

FCC Test Report

Product Name : Gateway
Model No. : GW-RW01
FCC ID. : UMP-GW-RW01

Applicant : Grand Mate Co., Ltd
Address : No.30, Lugong S. 2nd Rd., Lukang Township,
Changhua County 505, Taiwan (R.O.C.)

Date of Receipt : Feb. 23, 2016
Issued Date : Jun. 30, 2017
Report No. : 1720570R-RFUSP02V00
Report Version : V1.0



The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd.

Test Report Certification

Issued Date : Jun. 30, 2017

Report No. : 1720570R-RFUSP02V00



Product Name : Gateway

Applicant : Grand Mate Co., Ltd

Address : No.30, Lugong S. 2nd Rd., Lukang Township, Changhua
County 505, Taiwan (R.O.C.)

Manufacturer : Grand Mate Co., Ltd

Model No. : GW-RW01

FCC ID. : UMP-GW-RW01

EUT Voltage : DC 5V

Testing Voltage : DC 5V

Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2015
ANSI C63.10: 2013

Test Lab : Hsin Chu Laboratory

Address : No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township,
Hsinchu County 310, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958

Test Result : Complied

Documented By

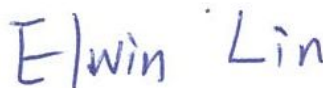
:



(Carol Tsai / Engineering Adm. Assistant)

Tested By

:



(Elwin Lin / Assistant Engineer)

Approved By

:



(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
1720570R-RFUSP02V00	V1.0	Initial issue of report	Jun. 30, 2017

Laboratory Information

We, **DEKRA Testing and Certification Co., Ltd.**, are an independent RF consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025 specified testing scopes:

Taiwan R.O.C.	:	TAF, Accreditation Number: 3024
USA	:	FCC, Registration Number: 834100
Canada	:	IC, Submission No: 181665 / IC Registration Number: 22397-1 / 22397-2 / 22397-3

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site :

<http://www.dekra.com.tw/english/about/certificates.aspx?bval=5>

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site : http://www.dekra.com.tw/index_en.aspx

If you have any comments, Please don't hesitate to contact us. Our test sites as below:

- 1 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 : info.tw@dekra.com
- 2 No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com
- 3 No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com

TABLE OF CONTENTS

Description	Page
1. General Information.....	8
1.1. EUT Description	8
1.2. Test Mode	12
1.3. Tested System Details	13
1.4. Configuration of tested System	13
1.5. EUT Exercise Software	14
1.6. Test Facility.....	15
2. Conducted Emission	16
2.1. Test Equipment.....	16
2.2. Test Setup	16
2.3. Limits	17
2.4. Test Procedure	17
2.5. Test Specification.....	17
2.6. Uncertainty	17
2.7. Test Result.....	18
3. Peak Power Output	20
3.1. Test Equipment.....	20
3.2. Test Setup	20
3.3. Test procedures.....	20
3.4. Limits	21
3.5. Test Specification.....	21
3.6. Uncertainty	21
3.7. Test Result.....	22
4. Radiated Emission	25
4.1. Test Equipment.....	25
4.2. Test Setup	26
4.3. Limits	26
4.4. Test Procedure	27
4.5. Test Specification.....	27
4.6. Uncertainty	27
4.7. Test Result.....	28
5. RF antenna conducted test	70
5.1. Test Equipment.....	70

5.2.	Test Setup	70
5.3.	Limits	71
5.4.	Test Procedure	71
5.5.	Test Specification.....	71
5.6.	Uncertainty	71
5.7.	Test Result.....	72
6.	Band Edge.....	87
6.1.	Test Equipment.....	87
6.2.	Test Setup	87
6.3.	Limits	88
6.4.	Test Procedure	88
6.5.	Test Specification.....	88
6.6.	Uncertainty	88
6.7.	Test Result.....	89
7.	DTS Bandwidth.....	125
7.1.	Test Equipment.....	125
7.2.	Test Setup	125
7.3.	Test Procedures	125
7.4.	Limits	126
7.5.	Test Specification.....	126
7.6.	Uncertainty	126
7.7.	Test Result.....	127
8.	Occupied Bandwidth.....	136
8.1.	Test Equipment.....	136
8.2.	Test Setup	136
8.3.	Test Procedures	136
8.4.	Limits	137
8.5.	Test Specification.....	137
8.6.	Uncertainty	137
8.7.	Test Result.....	138
9.	Power Density	147
9.1.	Test Equipment.....	147
9.2.	Test Setup	147
9.3.	Limits	147
9.4.	Test Procedures	148


9.5.	Test Specification.....	148
9.6.	Uncertainty	148
9.7.	Test Result.....	149
Attachment 1...		158
	Test Setup Photograph.....	158
Attachment 2...		161
	EUT External Photograph.....	161
Attachment 3...		167
	EUT Internal Photograph.....	167

1. General Information

1.1. EUT Description

Product Name	Gateway	
Product Type	WLAN (1TX, 1RX)	
Model No.	GW-RW01	
Frequency Range/ Channel Number	IEEE 802.11b/g IEEE 802.11n (20MHz)	2412~2462MHz / 11 Channels
Type of Modulation	IEEE 802.11b	Direct Sequence Spread Spectrum
	IEEE 802.11g/n	Orthogonal Frequency Division Multiplexing
Data Speed	IEEE 802.11b	1, 2, 5.5, 11Mbps
	IEEE 802.11g	6, 9, 12, 18, 24, 36, 48, 54Mbps
	IEEE 802.11n	Support a subset of the combination of GI, MCS 0~MCS 7 and bandwidth defined in 802.11n

Antenna Information	
Antenna Type	Chip Antenna
Antenna Gain	0.5dBi

Accessories Information	
Power Adapter	L.T.E, LTE05UW-S1-BS I/P: 100-240V~50/60Hz, 0.2A O/P: 5V  1A Cable Out: Non-Shielded, 1.85m

ANT-TX / RX & Bandwidth

ANT-TX / RX	TX		RX	
	20MHz	40MHz	20MHz	40MHz
IEEE802.11b	✓		✓	
IEEE802.11g	✓		✓	
IEEE802.11n	✓		✓	

IEEE 802.11n

MCS Index	Modulation	R	N _{BPSCS}	N _{CBPS}		N _{DBPS}		Data Rate(Mb/s)			
				20MHz	40MHz	20MHz	40MHz	800ns GI		400ns GI	
								20MHz	40MHz	20MHz	40MHz
0	BPSK	1/2	1	52	108	26	54	6.5	13.5	7.2	15.0
1	QPSK	1/2	2	104	216	52	108	13.0	27.0	14.4	30.0
2	QPSK	3/4	2	104	216	78	162	19.5	40.5	21.7	45.0
3	16-QAM	1/2	4	208	432	104	216	26.0	54.0	28.9	60.0
4	16-QAM	3/4	4	208	432	156	324	39.0	81.0	43.3	90.0
5	64-QAM	2/3	6	312	648	208	432	52.0	108.0	57.8	120.0
6	64-QAM	3/4	6	312	648	234	486	58.5	121.5	65.0	135.0
7	64-QAM	5/6	6	312	648	260	540	65.0	135.0	72.2	150.0

Note 1: Support of 400ns GI is optional on transmit and receive.

Table 1 – MCS parameters for TX Antenna number = 1

Symbol	Explanation
R	Code rate
N _{BPSC}	Number of coded bits per single carrier
N _{CBPS}	Number of coded bits per symbol
N _{DBPS}	Number of data bits per symbol
GI	guard interval

IEEE 802.11b/g & IEEE 802.11n (20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
001	2412 MHz	002	2417 MHz	003	2422 MHz	004	2427 MHz
005	2432 MHz	006	2437 MHz	007	2442 MHz	008	2447 MHz
009	2452 MHz	010	2457 MHz	011	2462 MHz		

Note:

1. This device is a Gateway including 2.4G Wifi: b/g/n (1x1) 、2GFSK transmitting and receiving function.
2. Regards to the frequency band operation; the lowest 、middle and highest frequency of channel were selected to perform the test, and then shown on this report.
3. The function of the 2GFSK transmitting is measured and makes a test report of the number: 1720570R-RFUSP14V00.
4. This device is a composite device in accordance with Part 15 regulations. The receiving function receiving was tested and its test report number is 1720570R-RFUSP01V00.

1.2. Test Mode

DEKRA has verified the construction and function in typical operation. The preliminary tests were performed in different data rate, and to find the worst condition, which was shown in this test report. The following table is the final test mode.

TX	Mode 1: Transmit			
----	------------------	--	--	--

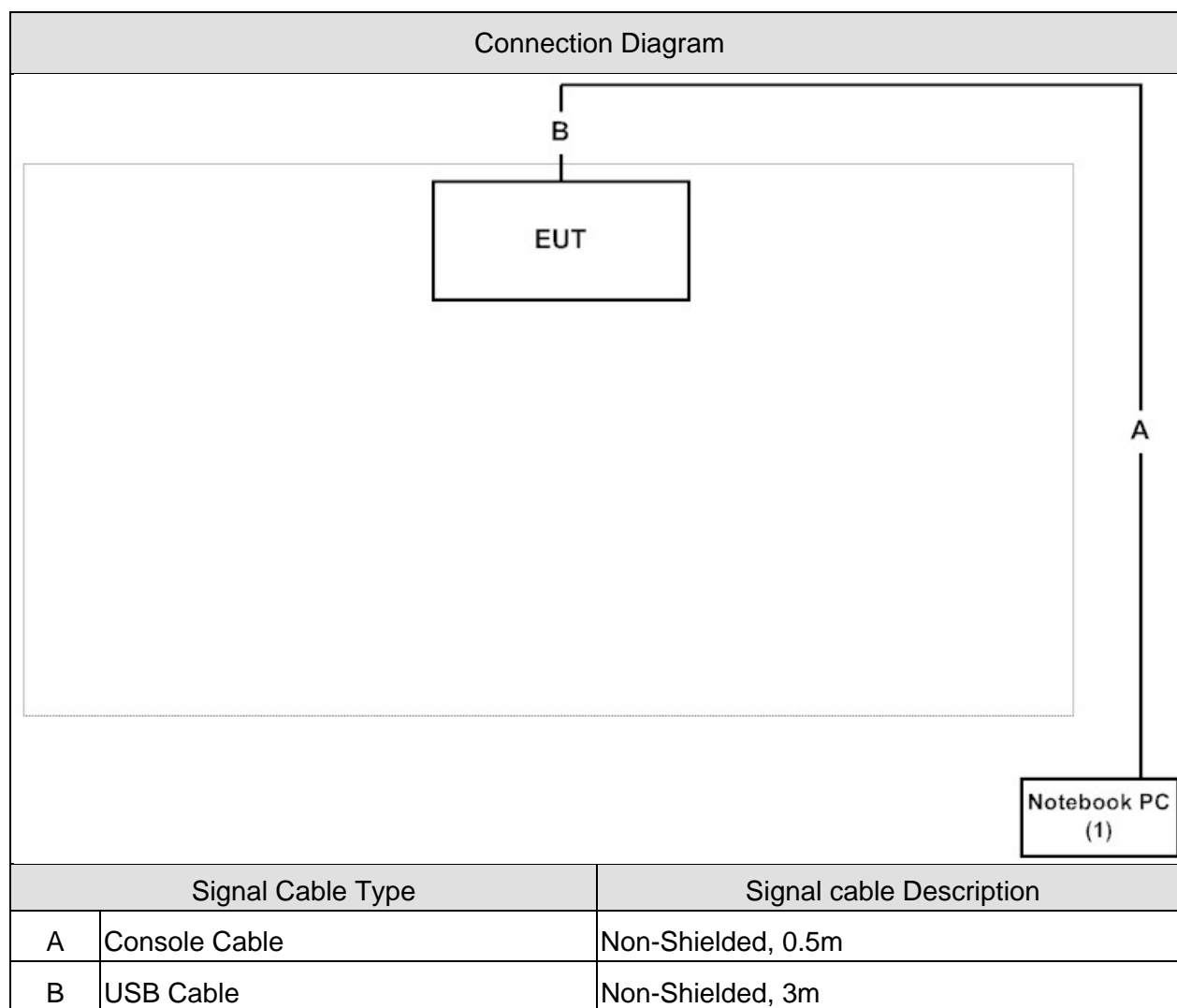
Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	11n(20MHz)	6	0	Complies
Peak Power Output	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
Radiated Emission	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
RF antenna conducted test	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
Radiated Emission Band Edge	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
DTS Bandwidth	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
Occupied Bandwidth	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
Power Density	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies

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.	FCC ID	Power Cord
1 Notebook PC	ASUS	X522EP	E5N0CV043264197	DoC	Non-Shielded, 1.8m, one ferrite core bonded

1.4. Configuration of tested System



1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.
2	Execute the test command on the Tera Term
3	Configure the test mode, the test channel, and the data rate.
4	Press "Start TX" to start the continuous transmitting.
5	Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual	Test Site
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	20°C	3
Humidity (%RH)		25 - 75	50%RH	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output	15 - 35	25°C	3
Humidity (%RH)		25 - 75	45%RH	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission	15 - 35	25°C	2
Humidity (%RH)		25 - 75	65%RH	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	25°C	3
Humidity (%RH)		25 - 75	45%RH	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Band Edge	15 - 35	25°C	2
Humidity (%RH)		25 - 75	48%RH	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 DTS Bandwidth	15 - 35	25°C	3
Humidity (%RH)		25 - 75	45%RH	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth	15 - 35	25°C	3
Humidity (%RH)		25 - 75	45%RH	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Power Density	15 - 35	25°C	3
Humidity (%RH)		25 - 75	45%RH	
Barometric pressure (mbar)		860 - 1060	950-1000	

Note: Test Site information refers to Laboratory Information.

2. Conducted Emission

2.1. Test Equipment

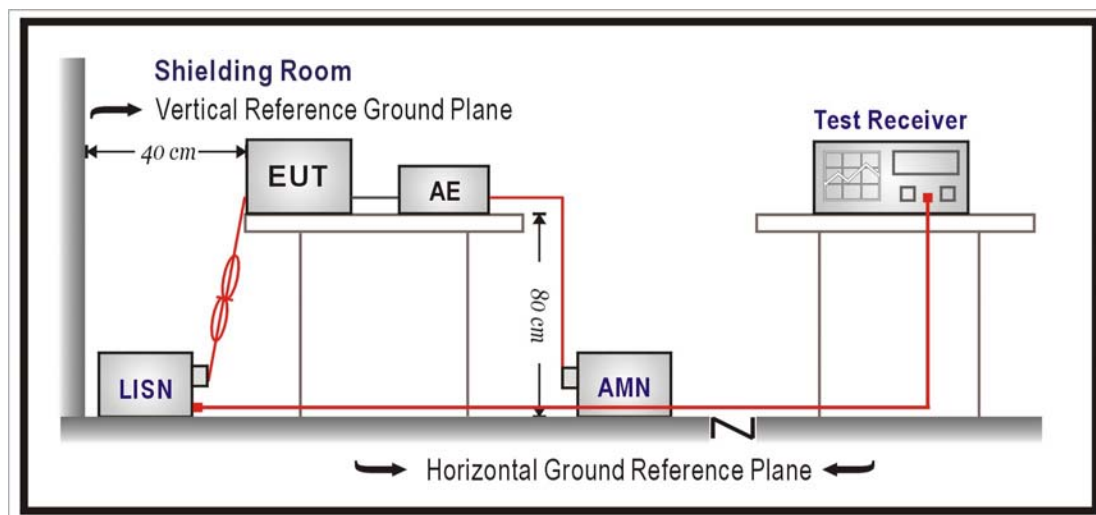
The following test equipments are used during the test:

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2018/02/05
LISN	R&S	ENV216	100092	2017/08/16
Test Receiver	R&S	ESCS 30	836858/022	2018/01/14

Note: All equipments that need to calibrate are with calibration period of 1 year.

2.2. Test Setup



2.3. Limits

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

Remark: In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of 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 9 kHz.

2.5. Test Specification

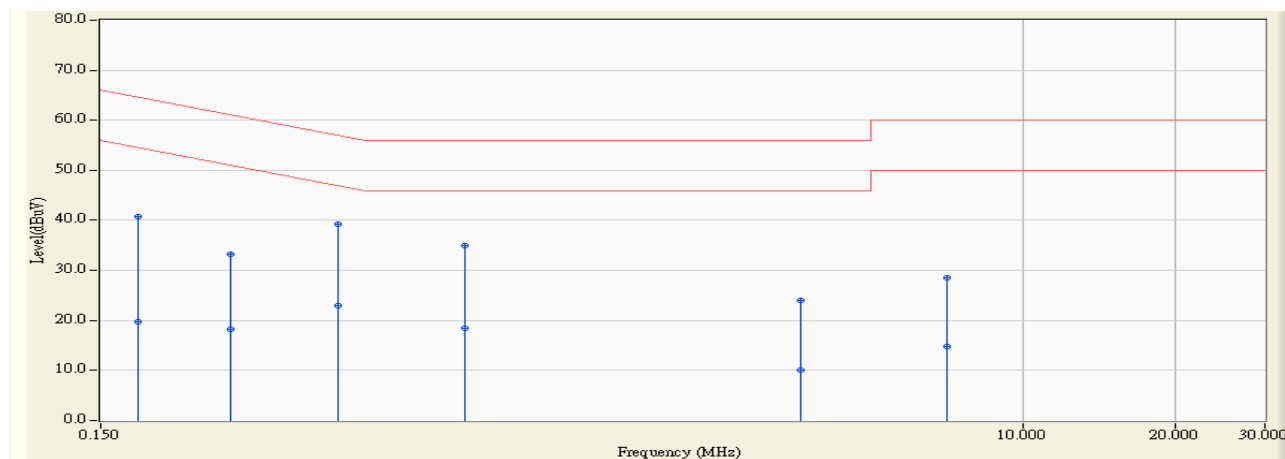
According to FCC Part 15 Subpart C Paragraph 15.207: 2015

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR2-H	Time : 2017/03/22
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2-H_LISN(16A)-6_0712 - Line1	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz

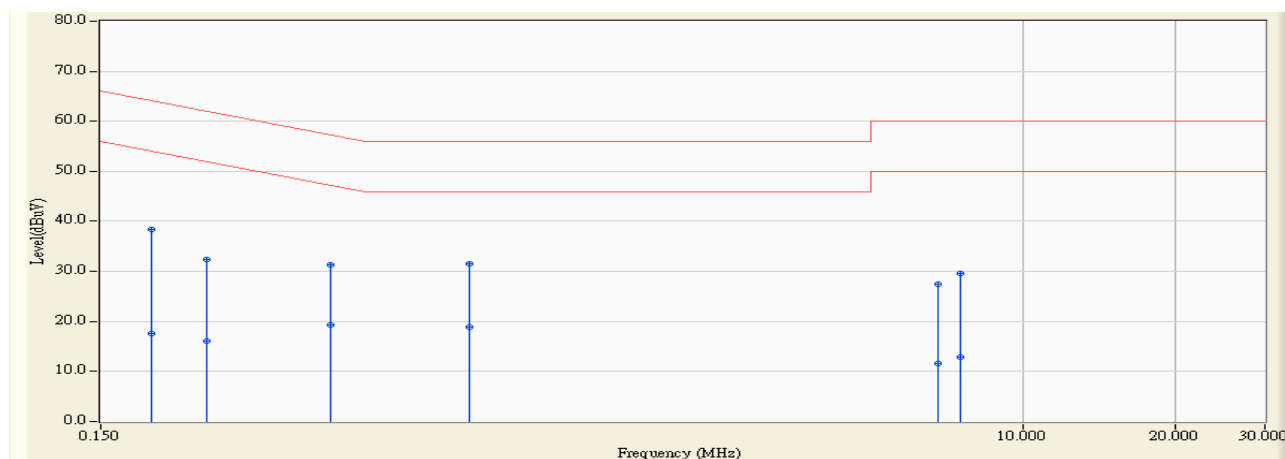


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.177	9.752	31.020	40.772	-23.837	64.609	QUASIPeAK
2		0.177	9.752	10.080	19.832	-34.777	54.609	AVERAGE
3		0.271	9.743	23.540	33.283	-27.801	61.084	QUASIPeAK
4		0.271	9.743	8.530	18.273	-32.811	51.084	AVERAGE
5	*	0.443	9.729	29.560	39.289	-17.717	57.006	QUASIPeAK
6		0.443	9.729	13.210	22.939	-24.067	47.006	AVERAGE
7		0.787	9.781	25.240	35.021	-20.979	56.000	QUASIPeAK
8		0.787	9.781	8.600	18.381	-27.619	46.000	AVERAGE
9		3.634	9.909	14.130	24.039	-31.961	56.000	QUASIPeAK
10		3.634	9.909	0.270	10.179	-35.821	46.000	AVERAGE
11		7.068	10.008	18.540	28.548	-31.452	60.000	QUASIPeAK
12		7.068	10.008	4.820	14.828	-35.172	50.000	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

Site : SR2-H	Time : 2017/03/22
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2-H_LISN(16A)-6_0712 - Line2	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.189	9.751	28.540	38.291	-25.787	64.078	QUASIPeAK
2		0.189	9.751	7.860	17.611	-36.467	54.078	AVERAGE
3		0.244	9.750	22.610	32.360	-29.607	61.967	QUASIPeAK
4		0.244	9.750	6.250	16.000	-35.967	51.967	AVERAGE
5		0.427	9.749	21.480	31.229	-26.076	57.304	QUASIPeAK
6		0.427	9.749	9.660	19.409	-27.896	47.304	AVERAGE
7	*	0.802	9.790	21.790	31.580	-24.420	56.000	QUASIPeAK
8		0.802	9.790	9.120	18.910	-27.090	46.000	AVERAGE
9		6.795	9.963	17.450	27.413	-32.587	60.000	QUASIPeAK
10		6.795	9.963	1.610	11.573	-38.427	50.000	AVERAGE
11		7.513	10.005	19.690	29.695	-30.305	60.000	QUASIPeAK
12		7.513	10.005	2.810	12.815	-37.185	50.000	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

3. Peak Power Output

3.1. Test Equipment

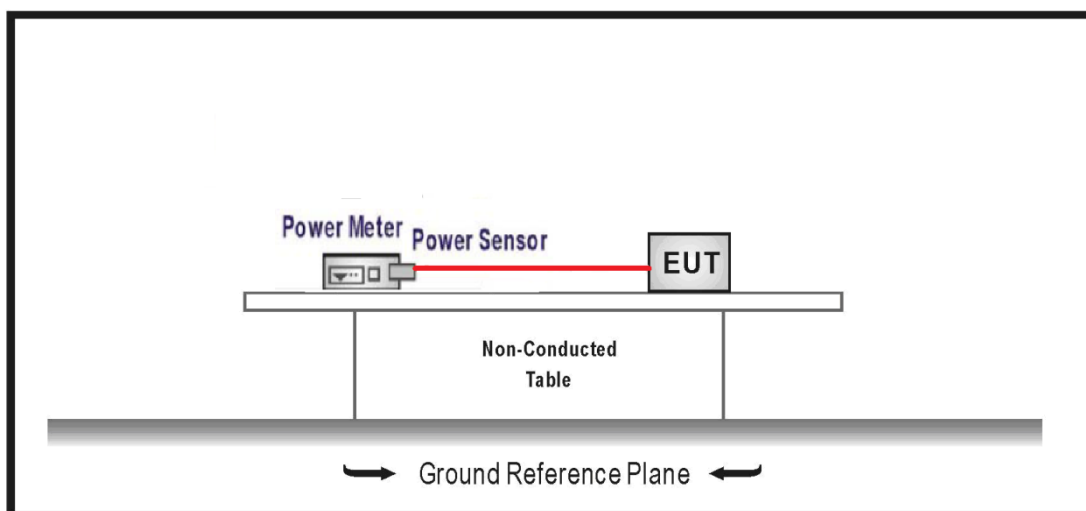
The following test equipments are used during the test:

Peak Power Output / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2018/01/19
Pulse Power Sensor	Anritsu	MA2411B	1531043	2018/01/19
Pulse Power Sensor	Anritsu	MA2411B	1531044	2018/01/19

Note: All equipments that need to calibrate are with calibration period of 1 year.

3.2. Test Setup



3.3. Test procedures

The EUT was tested according to DTS test procedure section 9.1.2 of KDB558074 v03r05 measurement to FCC 47CFR 15.247 requirements.

3.4. Limits

The maximum peak power shall be less 1 Watt.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

3.6. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB.

3.7. Test Result

Product	Gateway		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

IEEE 802.11b (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	5.46	≤ 30
6	2437	5.13	≤ 30
11	2462	4.62	≤ 30

The worst emission of data rate is 1 Mbps

Peak Power Output (dBm)						
Channel No	Frequency (MHz)	Data Rate (Mbps)				Required Limit
		1	2	5.5	11	
1	2412	5.46	--	--	--	$\leq 30\text{dB}$
6	2437	5.13	4.83	4.78	4.8	
11	2462	4.62	--	--	--	

Product	Gateway		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

IEEE 802.11g (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	10.09	≤ 30
6	2437	9.64	≤ 30
11	2462	9.29	≤ 30

The worst emission of data rate is 6 Mbps

Peak Power Output (dBm)									
Channel No	Frequency (MHz)	Data Rate (Mbps)							Required Limit
		6	12	18	24	36	48	54	
1	2412	10.09	--	--	--	--	--	--	$\leq 30\text{dB}$
6	2437	9.64	9.34	9.29	9.31	9.34	8.96	9.31	
11	2462	9.29	--	--	--	--	--	--	

Product	Gateway		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

IEEE 802.11n20 (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	8.95	≤ 30
6	2437	8.29	≤ 30
11	2462	7.86	≤ 30

The worst emission of data rate is 0 Mbps

Peak Power Output (dBm)										
Channel No	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		0	1	2	3	4	5	6	7	
1	2412	8.95	--	--	--	--	--	--	--	$\leq 30\text{dB}$
6	2437	8.29	8.03	7.96	7.91	7.88	7.79	7.87	7.88	
11	2462	7.86	--	--	--	--	--	--	--	

4. Radiated Emission

4.1. Test Equipment

The following test equipments are used during the test:

Radiated Emission / CB4-H (Under 1G)

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum	Agilent	E4440A	MY46187335	2017/12/21
Bilog Antenna	Teseq	CBL6112D	23191	2017/07/04
Horn Antenna	Schwarzbeck	BBHA 9120 D	1640	2017/10/23
Pre-Amplifier	EMCI	EMC01820I	12143782	2018/03/08
Pre-Amplifier	EMCI	EMC01820I	980367	2018/02/09

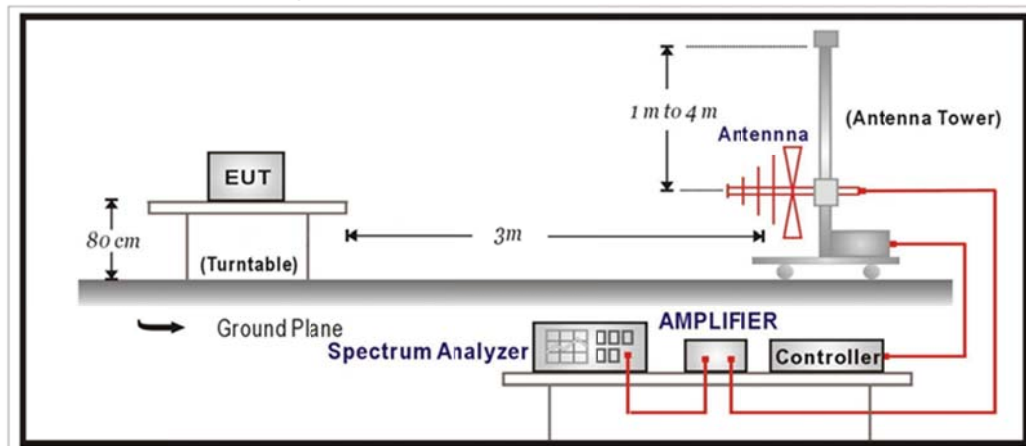
Radiated Emission / CB2-H (Above 1G)

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101455	2017/11/27
Bilog Antenna	Teseq	CBL6112D	23191	2017/07/04
Horn Antenna	Schwarzbeck	BBHA 9120	D639	2017/06/29
Pre-Amplifier	EMCI	EMC01820I	12162511	2018/03/08
Pre-Amplifier	EMCI	EMC01820I	980366	2018/01/22

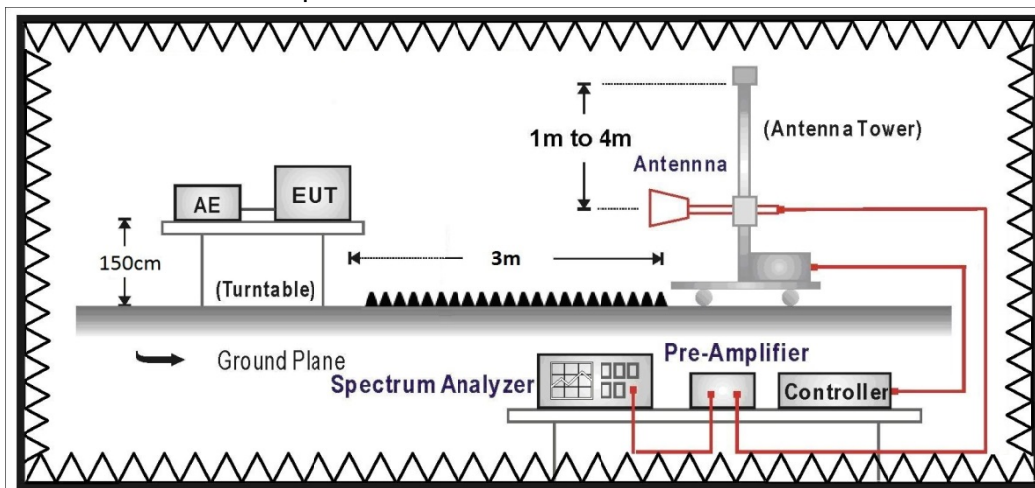
Note: All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	dBuV/m	dBuV/m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

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

4.4. Test Procedure

The EUT was setup according to ANSI C63.10:2013 and tested according to DTS test procedure of KDB558074 v03r05 for compliance to FCC 47CFR 15.247 requirements. The EUT and its simulators are placed on a turn table which is 1.5 meter above ground (under 1GHz) or 1.5 meter above ground (above 1GHz). The turn table can rotate 360 degrees to determine the position of the maximum emission level.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10 on radiated measurement.

On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

4.6. Uncertainty

The measurement uncertainty

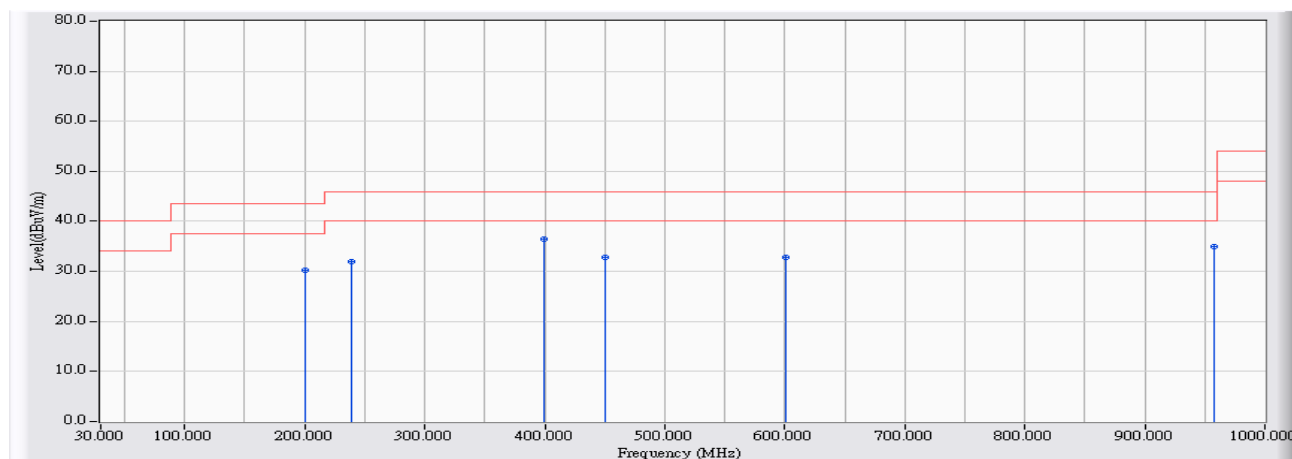
30MHz~1GHz as $\pm 3.43\text{dB}$

1GHz~26.5Ghz as $\pm 3.65\text{dB}$

4.7. Test Result

30MHz-1GHz Spurious

Site : CB4-H	Time : 2017/03/08
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2437MHz

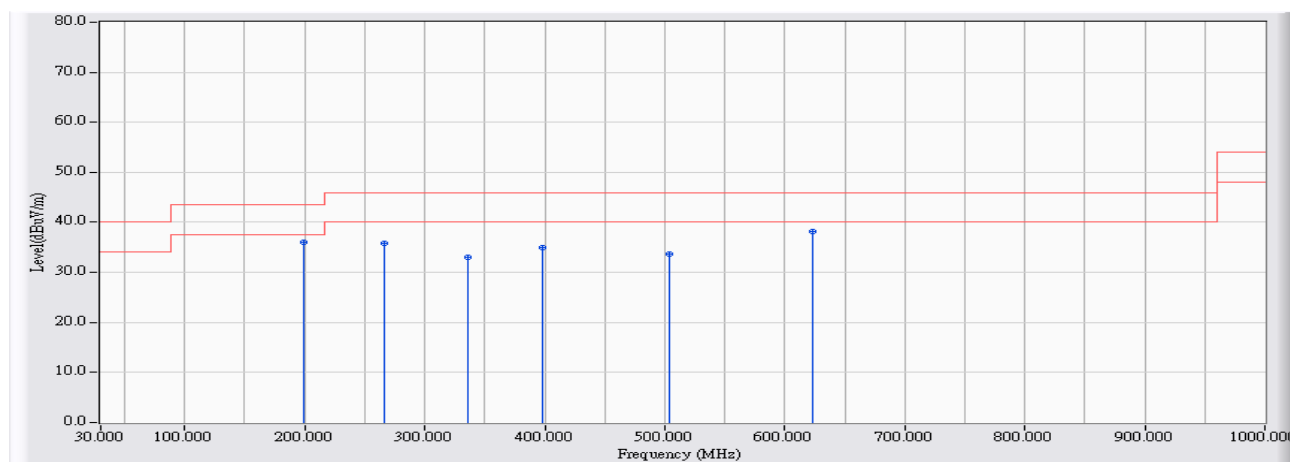


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	199.750	-23.246	53.494	30.249	-13.251	43.500	QUASIPeAK
2	239.520	-20.869	52.914	32.045	-13.955	46.000	QUASIPeAK
3	* 399.570	-15.764	52.152	36.389	-9.611	46.000	QUASIPeAK
4	450.010	-14.658	47.505	32.847	-13.153	46.000	QUASIPeAK
5	600.360	-12.666	45.588	32.922	-13.078	46.000	QUASIPeAK
6	957.320	-7.485	42.463	34.978	-11.022	46.000	QUASIPeAK

Note:

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

Site : CB4-H	Time : 2017/03/08
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2437MHz

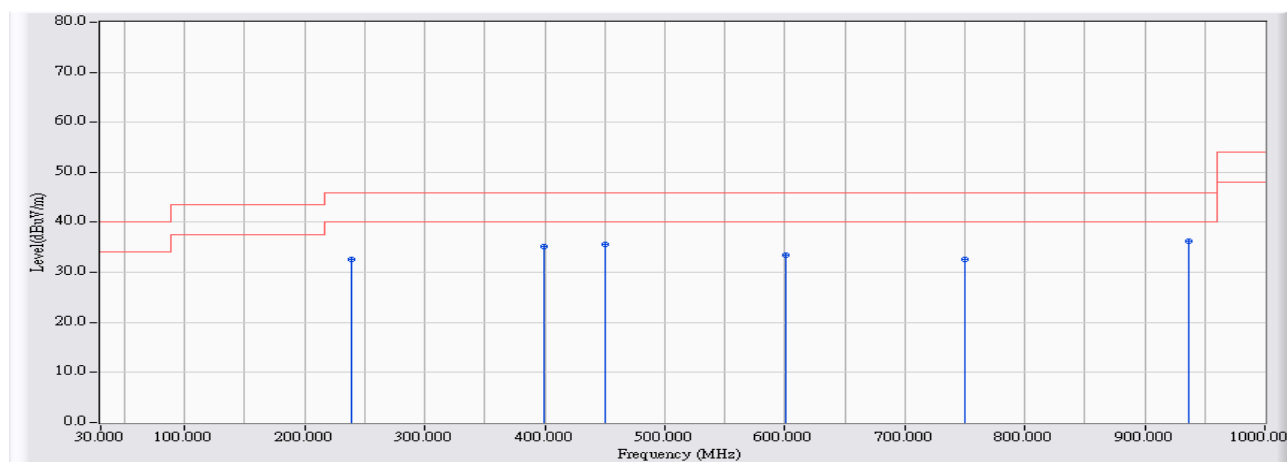


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	198.780	-23.280	59.347	36.067	-7.433	43.500	QUASIPeAK
2		265.710	-20.081	55.983	35.901	-10.099	46.000	QUASIPeAK
3		335.550	-17.934	51.048	33.114	-12.886	46.000	QUASIPeAK
4		398.600	-15.818	50.866	35.048	-10.952	46.000	QUASIPeAK
5		504.330	-13.848	47.448	33.600	-12.400	46.000	QUASIPeAK
6		623.640	-11.930	50.151	38.220	-7.780	46.000	QUASIPeAK

Note:

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

Site : CB4-H	Time : 2017/03/08
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2437MHz

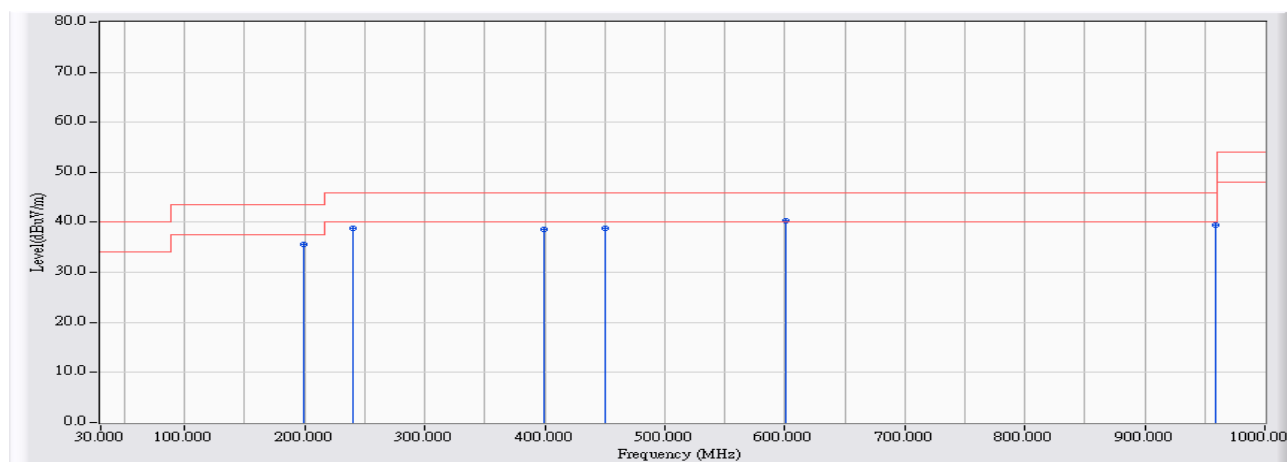


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		239.520	-20.869	53.476	32.607	-13.393	46.000	QUASIPeAK
2		399.570	-15.764	50.905	35.142	-10.858	46.000	QUASIPeAK
3		450.010	-14.658	50.242	35.584	-10.416	46.000	QUASIPeAK
4		600.360	-12.666	46.111	33.445	-12.555	46.000	QUASIPeAK
5		749.740	-11.360	43.870	32.510	-13.490	46.000	QUASIPeAK
6	*	935.980	-7.665	43.860	36.195	-9.805	46.000	QUASIPeAK

Note:

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

Site : CB4-H	Time : 2017/03/08
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2437MHz

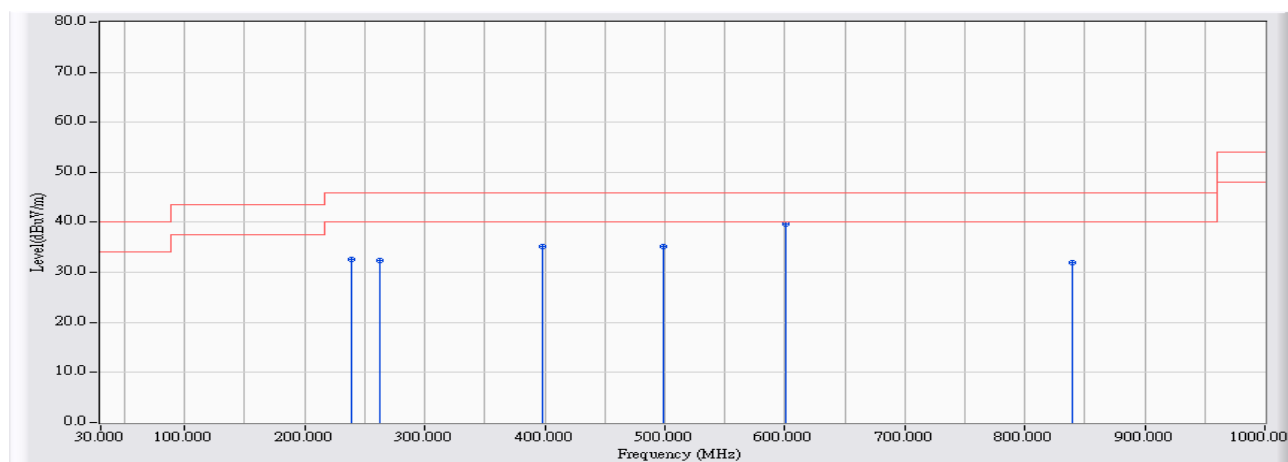


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		198.780	-23.280	58.792	35.512	-7.988	43.500	QUASIPeAK
2		240.490	-20.805	59.623	38.817	-7.183	46.000	QUASIPeAK
3		399.570	-15.764	54.321	38.558	-7.442	46.000	QUASIPeAK
4		450.010	-14.658	53.396	38.738	-7.262	46.000	QUASIPeAK
5	*	600.360	-12.666	52.942	40.276	-5.724	46.000	QUASIPeAK
6		959.260	-7.580	47.084	39.504	-6.496	46.000	QUASIPeAK

Note:

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

Site : CB4-H	Time : 2017/03/08
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz

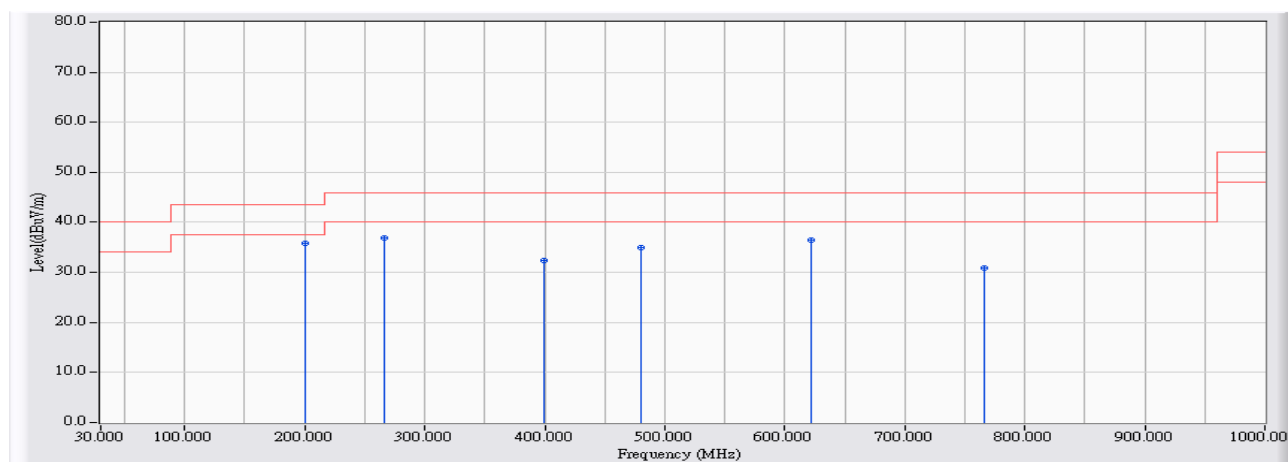


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		239.520	-20.869	53.575	32.706	-13.294	46.000	QUASIPeAK
2		262.800	-20.148	52.622	32.474	-13.526	46.000	QUASIPeAK
3		397.630	-15.873	50.952	35.079	-10.921	46.000	QUASIPeAK
4		498.510	-14.069	49.143	35.074	-10.926	46.000	QUASIPeAK
5	*	600.360	-12.666	52.446	39.780	-6.220	46.000	QUASIPeAK
6		839.950	-9.169	41.040	31.872	-14.128	46.000	QUASIPeAK

Note:

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

Site : CB4-H	Time : 2017/03/08
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz



