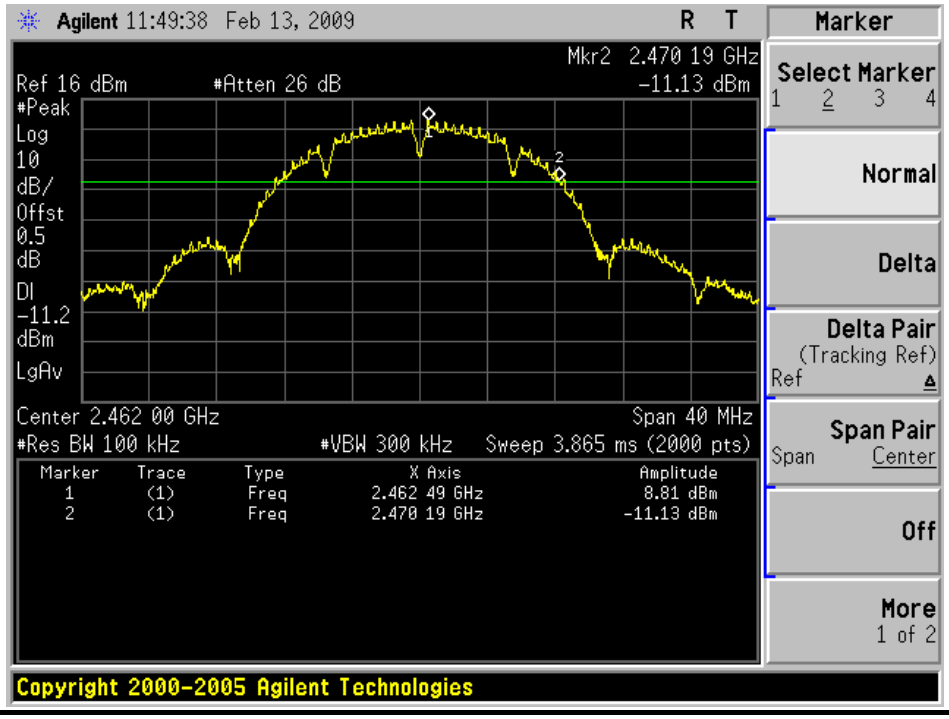
7.6. Test Result

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

Channel 01 (2412MHz)

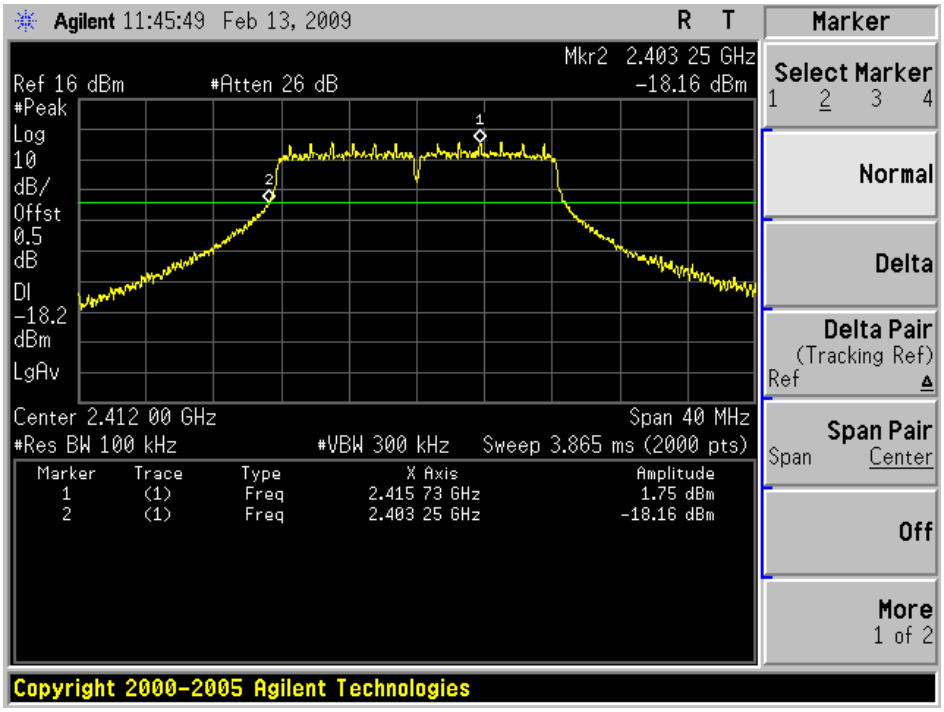


Channel 11 (2462MHz)

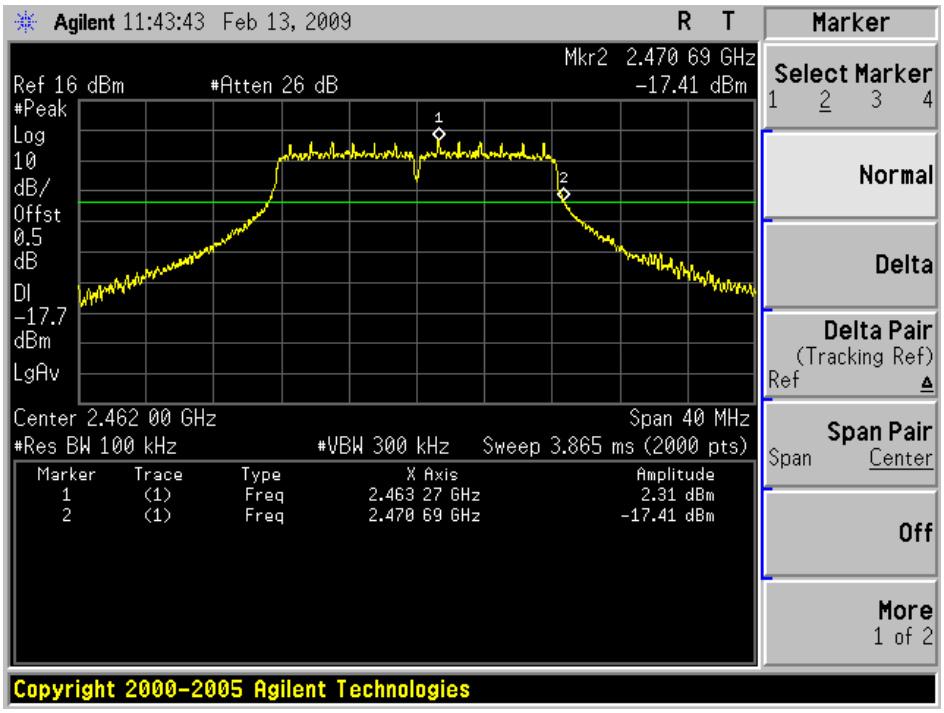


Product	:	Home Gateway
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit at 802.11g

Channel 01 (2412MHz)

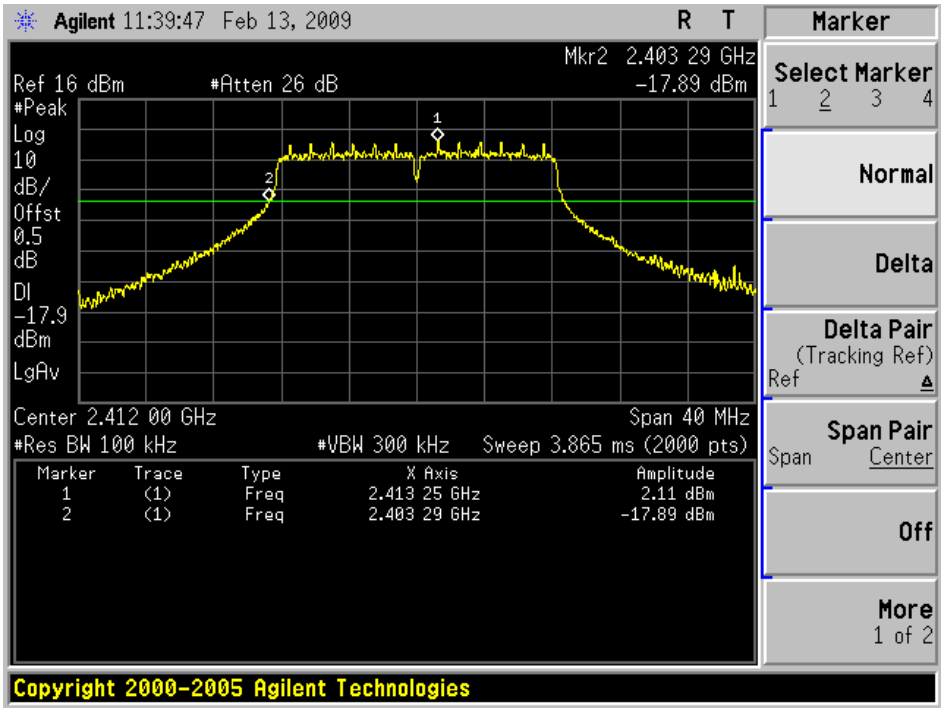


Channel 11 (2462MHz)

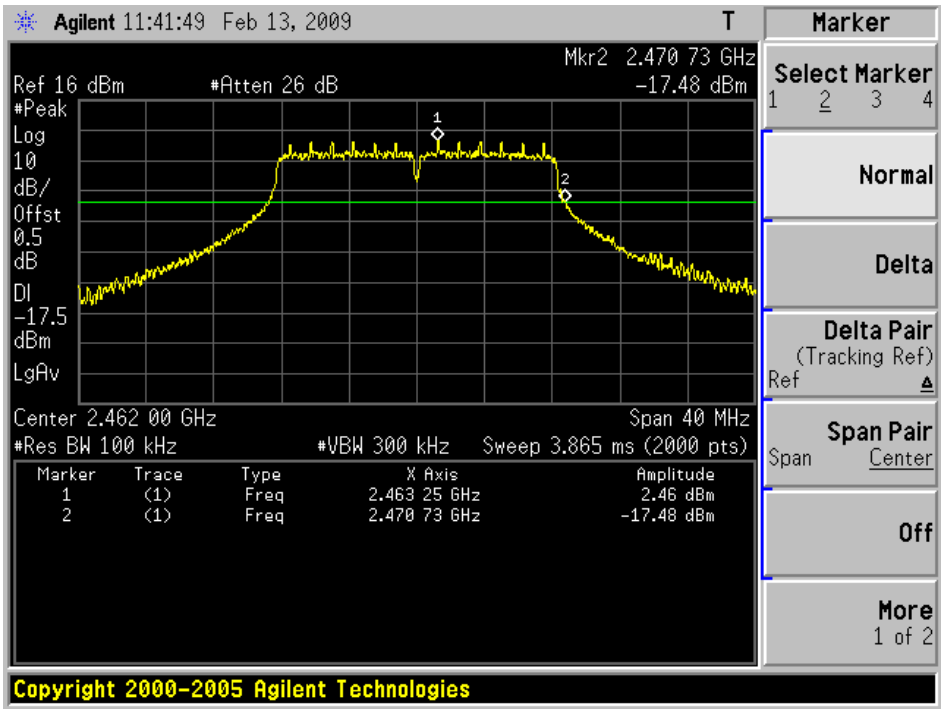


Product	:	Home Gateway
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit at 802.11n (20MHz)

