

FCC Test Report

Product Name : Multimedia System
Trade Name : Continental
Model No. : NAC EUR wave 3
FCC ID. : ZFW-NACEUR3

Applicant : Continental Automotive Rambouillet France SAS
Address : 1, rue de Clairefontaine, Rambouillet, 78120, France

Date of Receipt : Sep. 21, 2017
Issued Date : Oct. 20, 2017
Report No. : 1790307R-RFUSP01V00
Report Version : V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issued Date : Oct. 20, 2017

Report No. : 1790307R-RFUSP01V00



Product Name : Multimedia System
Applicant : Continental Automotive Rambouillet France SAS
Address : 1, rue de Clairefontaine, Rambouillet, 78120, France
Manufacturer : Continental Automotive Czech Republic, s.r.o
Model No. : NAC EUR wave 3
FCC ID. : ZFW-NACEUR3
EUT Voltage : DC 12V
Testing Voltage : DC 12V
Trade Name : Continental
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2015
ANSI C63.10: 2013
Laboratory Name : Hsin Chu Laboratory
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Test Result : Complied

Documented By

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Tested By

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Approved By

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(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
1790307R-RFUSP01V00	V1.0	Initial issue of report	Oct. 20, 2017

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1. General Information

1.1. EUT Description

Product Name	Multimedia System	
Trade Name	Continental	
Model No.	NAC EUR wave 3	
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	Small Loop Antenna
Antenna Gain	-0.99 dBi

ANT-TX / RX & Bandwidth

ANT-TX / RX	TX	RX
Mode/ Channel Bandwidth	20MHz	20MHz
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 Multimedia System including 2.4GHz b/g/n (1x1) and BT2.0 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.

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
----	------------------

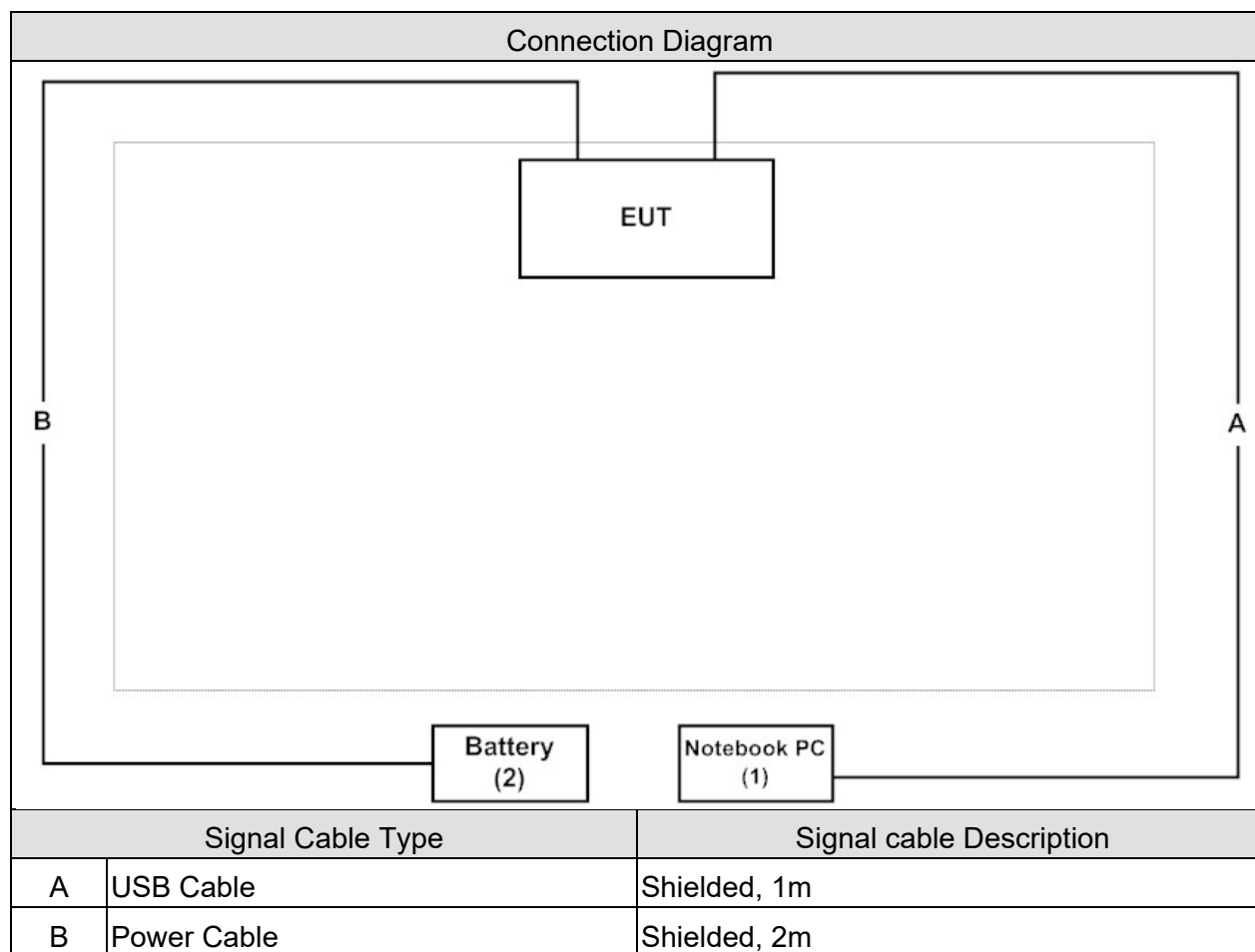
Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	11n(20MHz)	6	0	N/A
Peak Power Output	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
Radiated Emission	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
RF antenna conducted test	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 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	DELL	Latitude 600	N/A	DoC	Non-Shielded, 1.7m, one ferrite core bonded
2	Battery	YUASA	NP7-12	N/A	DoC	--

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 program "CSR UniTest App".
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	--
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.

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:

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TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com

1.7. Duty Cycle

Modulation	Duty cycle	Radiated offset
802.11b	≐ 99 %	--
802.11	≐ 98 %	--
802.11n20	≐ 98 %	--

Note:

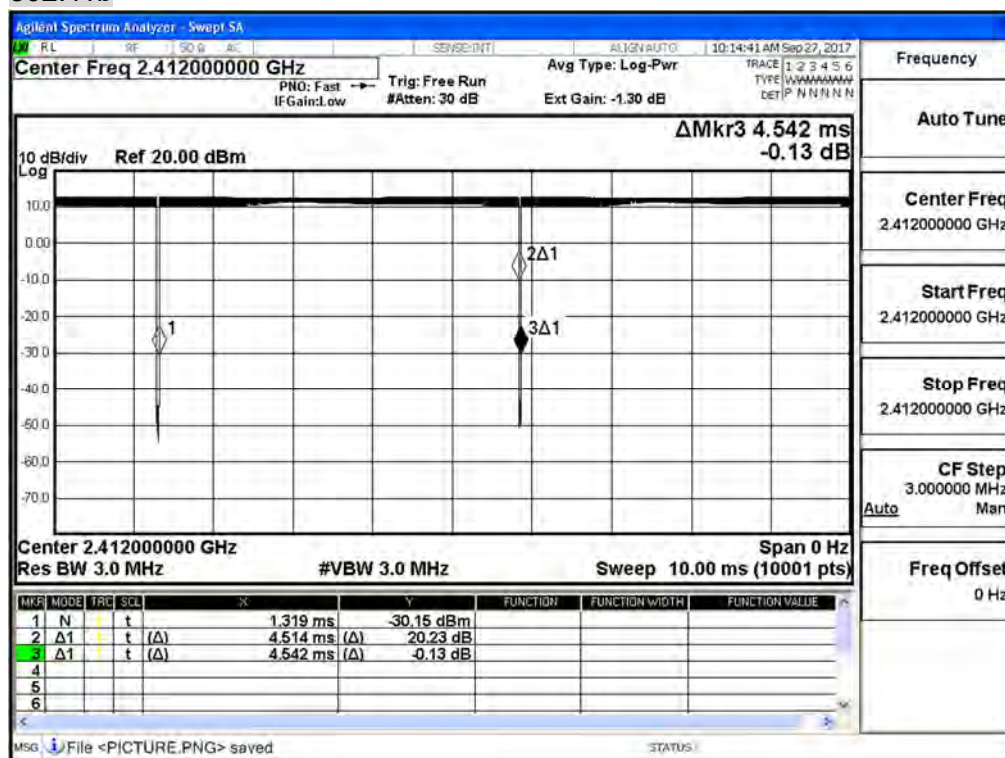
Offset = $20 \log(1/\text{duty cycle})$

Accotding to KDB 789033

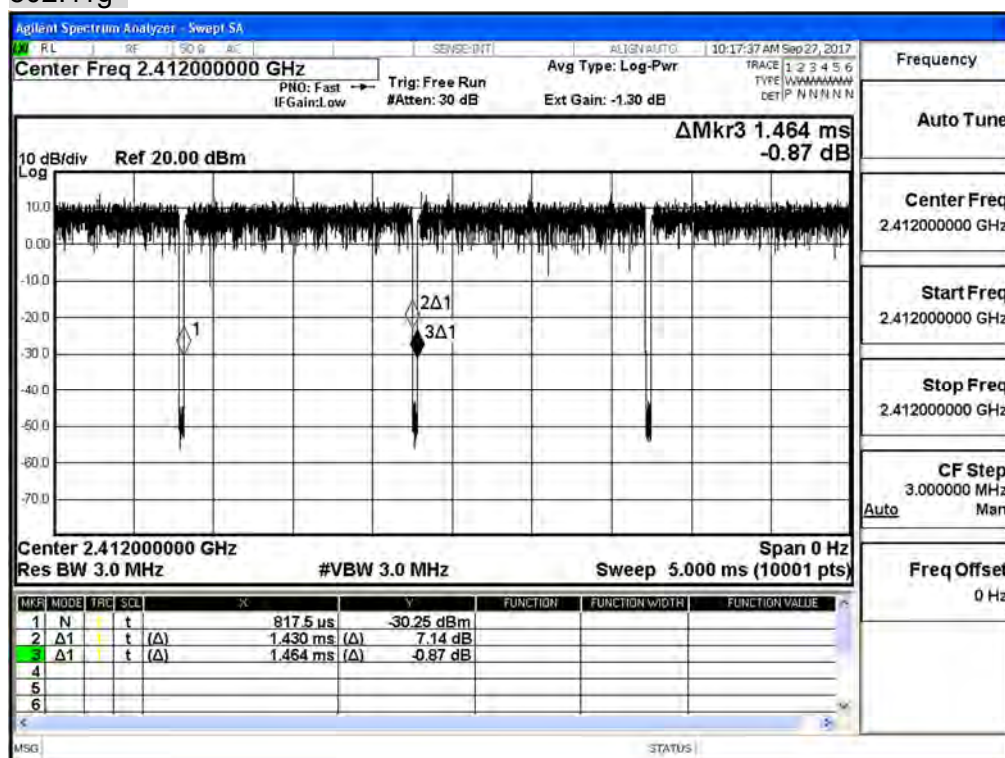
If power averaging (rms) mode was used in step (iv) above, the correction factor is $10 \log (1/x)$, where x is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB must be added to the measured emission levels.

If linear voltage averaging mode was used in step (iv) above, the correction factor is $20 \log (1/x)$, where x is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB must be added to the measured emission levels.

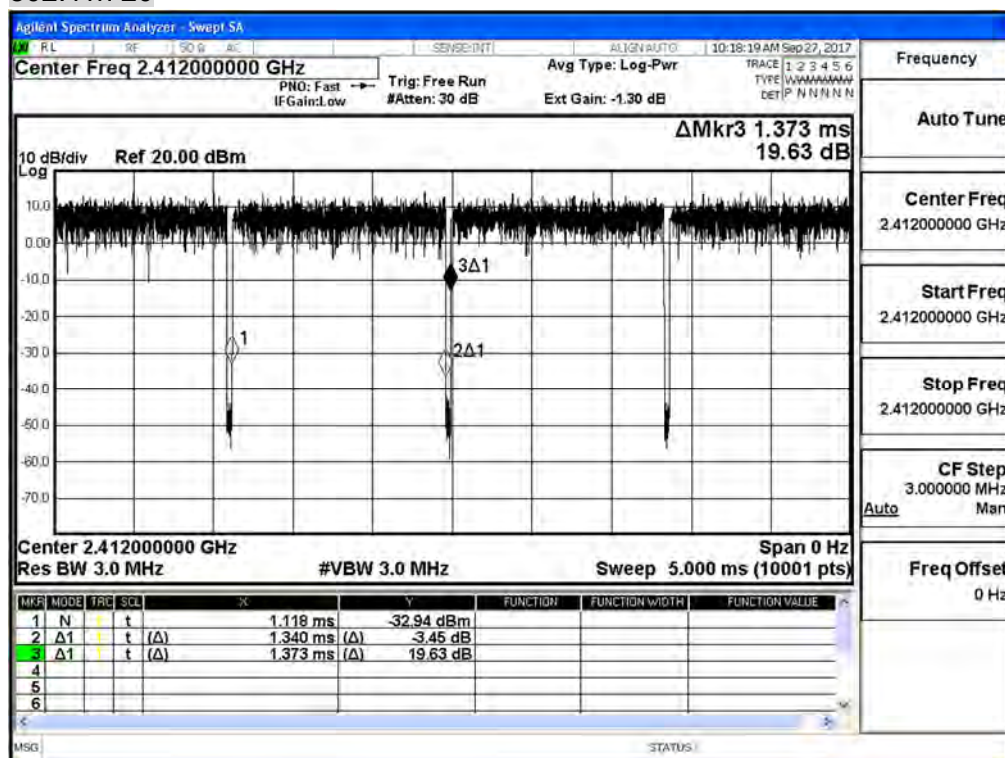
802.11b



802.11g



802.11n 20



2. Conducted Emission

2.1. Test Equipment

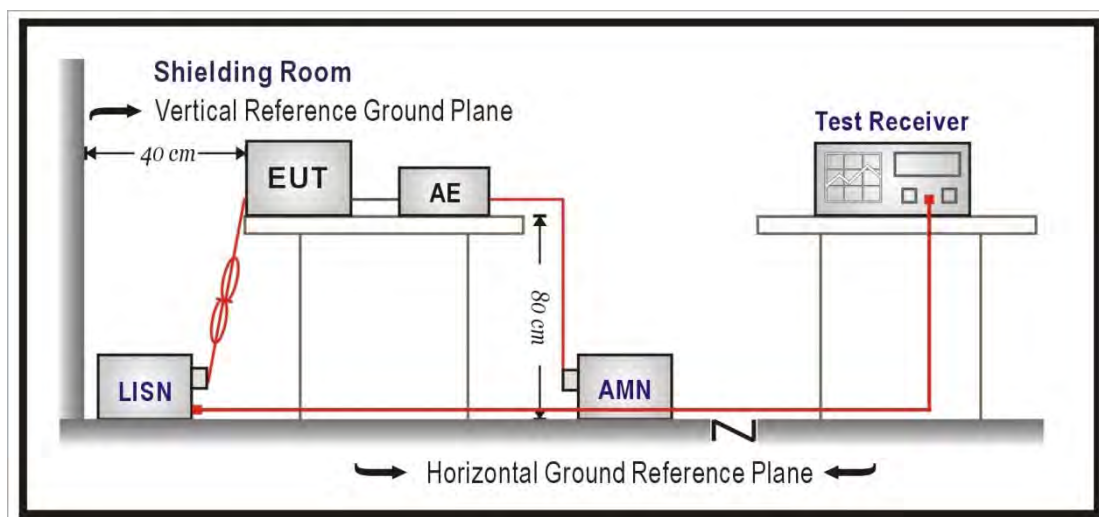
The following test equipments are used during the test:

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2017/02/06	2018/02/05
Test Receiver	R&S	ESCS 30	836858/022	2017/04/12	2018/04/11
LISN	R&S	ENV216	100092	2017/07/31	2018/07/30

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

EUT using DC input voltage, so the project does not have to test.

3. Peak Power Output

3.1. Test Equipment

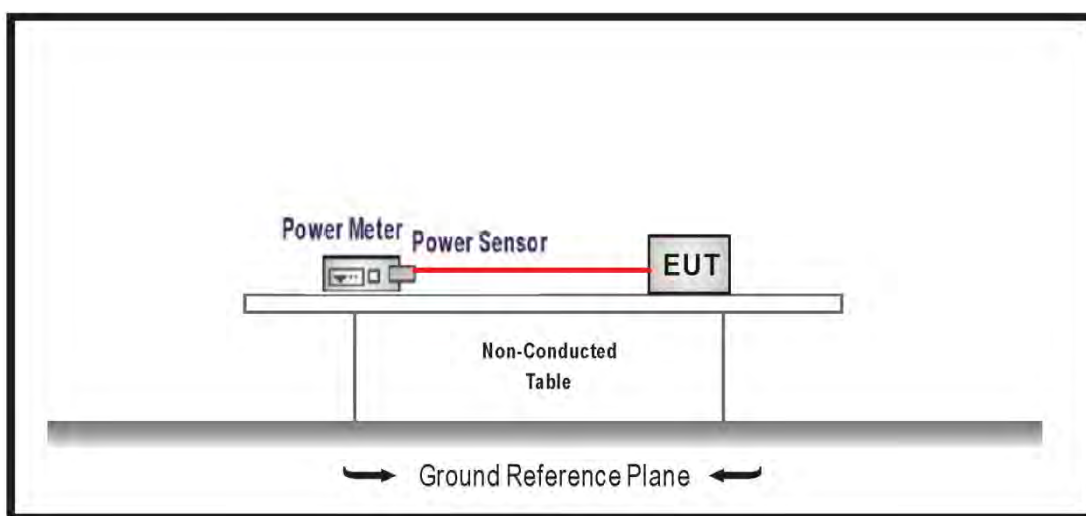
The following test equipments are used during the test:

Peak Power Output / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Power Meter	Agilent	N1911A	MY45101353	2017/08/02	2018/08/01
Power Sensor	Agilent	N1921A	MY45241670	2017/08/02	2018/08/01

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 D01 V04 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	Multimedia System		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

IEEE 802.11b (ANT 0)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	18.870	≤ 30
6	2437	19.020	≤ 30
11	2462	18.950	≤ 30

The worst emission of data rate is 1Mbps

Peak Power Output (dBm)						
Channel No	Frequency (MHz)	Data Rate (Mbps)				Required Limit
		1	2	5.5	11	
1	2412	18.470	--	--	--	≤ 30
6	2437	18.490	18.400	18.280	18.170	≤ 30
11	2462	18.950	--	--	--	≤ 30

Product	Multimedia System		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

IEEE 802.11g (ANT 0)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	21.980	≤ 30
6	2437	22.150	≤ 30
11	2462	21.900	≤ 30

The worst emission of data rate is 6Mbps

Peak Power Output (dBm)									
Channel No	Frequency (MHz)	Data Rate (Mbps)							Required Limit
		6	12	18	24	36	48	54	
1	2412	21.980	--	--	--	--	--	--	≤ 30
6	2437	22.150	21.580	21.310	21.150	20.910	20.780	20.570	≤ 30
11	2462	21.900	--	--	--	--	--	--	≤ 30

Product	Multimedia System		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

IEEE 802.11n20 (ANT 0)			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	21.720	≤ 30
6	2437	21.540	≤ 30
11	2462	21.690	≤ 30

The worst emission of data rate is MCS 0

Peak Power Output (dBm)										
Channel No	Frequency (MHz)	MCS Index								Required Limit
		0	1	2	3	4	5	6	7	
1	2412	21.720	--	--	--	--	--	--	--	≤ 30
6	2437	21.540	21.430	21.270	20.940	20.730	20.600	20.010	19.920	≤ 30
11	2462	21.690	--	--	--	--	--	--	--	≤ 30

4. Radiated Emission

4.1. Test Equipment

The following test equipments are used during the test:

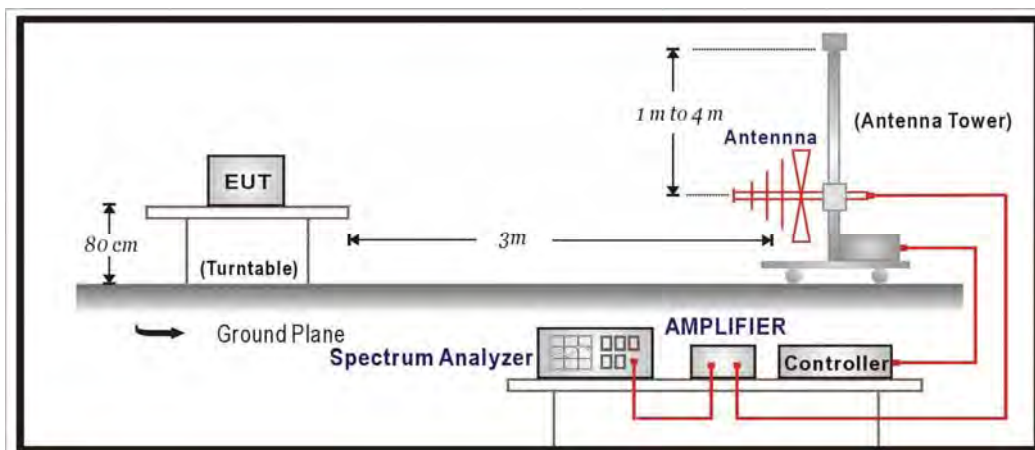
Radiated Emission / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2016/11/28	2017/11/27
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	2018/06/27
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	2018/06/13
Horn Antenna	Schwarzbeck	BBHA 9170	202	2017/02/15	2018/02/14
Pre-Amplifier	RF Bay Inc.	LNA-1330	12162511	2017/03/09	2018/03/08
Pre-Amplifier	EMCI	EMCI 1830I	980366	2017/01/23	2018/01/22
Pre-Amplifier	MITEQ	JS44-45-8P	2014754	2016/12/26	2017/12/25

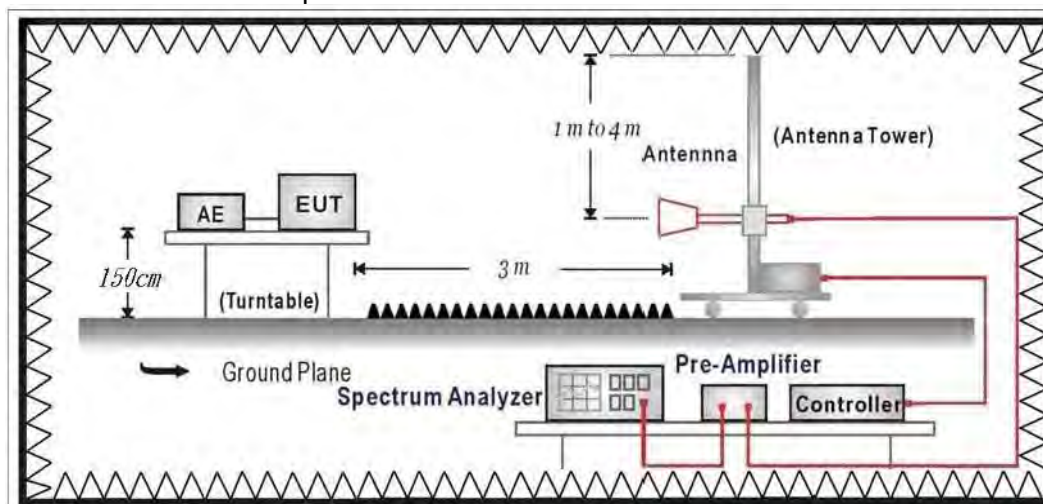
Note: All equipments that need to calibrate are with calibration period of 1 year.

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 D01 V04 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

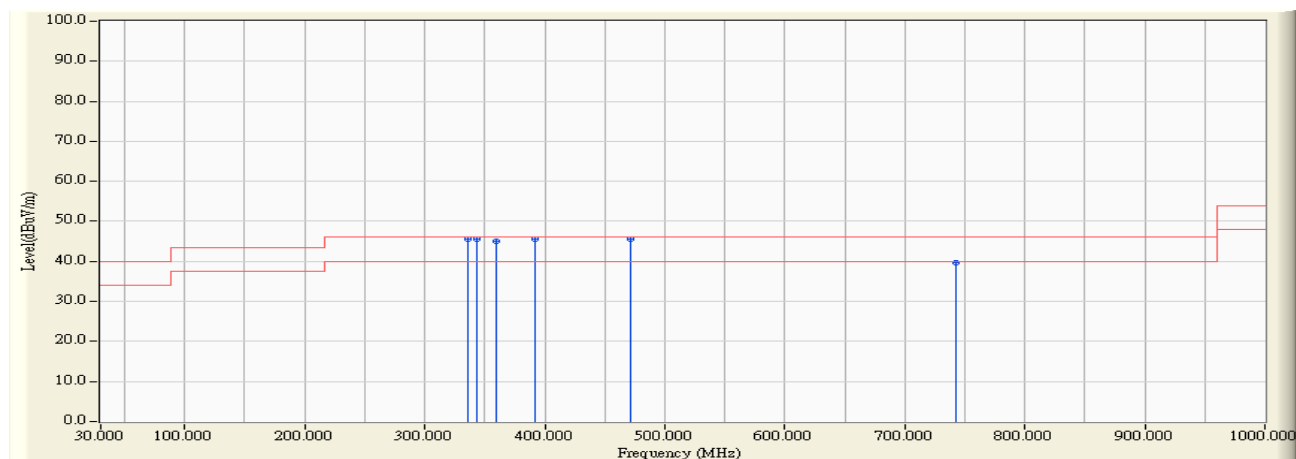
30MHz~1GHz as $\pm 3.43\text{dB}$

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

4.7. Test Result

30MHz-1GHz Spurious

Site : CB4-H	Time : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2437MHz

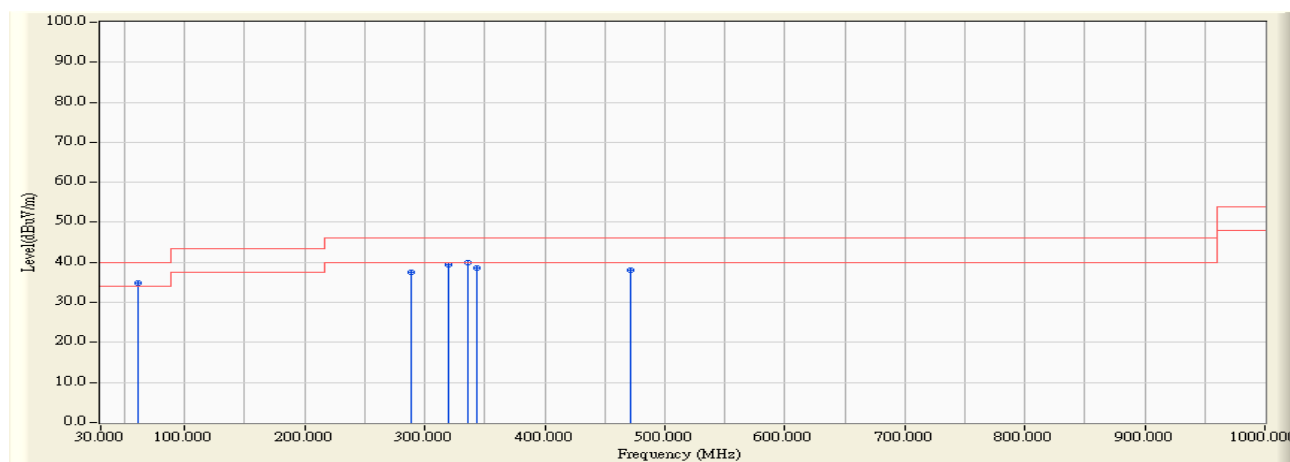


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	335.550	-18.477	64.044	45.568	-0.432	46.000	QUASIPeAK
2		343.633	-18.033	63.532	45.499	-0.501	46.000	QUASIPeAK
3		359.800	-17.555	62.635	45.081	-0.919	46.000	QUASIPeAK
4		392.133	-16.489	61.994	45.505	-0.495	46.000	QUASIPeAK
5		471.350	-14.978	60.454	45.476	-0.524	46.000	QUASIPeAK
6		742.950	-11.718	51.321	39.602	-6.398	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 : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2437MHz

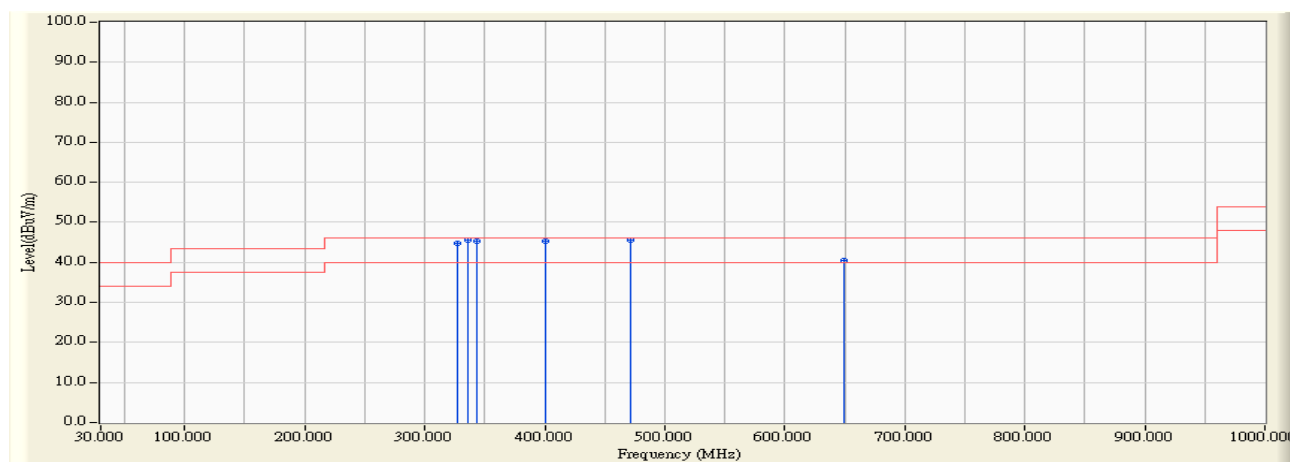


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	60.717	-27.428	62.246	34.818	-5.182	40.000	QUASIPeAK
2		288.667	-19.731	57.153	37.422	-8.578	46.000	QUASIPeAK
3		319.383	-18.683	57.991	39.308	-6.692	46.000	QUASIPeAK
4		335.550	-18.477	58.493	40.017	-5.983	46.000	QUASIPeAK
5		343.633	-18.033	56.734	38.701	-7.299	46.000	QUASIPeAK
6		471.350	-14.978	53.134	38.156	-7.844	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 : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2437MHz

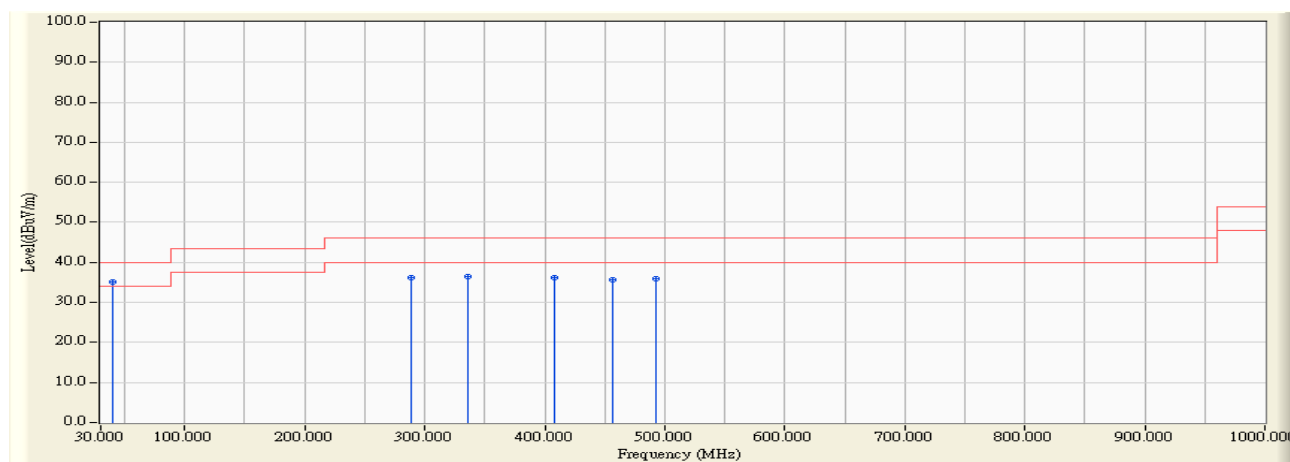


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		327.467	-18.556	63.249	44.693	-1.307	46.000	QUASIPeAK
2		335.550	-18.477	63.932	45.456	-0.544	46.000	QUASIPeAK
3		343.633	-18.033	63.257	45.224	-0.776	46.000	QUASIPeAK
4		400.217	-16.224	61.561	45.337	-0.663	46.000	QUASIPeAK
5	*	471.350	-14.978	60.460	45.482	-0.518	46.000	QUASIPeAK
6		649.183	-12.644	53.122	40.478	-5.522	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 : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2437MHz

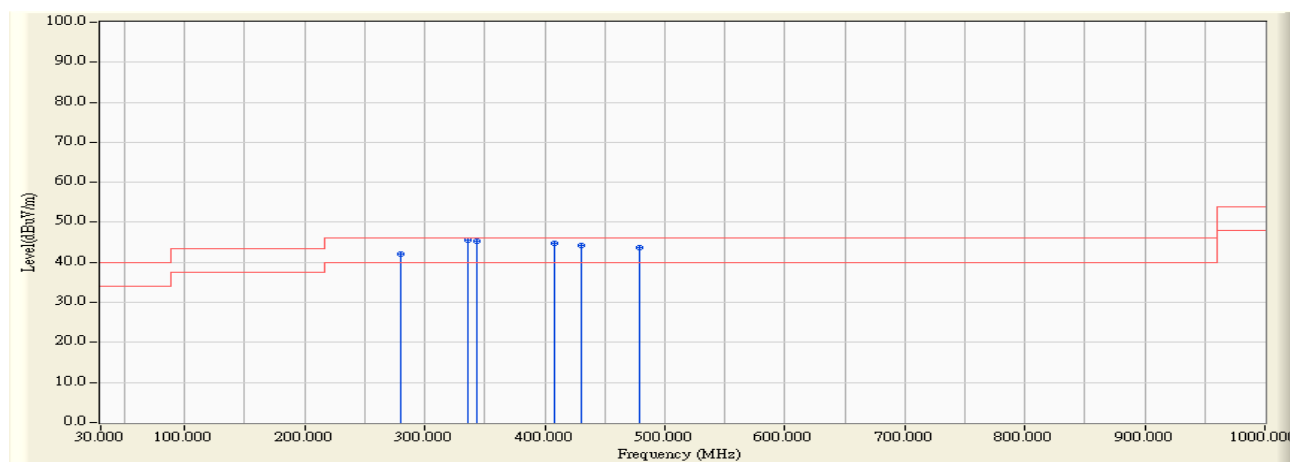


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	39.700	-15.564	50.589	35.025	-4.975	40.000	QUASIPeAK
2		288.667	-19.731	55.957	36.226	-9.774	46.000	QUASIPeAK
3		335.550	-18.477	55.040	36.564	-9.436	46.000	QUASIPeAK
4		408.300	-16.335	52.404	36.070	-9.930	46.000	QUASIPeAK
5		456.800	-15.100	50.765	35.664	-10.336	46.000	QUASIPeAK
6		492.367	-14.645	50.651	36.006	-9.994	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 : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2437MHz

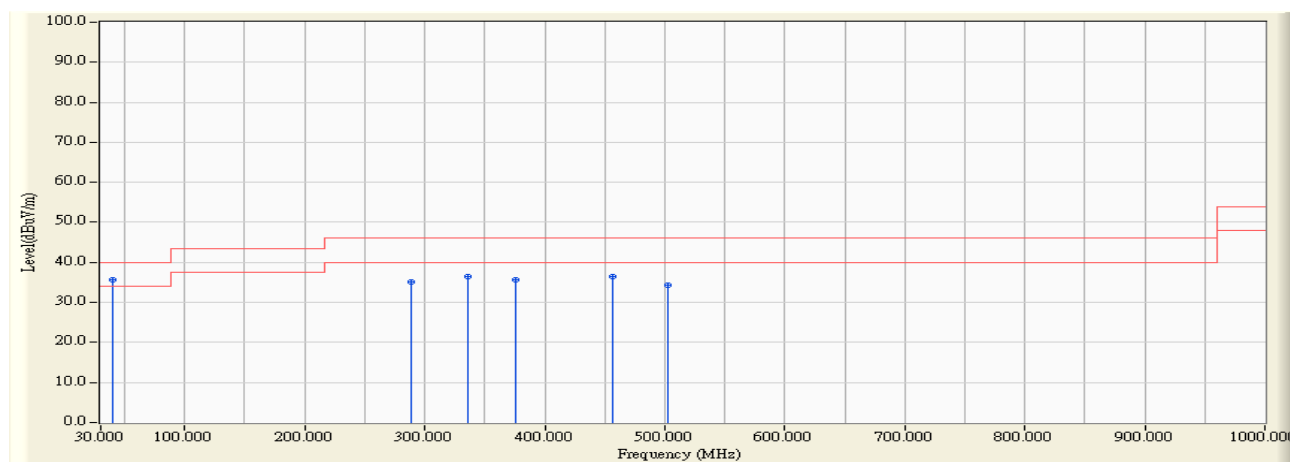


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		280.583	-19.874	61.899	42.026	-3.974	46.000	QUASIPeAK
2	*	335.550	-18.477	63.943	45.467	-0.533	46.000	QUASIPeAK
3		343.633	-18.033	63.404	45.371	-0.629	46.000	QUASIPeAK
4		408.300	-16.335	61.151	44.817	-1.183	46.000	QUASIPeAK
5		430.933	-15.744	59.930	44.186	-1.814	46.000	QUASIPeAK
6		479.433	-14.697	58.457	43.760	-2.240	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 : 2017/10/06
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2437MHz



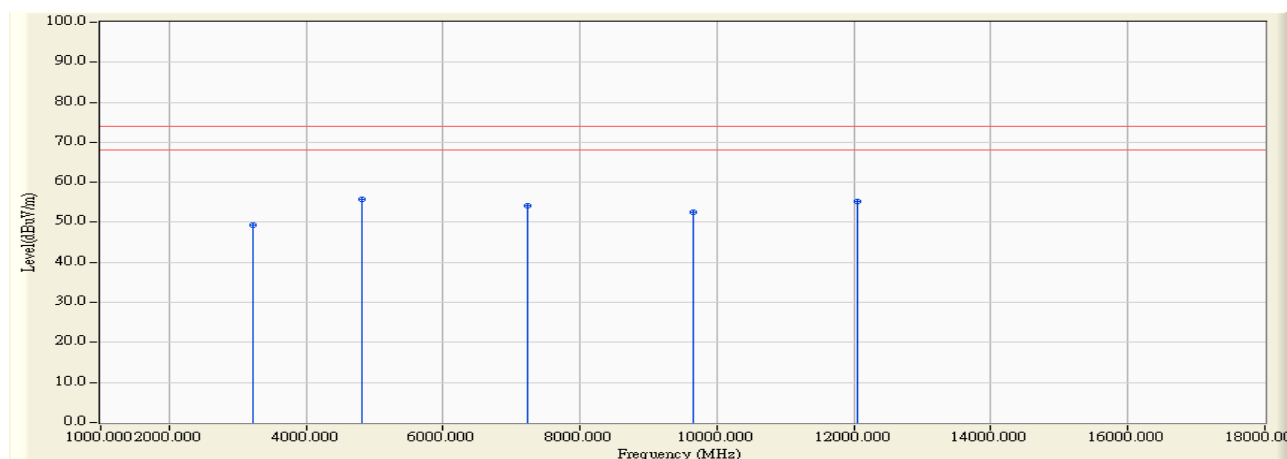
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	39.700	-15.564	51.181	35.617	-4.383	40.000	QUASIPeAK
2		288.667	-19.731	54.981	35.250	-10.750	46.000	QUASIPeAK
3		335.550	-18.477	54.861	36.385	-9.615	46.000	QUASIPeAK
4		375.967	-16.983	52.518	35.535	-10.465	46.000	QUASIPeAK
5		456.800	-15.100	51.680	36.579	-9.421	46.000	QUASIPeAK
6		502.067	-14.442	48.853	34.411	-11.589	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2412MHz

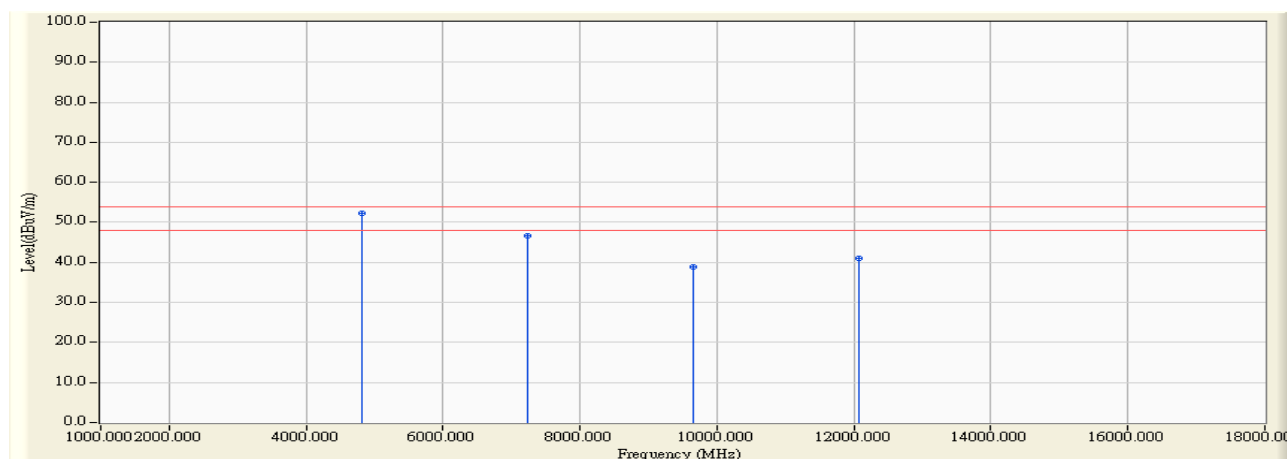


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3216.037	2.462	46.980	49.441	-24.559	74.000	PEAK
2	*	4823.952	8.376	47.460	55.836	-18.164	74.000	PEAK
3		7235.890	17.936	36.240	54.177	-19.823	74.000	PEAK
4		9649.055	22.627	30.050	52.677	-21.323	74.000	PEAK
5		12060.795	25.396	29.930	55.325	-18.675	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2412MHz