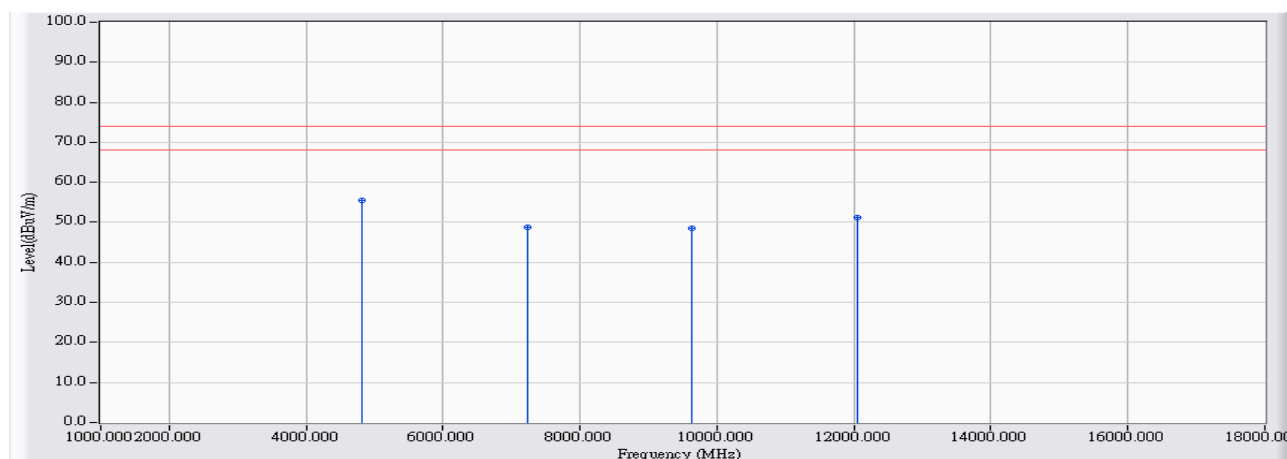
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	199.750	-23.246	58.980	35.735	-7.765	43.500	QUASIPeAK
2		265.710	-20.081	57.031	36.949	-9.051	46.000	QUASIPeAK
3		399.570	-15.764	48.088	32.325	-13.675	46.000	QUASIPeAK
4		480.080	-14.513	49.403	34.890	-11.110	46.000	QUASIPeAK
5		621.700	-11.863	48.361	36.497	-9.503	46.000	QUASIPeAK
6		766.230	-10.698	41.682	30.984	-15.016	46.000	QUASIPeAK

Note:

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

Above 1GHz Spurious

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2412MHz

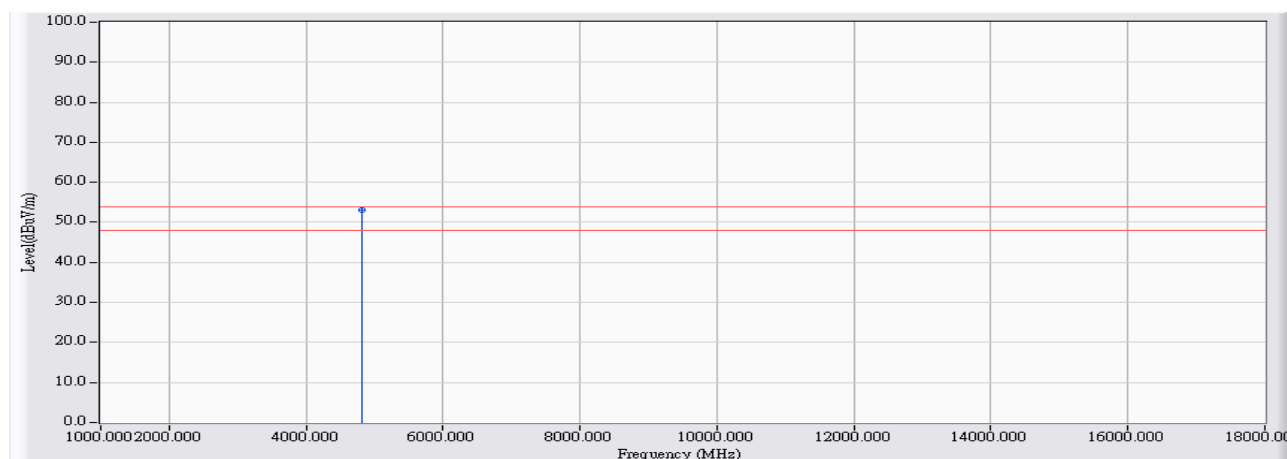


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4823.000	-0.476	55.880	55.404	-18.596	74.000	PEAK
2		7234.000	6.481	42.270	48.751	-25.249	74.000	PEAK
3		9637.000	12.033	36.370	48.402	-25.598	74.000	PEAK
4		12042.000	15.586	35.700	51.287	-22.713	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2412MHz

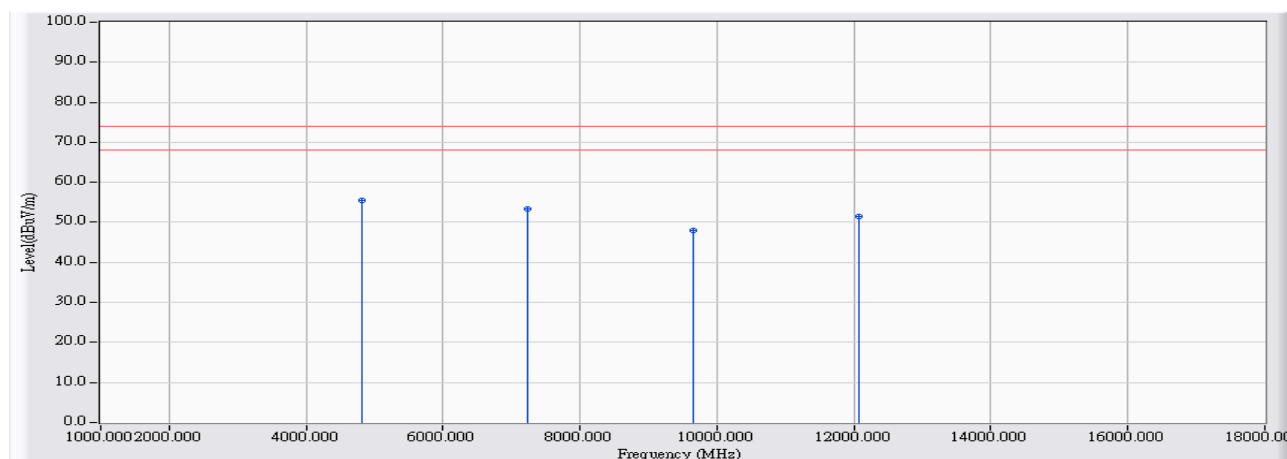


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4823.000	-0.476	53.640	53.164	-0.836	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2412MHz

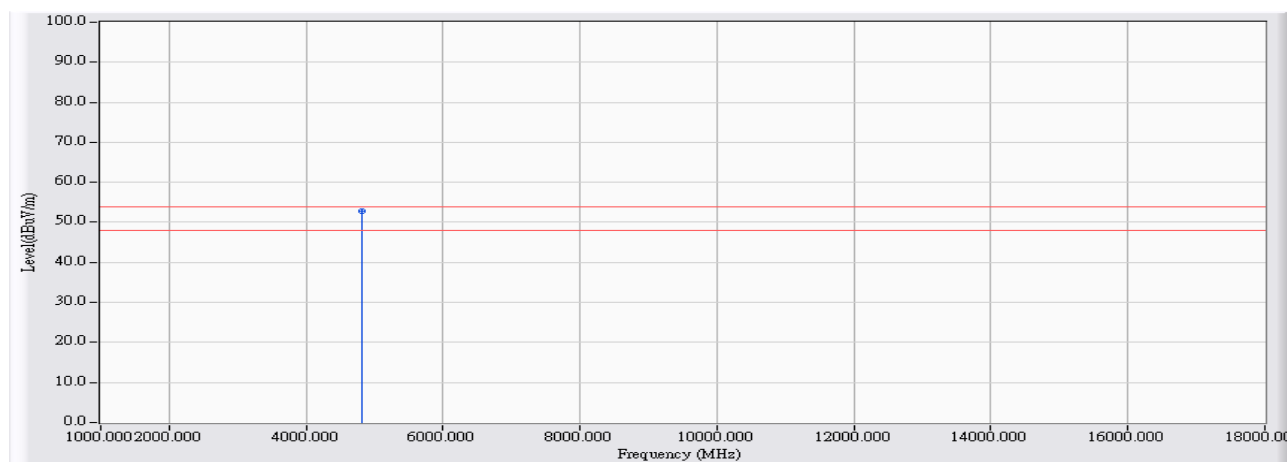


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-0.475	55.870	55.395	-18.605	74.000	PEAK
2		7235.000	6.484	46.900	53.385	-20.615	74.000	PEAK
3		9656.000	12.075	35.920	47.995	-26.005	74.000	PEAK
4		12075.000	15.506	35.940	51.446	-22.554	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2412MHz

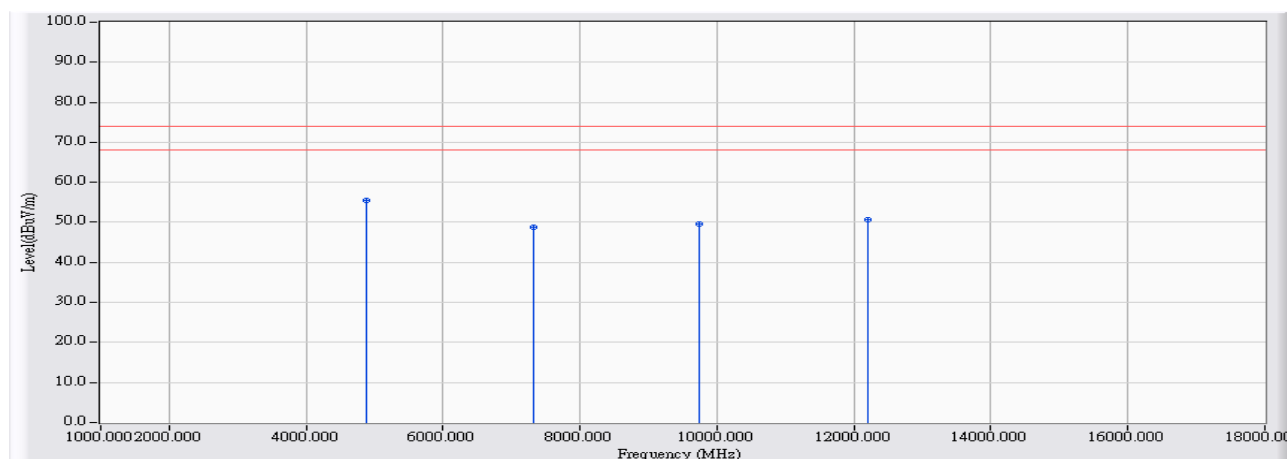


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4823.000	-0.476	53.400	52.924	-1.076	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2437MHz

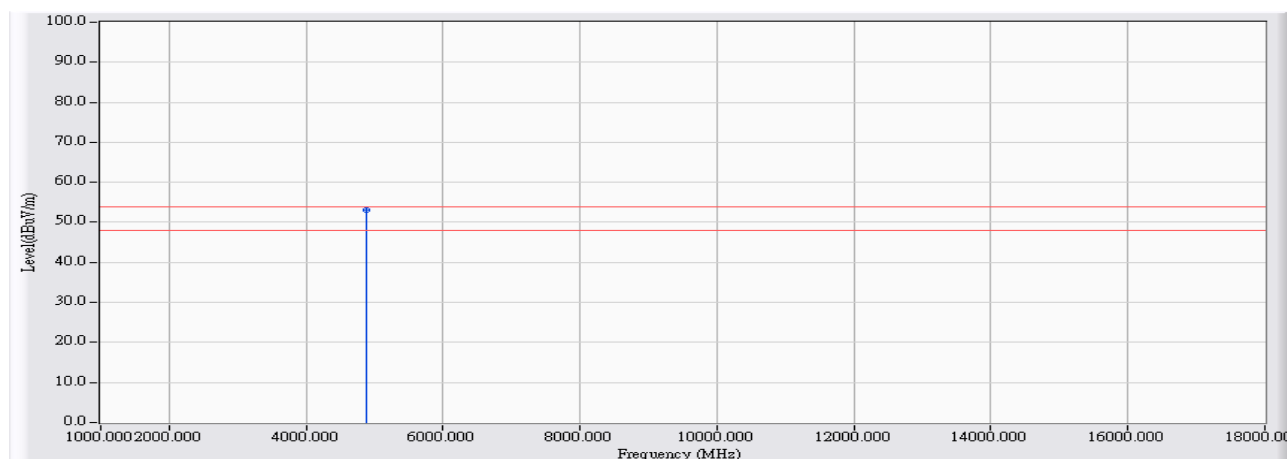


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.000	-0.425	56.020	55.594	-18.406	74.000	PEAK
2		7311.000	6.770	42.010	48.780	-25.220	74.000	PEAK
3		9733.000	12.239	37.230	49.469	-24.531	74.000	PEAK
4		12193.000	15.208	35.340	50.548	-23.452	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2437MHz

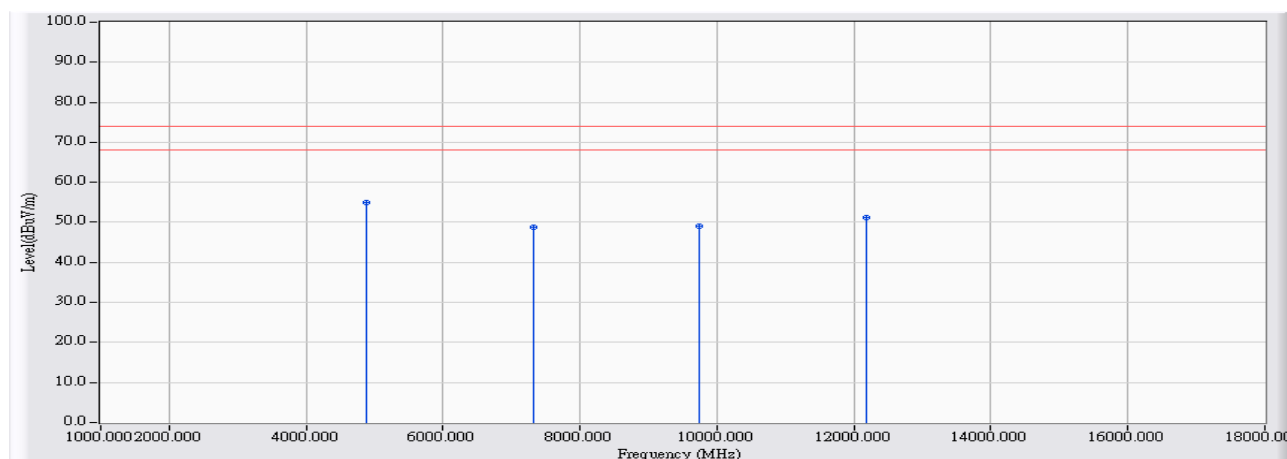


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4873.000	-0.427	53.500	53.073	-0.927	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2437MHz

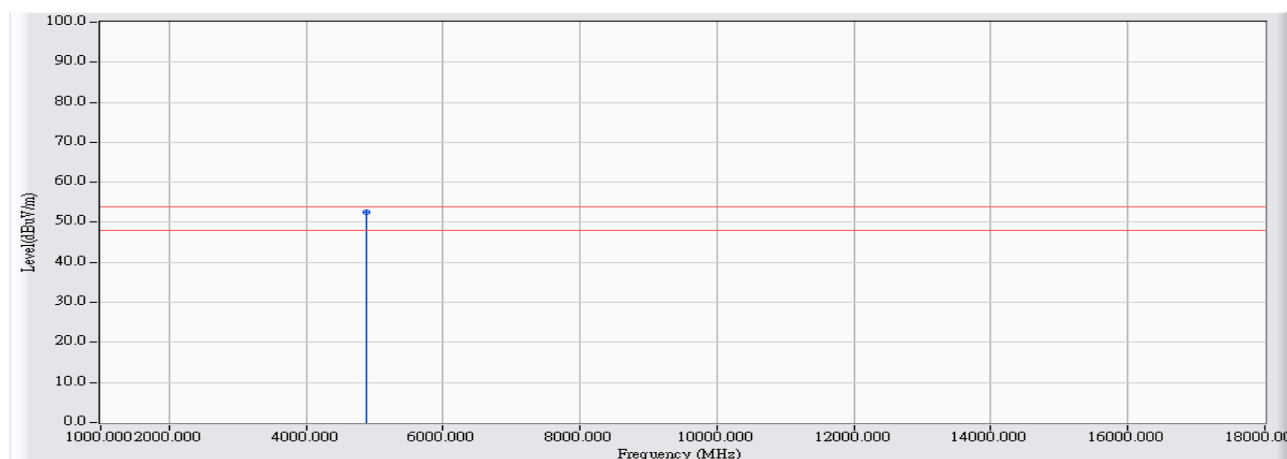


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4873.000	-0.427	55.340	54.913	-19.087	74.000	PEAK
2		7312.000	6.774	41.970	48.744	-25.256	74.000	PEAK
3		9738.000	12.249	36.720	48.969	-25.031	74.000	PEAK
4		12178.000	15.246	35.900	51.146	-22.854	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2437MHz

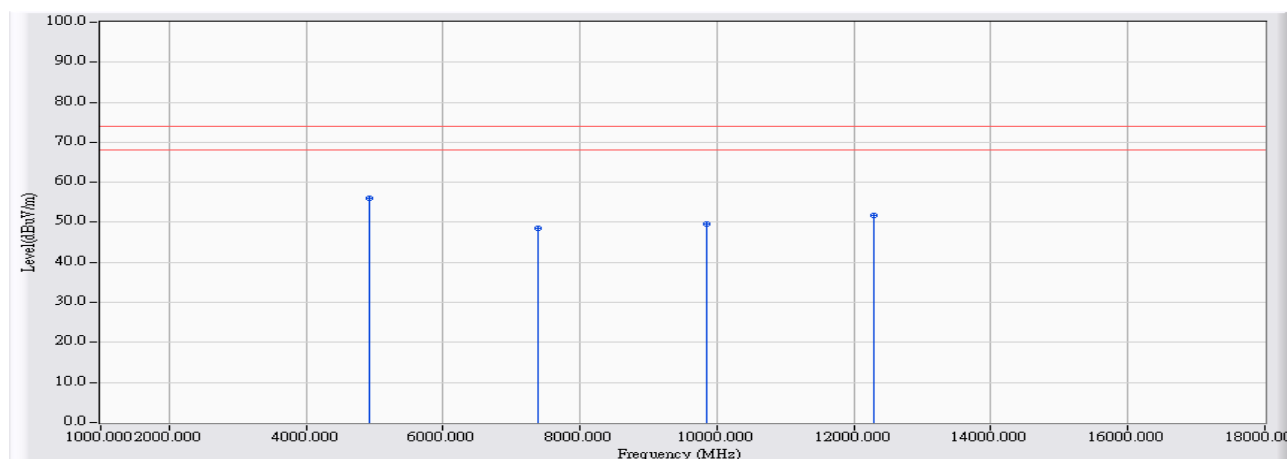


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4873.000	-0.427	52.890	52.463	-1.537	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2462MHz

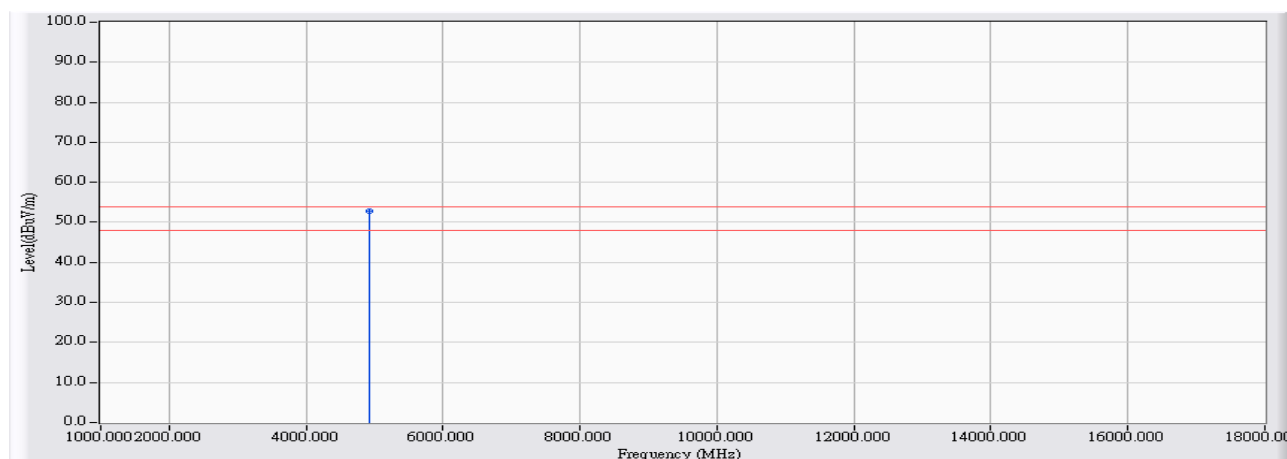


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4923.000	-0.377	56.330	55.953	-18.047	74.000	PEAK
2		7385.000	7.048	41.500	48.549	-25.451	74.000	PEAK
3		9858.000	12.493	37.100	49.593	-24.407	74.000	PEAK
4		12298.000	15.439	36.430	51.869	-22.131	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2462MHz

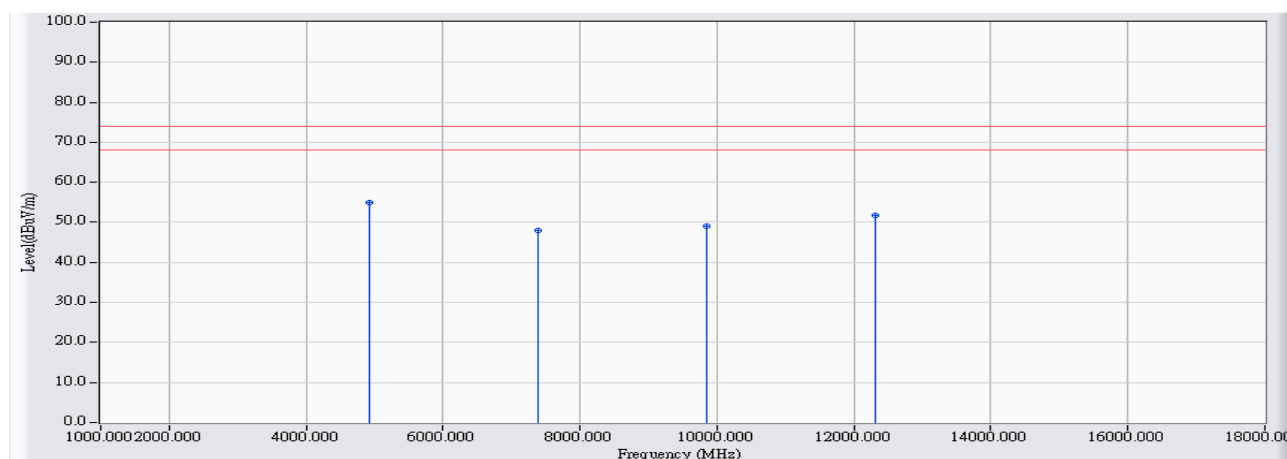


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4923.000	-0.377	53.250	52.873	-1.127	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2462MHz

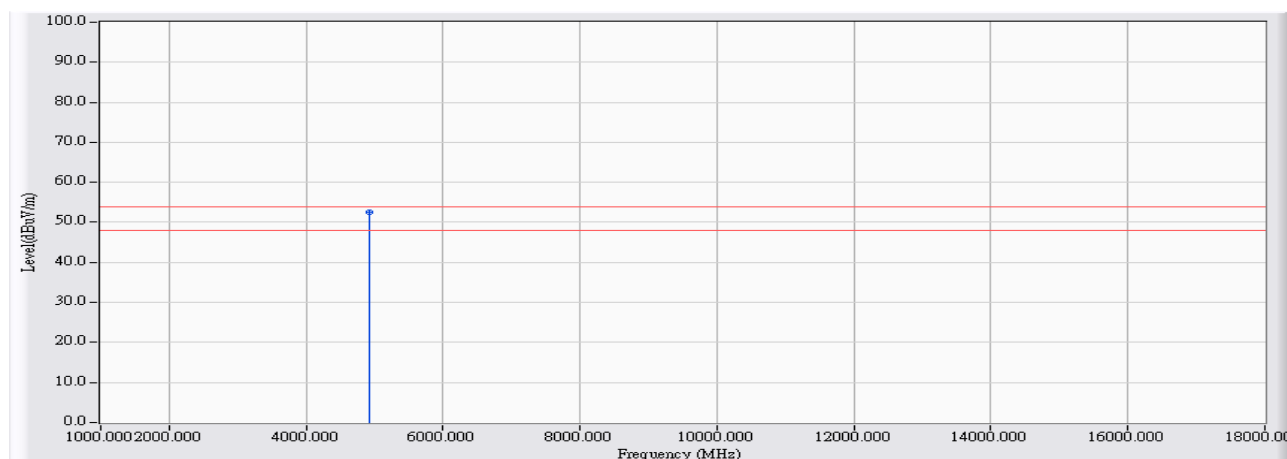


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4923.000	-0.377	55.280	54.903	-19.097	74.000	PEAK
2		7381.000	7.034	41.010	48.044	-25.956	74.000	PEAK
3		9846.000	12.468	36.700	49.168	-24.832	74.000	PEAK
4		12307.000	15.512	36.110	51.622	-22.378	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2462MHz

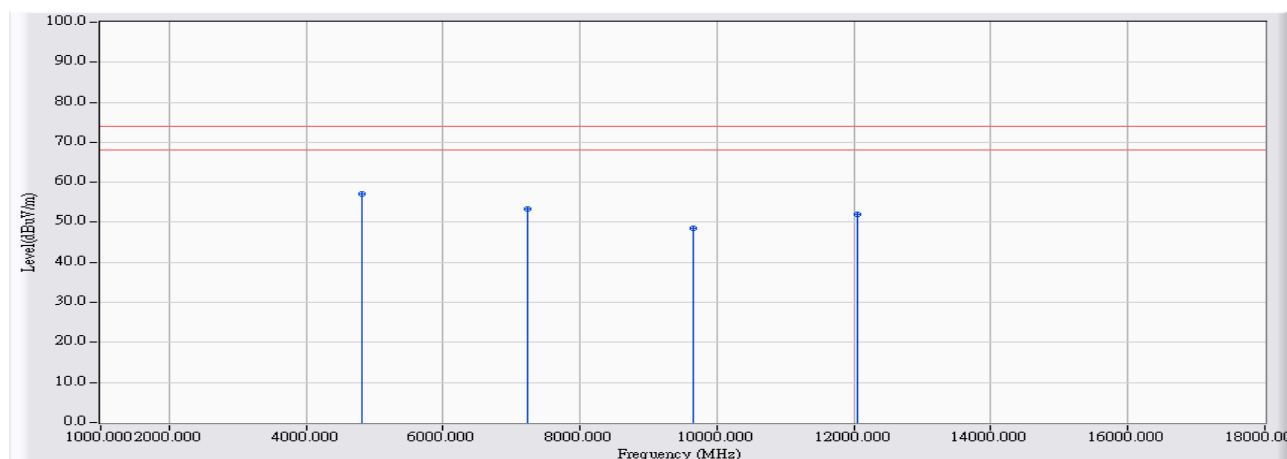


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4923.000	-0.377	52.990	52.613	-1.387	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2412MHz

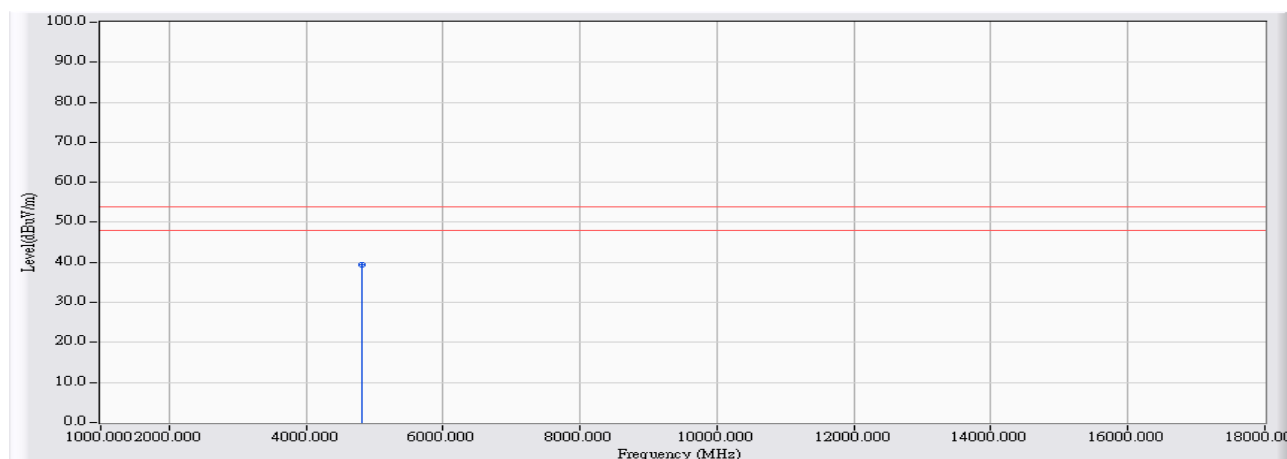


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4822.000	-0.477	57.620	57.143	-16.857	74.000	PEAK
2		7237.000	6.492	46.920	53.412	-20.588	74.000	PEAK
3		9658.000	12.079	36.320	48.400	-25.600	74.000	PEAK
4		12052.000	15.562	36.330	51.892	-22.108	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2412MHz

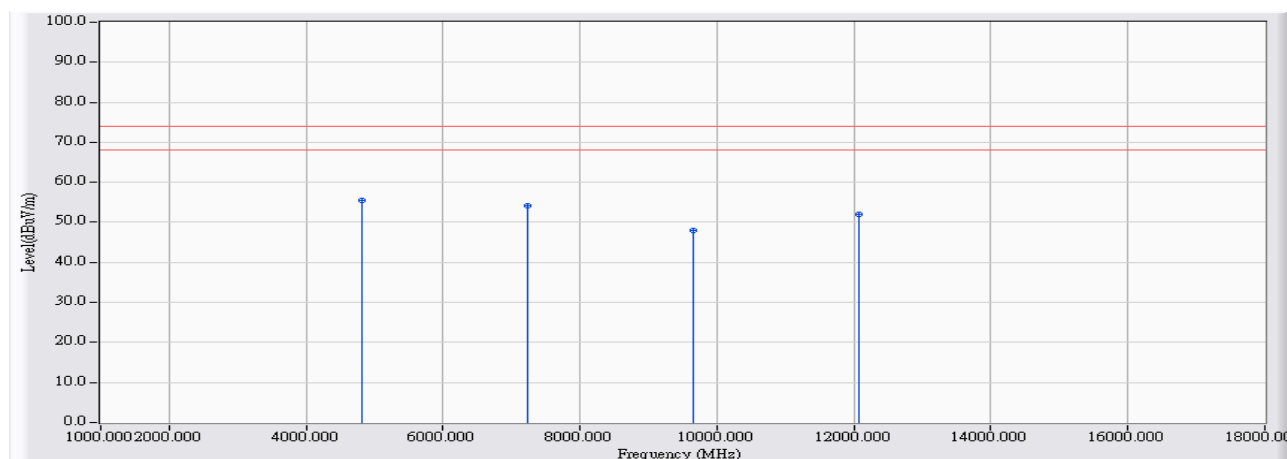


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-0.475	39.950	39.475	-14.525	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2412MHz

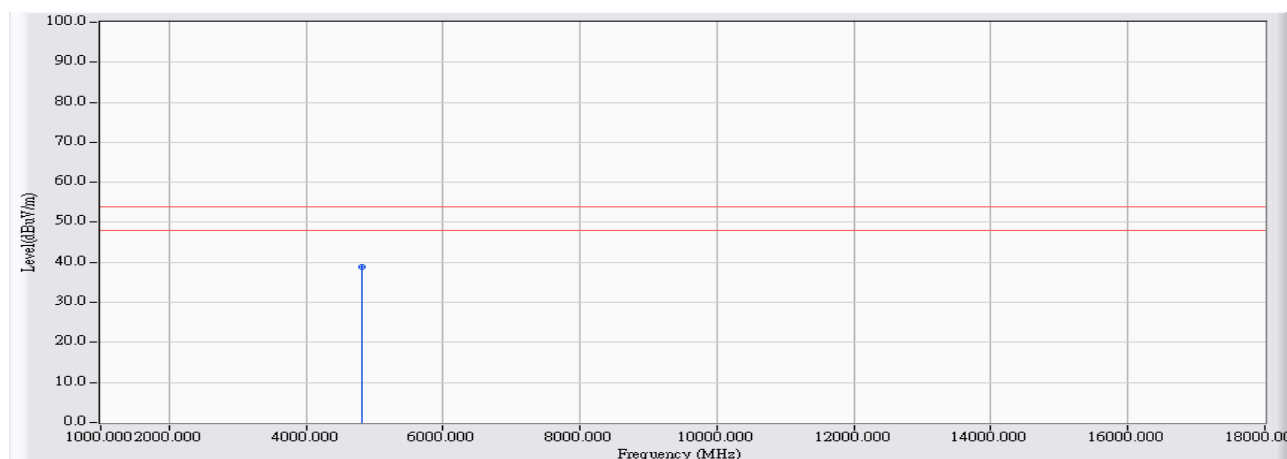


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4821.000	-0.479	55.950	55.472	-18.528	74.000	PEAK
2		7226.000	6.452	47.820	54.272	-19.728	74.000	PEAK
3		9656.000	12.075	36.030	48.105	-25.895	74.000	PEAK
4		12065.000	15.531	36.430	51.961	-22.039	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2412MHz

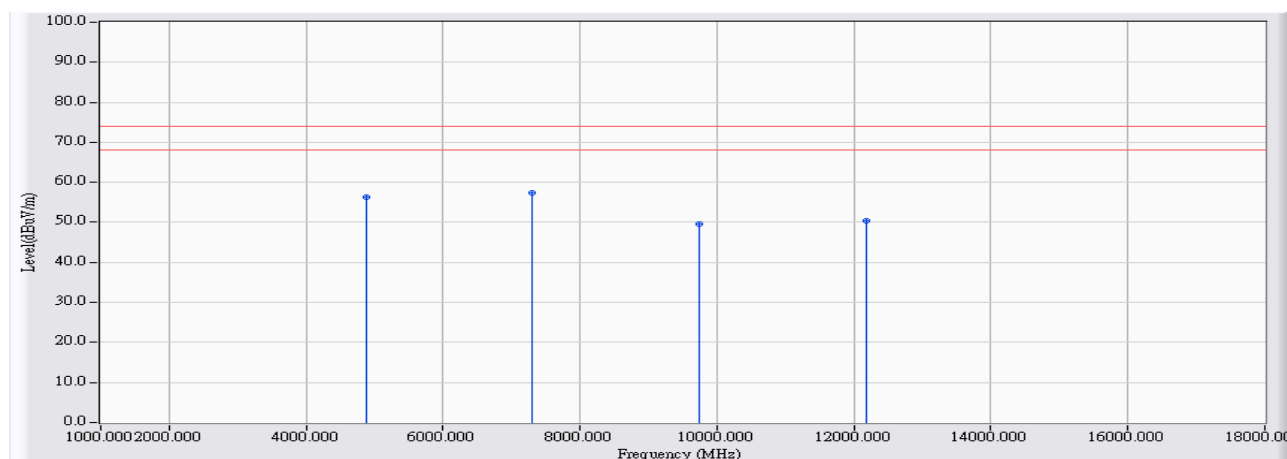


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4823.000	-0.476	39.470	38.994	-15.006	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2437MHz

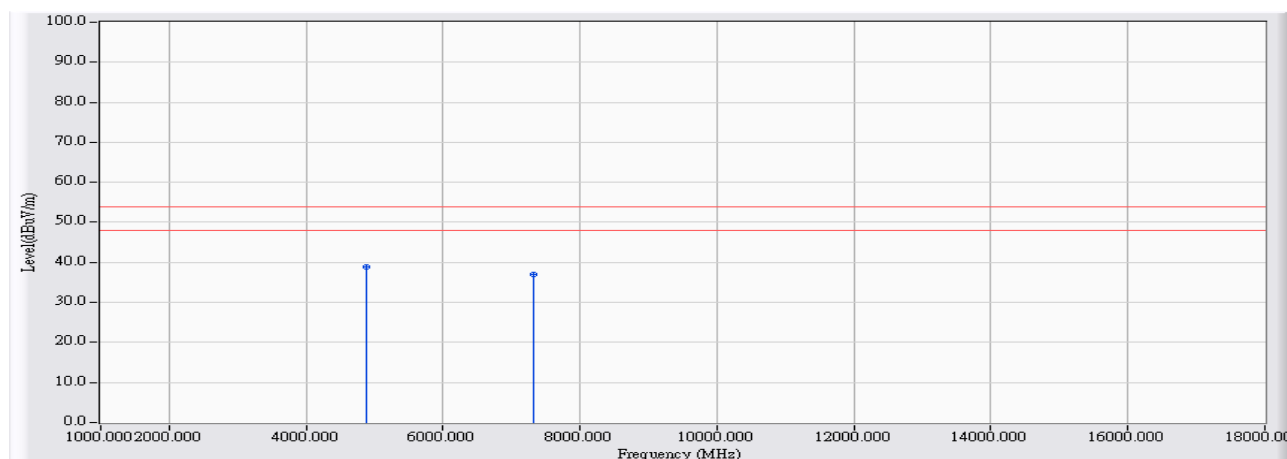


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4873.000	-0.427	56.780	56.353	-17.647	74.000	PEAK
2	*	7308.000	6.759	50.730	57.489	-16.511	74.000	PEAK
3		9747.000	12.267	37.250	49.517	-24.483	74.000	PEAK
4		12181.000	15.239	35.080	50.319	-23.681	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2437MHz

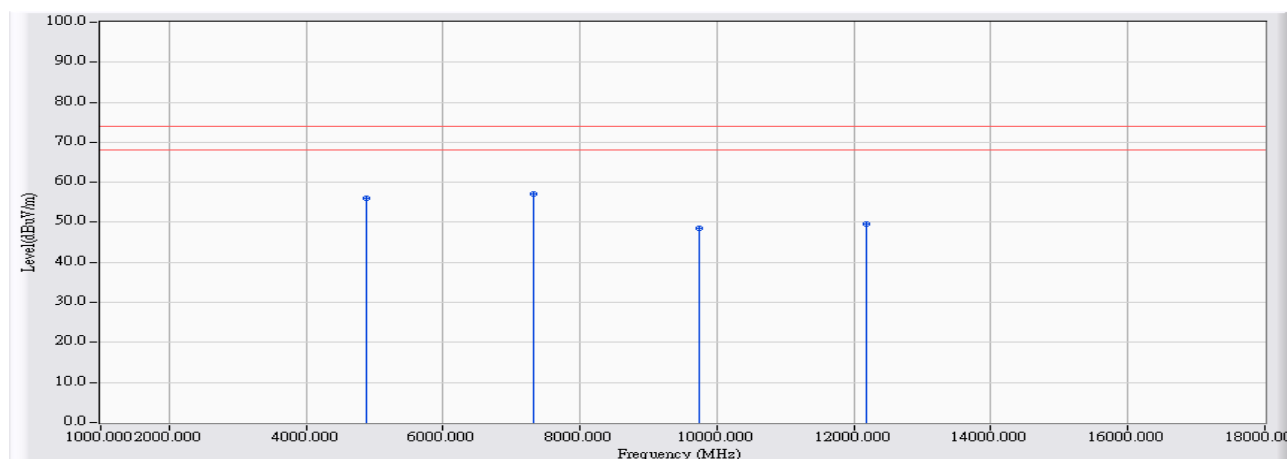


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4873.000	-0.427	39.280	38.853	-15.147	54.000	AVERAGE
2		7310.000	6.766	30.230	36.996	-17.004	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2437MHz

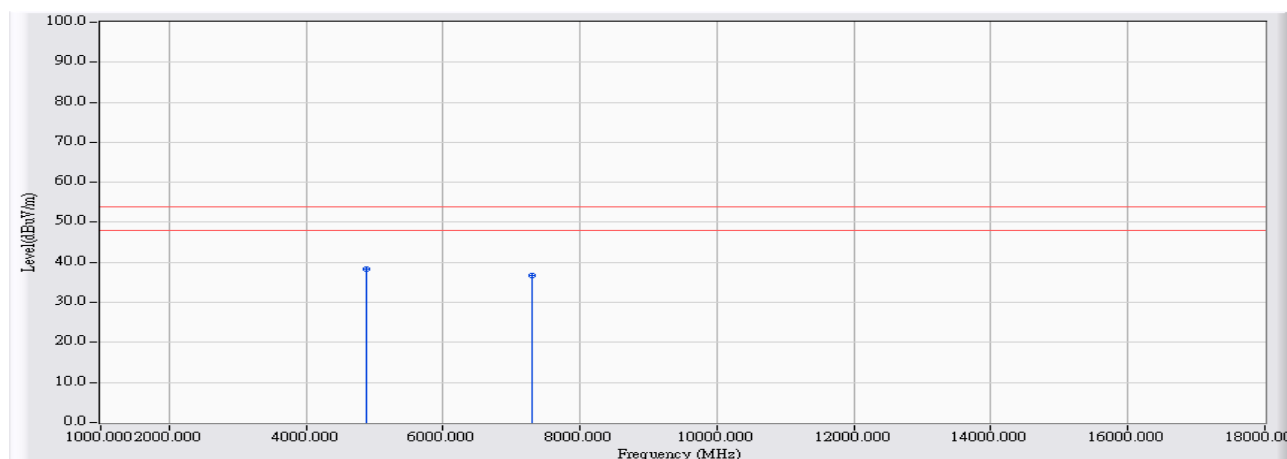


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.000	-0.425	56.440	56.014	-17.986	74.000	PEAK
2	*	7311.000	6.770	50.230	57.000	-17.000	74.000	PEAK
3		9730.000	12.233	36.400	48.633	-25.367	74.000	PEAK
4		12191.000	15.213	34.400	49.613	-24.387	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2437MHz

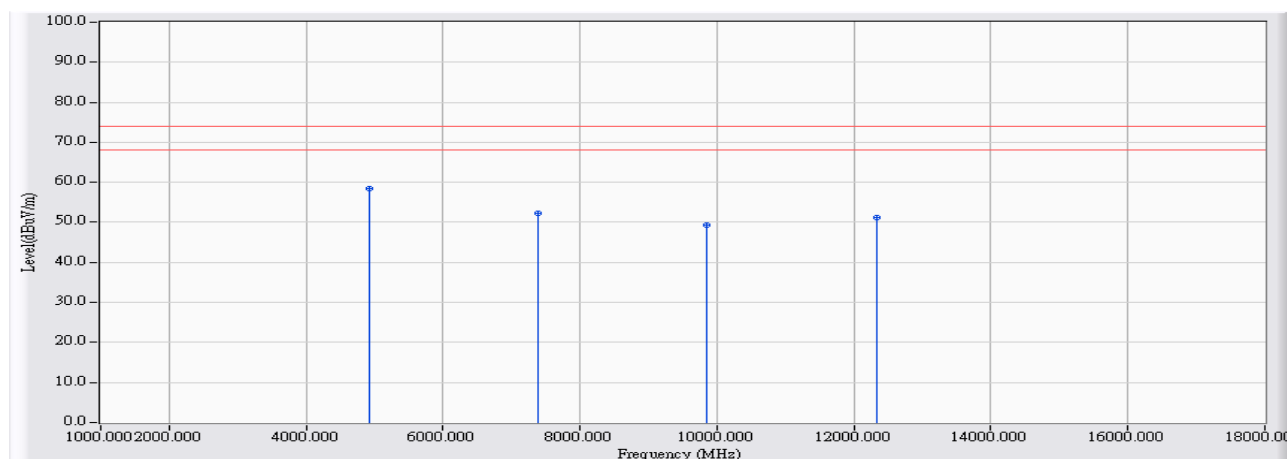


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.000	-0.425	38.770	38.344	-15.656	54.000	AVERAGE
2		7309.000	6.762	29.880	36.643	-17.357	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2462MHz

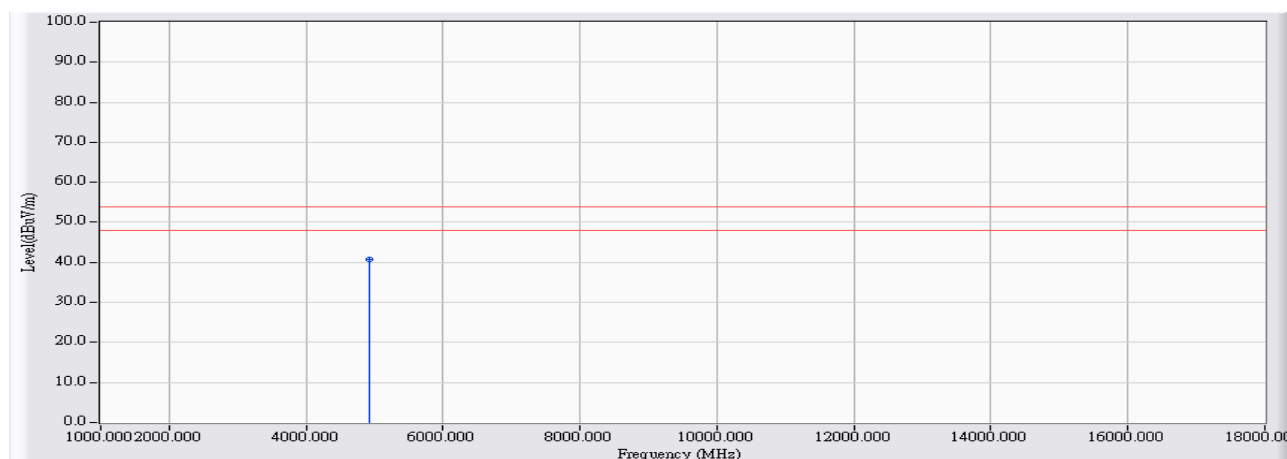


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4925.000	-0.375	58.920	58.545	-15.455	74.000	PEAK
2		7386.000	7.053	45.330	52.383	-21.617	74.000	PEAK
3		9848.000	12.472	36.860	49.332	-24.668	74.000	PEAK
4		12327.000	15.673	35.550	51.224	-22.776	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2462MHz