Channel 01 (2412MHz)

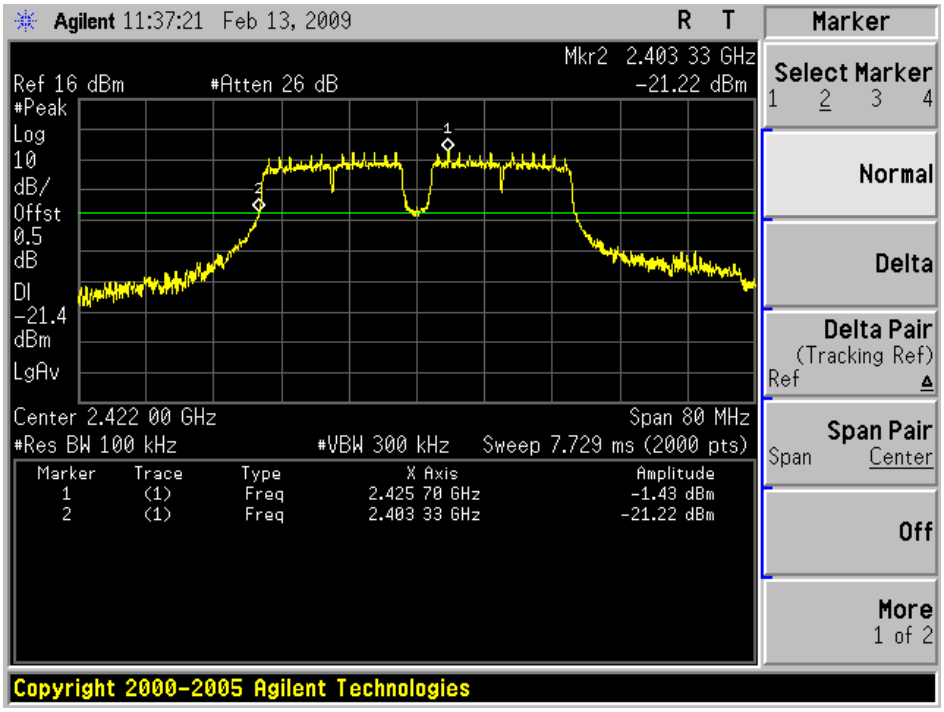


Channel 11 (2462MHz)

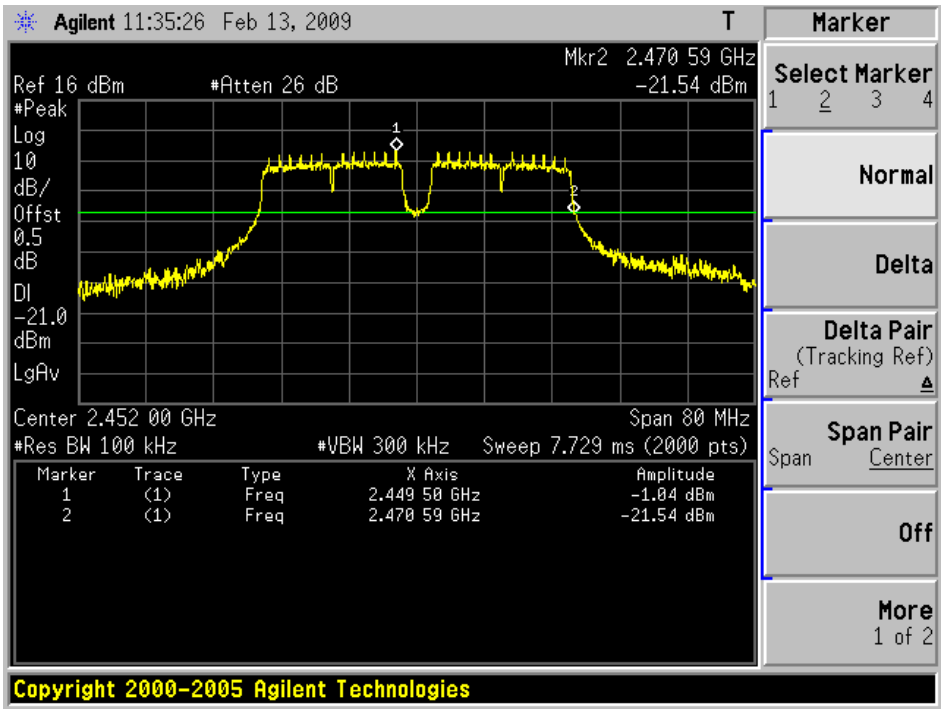


Product	:	Home Gateway
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit at 802.11n (40MHz)

Channel 03 (2422MHz)



Channel 09 (2452MHz)



8. Occupied Bandwidth

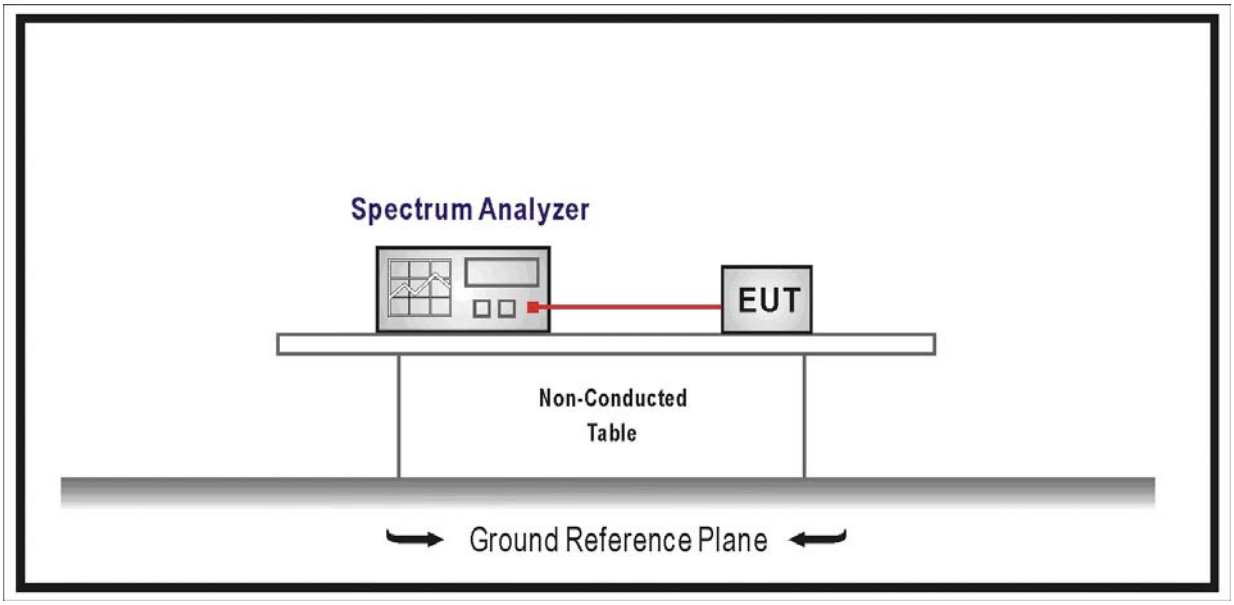
8.1. Test Equipment

Occupied Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Coaxial Cable	Huber+Suhner	SUCOFLEX 104	AC6-RF1	2009.05.25
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	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

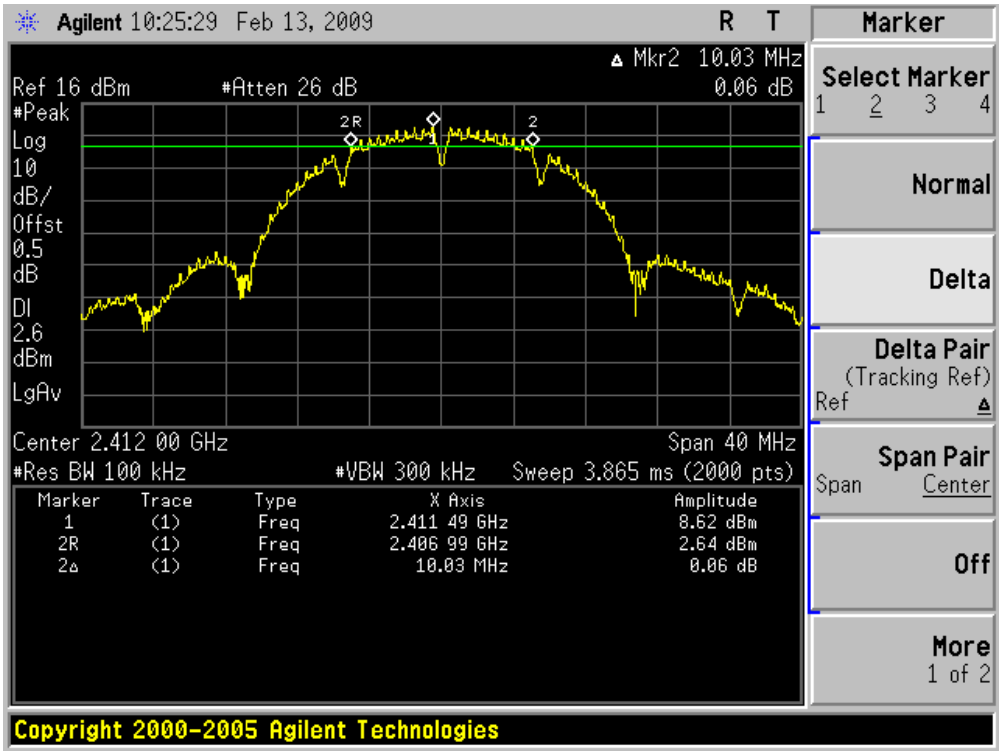
The measurement uncertainty is defined as ± 1 kHz