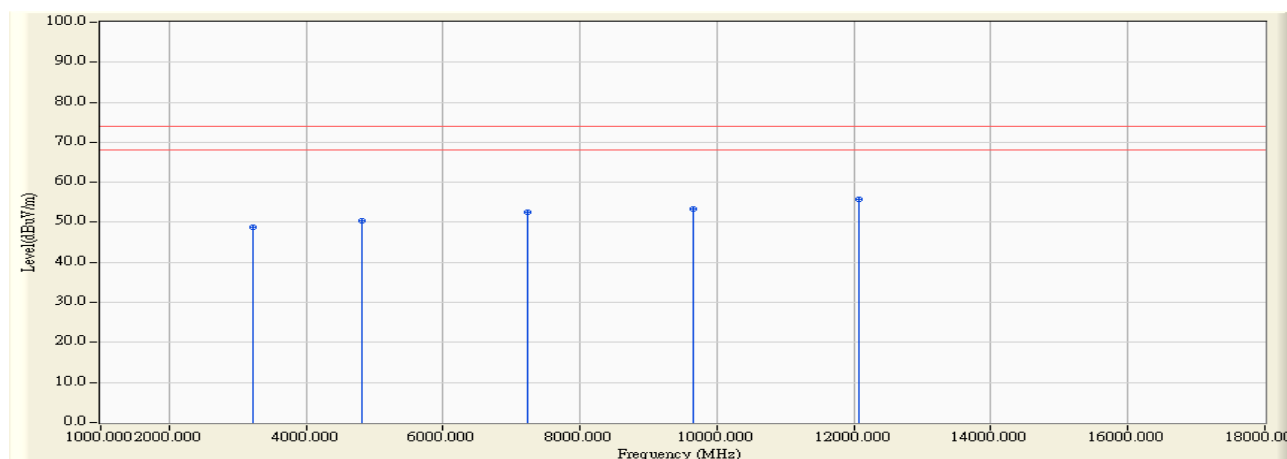


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4823.952	8.376	43.940	52.317	-1.683	54.000	AVERAGE
2		7235.890	17.936	28.680	46.616	-7.384	54.000	AVERAGE
3		9649.055	22.627	16.300	38.927	-15.073	54.000	AVERAGE
4		12060.795	25.396	15.750	41.146	-12.854	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2412MHz

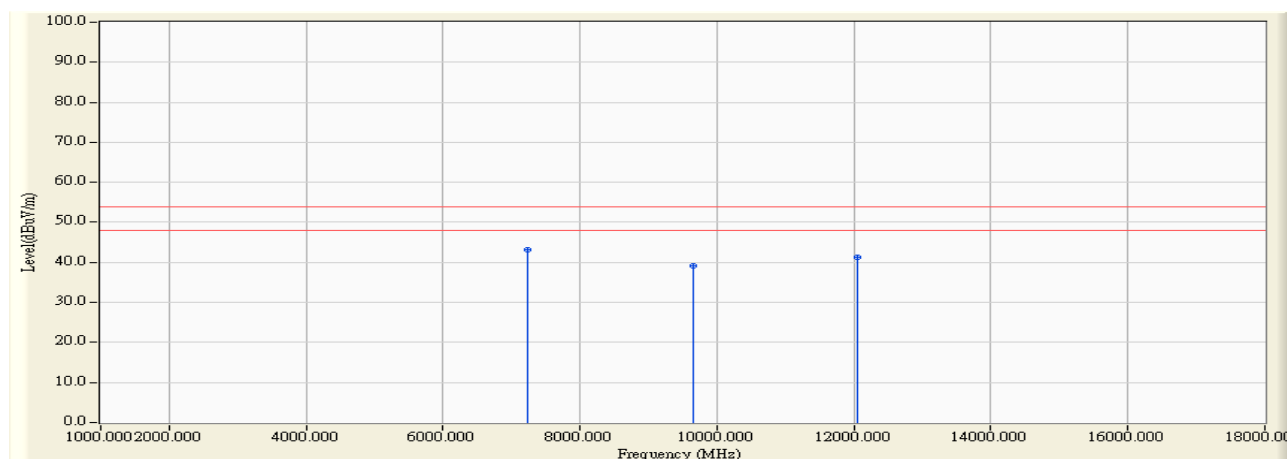


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3216.175	2.462	46.220	48.682	-25.318	74.000	PEAK
2		4823.942	8.376	41.910	50.286	-23.714	74.000	PEAK
3		7234.715	17.934	34.550	52.483	-21.517	74.000	PEAK
4		9647.940	22.622	30.770	53.392	-20.608	74.000	PEAK
5	*	12061.615	25.396	30.330	55.726	-18.274	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2412MHz

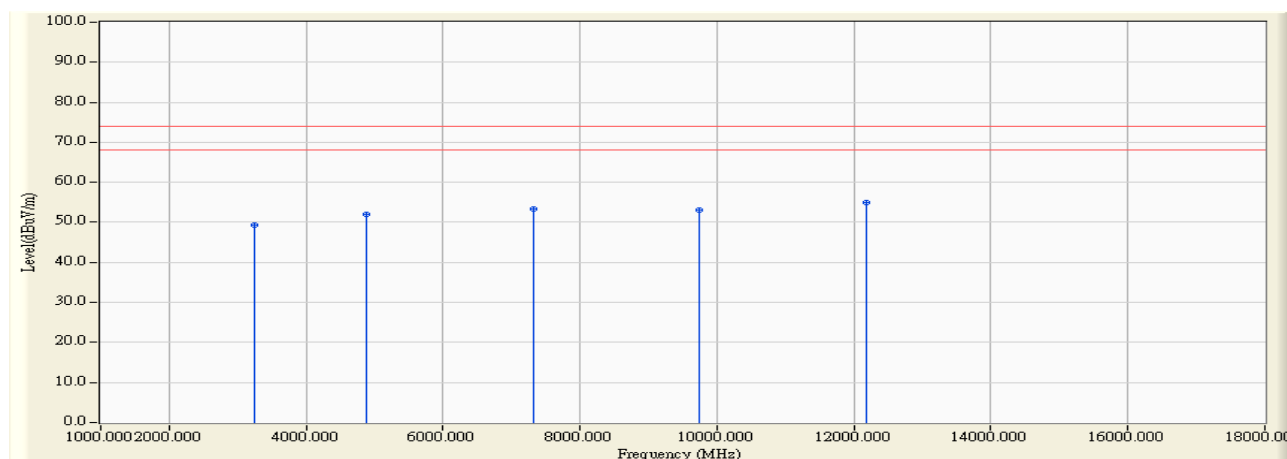


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7234.715	17.934	25.250	43.185	-10.815	54.000	AVERAGE
2		9647.940	22.622	16.440	39.062	-14.938	54.000	AVERAGE
3		12061.615	25.396	15.780	41.176	-12.824	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2437MHz

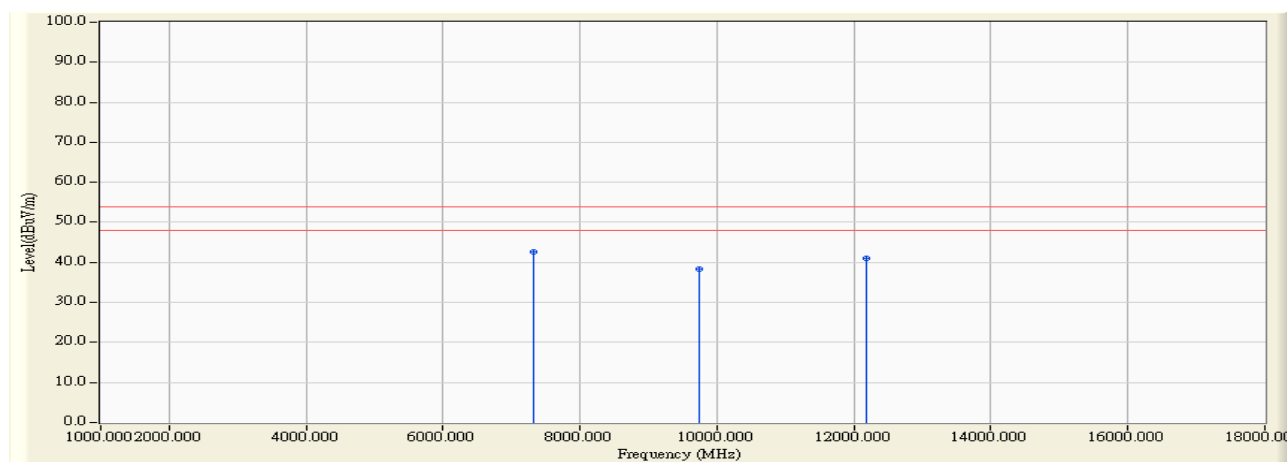


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3249.228	2.526	46.870	49.395	-24.605	74.000	PEAK
2		4874.040	8.630	43.250	51.880	-22.120	74.000	PEAK
3		7311.770	18.105	35.370	53.475	-20.525	74.000	PEAK
4		9749.695	23.032	29.990	53.023	-20.977	74.000	PEAK
5	*	12184.700	25.484	29.370	54.854	-19.146	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2437MHz

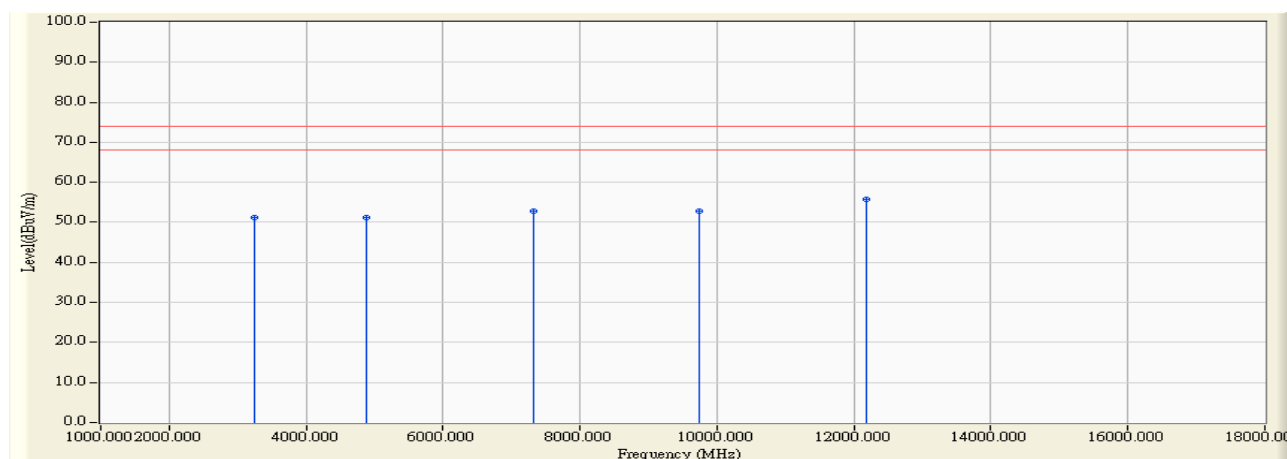


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7311.770	18.105	24.550	42.655	-11.345	54.000	AVERAGE
2		9749.695	23.032	15.420	38.453	-15.547	54.000	AVERAGE
3		12184.700	25.484	15.520	41.004	-12.996	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2437MHz

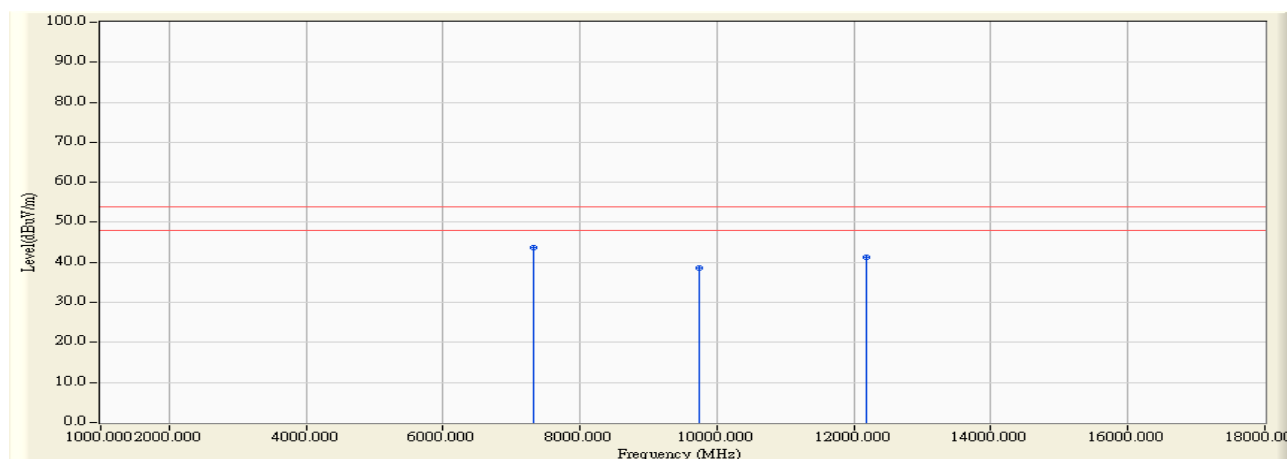


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	3249.215	2.526	48.800	51.325	-22.675	74.000	PEAK
2	4873.795	8.628	42.710	51.339	-22.661	74.000	PEAK
3	* 7310.730	18.102	34.610	52.713	-21.287	74.000	PEAK
4	9748.190	23.027	29.860	52.887	-21.113	74.000	PEAK
5	12186.430	25.486	30.400	55.886	-18.114	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2437MHz

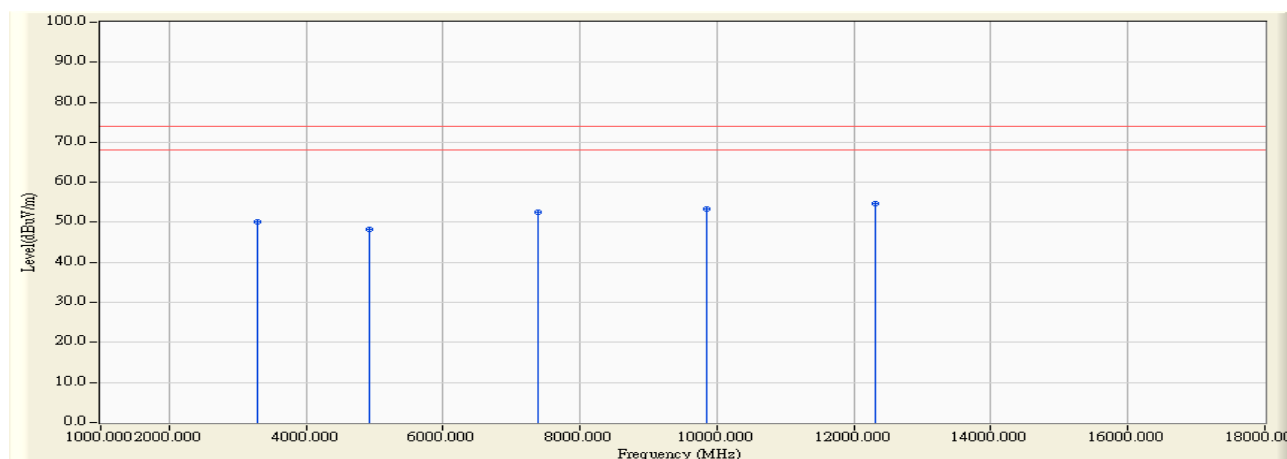


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7310.105	18.102	25.560	43.662	-10.338	54.000	AVERAGE
2		9748.190	23.027	15.560	38.587	-15.413	54.000	AVERAGE
3		12186.430	25.486	15.690	41.176	-12.824	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2462MHz

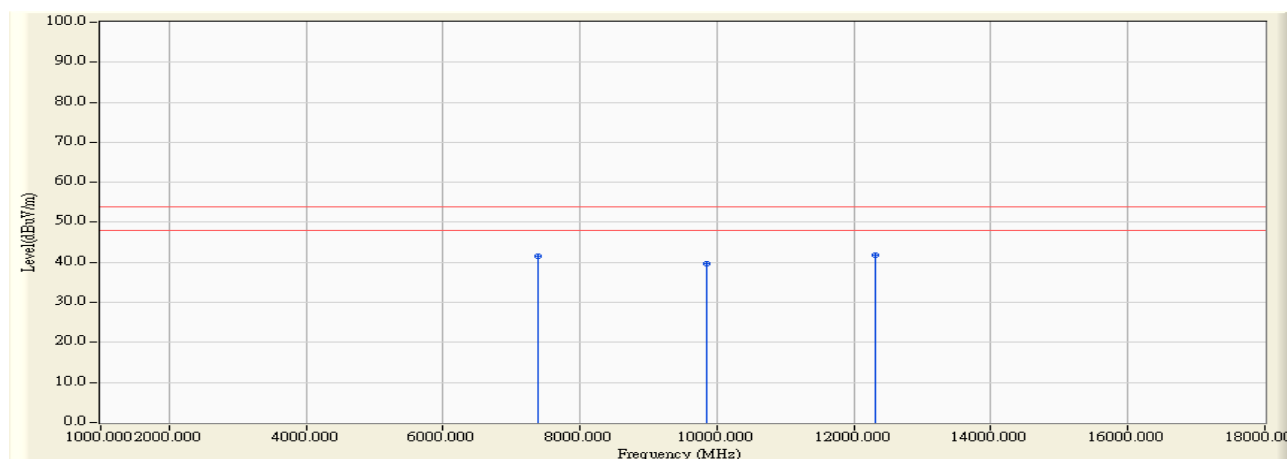


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3282.767	2.584	47.620	50.204	-23.796	74.000	PEAK
2		4924.030	8.883	39.400	48.284	-25.716	74.000	PEAK
3		7384.430	18.261	34.250	52.511	-21.489	74.000	PEAK
4		9847.140	23.368	29.990	53.358	-20.642	74.000	PEAK
5	*	12314.140	25.581	29.220	54.801	-19.199	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2462MHz

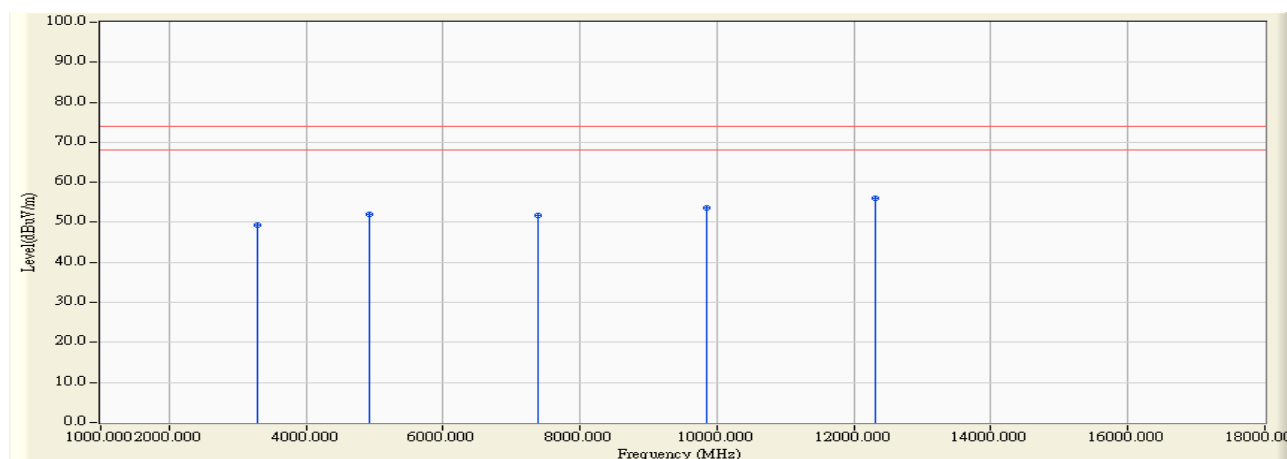


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		7384.430	18.261	23.300	41.561	-12.439	54.000	AVERAGE
2		9847.140	23.368	16.400	39.768	-14.232	54.000	AVERAGE
3	*	12314.140	25.581	16.250	41.831	-12.169	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2462MHz

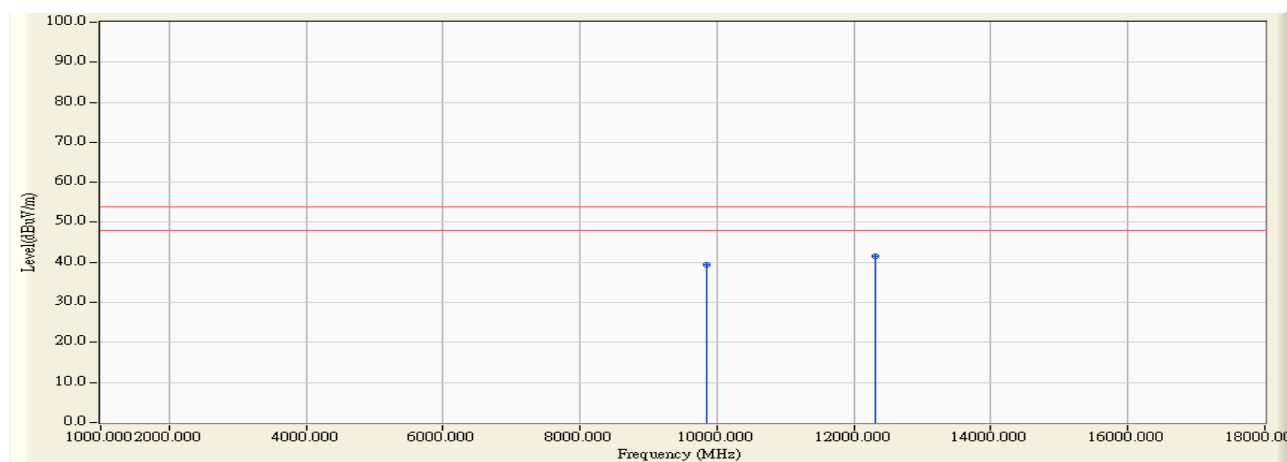


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3282.667	2.584	46.800	49.384	-24.616	74.000	PEAK
2		4923.965	8.883	43.110	51.994	-22.006	74.000	PEAK
3		7387.510	18.267	33.580	51.847	-22.153	74.000	PEAK
4		9845.945	23.364	30.160	53.524	-20.476	74.000	PEAK
5	*	12308.480	25.576	30.580	56.157	-17.843	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2462MHz

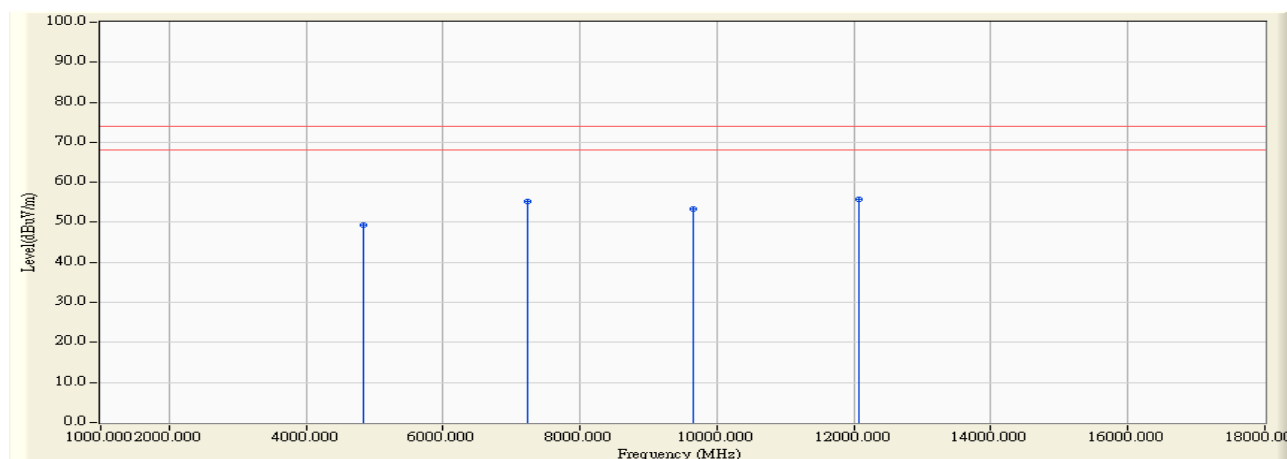


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		9845.945	23.364	15.950	39.324	-14.676	54.000	AVERAGE
2	*	12308.480	25.576	16.070	41.646	-12.354	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2412MHz

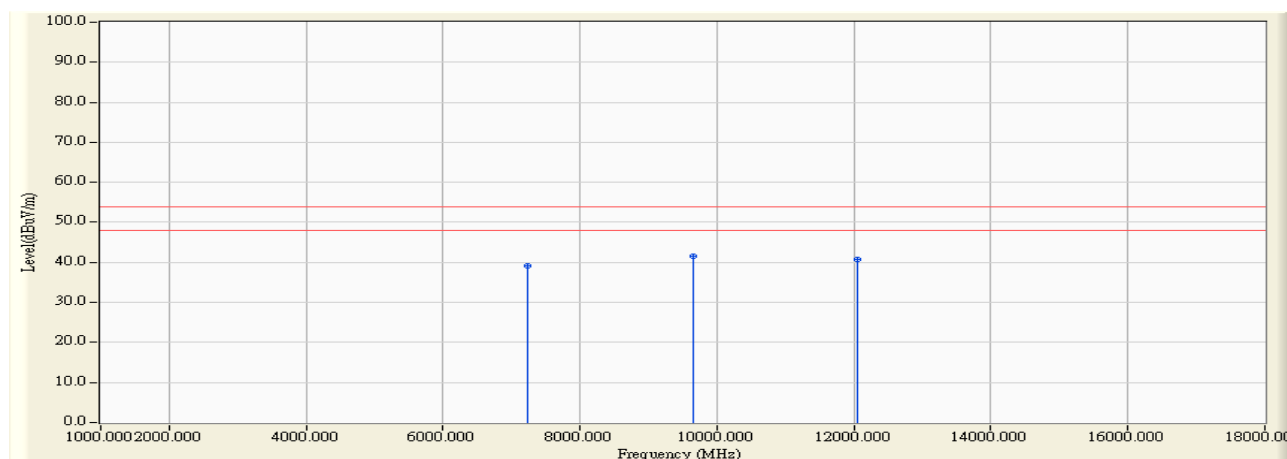


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4826.210	8.389	40.930	49.318	-24.682	74.000	PEAK
2		7233.410	17.930	37.190	55.120	-18.880	74.000	PEAK
3		9648.830	22.626	30.790	53.416	-20.584	74.000	PEAK
4	*	12061.550	25.396	30.500	55.896	-18.104	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2412MHz

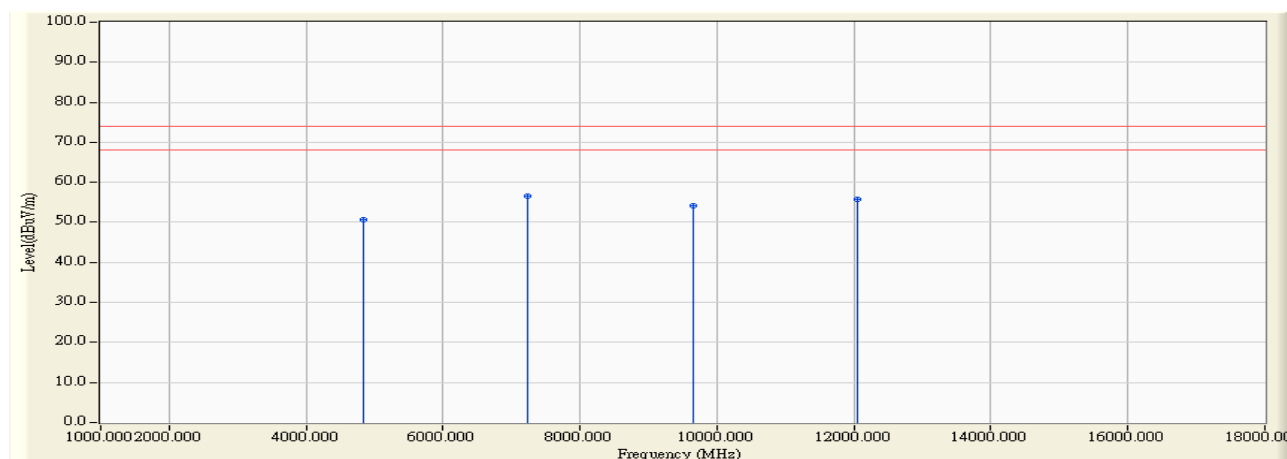


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		7233.410	17.930	21.230	39.160	-14.840	54.000	AVERAGE
2	*	9648.830	22.626	18.850	41.476	-12.524	54.000	AVERAGE
3		12061.550	25.396	15.350	40.746	-13.254	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2412MHz

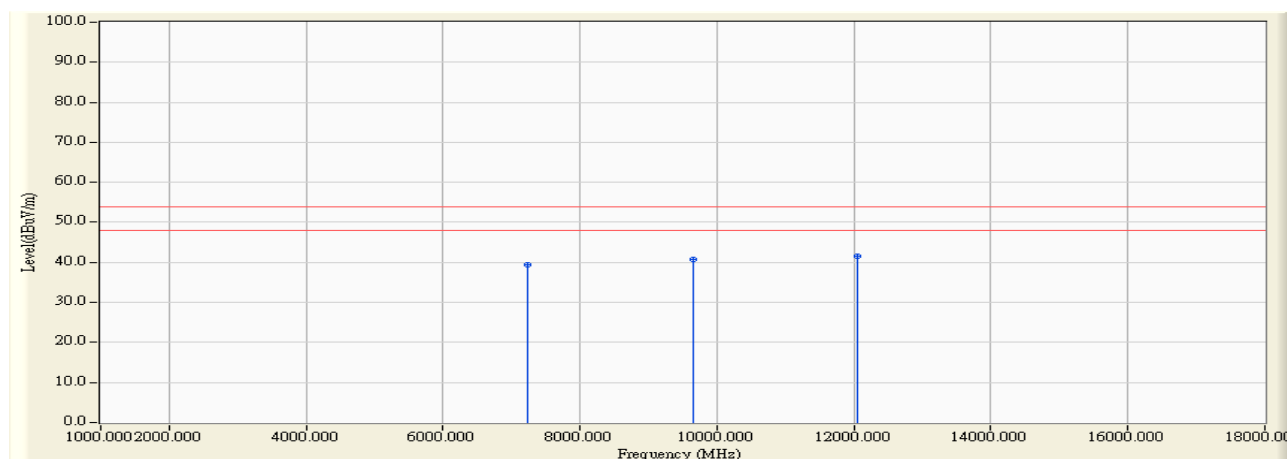


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4826.360	8.389	42.370	50.759	-23.241	74.000	PEAK
2	*	7232.900	17.928	38.540	56.469	-17.531	74.000	PEAK
3		9647.845	22.622	31.470	54.092	-19.908	74.000	PEAK
4		12056.435	25.392	30.340	55.732	-18.268	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2412MHz

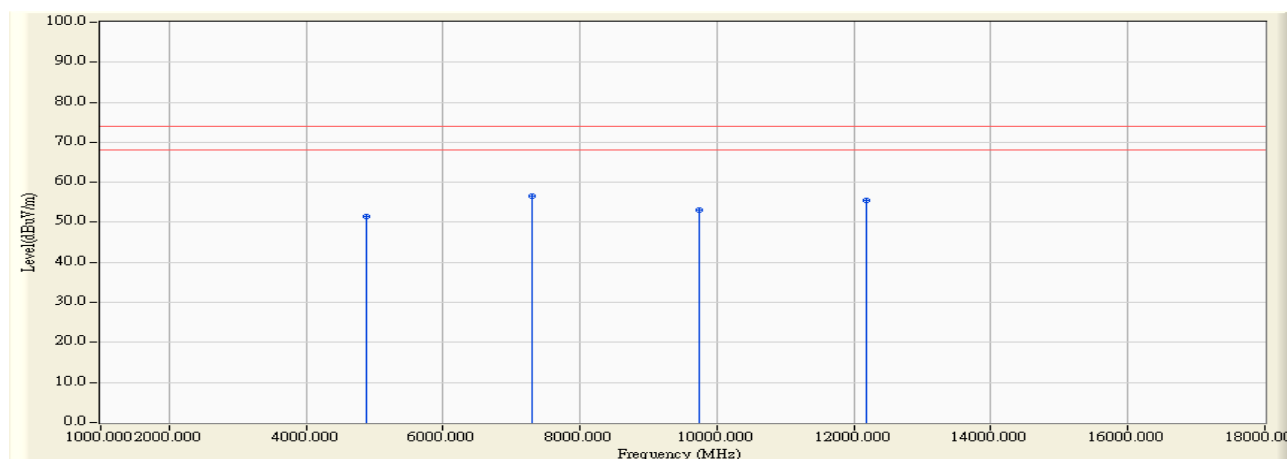


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		7232.900	17.928	21.500	39.428	-14.572	54.000	AVERAGE
2		9647.845	22.622	18.220	40.842	-13.158	54.000	AVERAGE
3	*	12056.435	25.392	16.050	41.442	-12.558	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2437MHz

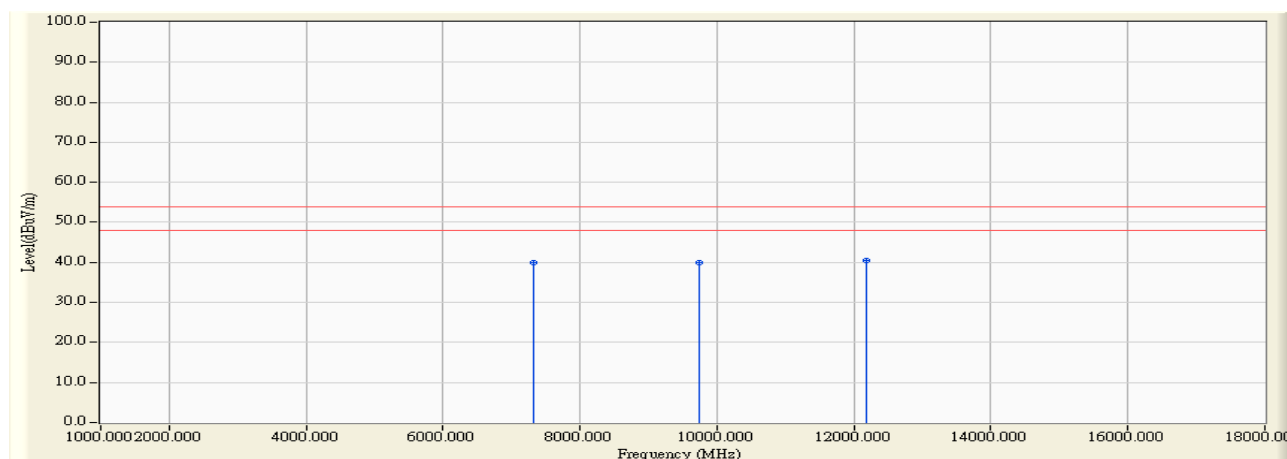


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4876.340	8.642	42.830	51.472	-22.528	74.000	PEAK
2	* 7307.740	18.096	38.400	56.496	-17.504	74.000	PEAK
3	9747.875	23.025	30.080	53.105	-20.895	74.000	PEAK
4	12180.585	25.482	29.970	55.451	-18.549	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2437MHz

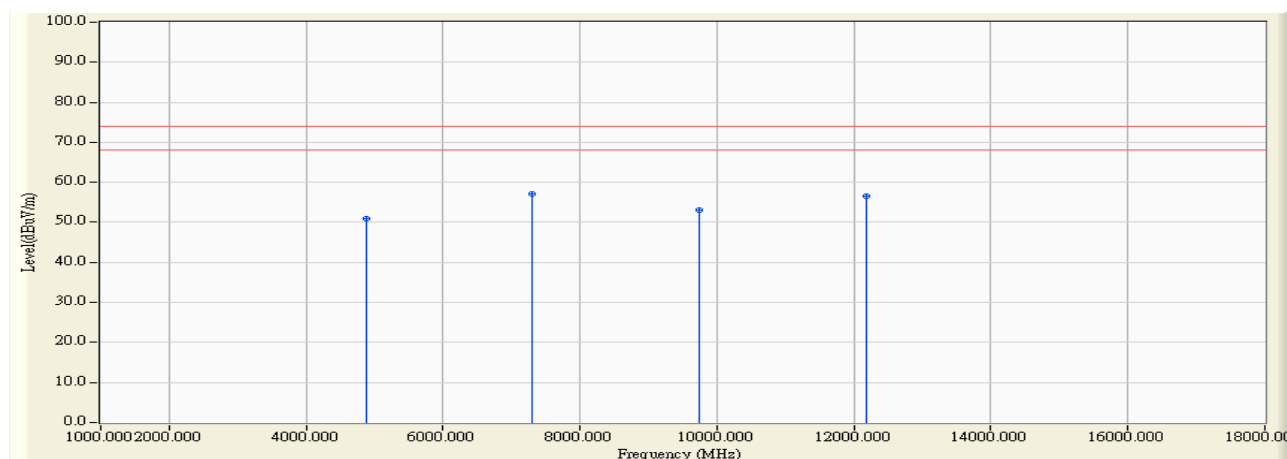


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		7307.740	18.096	21.890	39.986	-14.014	54.000	AVERAGE
2		9747.875	23.025	16.790	39.816	-14.184	54.000	AVERAGE
3	*	12180.585	25.482	15.040	40.522	-13.478	54.000	AVERAGE

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.

ite : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2437MHz

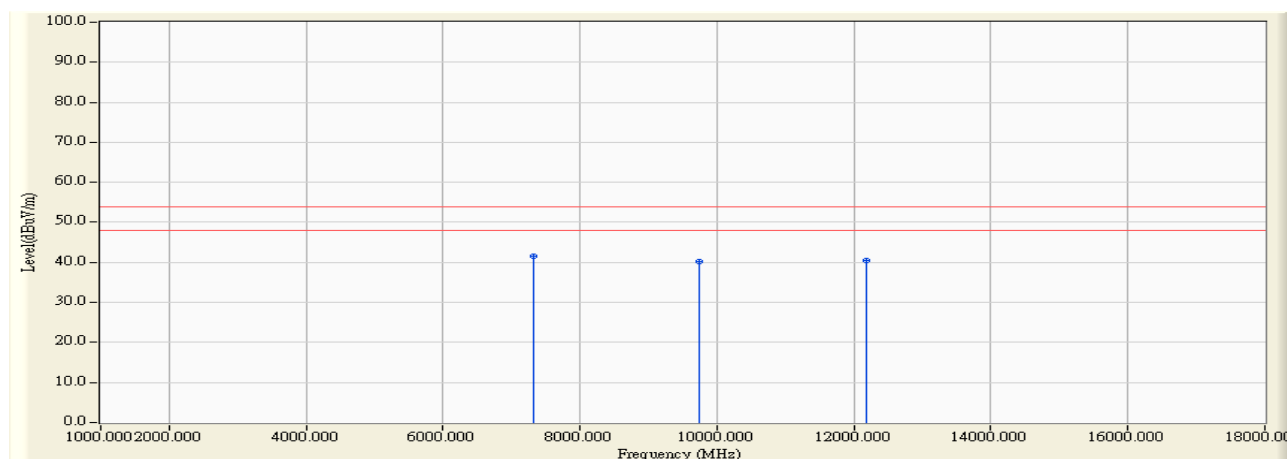


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4876.275	8.642	42.400	51.042	-22.958	74.000	PEAK
2	*	7307.605	18.096	39.050	57.146	-16.854	74.000	PEAK
3		9748.225	23.027	30.020	53.047	-20.953	74.000	PEAK
4		12185.830	25.486	30.990	56.475	-17.525	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2437MHz

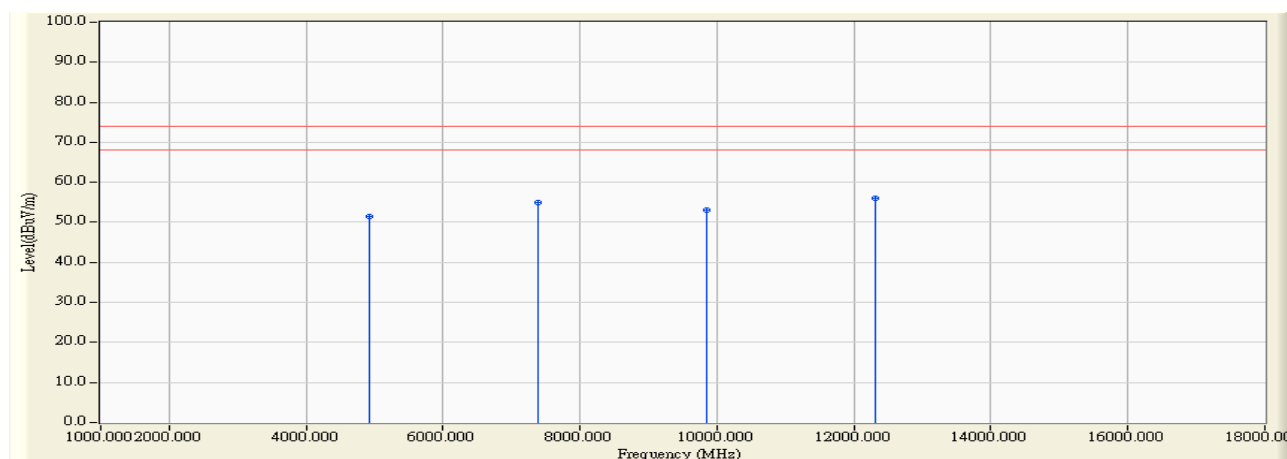


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7307.605	18.096	23.390	41.486	-12.514	54.000	AVERAGE
2		9748.225	23.027	17.060	40.087	-13.913	54.000	AVERAGE
3		12185.830	25.486	15.040	40.526	-13.474	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2462MHz

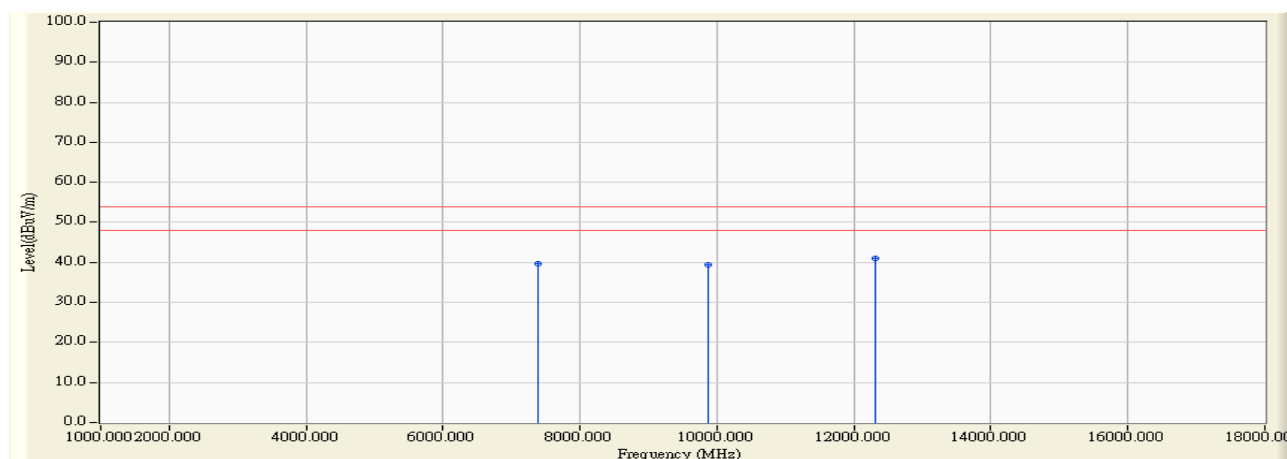


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4926.385	8.896	42.680	51.576	-22.424	74.000	PEAK
2		7382.620	18.257	36.820	55.077	-18.923	74.000	PEAK
3		9848.155	23.372	29.750	53.121	-20.879	74.000	PEAK
4	*	12314.290	25.580	30.520	56.101	-17.899	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2462MHz