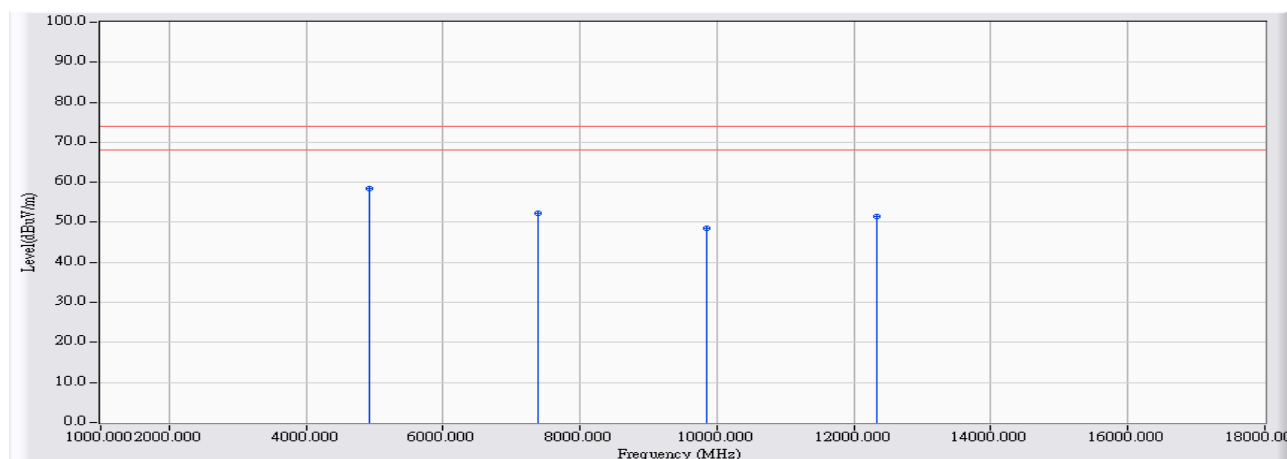


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4924.000	-0.376	41.150	40.774	-13.226	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2462MHz

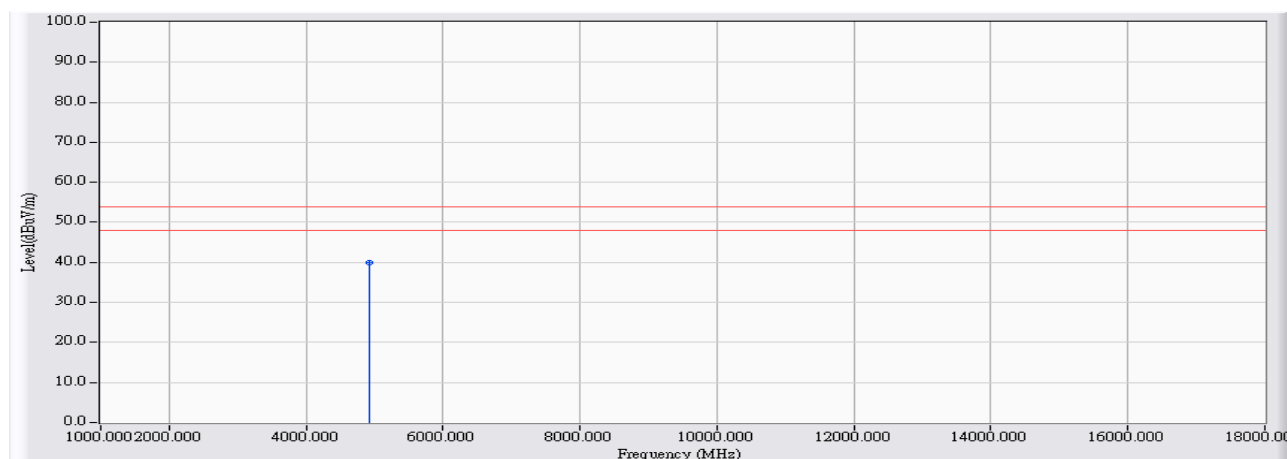


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4924.000	-0.376	58.690	58.314	-15.686	74.000	PEAK
2		7379.000	7.025	45.120	52.146	-21.854	74.000	PEAK
3		9845.000	12.466	36.130	48.596	-25.404	74.000	PEAK
4		12326.000	15.666	35.790	51.456	-22.544	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2462MHz

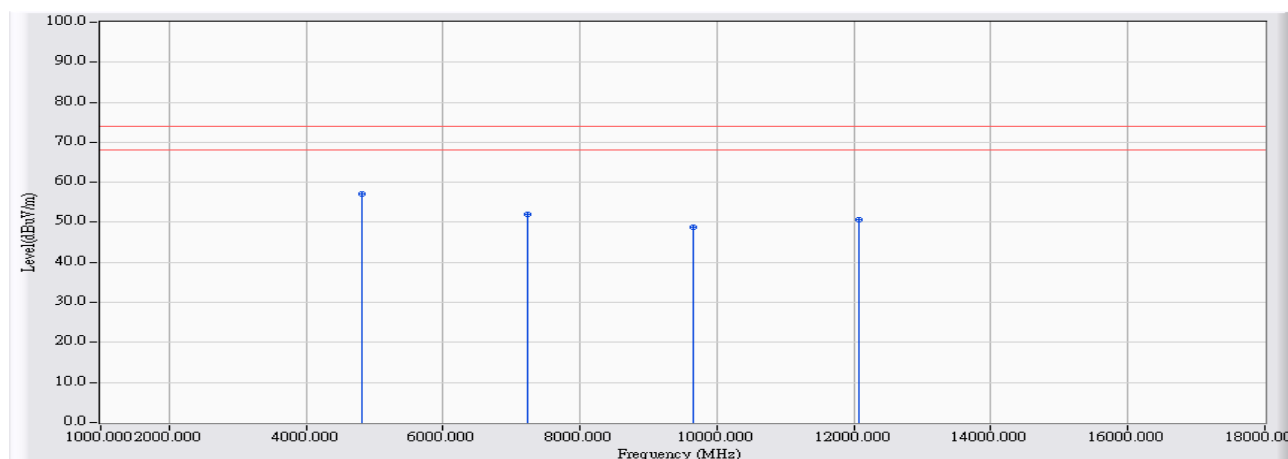


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4924.000	-0.376	40.370	39.994	-14.006	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2412MHz

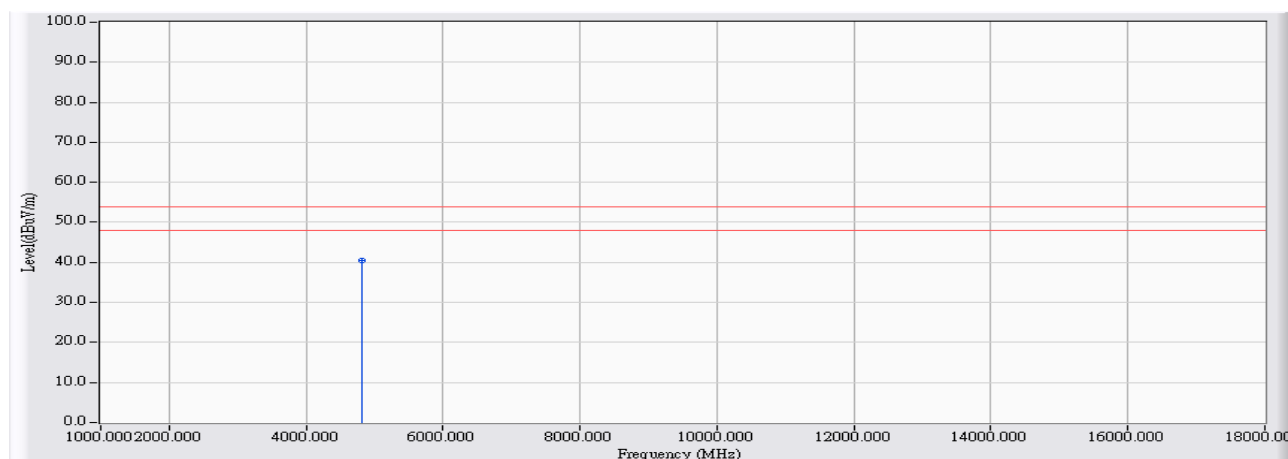


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4823.000	-0.476	57.480	57.004	-16.996	74.000	PEAK
2		7229.000	6.462	45.430	51.893	-22.107	74.000	PEAK
3		9644.000	12.048	36.850	48.898	-25.102	74.000	PEAK
4		12062.000	15.538	35.240	50.778	-23.222	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2412MHz

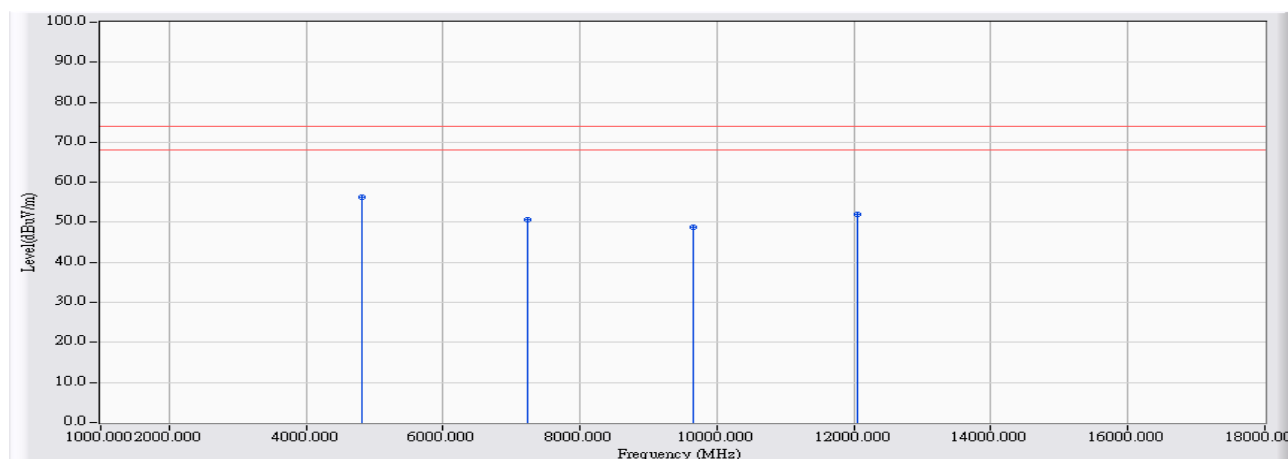


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-0.475	41.050	40.575	-13.425	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2412MHz

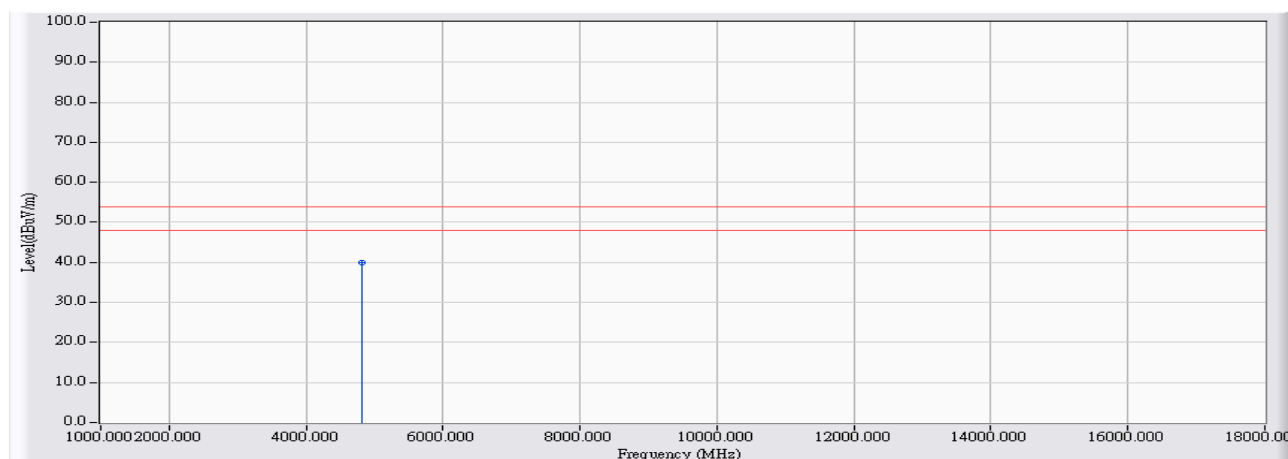


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.000	-0.475	56.890	56.415	-17.585	74.000	PEAK
2		7224.000	6.444	44.170	50.614	-23.386	74.000	PEAK
3		9663.000	12.090	36.730	48.821	-25.179	74.000	PEAK
4		12058.000	15.548	36.470	52.018	-21.982	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2412MHz

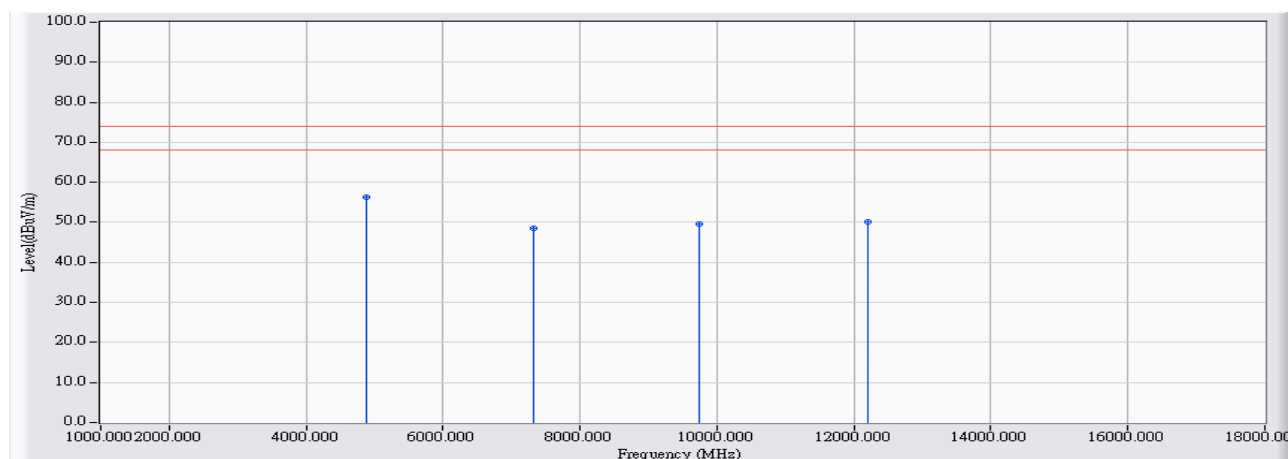


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4823.000	-0.476	40.340	39.864	-14.136	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz

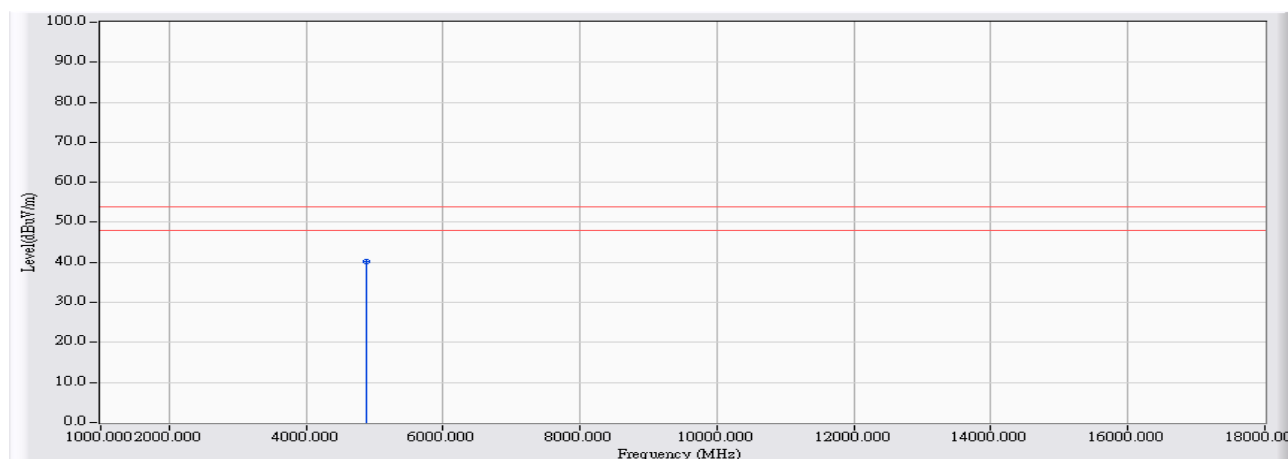


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4875.000	-0.425	56.800	56.375	-17.625	74.000	PEAK
2		7311.000	6.770	41.700	48.470	-25.530	74.000	PEAK
3		9748.000	12.269	37.310	49.579	-24.421	74.000	PEAK
4		12196.000	15.201	34.870	50.070	-23.930	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz

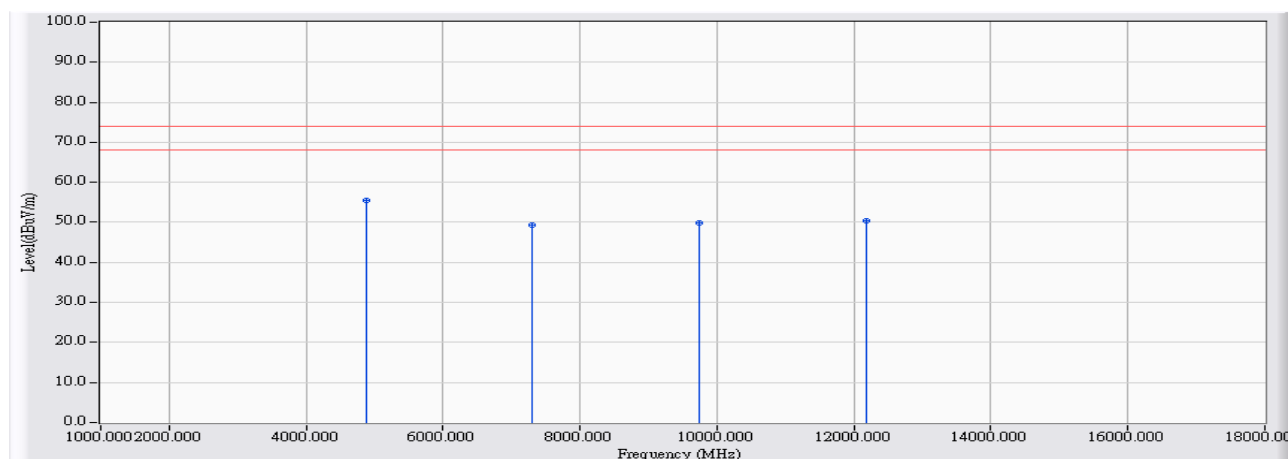


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4873.000	-0.427	40.560	40.133	-13.867	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz

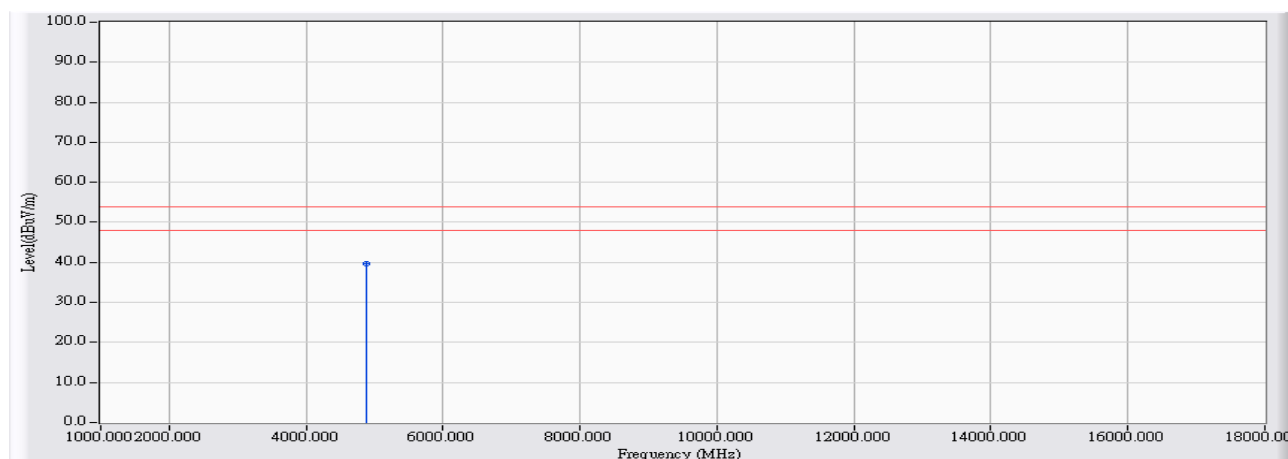


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4873.000	-0.427	55.980	55.553	-18.447	74.000	PEAK
2		7304.000	6.743	42.460	49.204	-24.796	74.000	PEAK
3		9729.000	12.231	37.600	49.831	-24.169	74.000	PEAK
4		12189.000	15.217	35.070	50.288	-23.712	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz

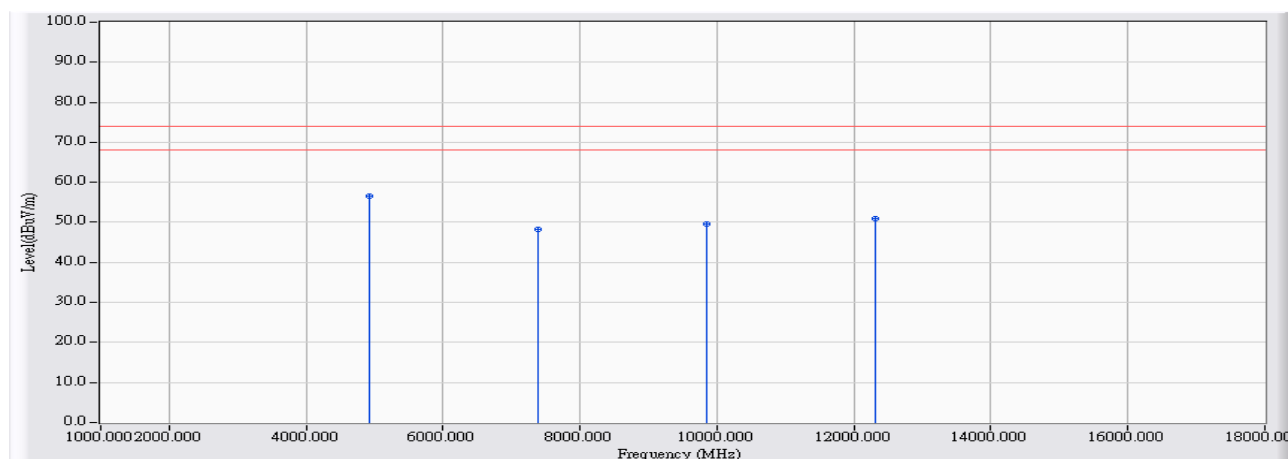


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.000	-0.425	40.120	39.694	-14.306	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2462MHz

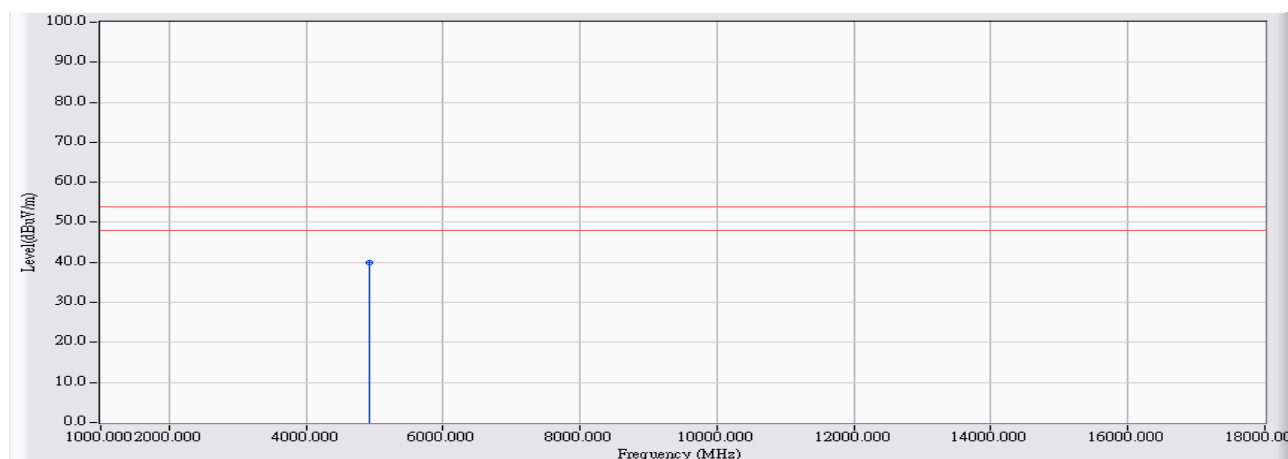


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4925.000	-0.375	57.050	56.675	-17.325	74.000	PEAK
2		7389.000	7.063	41.090	48.154	-25.846	74.000	PEAK
3		9843.000	12.462	37.200	49.662	-24.338	74.000	PEAK
4		12315.000	15.577	35.370	50.947	-23.053	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2462MHz

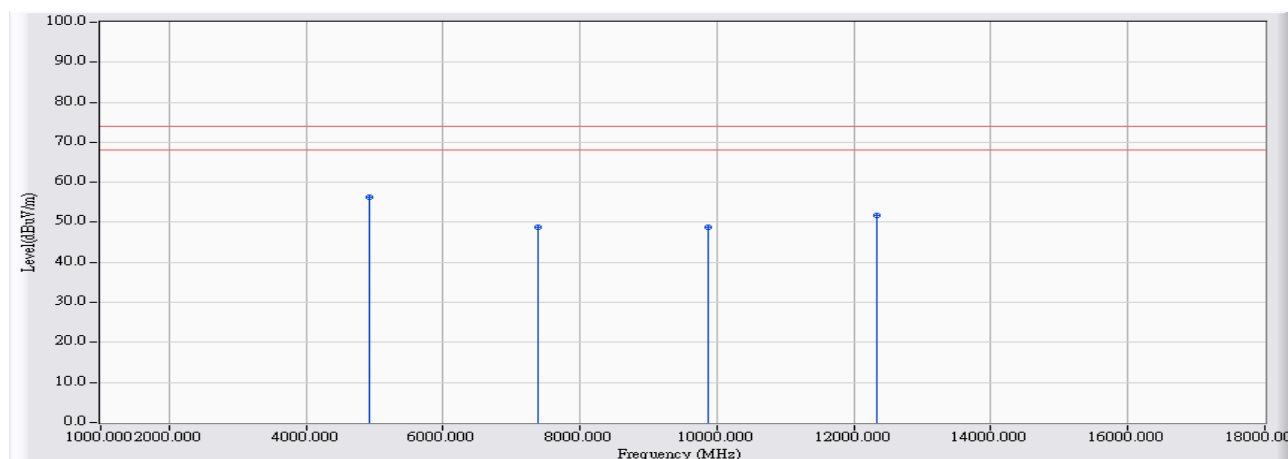


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4923.000	-0.377	40.360	39.983	-14.017	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2462MHz

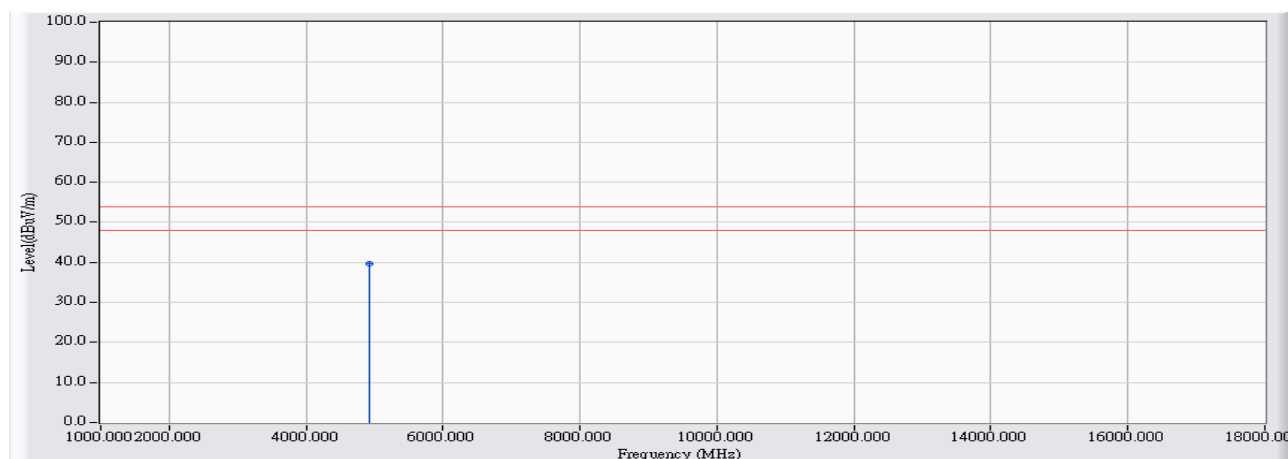


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4925.000	-0.375	56.740	56.365	-17.635	74.000	PEAK
2		7381.000	7.034	41.860	48.894	-25.106	74.000	PEAK
3		9861.000	12.499	36.250	48.749	-25.251	74.000	PEAK
4		12329.000	15.690	35.960	51.650	-22.350	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB2-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB2-H_FCC_EFS_B091_1-18GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2462MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4924.000	-0.376	40.110	39.734	-14.266	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 18GHz were not included is because their levels are too low.

5. RF antenna conducted test

5.1. Test Equipment

The following test equipments are used during the test:

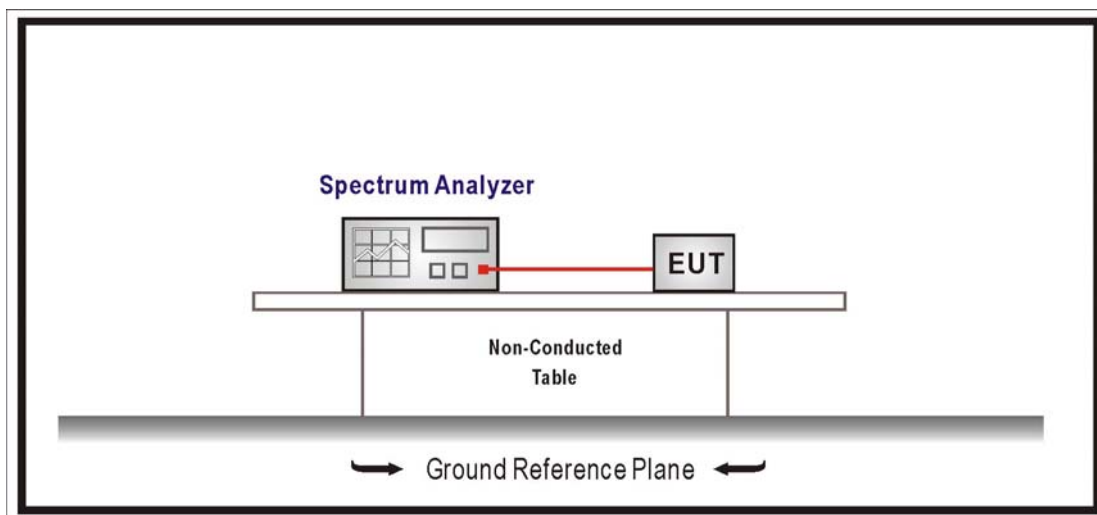
RF Antenna Conducted Test / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup

RF Antenna Conducted Measurement:



5.3. Limits

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 an RF conducted or radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure section 11.2 of KDB558074 v03r05 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

5.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

5.6. Uncertainty

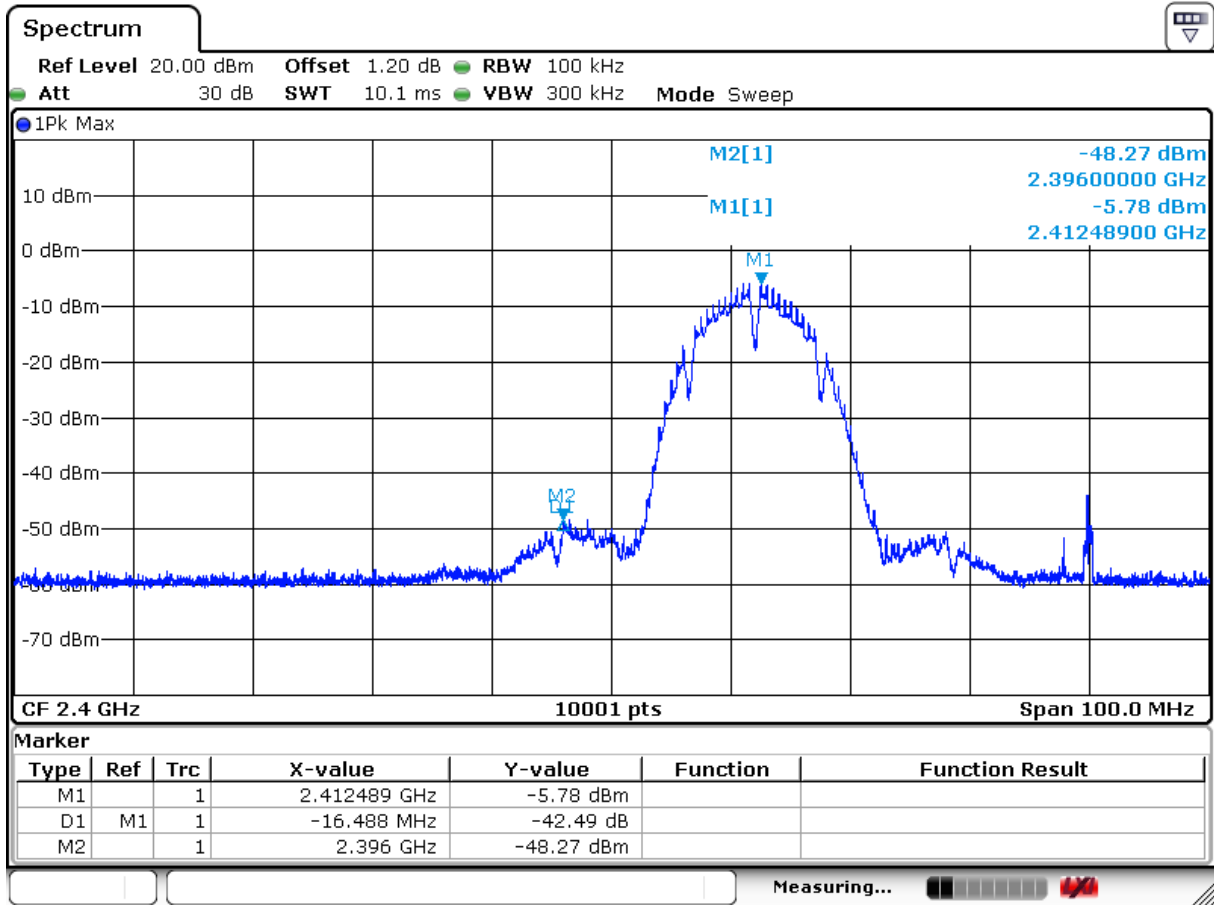
Conducted is defined as $\pm 1.27\text{dB}$

5.7. Test Result

Product	Gateway		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

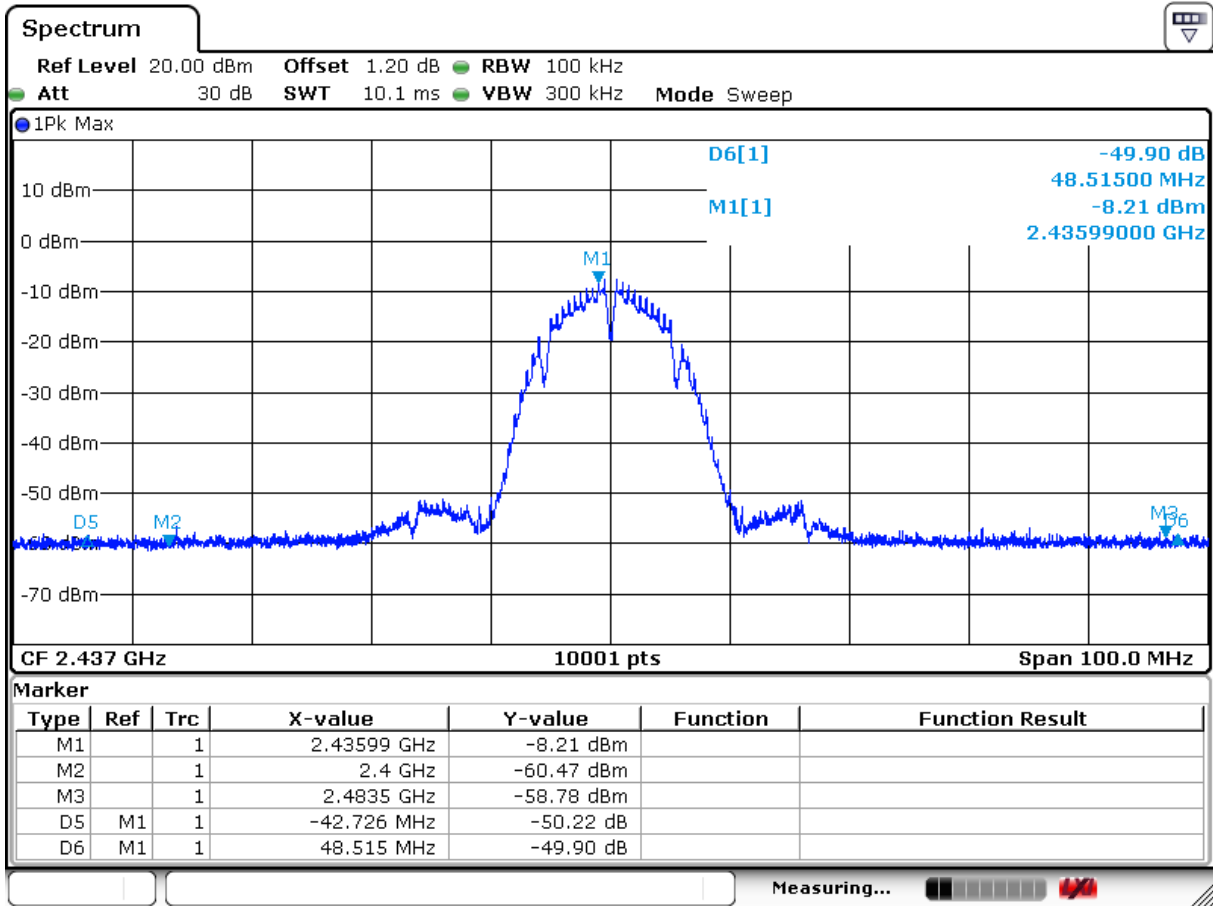
IEEE 802.11b (ANT 0)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	42.49	≤ 30	Pass
6	2437	49.90	≤ 30	Pass
11	2462	48.76	≤ 30	Pass

Channel 1



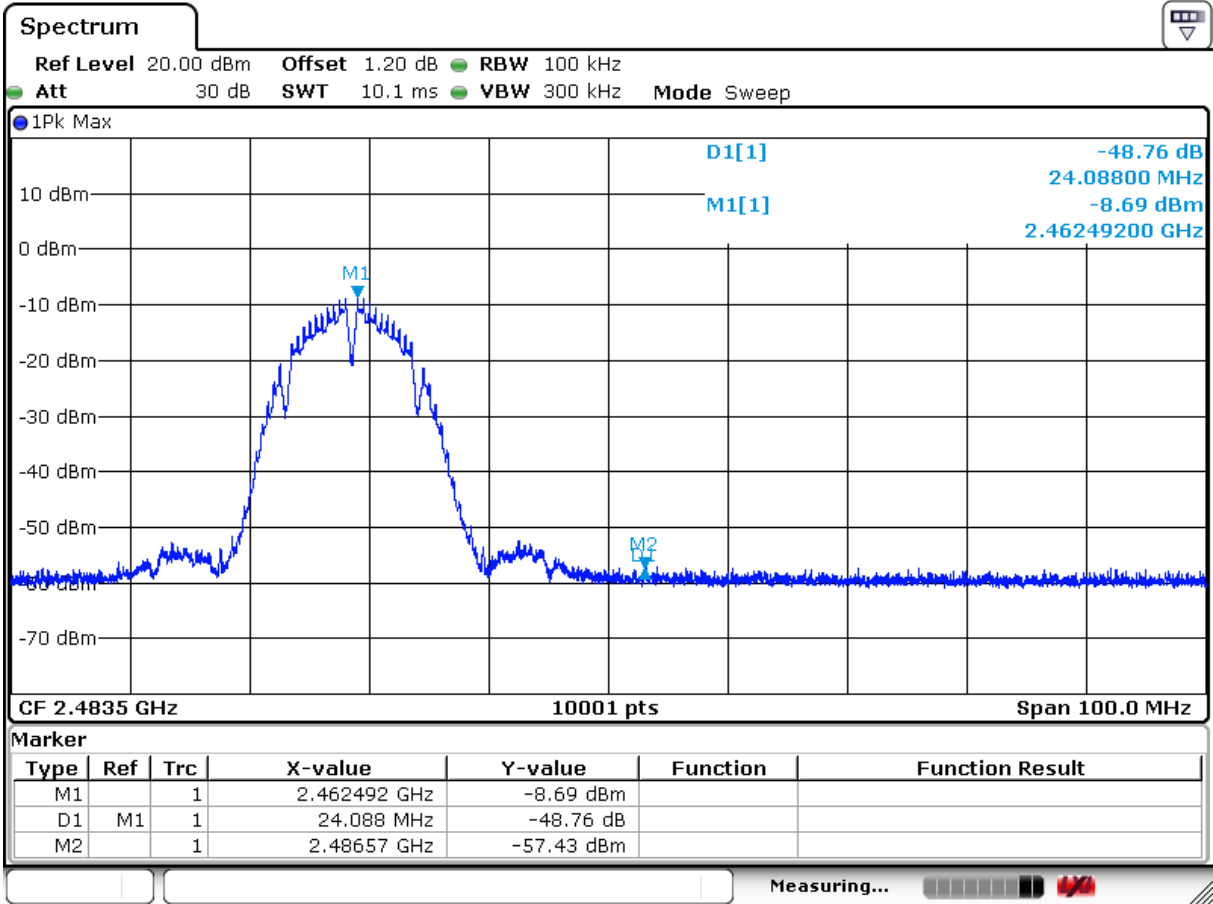
Date: 10 MAR 2017 17:59:23

Channel 6



Date: 10 MAR 2017 18:06:13

Channel 11

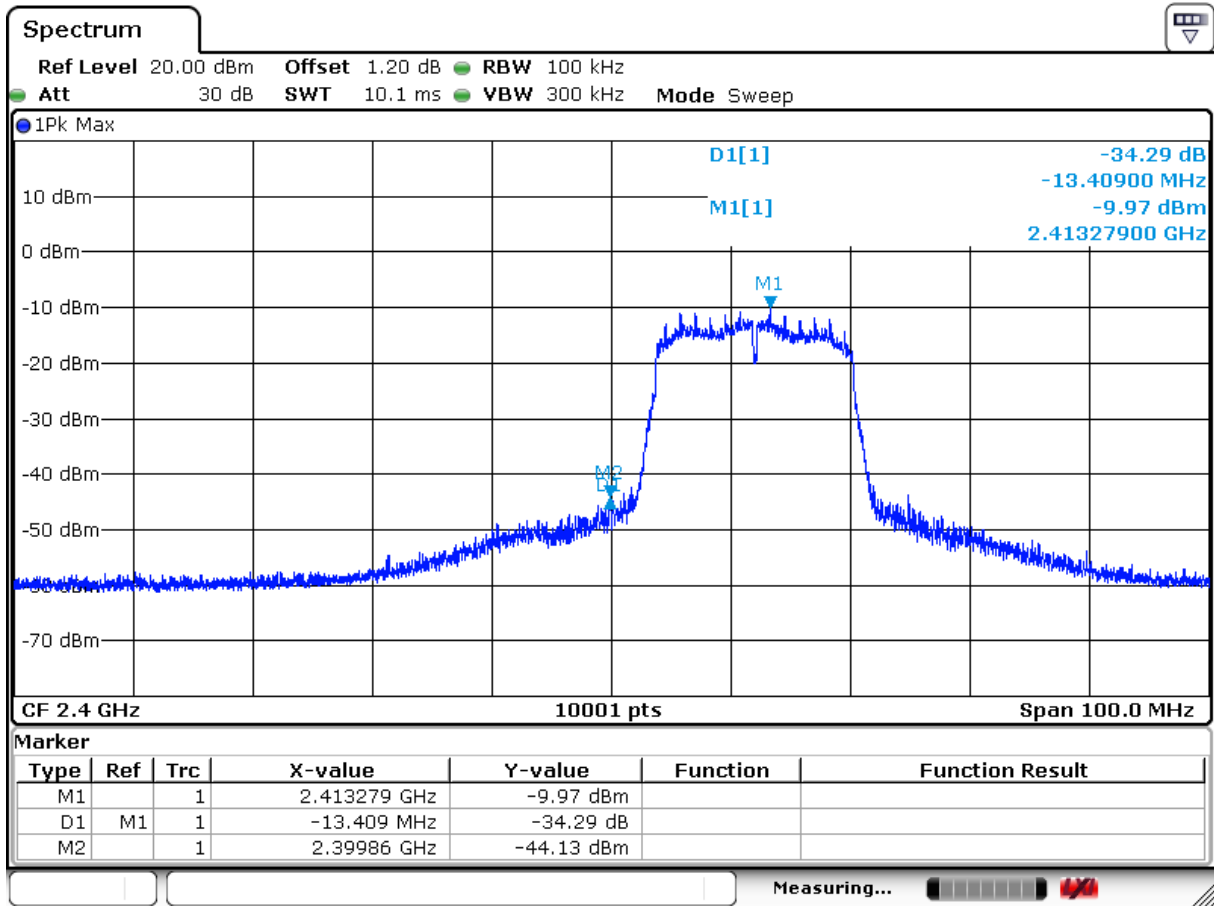


Date: 10 MAR 2017 18:10:24

Product	Gateway		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

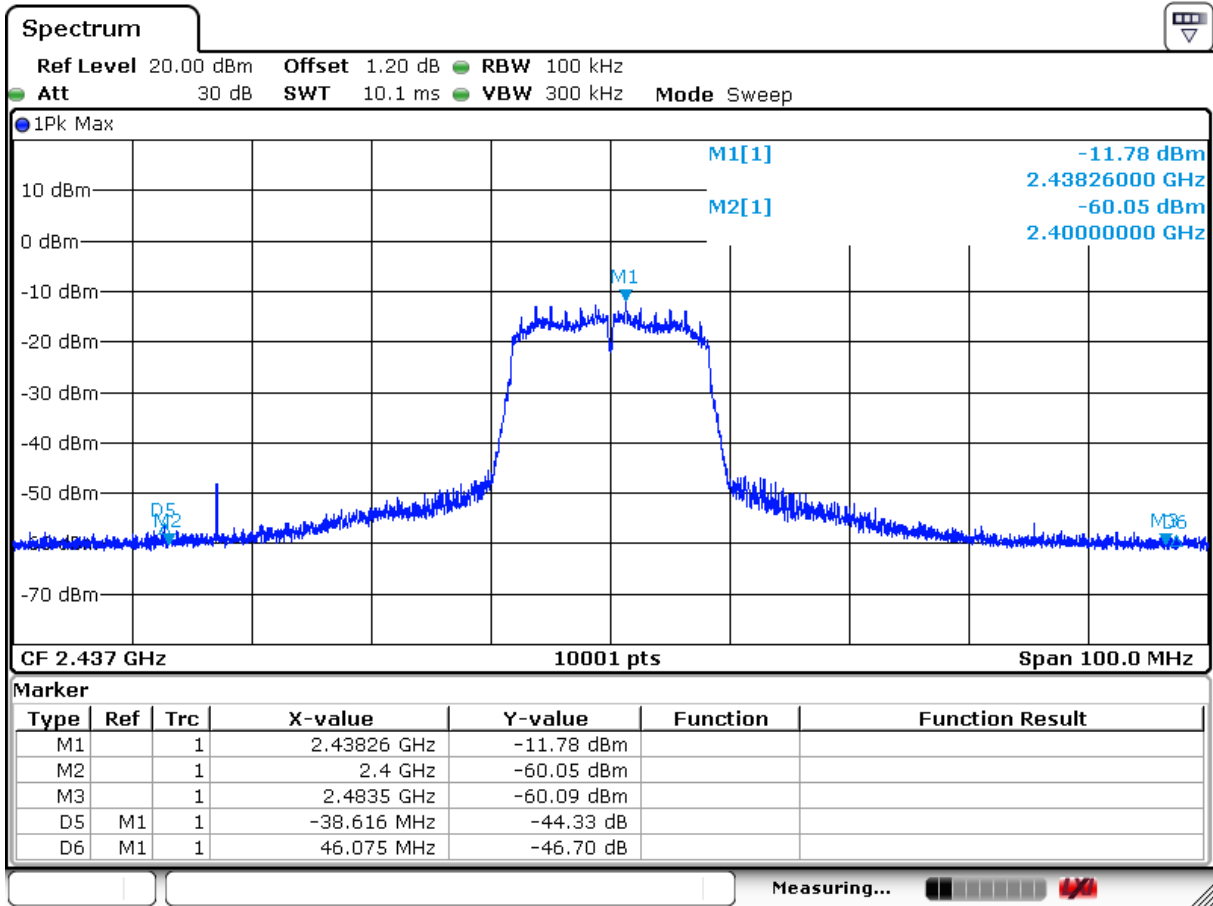
IEEE 802.11g (ANT 0)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	44.33	≥ 30	Pass
6	2437	41.84	≥ 30	Pass
11	2462	37.41	≥ 30	Pass