8.6. Test Result

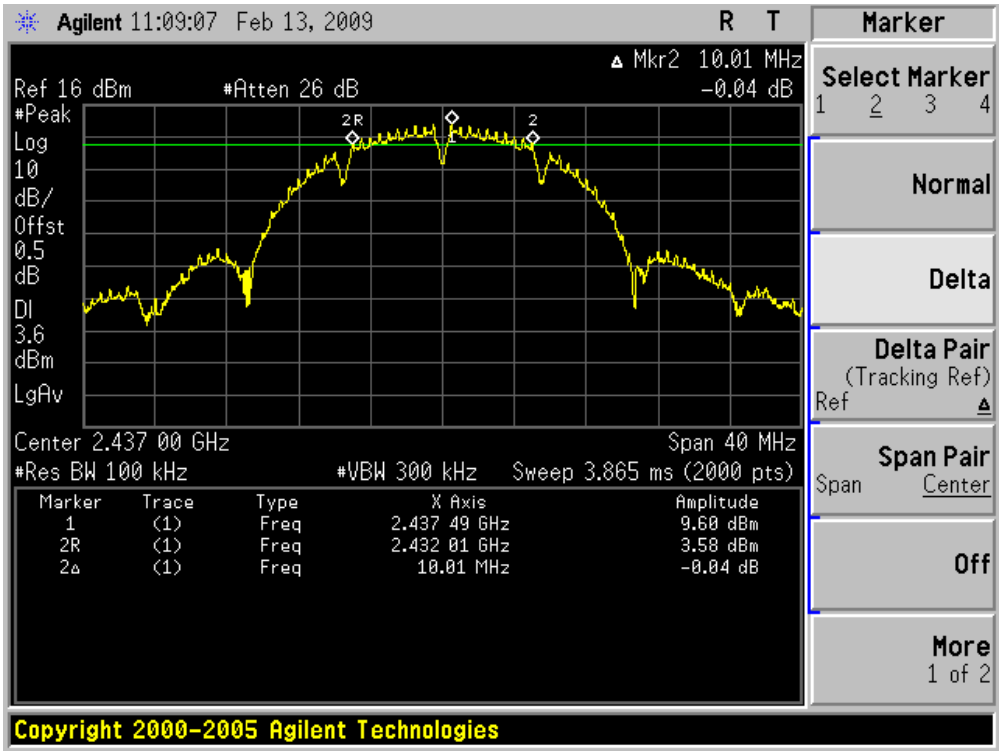
Product	:	Home Gateway
Test Item	:	Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit at 802.11b

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	10030	500	Pass
06	2437	10010	500	Pass
11	2462	9960	500	Pass

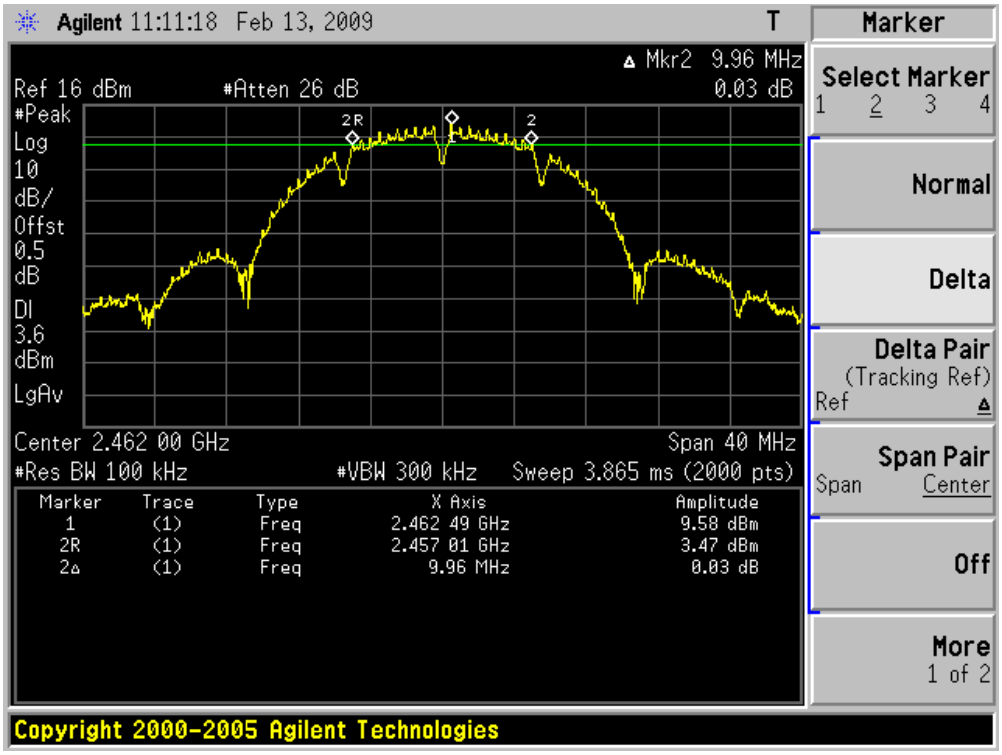
Channel 01 (2412MHz)



Channel 06 (2437MHz)



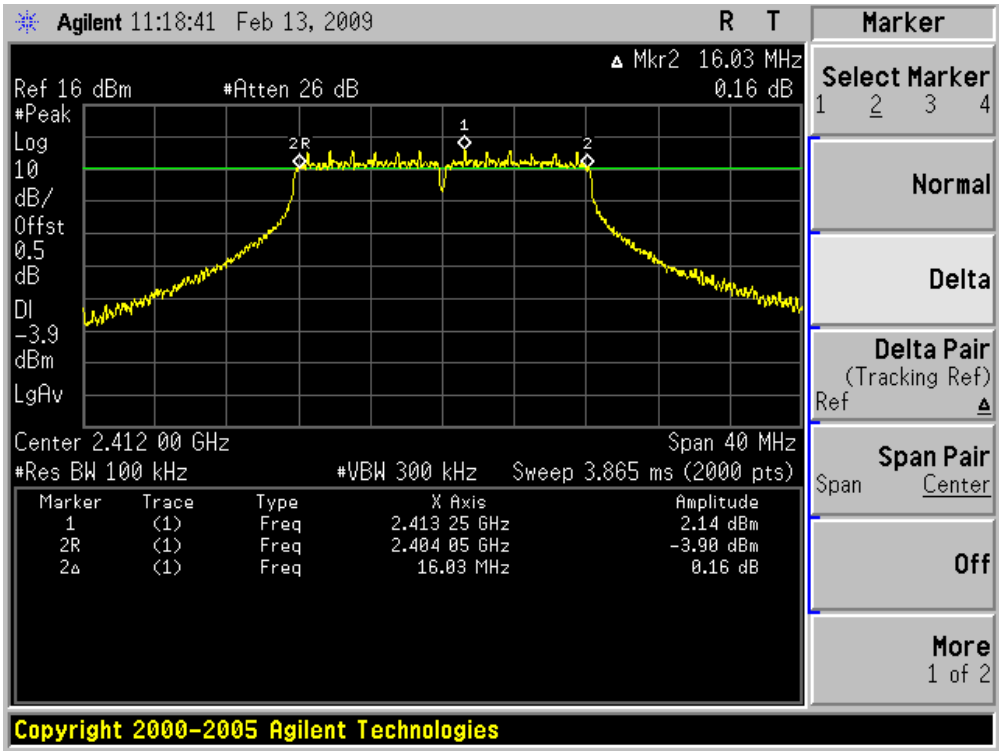
Channel 11 (2462MHz)



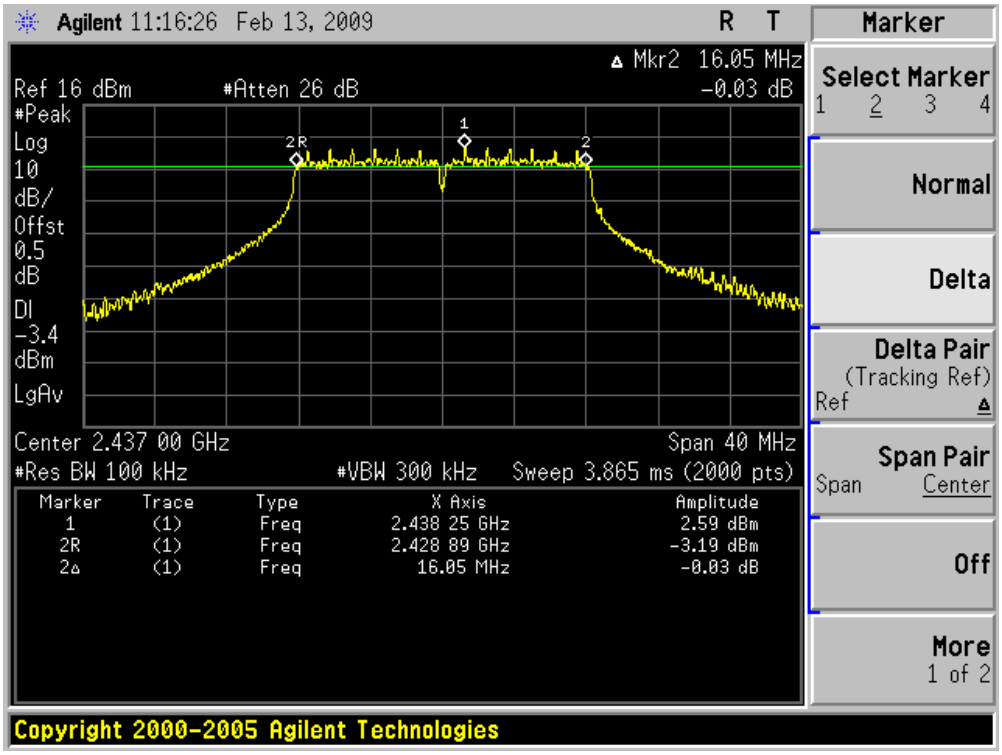
Product	:	Home Gateway
Test Item	:	Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit at 802.11g

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	16030	500	Pass
06	2437	16050	500	Pass
11	2462	16250	500	Pass