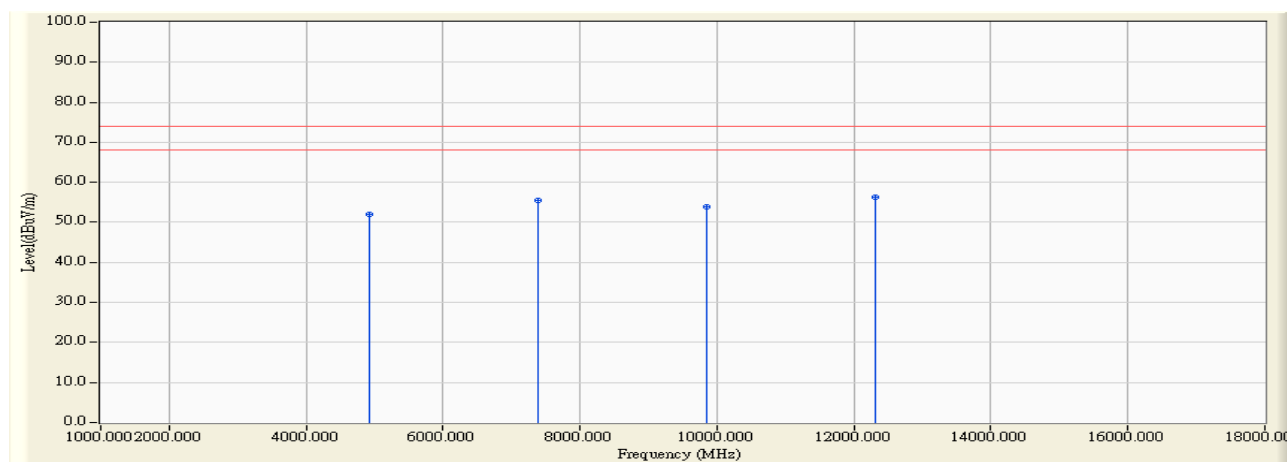


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		7382.620	18.257	21.410	39.667	-14.333	54.000	AVERAGE
2		9848.155	23.372	15.910	39.282	-14.718	54.000	AVERAGE
3	*	12314.290	25.580	15.400	40.979	-13.021	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2462MHz

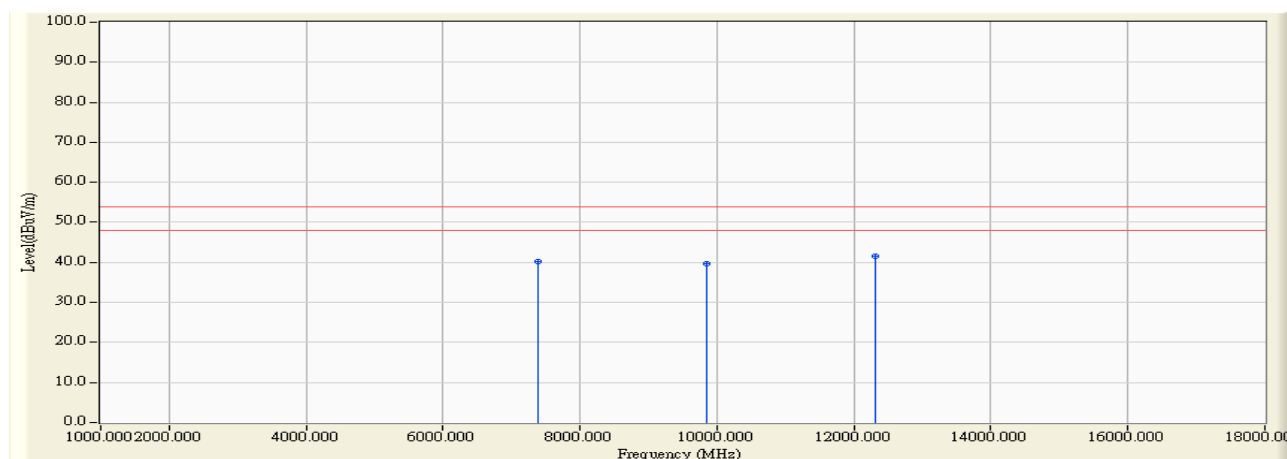


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4926.215	8.896	42.990	51.885	-22.115	74.000	PEAK
2		7382.355	18.256	37.210	55.466	-18.534	74.000	PEAK
3		9848.130	23.372	30.620	53.991	-20.009	74.000	PEAK
4	*	12308.065	25.576	30.780	56.356	-17.644	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2462MHz

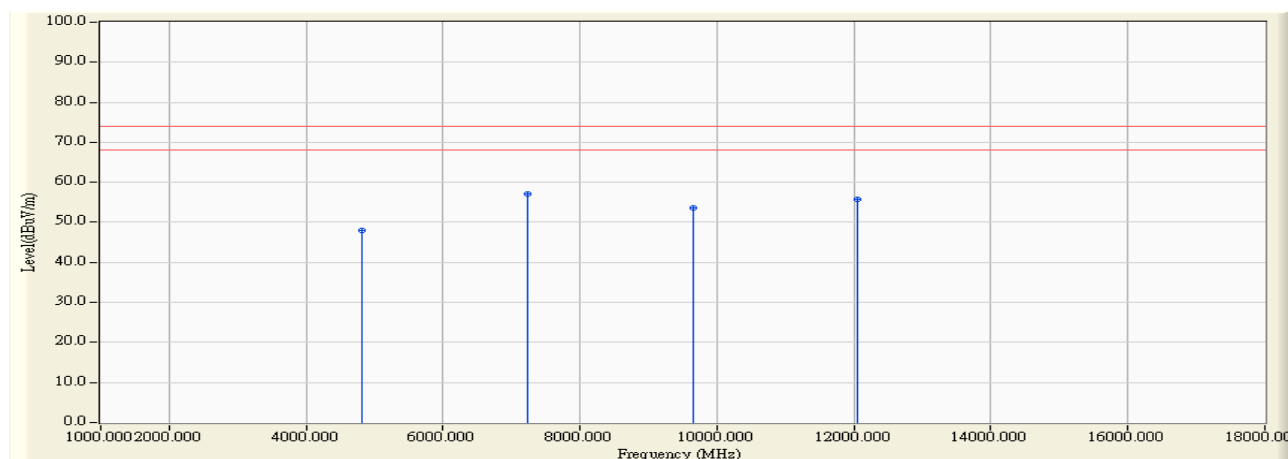


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		7382.355	18.256	21.820	40.076	-13.924	54.000	AVERAGE
2		9848.130	23.372	16.410	39.782	-14.218	54.000	AVERAGE
3	*	12308.065	25.576	15.900	41.476	-12.524	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2412MHz

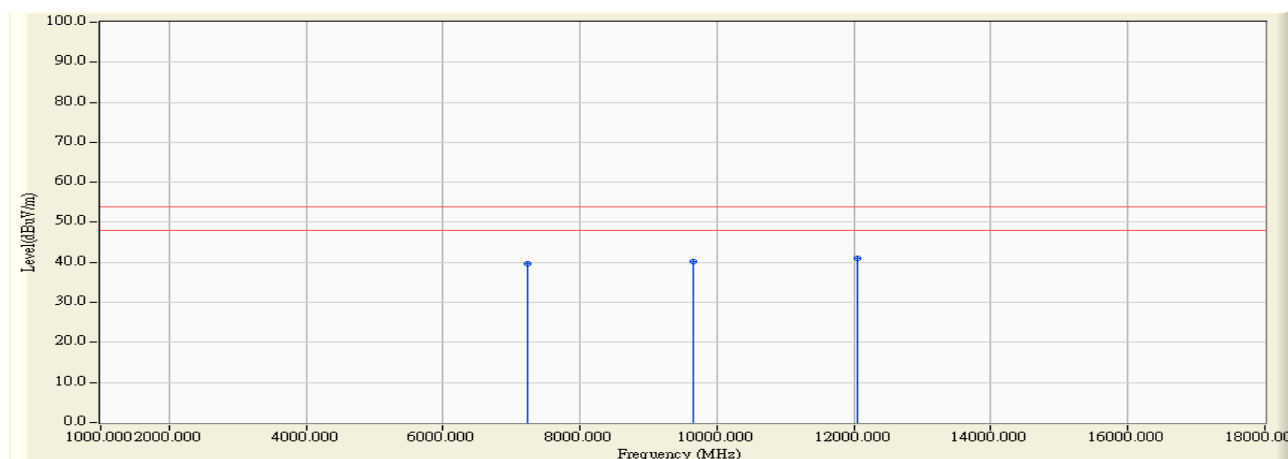


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4823.210	8.372	39.680	48.053	-25.947	74.000	PEAK
2	*	7234.310	17.932	39.040	56.972	-17.028	74.000	PEAK
3		9647.535	22.621	31.000	53.621	-20.379	74.000	PEAK
4		12058.790	25.394	30.310	55.704	-18.296	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2412MHz

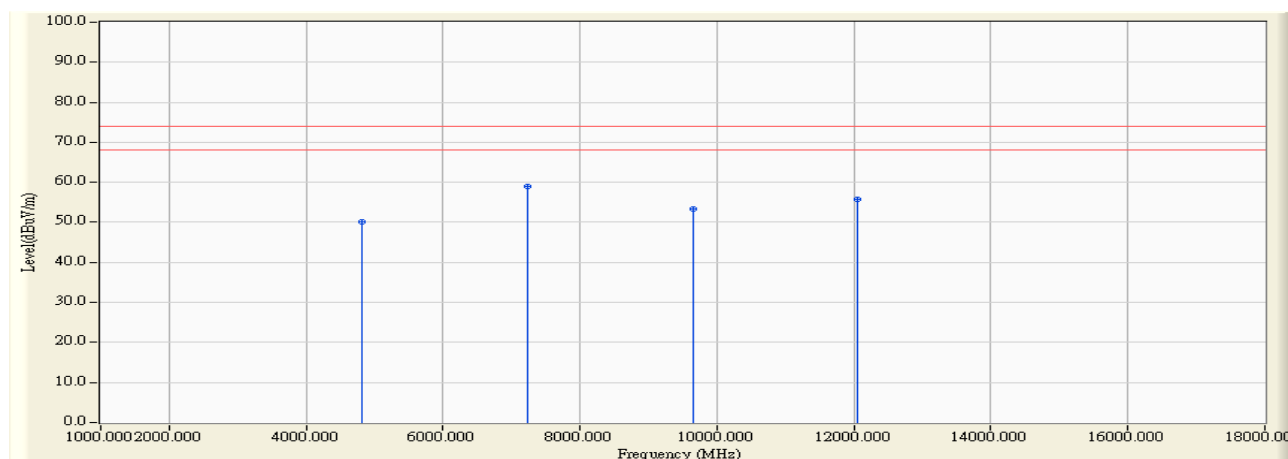


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		7234.310	17.932	21.810	39.742	-14.258	54.000	AVERAGE
2		9647.535	22.621	17.700	40.321	-13.679	54.000	AVERAGE
3	*	12058.790	25.394	15.650	41.043	-12.957	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2412MHz

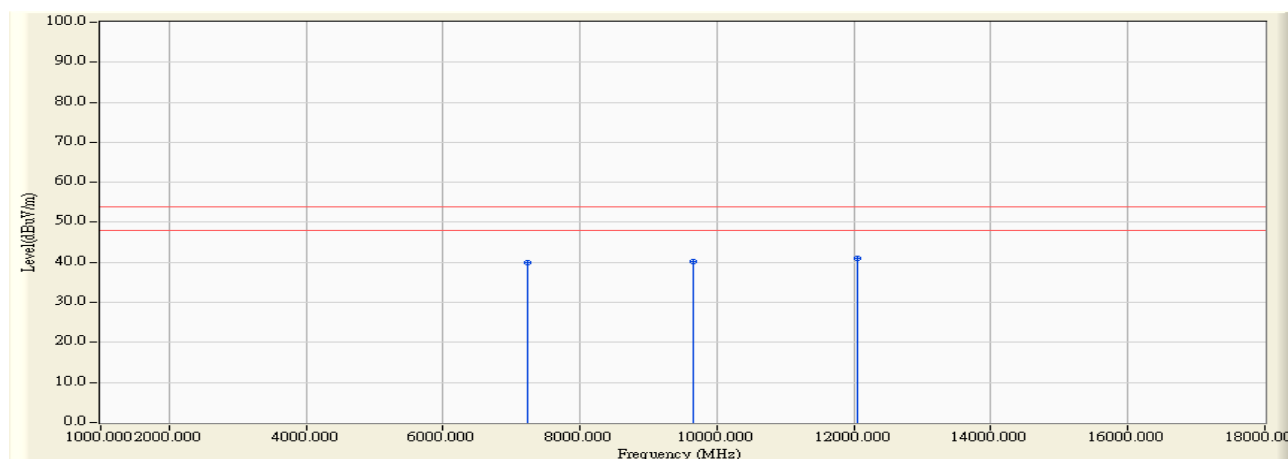


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4822.005	8.367	41.740	50.107	-23.893	74.000	PEAK
2	*	7234.650	17.934	40.990	58.923	-15.077	74.000	PEAK
3		9650.470	22.632	30.800	53.433	-20.567	74.000	PEAK
4		12055.840	25.391	30.470	55.862	-18.138	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2412MHz

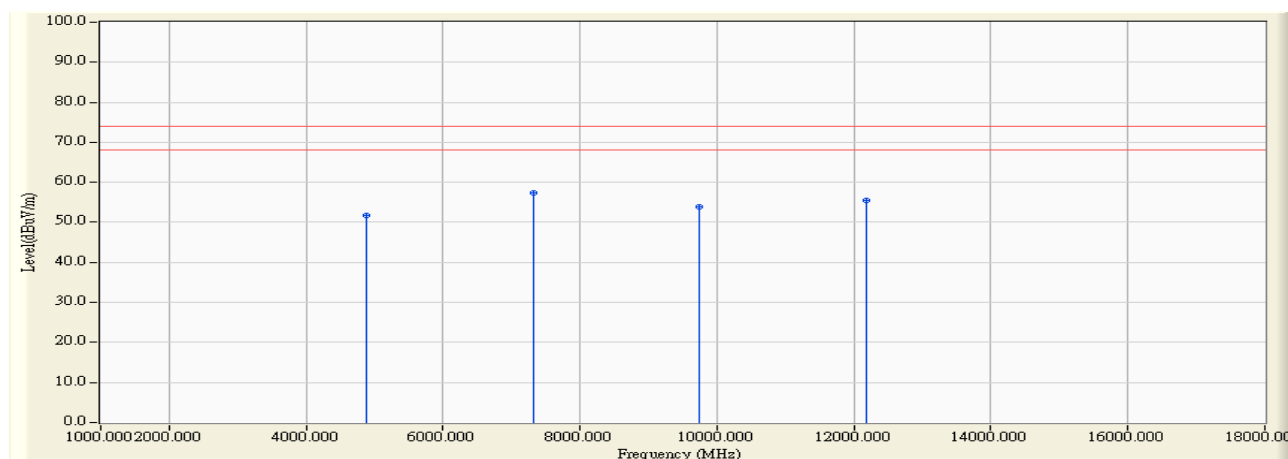


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		7234.650	17.934	22.010	39.944	-14.056	54.000	AVERAGE
2		9650.470	22.632	17.630	40.262	-13.738	54.000	AVERAGE
3	*	12055.840	25.391	15.620	41.011	-12.989	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2437MHz

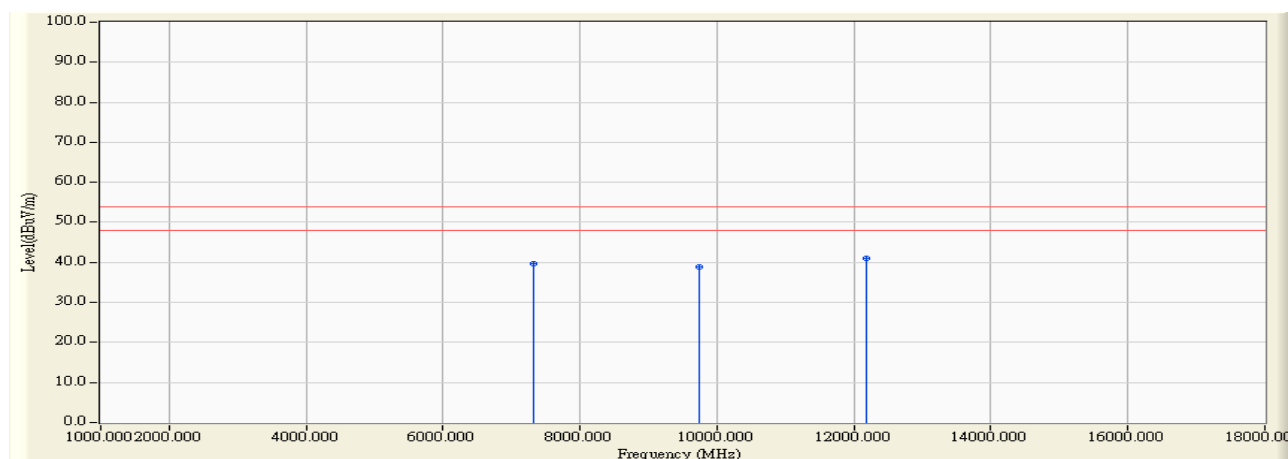


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4872.255	8.622	43.150	51.771	-22.229	74.000	PEAK
2	*	7310.110	18.101	39.370	57.471	-16.529	74.000	PEAK
3		9748.180	23.027	30.810	53.837	-20.163	74.000	PEAK
4		12180.805	25.482	29.970	55.451	-18.549	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2437MHz

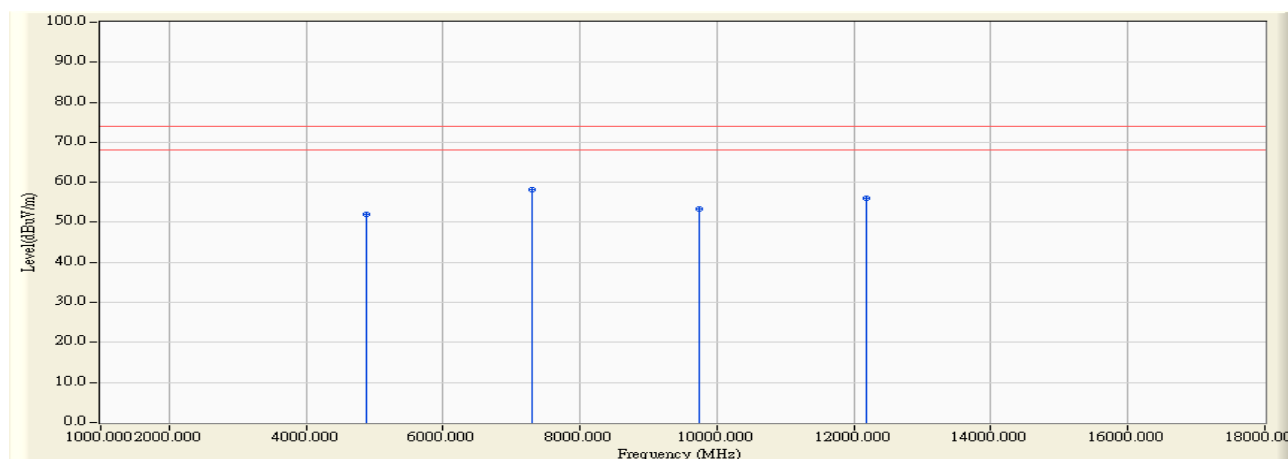


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		7310.110	18.101	21.540	39.641	-14.359	54.000	AVERAGE
2		9748.180	23.027	15.860	38.887	-15.113	54.000	AVERAGE
3	*	12180.805	25.482	15.560	41.042	-12.958	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2437MHz

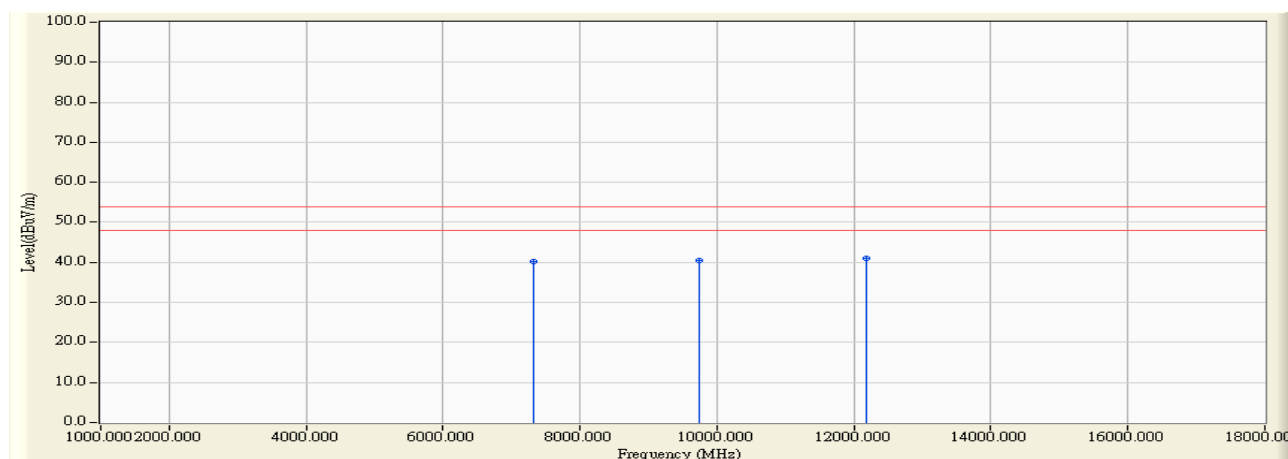


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4872.885	8.624	43.340	51.965	-22.035	74.000	PEAK
2	*	7309.430	18.100	40.150	58.250	-15.750	74.000	PEAK
3		9748.395	23.028	30.380	53.407	-20.593	74.000	PEAK
4		12185.735	25.486	30.590	56.075	-17.925	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2437MHz

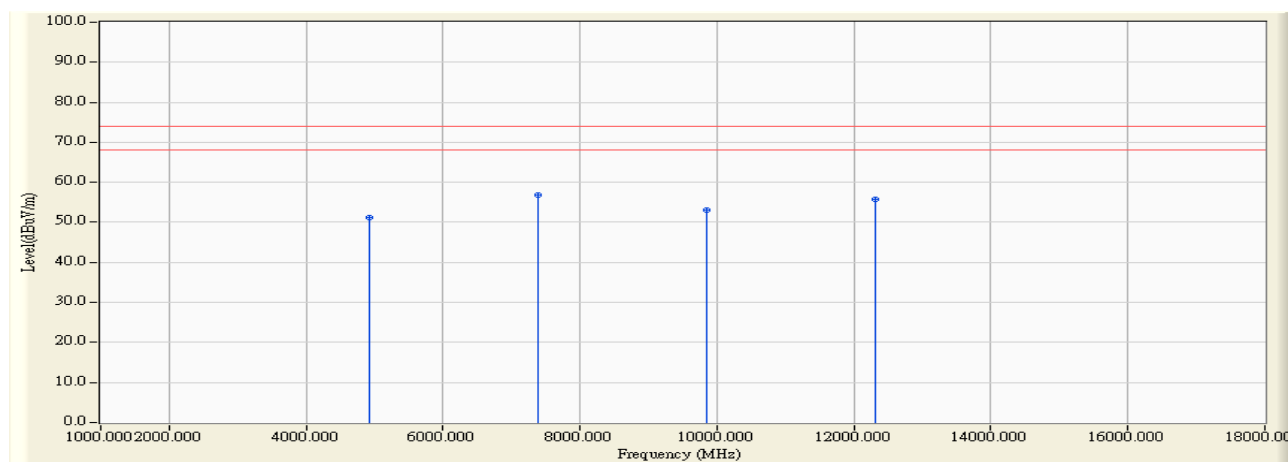


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		7309.430	18.100	22.120	40.220	-13.780	54.000	AVERAGE
2		9748.395	23.028	17.390	40.418	-33.582	74.000	AVERAGE
3	*	12185.735	25.486	15.480	40.966	-13.034	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2462MHz

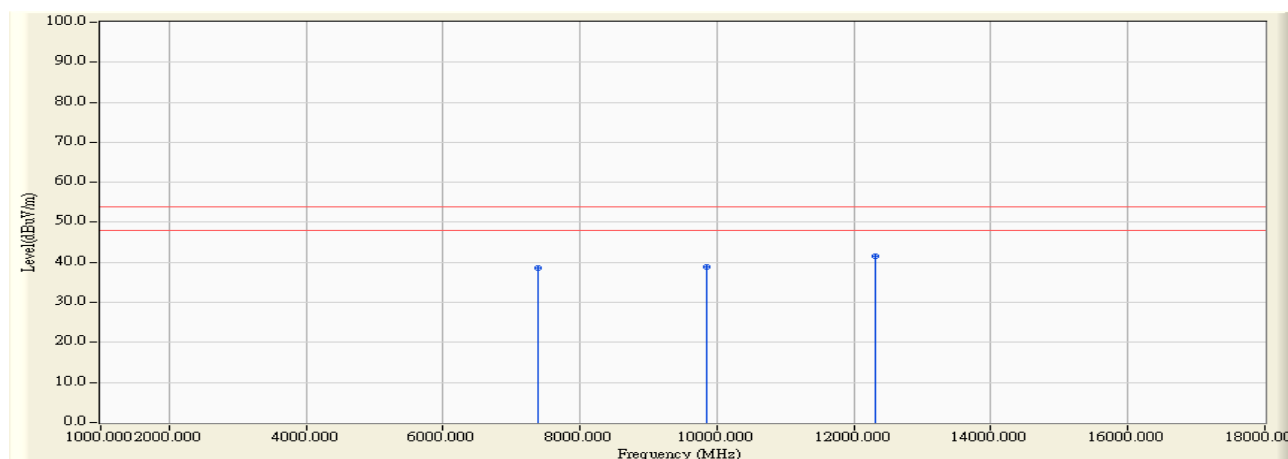


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4923.140	8.879	42.230	51.110	-22.890	74.000	PEAK
2	*	7383.805	18.260	38.660	56.919	-17.081	74.000	PEAK
3		9845.150	23.361	29.820	53.181	-20.819	74.000	PEAK
4		12314.635	25.581	30.080	55.661	-18.339	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2462MHz

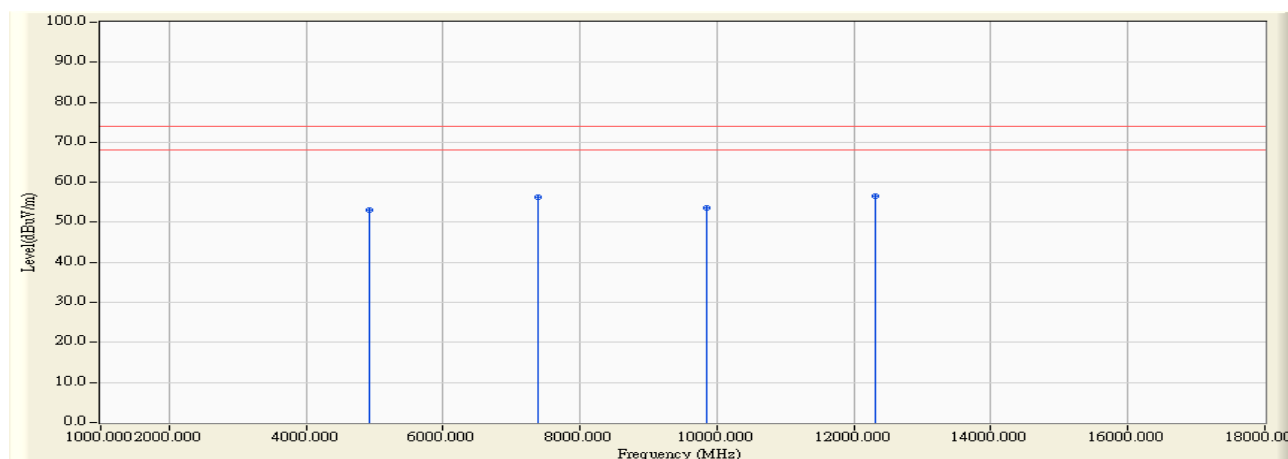


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	7383.805	18.260	20.440	38.700	-15.300	54.000	AVERAGE
2		9845.150	23.361	15.450	38.811	-15.189	54.000	AVERAGE
3		12314.635	25.581	15.910	41.491	-12.509	54.000	AVERAGE

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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2462MHz

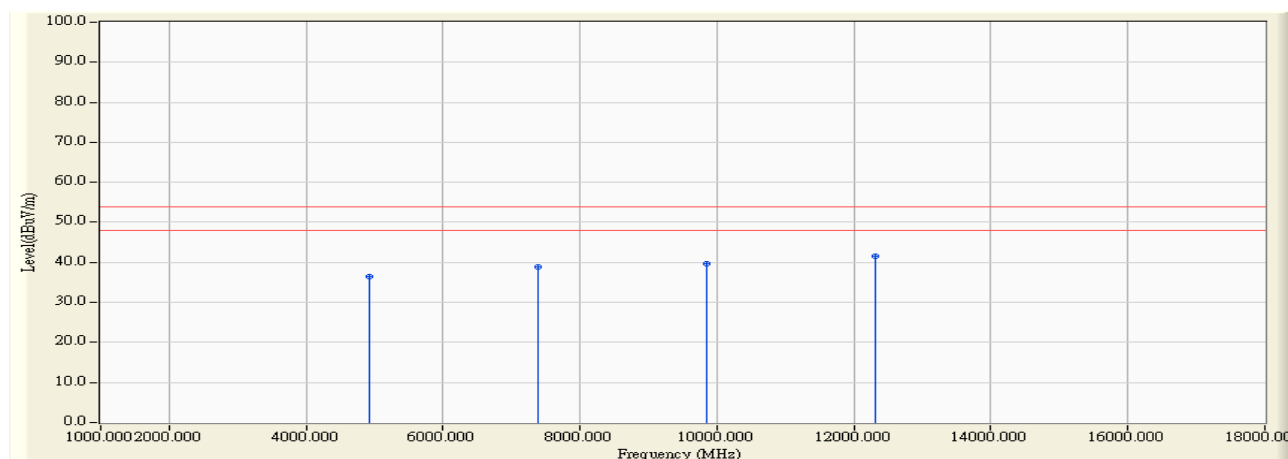


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4922.300	8.875	44.080	52.955	-21.045	74.000	PEAK
2		7384.230	18.260	38.170	56.430	-17.570	74.000	PEAK
3		9843.880	23.357	30.260	53.617	-20.383	74.000	PEAK
4	*	12307.740	25.575	30.860	56.436	-17.564	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 : CB4-H	Time : 2017/09/22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	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		4922.300	8.875	27.650	36.525	-17.475	54.000	AVERAGE
2		7384.230	18.260	20.570	38.830	-15.170	54.000	AVERAGE
3		9843.880	23.357	16.370	39.727	-14.273	54.000	AVERAGE
4	*	12307.740	25.575	15.900	41.475	-12.525	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.

5. RF antenna conducted test

5.1. Test Equipment

The following test equipments are used during the test:

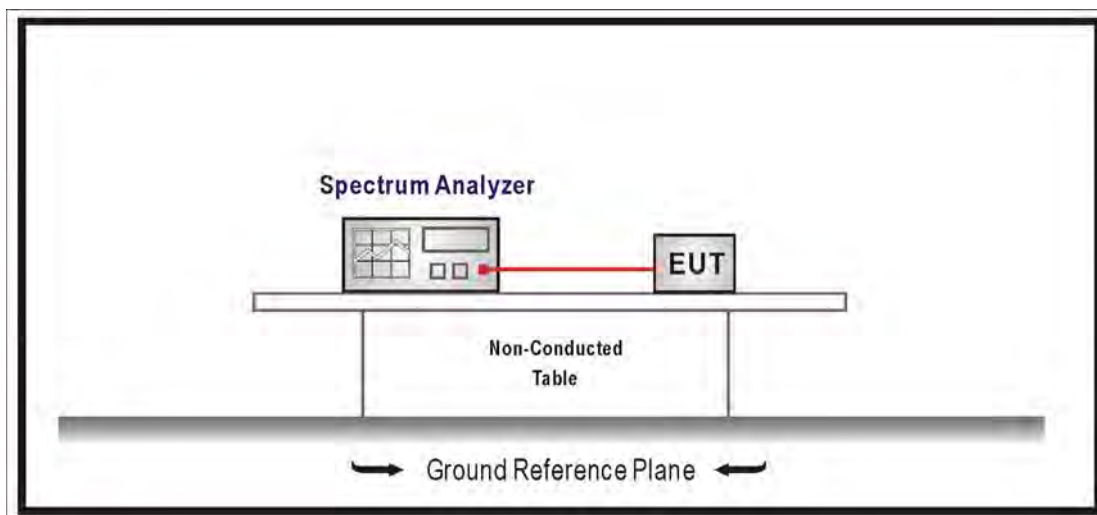
RF antenna conducted test / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12

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 D01 V04 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 $\pm 1.27\text{dB}$

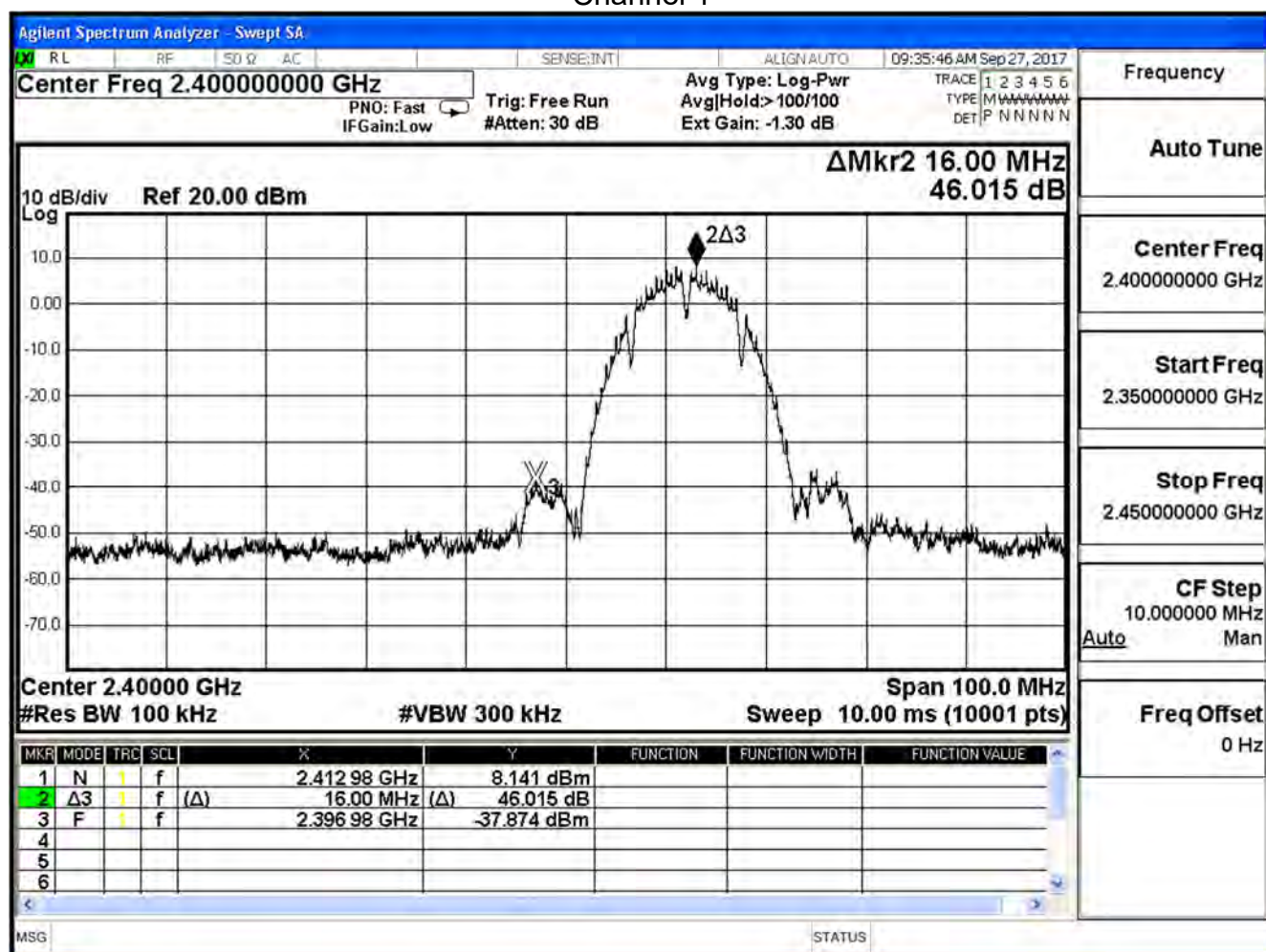
5.7. Test Result

Product	Multimedia System		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

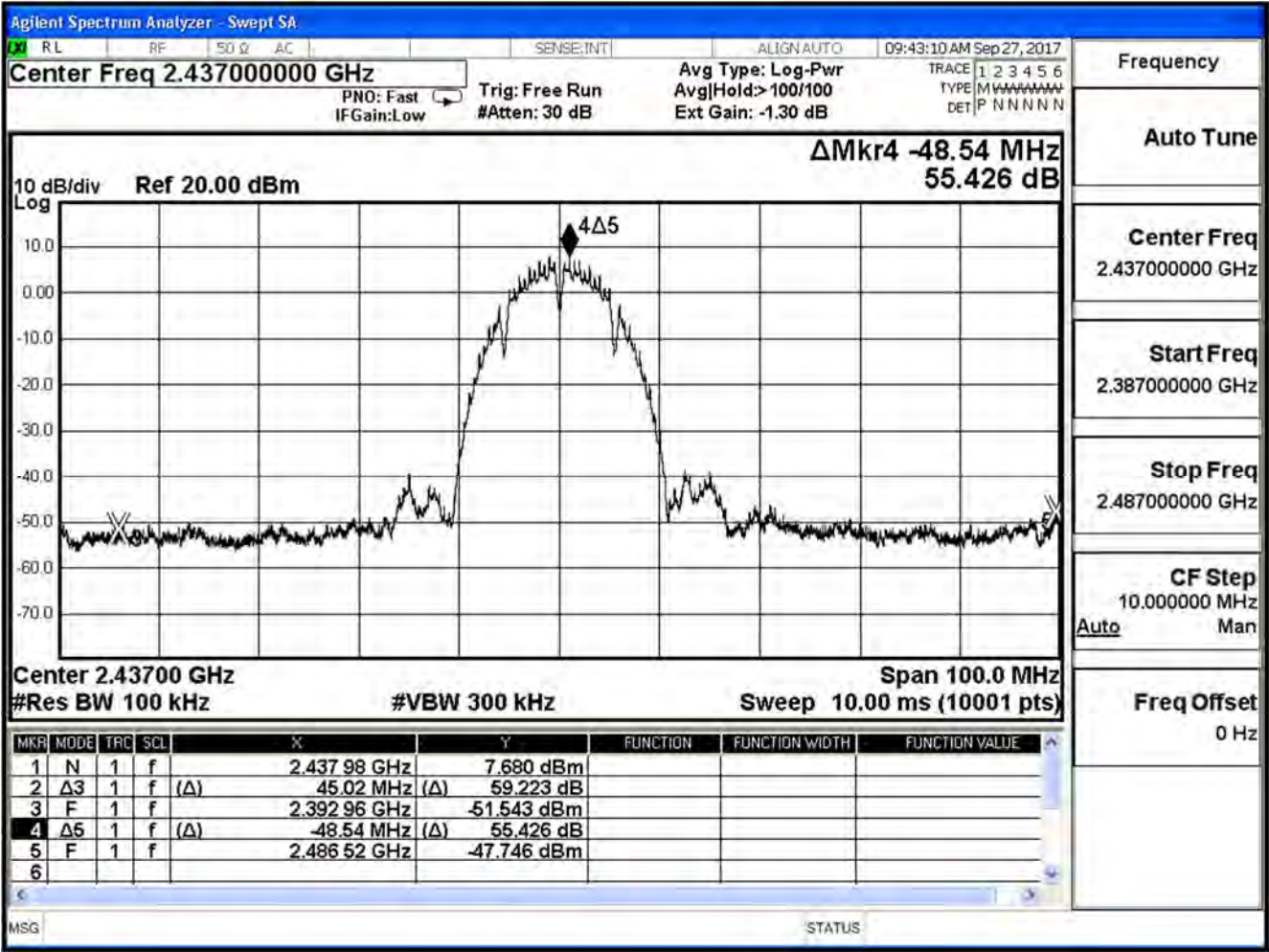
IEEE 802.11b (ANT 0)

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	46.015	≤ 20	Pass
6	2437	55.426	≤ 20	Pass
11	2462	53.260	≤ 20	Pass