Channel 1



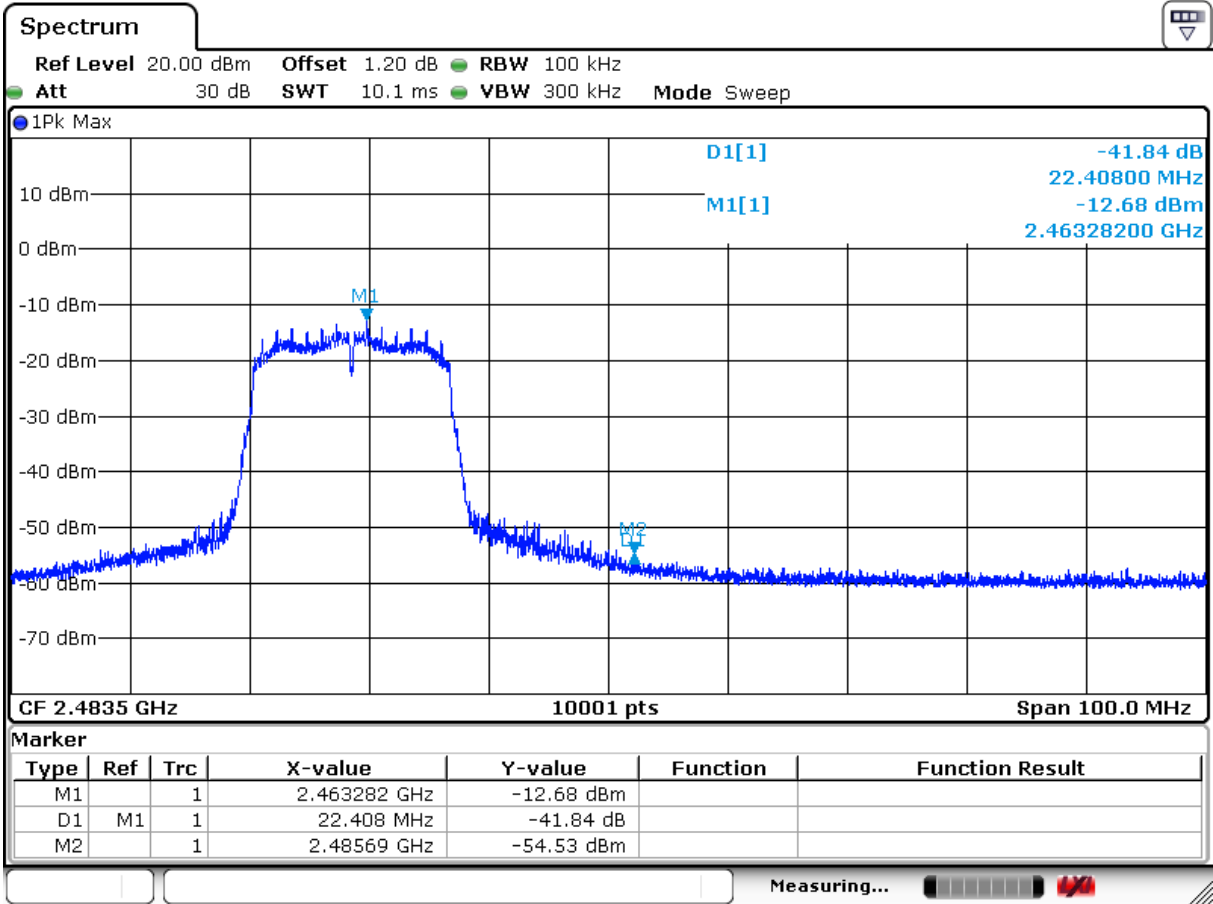
Date: 10 MAR 2017 18:01:43

Channel 6



Date: 10 MAR 2017 18:07:25

Channel 11

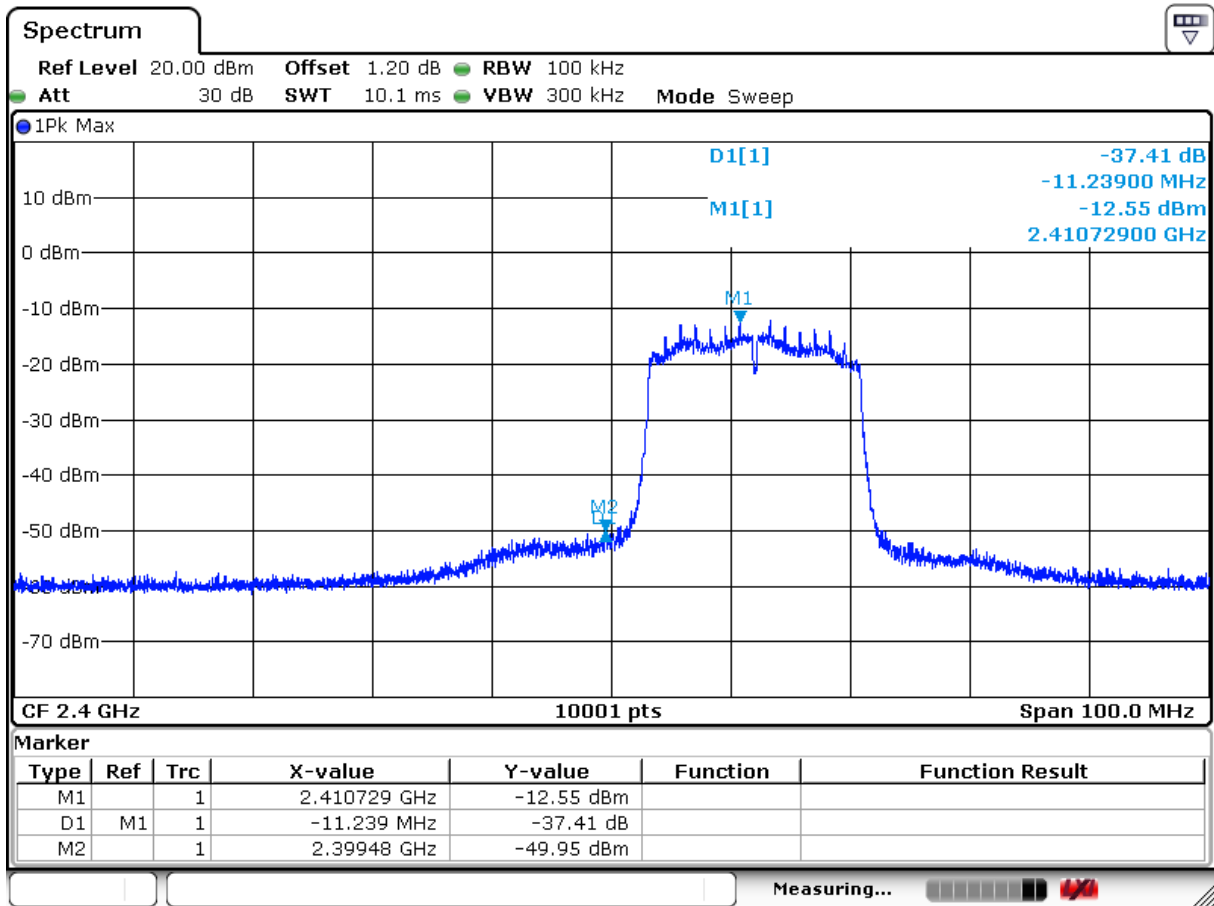


Date: 10 MAR 2017 18:11:53

Product	Gateway		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

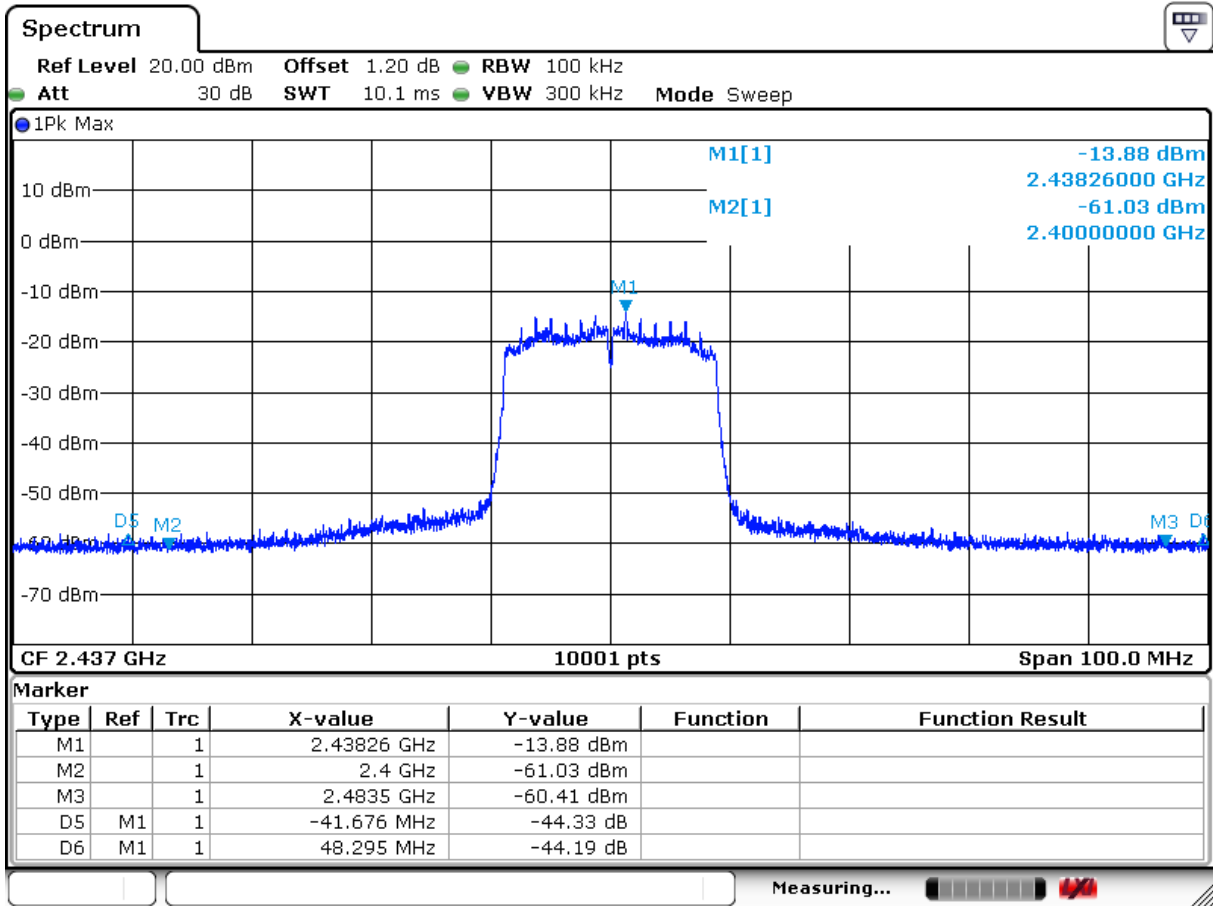
IEEE 802.11n_20M (ANT 0)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	37.41	≥ 30	Pass
6	2437	44.19	≥ 30	Pass
11	2462	42.09	≥ 30	Pass

Channel 1



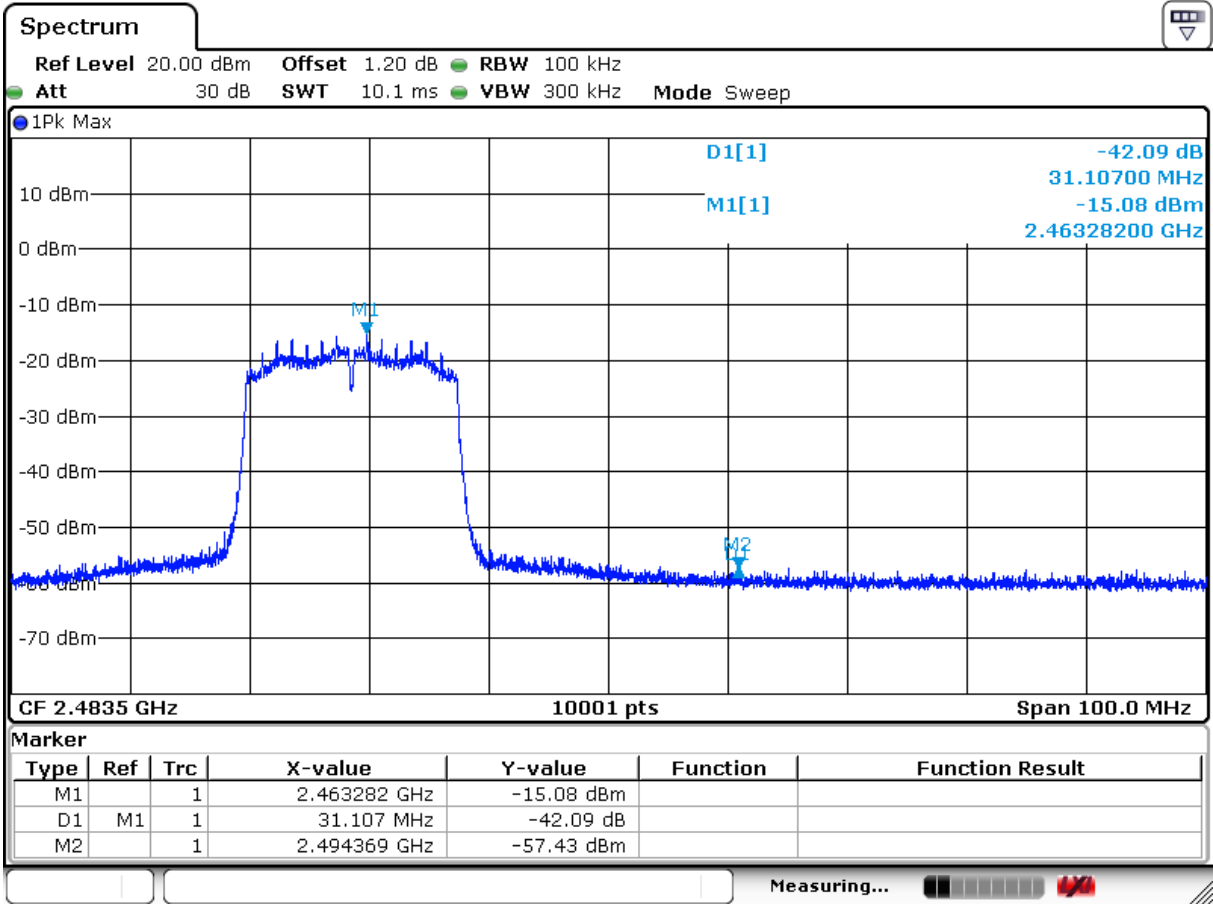
Date: 10 MAR 2017 18:03:12

Channel 6



Date: 10 MAR 2017 18:08:30

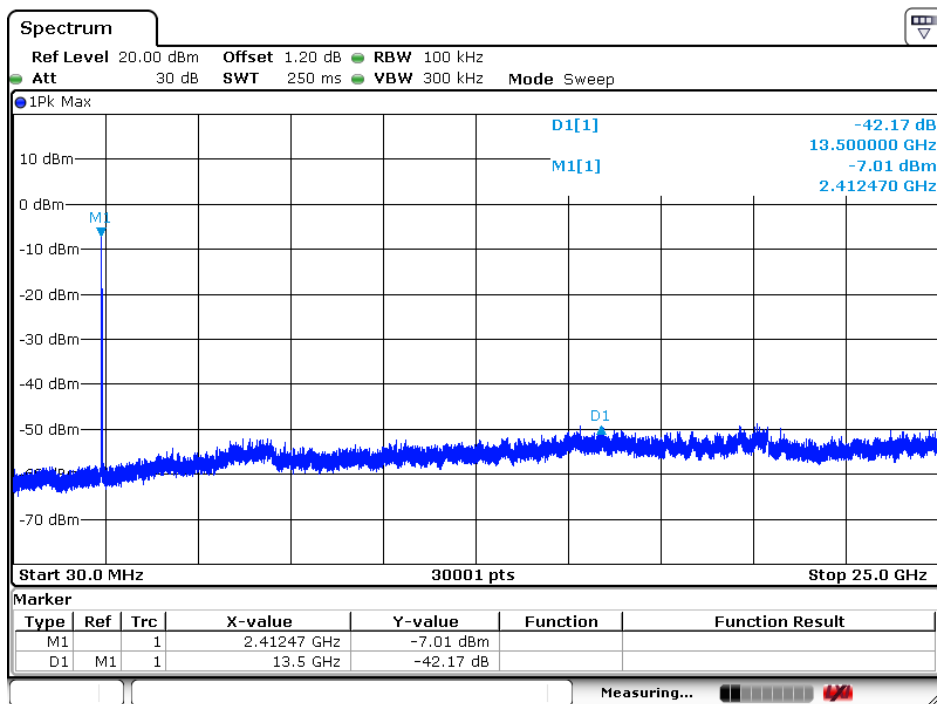
Channel 11



Date: 10 MAR 2017 18:13:10

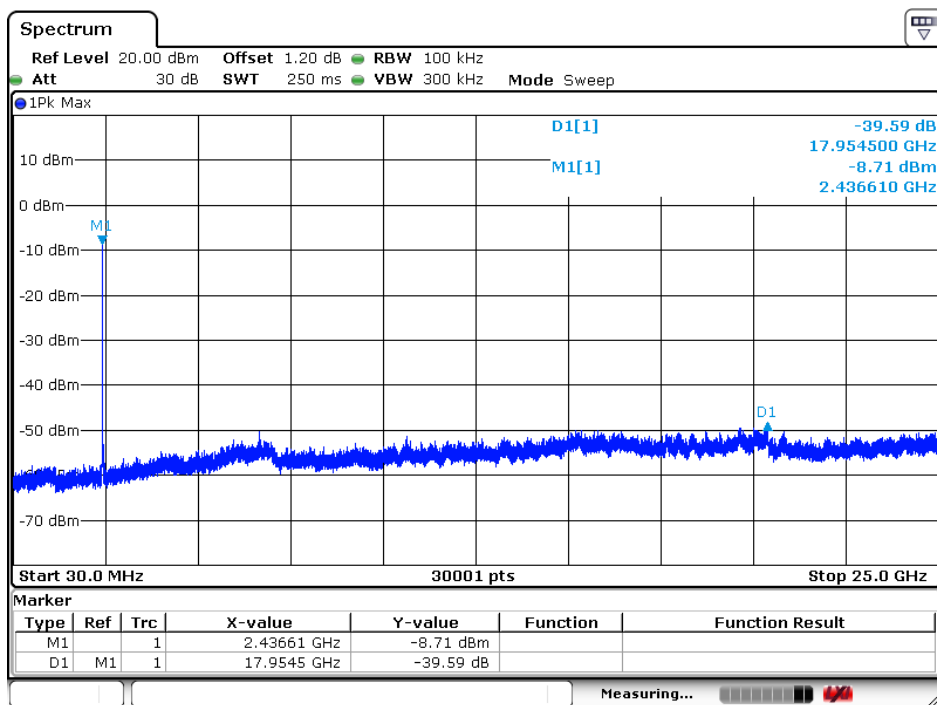
Product	Gateway		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

2412MHz (30MHz-25GHz)-802.11b (ANT 0)



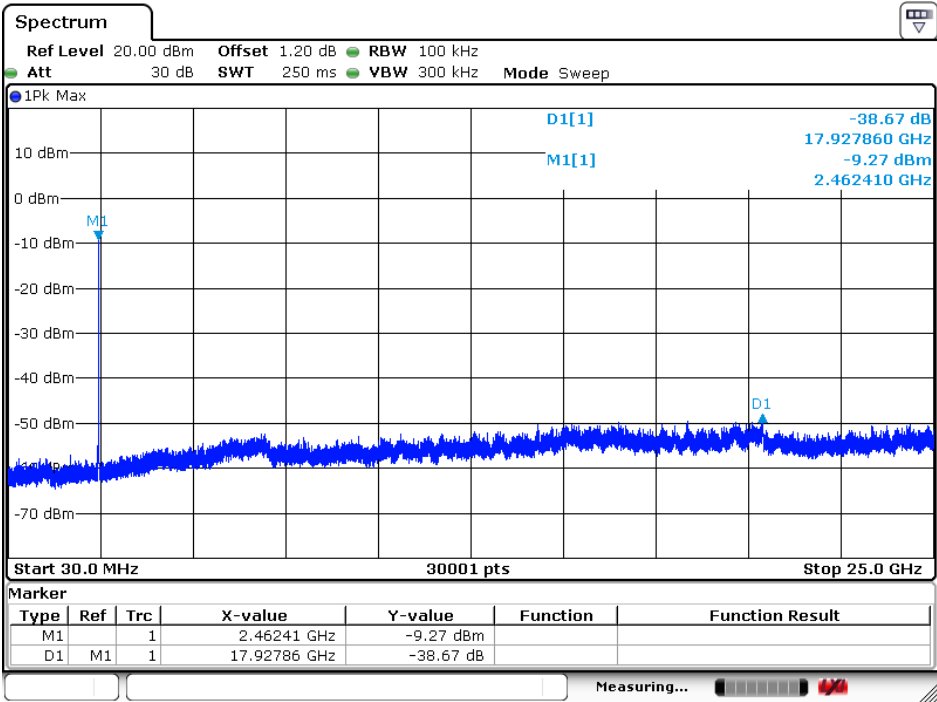
Date:10 MAR 2017 17:43:10

2437MHz (30MHz-25GHz)-802.11b (ANT 0)



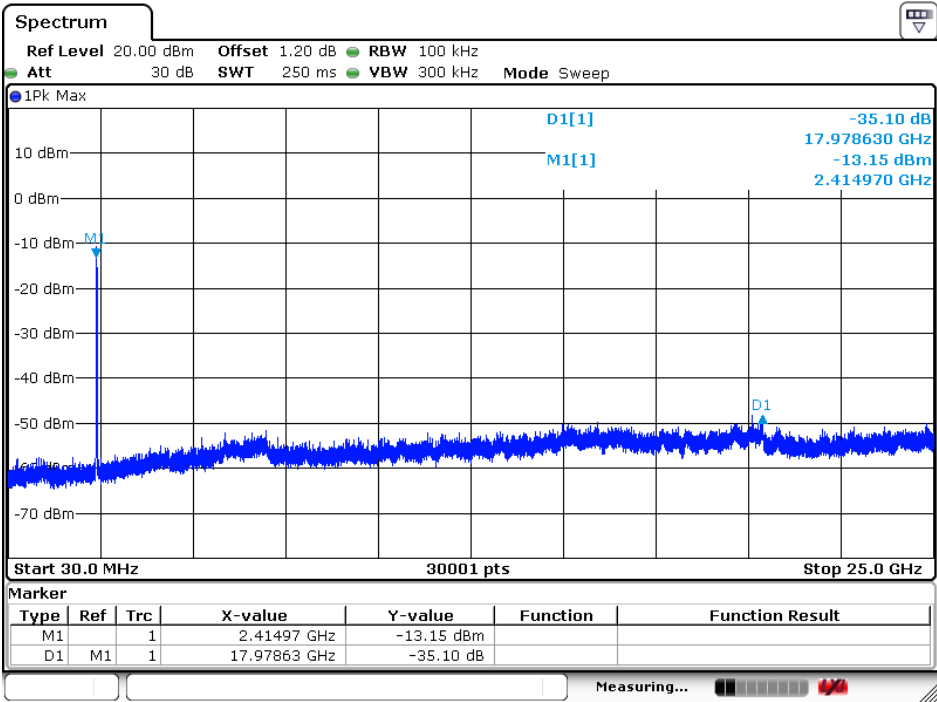
Date:10 MAR 2017 17:44:04

2462MHz (30MHz-25GHz)-802.11b (ANT 0)



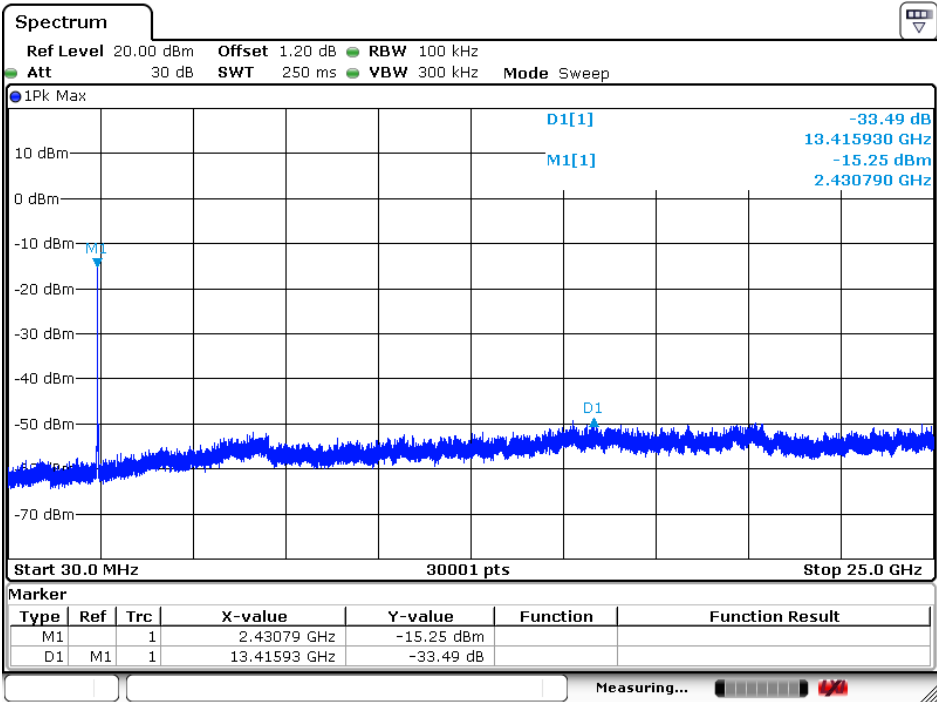
Date: 10.MAR.2017 17:45:18

2412MHz (30MHz-25GHz)-802.11g (ANT 0)



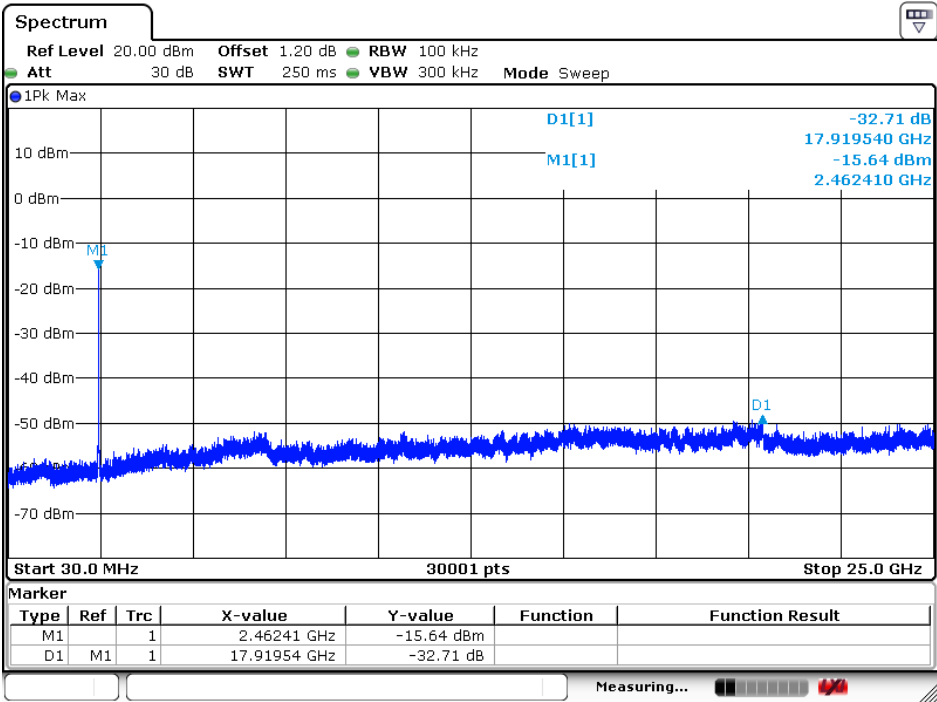
Date:10.MAR.2017 17:46:11

2437MHz (30MHz-25GHz)-802.11 g (ANT 0)



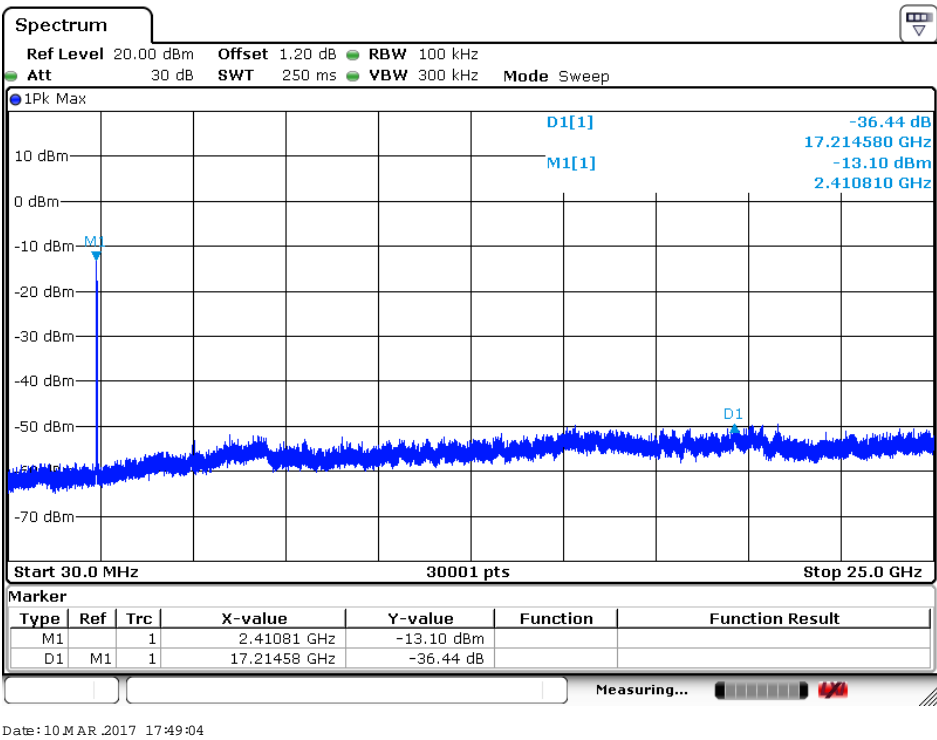
Date:10.MAR.2017 17:46:54

2462MHz (30MHz-25GHz)-802.11g (ANT 0)

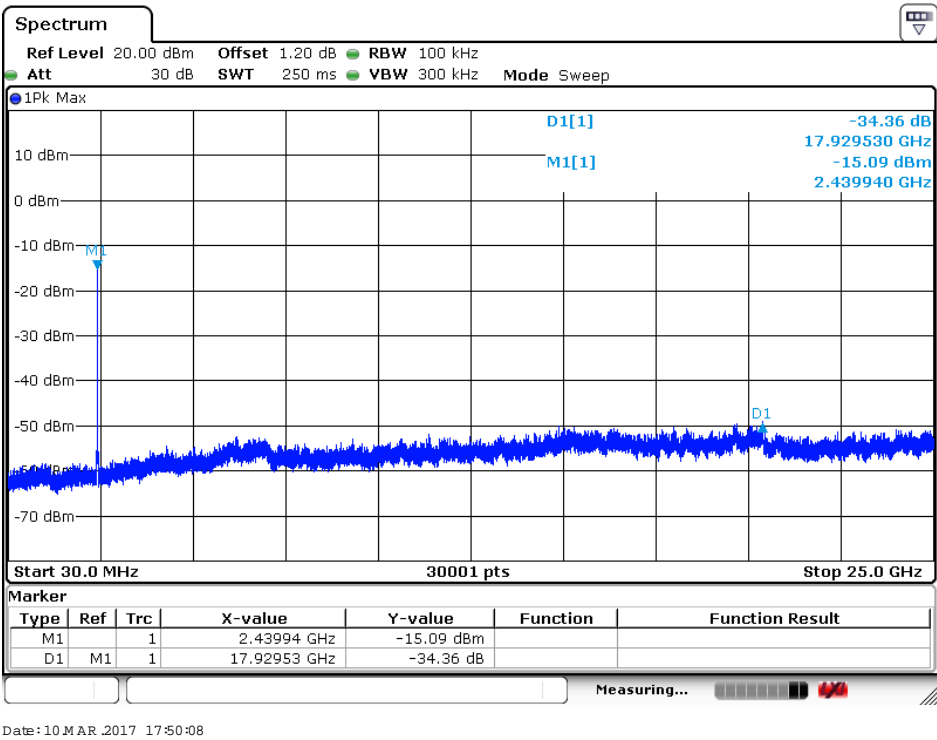


Date: 10.MAR.2017 17:47:48

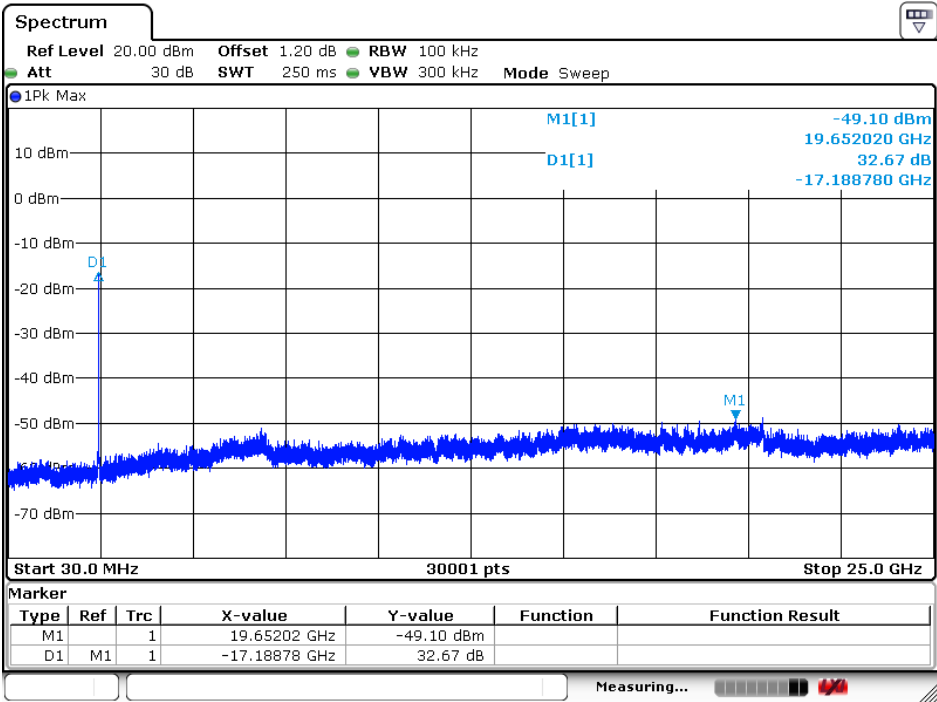
2412MHz (30MHz-25GHz)- IEEE802.11n 20MHz (ANT 0)



2437MHz (30MHz-25GHz)- IEEE802.11n 20MHz (ANT 0)



2462MHz (30MHz-25GHz)- IEEE802.11n 20MHz (ANT 0)



Date: 10.MAR.2017 17:50:48

6. Band Edge

6.1. Test Equipment

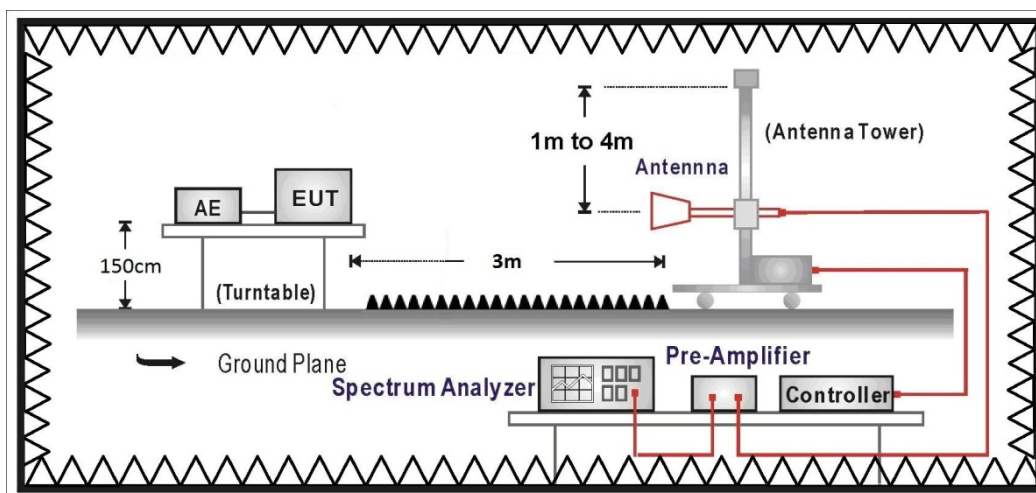
The following test equipments are used during the test:

Band Edge / CB4-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum	Agilent	E4440A	MY46187335	2017/12/21
Bilog Antenna	Teseq	CBL6112D	23191	2017/07/04
Horn Antenna	Schwarzbeck	BBHA 9120 D	1640	2017/10/23
Pre-Amplifier	EMCI	EMC01820I	12143782	2018/03/08
Pre-Amplifier	EMCI	EMC01820I	980367	2018/02/09

Note: All equipments that need to calibrate are with calibration period of 1 year.

6.2. Test Setup



6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

6.4. Test Procedure

The EUT was setup according to ANSI C63.10:2013 and tested according to DTS test procedure of KDB558074 v03r05 for compliance to FCC 47CFR 15.247 requirements. The EUT and its simulators are placed on a turn table which is 1.5 meter above ground. The turn table can rotate 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 can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2013 on radiated measurement.