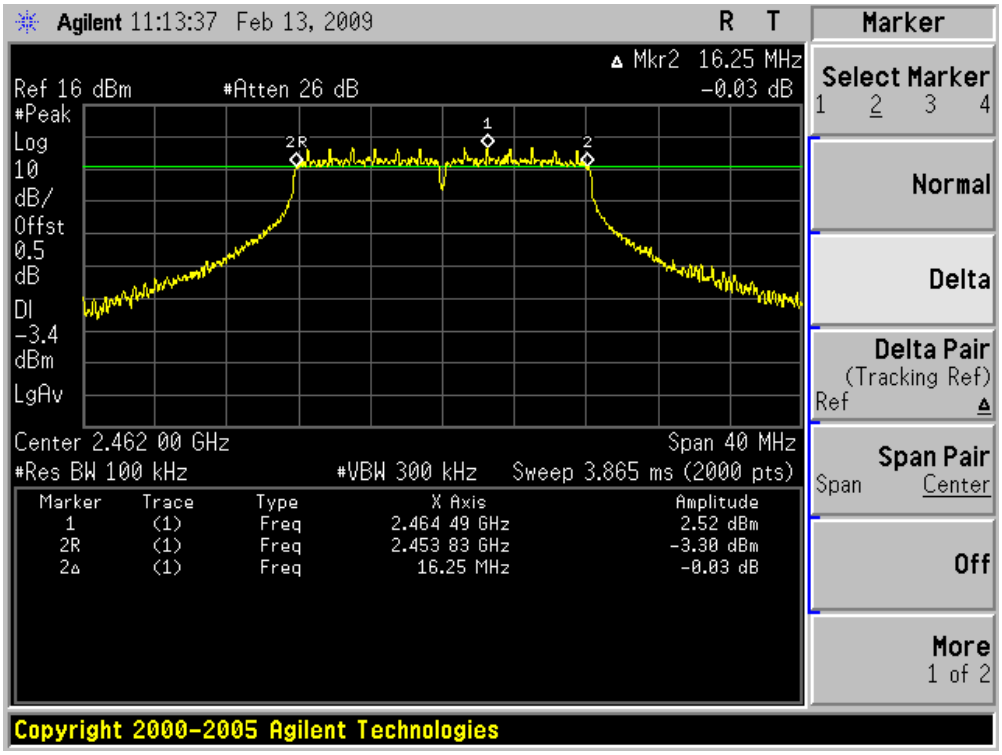
Channel 01 (2412MHz)



Channel 06 (2437MHz)



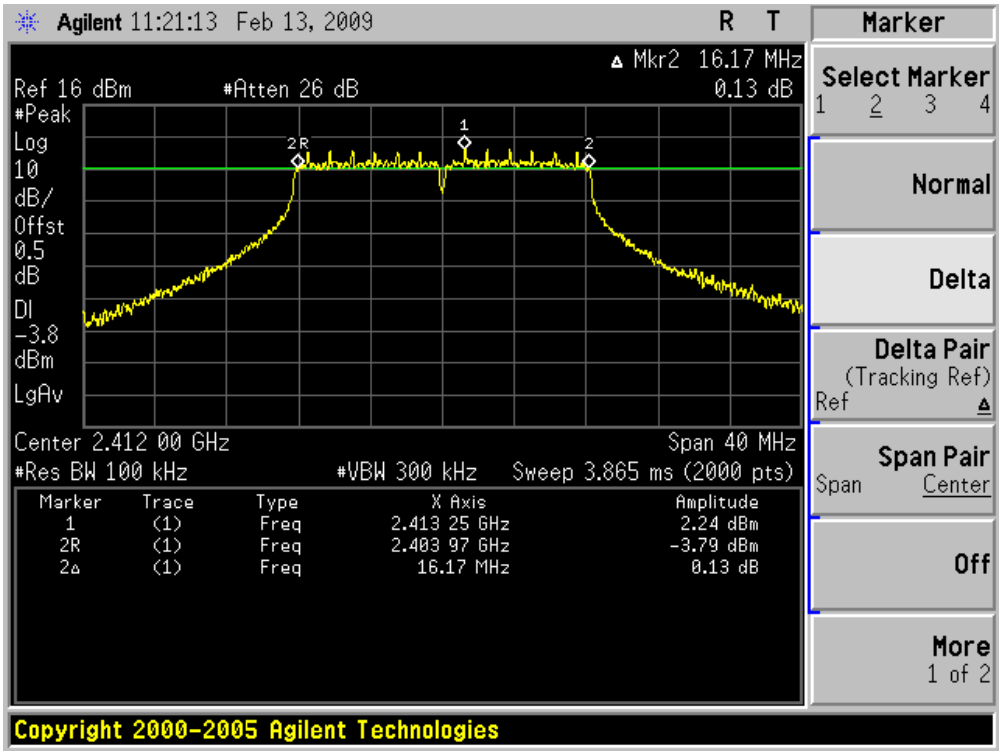
Channel 11 (2462MHz)



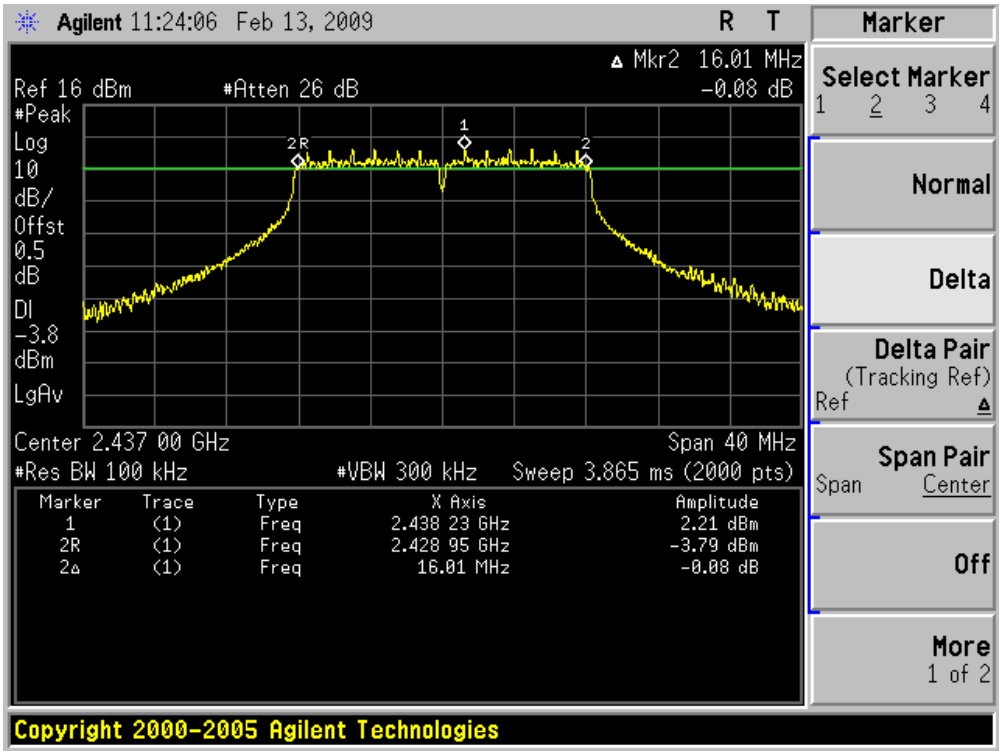
Product	:	Home Gateway
Test Item	:	Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit at 802.11n (20MHz)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	16170	500	Pass
06	2437	16010	500	Pass
11	2462	16170	500	Pass

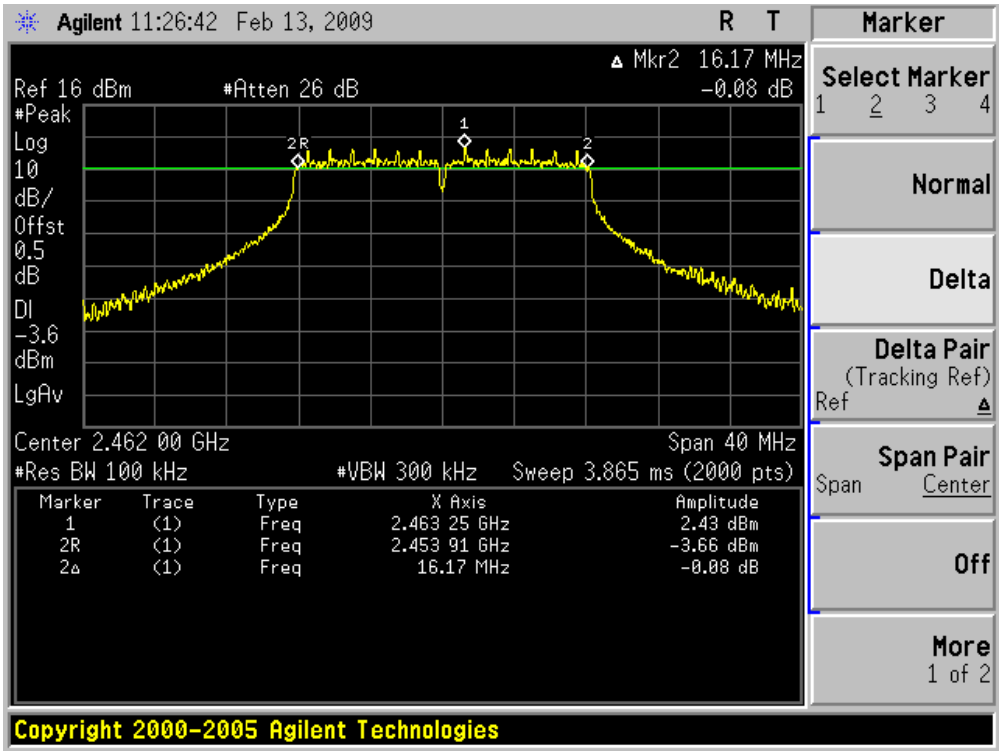
Channel 01 (2412MHz)



Channel 06 (2437MHz)