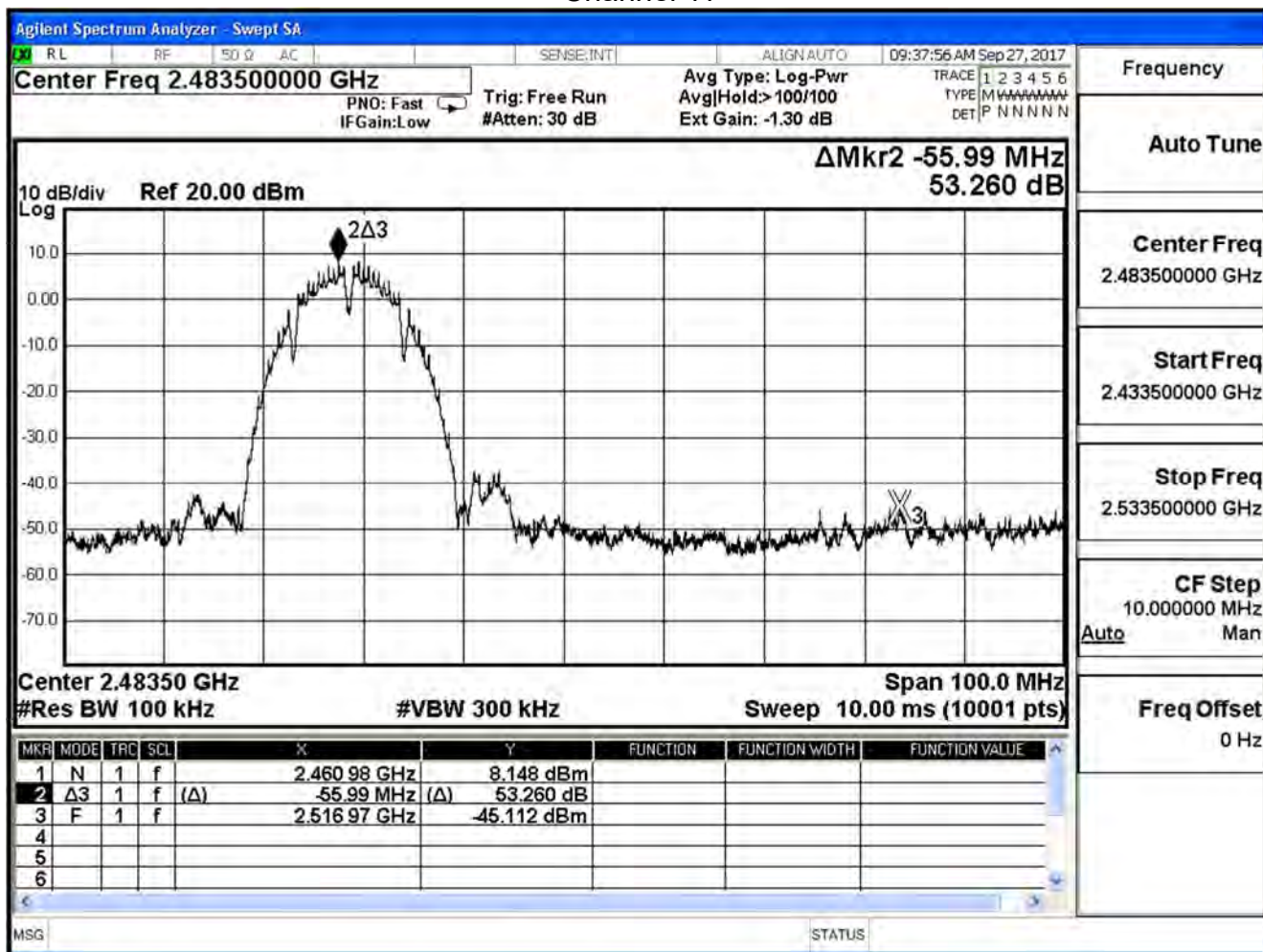
Channel 1



Channel 6



Channel 11

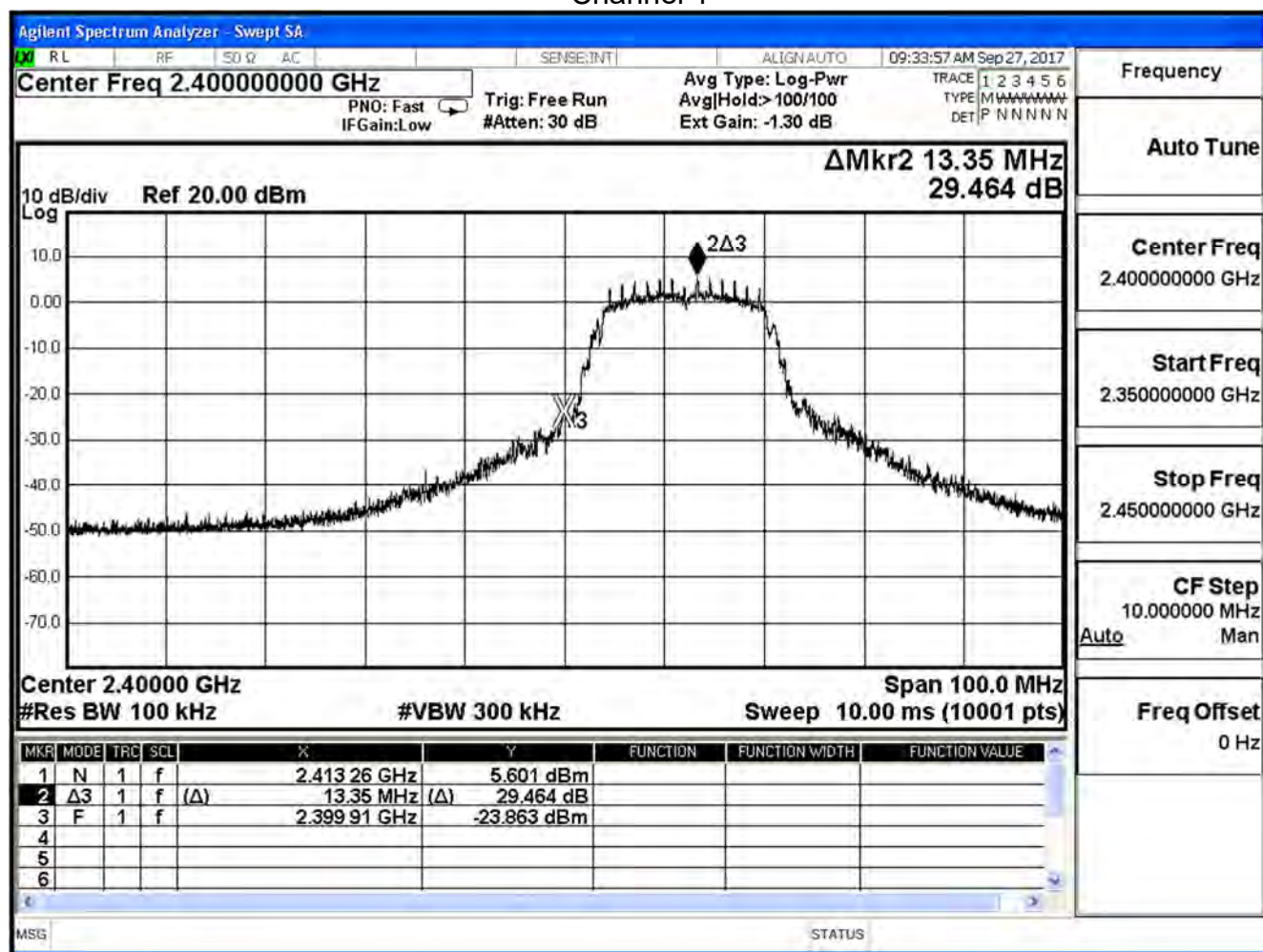


Product	Multimedia System		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

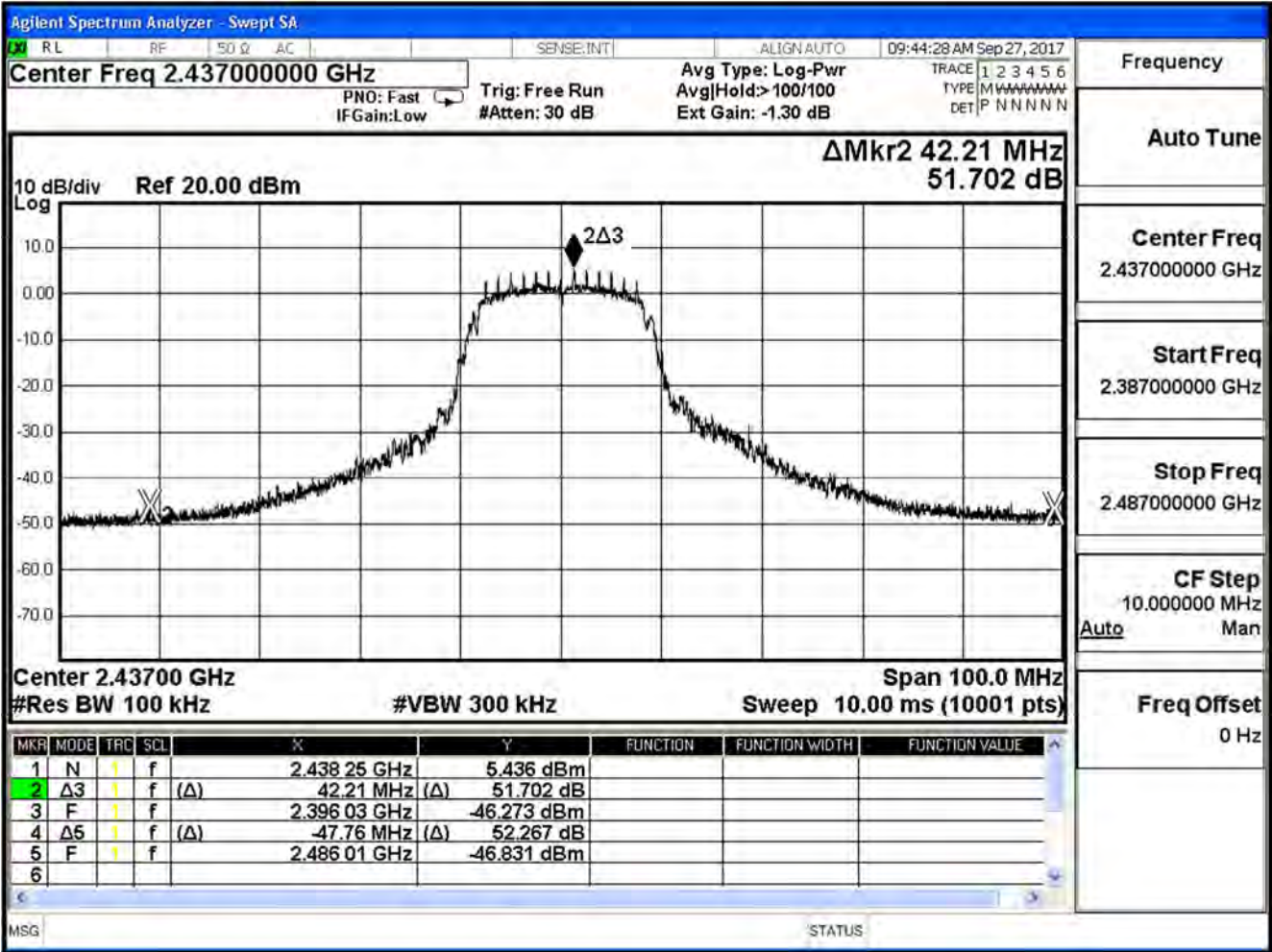
IEEE 802.11g (ANT 0)

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	29.464	≤ 20	Pass
6	2437	51.702	≤ 20	Pass
11	2462	40.815	≤ 20	Pass

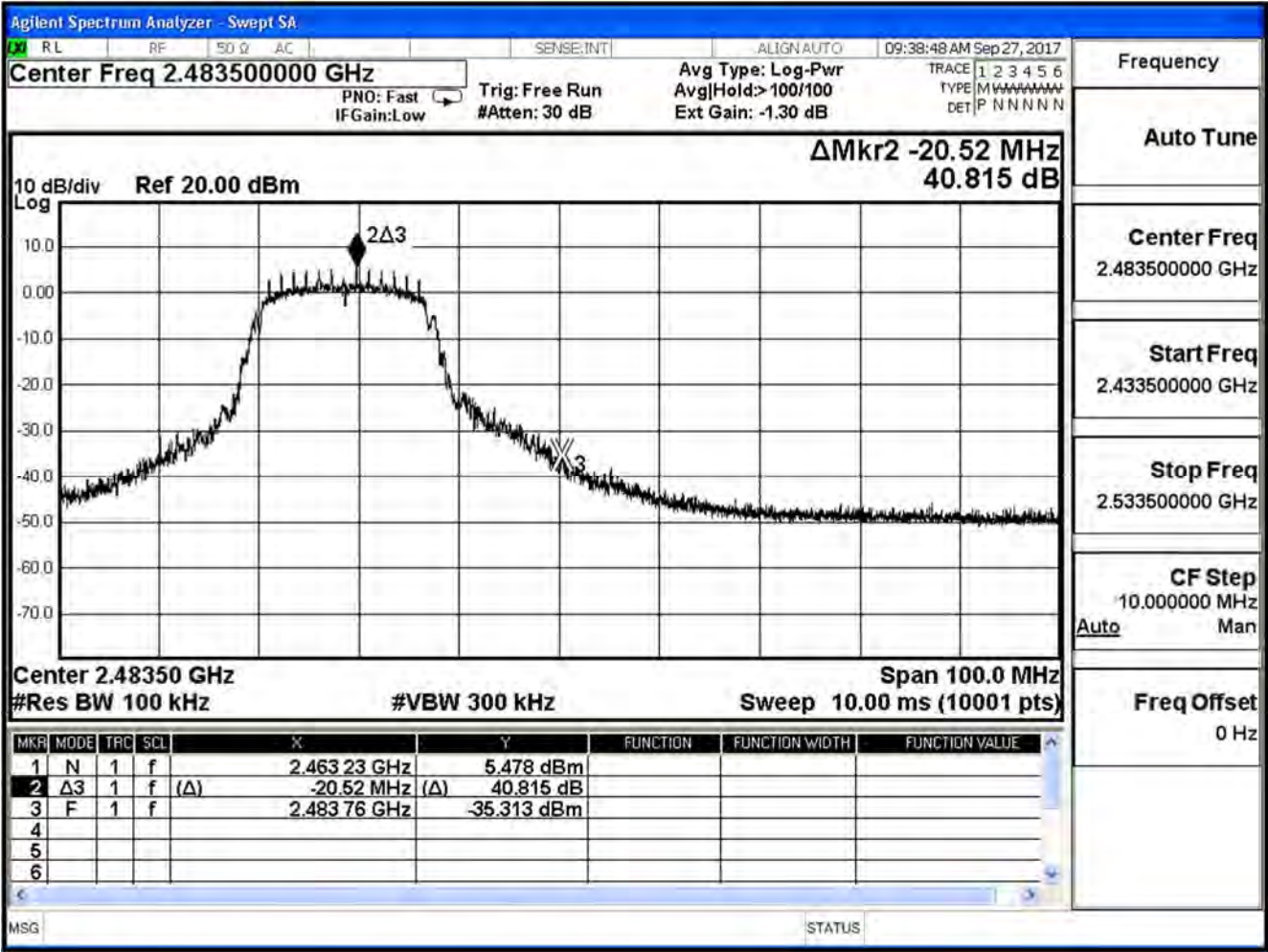
Channel 1



Channel 6



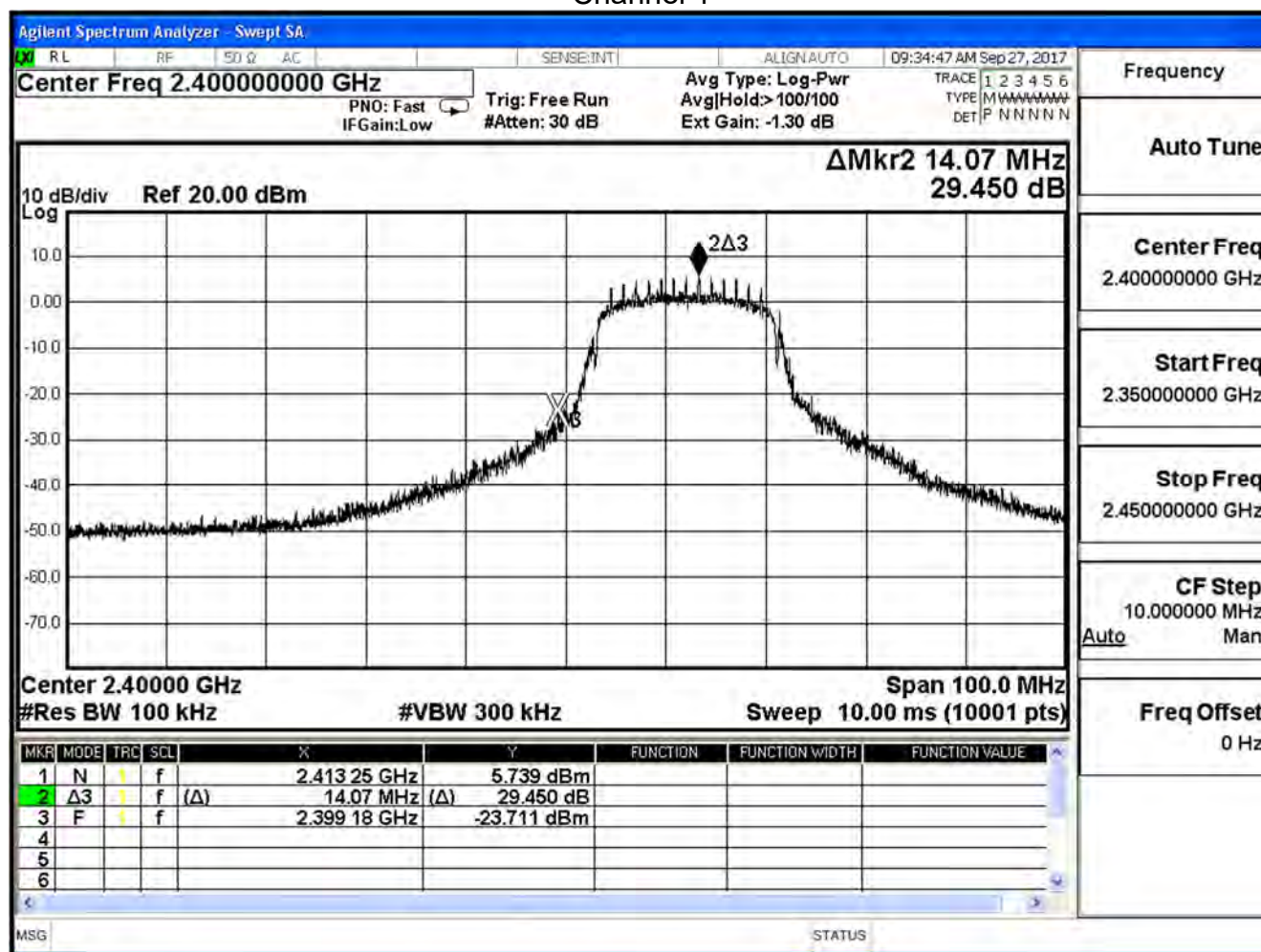
Channel 11



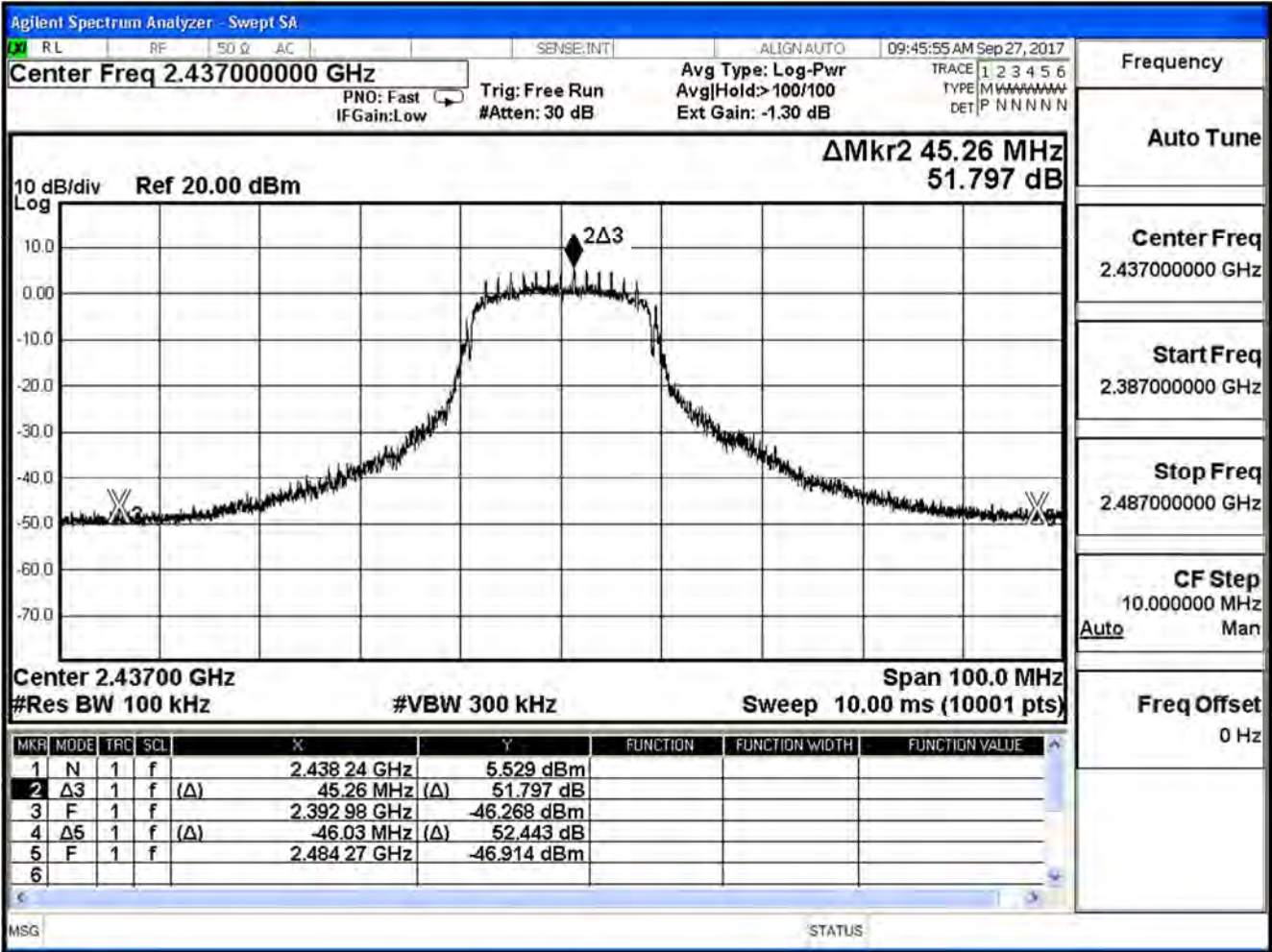
Product	Multimedia System		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

IEEE 802.11n_20M (ANT 0)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	29.450	≥ 20	Pass
6	2437	51.797	≥ 20	Pass
11	2462	40.710	≥ 20	Pass

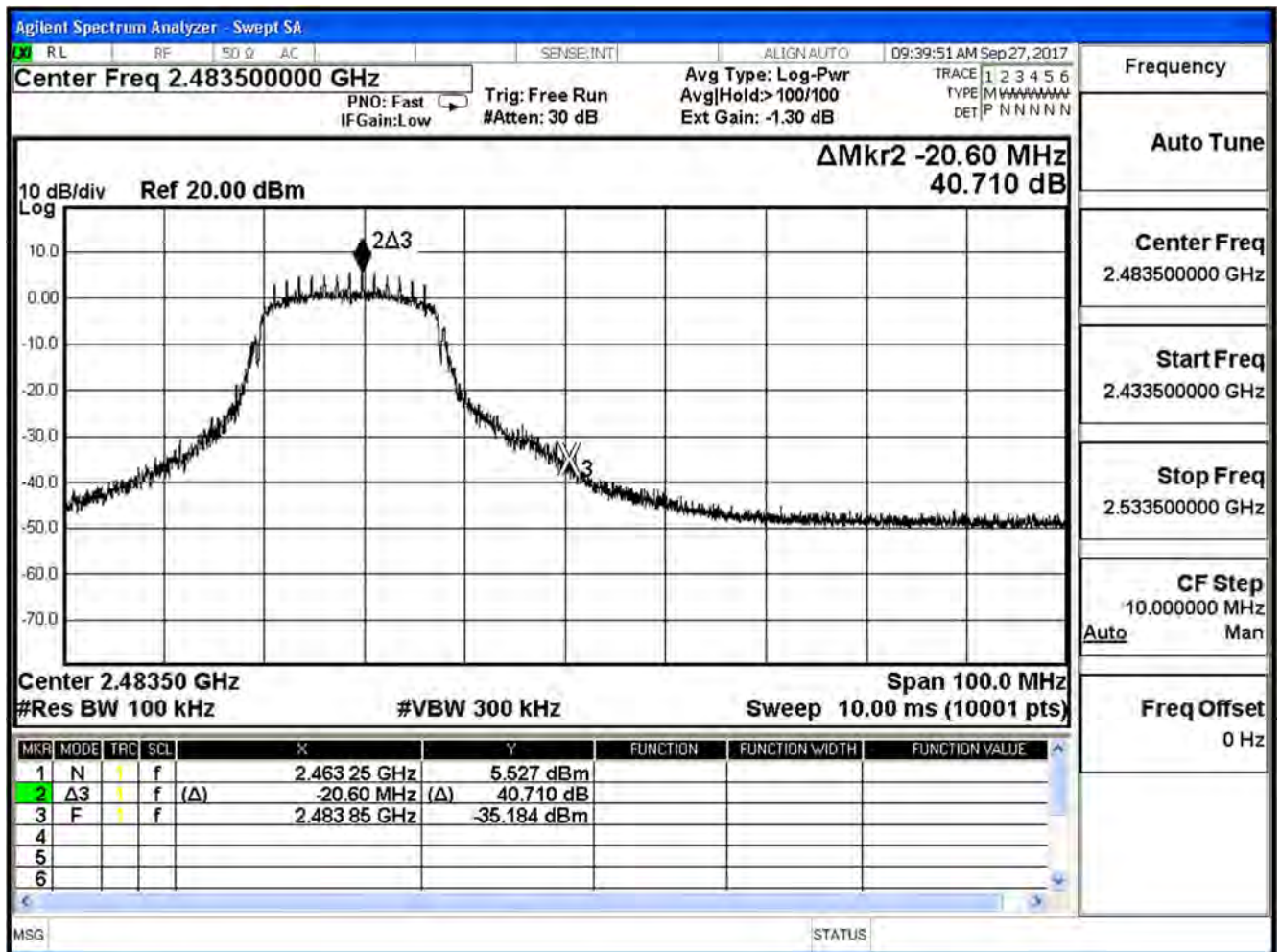
Channel 1



Channel 6

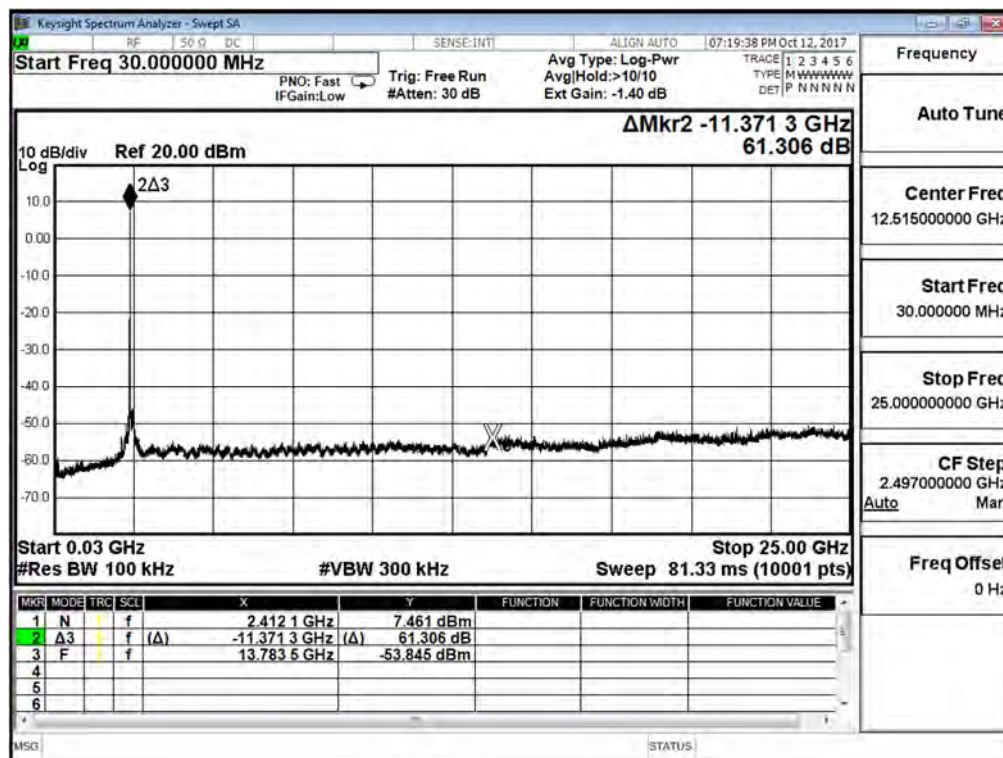


Channel 11

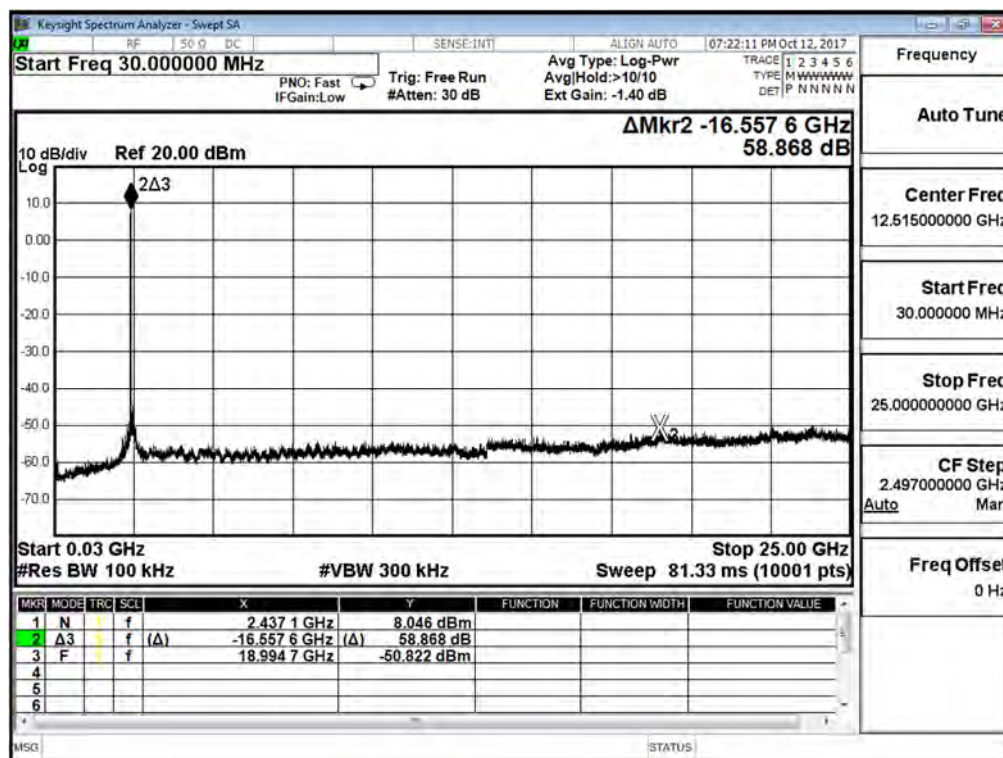


Product	Multimedia System		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/10/12	Test Site	SR10-H

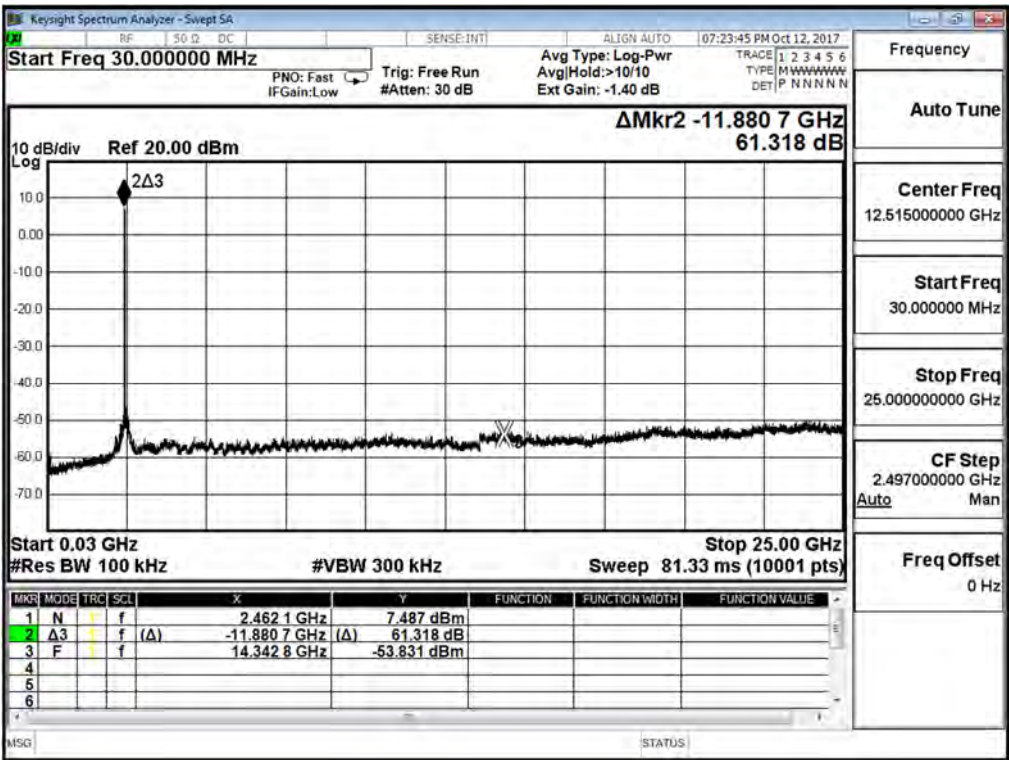
2412MHz (30MHz-25GHz)-802.11b (ANT 0)



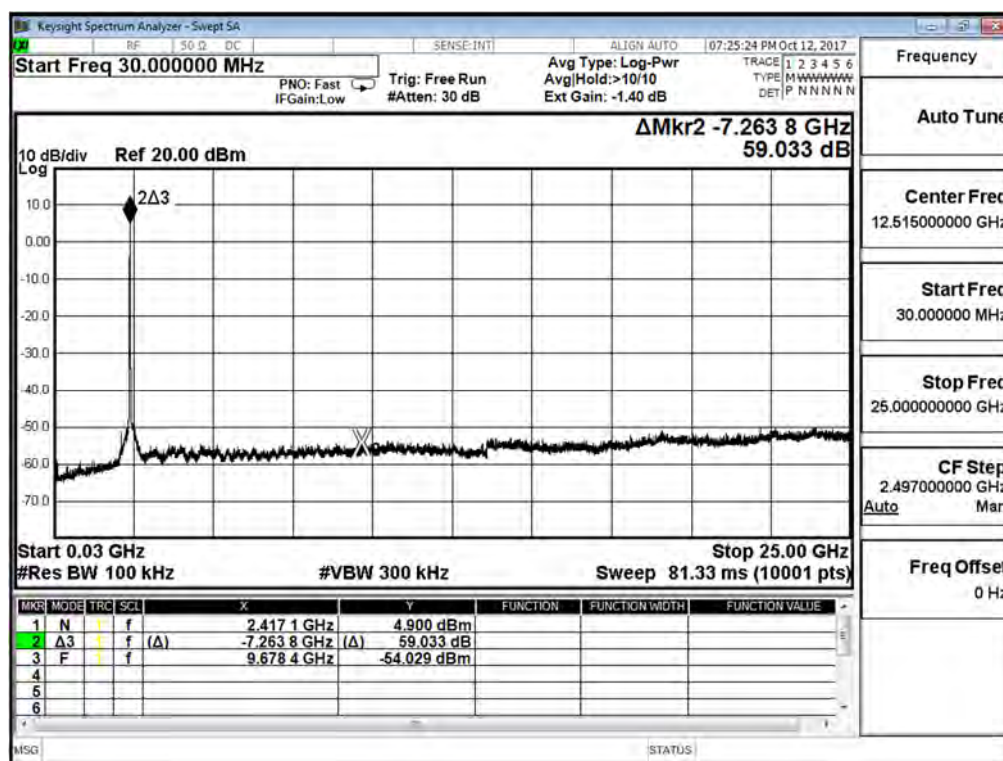
2437MHz (30MHz-25GHz)-802.11b (ANT 0)



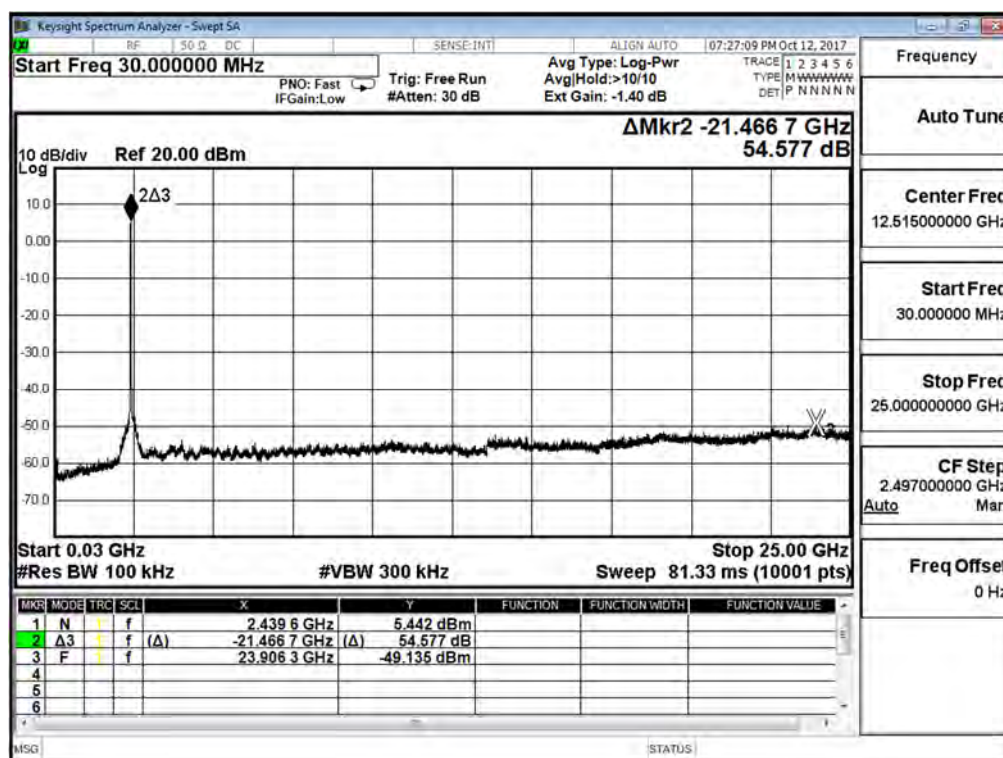
2462MHz (30MHz-25GHz)-802.11b (ANT 0)



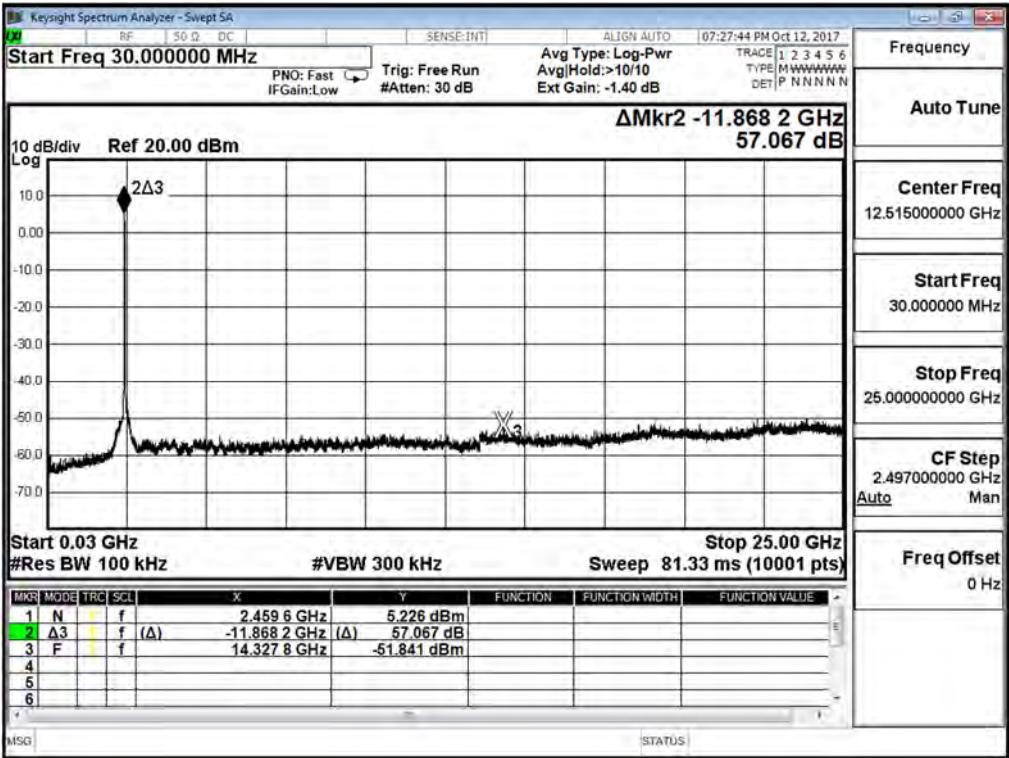
2412MHz (30MHz-25GHz)-802.11g (ANT 0)



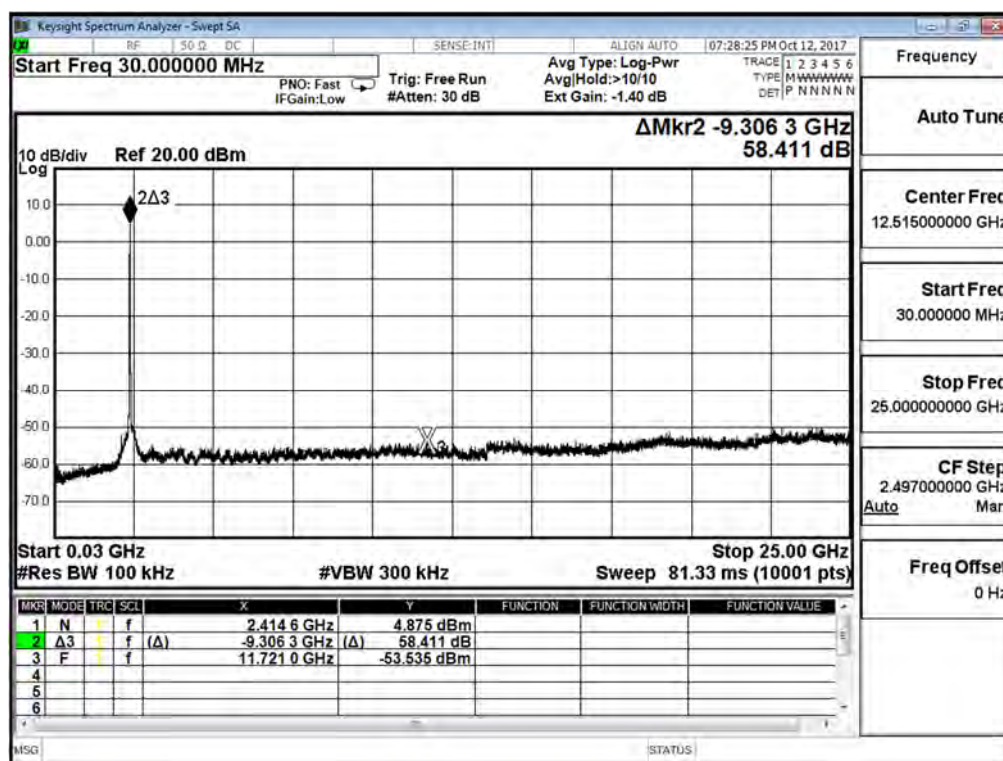
2437MHz (30MHz-25GHz)-802.11 g (ANT 0)



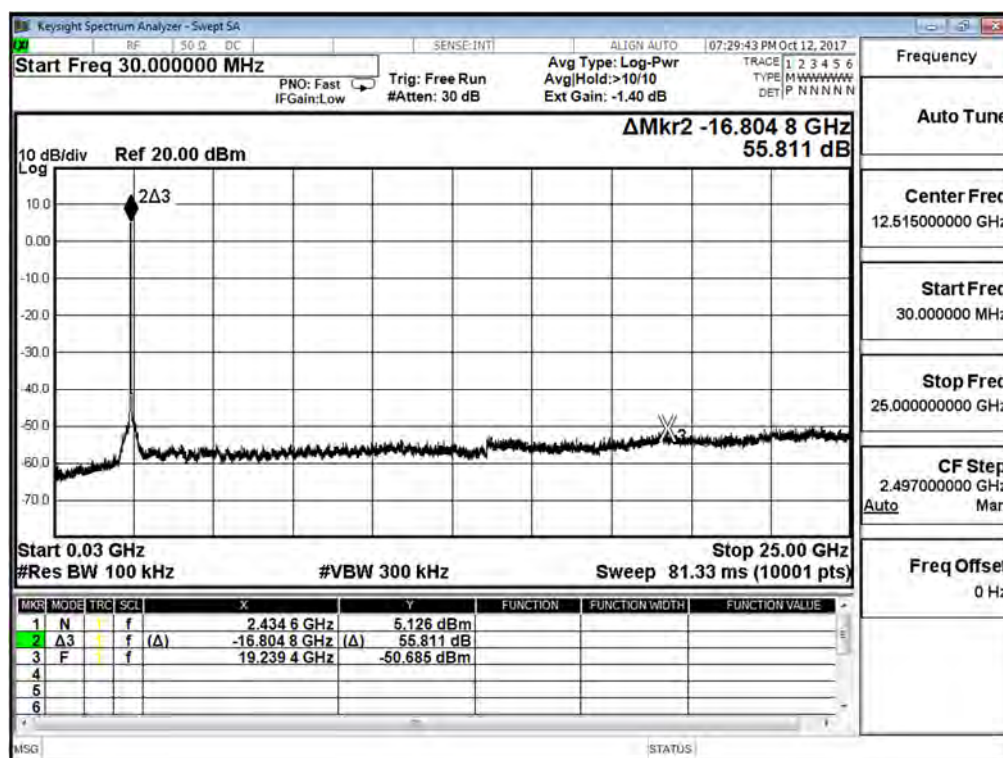
2462MHz (30MHz-25GHz)-802.11g (ANT 0)