6.5. Test Specification

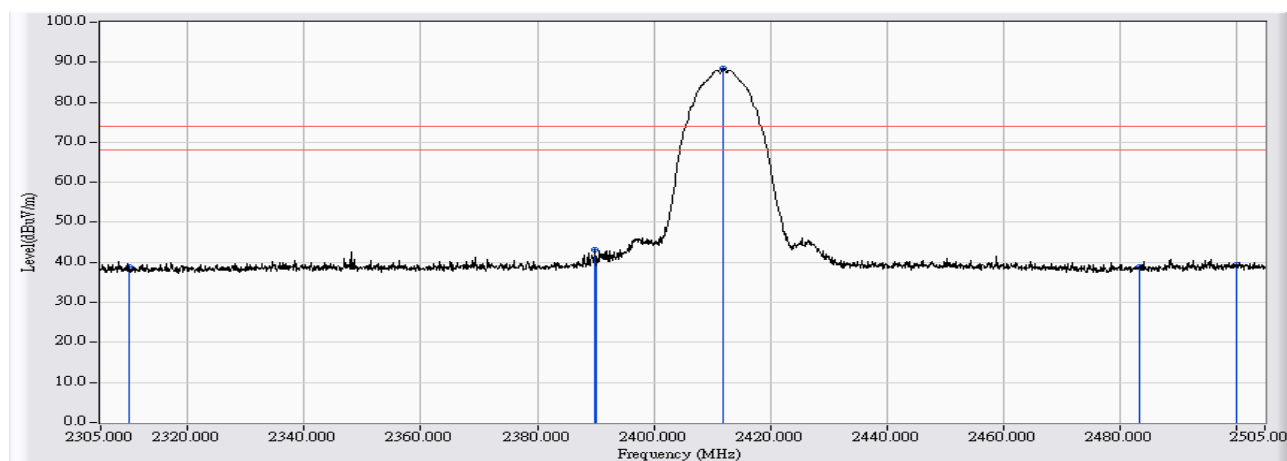
According to FCC Part 15 Subpart C Paragraph 15.247: 2015

6.6. Uncertainty

The measurement uncertainty
 ± 3.9 dB above 1GHz

6.7. Test Result

Site : CB4-H	Time : 2017/03/10 -
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2412MHz

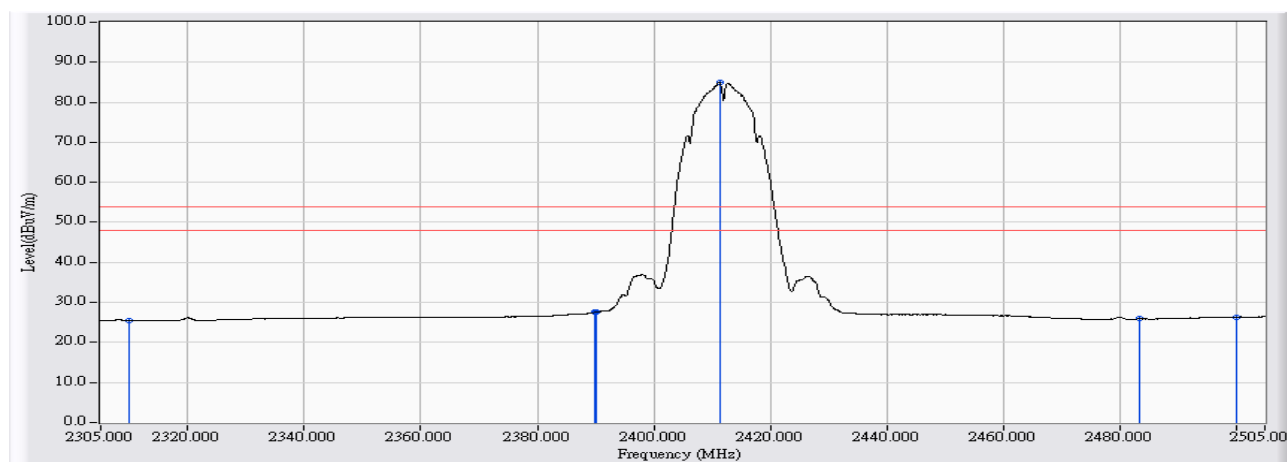


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	39.581	38.756	-35.244	74.000	PEAK
2	2389.900	-0.499	43.695	43.196	-30.804	74.000	PEAK
3	2390.000	-0.499	41.029	40.530	-33.470	74.000	PEAK
4	* 2412.000	-0.409	88.853	88.444	14.444	74.000	PEAK
5	2483.500	-0.118	38.860	38.743	-35.257	74.000	PEAK
6	2500.000	-0.053	39.382	39.330	-34.670	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2412MHz

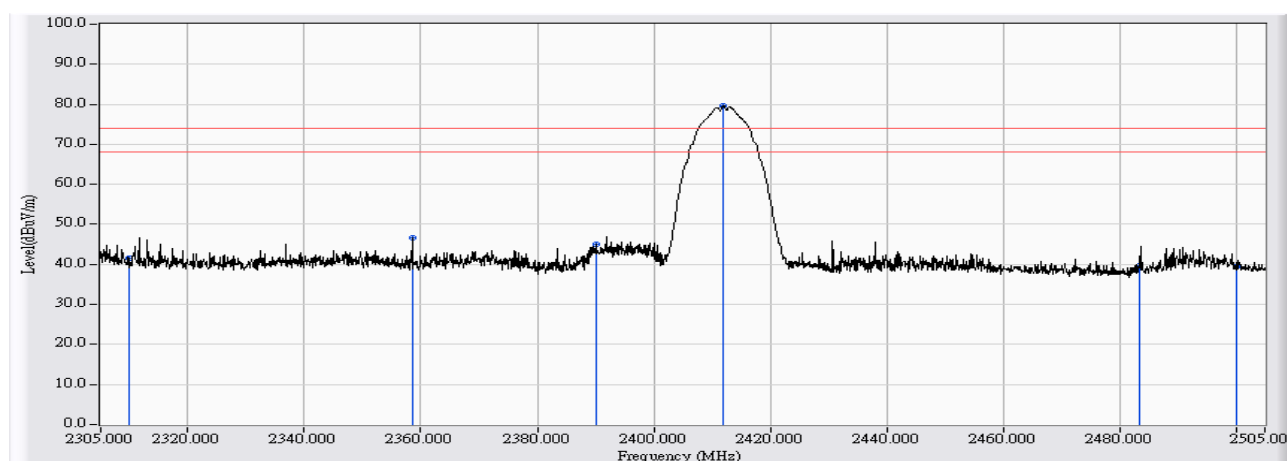


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	26.331	25.506	-28.494	54.000	AVERAGE
2	2389.900	-0.499	28.032	27.533	-26.467	54.000	AVERAGE
3	2390.000	-0.499	28.061	27.562	-26.438	54.000	AVERAGE
4	* 2411.300	-0.412	85.365	84.953	30.953	54.000	AVERAGE
5	2483.500	-0.118	25.994	25.877	-28.123	54.000	AVERAGE
6	2500.000	-0.053	26.413	26.361	-27.639	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2412MHz

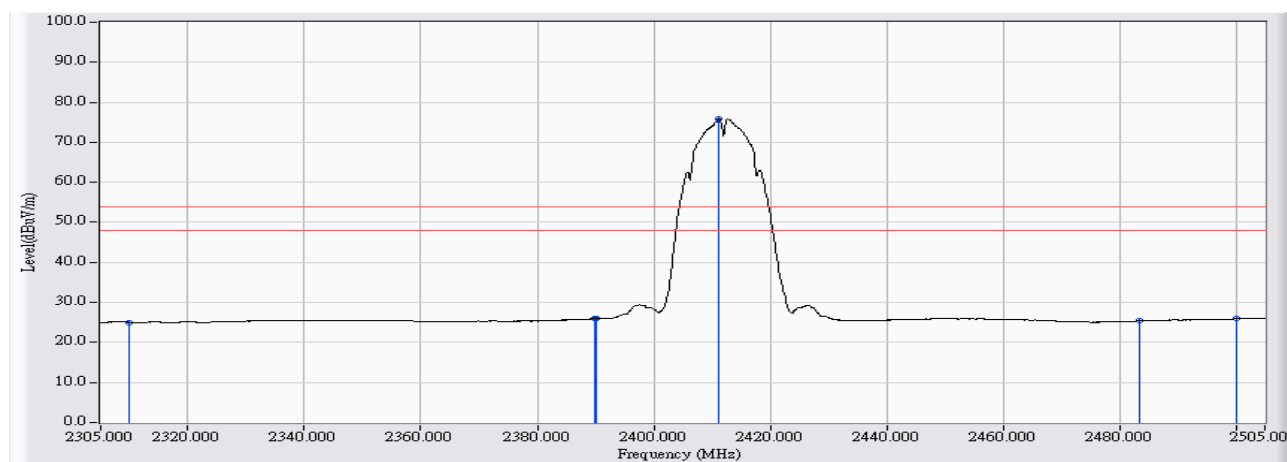


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	42.465	41.640	-32.360	74.000	PEAK
2	2358.500	-0.628	47.214	46.587	-27.413	74.000	PEAK
3	2390.000	-0.499	45.668	45.169	-28.831	74.000	PEAK
4	* 2412.000	-0.409	80.002	79.593	5.593	74.000	PEAK
5	2483.500	-0.118	39.787	39.670	-34.330	74.000	PEAK
6	2500.000	-0.053	39.395	39.343	-34.657	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2412MHz

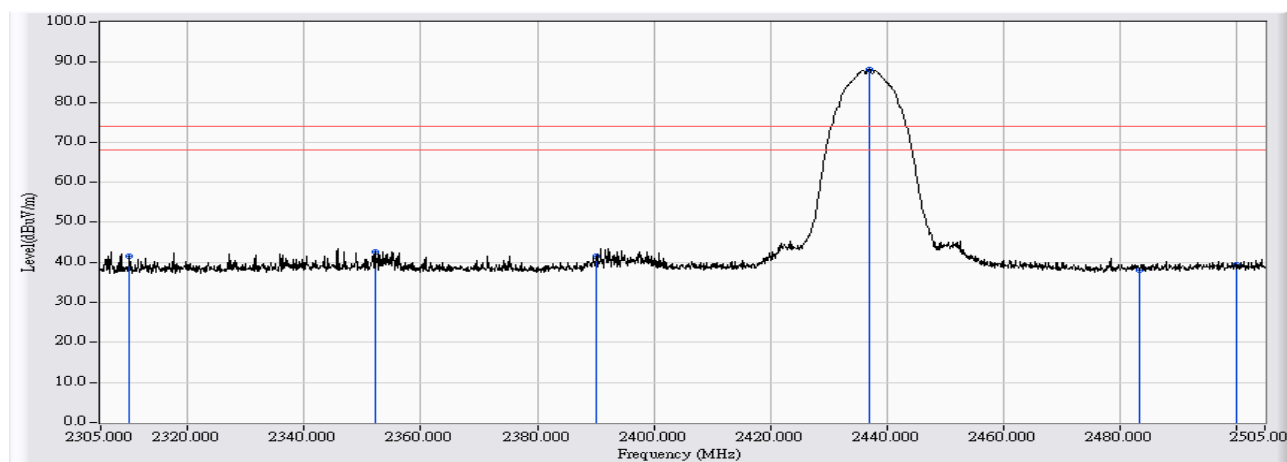


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	25.865	25.040	-28.960	54.000	AVERAGE
2	2389.900	-0.499	26.418	25.919	-28.081	54.000	AVERAGE
3	2390.000	-0.499	26.420	25.921	-28.079	54.000	AVERAGE
4	* 2411.200	-0.412	76.336	75.924	21.924	54.000	AVERAGE
5	2483.500	-0.118	25.584	25.467	-28.533	54.000	AVERAGE
6	2500.000	-0.053	25.930	25.878	-28.122	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2437MHz

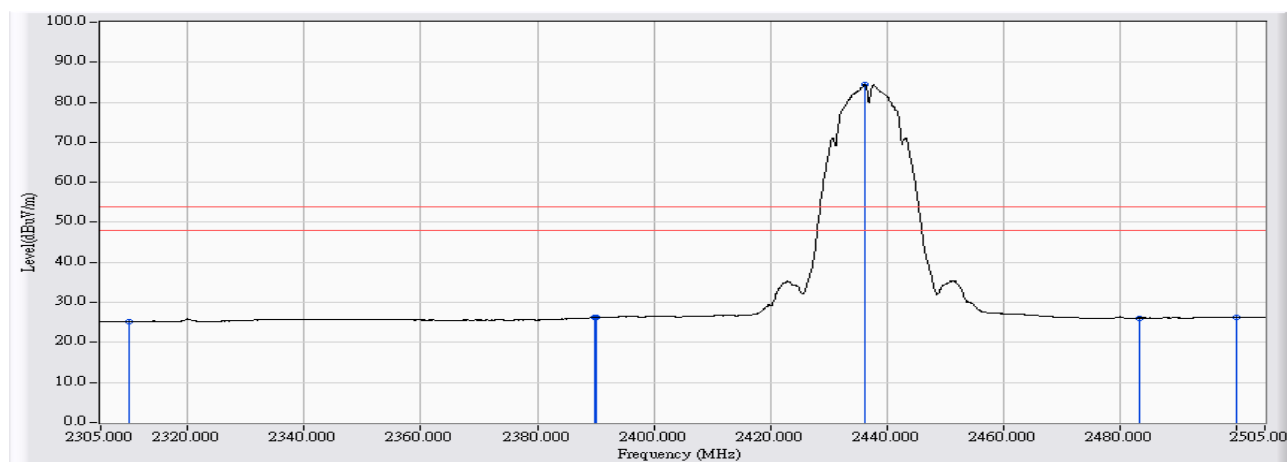


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	42.295	41.470	-32.530	74.000	PEAK
2	2352.200	-0.653	43.362	42.709	-31.291	74.000	PEAK
3	2390.000	-0.499	42.141	41.642	-32.358	74.000	PEAK
4	* 2437.000	-0.307	88.625	88.318	14.318	74.000	PEAK
5	2483.500	-0.118	38.162	38.045	-35.955	74.000	PEAK
6	2500.000	-0.053	39.470	39.418	-34.582	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2437MHz

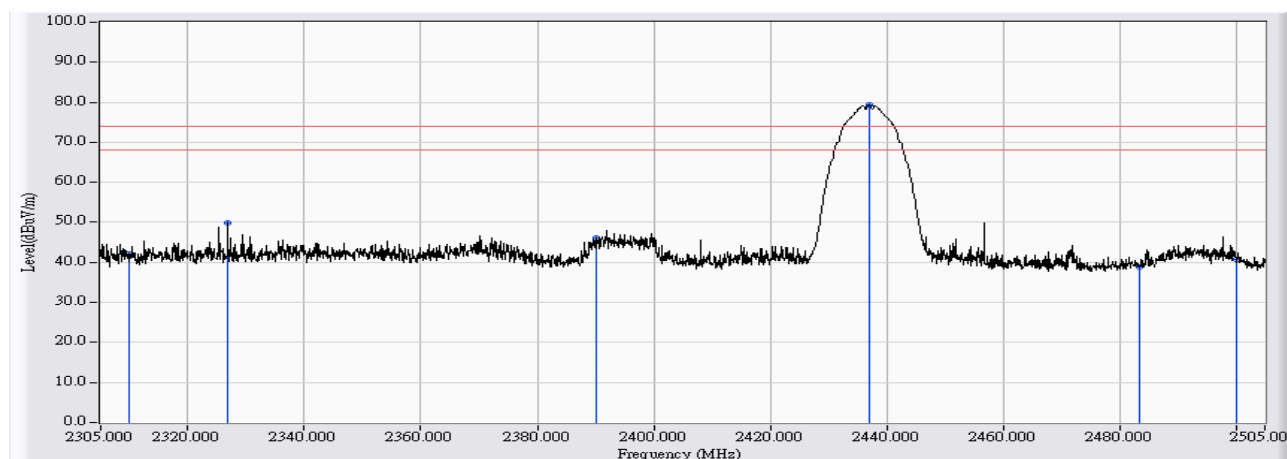


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	26.129	25.304	-28.696	54.000	AVERAGE
2	2389.900	-0.499	26.766	26.267	-27.733	54.000	AVERAGE
3	2390.000	-0.499	26.780	26.281	-27.719	54.000	AVERAGE
4	* 2436.200	-0.310	84.775	84.465	30.465	54.000	AVERAGE
5	2483.500	-0.118	26.243	26.126	-27.874	54.000	AVERAGE
6	2500.000	-0.053	26.427	26.375	-27.625	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2437MHz

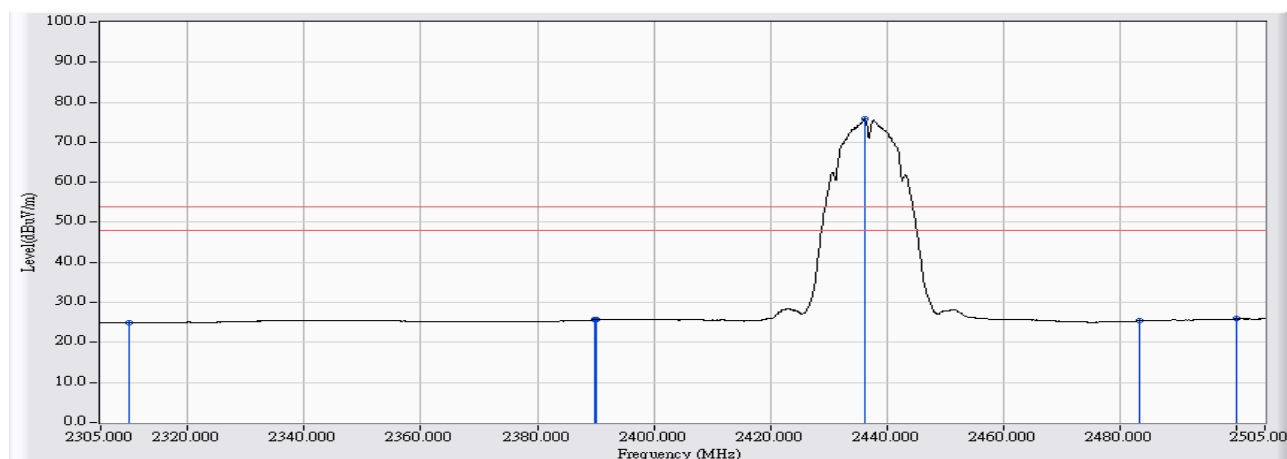


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	42.796	41.971	-32.029	74.000	PEAK
2	2326.800	-0.757	50.514	49.757	-24.243	74.000	PEAK
3	2390.000	-0.499	46.640	46.141	-27.859	74.000	PEAK
4	* 2437.000	-0.307	79.728	79.421	5.421	74.000	PEAK
5	2483.500	-0.118	39.094	38.977	-35.023	74.000	PEAK
6	2500.000	-0.053	40.676	40.624	-33.376	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2437MHz

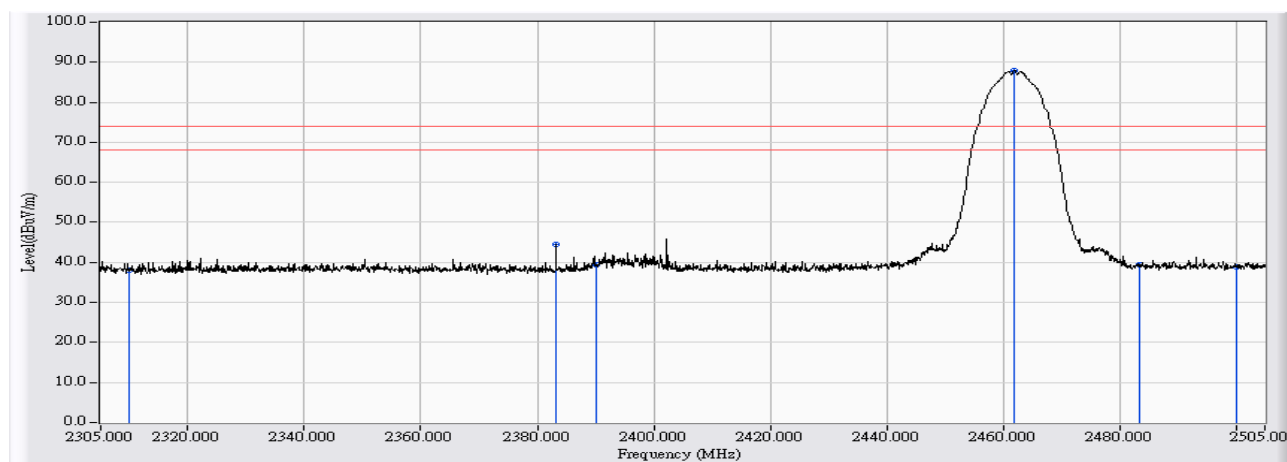


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	25.856	25.031	-28.969	54.000	AVERAGE
2	2389.900	-0.499	26.163	25.664	-28.336	54.000	AVERAGE
3	2390.000	-0.499	26.177	25.678	-28.322	54.000	AVERAGE
4	* 2436.300	-0.310	76.100	75.790	21.790	54.000	AVERAGE
5	2483.500	-0.118	25.529	25.412	-28.588	54.000	AVERAGE
6	2500.000	-0.053	25.940	25.888	-28.112	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2462MHz

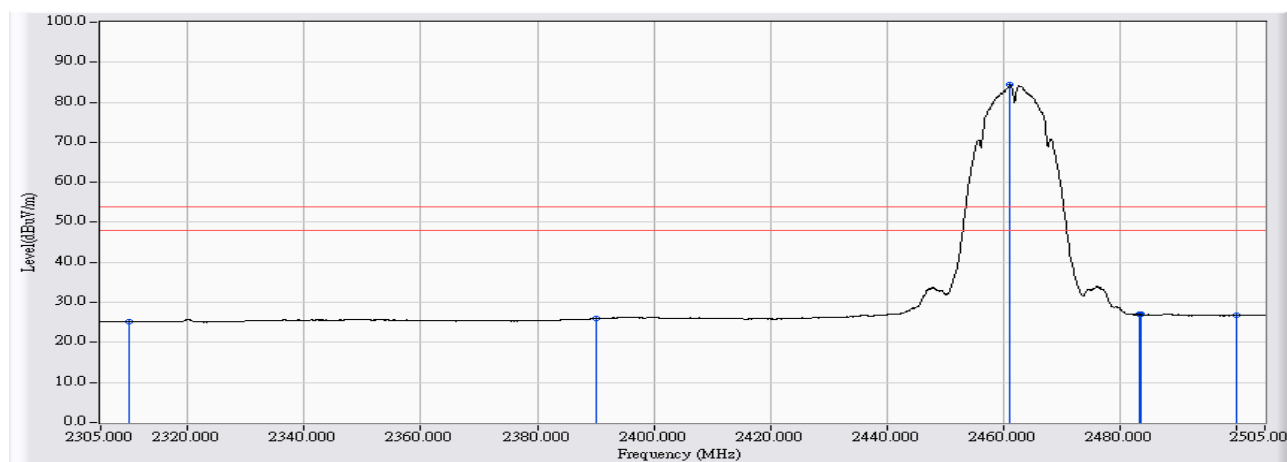


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	38.770	37.945	-36.055	74.000	PEAK
2	2383.200	-0.526	44.991	44.464	-29.536	74.000	PEAK
3	2390.000	-0.499	40.022	39.523	-34.477	74.000	PEAK
4	* 2462.000	-0.205	88.272	88.067	14.067	74.000	PEAK
5	2483.500	-0.118	39.451	39.334	-34.666	74.000	PEAK
6	2500.000	-0.053	39.002	38.950	-35.050	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2462MHz

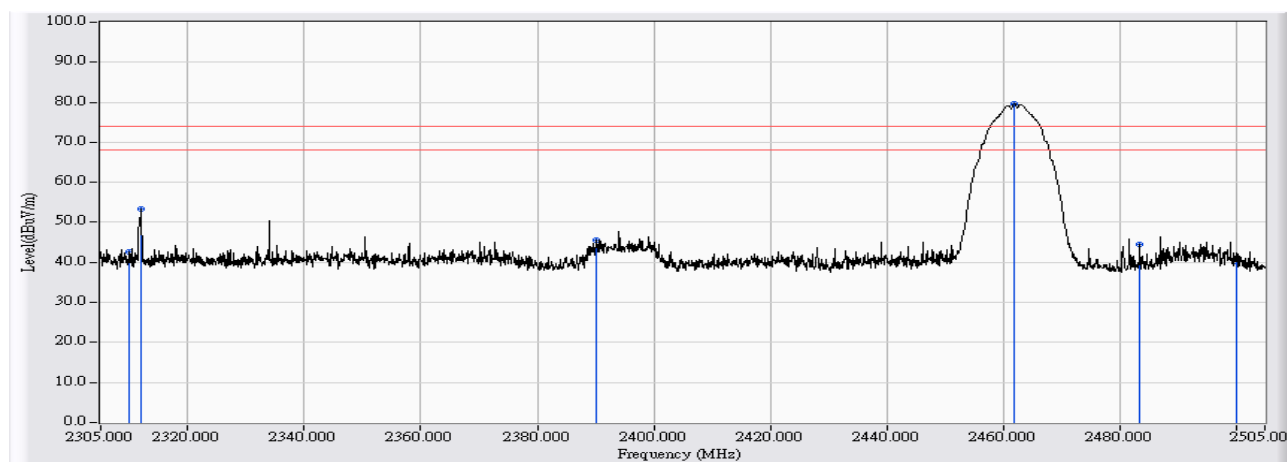


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	25.962	25.137	-28.863	54.000	AVERAGE
2	2390.000	-0.499	26.538	26.039	-27.961	54.000	AVERAGE
3	* 2461.200	-0.208	84.530	84.322	30.322	54.000	AVERAGE
4	2483.500	-0.118	27.067	26.950	-27.050	54.000	AVERAGE
5	2483.600	-0.117	27.099	26.982	-27.018	54.000	AVERAGE
6	2500.000	-0.053	26.869	26.817	-27.183	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2462MHz

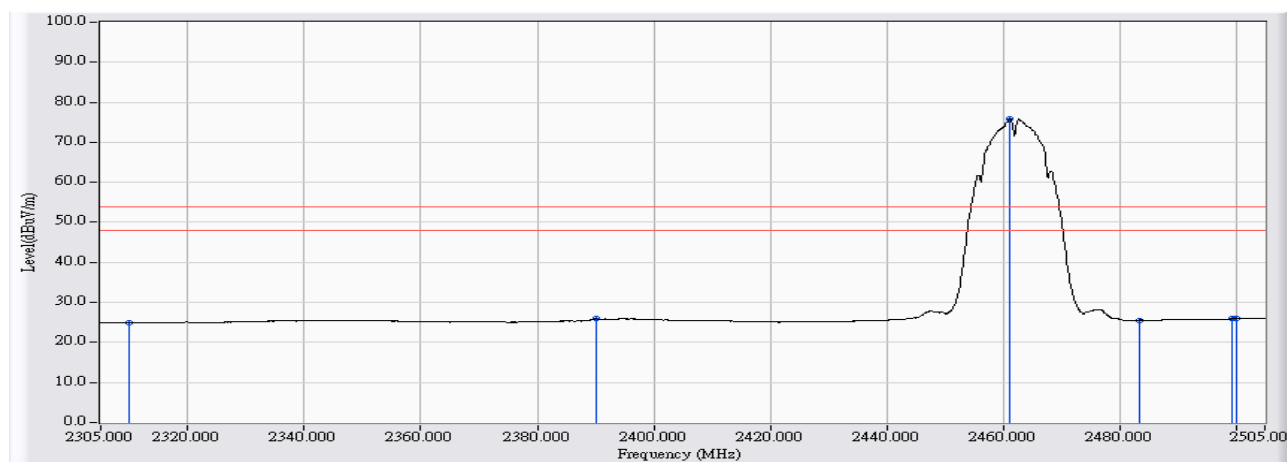


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	43.430	42.605	-31.395	74.000	PEAK
2	2312.000	-0.817	54.125	53.308	-20.692	74.000	PEAK
3	2390.000	-0.499	46.069	45.570	-28.430	74.000	PEAK
4	* 2461.900	-0.205	79.950	79.745	5.745	74.000	PEAK
5	2483.500	-0.118	44.623	44.506	-29.494	74.000	PEAK
6	2500.000	-0.053	40.136	40.084	-33.916	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11b_2462MHz

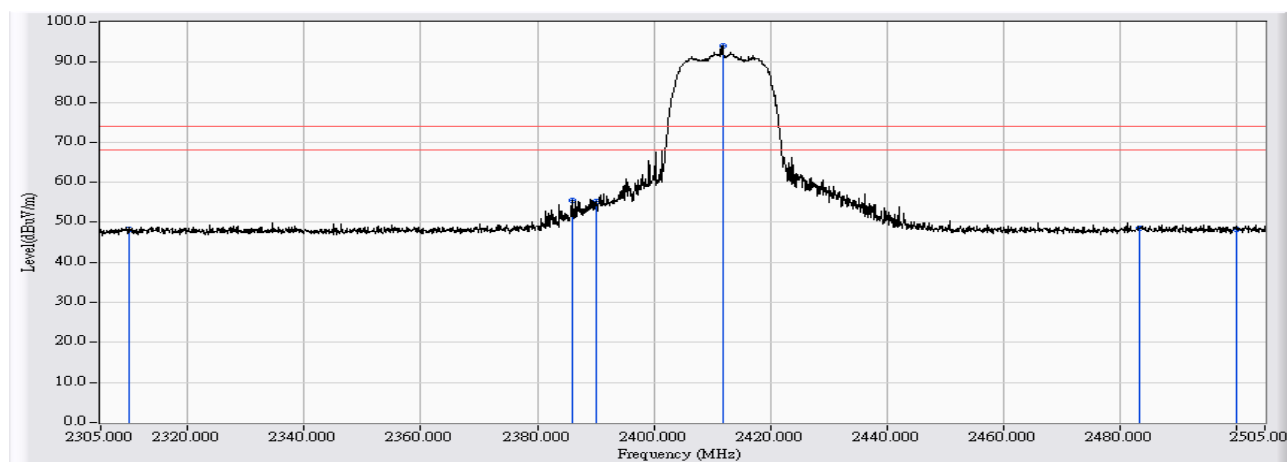


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-0.825	25.749	24.924	-29.076	54.000	AVERAGE
2		2390.000	-0.499	26.430	25.931	-28.069	54.000	AVERAGE
3	*	2461.200	-0.208	76.090	75.882	21.882	54.000	AVERAGE
4		2483.500	-0.118	25.711	25.594	-28.406	54.000	AVERAGE
5		2499.300	-0.055	25.972	25.918	-28.082	54.000	AVERAGE
6		2500.000	-0.053	25.988	25.936	-28.064	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2412MHz

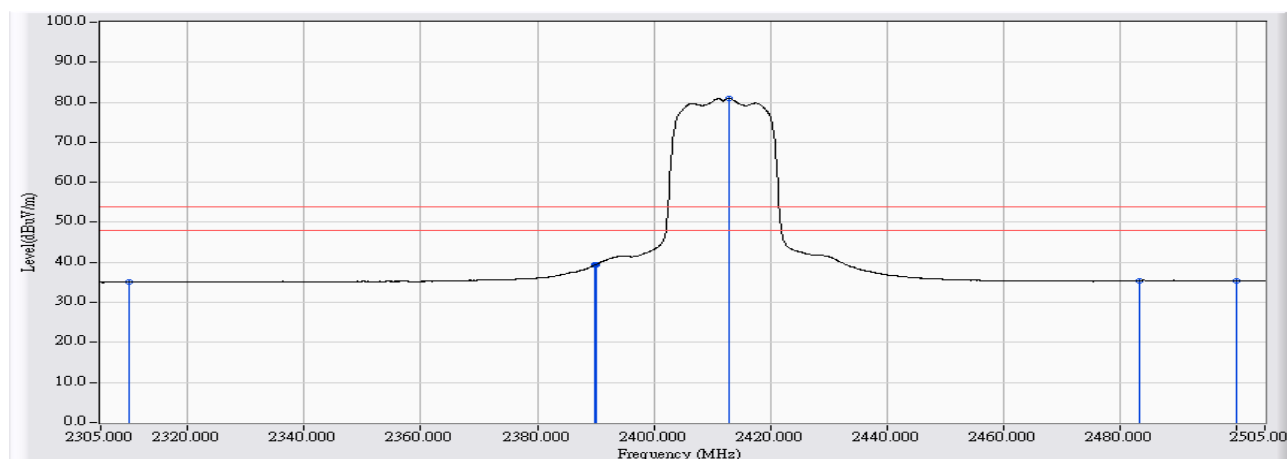


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	49.180	48.355	-25.645	74.000	PEAK
2	2386.100	-0.514	55.987	55.472	-18.528	74.000	PEAK
3	2390.000	-0.499	55.644	55.145	-18.855	74.000	PEAK
4	* 2411.900	-0.409	93.536	93.127	19.127	74.000	PEAK
5	2483.500	-0.118	48.769	48.652	-25.348	74.000	PEAK
6	2500.000	-0.053	48.294	48.242	-25.758	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2412MHz

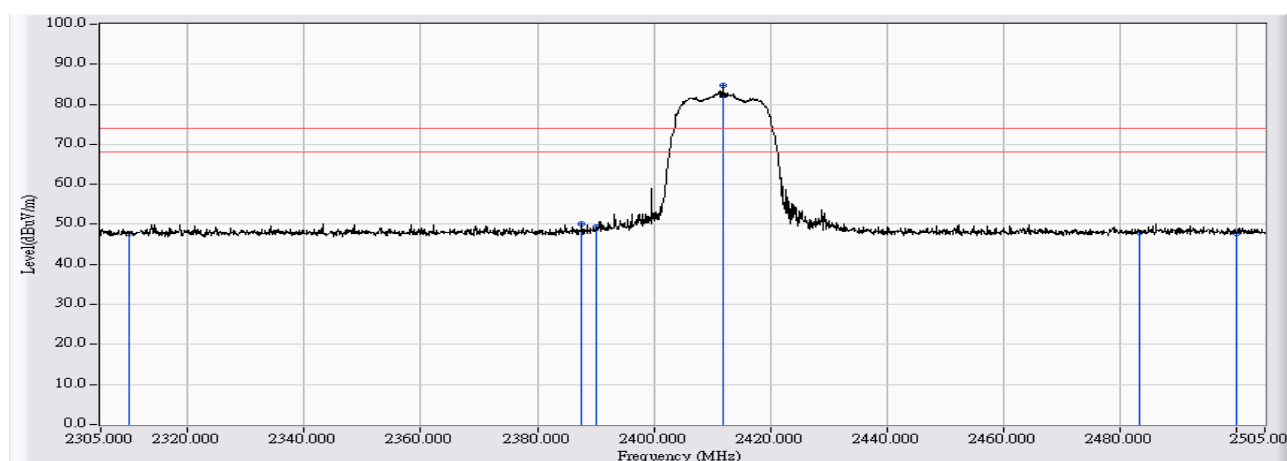


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	35.925	35.100	-18.900	54.000	AVERAGE
2	2389.900	-0.499	39.837	39.338	-14.662	54.000	AVERAGE
3	2390.000	-0.499	39.897	39.398	-14.602	54.000	AVERAGE
4	* 2413.000	-0.405	81.387	80.982	26.982	54.000	AVERAGE
5	2483.500	-0.118	35.624	35.507	-18.493	54.000	AVERAGE
6	2500.000	-0.053	35.434	35.382	-18.618	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2412MHz

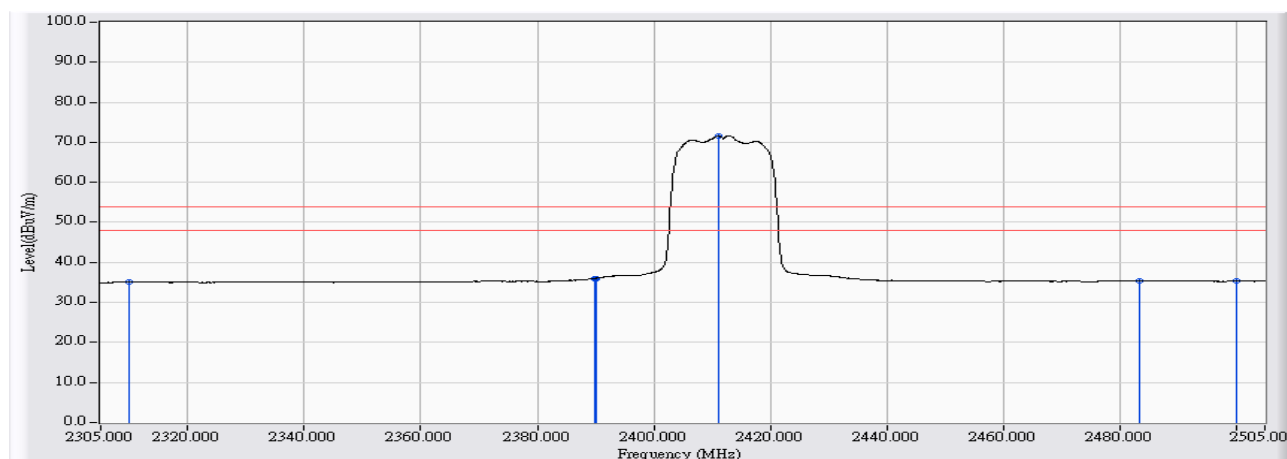


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-0.825	48.423	47.598	-26.402	74.000	PEAK
2		2387.600	-0.509	50.516	50.007	-23.993	74.000	PEAK
3		2390.000	-0.499	49.751	49.252	-24.748	74.000	PEAK
4	*	2411.800	-0.410	85.035	84.625	10.625	74.000	PEAK
5		2483.500	-0.118	48.202	48.085	-25.915	74.000	PEAK
6		2500.000	-0.053	47.779	47.727	-26.273	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2412MHz

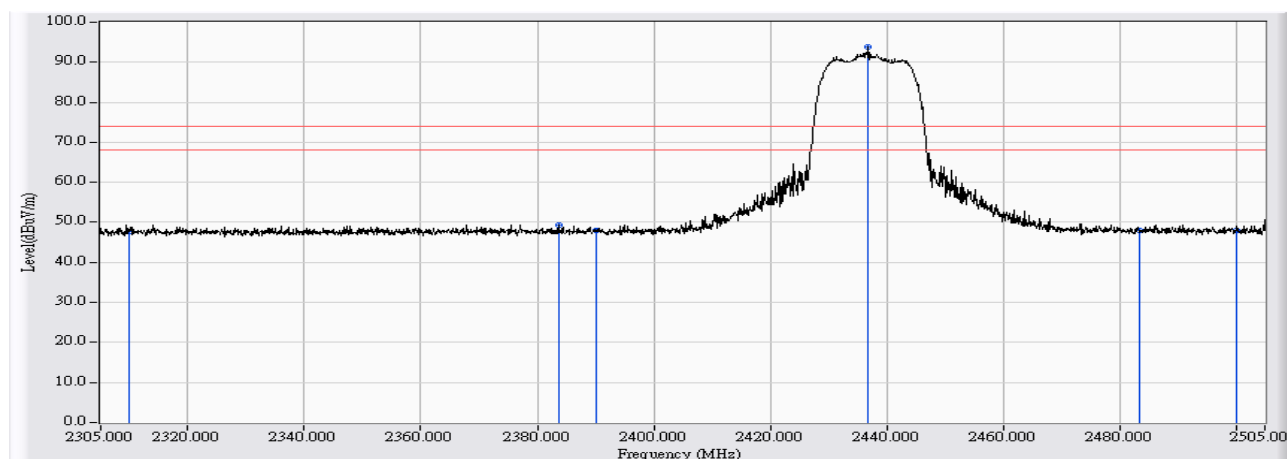


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	35.858	35.033	-18.967	54.000	AVERAGE
2	2389.900	-0.499	36.512	36.013	-17.987	54.000	AVERAGE
3	2390.000	-0.499	36.537	36.038	-17.962	54.000	AVERAGE
4	* 2411.100	-0.412	72.033	71.620	17.620	54.000	AVERAGE
5	2483.500	-0.118	35.629	35.512	-18.488	54.000	AVERAGE
6	2500.000	-0.053	35.416	35.364	-18.636	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2437MHz

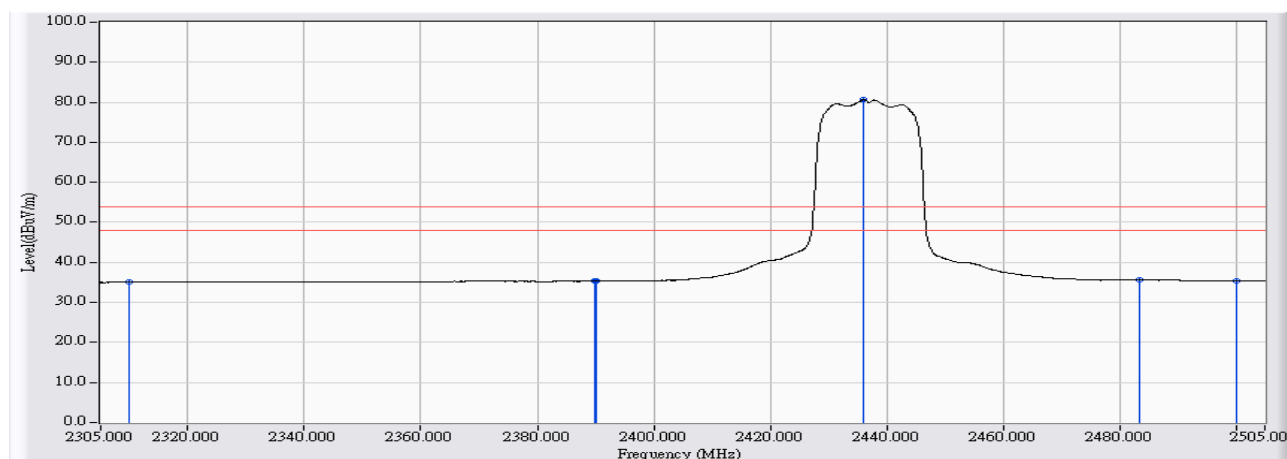


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	48.464	47.639	-26.361	74.000	PEAK
2	2383.700	-0.524	49.889	49.365	-24.635	74.000	PEAK
3	2390.000	-0.499	48.434	47.935	-26.065	74.000	PEAK
4	* 2436.900	-0.307	94.214	93.907	19.907	74.000	PEAK
5	2483.500	-0.118	48.067	47.950	-26.050	74.000	PEAK
6	2500.000	-0.053	48.029	47.977	-26.023	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2437MHz

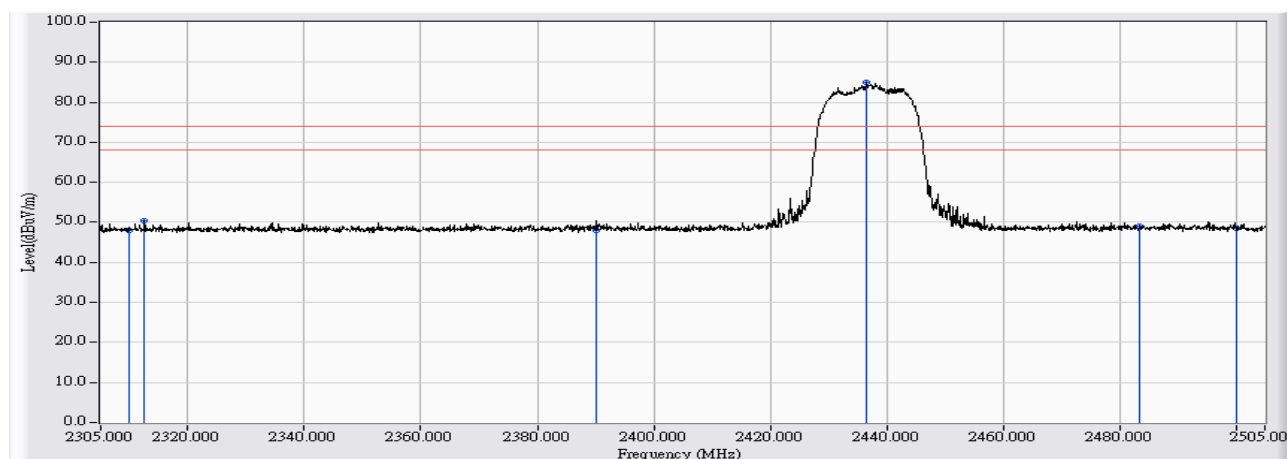


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	35.873	35.048	-18.952	54.000	AVERAGE
2	2389.800	-0.499	35.892	35.392	-18.608	54.000	AVERAGE
3	2390.000	-0.499	35.919	35.420	-18.580	54.000	AVERAGE
4	* 2436.000	-0.312	80.984	80.673	26.673	54.000	AVERAGE
5	2483.500	-0.118	35.760	35.643	-18.357	54.000	AVERAGE
6	2500.000	-0.053	35.495	35.443	-18.557	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2437MHz

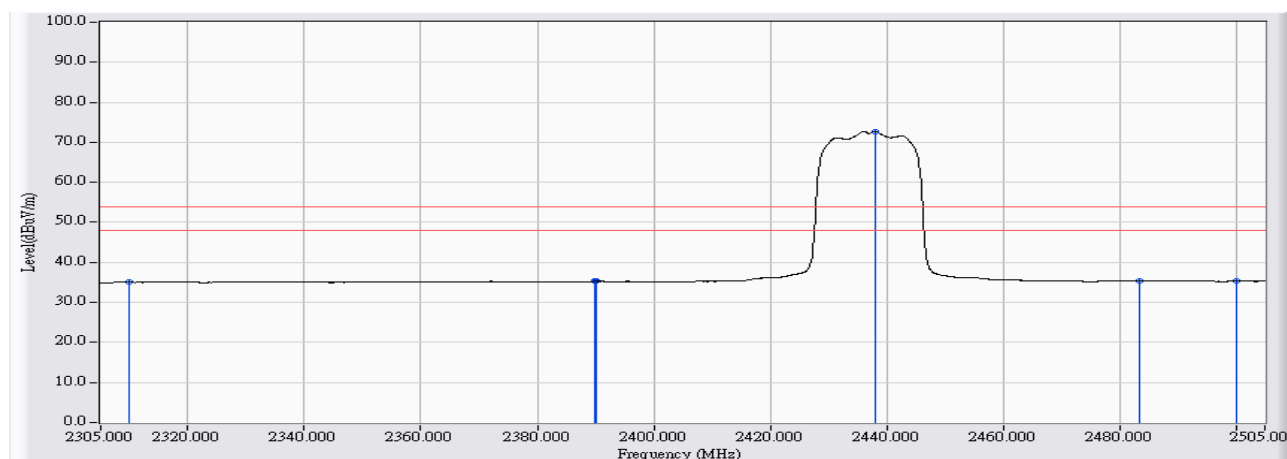


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	48.764	47.939	-26.061	74.000	PEAK
2	2312.500	-0.815	51.257	50.442	-23.558	74.000	PEAK
3	2390.000	-0.499	48.587	48.088	-25.912	74.000	PEAK
4	* 2436.600	-0.309	85.317	85.008	11.008	74.000	PEAK
5	2483.500	-0.118	49.211	49.094	-24.906	74.000	PEAK
6	2500.000	-0.053	48.693	48.641	-25.359	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2437MHz

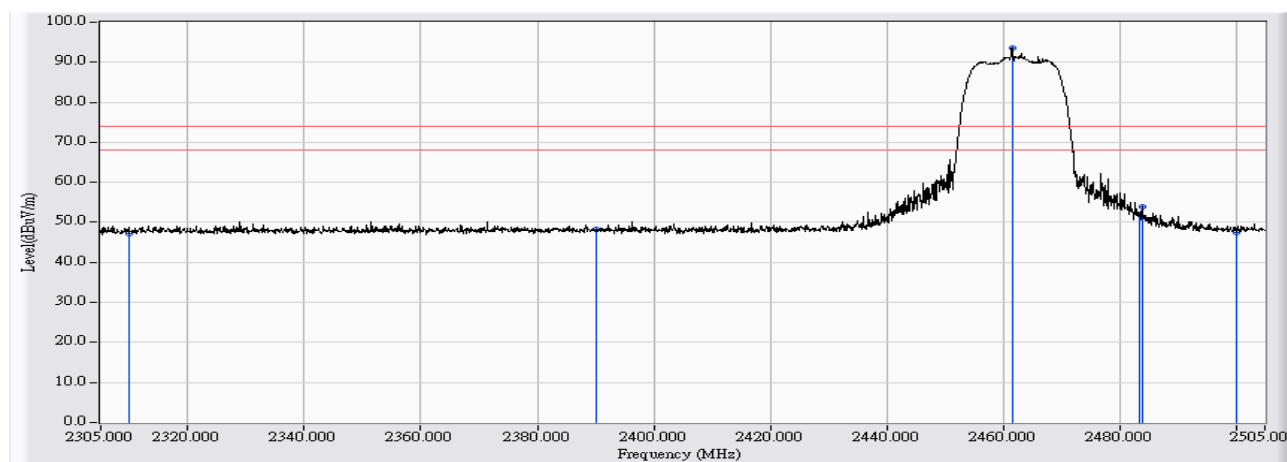


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	35.838	35.013	-18.987	54.000	AVERAGE
2	2389.900	-0.499	35.761	35.262	-18.738	54.000	AVERAGE
3	2390.000	-0.499	35.769	35.270	-18.730	54.000	AVERAGE
4	* 2438.000	-0.303	73.079	72.776	18.776	54.000	AVERAGE
5	2483.500	-0.118	35.546	35.429	-18.571	54.000	AVERAGE
6	2500.000	-0.053	35.383	35.331	-18.669	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2462MHz

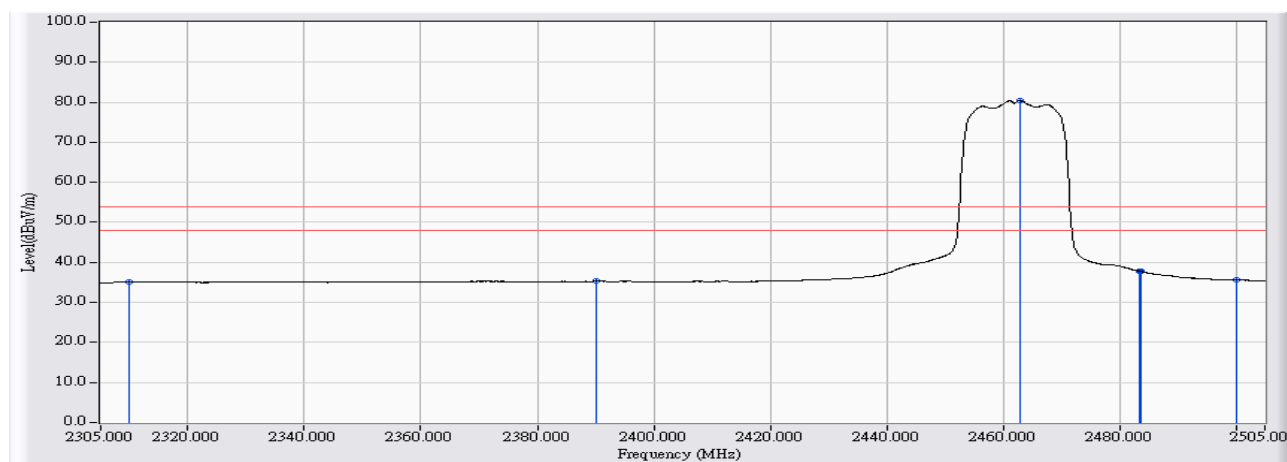


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	48.034	47.209	-26.791	74.000	PEAK
2	2390.000	-0.499	48.632	48.133	-25.867	74.000	PEAK
3	* 2461.600	-0.206	93.854	93.647	19.647	74.000	PEAK
4	2483.500	-0.118	52.079	51.962	-22.038	74.000	PEAK
5	2483.900	-0.116	53.916	53.800	-20.200	74.000	PEAK
6	2500.000	-0.053	47.546	47.494	-26.506	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2462MHz