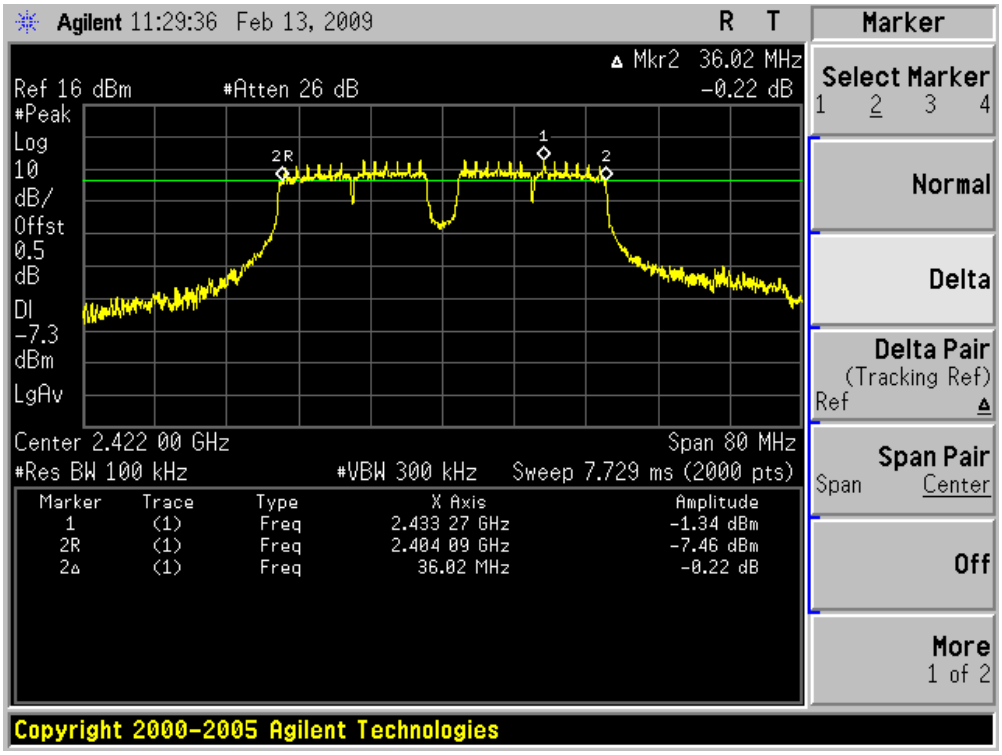
Channel 11 (2462MHz)



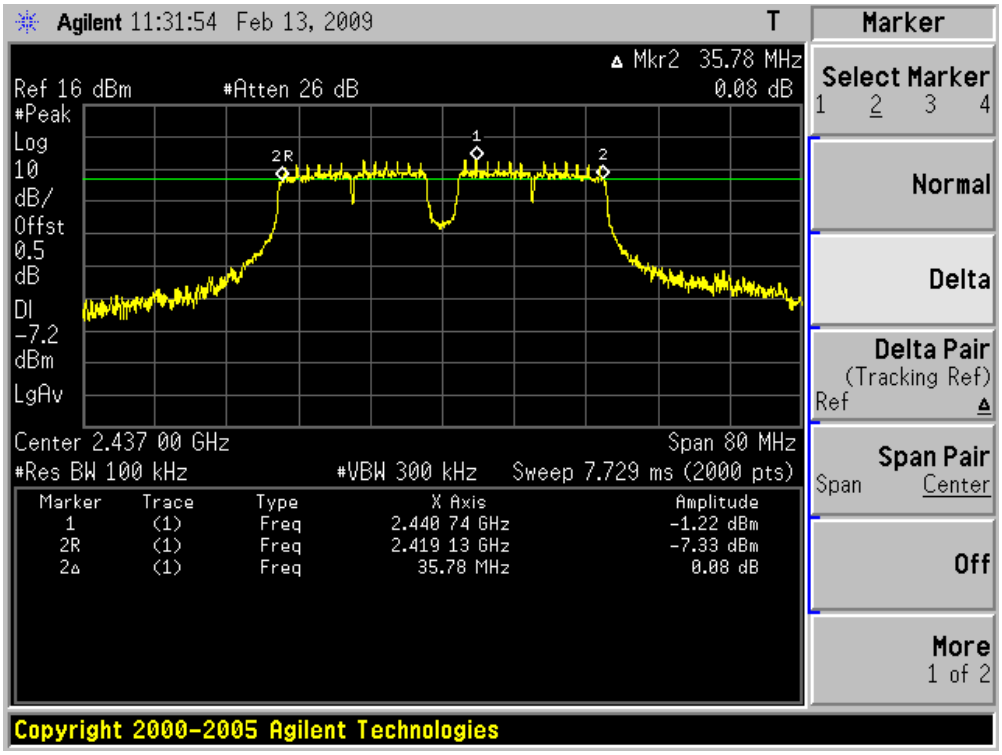
Product	:	Home Gateway
Test Item	:	Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit at 802.11n (40MHz)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
03	2422	36020	500	Pass
06	2437	35780	500	Pass
09	2452	35620	500	Pass

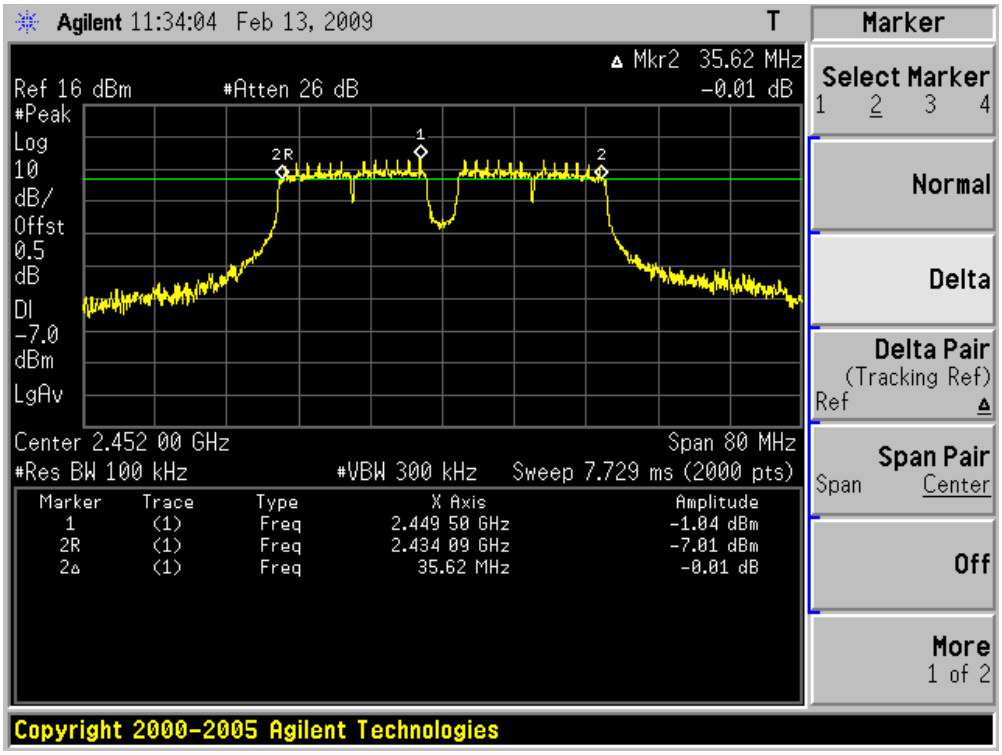
Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



9. Power Output

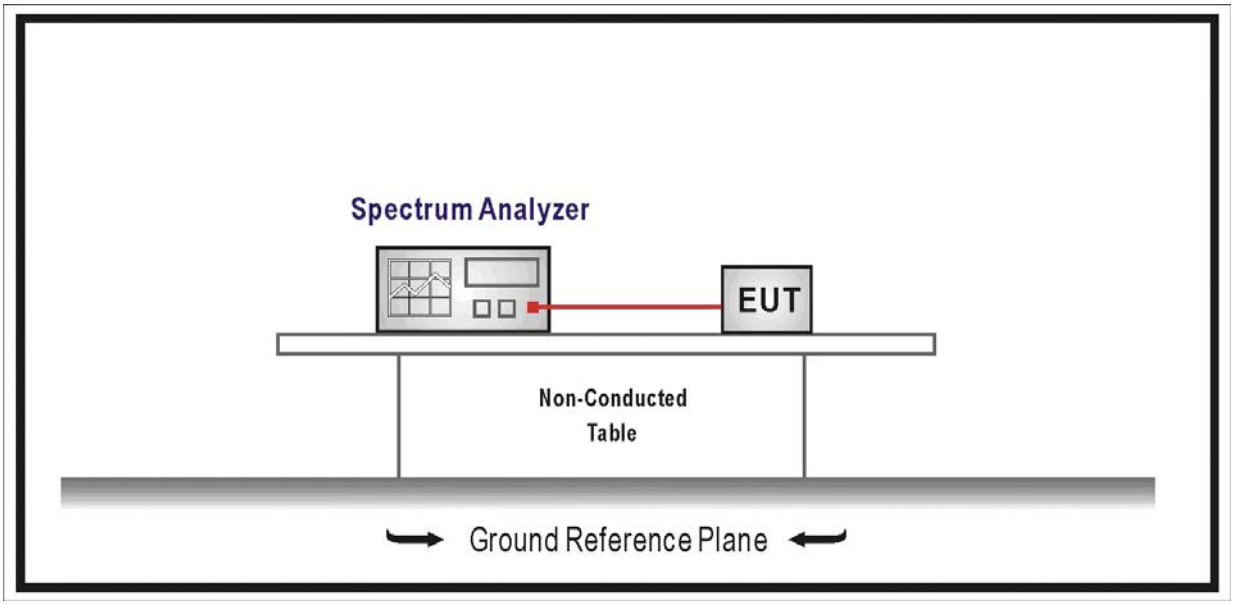
9.1. Test Equipment

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	SUCOFLEX 104	AC6-RF1	2009.05.25
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2009.03.31

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 at 802.11b

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Cable Loss (dBm)	Total Power (dBm)	Limit (dBm)	Result
1	2412	19.22	0.5	19.72	30.00	Pass
6	2437	19.59	0.5	20.09	30.00	Pass
11	2462	20.03	0.5	20.53	30.00	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 at 802.11g