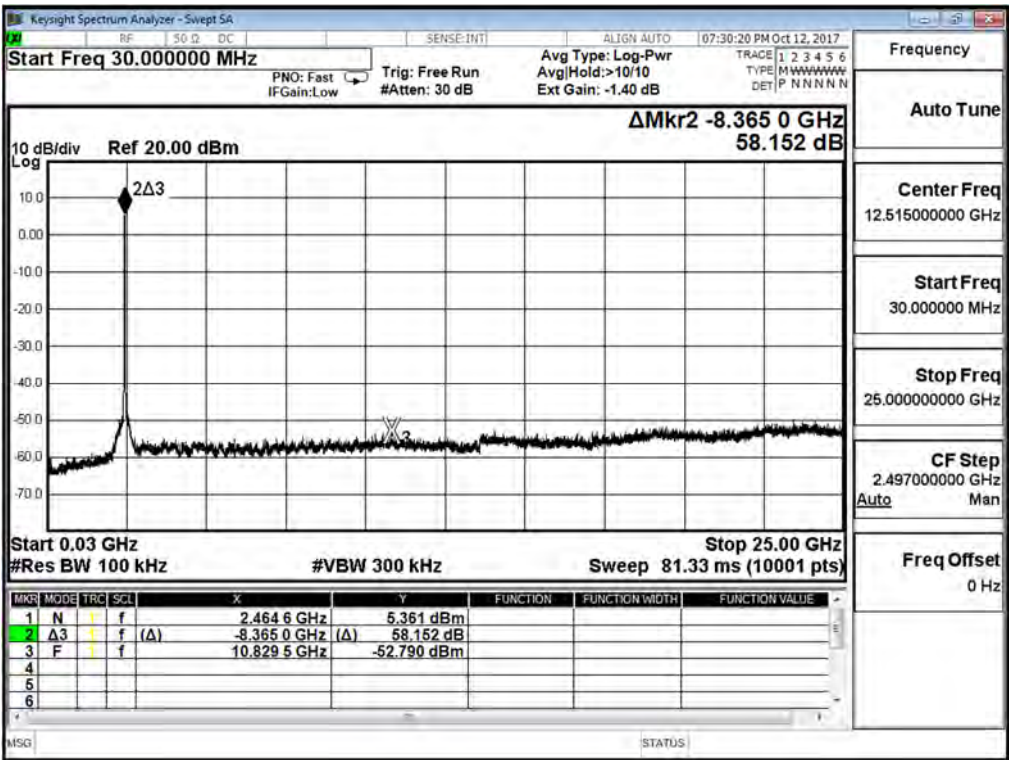
2412MHz (30MHz-25GHz)- IEEE802.11n 20MHz (ANT 0)



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



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



6. Band Edge

6.1. Test Equipment

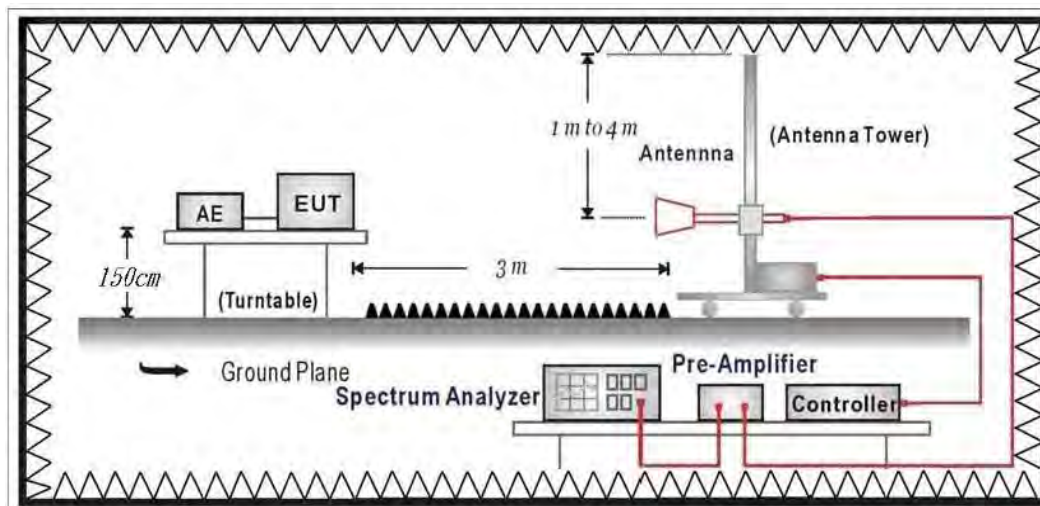
The following test equipments are used during the test:

Band Edge / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2016/11/28	2017/11/27
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	2018/06/27
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	2018/06/13
Horn Antenna	Schwarzbeck	BBHA 9170	202	2017/02/15	2018/02/14
Pre-Amplifier	RF Bay Inc.	LNA-1330	12162511	2017/03/09	2018/03/08
Pre-Amplifier	EMCI	EMCI 1830I	980366	2017/01/23	2018/01/22
Pre-Amplifier	MITEQ	JS44-45-8P	2014754	2016/12/26	2017/12/25

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 D01 V04 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

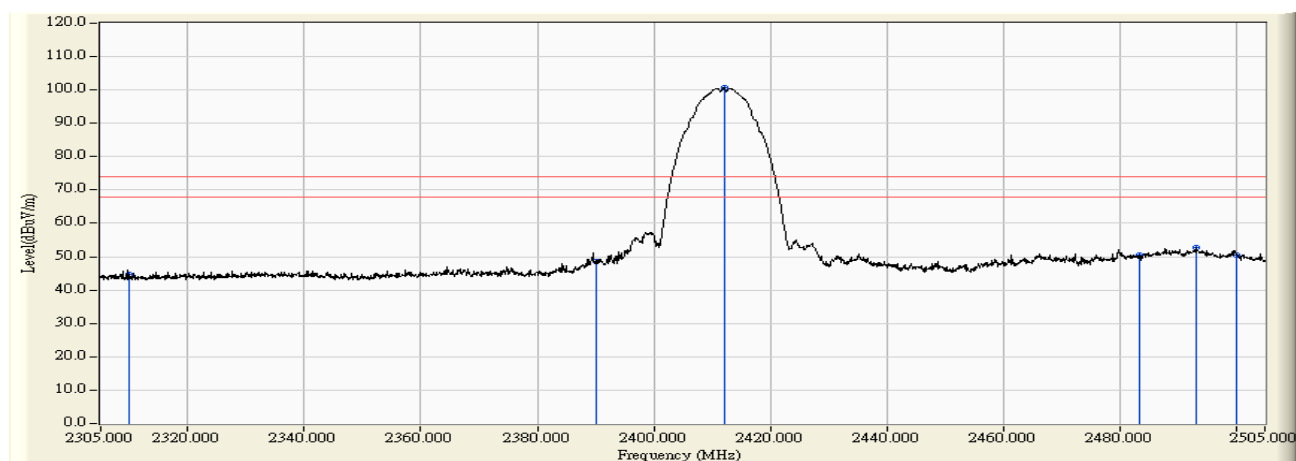
According to FCC Part 15 Subpart C Paragraph 15.247: 2015

6.6. Uncertainty

The measurement uncertainty
 ± 3.9 dB above 1GHz

6.7. Test Result

Site : CB4-H	Time : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2412MHz

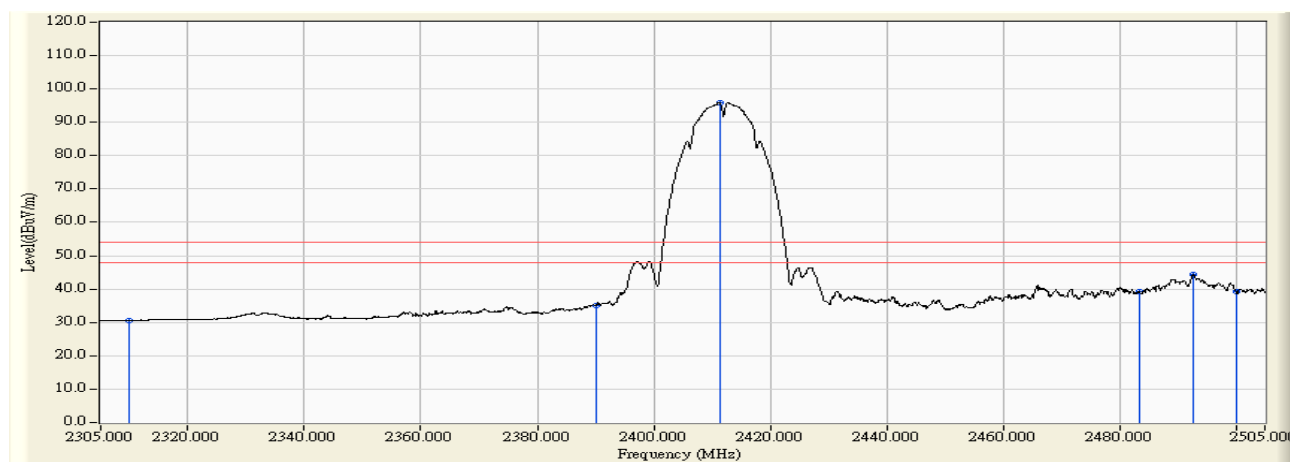


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	31.203	44.631	-29.369	74.000	PEAK
2	2390.000	13.977	34.509	48.486	-25.514	74.000	PEAK
3	* 2412.100	14.130	86.423	100.552	26.552	74.000	PEAK
4	2483.500	14.619	35.756	50.375	-23.625	74.000	PEAK
5	2493.100	14.685	38.183	52.868	-21.132	74.000	PEAK
6	2500.000	14.728	35.770	50.498	-23.502	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2412MHz

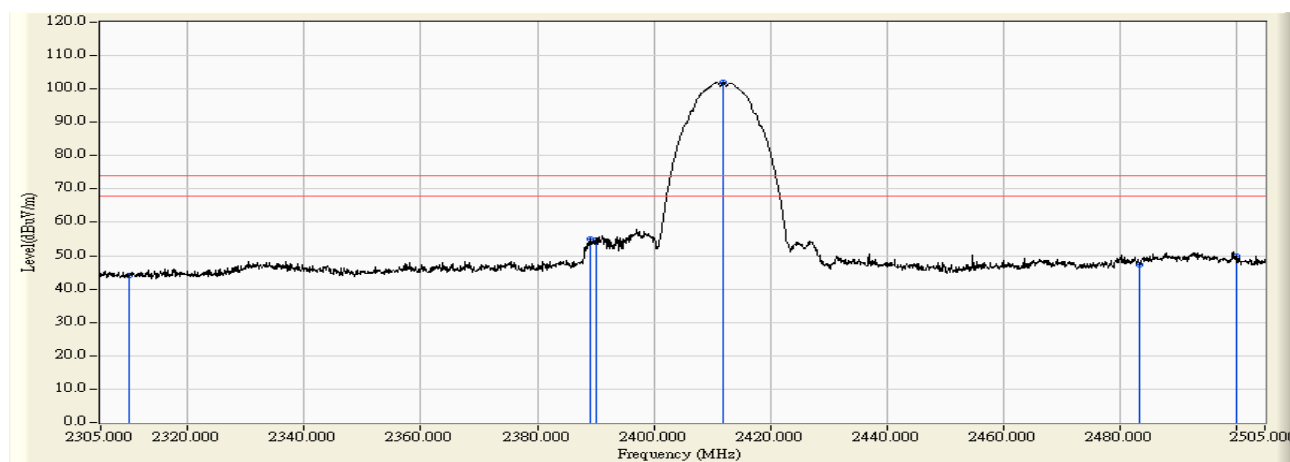


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	17.271	30.699	-23.301	54.000	AVERAGE
2	2390.000	13.977	21.190	35.167	-18.833	54.000	AVERAGE
3	* 2411.300	14.123	81.886	96.009	42.009	54.000	AVERAGE
4	2483.500	14.619	24.484	39.103	-14.897	54.000	AVERAGE
5	2492.600	14.681	29.809	44.490	-9.510	54.000	AVERAGE
6	2500.000	14.728	24.368	39.096	-14.904	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2412MHz

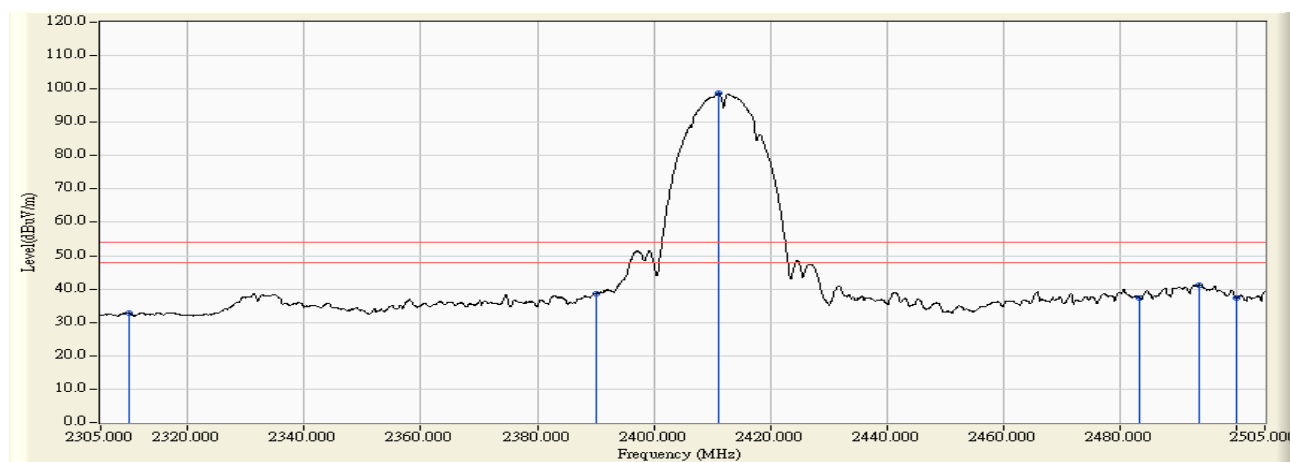


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	30.643	44.071	-29.929	74.000	PEAK
2	2389.200	13.972	41.092	55.064	-18.936	74.000	PEAK
3	2390.000	13.977	40.781	54.758	-19.242	74.000	PEAK
4	* 2412.000	14.128	87.858	101.986	27.986	74.000	PEAK
5	2483.500	14.619	32.619	47.238	-26.762	74.000	PEAK
6	2500.000	14.728	35.160	49.888	-24.112	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2412MHz

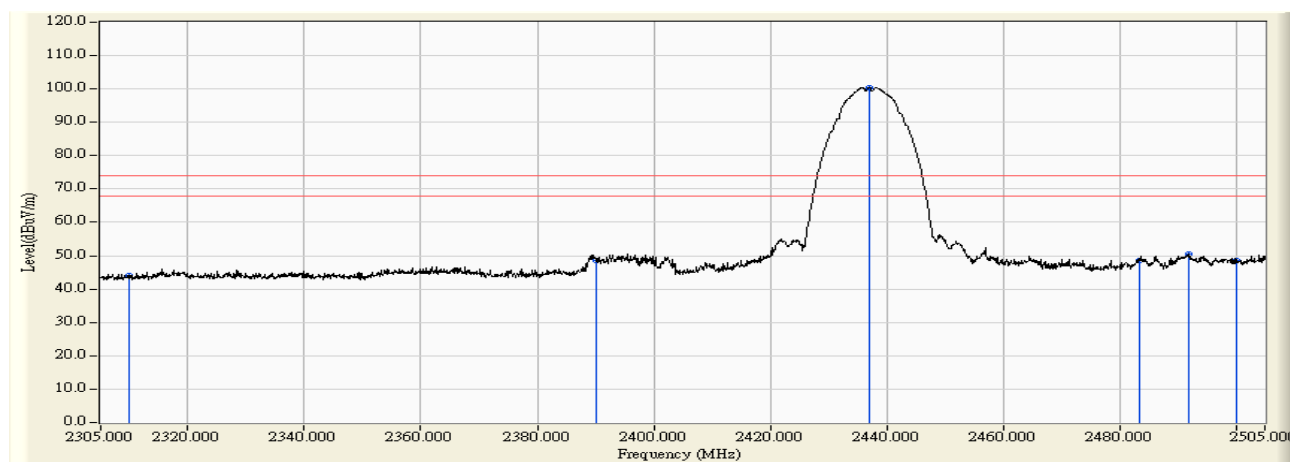


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	19.301	32.729	-21.271	54.000	AVERAGE
2	2390.000	13.977	24.700	38.677	-15.323	54.000	AVERAGE
3	* 2411.200	14.122	84.560	98.683	44.683	54.000	AVERAGE
4	2483.500	14.619	22.792	37.411	-16.589	54.000	AVERAGE
5	2493.600	14.688	26.599	41.287	-12.713	54.000	AVERAGE
6	2500.000	14.728	22.535	37.263	-16.737	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2437MHz

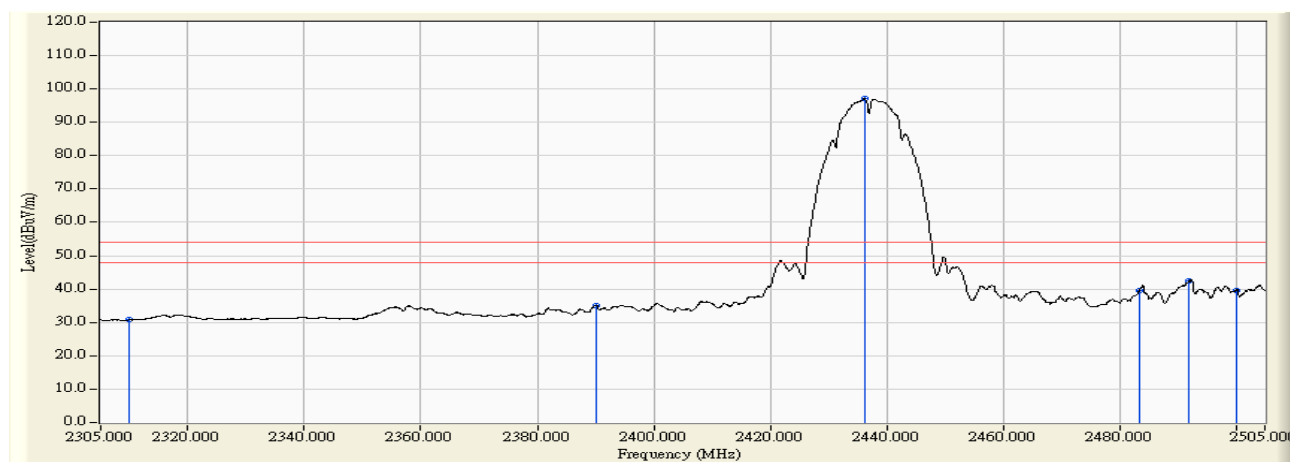


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.428	30.615	44.043	-29.957	74.000	PEAK
2		2390.000	13.977	34.673	48.650	-25.350	74.000	PEAK
3	*	2437.000	14.300	86.061	100.361	26.361	74.000	PEAK
4		2483.500	14.619	34.001	48.620	-25.380	74.000	PEAK
5		2491.900	14.676	35.780	50.457	-23.543	74.000	PEAK
6		2500.000	14.728	33.901	48.629	-25.371	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2437MHz

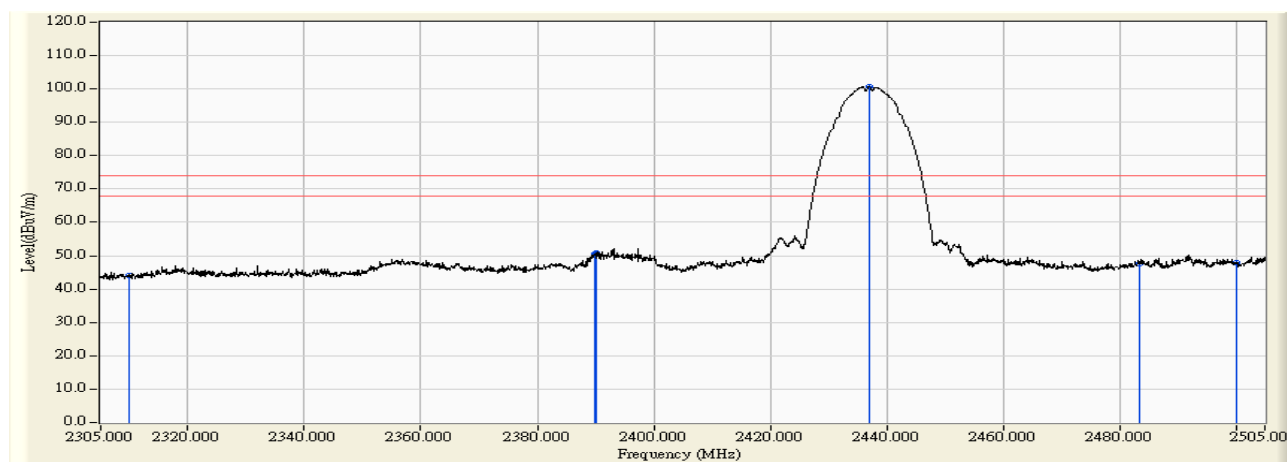


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	17.360	30.788	-23.212	54.000	AVERAGE
2	2390.000	13.977	21.154	35.131	-18.869	54.000	AVERAGE
3	* 2436.200	14.294	82.853	97.147	43.147	54.000	AVERAGE
4	2483.500	14.619	25.092	39.711	-14.289	54.000	AVERAGE
5	2491.900	14.676	27.664	42.341	-11.659	54.000	AVERAGE
6	2500.000	14.728	24.997	39.725	-14.275	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2437MHz

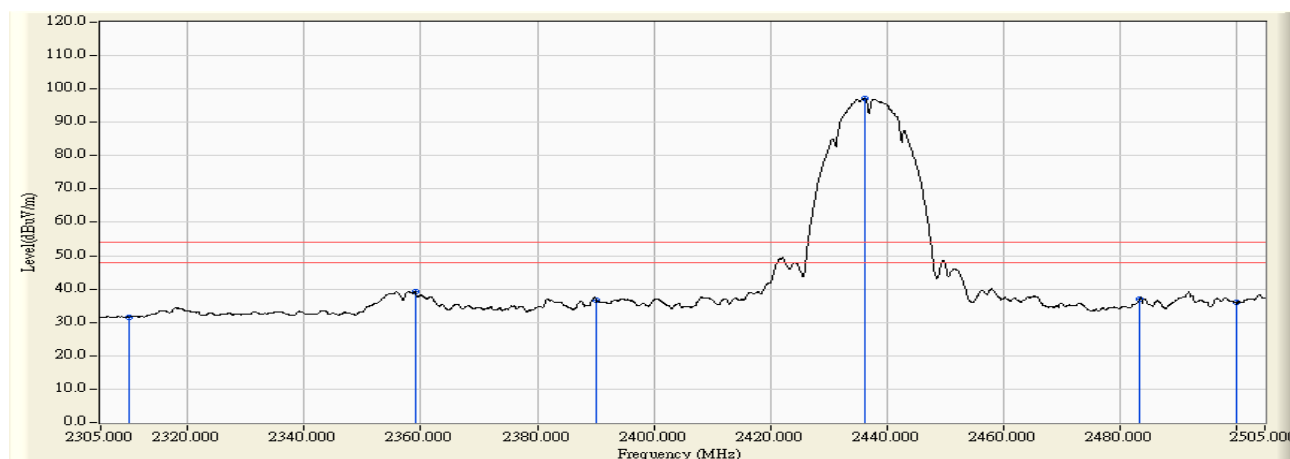


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	30.577	44.005	-29.995	74.000	PEAK
2	2389.800	13.976	36.459	50.435	-23.565	74.000	PEAK
3	2390.000	13.977	36.824	50.801	-23.199	74.000	PEAK
4	* 2437.000	14.300	86.281	100.581	26.581	74.000	PEAK
5	2483.500	14.619	32.919	47.538	-26.462	74.000	PEAK
6	2500.000	14.728	33.292	48.020	-25.980	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2437MHz

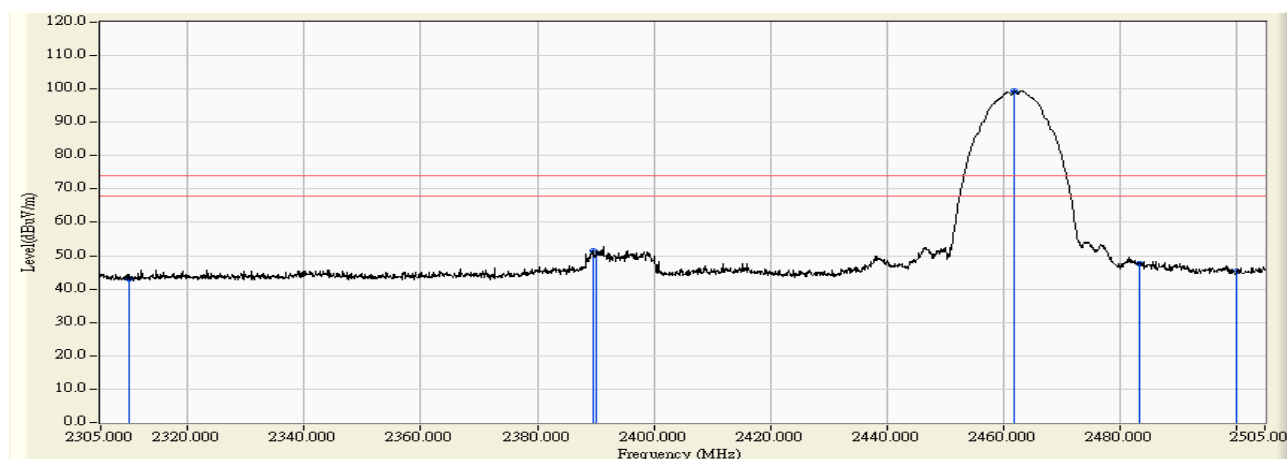


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	18.241	31.669	-22.331	54.000	AVERAGE
2	2359.000	13.764	25.406	39.170	-14.830	54.000	AVERAGE
3	2390.000	13.977	22.737	36.714	-17.286	54.000	AVERAGE
4	* 2436.200	14.294	83.007	97.301	43.301	54.000	AVERAGE
5	2483.500	14.619	22.396	37.015	-16.985	54.000	AVERAGE
6	2500.000	14.728	21.439	36.167	-17.833	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2462MHz

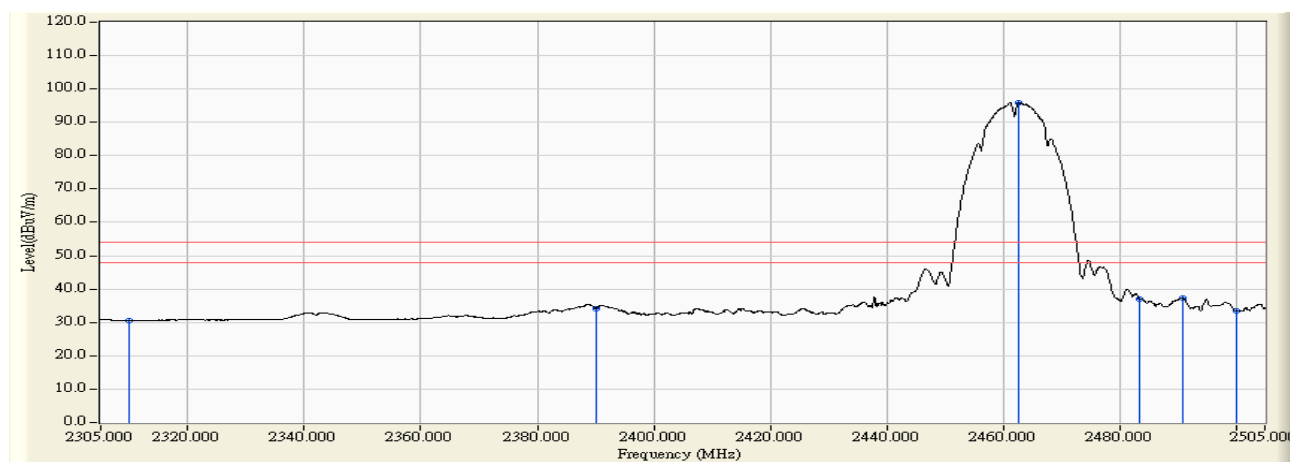


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	29.693	43.121	-30.879	74.000	PEAK
2	2389.500	13.973	37.578	51.552	-22.448	74.000	PEAK
3	2390.000	13.977	36.761	50.738	-23.262	74.000	PEAK
4	* 2462.000	14.472	84.935	99.406	25.406	74.000	PEAK
5	2483.500	14.619	33.001	47.620	-26.380	74.000	PEAK
6	2500.000	14.728	30.790	45.518	-28.482	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2462MHz

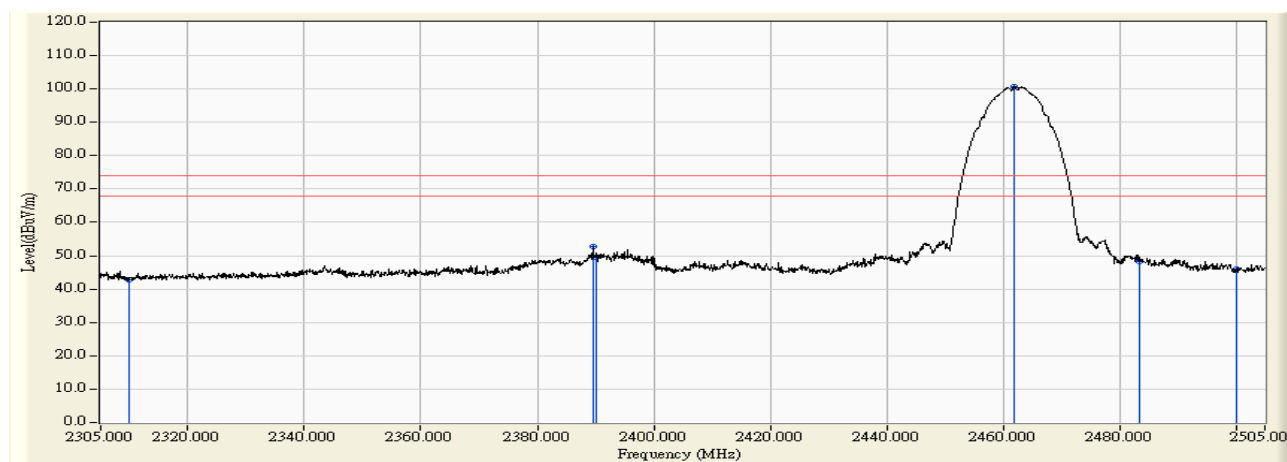


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	17.101	30.529	-23.471	54.000	AVERAGE
2	2390.000	13.977	20.056	34.033	-19.967	54.000	AVERAGE
3	* 2462.700	14.477	81.408	95.884	41.884	54.000	AVERAGE
4	2483.500	14.619	22.477	37.096	-16.904	54.000	AVERAGE
5	2490.800	14.669	22.601	37.270	-16.730	54.000	AVERAGE
6	2500.000	14.728	18.821	33.549	-20.451	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2462MHz

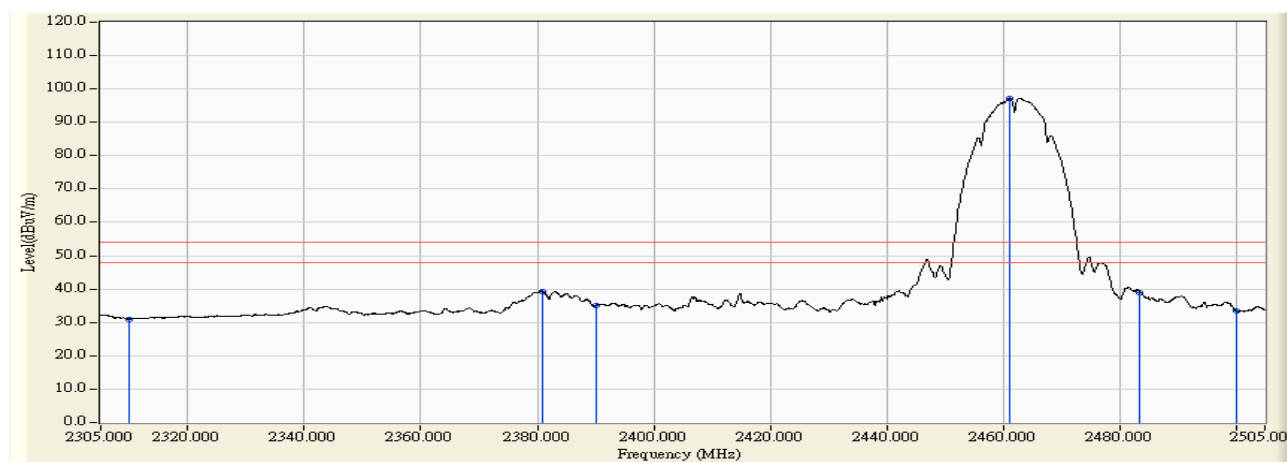


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	29.375	42.803	-31.197	74.000	PEAK
2	2389.500	13.973	38.763	52.737	-21.263	74.000	PEAK
3	2390.000	13.977	35.601	49.578	-24.422	74.000	PEAK
4	* 2462.000	14.472	86.181	100.652	26.652	74.000	PEAK
5	2483.500	14.619	33.600	48.219	-25.781	74.000	PEAK
6	2500.000	14.728	31.151	45.879	-28.121	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11b_2462MHz

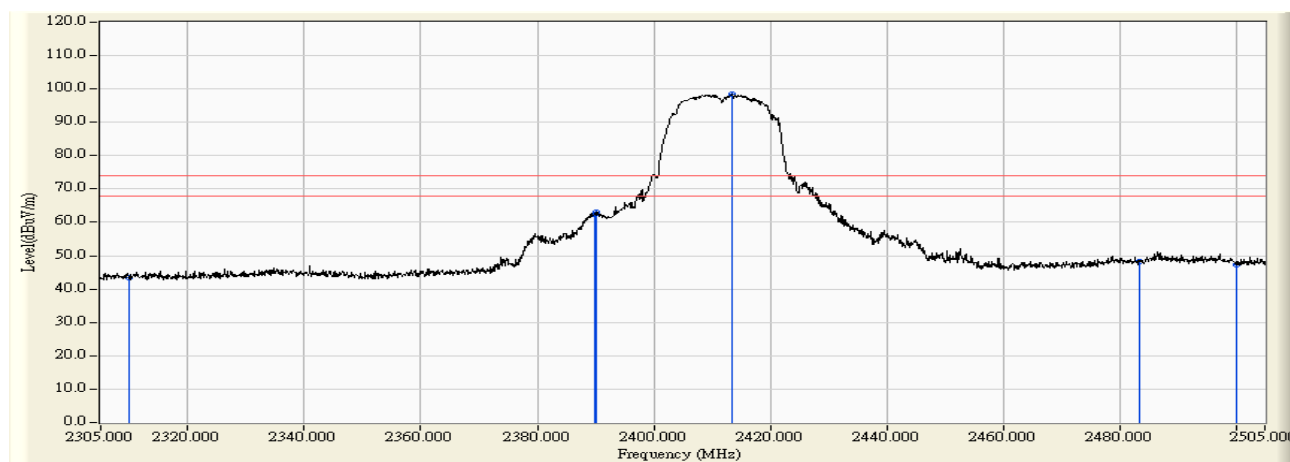


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	17.591	31.019	-22.981	54.000	AVERAGE
2	2380.800	13.914	25.494	39.408	-14.592	54.000	AVERAGE
3	2390.000	13.977	20.935	34.912	-19.088	54.000	AVERAGE
4	* 2461.200	14.465	82.803	97.269	43.269	54.000	AVERAGE
5	2483.500	14.619	24.460	39.079	-14.921	54.000	AVERAGE
6	2500.000	14.728	18.656	33.384	-20.616	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2412MHz

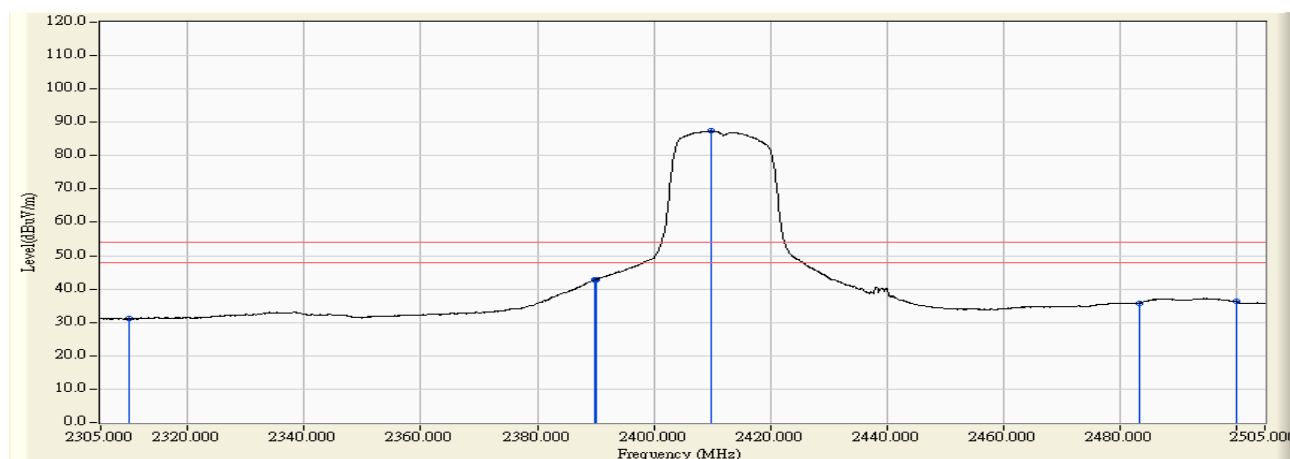


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	29.970	43.398	-30.602	74.000	PEAK
2	2389.800	13.976	48.584	62.560	-11.440	74.000	PEAK
3	2390.000	13.977	49.201	63.178	-10.822	74.000	PEAK
4	* 2413.500	14.139	84.182	98.320	24.320	74.000	PEAK
5	2483.500	14.619	33.690	48.309	-25.691	74.000	PEAK
6	2500.000	14.728	32.595	47.323	-26.677	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2412MHz

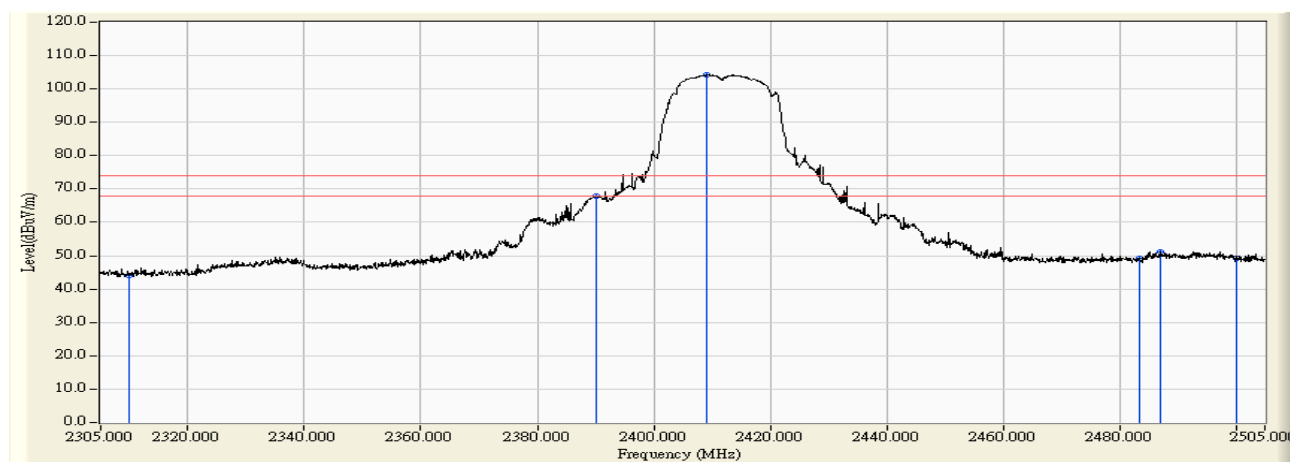


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	17.668	31.096	-22.904	54.000	AVERAGE
2	2389.800	13.976	28.688	42.664	-11.336	54.000	AVERAGE
3	2390.000	13.977	28.815	42.792	-11.208	54.000	AVERAGE
4	* 2409.900	14.114	73.242	87.356	33.356	54.000	AVERAGE
5	2483.500	14.619	21.184	35.803	-18.197	54.000	AVERAGE
6	2500.000	14.728	21.468	36.196	-17.804	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2412MHz

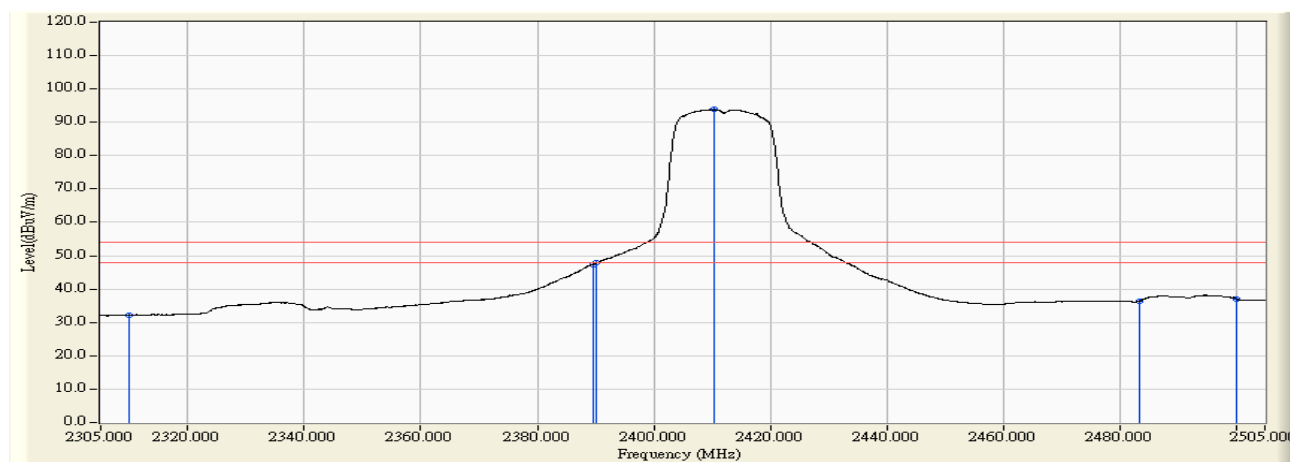


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	30.549	43.977	-30.023	74.000	PEAK
2	2390.000	13.977	54.027	68.004	-5.996	74.000	PEAK
3	* 2409.200	14.109	90.103	104.212	30.212	74.000	PEAK
4	2483.500	14.619	34.610	49.229	-24.771	74.000	PEAK
5	2487.100	14.644	36.431	51.075	-22.925	74.000	PEAK
6	2500.000	14.728	34.585	49.313	-24.687	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2412MHz