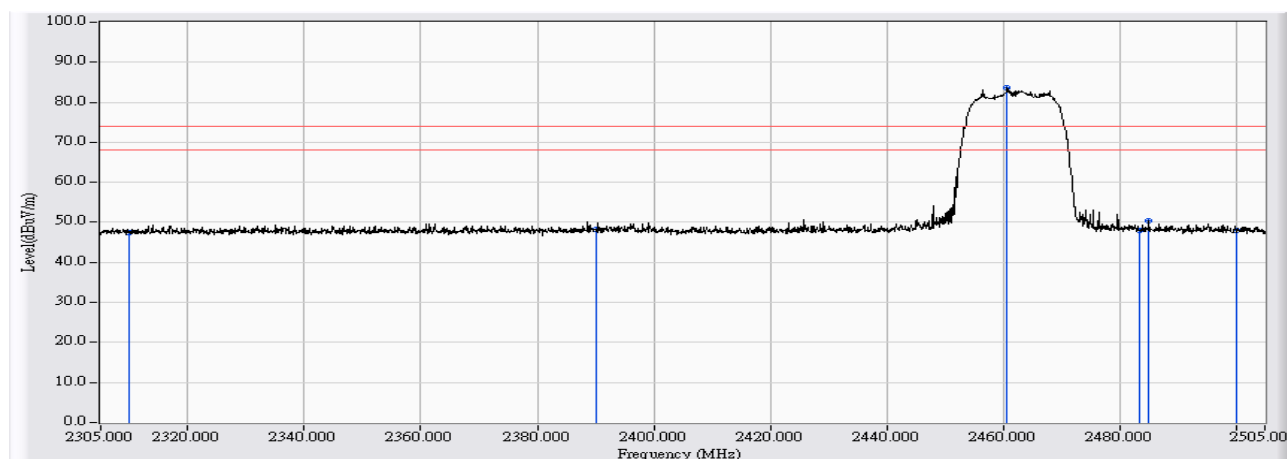


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	35.857	35.032	-18.968	54.000	AVERAGE
2	2390.000	-0.499	35.792	35.293	-18.707	54.000	AVERAGE
3	* 2463.000	-0.201	80.614	80.413	26.413	54.000	AVERAGE
4	2483.500	-0.118	37.953	37.836	-16.164	54.000	AVERAGE
5	2483.600	-0.117	37.912	37.795	-16.205	54.000	AVERAGE
6	2500.000	-0.053	35.677	35.625	-18.375	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2462MHz

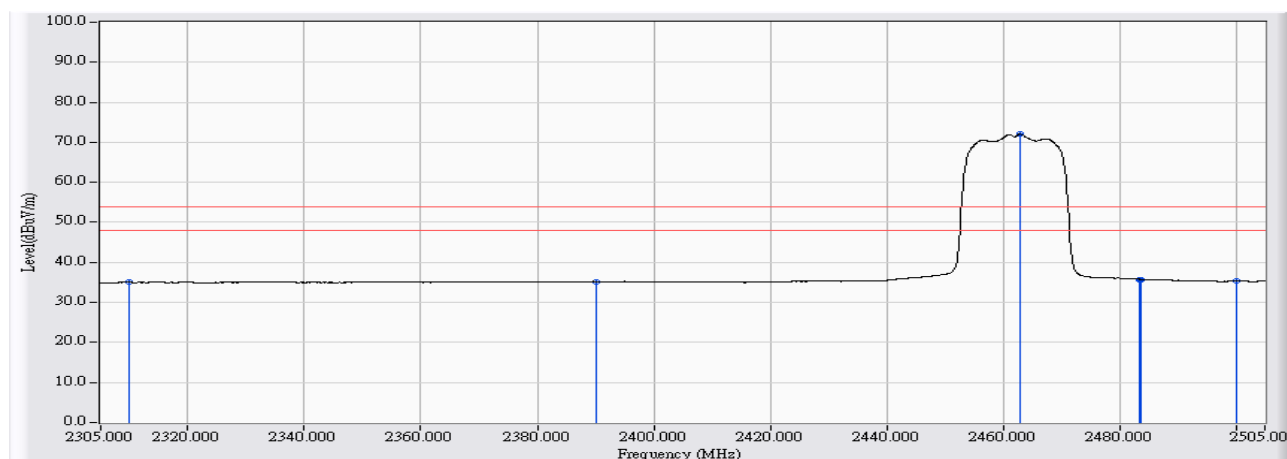


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-0.825	48.251	47.426	-26.574	74.000	PEAK
2		2390.000	-0.499	48.744	48.245	-25.755	74.000	PEAK
3	*	2460.700	-0.210	83.776	83.566	9.566	74.000	PEAK
4		2483.500	-0.118	48.192	48.075	-25.925	74.000	PEAK
5		2485.000	-0.111	50.605	50.494	-23.506	74.000	PEAK
6		2500.000	-0.053	48.024	47.972	-26.028	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11g_2462MHz

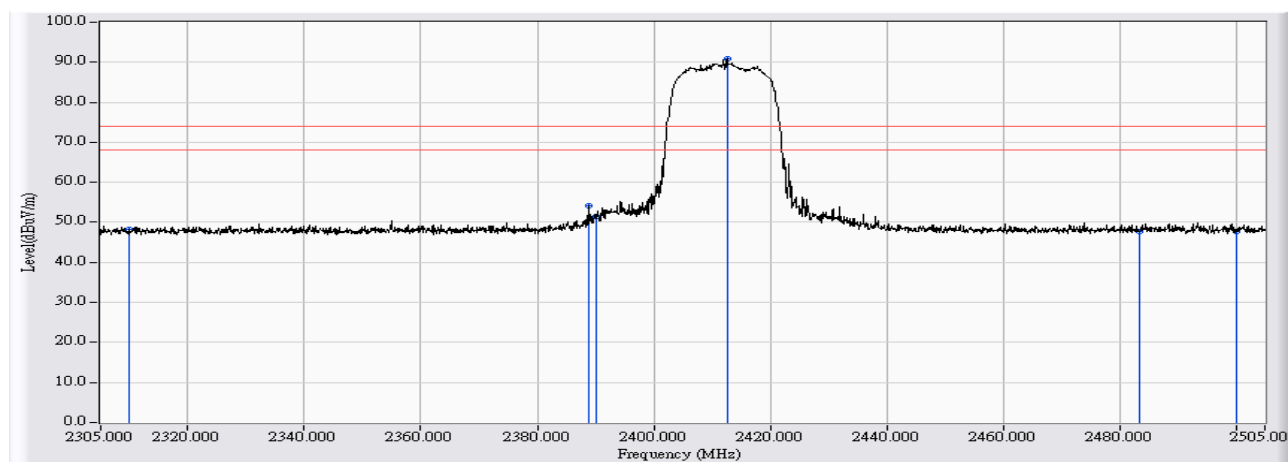


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-0.825	35.828	35.003	-18.997	54.000	AVERAGE
2		2390.000	-0.499	35.691	35.192	-18.808	54.000	AVERAGE
3	*	2462.900	-0.201	72.227	72.026	18.026	54.000	AVERAGE
4		2483.500	-0.118	35.907	35.790	-18.210	54.000	AVERAGE
5		2483.600	-0.117	35.883	35.766	-18.234	54.000	AVERAGE
6		2500.000	-0.053	35.416	35.364	-18.636	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2412MHz

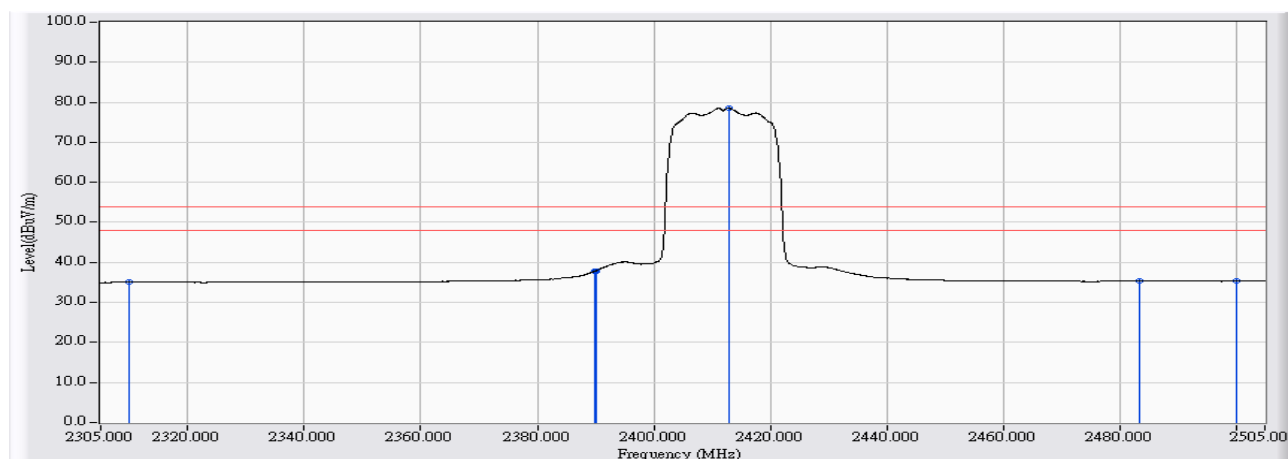


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	49.149	48.324	-25.676	74.000	PEAK
2	2388.900	-0.504	54.753	54.250	-19.750	74.000	PEAK
3	2390.000	-0.499	51.909	51.410	-22.590	74.000	PEAK
4	* 2412.700	-0.407	91.201	90.795	16.795	74.000	PEAK
5	2483.500	-0.118	47.958	47.841	-26.159	74.000	PEAK
6	2500.000	-0.053	47.891	47.839	-26.161	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2412MHz

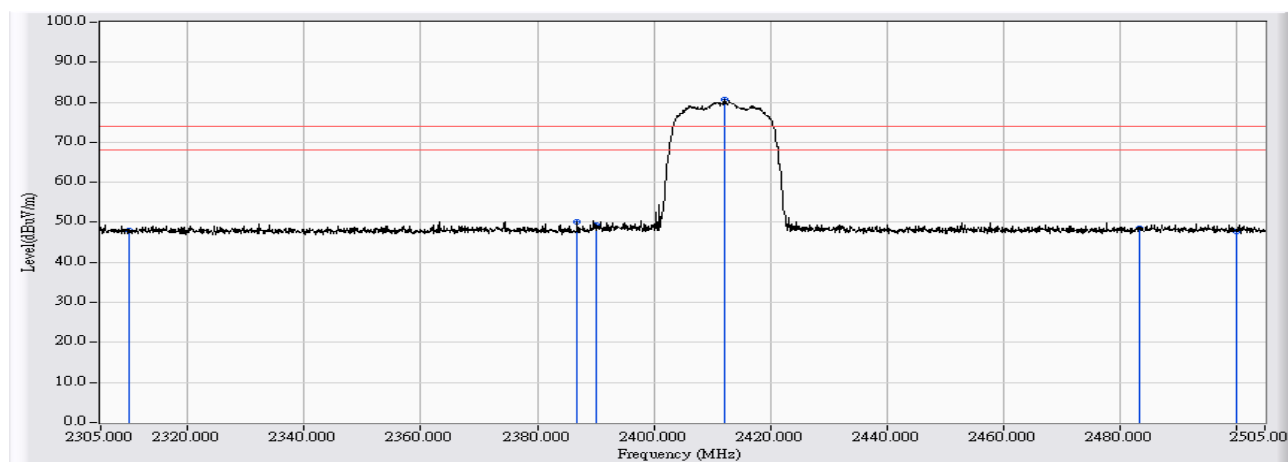


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	35.875	35.050	-18.950	54.000	AVERAGE
2	2389.900	-0.499	38.323	37.824	-16.176	54.000	AVERAGE
3	2390.000	-0.499	38.410	37.911	-16.089	54.000	AVERAGE
4	* 2412.900	-0.405	78.986	78.581	24.581	54.000	AVERAGE
5	2483.500	-0.118	35.560	35.443	-18.557	54.000	AVERAGE
6	2500.000	-0.053	35.417	35.365	-18.635	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2412MHz

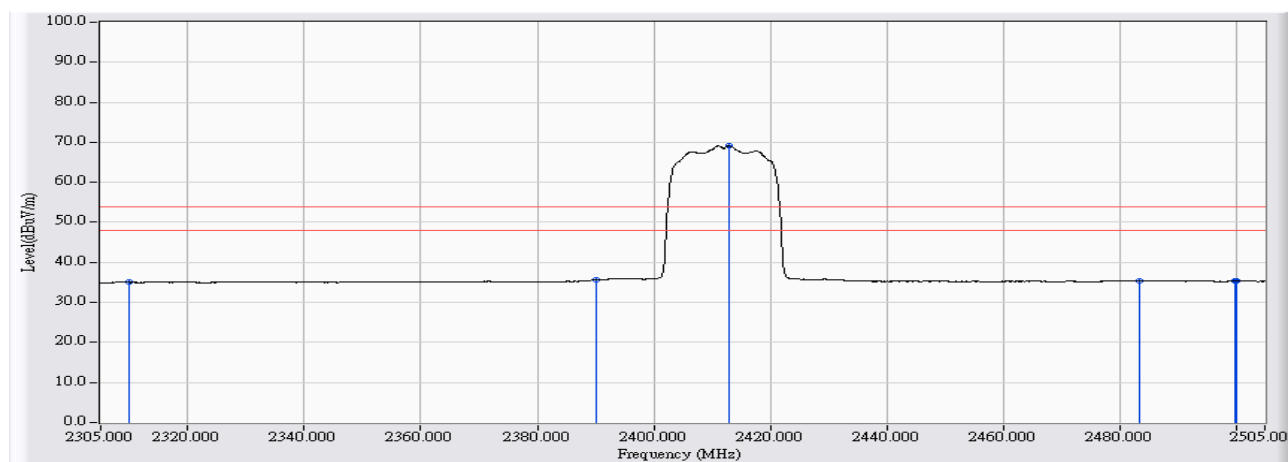


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	48.778	47.953	-26.047	74.000	PEAK
2	2386.900	-0.511	50.778	50.267	-23.733	74.000	PEAK
3	2390.000	-0.499	49.922	49.423	-24.577	74.000	PEAK
4	* 2412.200	-0.408	81.035	80.627	6.627	74.000	PEAK
5	2483.500	-0.118	48.571	48.454	-25.546	74.000	PEAK
6	2500.000	-0.053	47.849	47.797	-26.203	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2412MHz

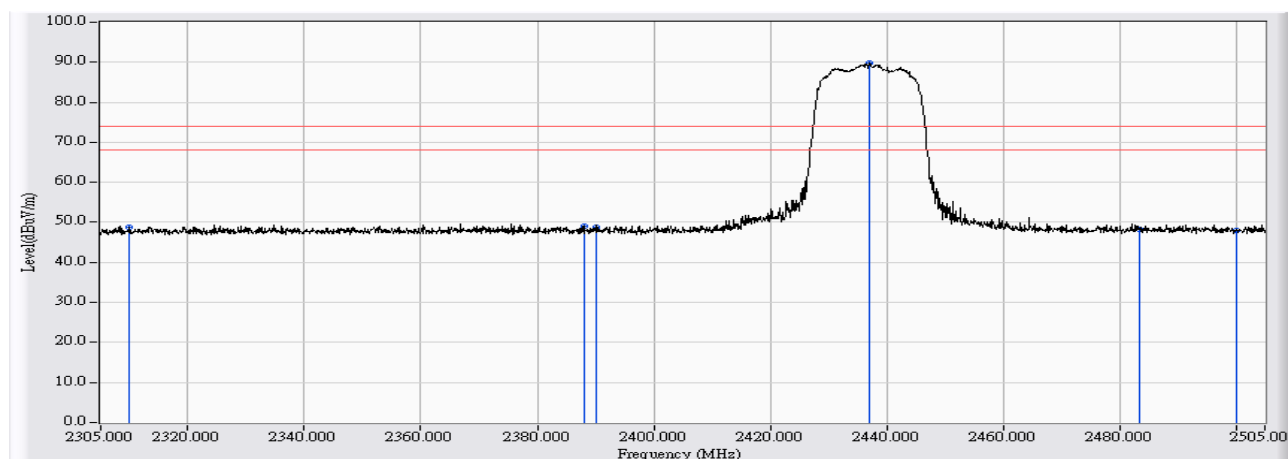


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-0.825	35.830	35.005	-18.995	54.000	AVERAGE
2		2390.000	-0.499	36.116	35.617	-18.383	54.000	AVERAGE
3	*	2412.900	-0.405	69.559	69.154	15.154	54.000	AVERAGE
4		2483.500	-0.118	35.513	35.396	-18.604	54.000	AVERAGE
5		2499.800	-0.053	35.383	35.331	-18.669	54.000	AVERAGE
6		2500.000	-0.053	35.396	35.344	-18.656	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz

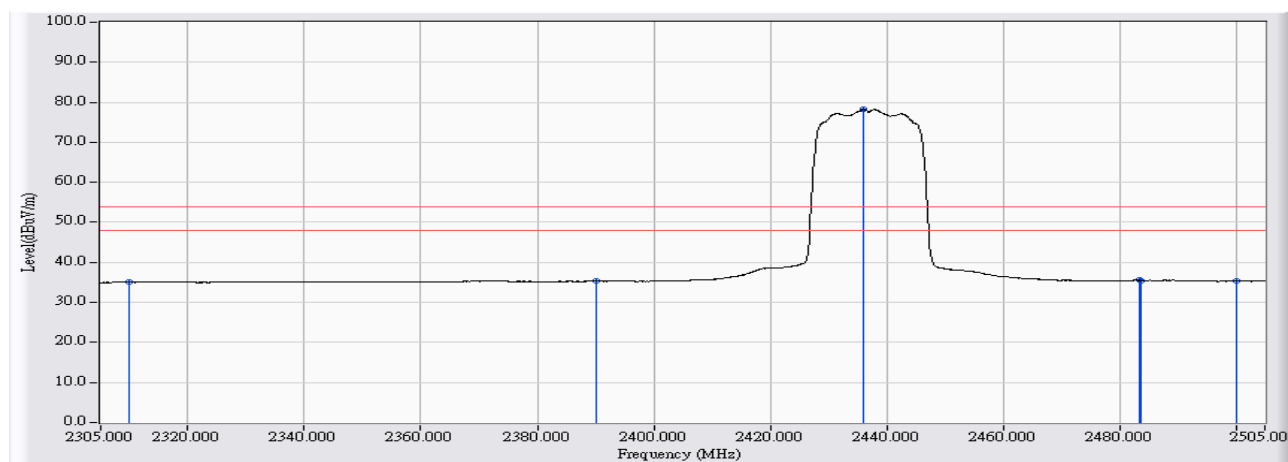


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	49.507	48.682	-25.318	74.000	PEAK
2	2388.000	-0.507	49.569	49.062	-24.938	74.000	PEAK
3	2390.000	-0.499	49.320	48.821	-25.179	74.000	PEAK
4	* 2437.100	-0.307	90.166	89.859	15.859	74.000	PEAK
5	2483.500	-0.118	48.282	48.165	-25.835	74.000	PEAK
6	2500.000	-0.053	47.908	47.856	-26.144	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz

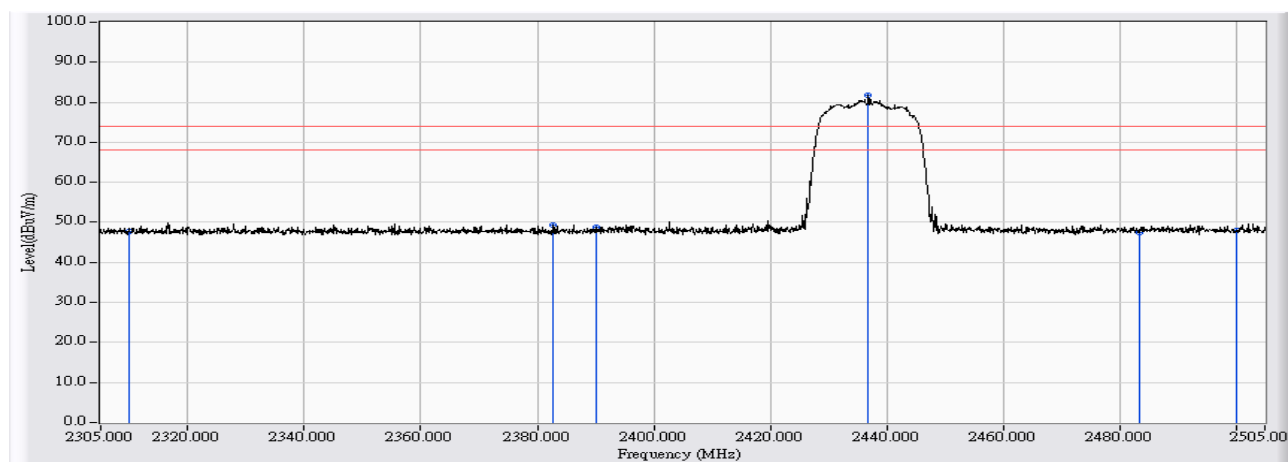


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	35.894	35.069	-18.931	54.000	AVERAGE
2	2390.000	-0.499	35.817	35.318	-18.682	54.000	AVERAGE
3	* 2436.100	-0.310	78.612	78.301	24.301	54.000	AVERAGE
4	2483.500	-0.118	35.643	35.526	-18.474	54.000	AVERAGE
5	2483.600	-0.117	35.603	35.486	-18.514	54.000	AVERAGE
6	2500.000	-0.053	35.461	35.409	-18.591	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz

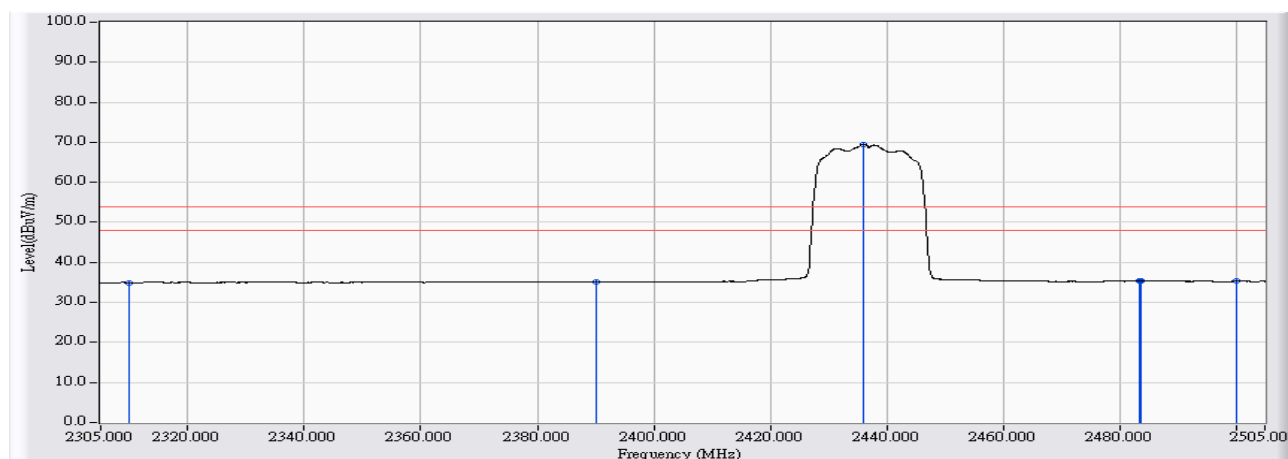


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	48.444	47.619	-26.381	74.000	PEAK
2	2382.800	-0.528	49.935	49.407	-24.593	74.000	PEAK
3	2390.000	-0.499	49.223	48.724	-25.276	74.000	PEAK
4	* 2436.900	-0.307	82.124	81.817	7.817	74.000	PEAK
5	2483.500	-0.118	47.545	47.428	-26.572	74.000	PEAK
6	2500.000	-0.053	47.950	47.898	-26.102	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2437MHz

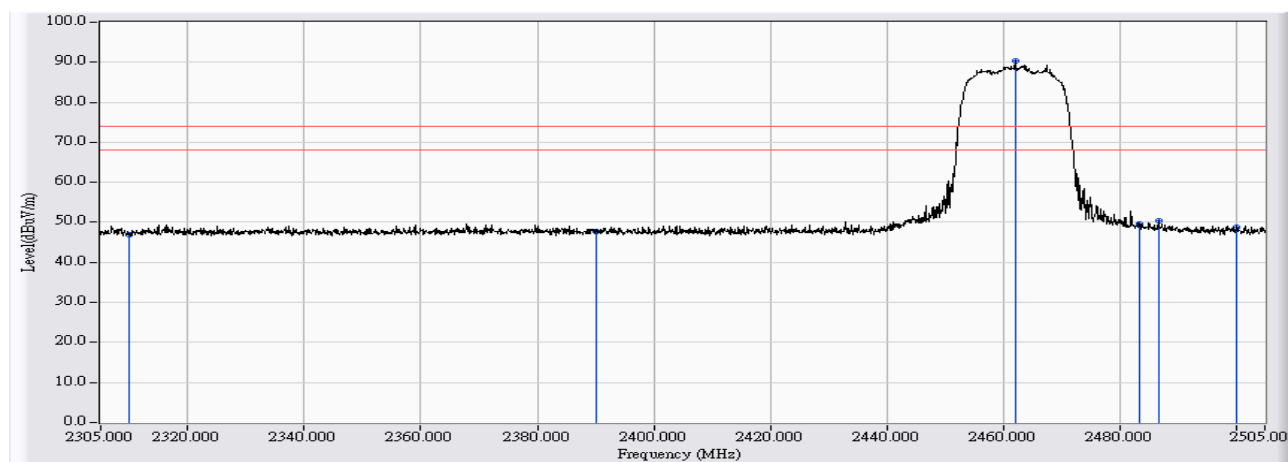


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	35.803	34.978	-19.022	54.000	AVERAGE
2	2390.000	-0.499	35.695	35.196	-18.804	54.000	AVERAGE
3	* 2436.000	-0.312	69.810	69.499	15.499	54.000	AVERAGE
4	2483.500	-0.118	35.510	35.393	-18.607	54.000	AVERAGE
5	2483.600	-0.117	35.504	35.387	-18.613	54.000	AVERAGE
6	2500.000	-0.053	35.312	35.260	-18.740	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2462MHz

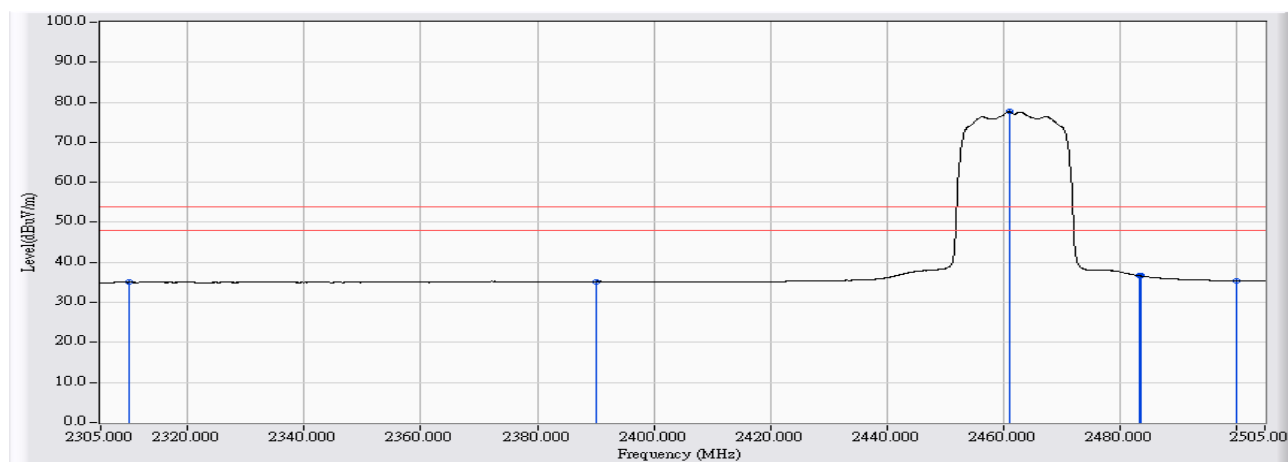


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-0.825	47.818	46.993	-27.007	74.000	PEAK
2		2390.000	-0.499	48.340	47.841	-26.159	74.000	PEAK
3	*	2462.200	-0.204	90.563	90.359	16.359	74.000	PEAK
4		2483.500	-0.118	49.643	49.526	-24.474	74.000	PEAK
5		2486.700	-0.104	50.550	50.446	-23.554	74.000	PEAK
6		2500.000	-0.053	48.863	48.811	-25.189	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2462MHz

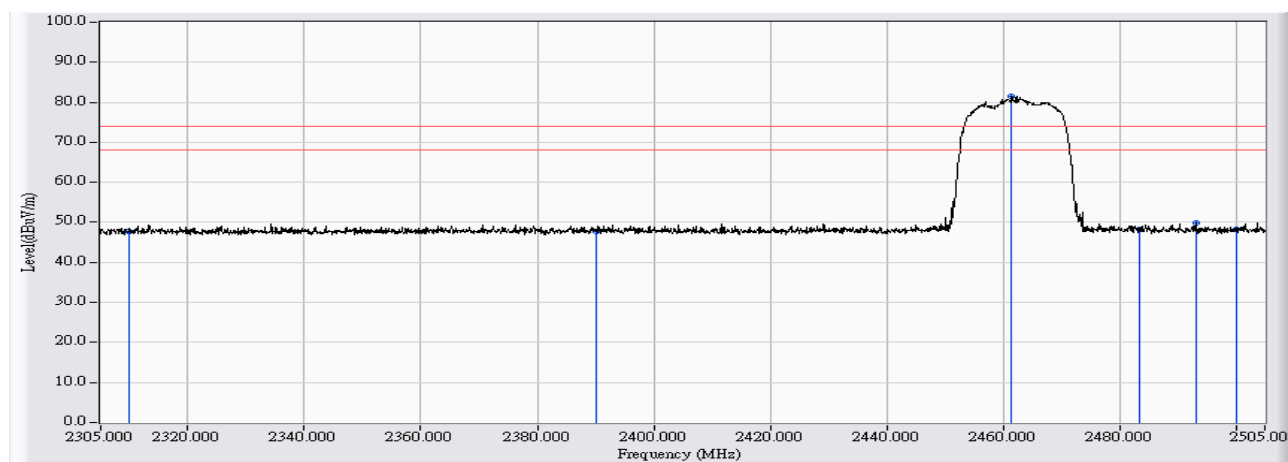


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.825	35.813	34.988	-19.012	54.000	AVERAGE
2	2390.000	-0.499	35.735	35.236	-18.764	54.000	AVERAGE
3	* 2461.100	-0.208	77.839	77.630	23.630	54.000	AVERAGE
4	2483.500	-0.118	36.755	36.638	-17.362	54.000	AVERAGE
5	2483.600	-0.117	36.718	36.601	-17.399	54.000	AVERAGE
6	2500.000	-0.053	35.453	35.401	-18.599	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2462MHz

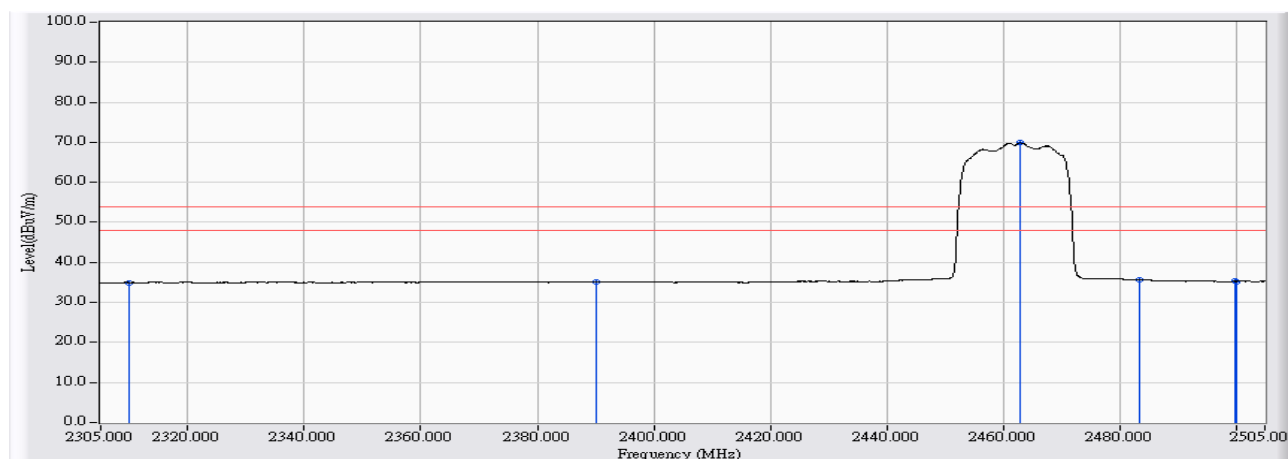


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-0.825	48.509	47.684	-26.316	74.000	PEAK
2		2390.000	-0.499	48.263	47.764	-26.236	74.000	PEAK
3	*	2461.500	-0.207	81.831	81.624	7.624	74.000	PEAK
4		2483.500	-0.118	48.341	48.224	-25.776	74.000	PEAK
5		2493.100	-0.079	50.031	49.953	-24.047	74.000	PEAK
6		2500.000	-0.053	48.233	48.181	-25.819	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB4-H	Time : 2017/03/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 5V
EUT : Gateway	Note : 802.11n(20M)_2462MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-0.825	35.800	34.975	-19.025	54.000	AVERAGE
2		2390.000	-0.499	35.653	35.154	-18.846	54.000	AVERAGE
3	*	2463.000	-0.201	70.055	69.854	15.854	54.000	AVERAGE
4		2483.500	-0.118	35.738	35.621	-18.379	54.000	AVERAGE
5		2499.800	-0.053	35.323	35.271	-18.729	54.000	AVERAGE
6		2500.000	-0.053	35.297	35.245	-18.755	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

7. DTS Bandwidth

7.1. Test Equipment

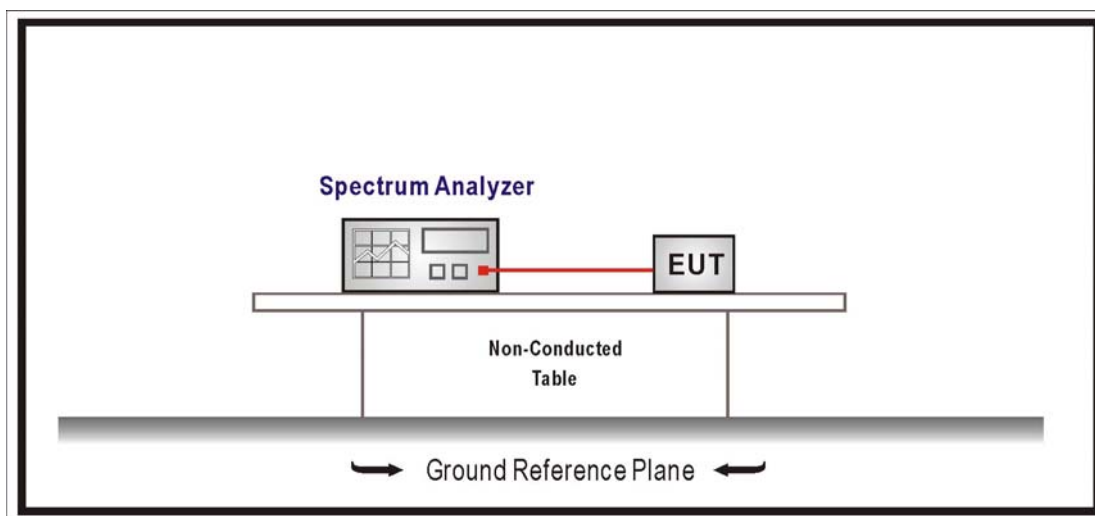
The following test equipments are used during the test:

DTS Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

7.2. Test Setup



7.3. Test Procedures

The EUT was setup according to ANSI C63.10:2013; tested procedure section 8.1 of KDB558074 v03r05 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100KHz, Set the VBW $\geq 3 \times$ RBW, Sweep Time=Auto, Set Peak Detector.

7.4. Limits

The 6 dB bandwidth must be greater than 500 kHz.

7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

7.6. Uncertainty

The measurement uncertainty is defined as $\pm 150\text{Hz}$

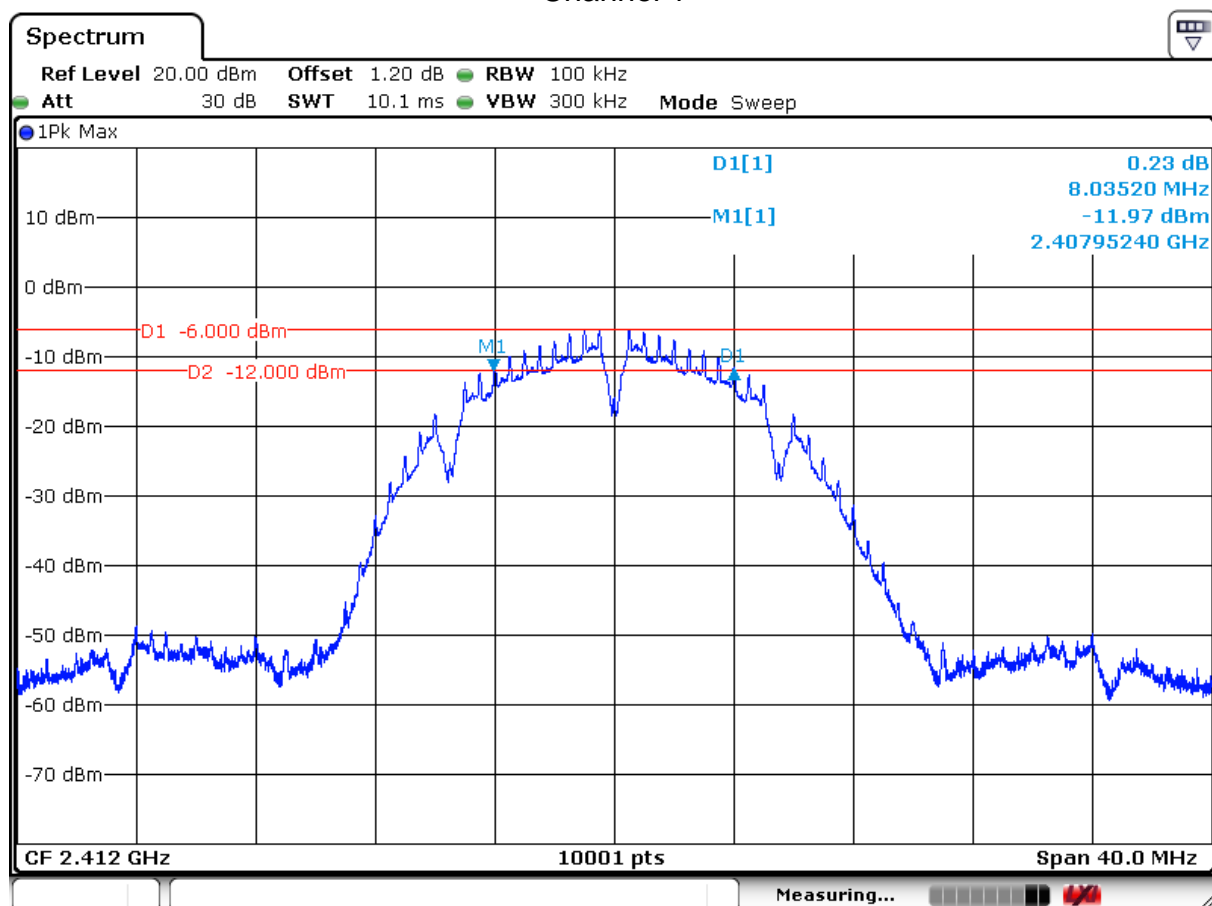
7.7. Test Result

Product	Gateway		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

802.11 b (ANT 0)

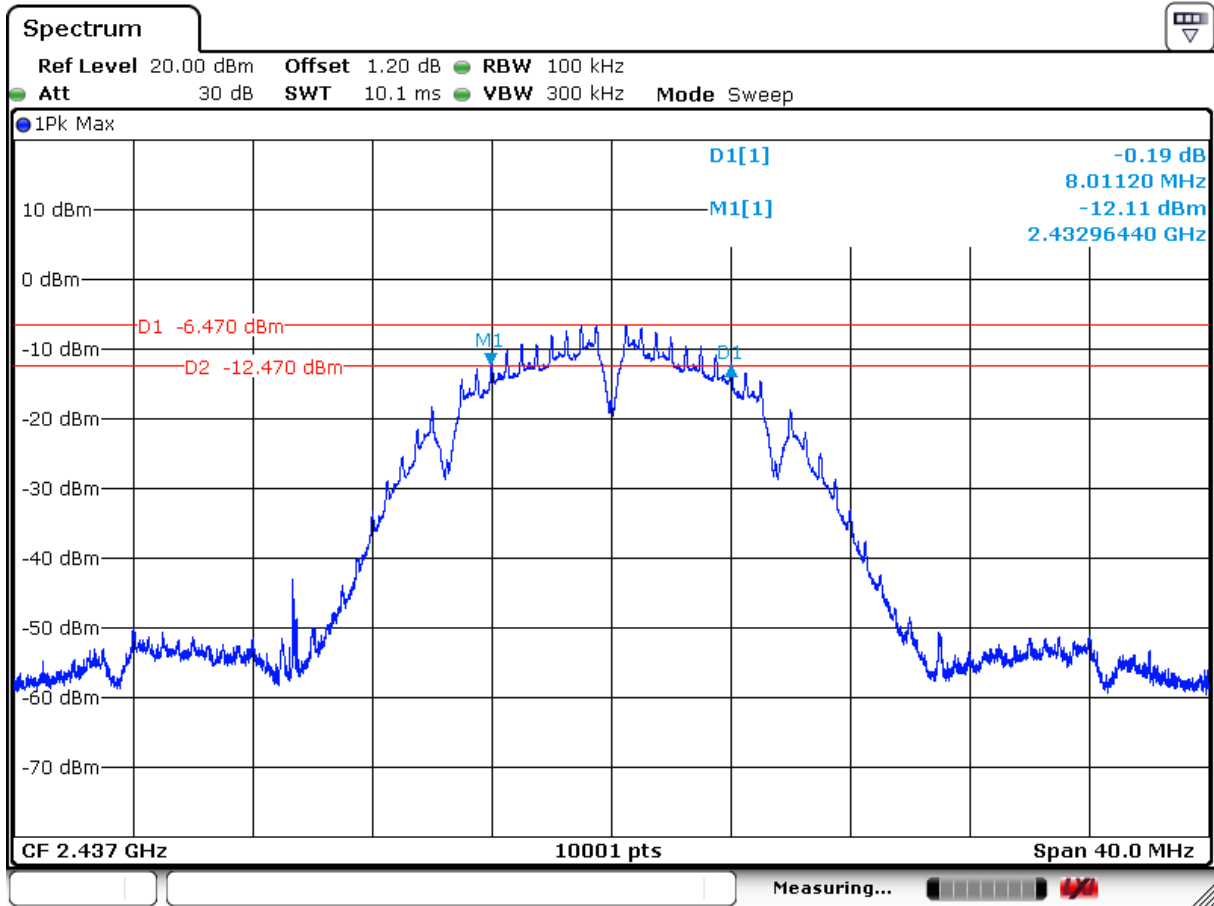
Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
1	2412	8.04	≥ 0.5	Pass
6	2437	8.01	≥ 0.5	Pass
11	2462	8.06	≥ 0.5	Pass