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Cable Loss (dBm)	Total Power (dBm)	Limit (dBm)	Result
1	2412	18.96	0.5	19.46	30.00	Pass
6	2437	19.39	0.5	19.89	30.00	Pass
11	2462	19.70	0.5	20.20	30.00	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 at 802.11n(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Cable Loss (dBm)	Total Power (dBm)	Limit (dBm)	Result
1	2412	18.98	0.5	19.48	30.00	Pass
6	2437	19.43	0.5	19.93	30.00	Pass
11	2462	19.78	0.5	20.28	30.00	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 at 802.11n(40MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Cable Loss (dBm)	Total Power (dBm)	Limit (dBm)	Result
3	2422	18.42	0.5	18.92	30.00	Pass
6	2437	18.56	0.5	19.06	30.00	Pass
9	2452	18.92	0.5	19.42	30.00	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

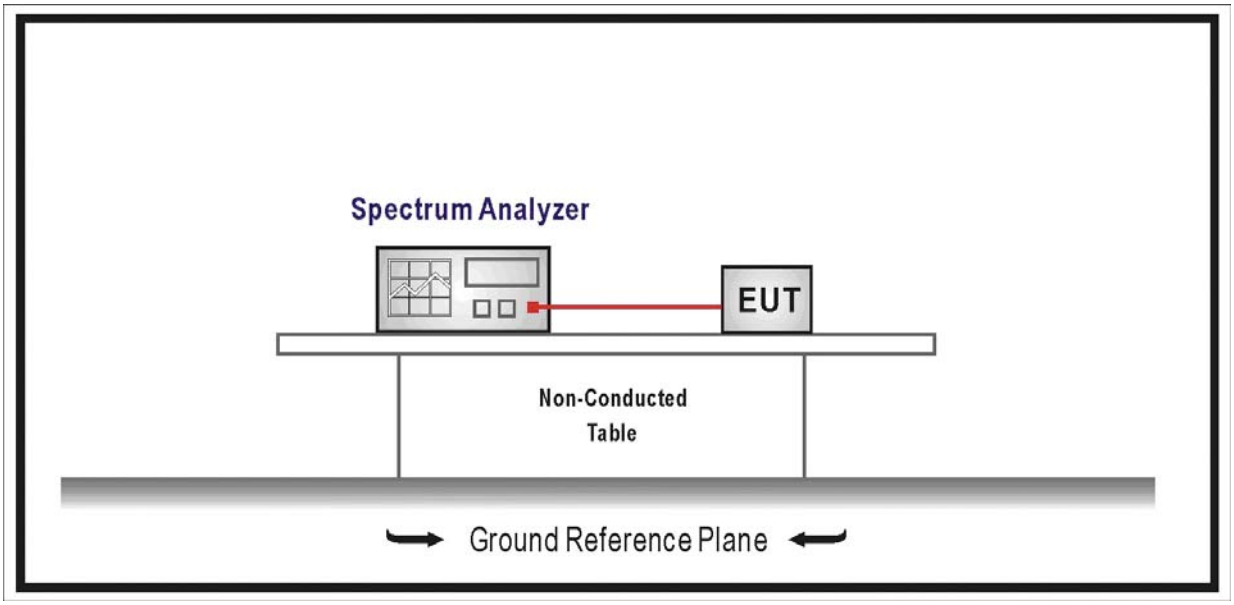
10.1. Test Equipment

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	SUCOFLEX 104	AC6-RF1	2009.05.25
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	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≧ 9 kHz, Sweep time=100s, Set detector=Peak detector.

10.5. Uncertainty

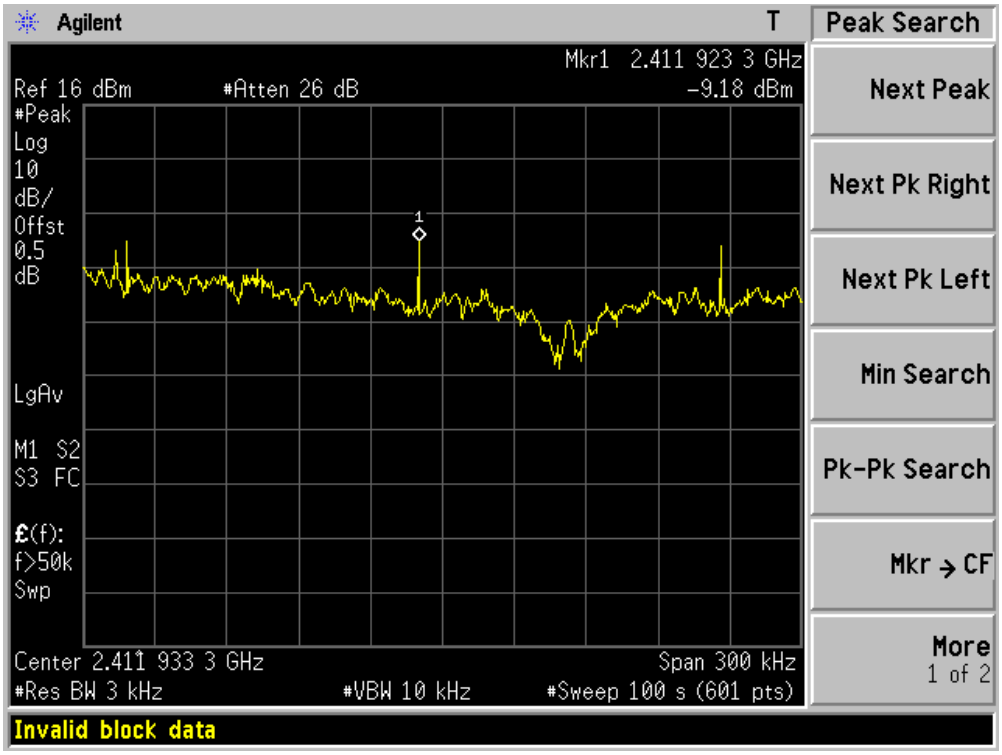
The measurement uncertainty is defined as ± 1.27 dB

10.6. Test Result

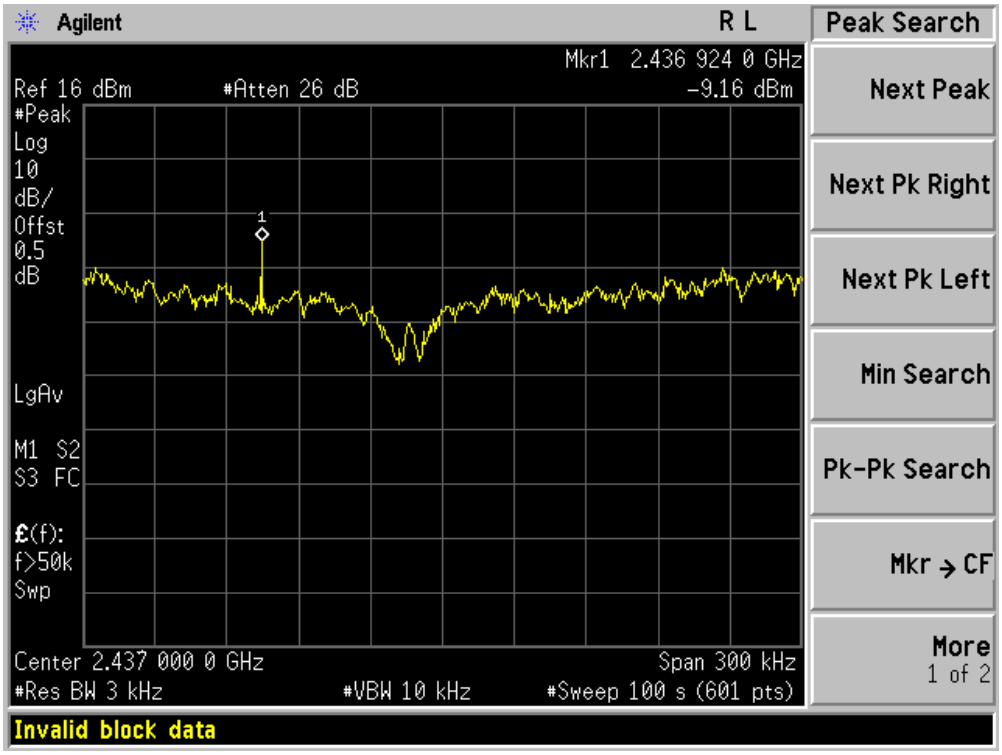
Product	:	Home Gateway
Test Item	:	Power Spectral Density
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit at 802.11b

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-9.18	8	Pass
06	2437	-9.16	8	Pass
11	2462	-7.70	8	Pass

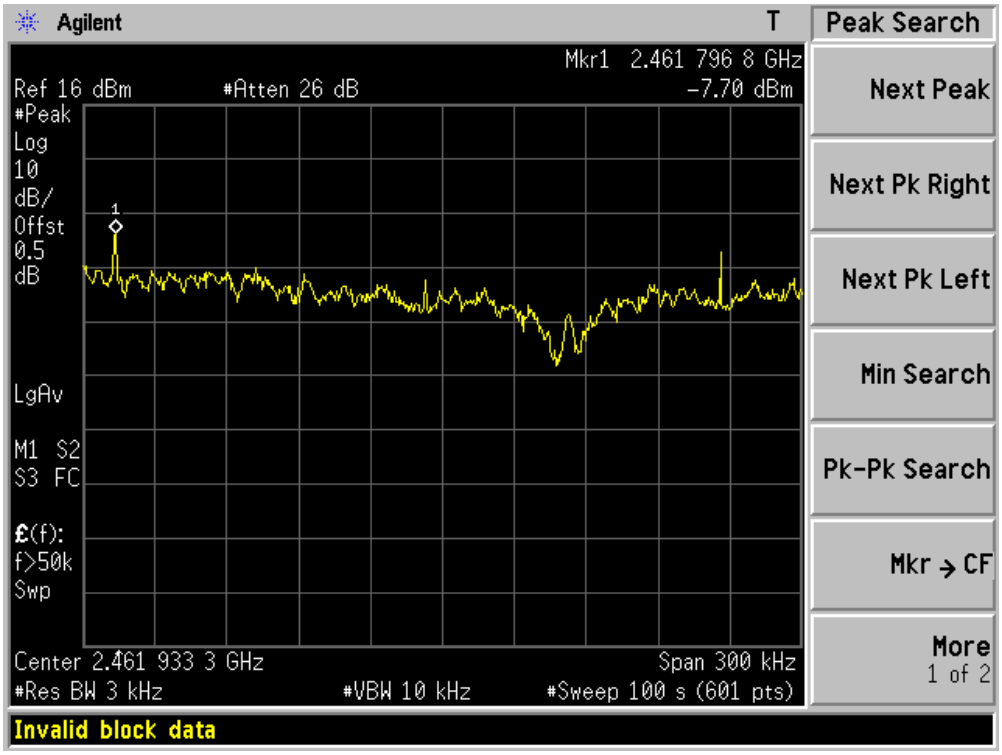
Channel 01 (2412MHz)