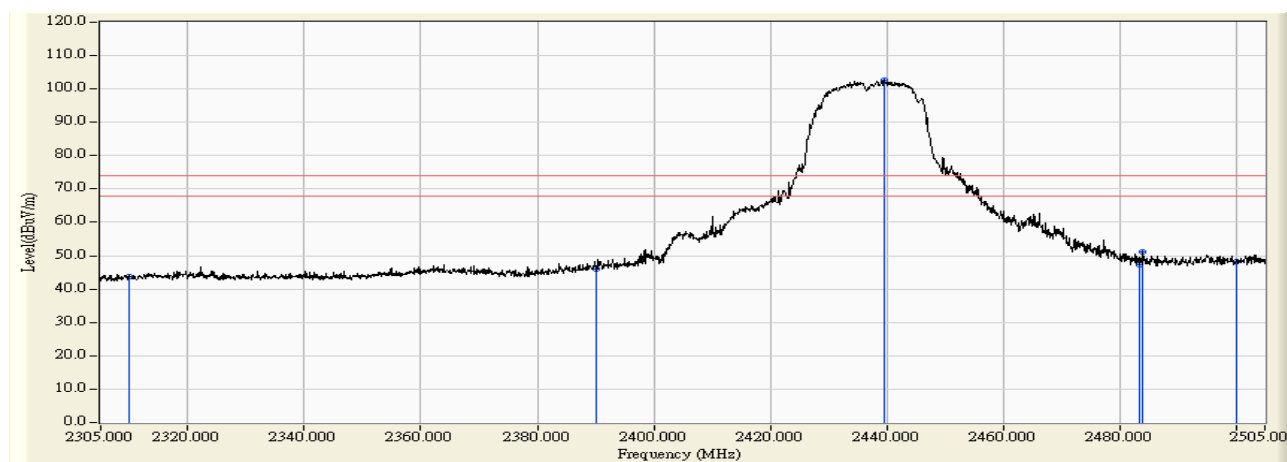


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	18.797	32.225	-21.775	54.000	AVERAGE
2	2389.500	13.973	33.367	47.341	-6.659	54.000	AVERAGE
3	2390.000	13.977	33.869	47.846	-6.154	54.000	AVERAGE
4	* 2410.500	14.118	79.674	93.792	39.792	54.000	AVERAGE
5	2483.500	14.619	21.744	36.363	-17.637	54.000	AVERAGE
6	2500.000	14.728	22.390	37.118	-16.882	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2437MHz

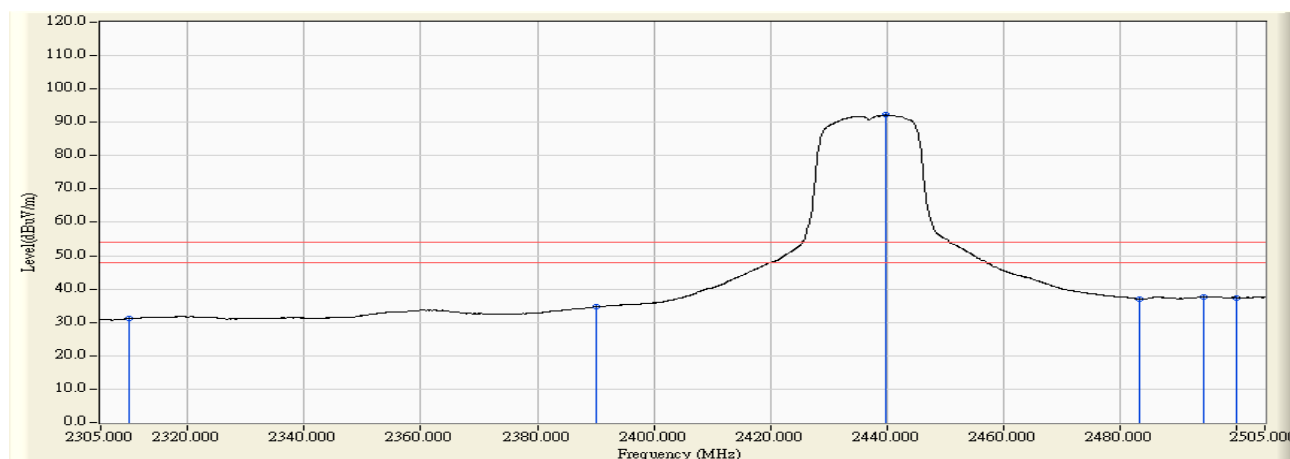


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	30.253	43.681	-30.319	74.000	PEAK
2	2390.000	13.977	31.991	45.968	-28.032	74.000	PEAK
3	* 2439.700	14.318	88.163	102.481	28.481	74.000	PEAK
4	2483.500	14.619	32.681	47.300	-26.700	74.000	PEAK
5	2484.100	14.623	36.600	51.223	-22.777	74.000	PEAK
6	2500.000	14.728	33.508	48.236	-25.764	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2437MHz

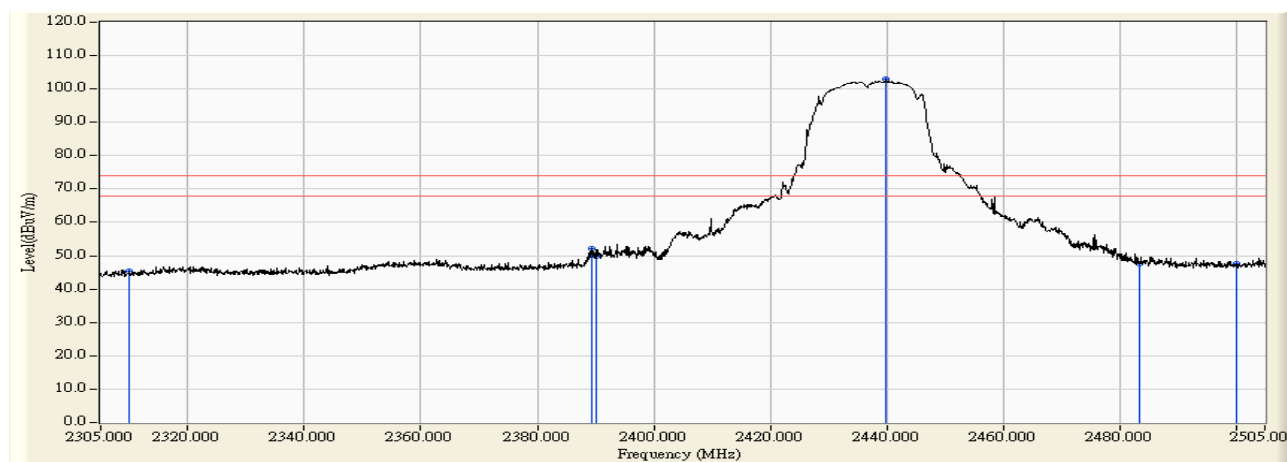


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	17.784	31.212	-22.788	54.000	AVERAGE
2	2390.000	13.977	20.719	34.696	-19.304	54.000	AVERAGE
3	* 2439.900	14.320	77.860	92.180	38.180	54.000	AVERAGE
4	2483.500	14.619	22.440	37.059	-16.941	54.000	AVERAGE
5	2494.400	14.694	22.941	37.635	-16.365	54.000	AVERAGE
6	2500.000	14.728	22.729	37.457	-16.543	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2437MHz

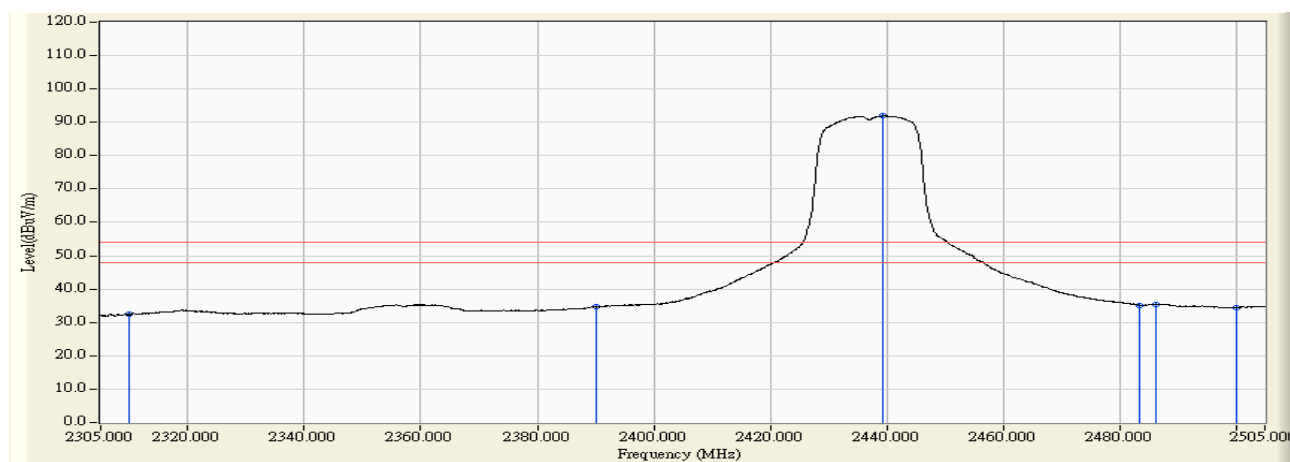


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	31.862	45.290	-28.710	74.000	PEAK
2	2389.400	13.973	37.985	51.958	-22.042	74.000	PEAK
3	2390.000	13.977	35.784	49.761	-24.239	74.000	PEAK
4	* 2439.800	14.319	88.690	103.009	29.009	74.000	PEAK
5	2483.500	14.619	33.073	47.692	-26.308	74.000	PEAK
6	2500.000	14.728	32.753	47.481	-26.519	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2437MHz

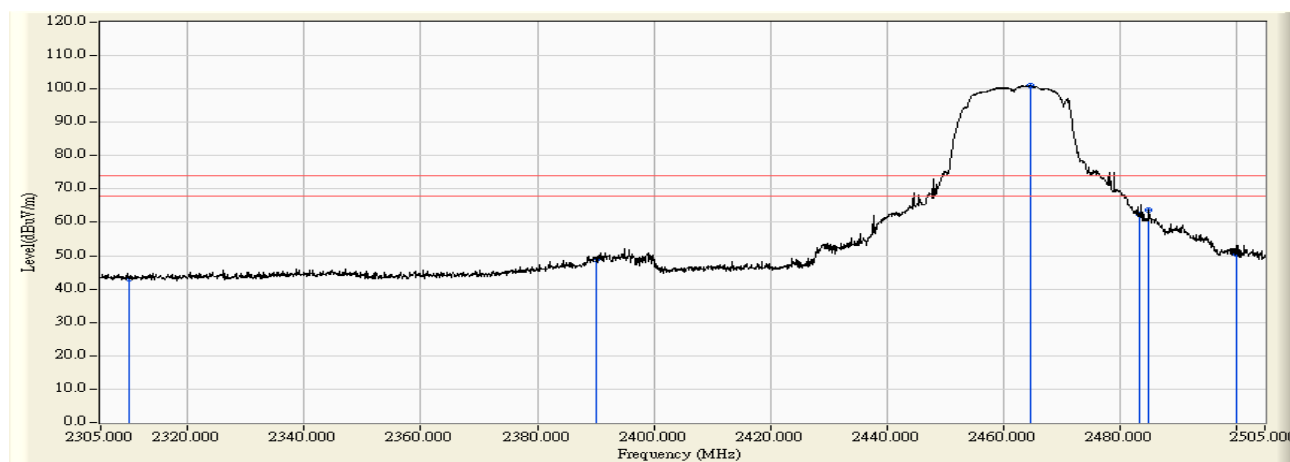


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.428	18.946	32.374	-21.626	54.000	AVERAGE
2		2390.000	13.977	20.628	34.605	-19.395	54.000	AVERAGE
3	*	2439.400	14.316	77.664	91.980	37.980	54.000	AVERAGE
4		2483.500	14.619	20.534	35.153	-18.847	54.000	AVERAGE
5		2486.200	14.637	20.909	35.546	-18.454	54.000	AVERAGE
6		2500.000	14.728	19.729	34.457	-19.543	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2462MHz

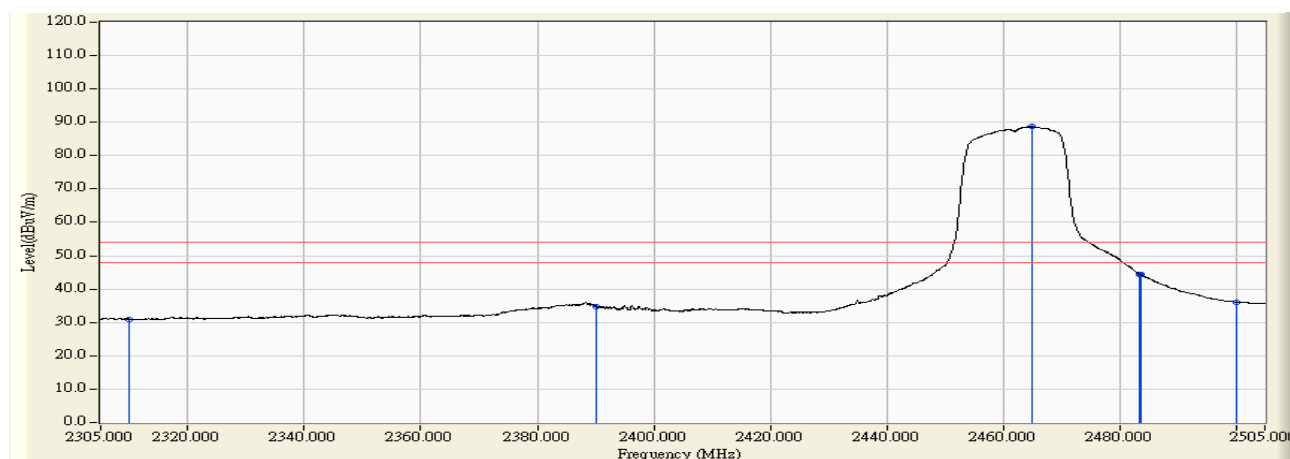


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	29.679	43.107	-30.893	74.000	PEAK
2	2390.000	13.977	34.823	48.800	-25.200	74.000	PEAK
3	* 2464.800	14.491	86.565	101.056	27.056	74.000	PEAK
4	2483.500	14.619	47.689	62.308	-11.692	74.000	PEAK
5	2485.100	14.629	49.015	63.645	-10.355	74.000	PEAK
6	2500.000	14.728	35.819	50.547	-23.453	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2462MHz

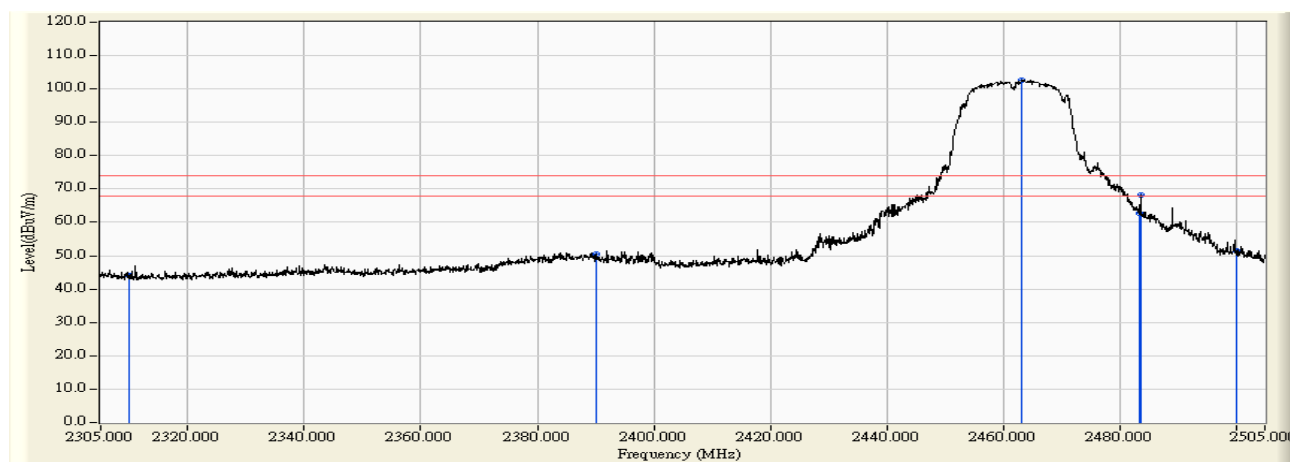


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.428	17.533	30.961	-23.039	54.000	AVERAGE
2		2390.000	13.977	20.914	34.891	-19.109	54.000	AVERAGE
3	*	2464.900	14.492	74.276	88.767	34.767	54.000	AVERAGE
4		2483.500	14.619	29.755	44.374	-9.626	54.000	AVERAGE
5		2483.600	14.619	29.664	44.284	-9.716	54.000	AVERAGE
6		2500.000	14.728	21.414	36.142	-17.858	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2462MHz

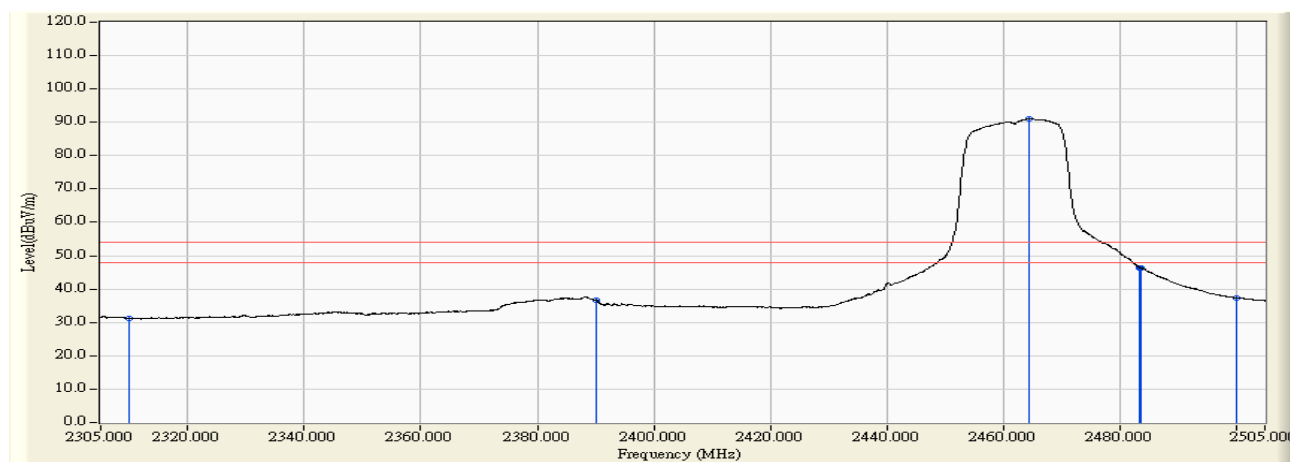


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.428	30.527	43.955	-30.045	74.000	PEAK
2		2390.000	13.977	36.639	50.616	-23.384	74.000	PEAK
3	*	2463.300	14.480	88.109	102.589	28.589	74.000	PEAK
4		2483.500	14.619	47.992	62.611	-11.389	74.000	PEAK
5		2483.600	14.619	53.696	68.316	-5.684	74.000	PEAK
6		2500.000	14.728	36.644	51.372	-22.628	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11g_2462MHz

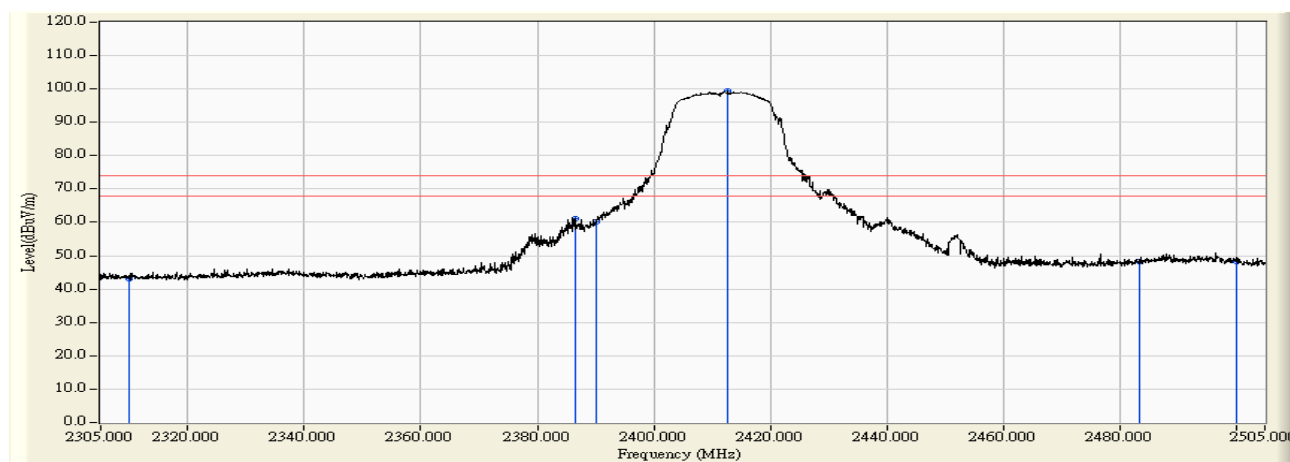


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	17.726	31.154	-22.846	54.000	AVERAGE
2	2390.000	13.977	22.741	36.718	-17.282	54.000	AVERAGE
3	* 2464.400	14.488	76.516	91.004	37.004	54.000	AVERAGE
4	2483.500	14.619	31.817	46.436	-7.564	54.000	AVERAGE
5	2483.600	14.619	31.744	46.364	-7.636	54.000	AVERAGE
6	2500.000	14.728	22.705	37.433	-16.567	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2412MHz

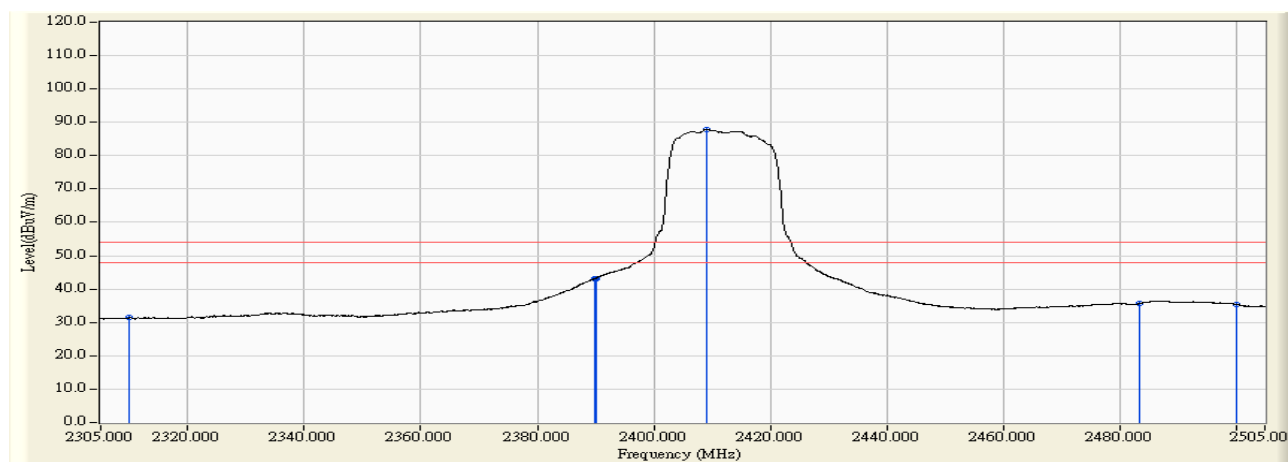


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	29.660	43.088	-30.912	74.000	PEAK
2	2386.500	13.953	47.311	61.264	-12.736	74.000	PEAK
3	2390.000	13.977	46.147	60.124	-13.876	74.000	PEAK
4	* 2412.700	14.133	85.278	99.411	25.411	74.000	PEAK
5	2483.500	14.619	33.752	48.371	-25.629	74.000	PEAK
6	2500.000	14.728	33.632	48.360	-25.640	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2412MHz

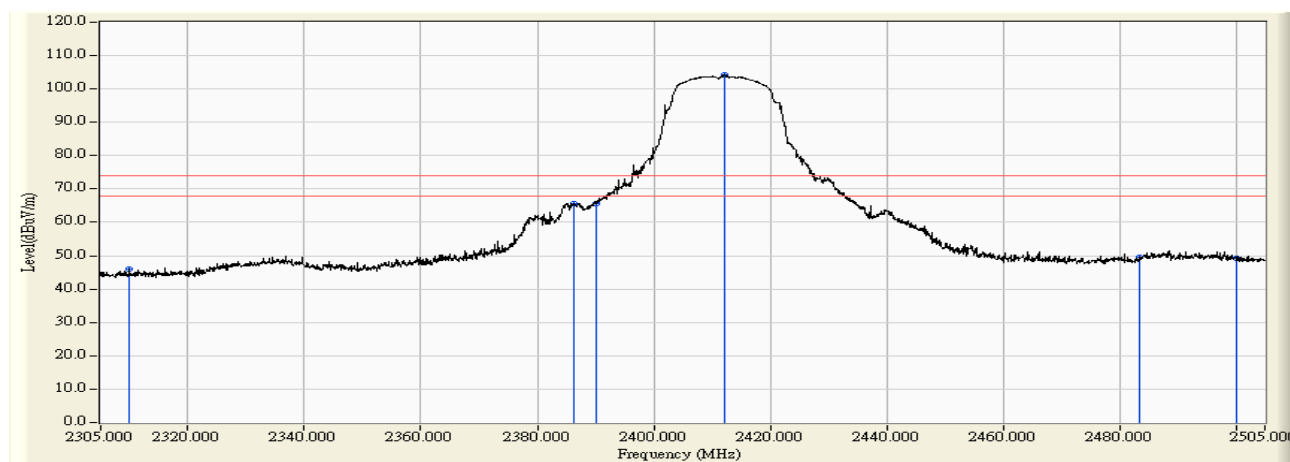


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	18.002	31.430	-22.570	54.000	AVERAGE
2	2389.900	13.977	29.278	43.254	-10.746	54.000	AVERAGE
3	2390.000	13.977	29.289	43.266	-10.734	54.000	AVERAGE
4	* 2409.200	14.109	73.704	87.813	33.813	54.000	AVERAGE
5	2483.500	14.619	21.169	35.788	-18.212	54.000	AVERAGE
6	2500.000	14.728	20.728	35.456	-18.544	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2412MHz

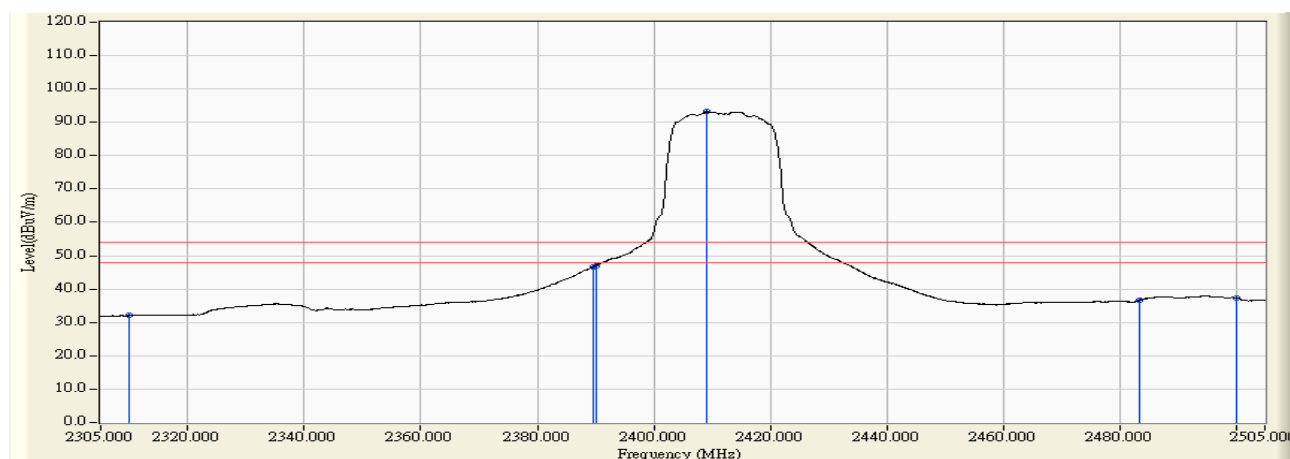


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	32.522	45.950	-28.050	74.000	PEAK
2	2386.300	13.952	51.814	65.766	-8.234	74.000	PEAK
3	2390.000	13.977	51.784	65.761	-8.239	74.000	PEAK
4	* 2412.100	14.130	90.262	104.391	30.391	74.000	PEAK
5	2483.500	14.619	34.883	49.502	-24.498	74.000	PEAK
6	2500.000	14.728	34.628	49.356	-24.644	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2412MHz

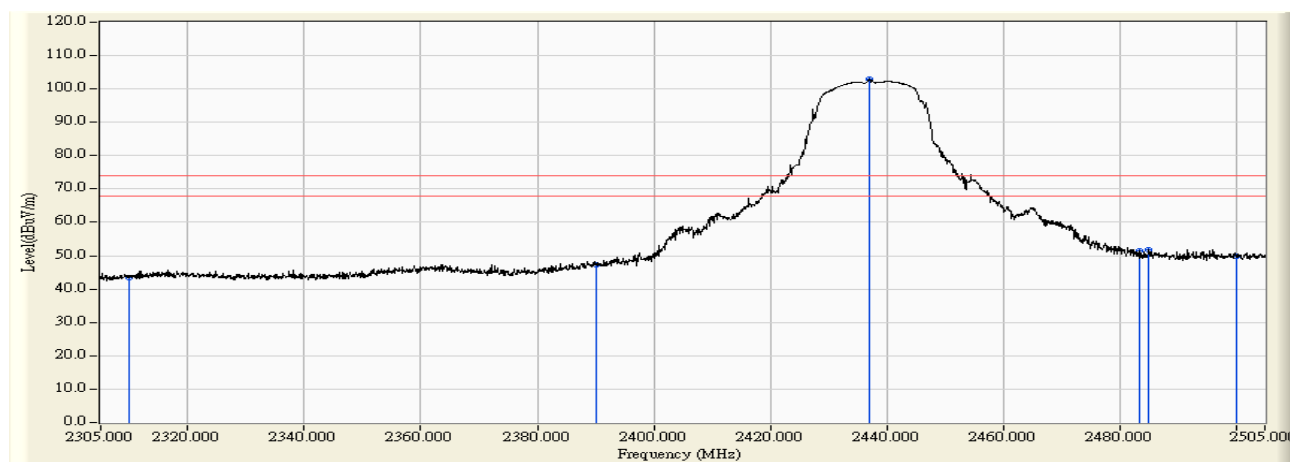


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	18.600	32.028	-21.972	54.000	AVERAGE
2	2389.500	13.973	32.657	46.631	-7.369	54.000	AVERAGE
3	2390.000	13.977	33.107	47.084	-6.916	54.000	AVERAGE
4	* 2409.200	14.109	79.031	93.140	39.140	54.000	AVERAGE
5	2483.500	14.619	22.080	36.699	-17.301	54.000	AVERAGE
6	2500.000	14.728	22.695	37.423	-16.577	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2437MHz

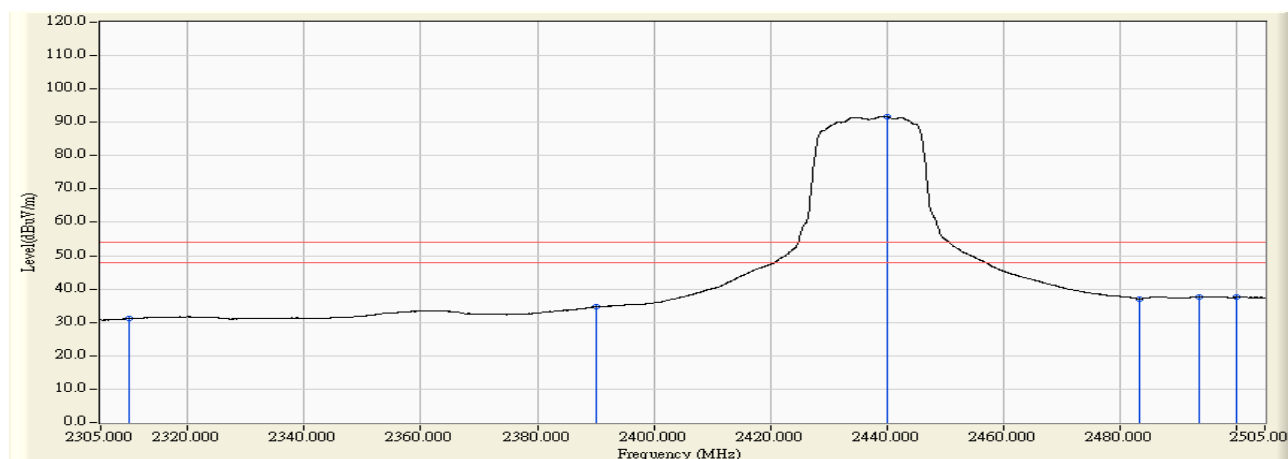


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	30.001	43.429	-30.571	74.000	PEAK
2	2390.000	13.977	33.356	47.333	-26.667	74.000	PEAK
3	* 2437.100	14.301	88.596	102.896	28.896	74.000	PEAK
4	2483.500	14.619	36.729	51.348	-22.652	74.000	PEAK
5	2485.100	14.629	37.304	51.934	-22.066	74.000	PEAK
6	2500.000	14.728	35.294	50.022	-23.978	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2437MHz

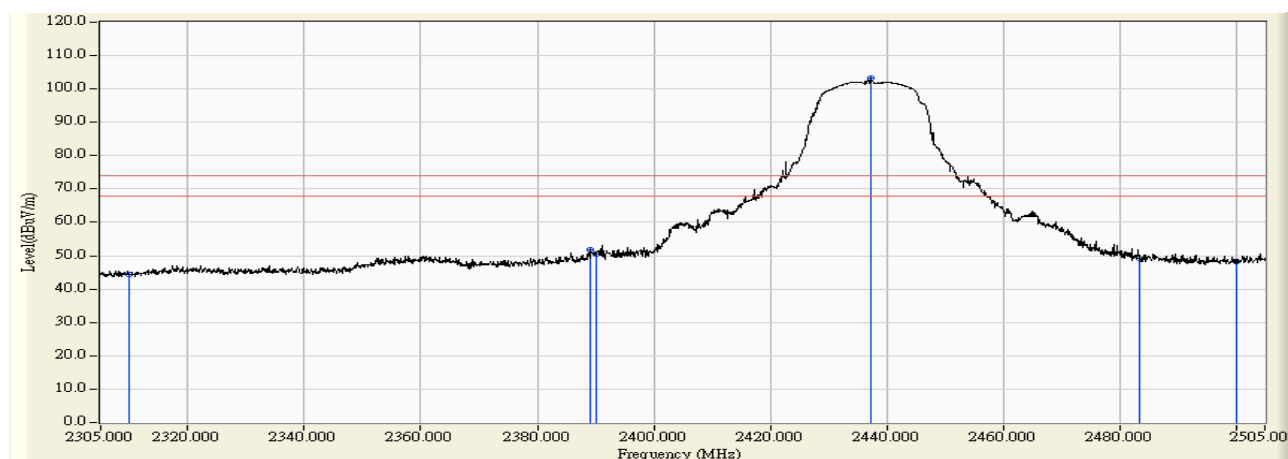


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.428	17.790	31.218	-22.782	54.000	AVERAGE
2		2390.000	13.977	20.638	34.615	-19.385	54.000	AVERAGE
3	*	2440.000	14.320	77.506	91.826	37.826	54.000	AVERAGE
4		2483.500	14.619	22.489	37.108	-16.892	54.000	AVERAGE
5		2493.800	14.690	23.069	37.759	-16.241	54.000	AVERAGE
6		2500.000	14.728	22.757	37.485	-16.515	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2437MHz

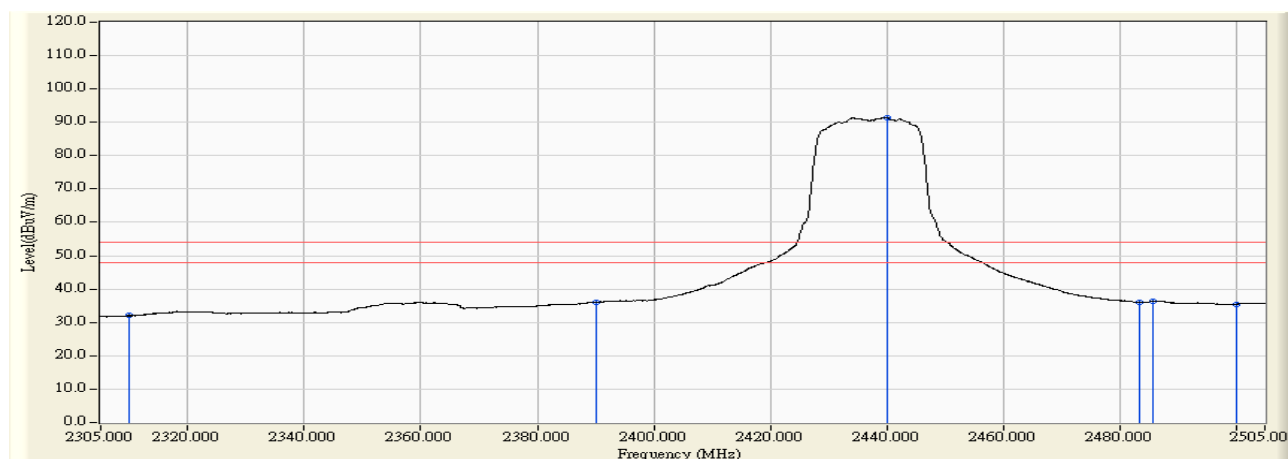


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	30.958	44.386	-29.614	74.000	PEAK
2	2389.200	13.972	37.703	51.675	-22.325	74.000	PEAK
3	2390.000	13.977	36.517	50.494	-23.506	74.000	PEAK
4	* 2437.200	14.301	88.819	103.120	29.120	74.000	PEAK
5	2483.500	14.619	34.502	49.121	-24.879	74.000	PEAK
6	2500.000	14.728	33.476	48.204	-25.796	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2437MHz

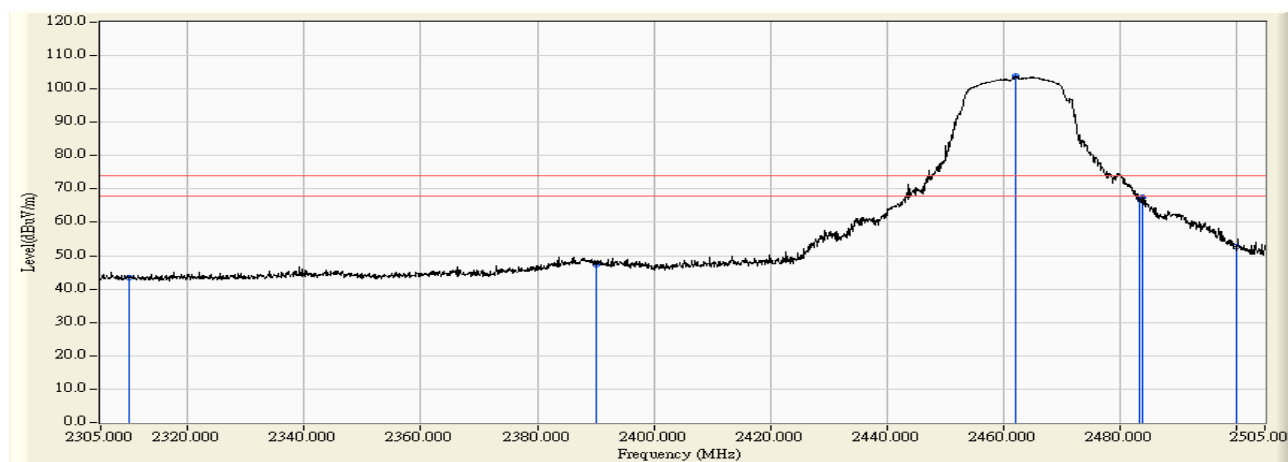


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.428	18.615	32.043	-21.957	54.000	AVERAGE
2		2390.000	13.977	22.049	36.026	-17.974	54.000	AVERAGE
3	*	2440.000	14.320	77.151	91.471	37.471	54.000	AVERAGE
4		2483.500	14.619	21.344	35.963	-18.037	54.000	AVERAGE
5		2485.700	14.634	21.645	36.279	-17.721	54.000	AVERAGE
6		2500.000	14.728	20.742	35.470	-18.530	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2462MHz

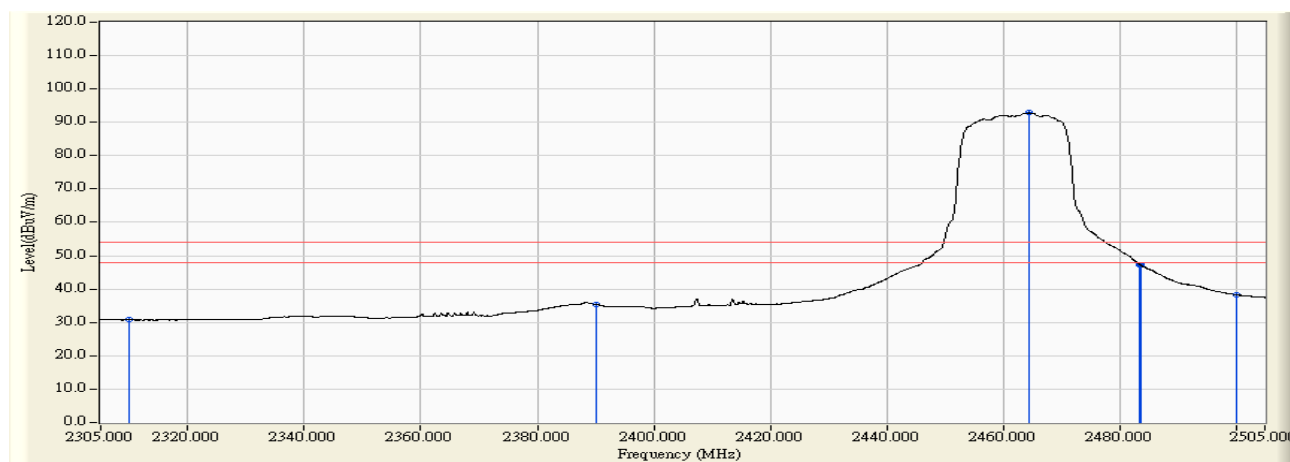


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	29.856	43.284	-30.716	74.000	PEAK
2	2390.000	13.977	33.292	47.269	-26.731	74.000	PEAK
3	* 2462.100	14.473	89.527	103.999	29.999	74.000	PEAK
4	2483.500	14.619	52.682	67.301	-6.699	74.000	PEAK
5	2484.000	14.622	52.889	67.511	-6.489	74.000	PEAK
6	2500.000	14.728	37.873	52.601	-21.399	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2462MHz

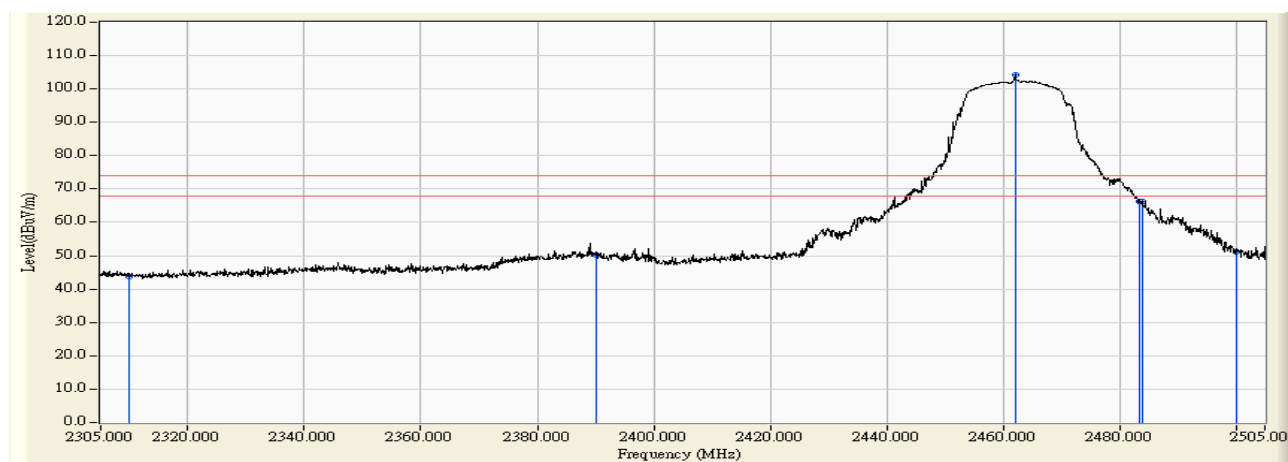


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	13.428	17.376	30.804	-23.196	54.000	AVERAGE
2	2390.000	13.977	21.422	35.399	-18.601	54.000	AVERAGE
3	* 2464.600	14.489	78.339	92.828	38.828	54.000	AVERAGE
4	2483.500	14.619	32.763	47.382	-6.618	54.000	AVERAGE
5	2483.600	14.619	32.654	47.274	-6.726	54.000	AVERAGE
6	2500.000	14.728	23.568	38.296	-15.704	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	Note : 802.11n(20M)_2462MHz