Channel 1



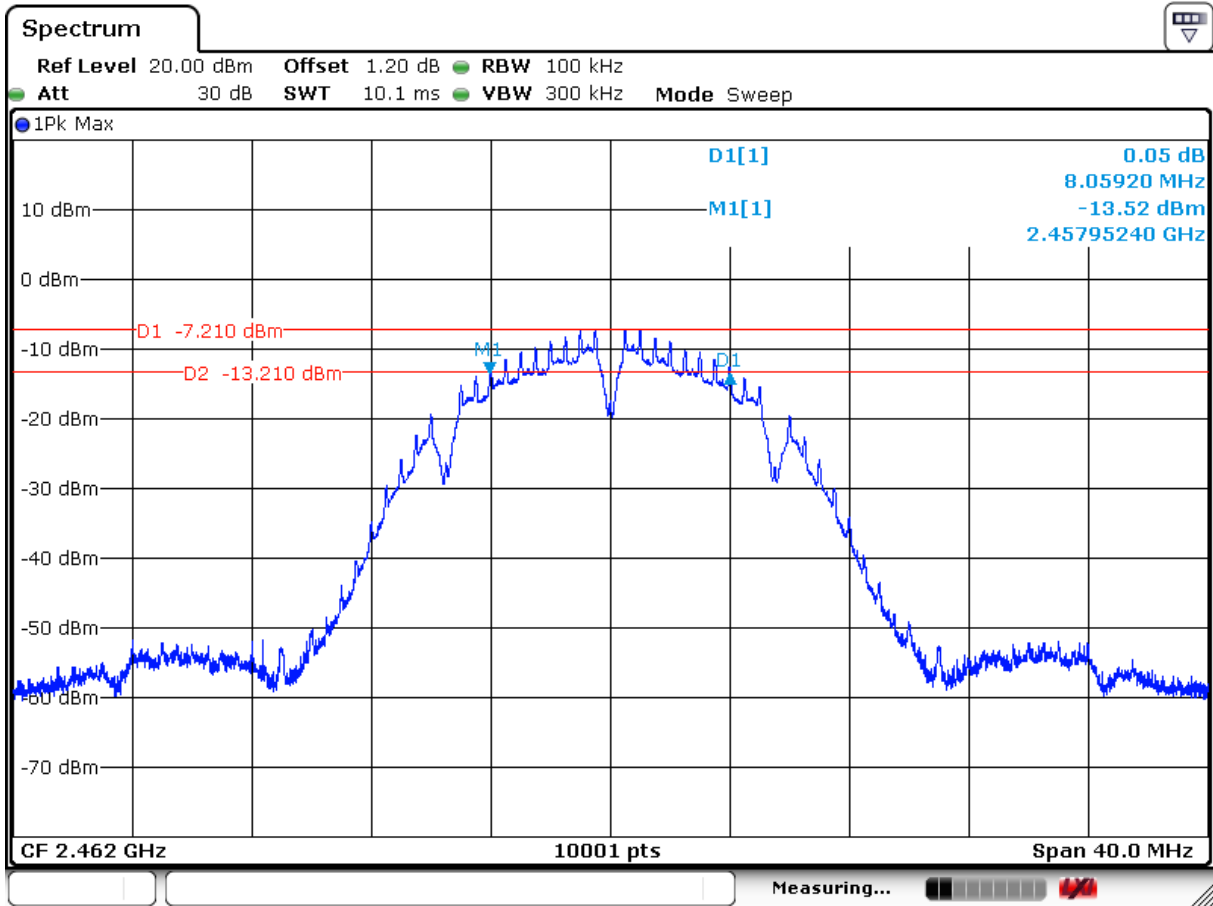
Date: 10 MAR 2017 17:16:29

Channel 6



Date: 10 MAR 2017 17:13:18

Channel 11

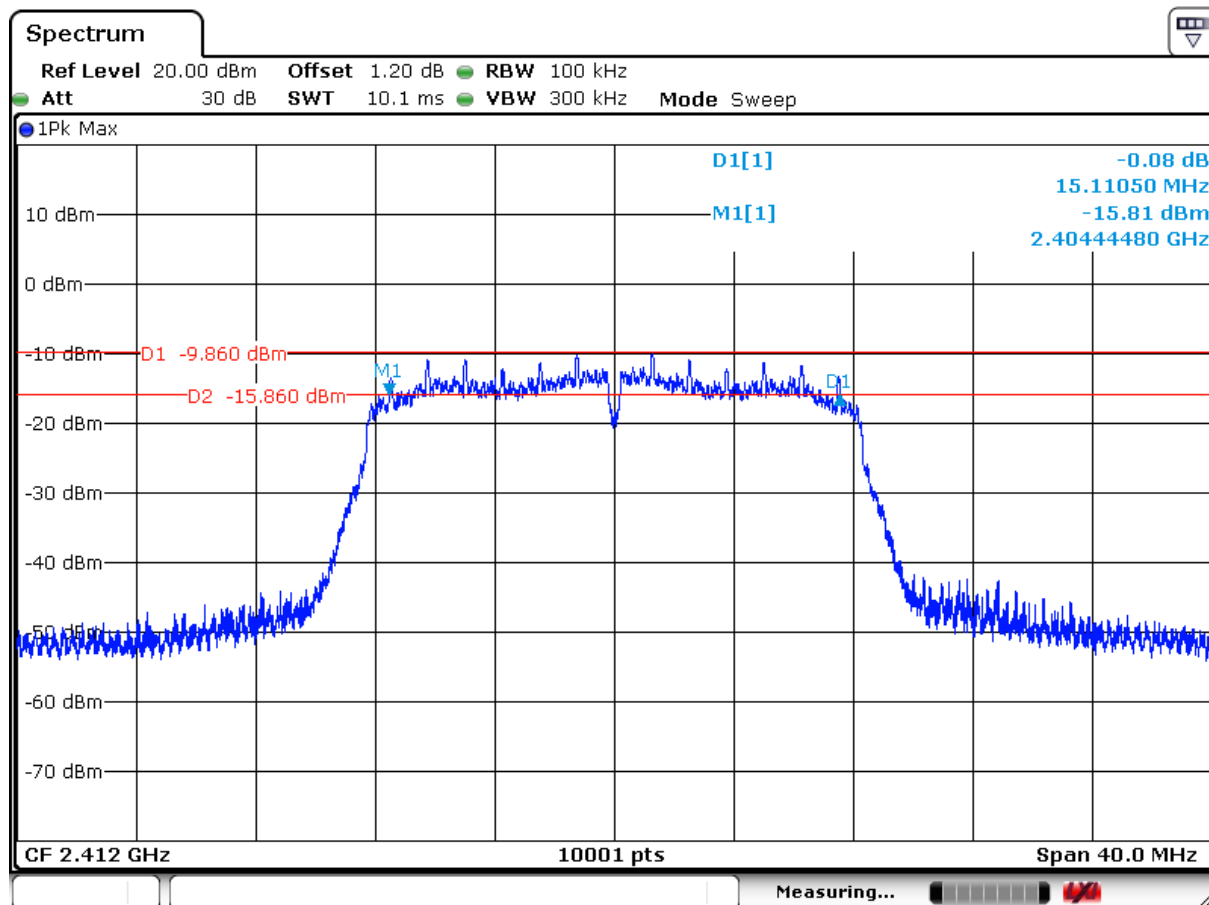


Date: 10 MAR 2017 17:08:29

Product	Gateway		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

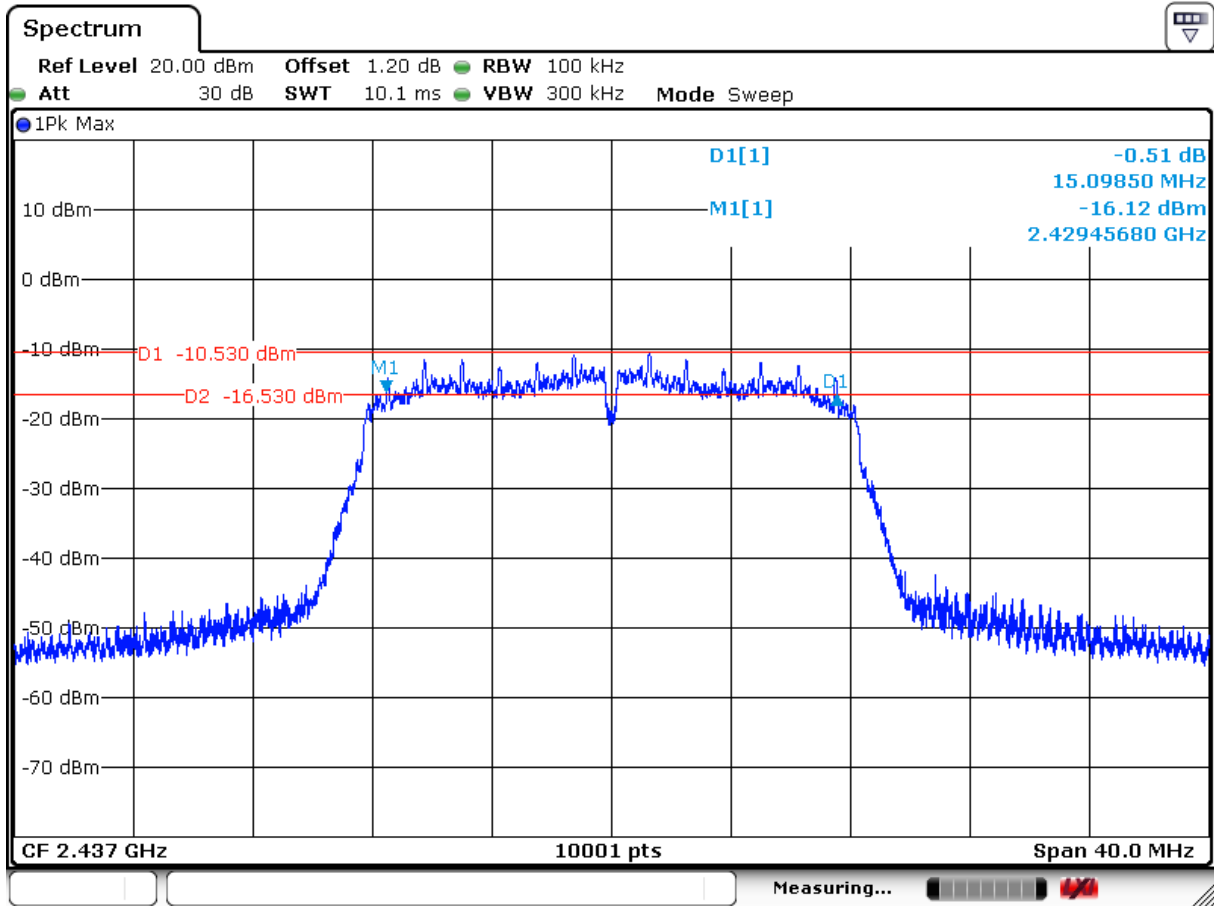
802.11 g (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
1	2412	15.110	≥ 0.5	Pass
6	2437	15.098	≥ 0.5	Pass
11	2462	15.106	≥ 0.5	Pass

Channel 1



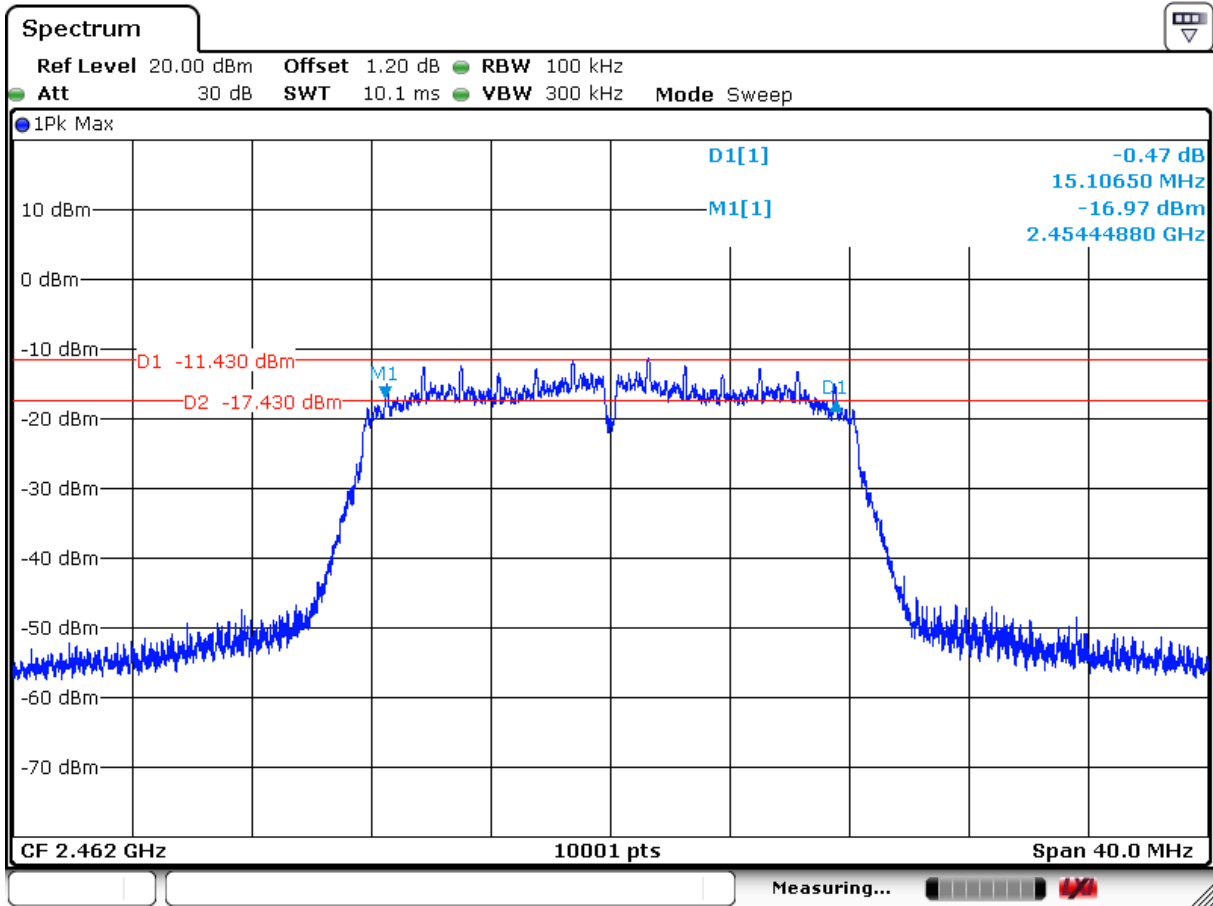
Date: 10 MAR 2017 17:03:46

Channel 6



Date: 10 MAR 2017 17:05:36

Channel 11



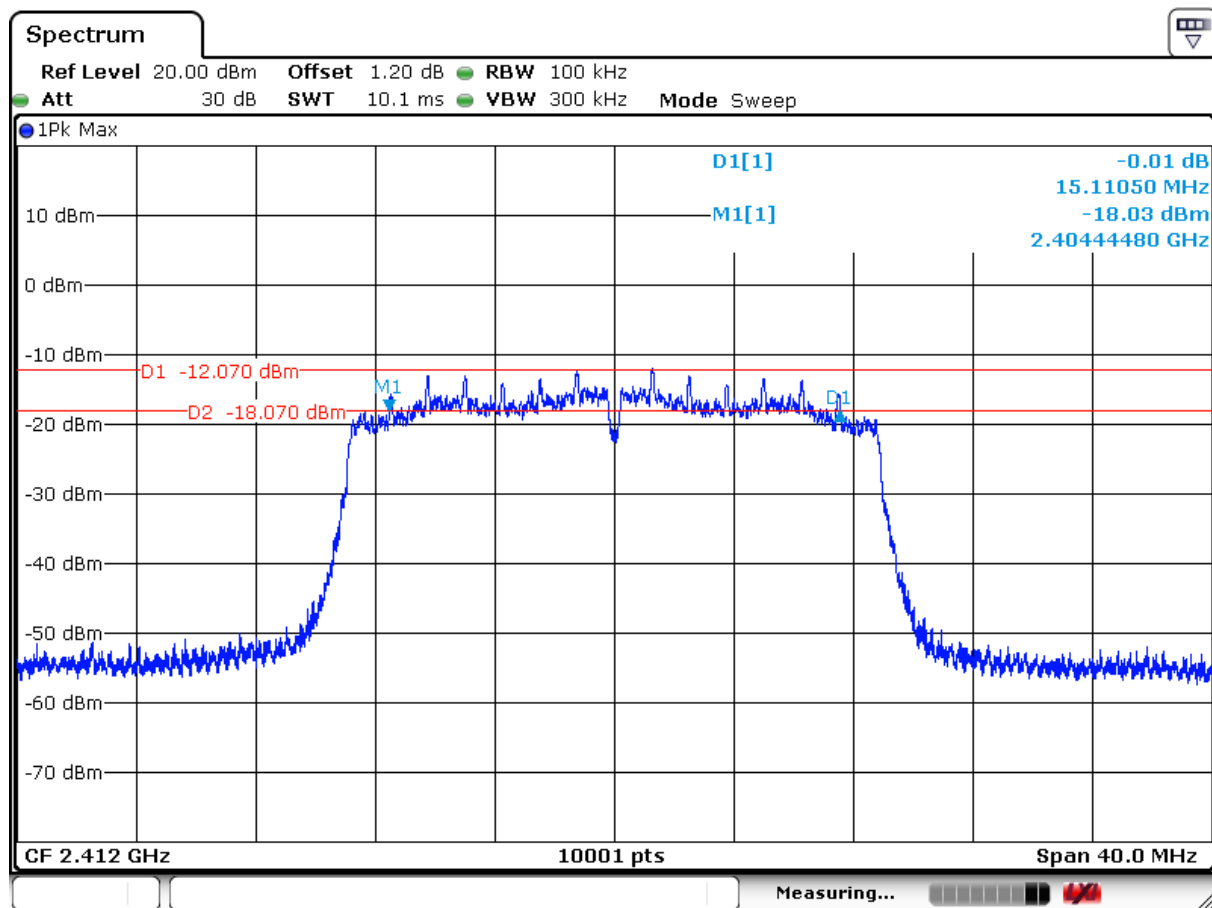
Date: 10 MAR 2017 17:10:18

Product	Gateway		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

IEEE 802.11n_20M (ANT 0)

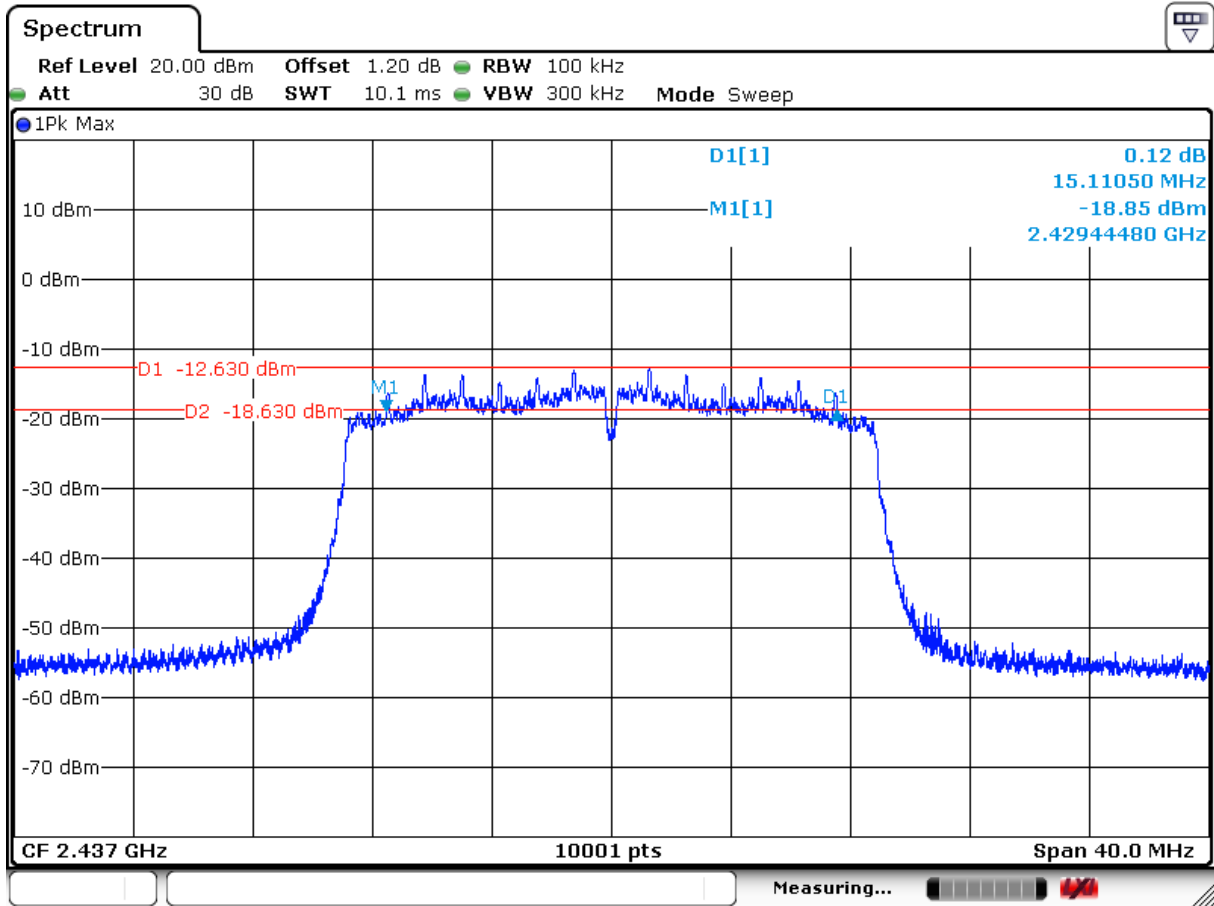
Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
1	2412	15.110	≥ 0.5	Pass
6	2437	15.110	≥ 0.5	Pass
11	2462	15.106	≥ 0.5	Pass

Channel 1



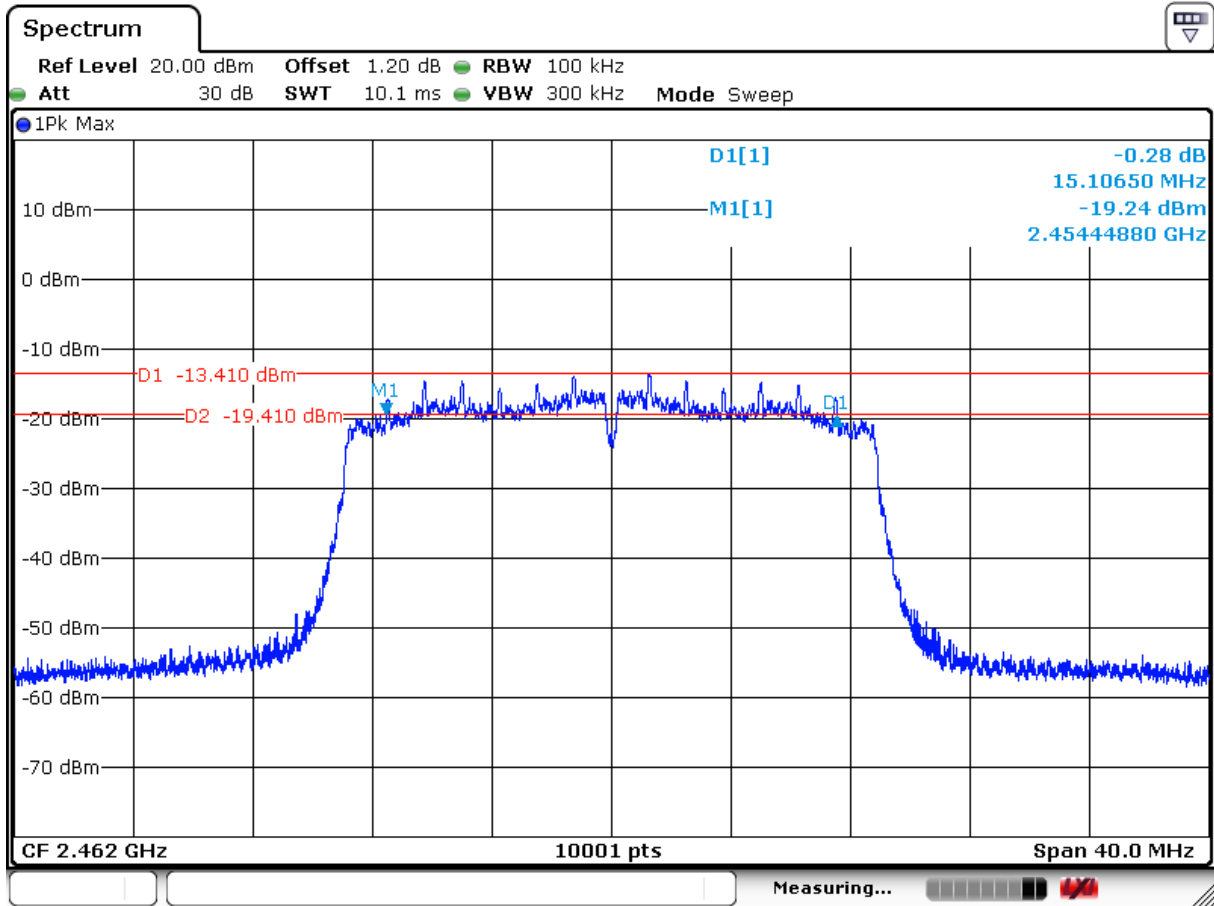
Date: 10 MAR 2017 17:02:19

Channel 6



Date: 10 MAR 2017 16:58:40

Channel 11



Date: 10 MAR 2017 16:45:22

8. Occupied Bandwidth

8.1. Test Equipment

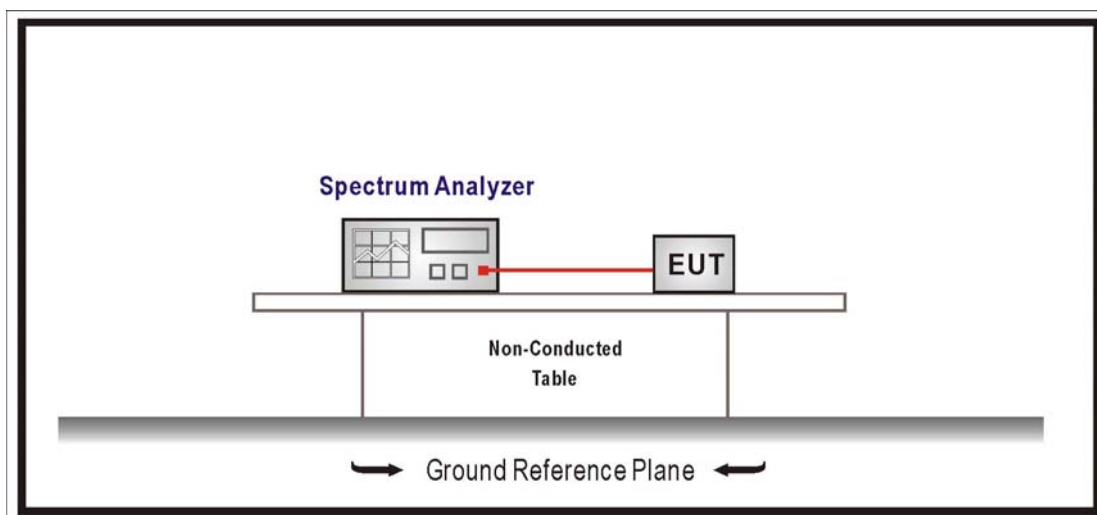
The following test equipments are used during the test:

Occupied Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

8.2. Test Setup



8.3. Test Procedures

The EUT was setup according to ANSI C63.10:2013; tested according to DTS test procedure of KDB558074 v03r05 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 1-5% of the OBW, Set the VBW $\geq 3 \times$ RBW, Sweep Time=Auto.

8.4. Limits

NA

8.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

8.6. Uncertainty

The measurement uncertainty is defined as $\pm 150\text{Hz}$

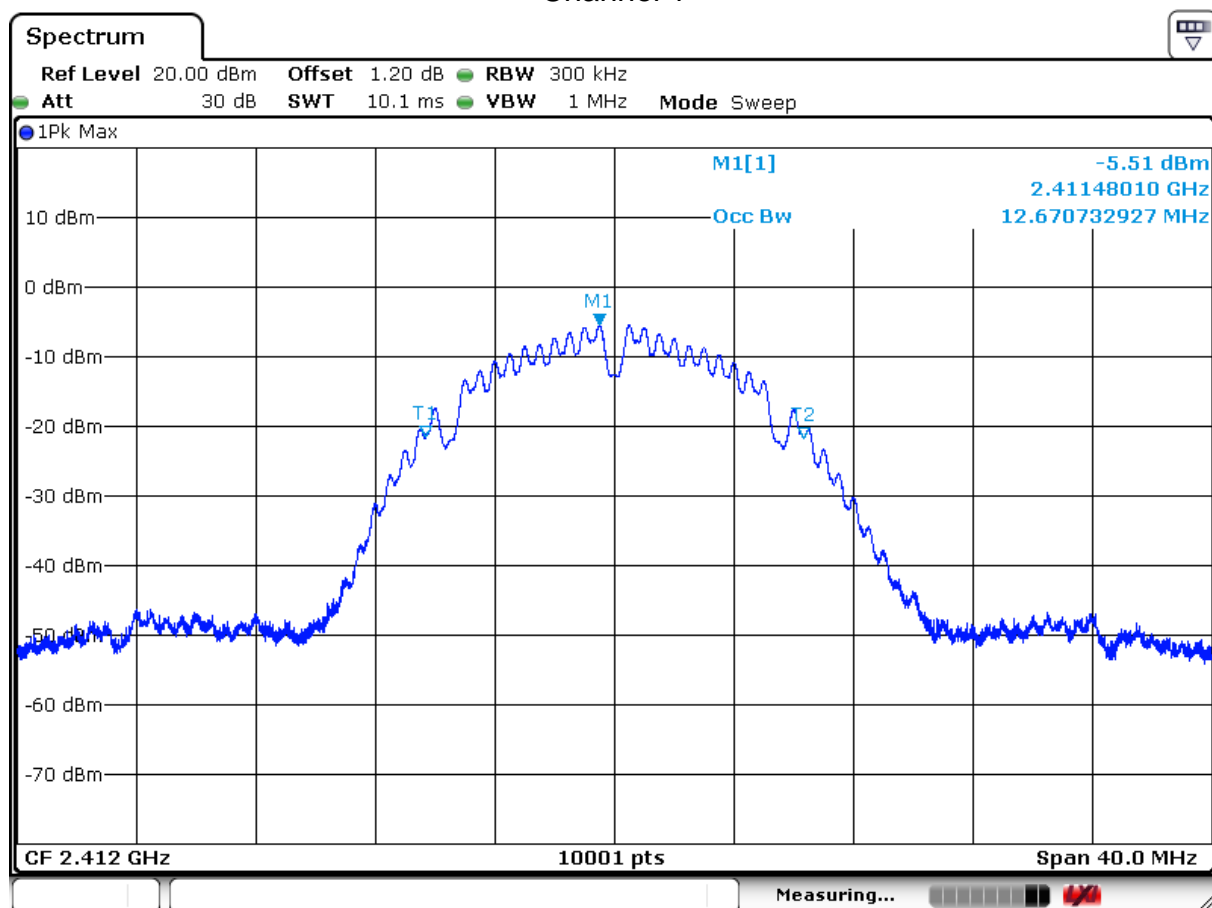
8.7. Test Result

Product	Gateway		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

802.11 b (ANT 0)

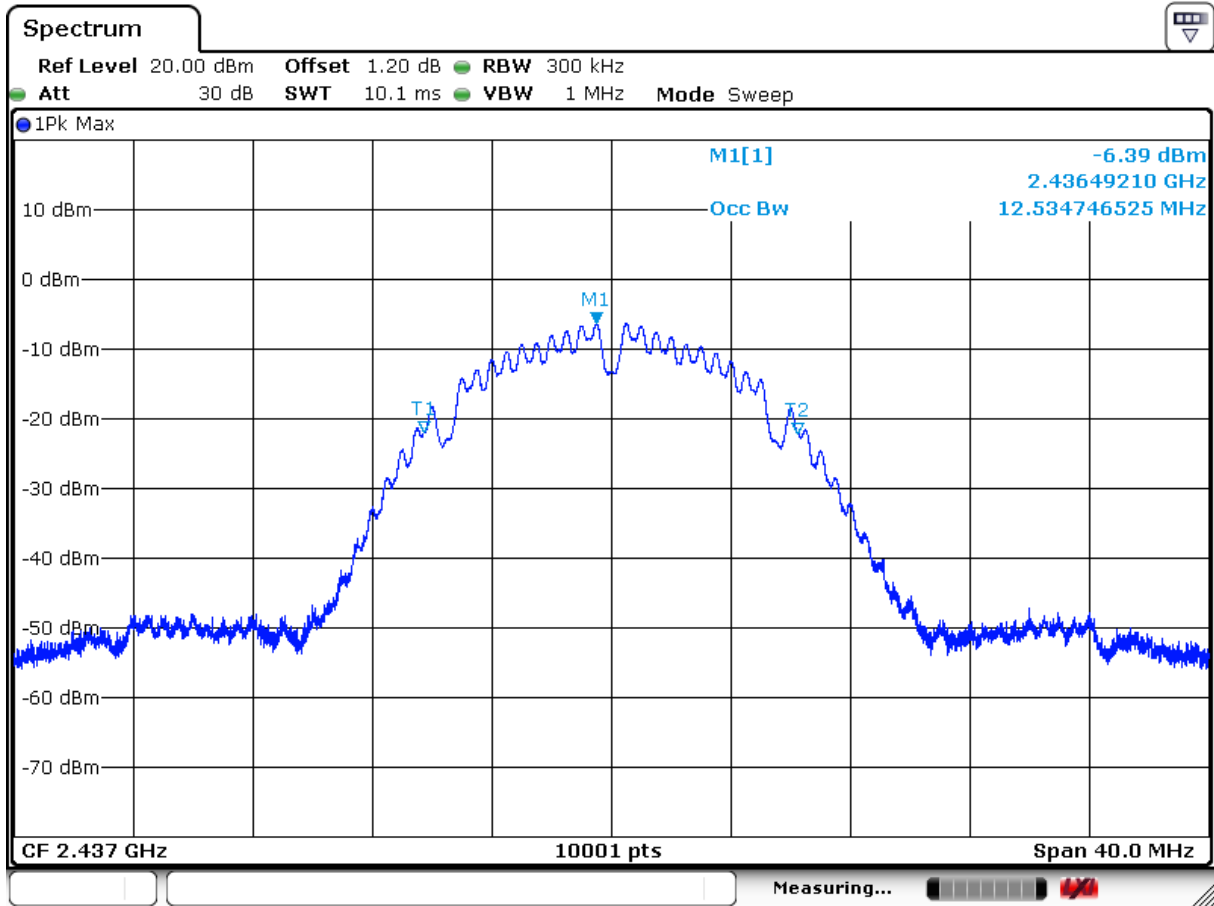
Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
1	2412	12.670	--	Pass
6	2437	12.534	--	Pass
11	2462	12.498	--	Pass

Channel 1



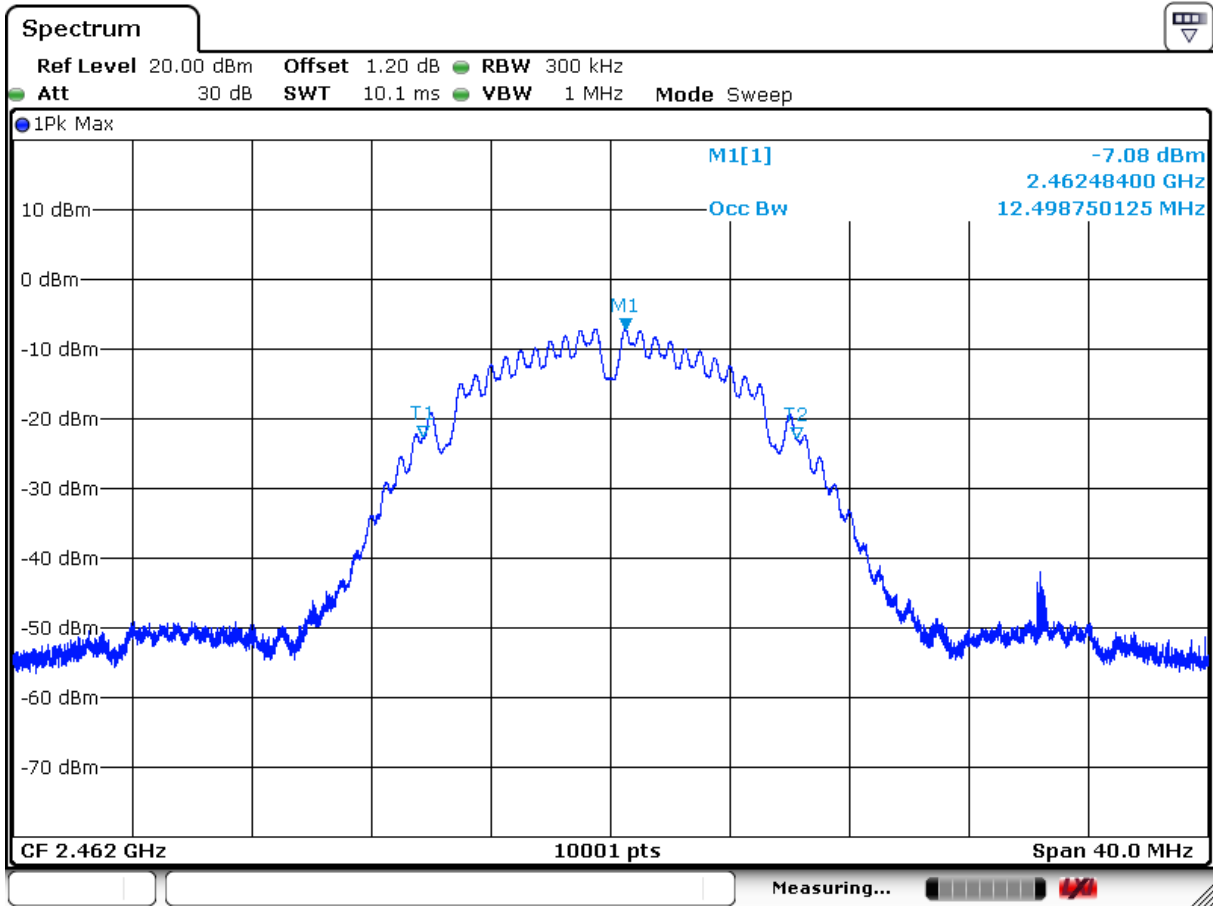
Date: 10 MAR 2017 16:35:27

Channel 6



Date: 10 MAR 2017 16:36:21

Channel 11

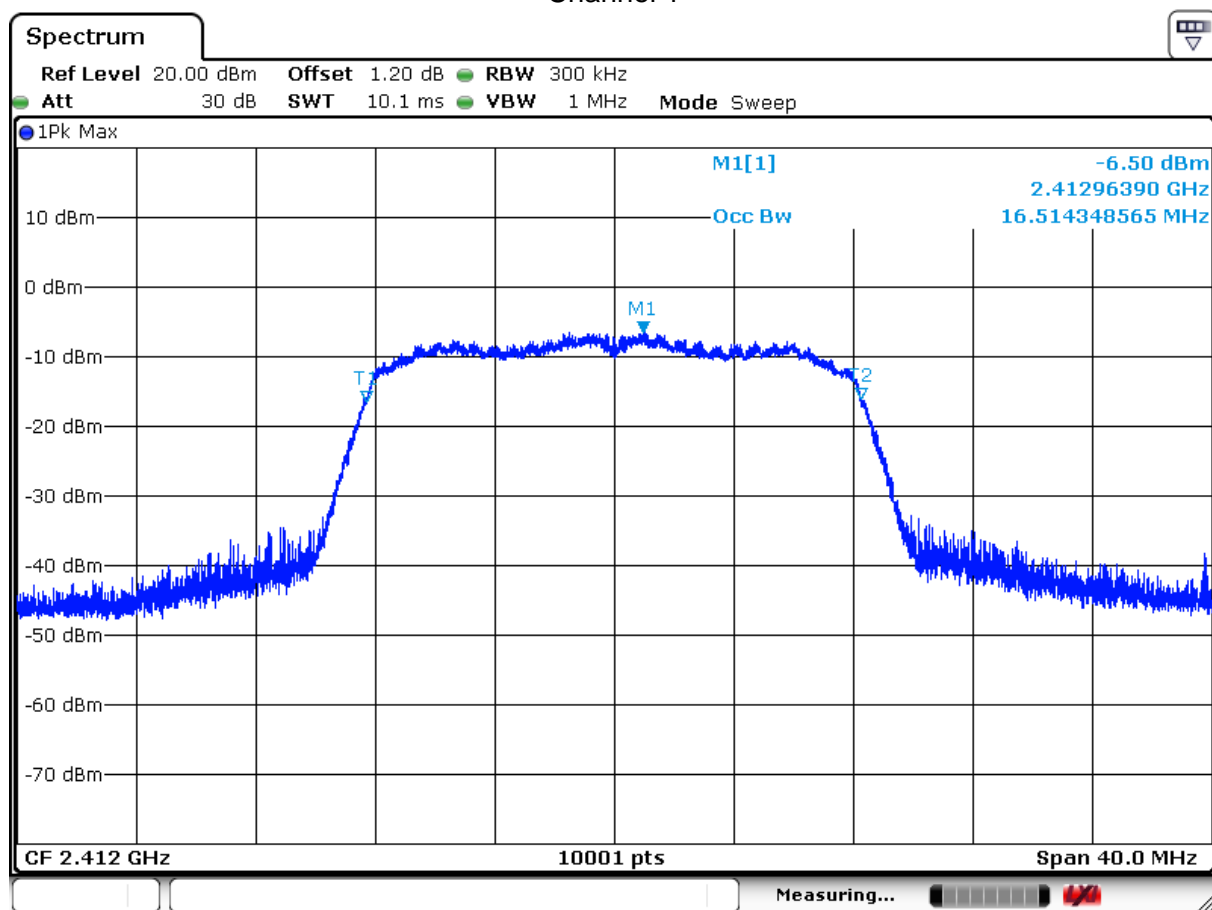


Date: 10 MAR 2017 16:36:57

Product	Gateway		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

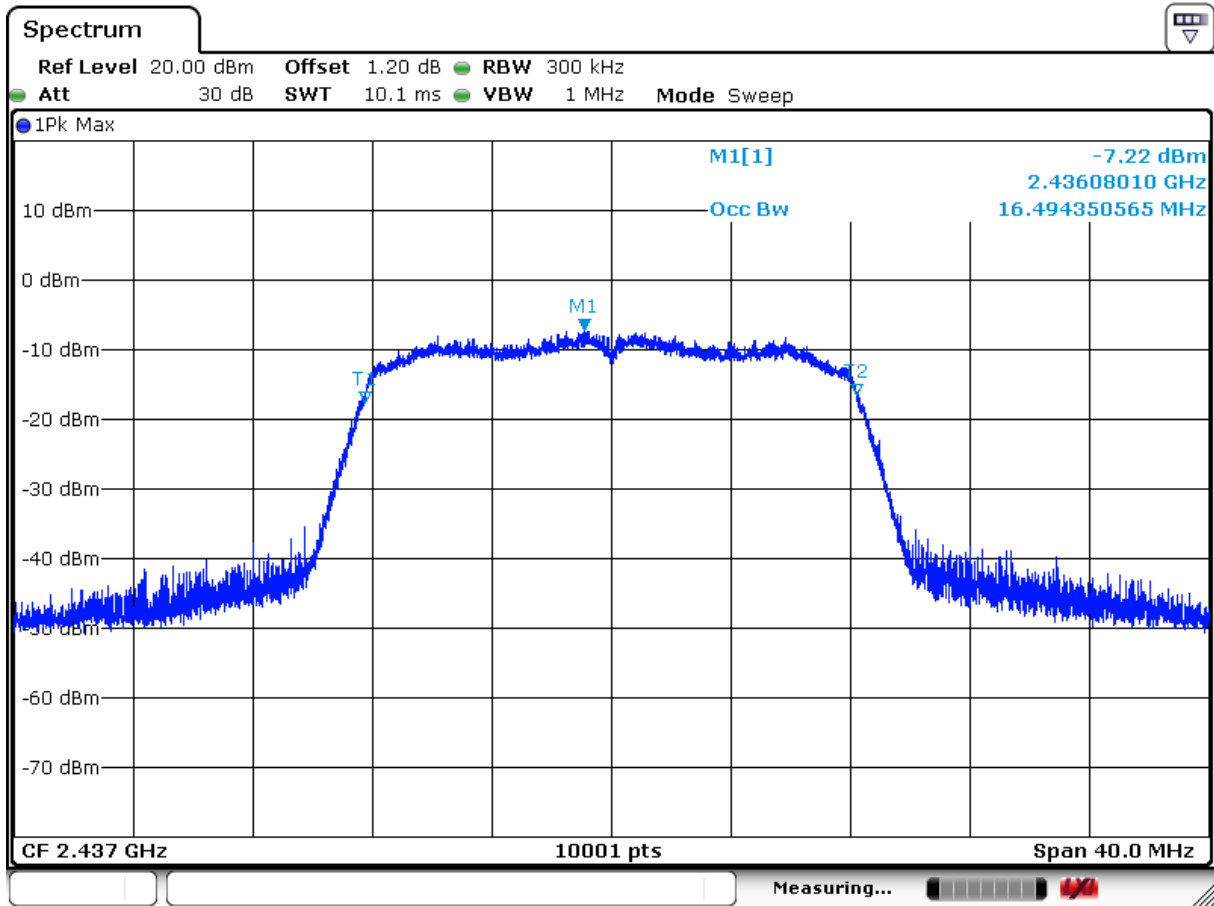
802.11 g (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
1	2412	16.514	--	Pass
6	2437	16.494	--	Pass
11	2462	16.474	--	Pass