Channel 06 (2437MHz)



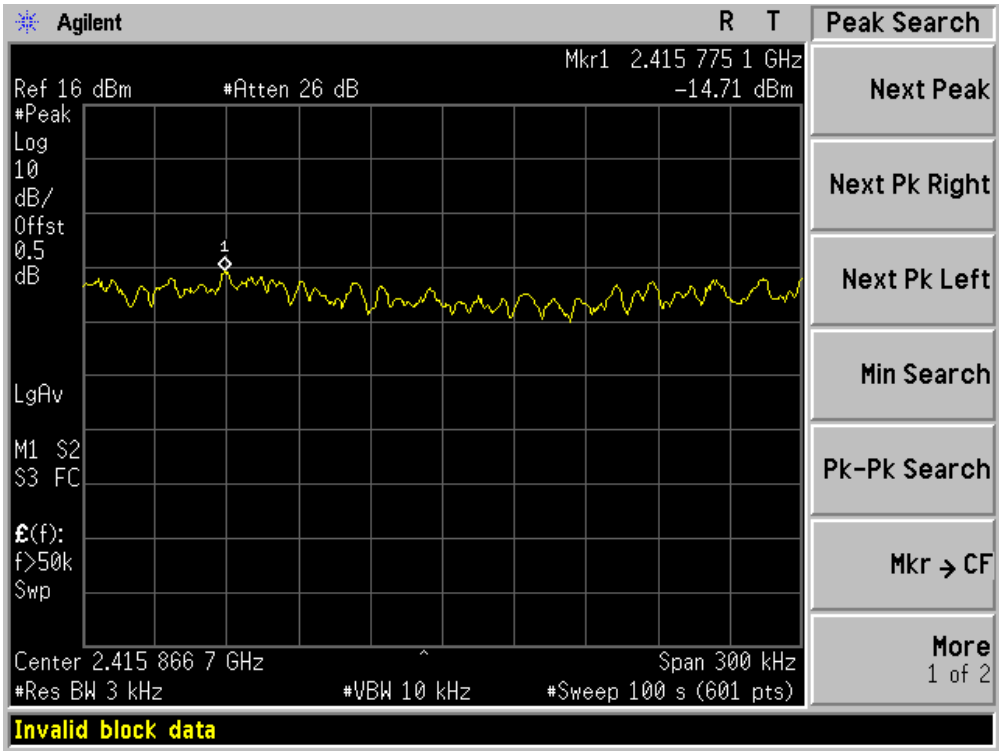
Channel 11 (2462MHz)



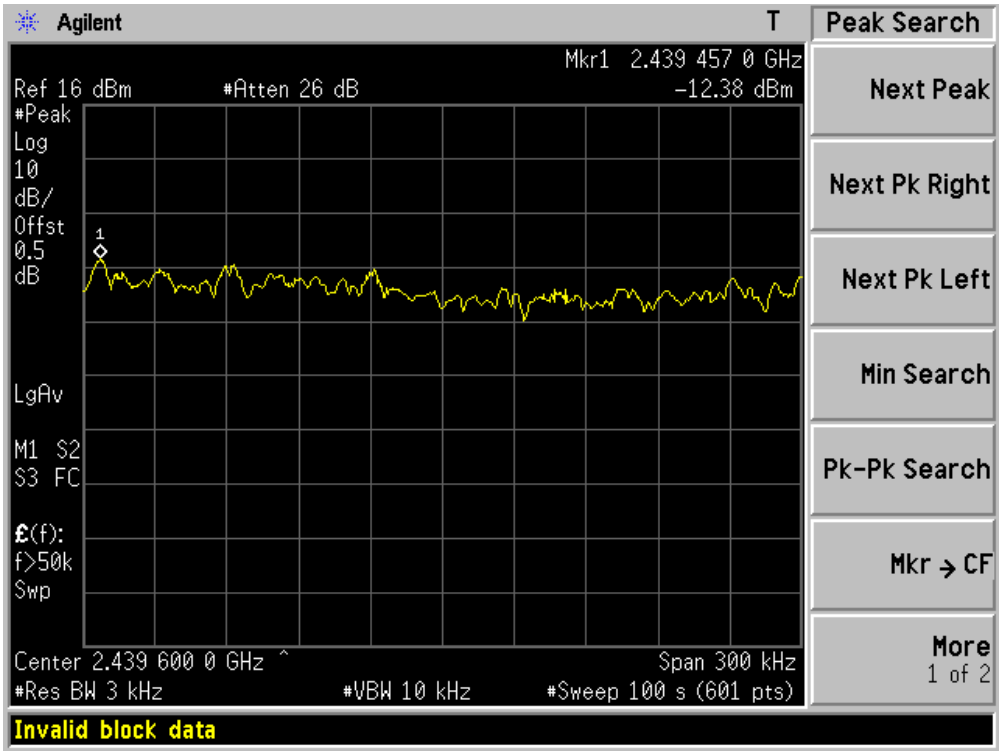
Product	:	Home Gateway
Test Item	:	Power Spectral Density
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit at 802.11g

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-14.71	8	Pass
06	2437	-12.38	8	Pass
11	2462	-12.72	8	Pass

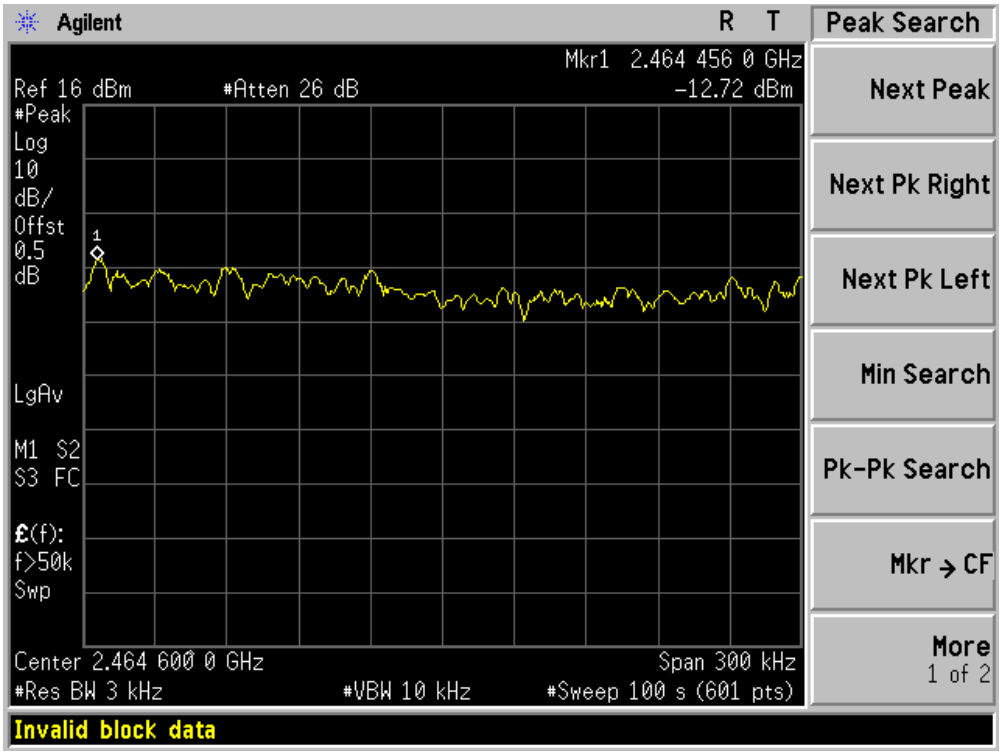
Channel 01 (2412MHz)



Channel 06 (2437MHz)



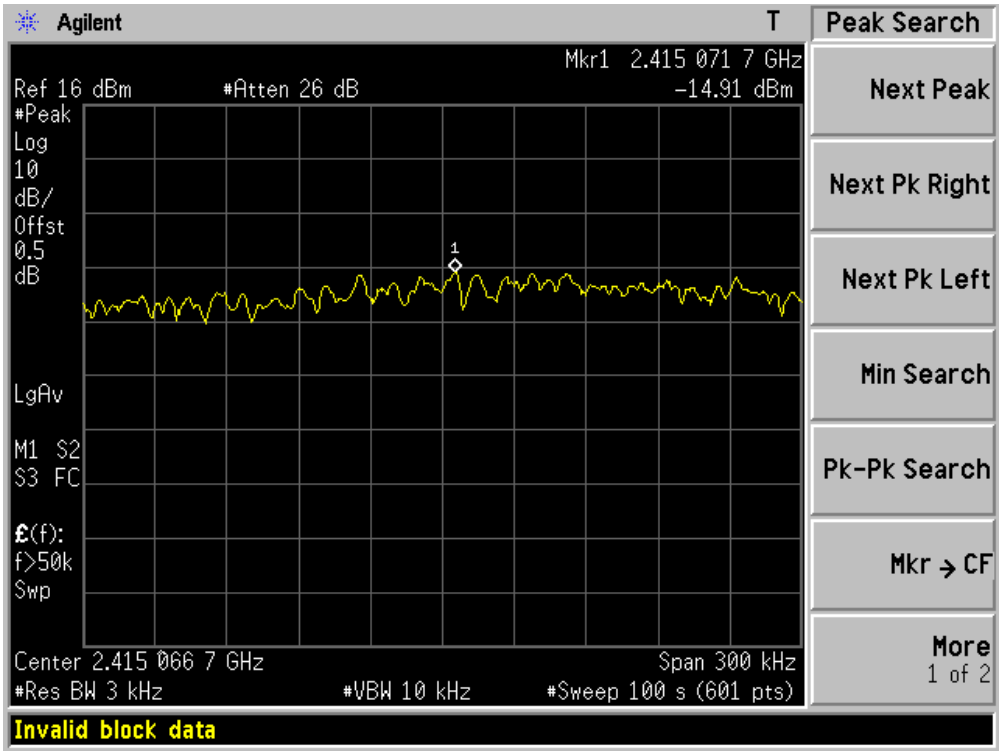
Channel 11 (2462MHz)