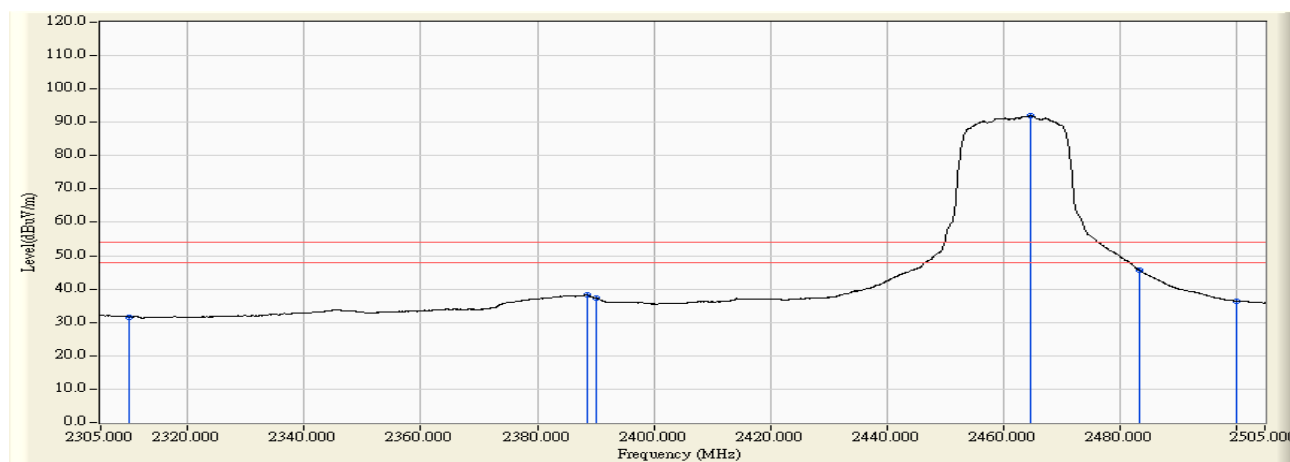


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.428	30.371	43.799	-30.201	74.000	PEAK
2		2390.000	13.977	36.242	50.219	-23.781	74.000	PEAK
3	*	2462.100	14.473	89.700	104.172	30.172	74.000	PEAK
4		2483.500	14.619	51.556	66.175	-7.825	74.000	PEAK
5		2483.900	14.622	51.499	66.121	-7.879	74.000	PEAK
6		2500.000	14.728	36.450	51.178	-22.822	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 : 2017/09/21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	Power : DC 12V
EUT : Multimedia System	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	13.428	18.248	31.676	-22.324	54.000	AVERAGE
2		2388.500	13.967	24.314	38.281	-15.719	54.000	AVERAGE
3		2390.000	13.977	23.326	37.303	-16.697	54.000	AVERAGE
4	*	2464.800	14.491	77.402	91.893	37.893	54.000	AVERAGE
5		2483.500	14.619	30.925	45.544	-8.456	54.000	AVERAGE
6		2500.000	14.728	21.648	36.376	-17.624	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

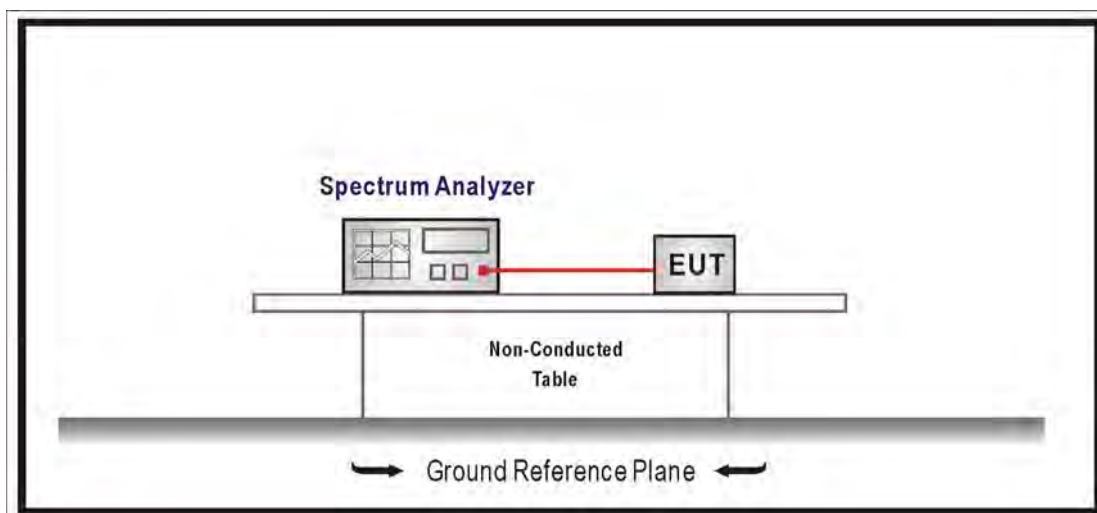
The following test equipments are used during the test:

DTS Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/07/26	2018/07/25

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 D01 V04 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 $\pm 150\text{Hz}$

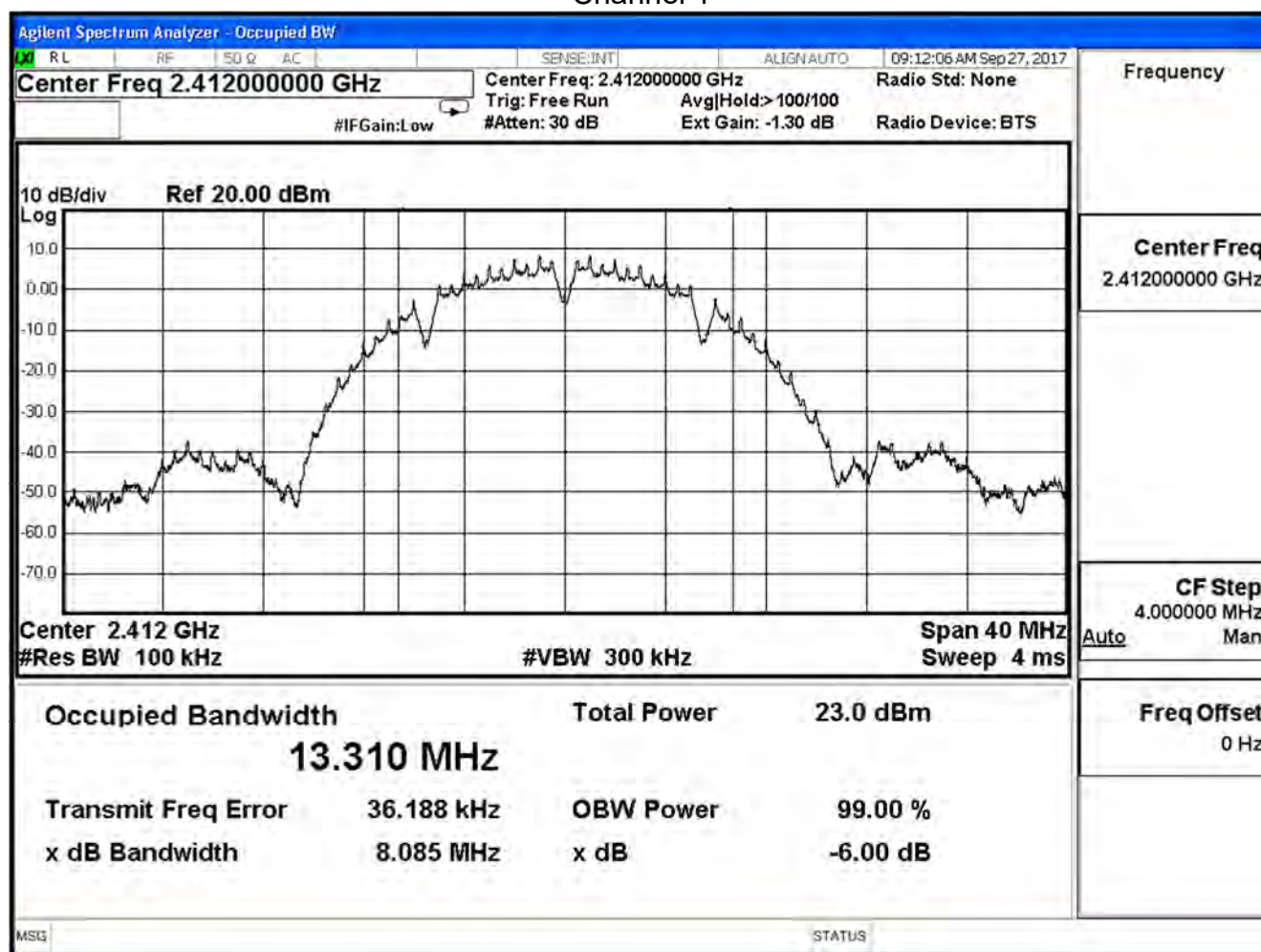
7.7. Test Result

Product	Multimedia System		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

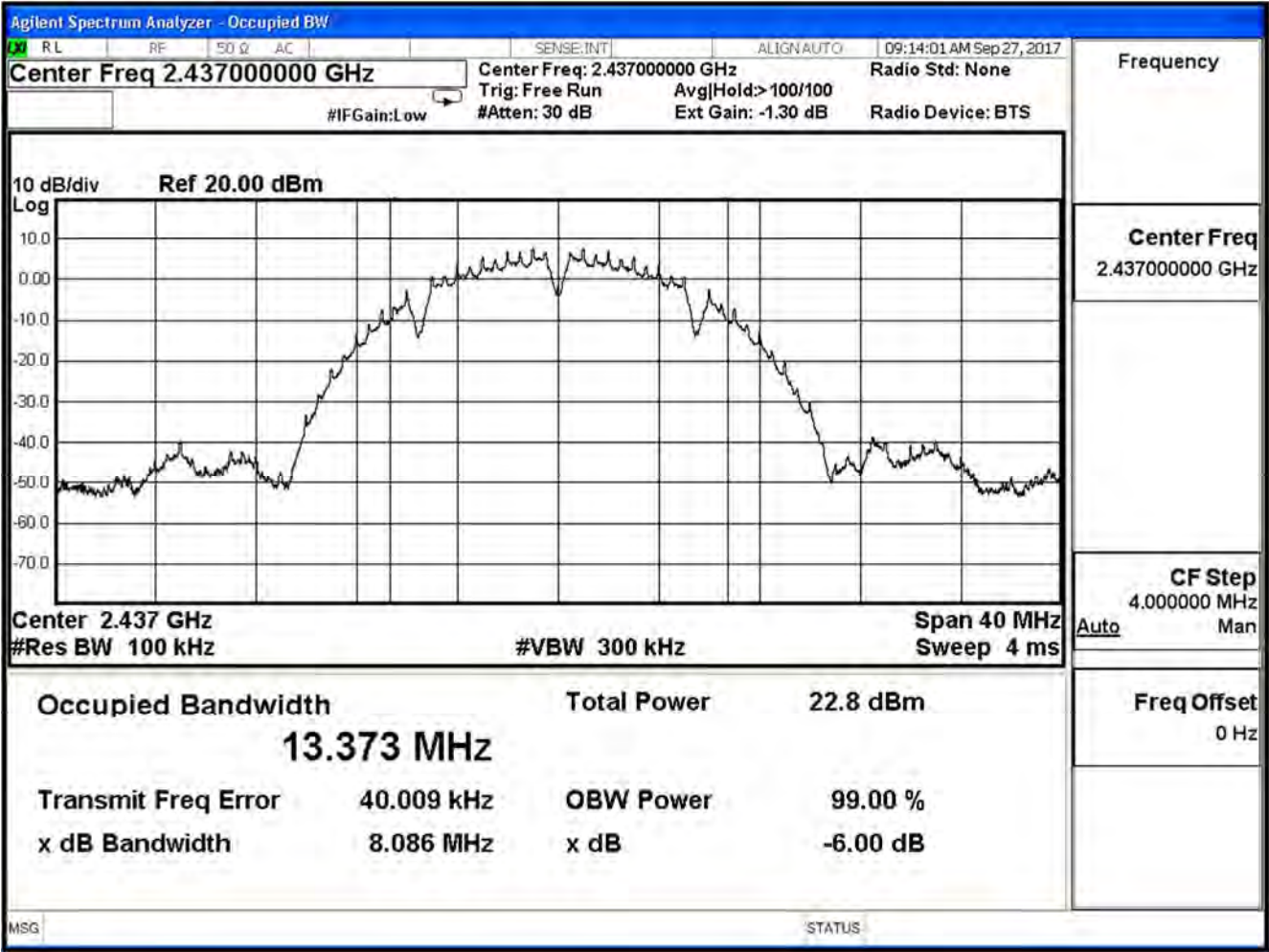
802.11 b (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
1	2412	8.085	≥ 0.5	Pass
6	2437	8.086	≥ 0.5	Pass
11	2462	8.087	≥ 0.5	Pass

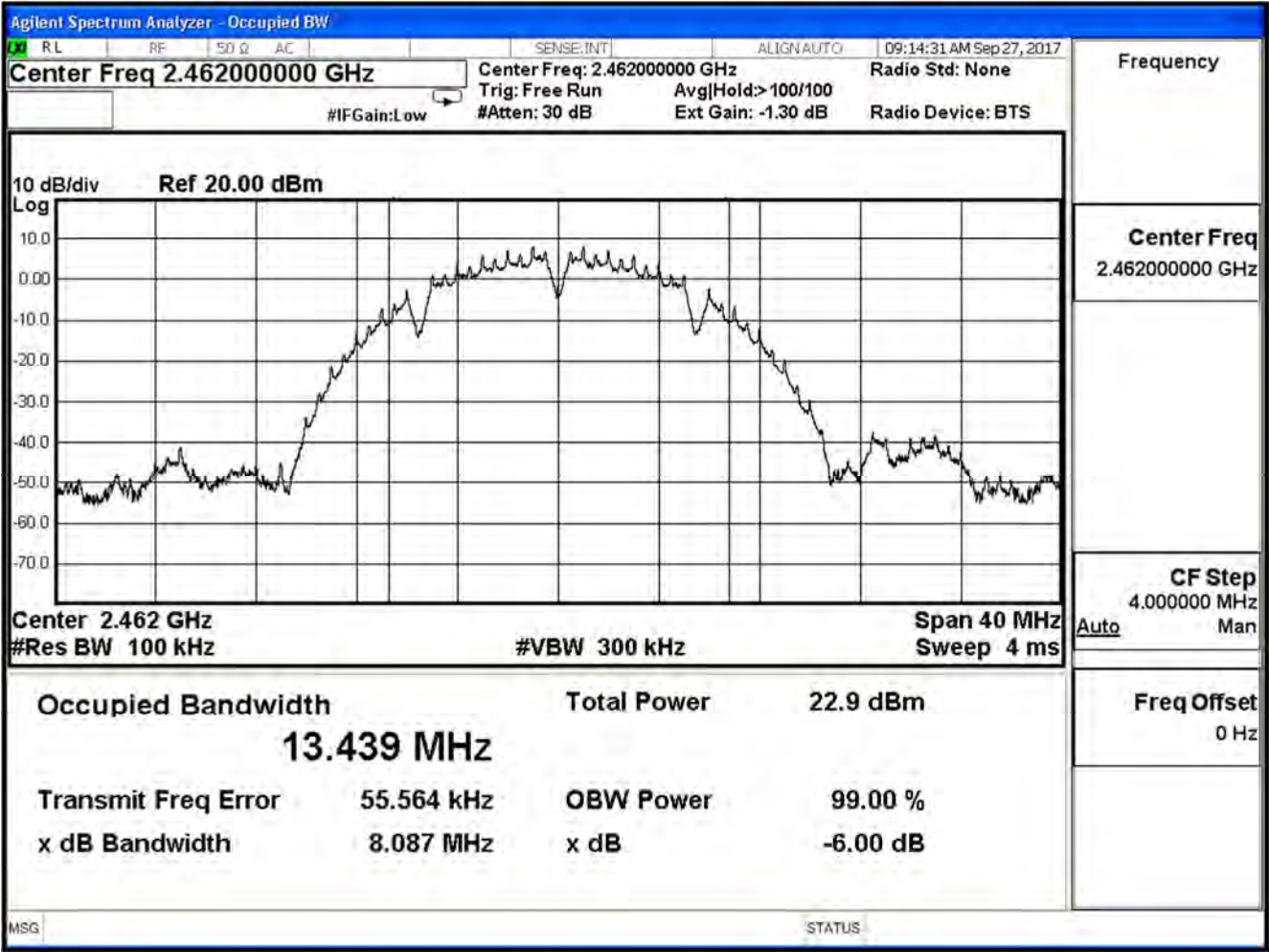
Channel 1



Channel 6



Channel 11

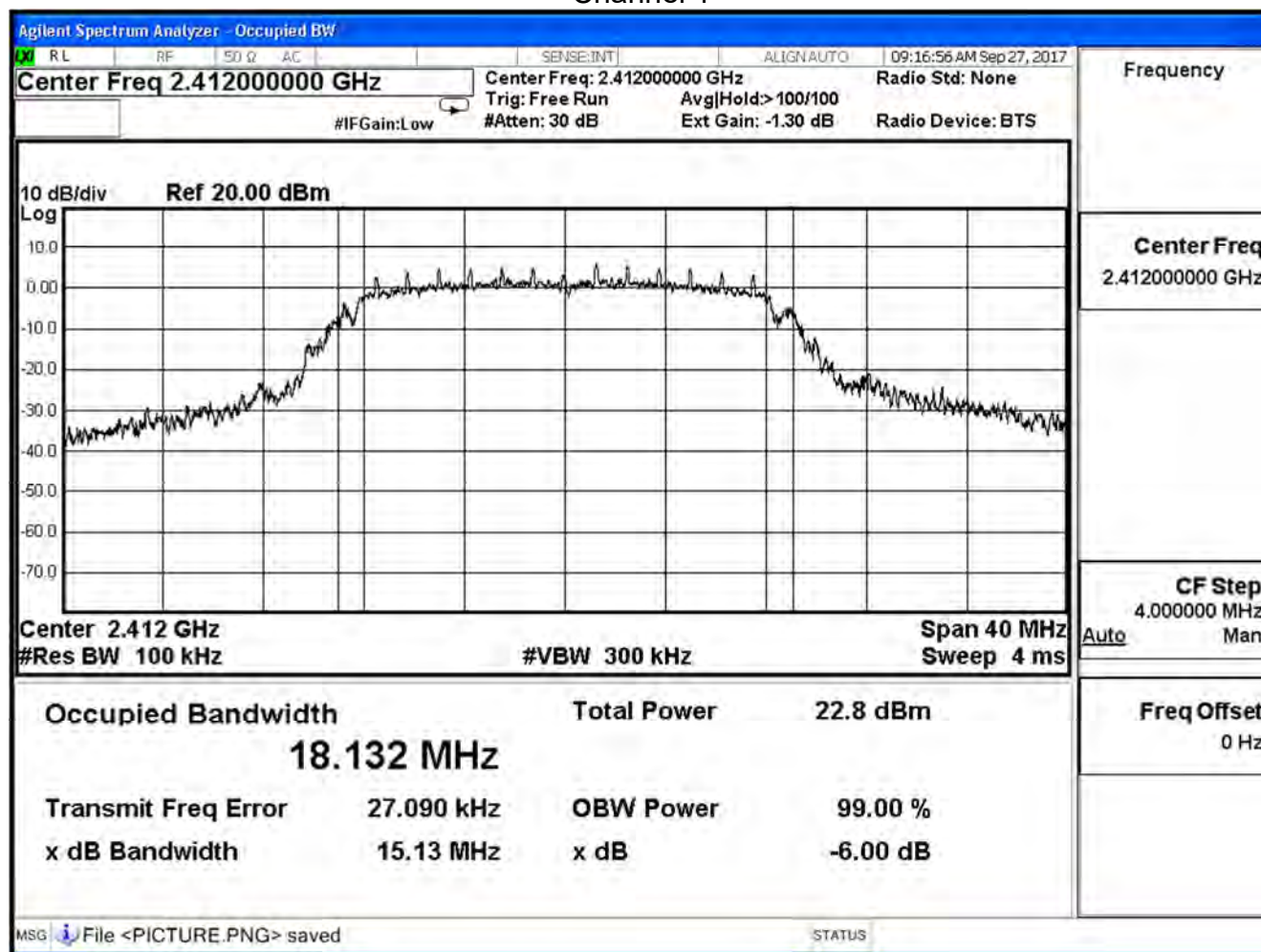


Product	Multimedia System		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

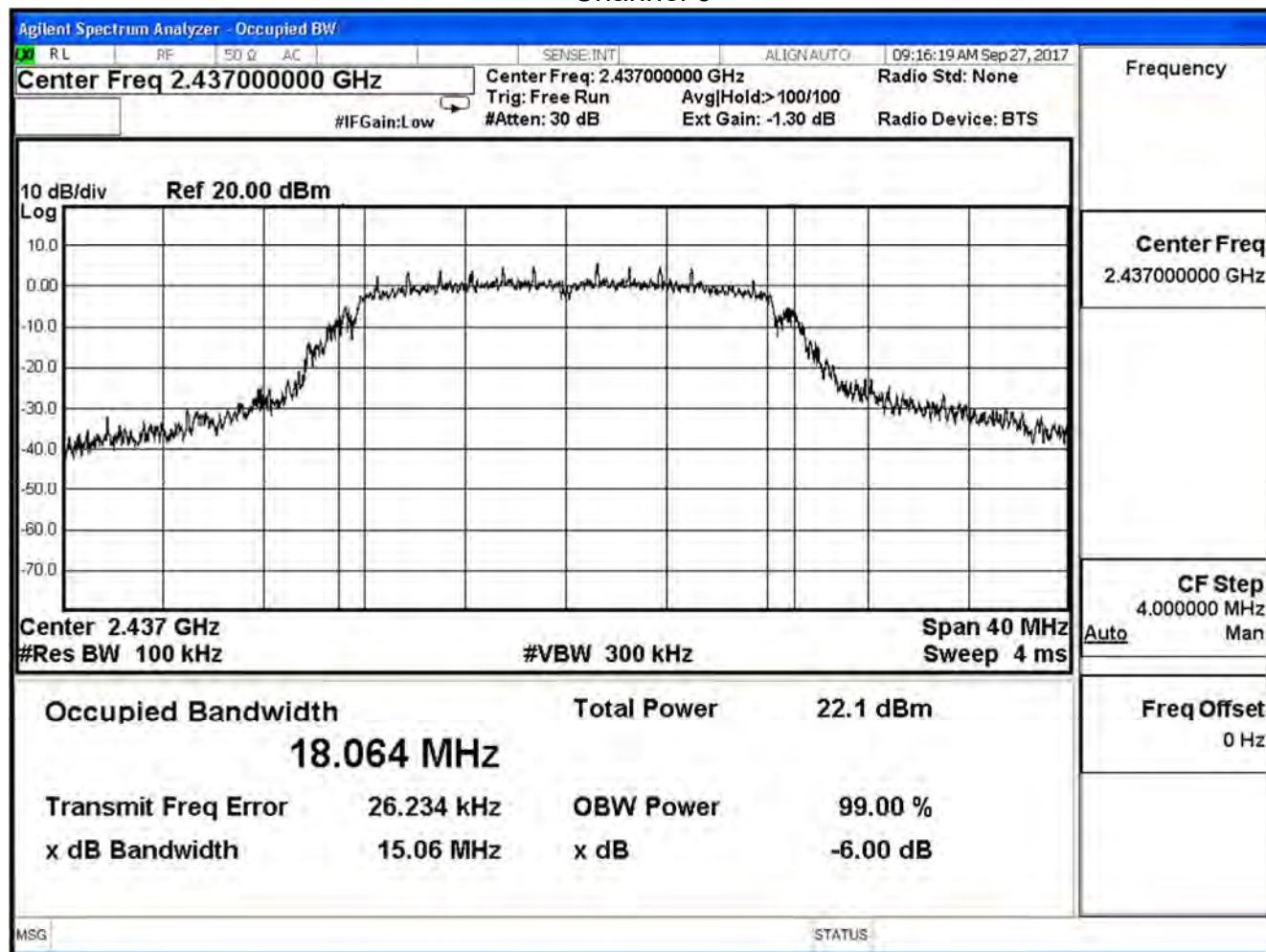
802.11 g (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
1	2412	15.130	≥ 0.5	Pass
6	2437	15.060	≥ 0.5	Pass
11	2462	15.130	≥ 0.5	Pass

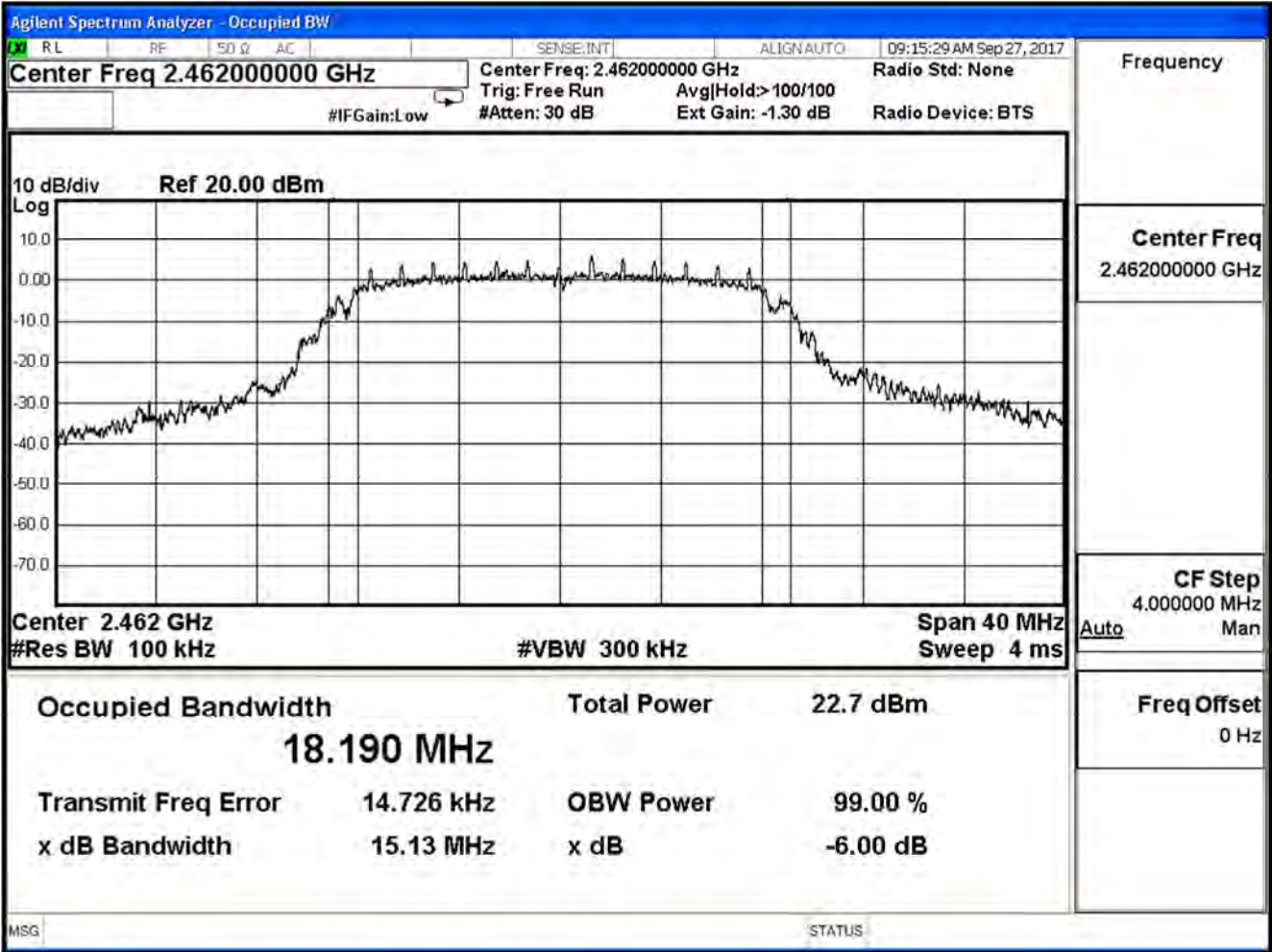
Channel 1



Channel 6



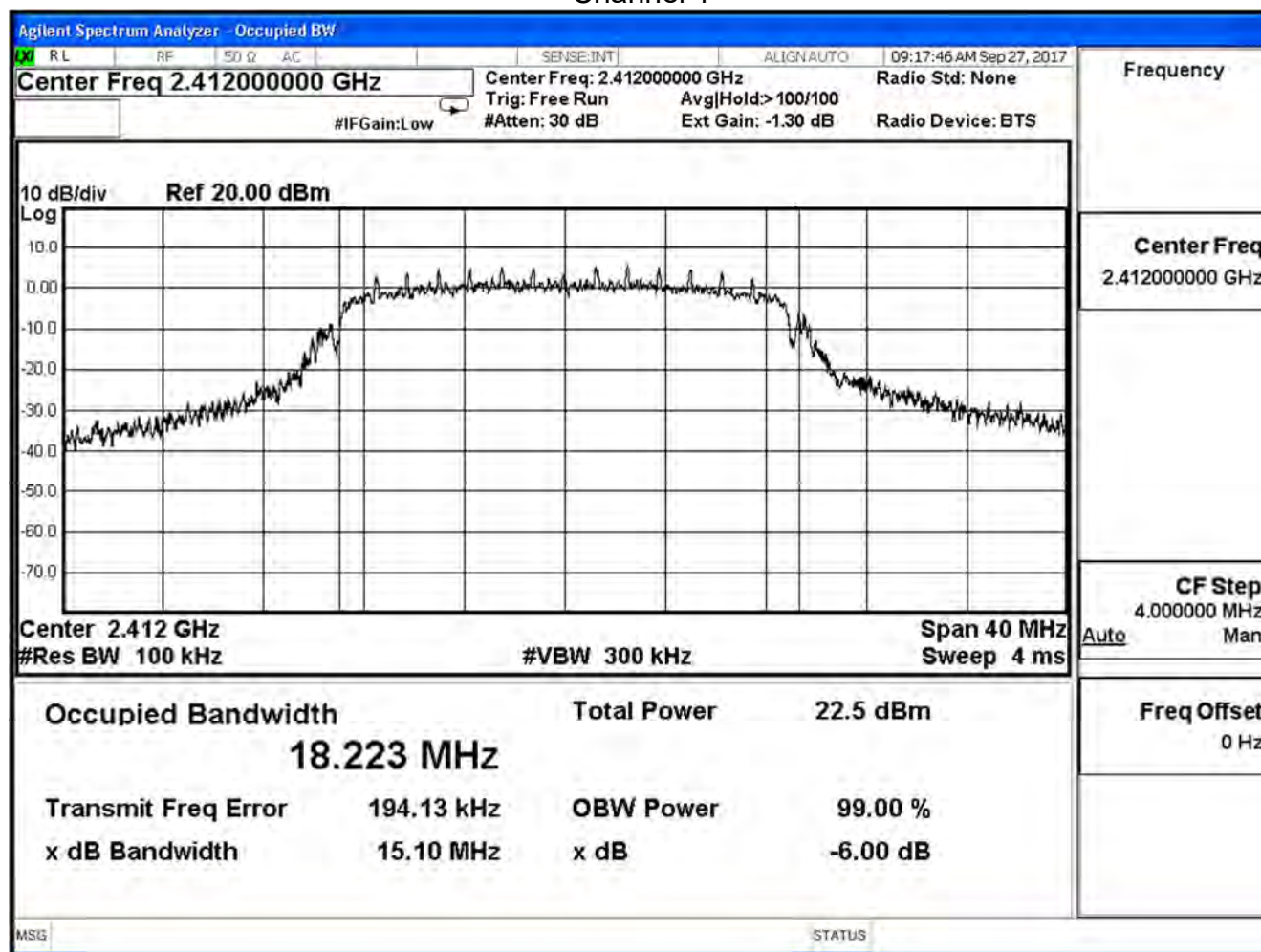
Channel 11



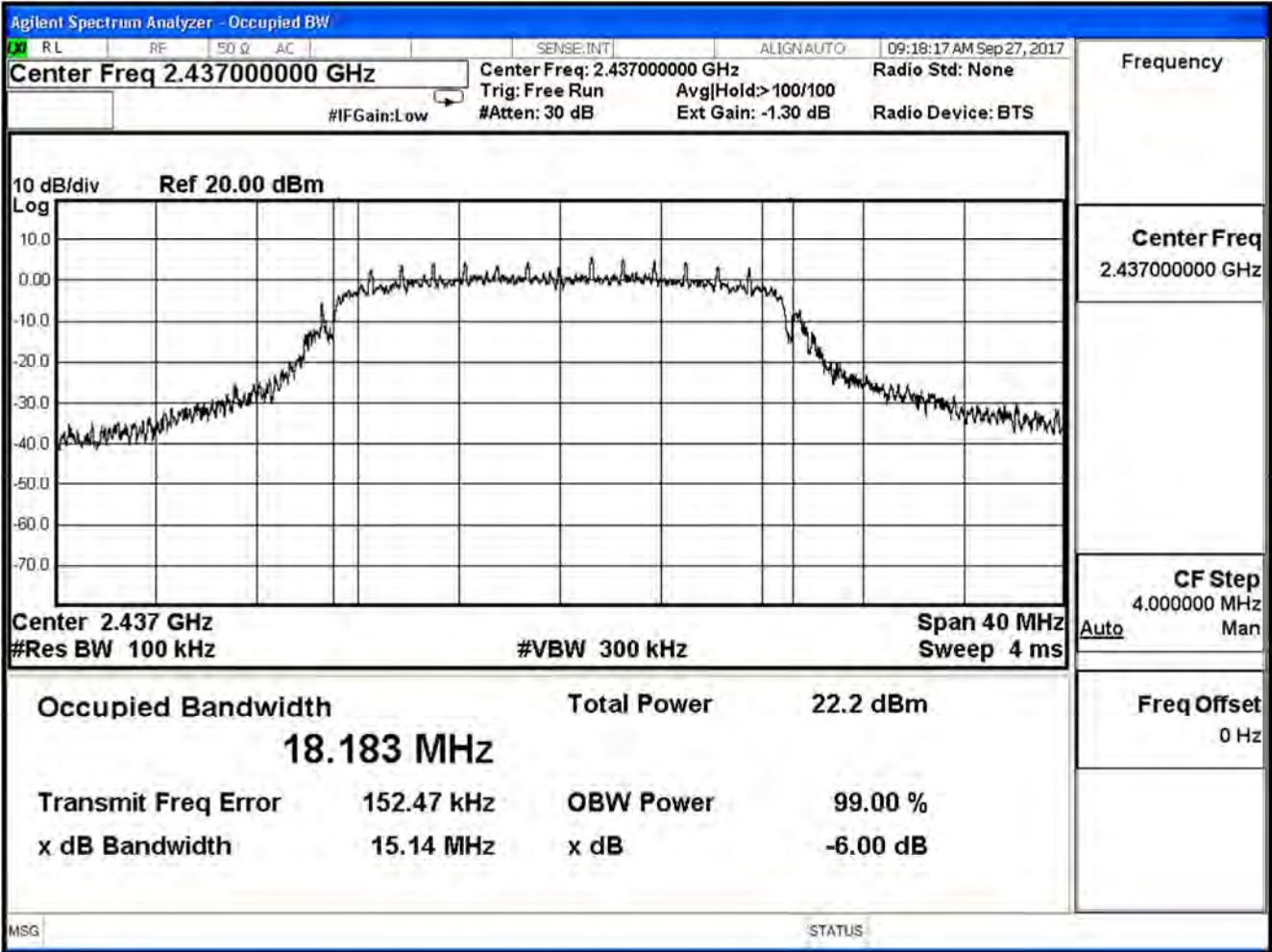
Product	Multimedia System		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

IEEE 802.11n_20M (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
1	2412	15.100	≥ 0.5	Pass
6	2437	15.140	≥ 0.5	Pass
11	2462	15.130	≥ 0.5	Pass

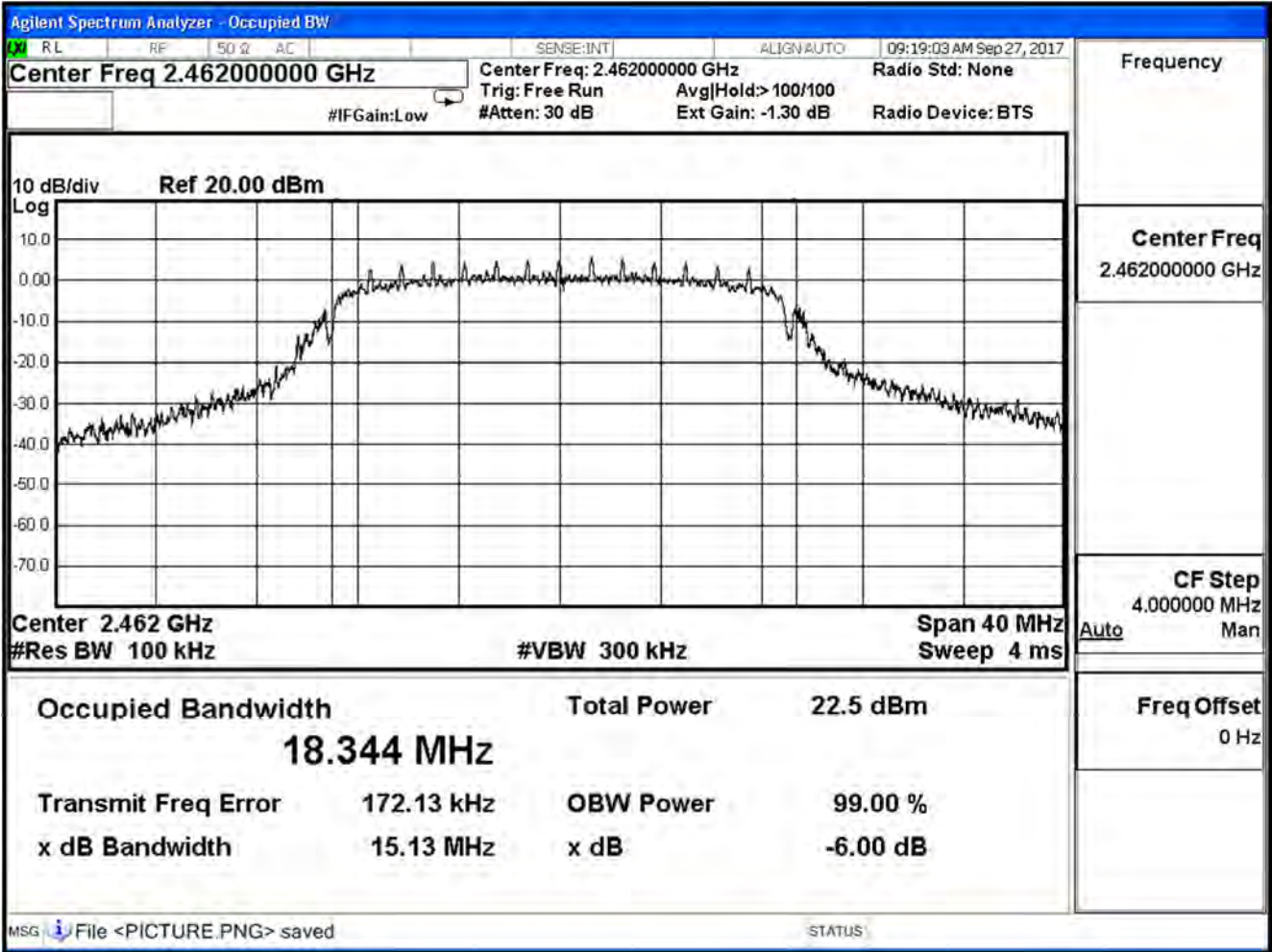
Channel 1



Channel 6



Channel 11



8. Occupied Bandwidth

8.1. Test Equipment

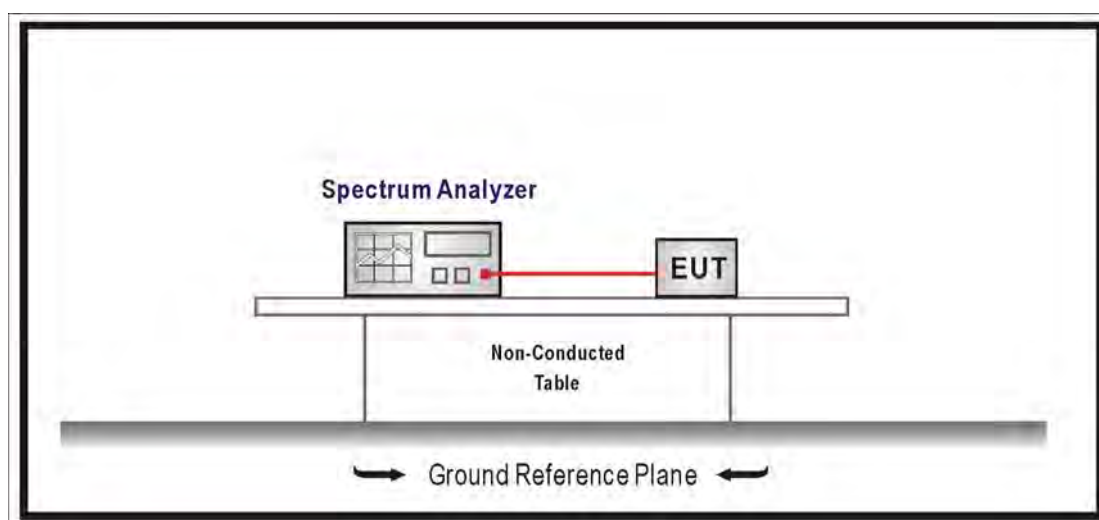
The following test equipments are used during the test:

Occupied Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12

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 D01 V04 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 $\pm 150\text{Hz}$