Channel 1



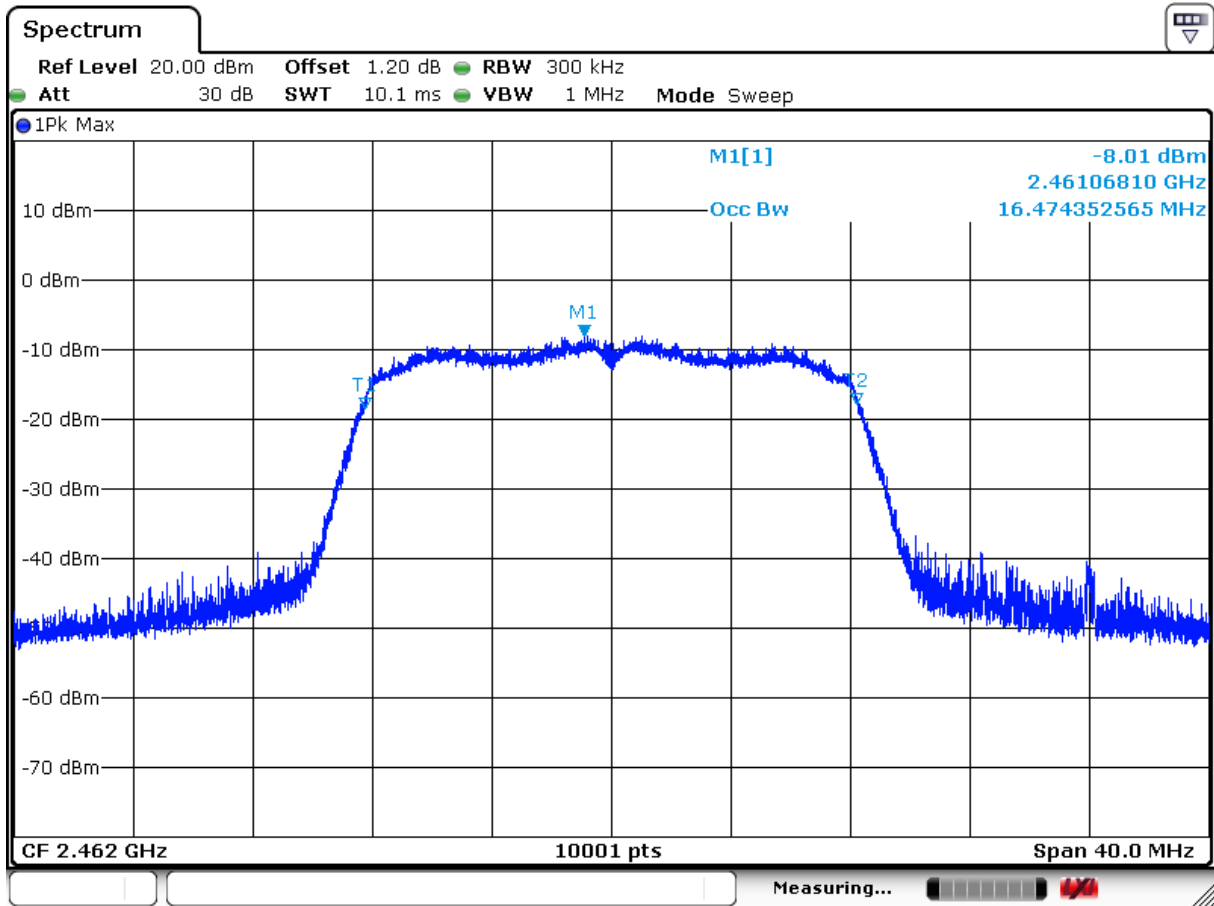
Date: 10 MAR 2017 16:38:34

Channel 6



Date: 10 MAR 2017 16:39:16

Channel 11

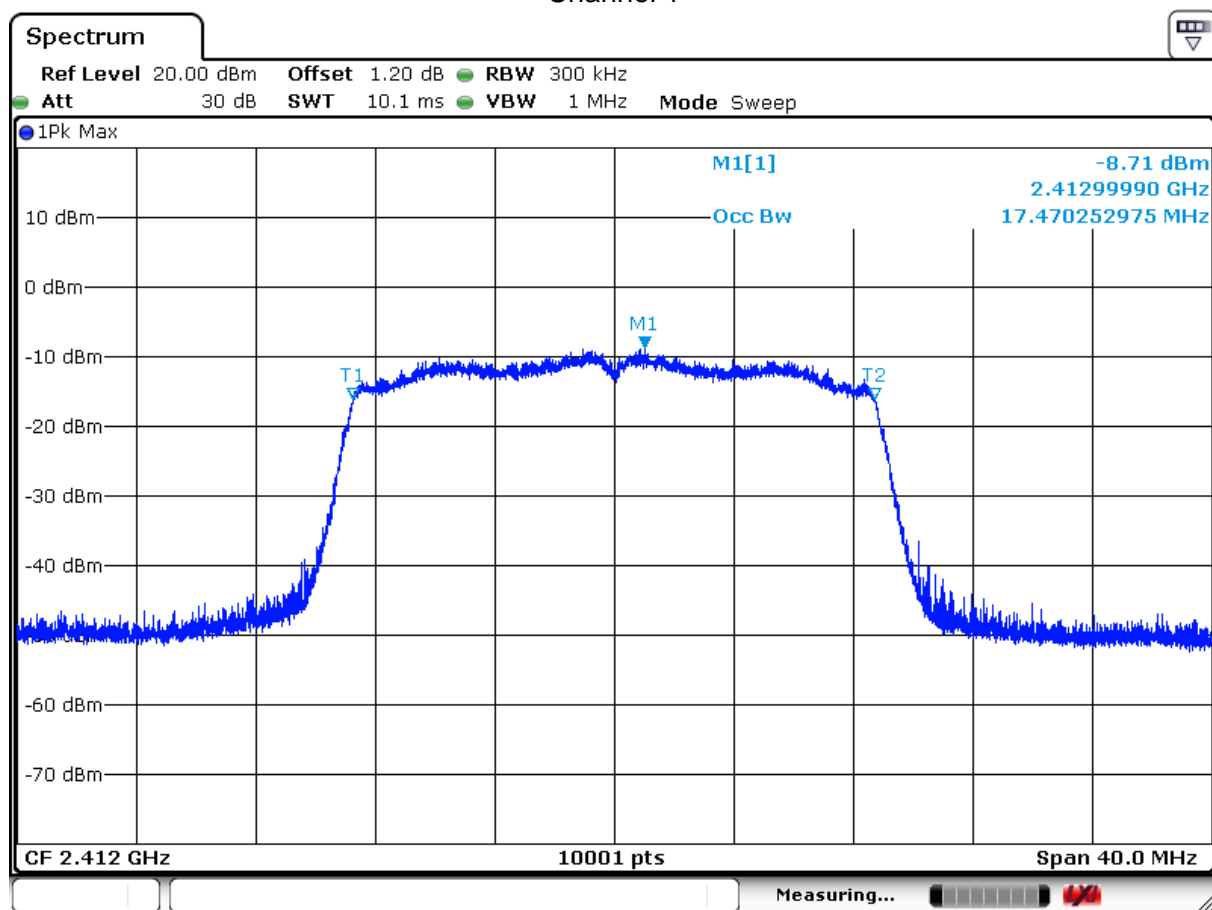


Date: 10 MAR 2017 16:39:59

Product	Gateway		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

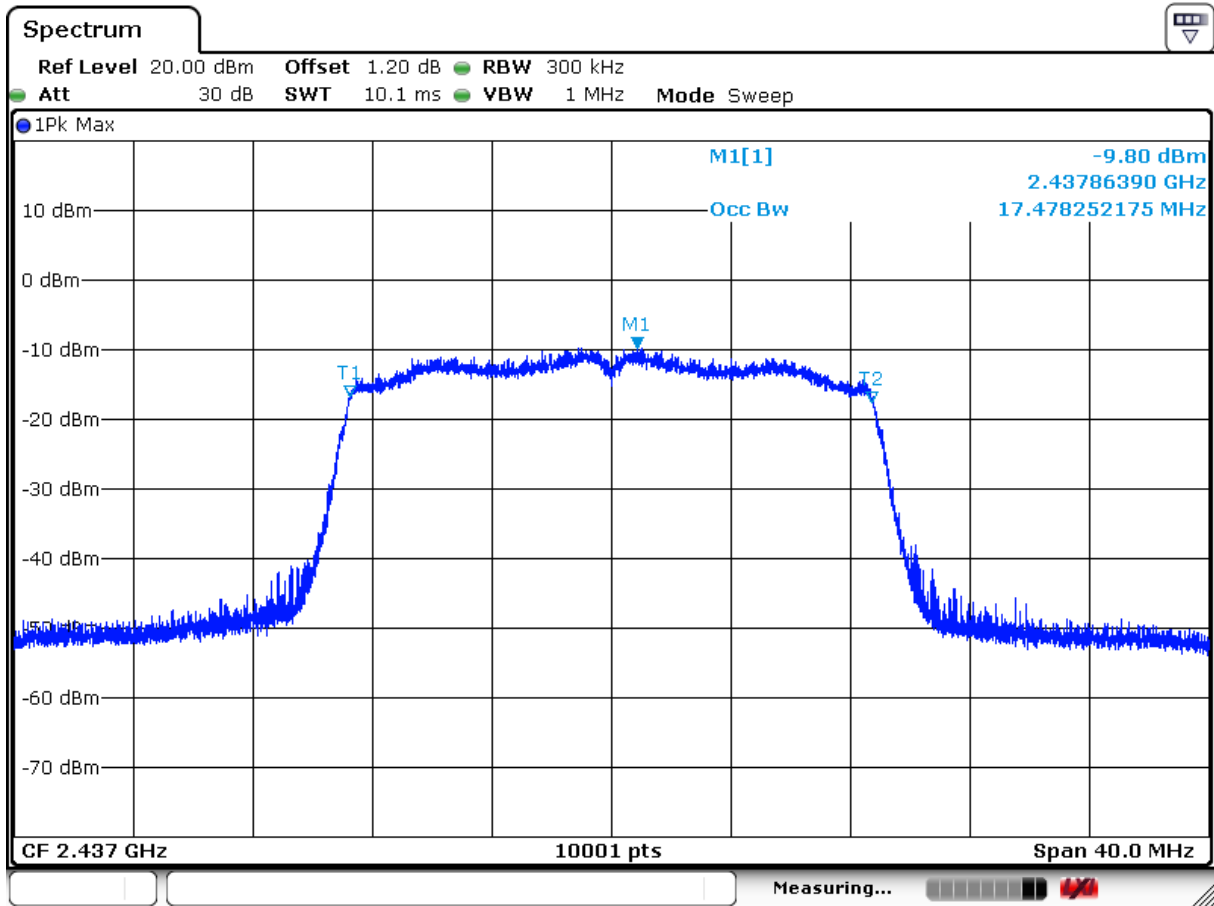
IEEE802.11n 20MHz (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
1	2412	17.470	--	Pass
6	2437	17.478	--	Pass
11	2462	17.482	--	Pass

Channel 1



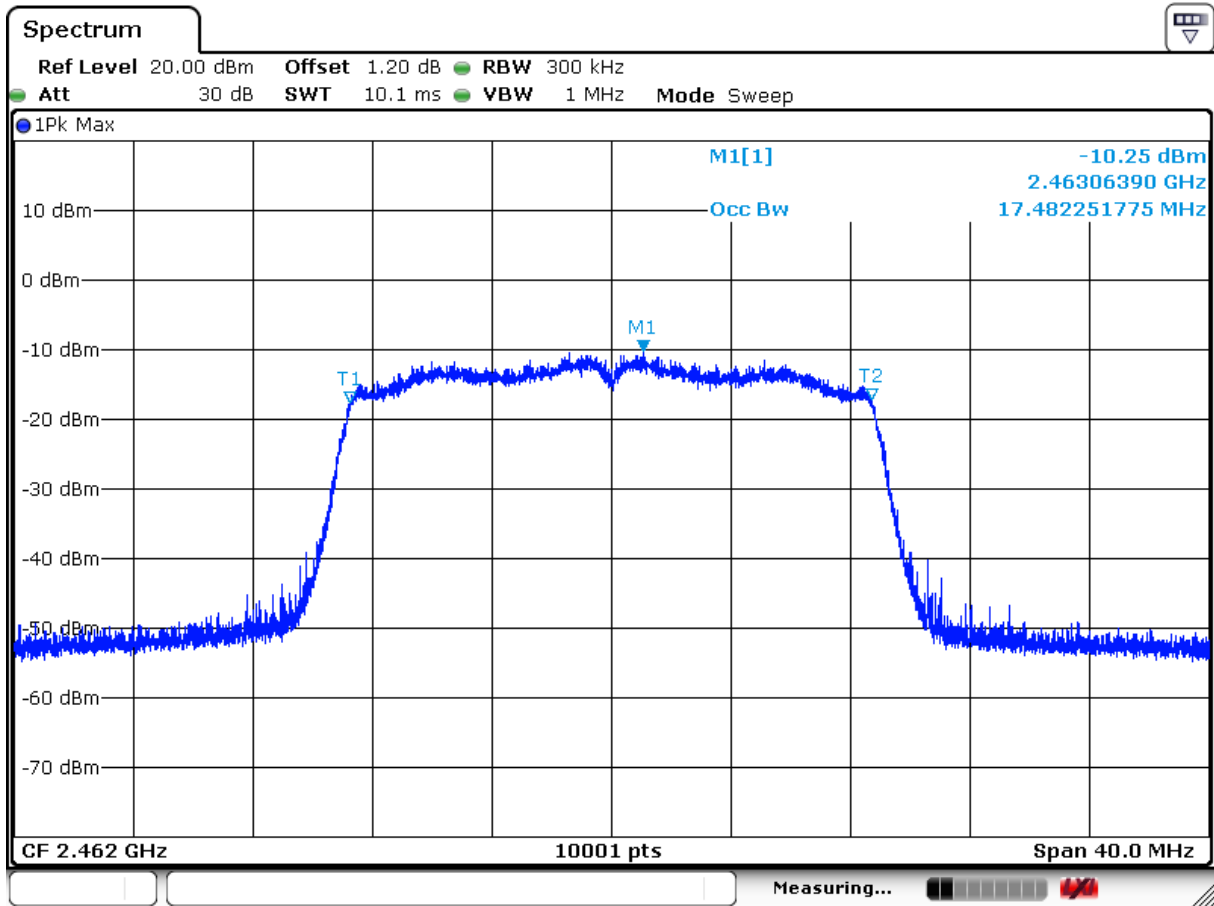
Date: 10 MAR 2017 16:40:51

Channel 6



Date: 10 MAR 2017 16:41:40

Channel 11



Date: 10 MAR 2017 16:42:18

9. Power Density

9.1. Test Equipment

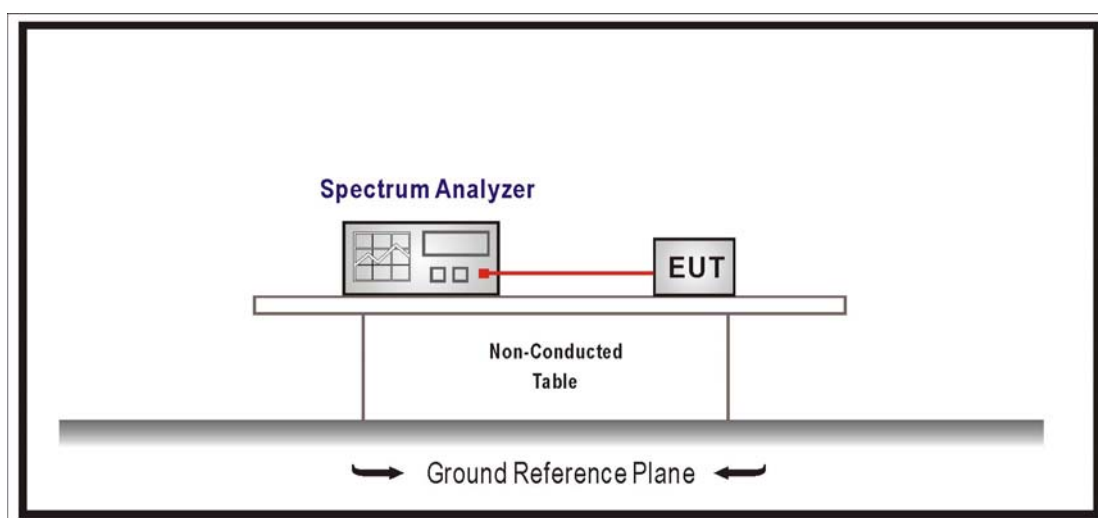
The following test equipment is used during the test:

Power Density / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

9.2. Test Setup



9.3. Limits

The peak 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.

9.4. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure section 10.2 of KDB558074v03r05 for compliance to FCC 47CFR 15.247 requirements. Set 3KHz \leq RBW \leq 100 kHz, Set VBW \geq 3xRBW, Sweep time=Auto, Set Peak detector.

9.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

9.6. Uncertainty

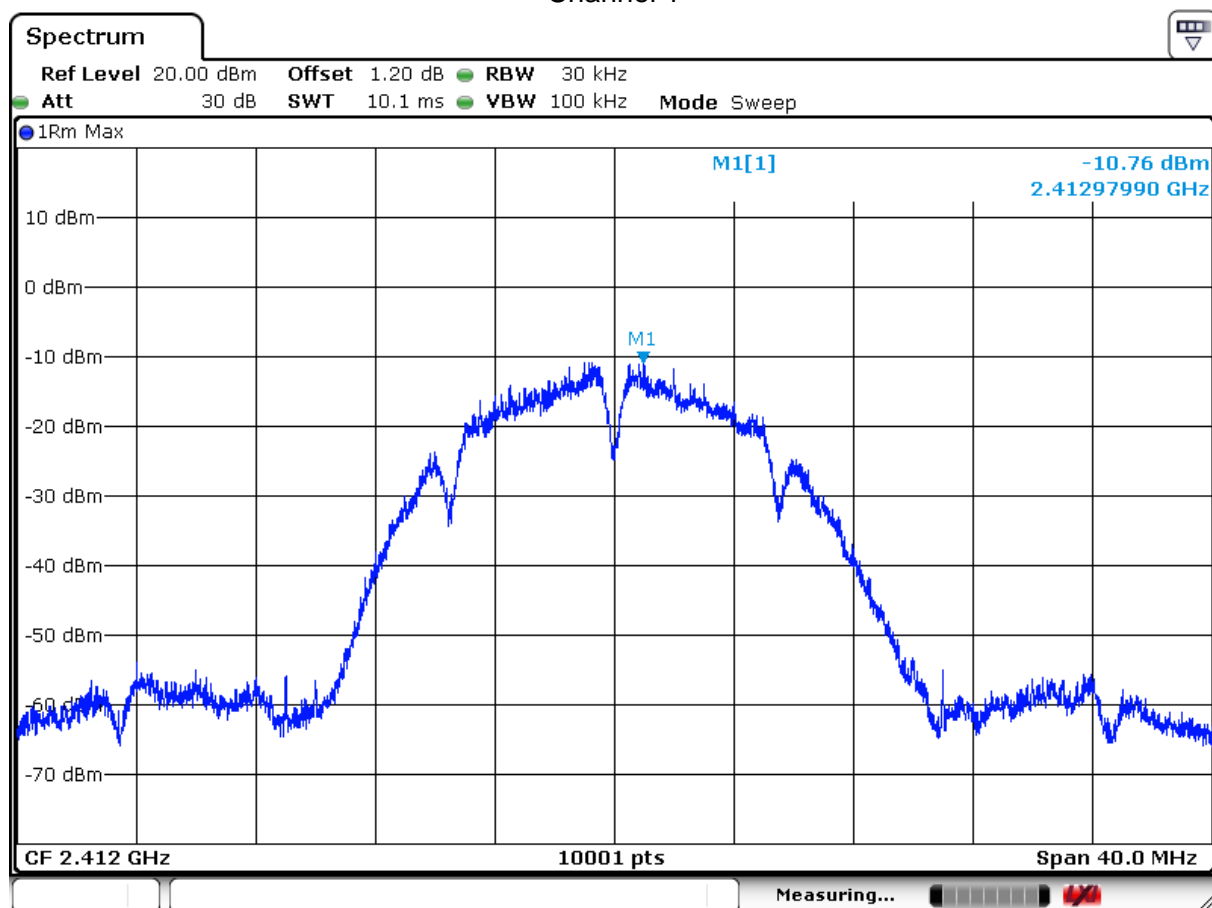
The measurement uncertainty is defined as ± 1.27 dB.

9.7. Test Result

Product	Gateway		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

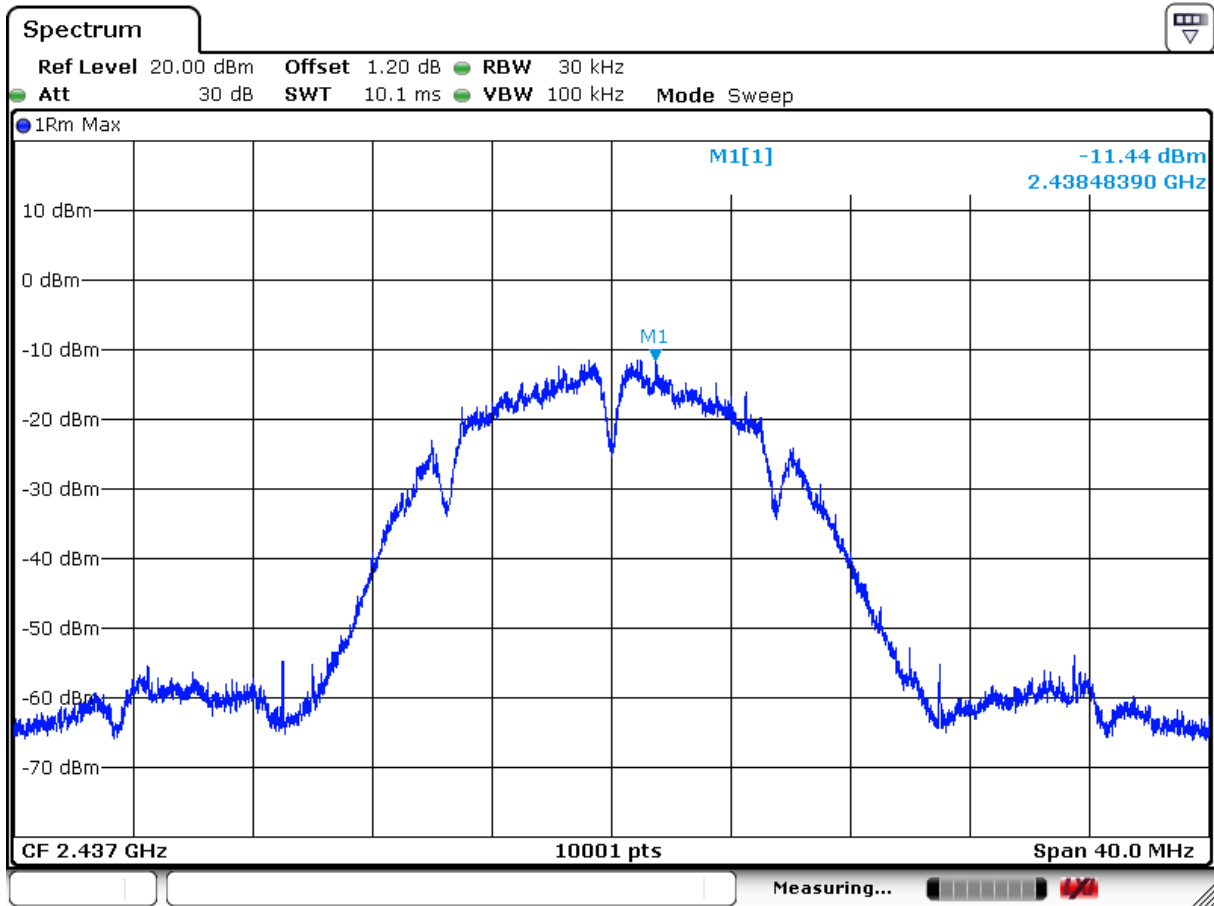
IEEE 802.11b (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-10.76	≤ 8	Pass
6	2437	-11.44	≤ 8	Pass
11	2462	-11.79	≤ 8	Pass

Channel 1



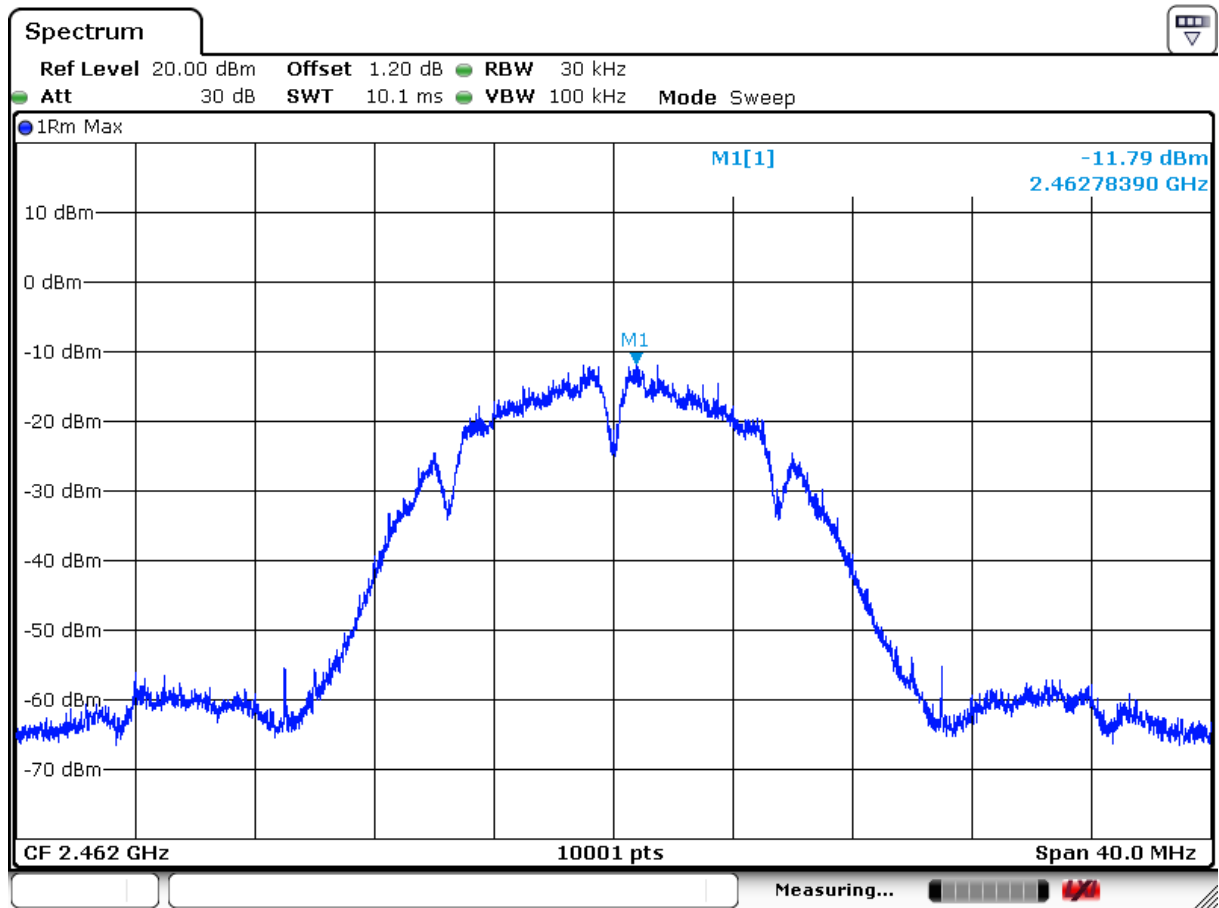
Date: 10 MAR 2017 16:15:03

Channel 6



Date: 10 MAR .2017 16:14:37

Channel 11

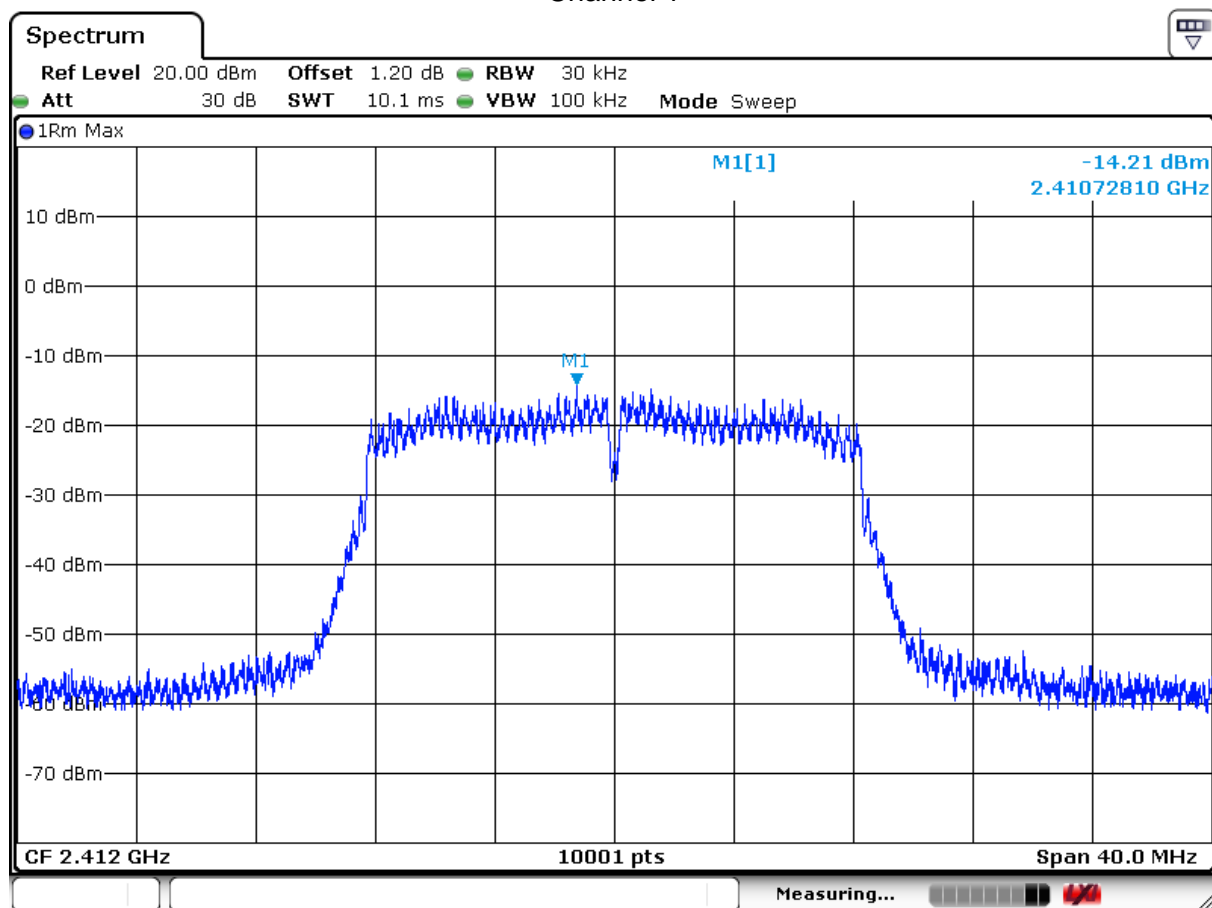


Date: 10 MAR 2017 16:14:06

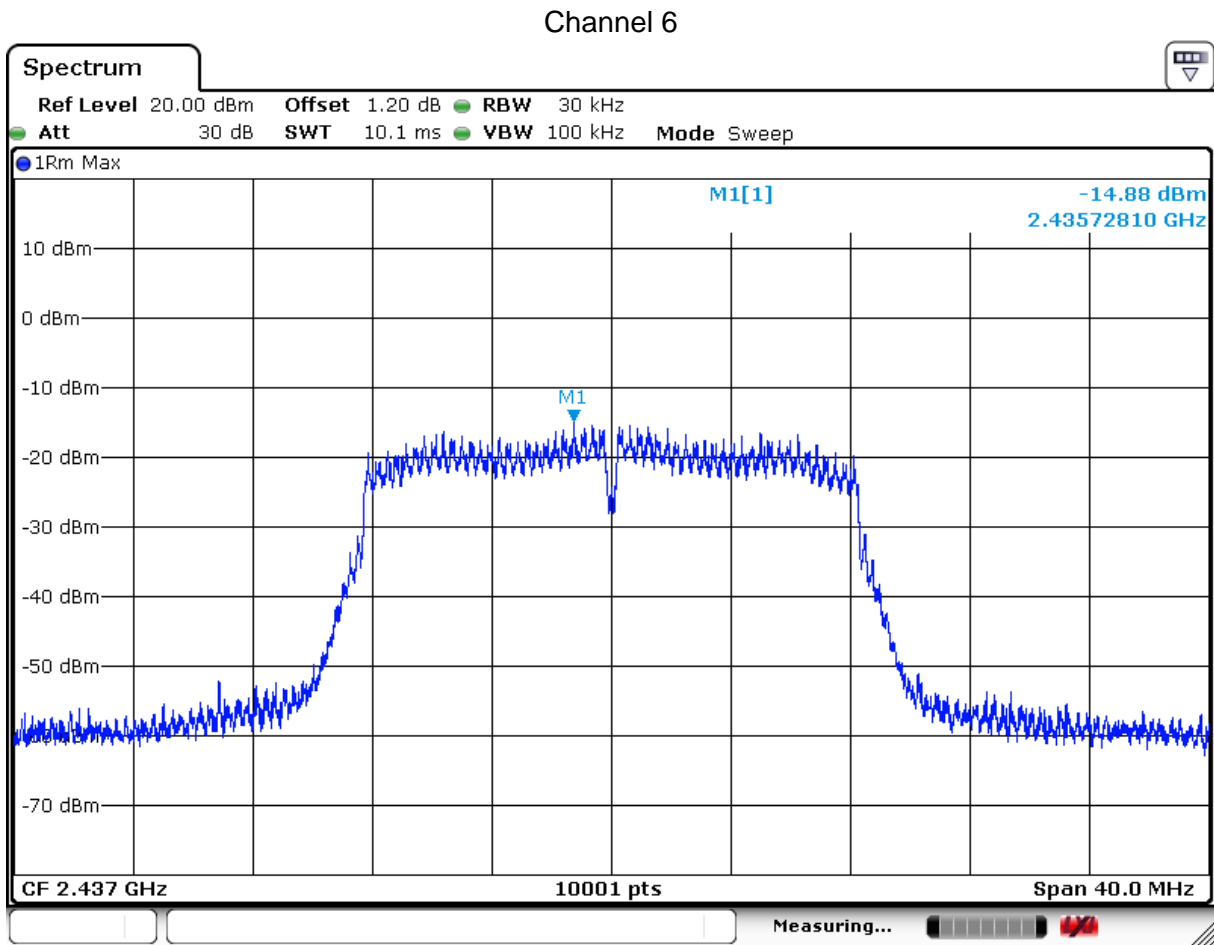
Product	Gateway		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

IEEE 802.11g (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-14.21	≤ 8	Pass
6	2437	-14.88	≤ 8	Pass
11	2462	-15.98	≤ 8	Pass

Channel 1

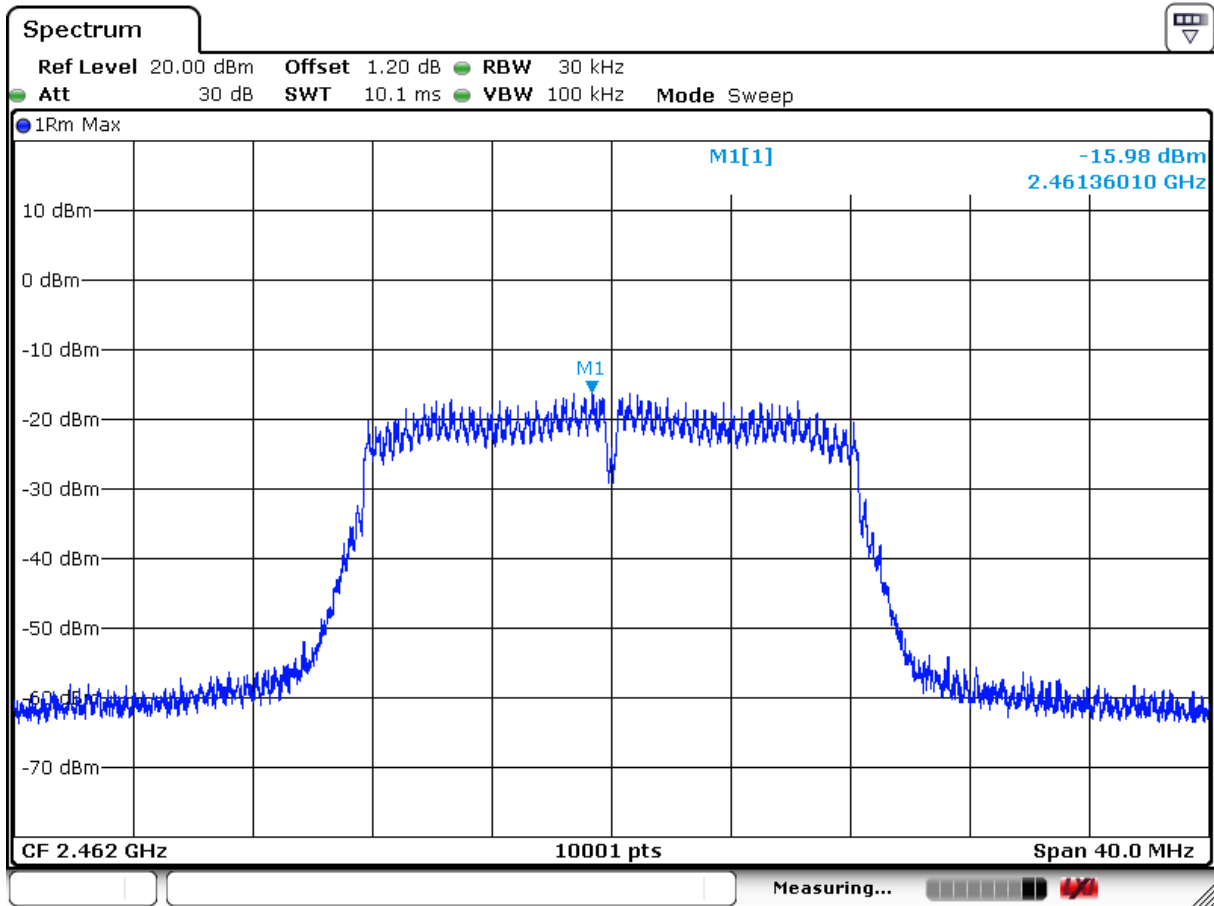


Date: 10 MAR 2017 16:15:31



Date: 10 MAR 2017 16:16:18

Channel 11

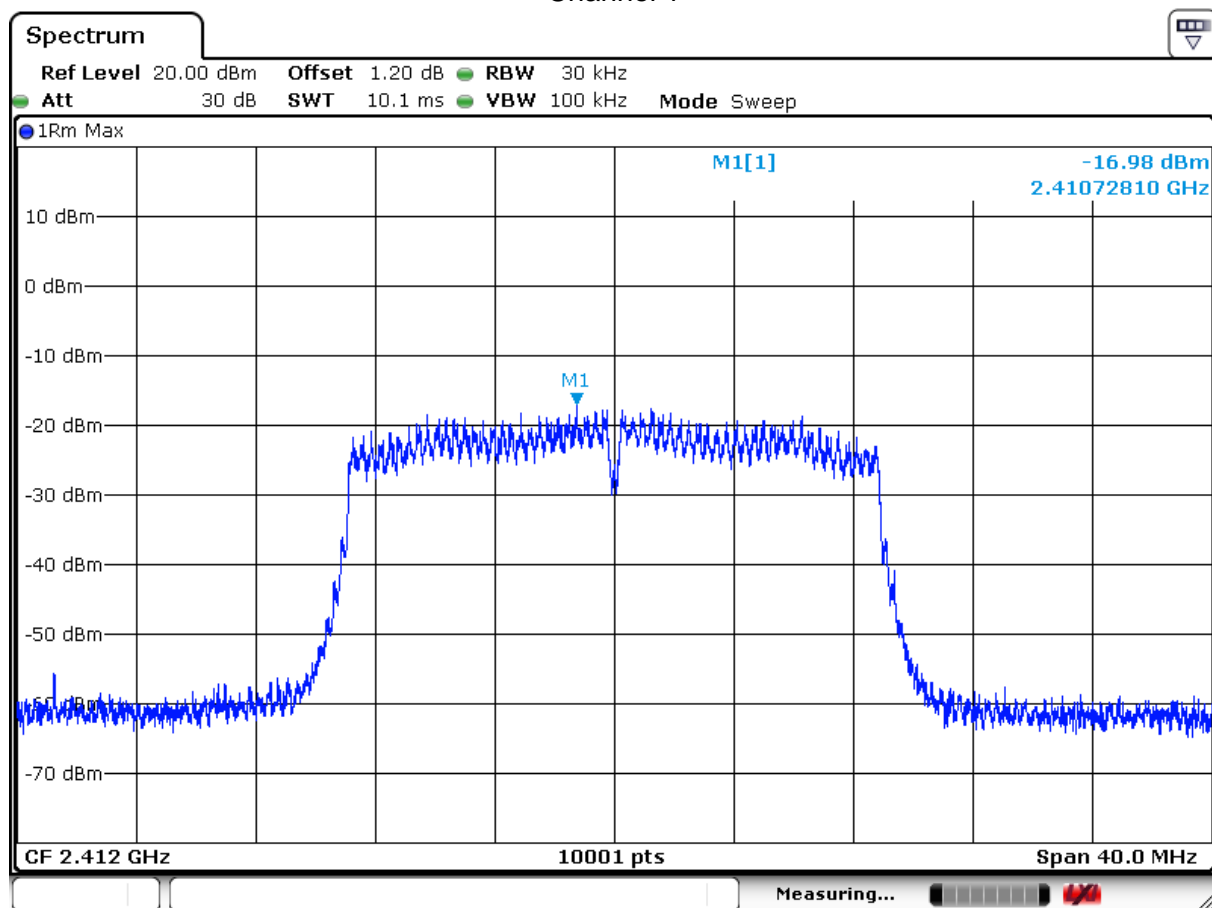


Date: 10 MAR 2017 16:17:20

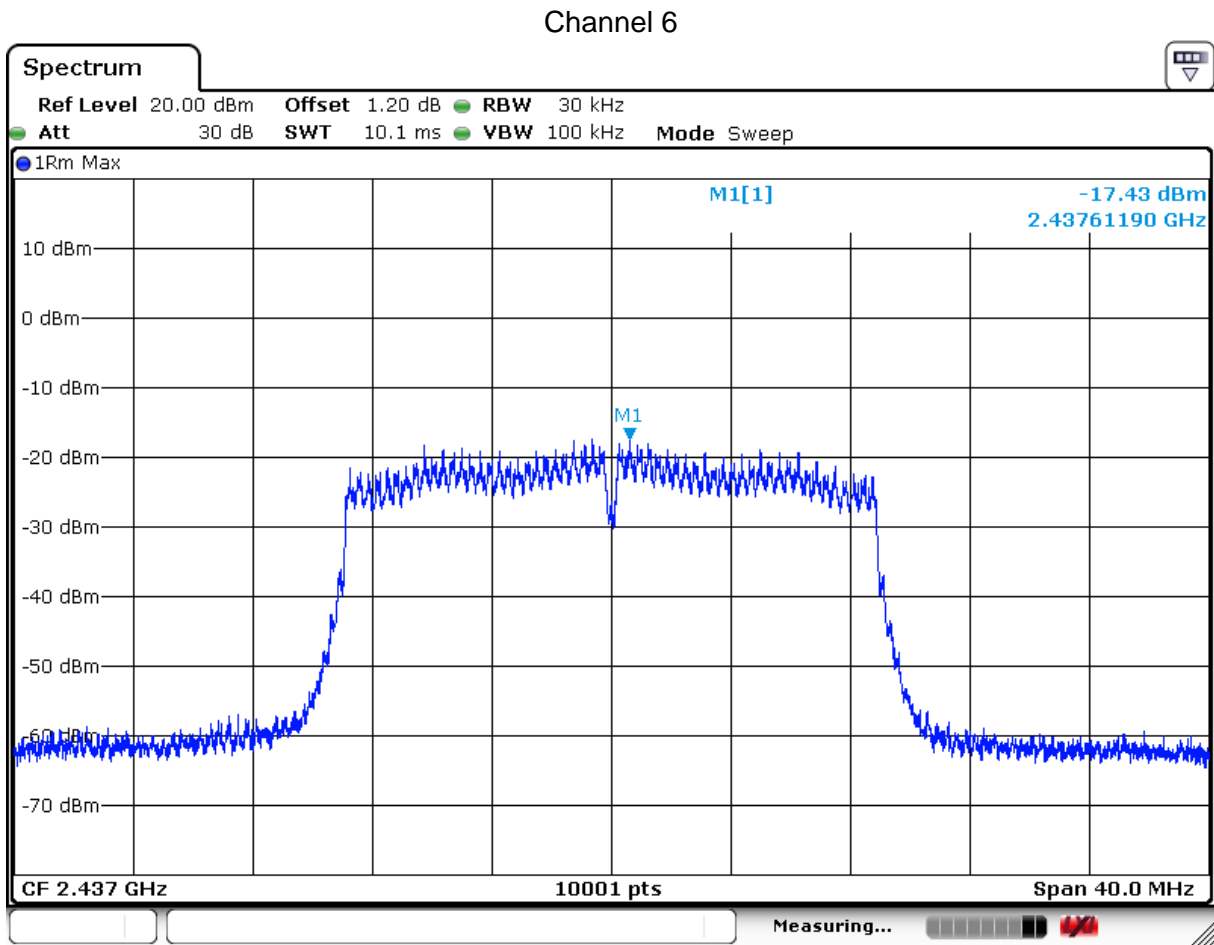
Product	Gateway		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2017/03/10	Test Site	SR10-H

IEEE802.11n 20MHz (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-16.98	≤ 8	Pass
6	2437	-17.43	≤ 8	Pass
11	2462	-18.01	≤ 8	Pass

Channel 1

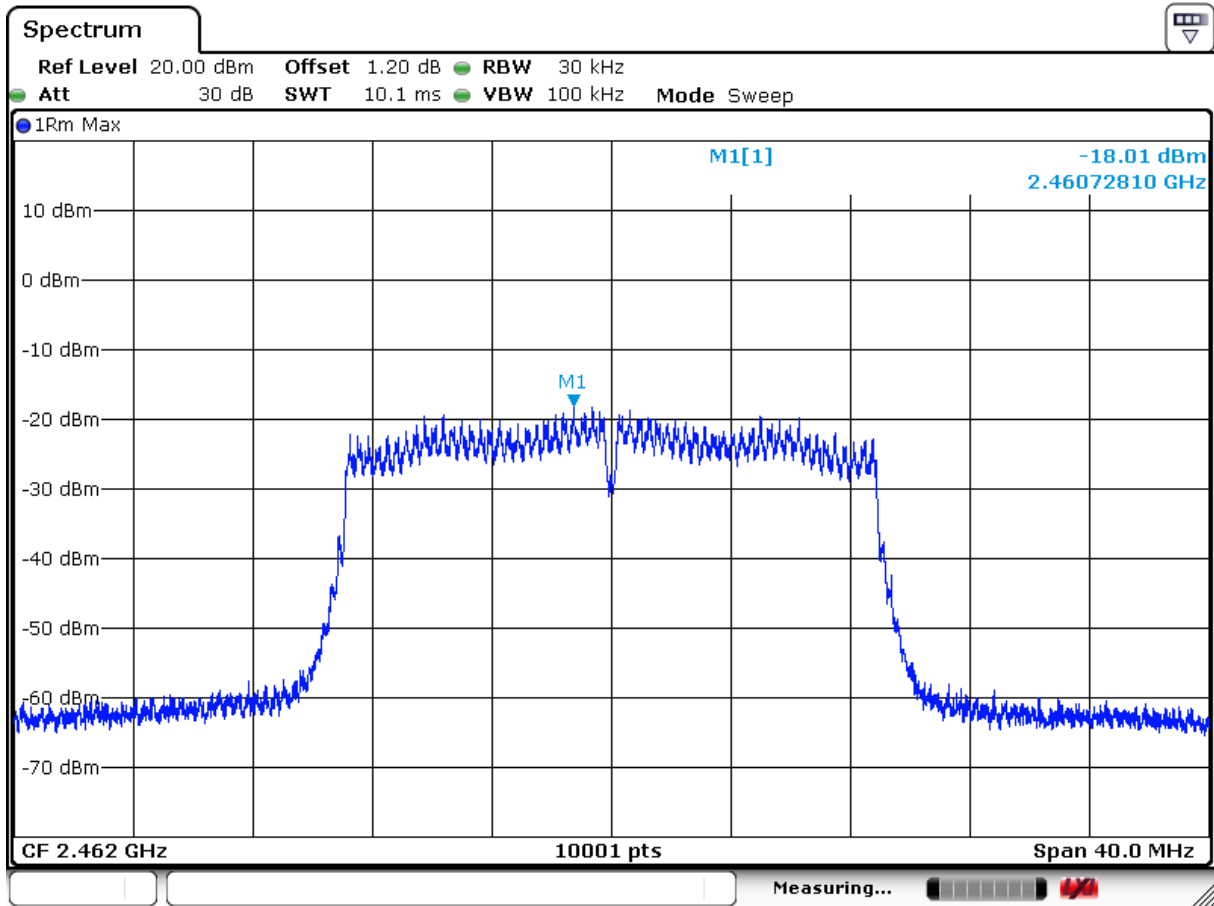


Date: 10 MAR 2017 16:18:08



Date: 10 MAR 2017 16:19:08

Channel 11



Date: 10 MAR 2017 16:19:55