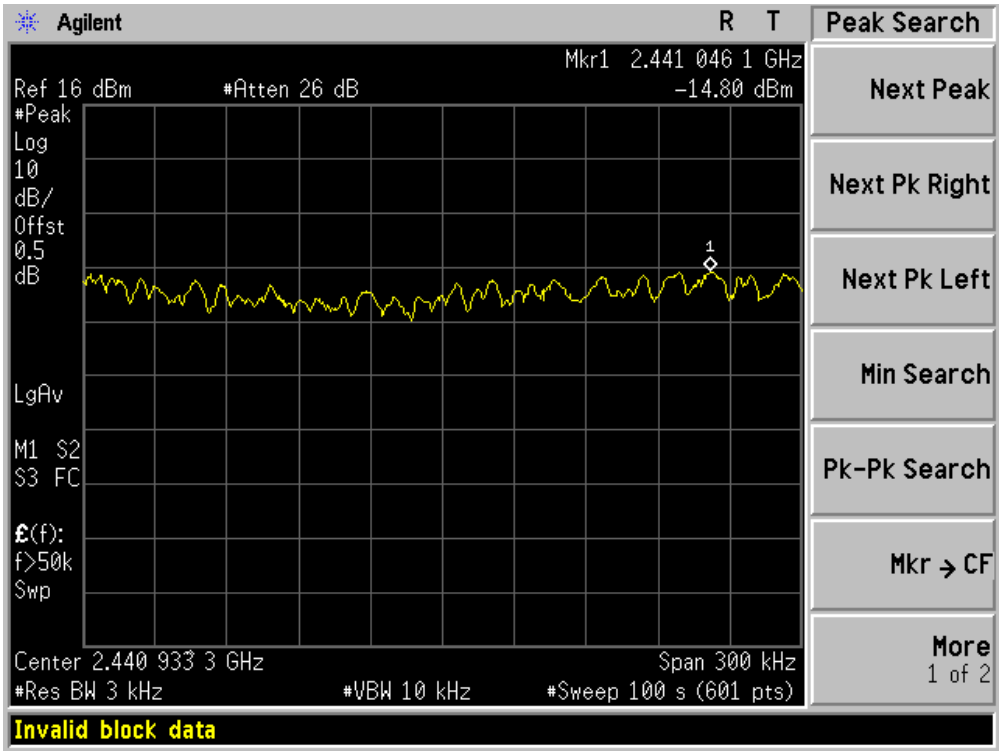
Product	:	Home Gateway
Test Item	:	Power Spectral Density
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit at 802.11n (20MHz)

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-14.91	8	Pass
06	2437	-14.80	8	Pass
11	2462	-14.91	8	Pass

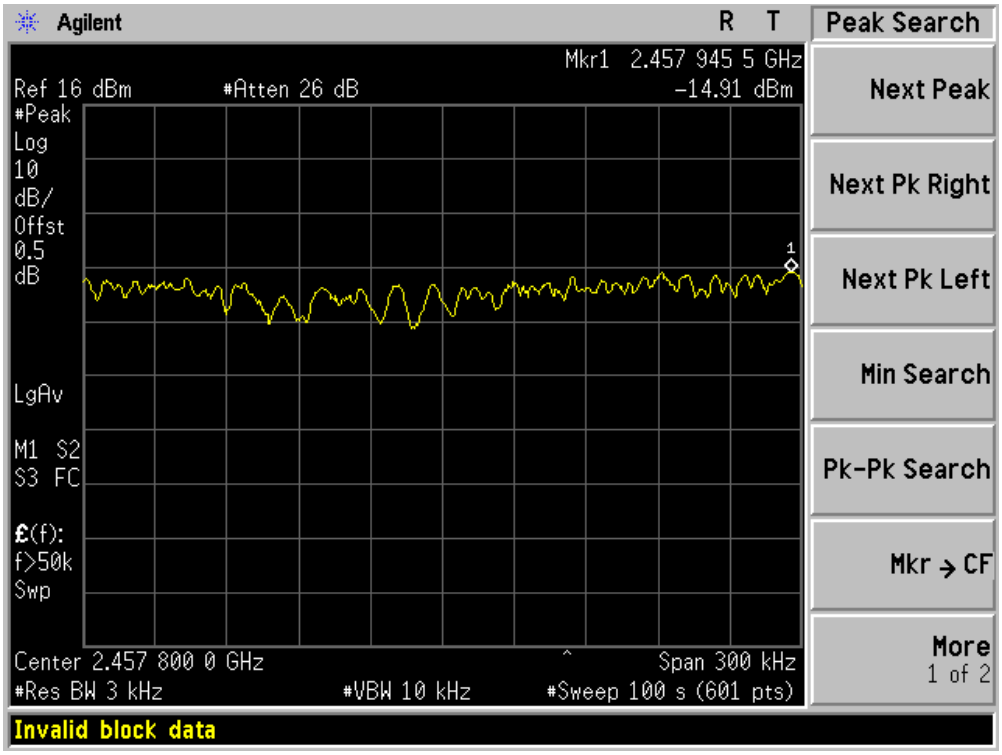
Channel 01 (2412MHz)



Channel 06 (2437MHz)



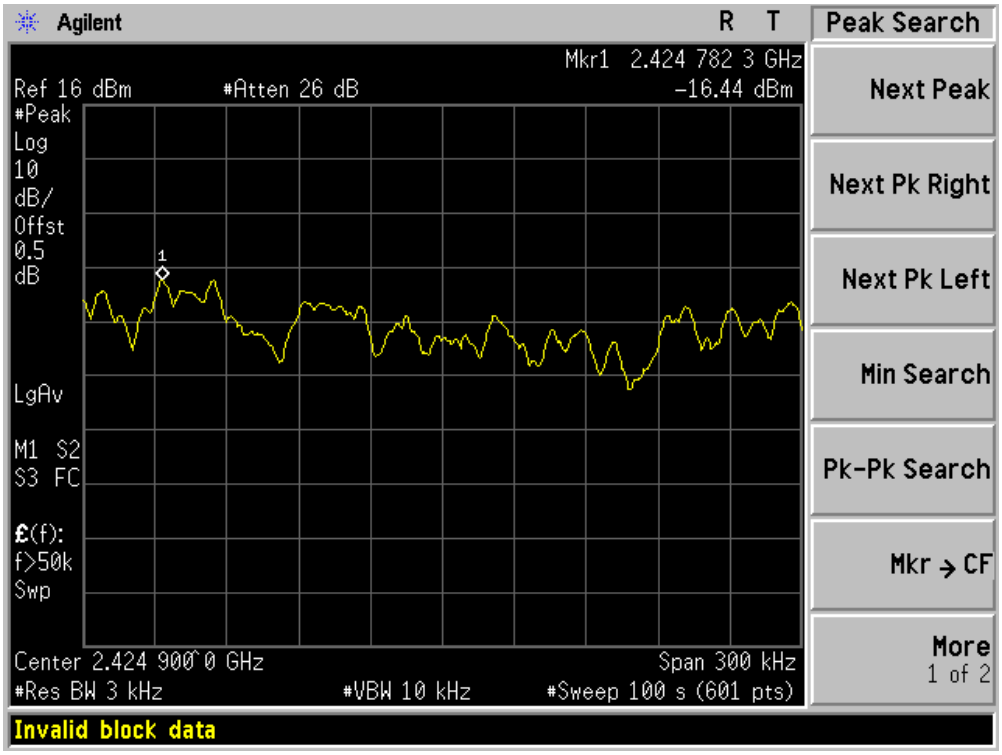
Channel 11 (2462MHz)



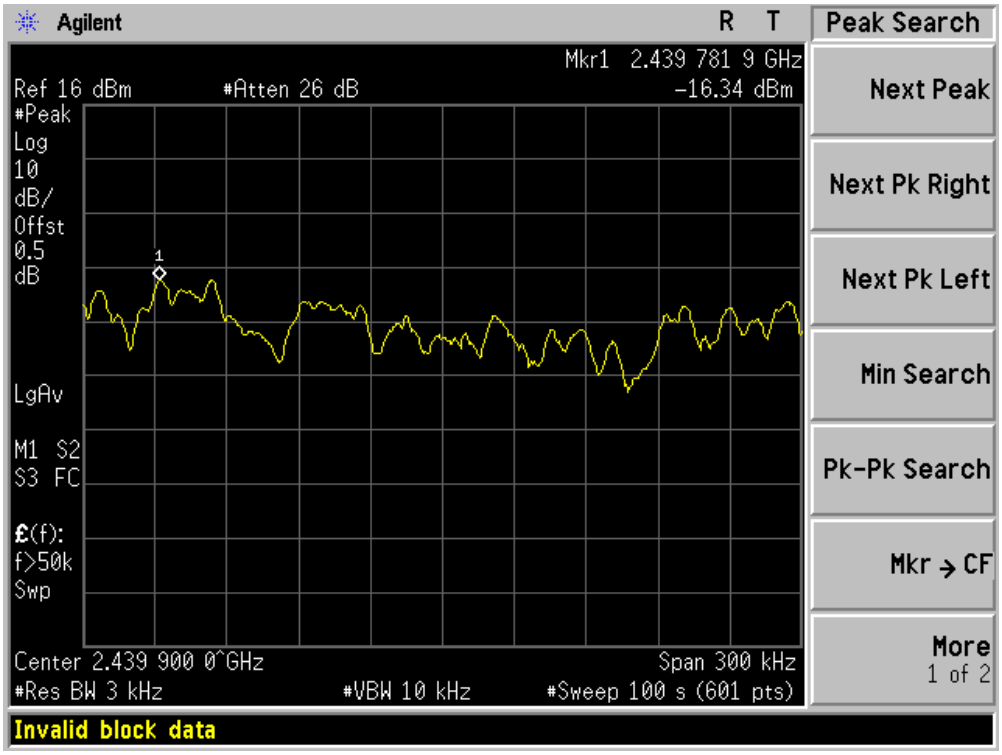
Product	:	Home Gateway
Test Item	:	Power Spectral Density
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit at 802.11n (40MHz)

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
03	2422	-16.44	8	Pass
06	2437	-16.34	8	Pass
09	2452	-16.15	8	Pass

Channel 01 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)