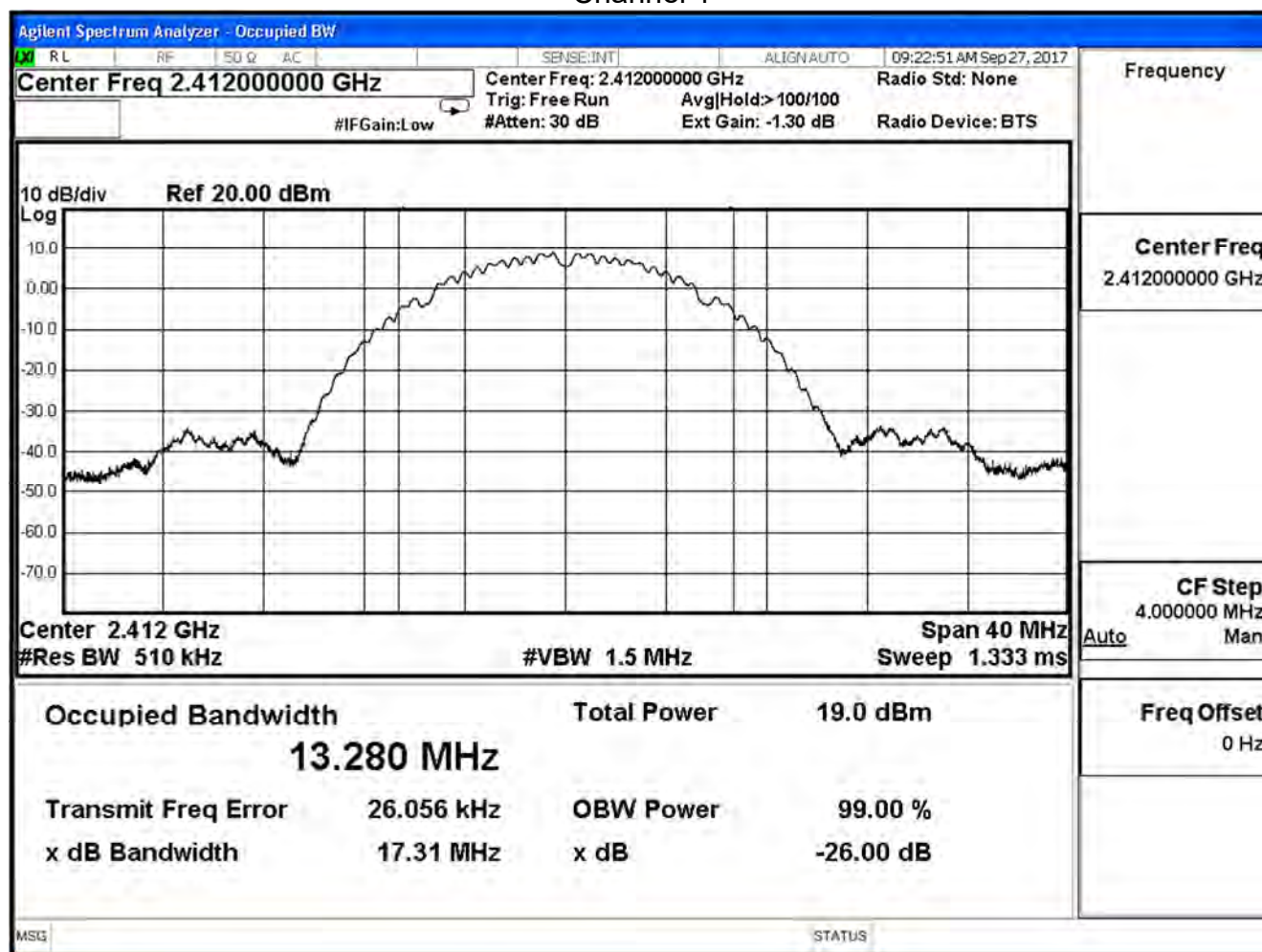
8.7. Test Result

Product	Multimedia System		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

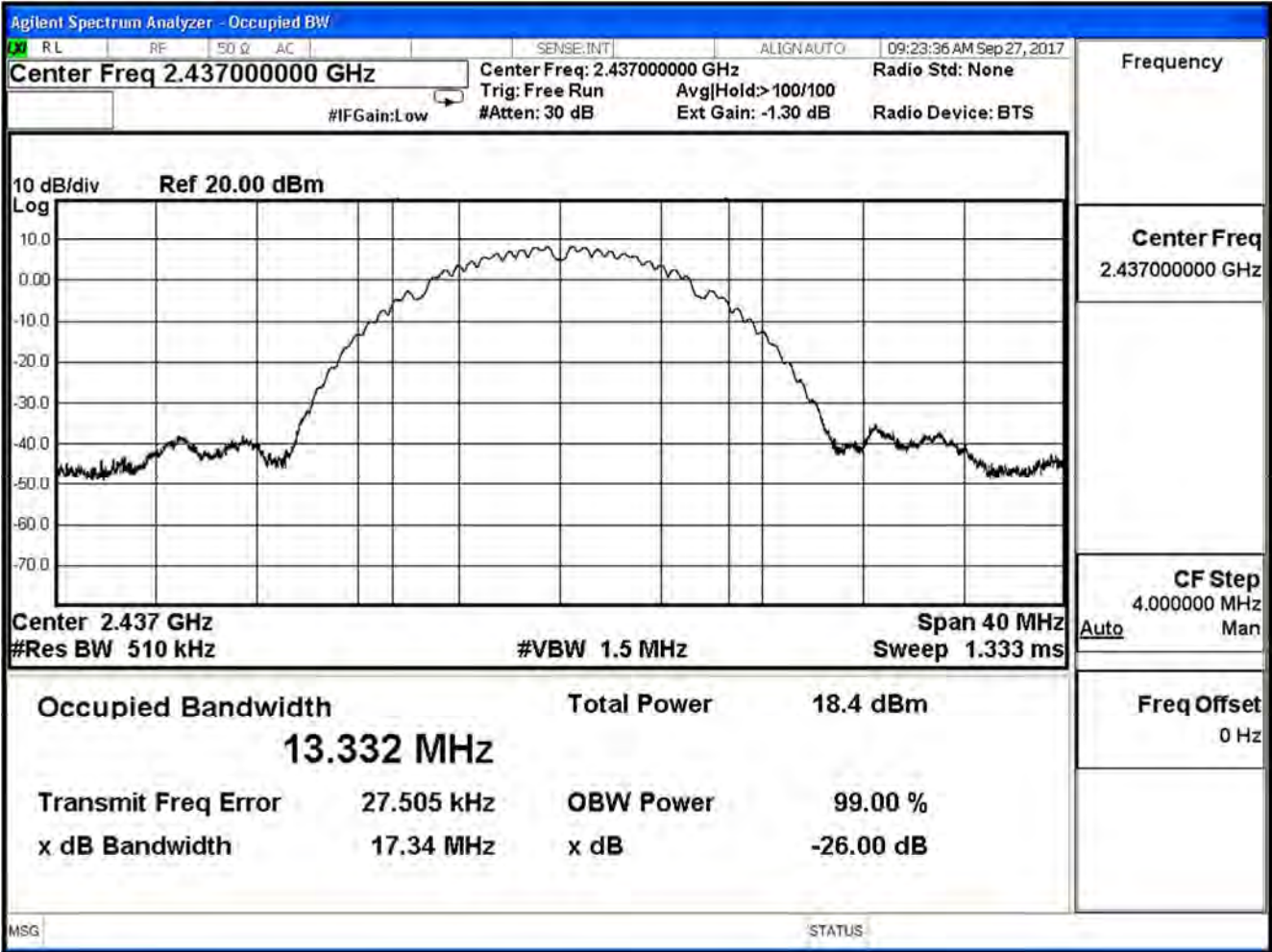
802.11 b (ANT 0)

Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
1	2412	13.280	--	Pass
6	2437	13.332	--	Pass
11	2462	13.384	--	Pass

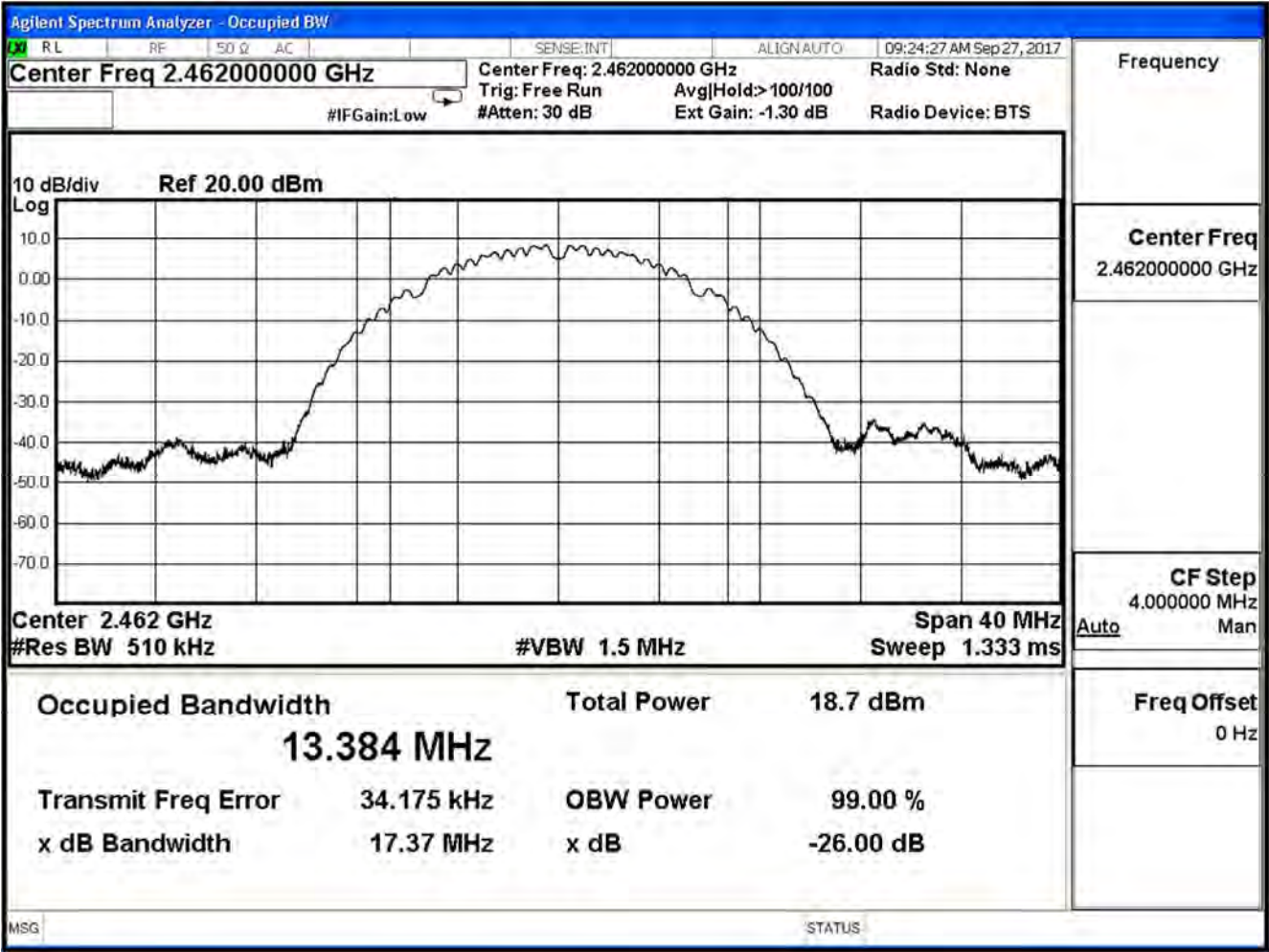
Channel 1



Channel 6



Channel 11

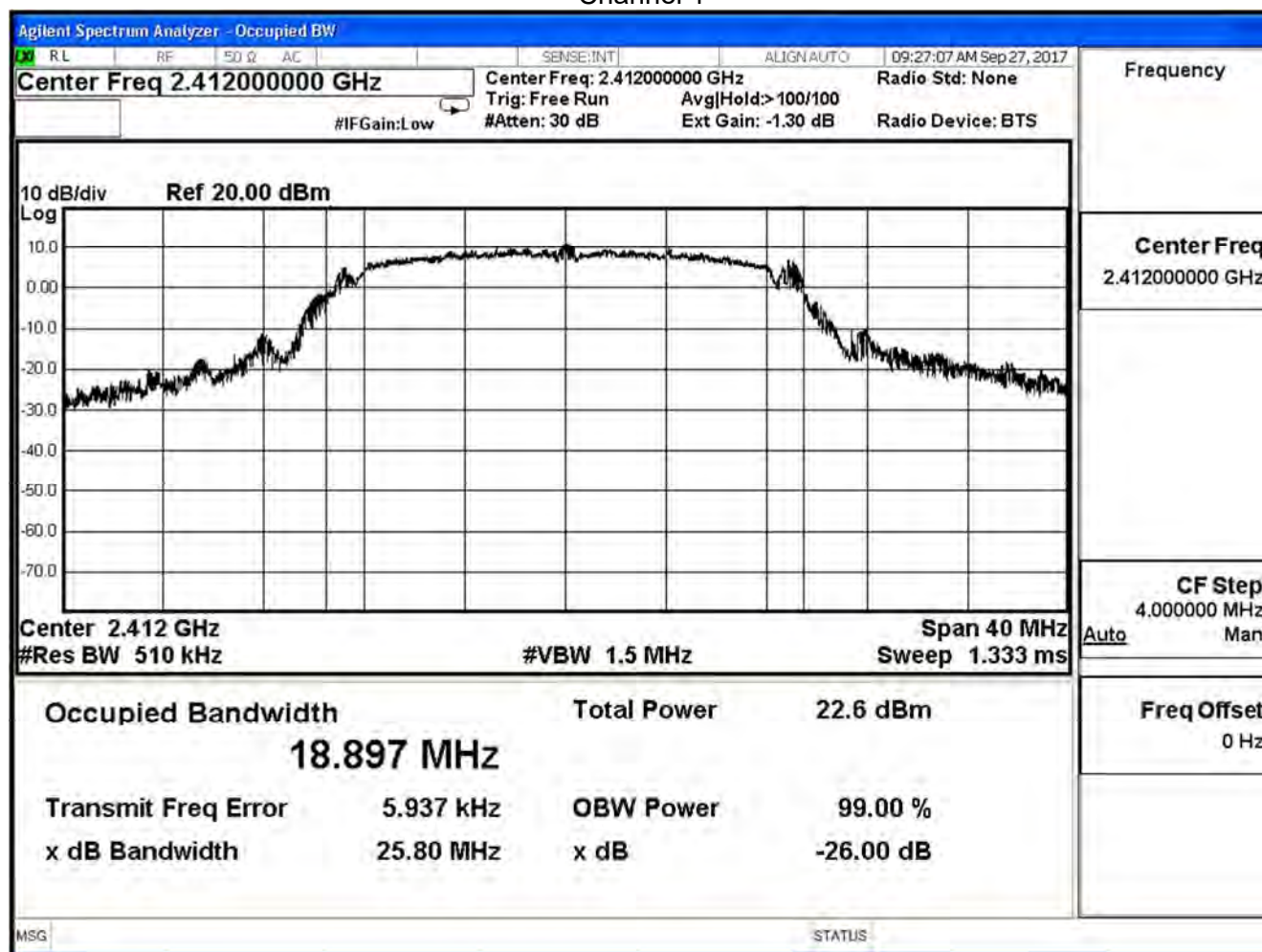


Product	Multimedia System		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

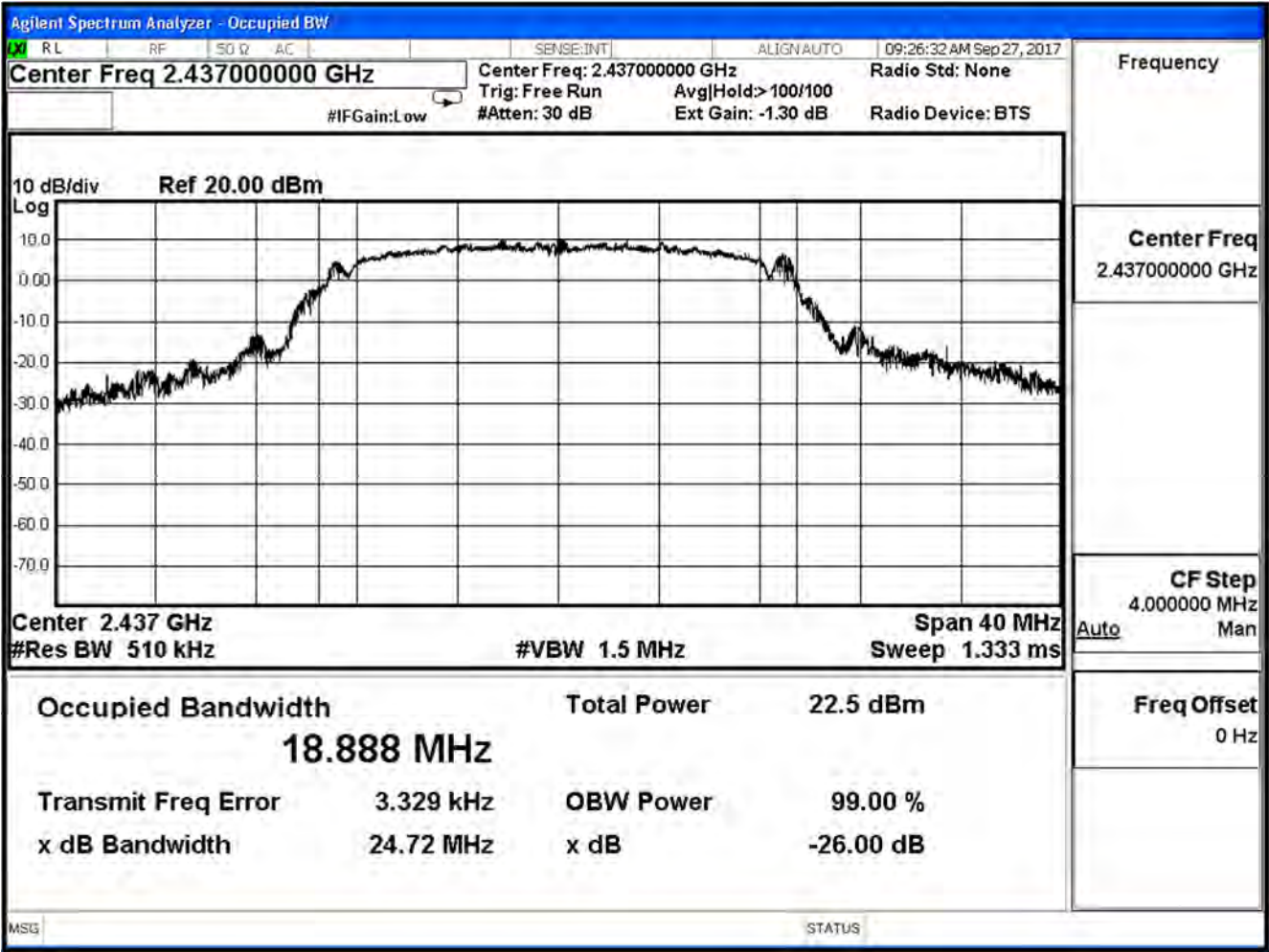
802.11 g (ANT 0)

Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
1	2412	18.897	--	Pass
6	2437	18.888	--	Pass
11	2462	18.966	--	Pass

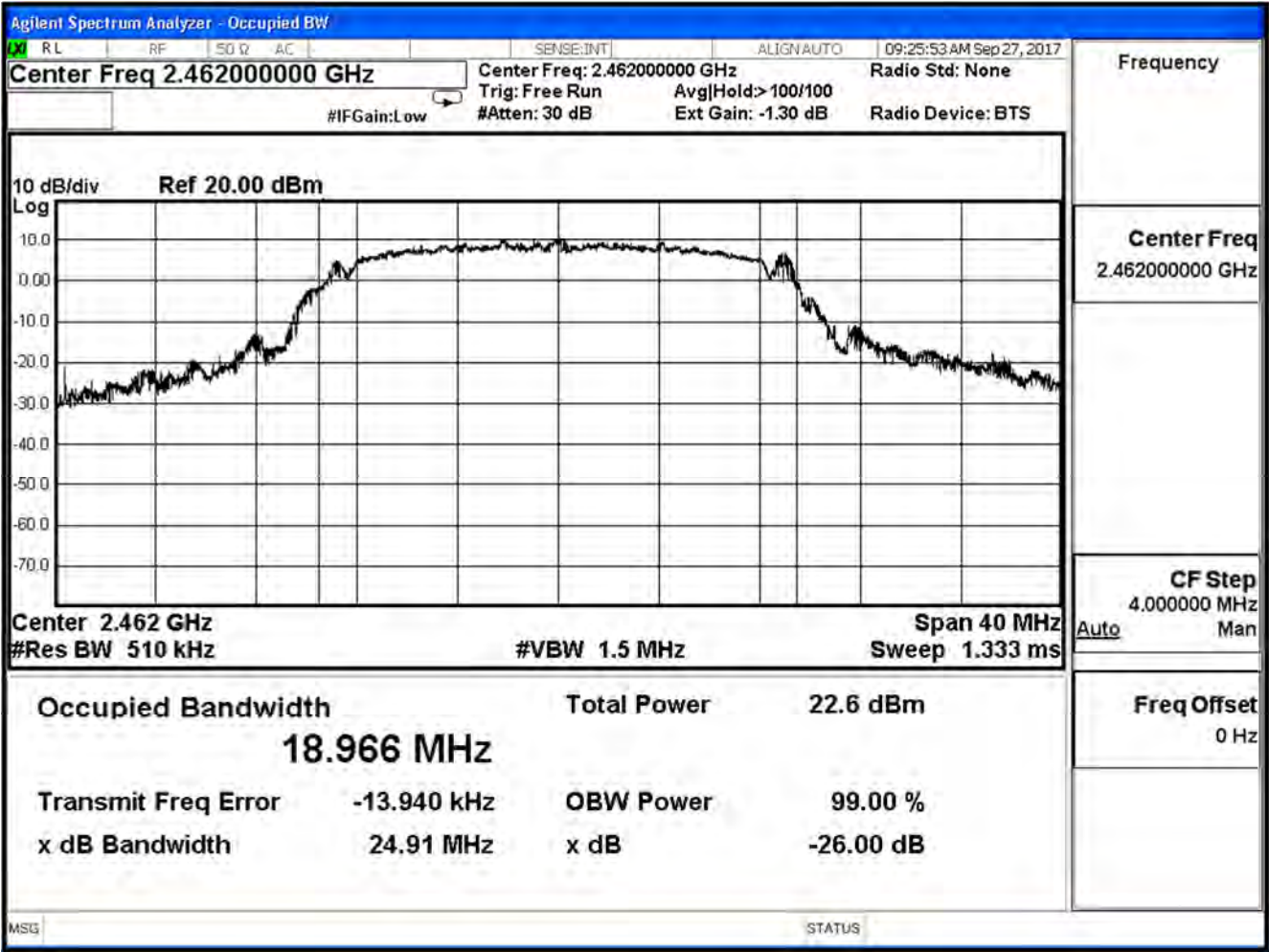
Channel 1



Channel 6



Channel 11

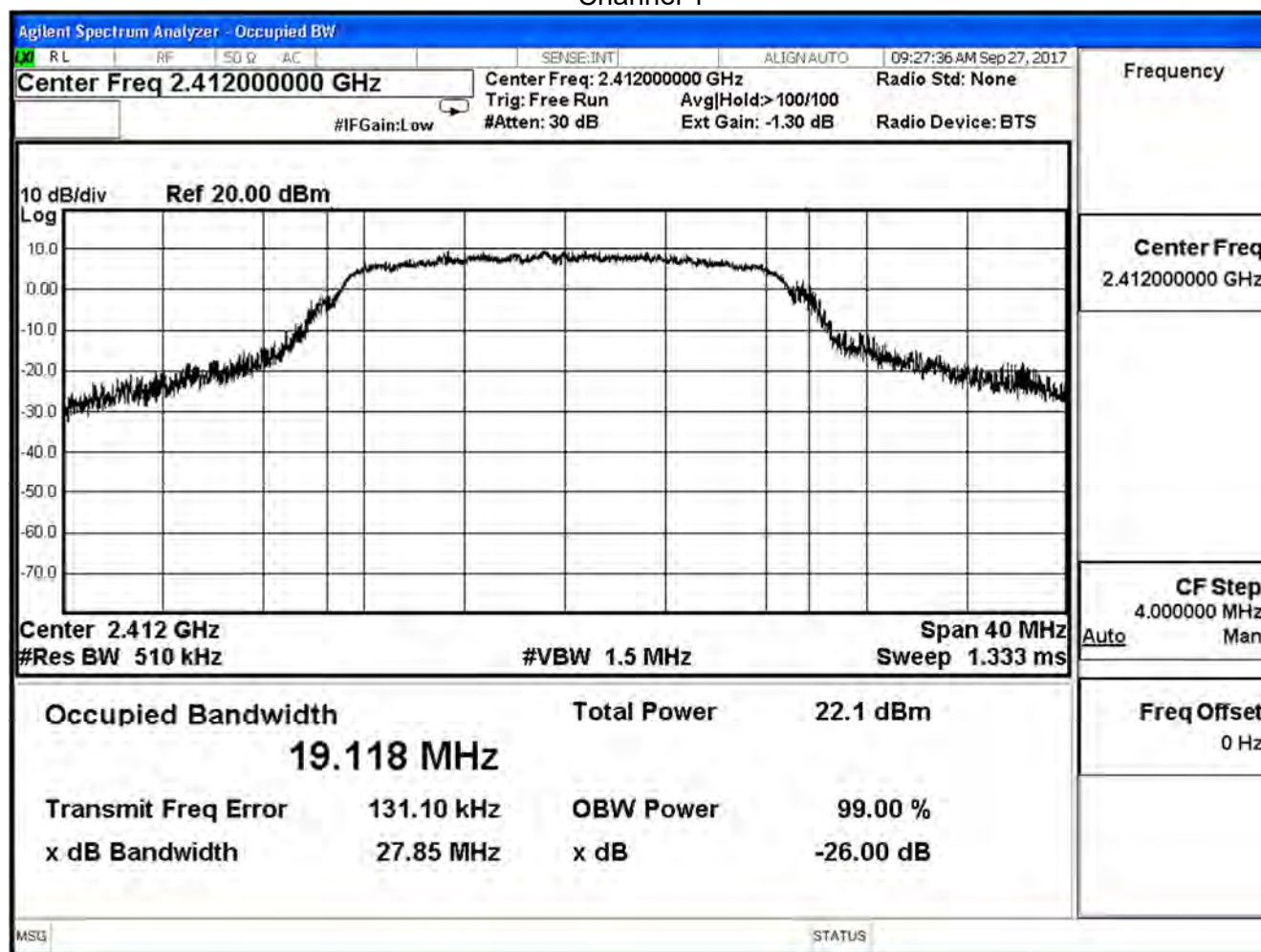


Product	Multimedia System		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

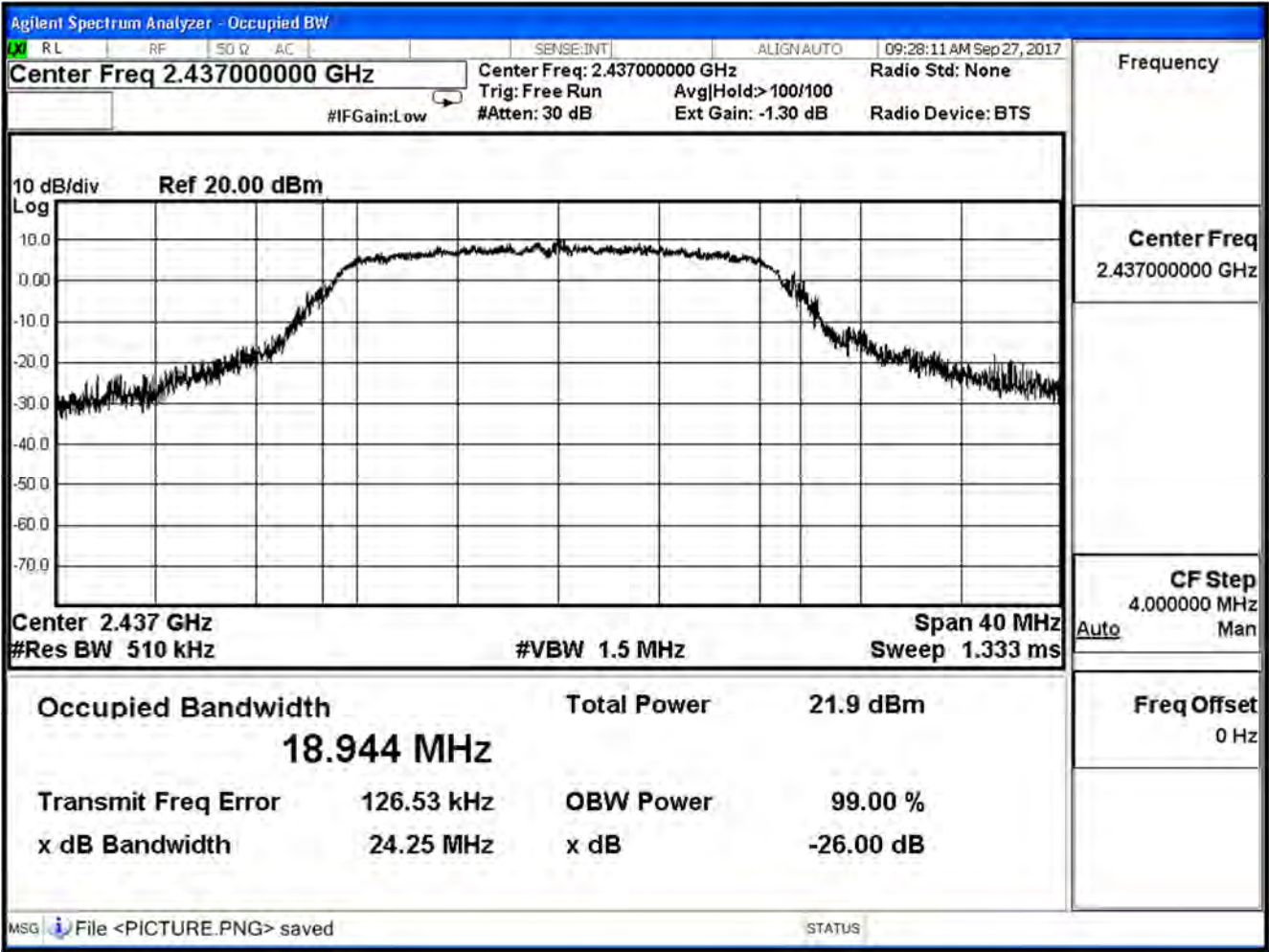
IEEE802.11n 20MHz (ANT 0)

Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
1	2412	19.118	--	Pass
6	2437	18.944	--	Pass
11	2462	19.192	--	Pass

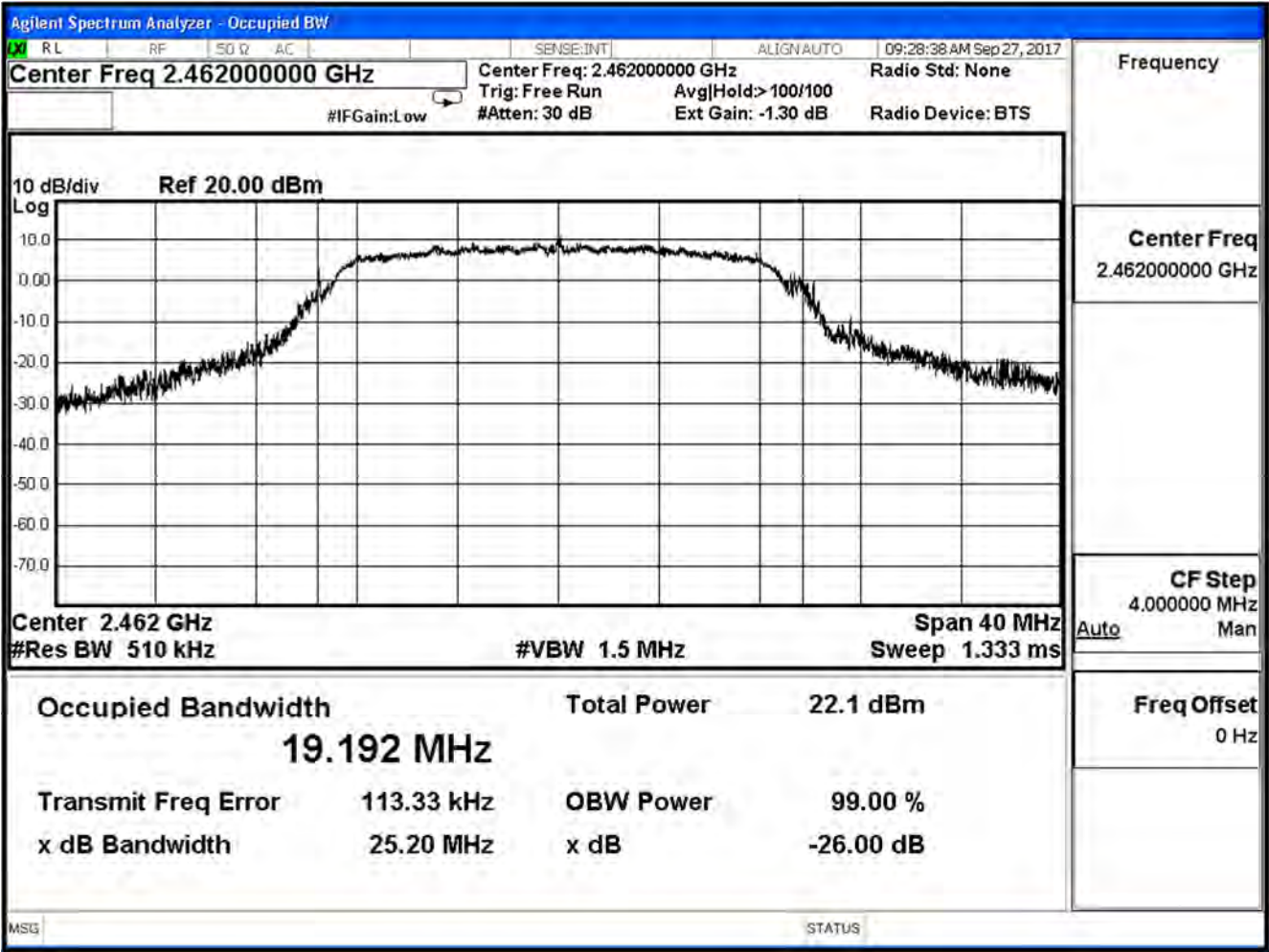
Channel 1



Channel 6



Channel 11



9. Power Density

9.1. Test Equipment

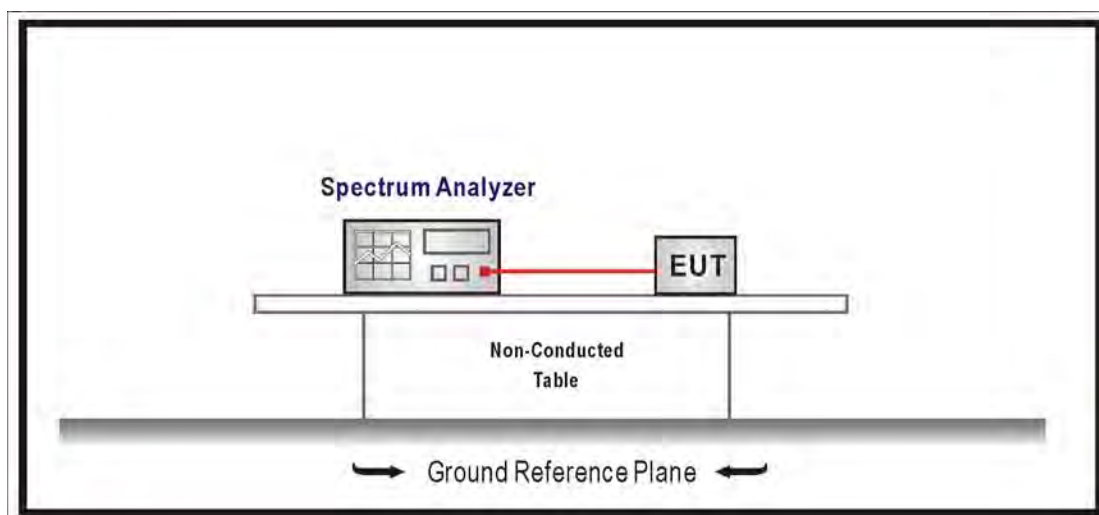
The following test equipment is used during the test:

Power Density / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12

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 KDB558074 D01 V04 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.

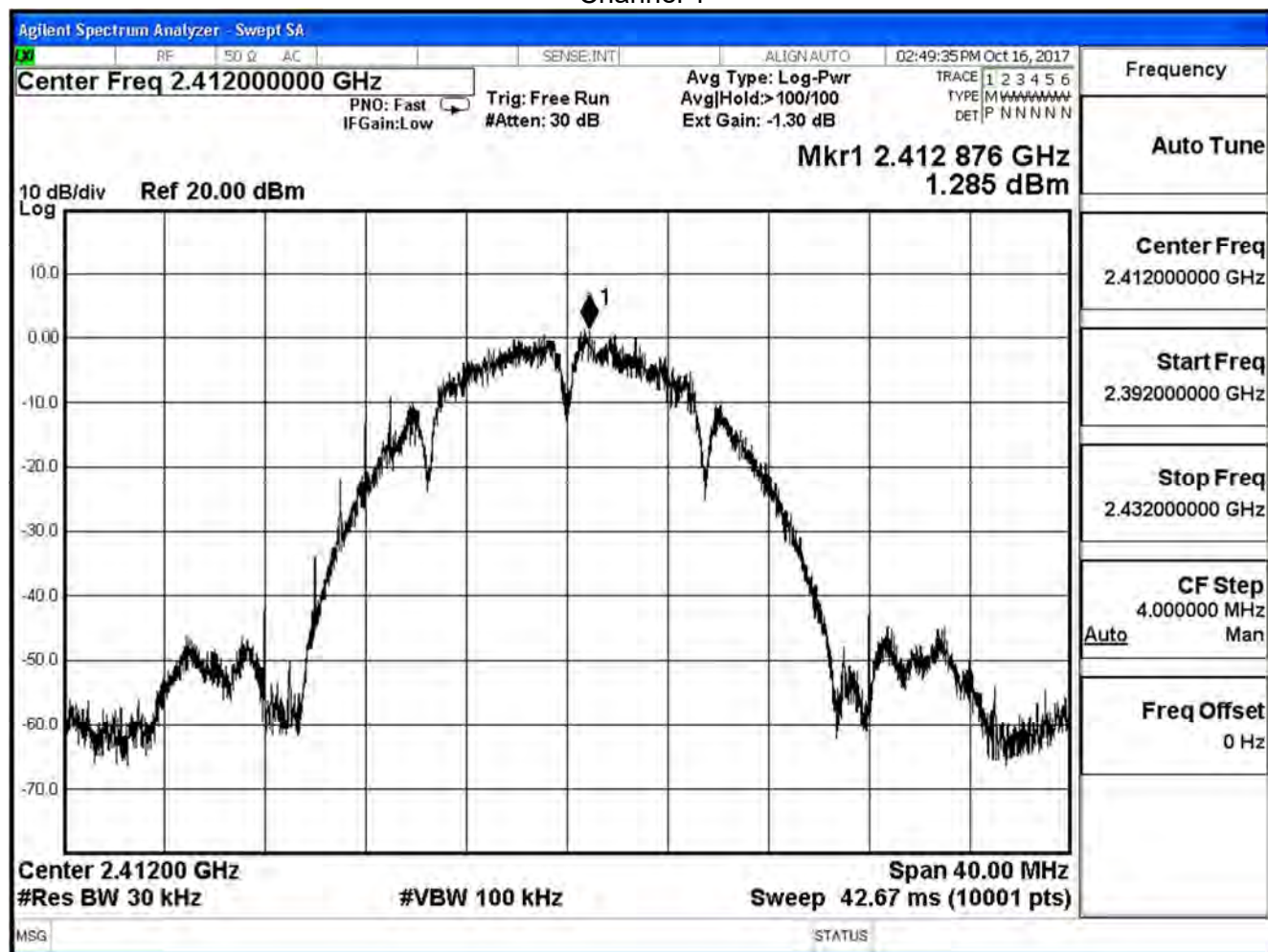
9.7. Test Result

Product	Multimedia System		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2017/10/16	Test Site	SR10-H

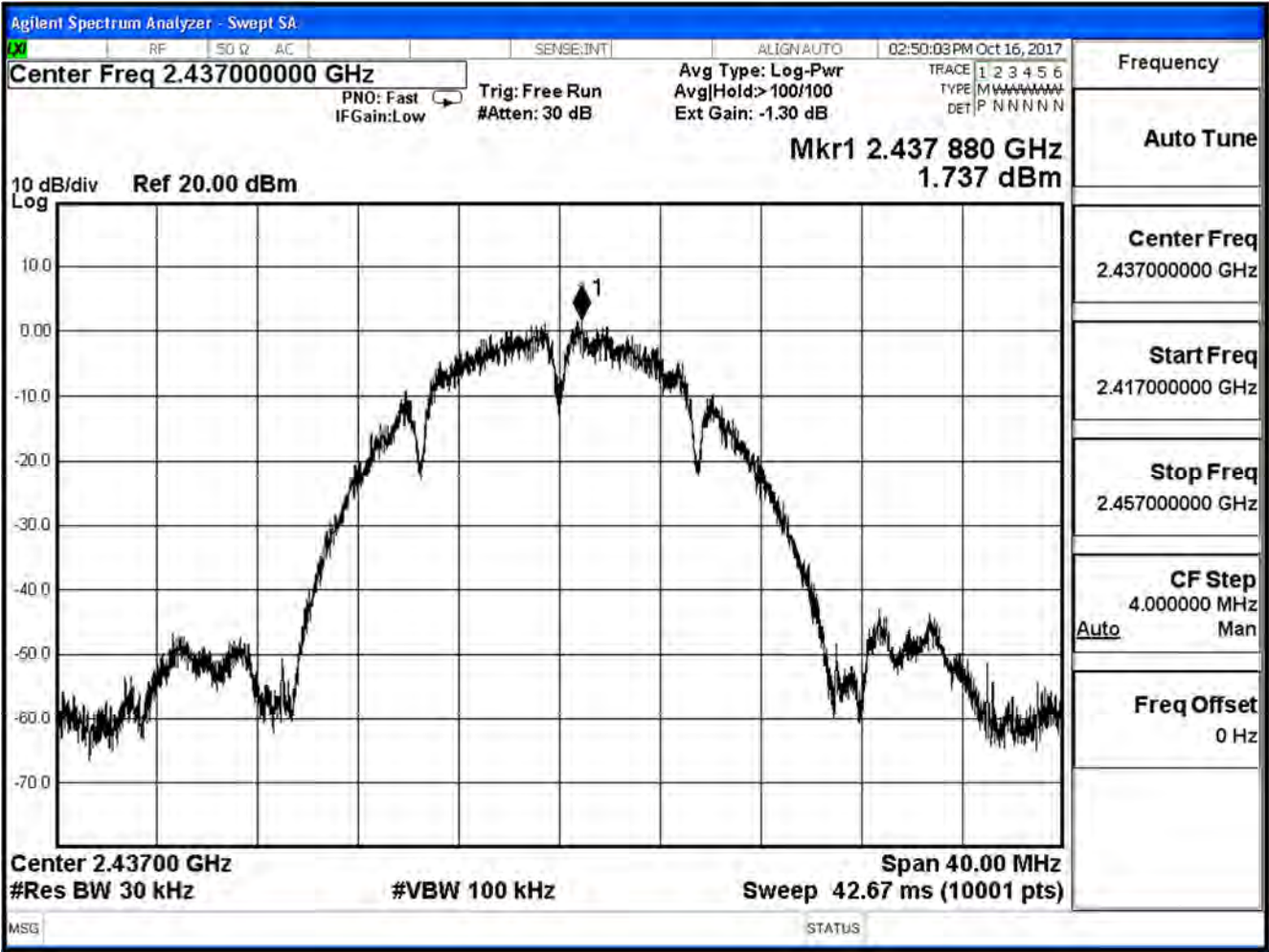
IEEE 802.11b (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (dBm/30kHz)	Limit (dBm/3kHz)	Result
1	2412	1.285	≤ 8.00	Pass
6	2437	1.737	≤ 8.00	Pass
11	2462	1.301	≤ 8.00	Pass

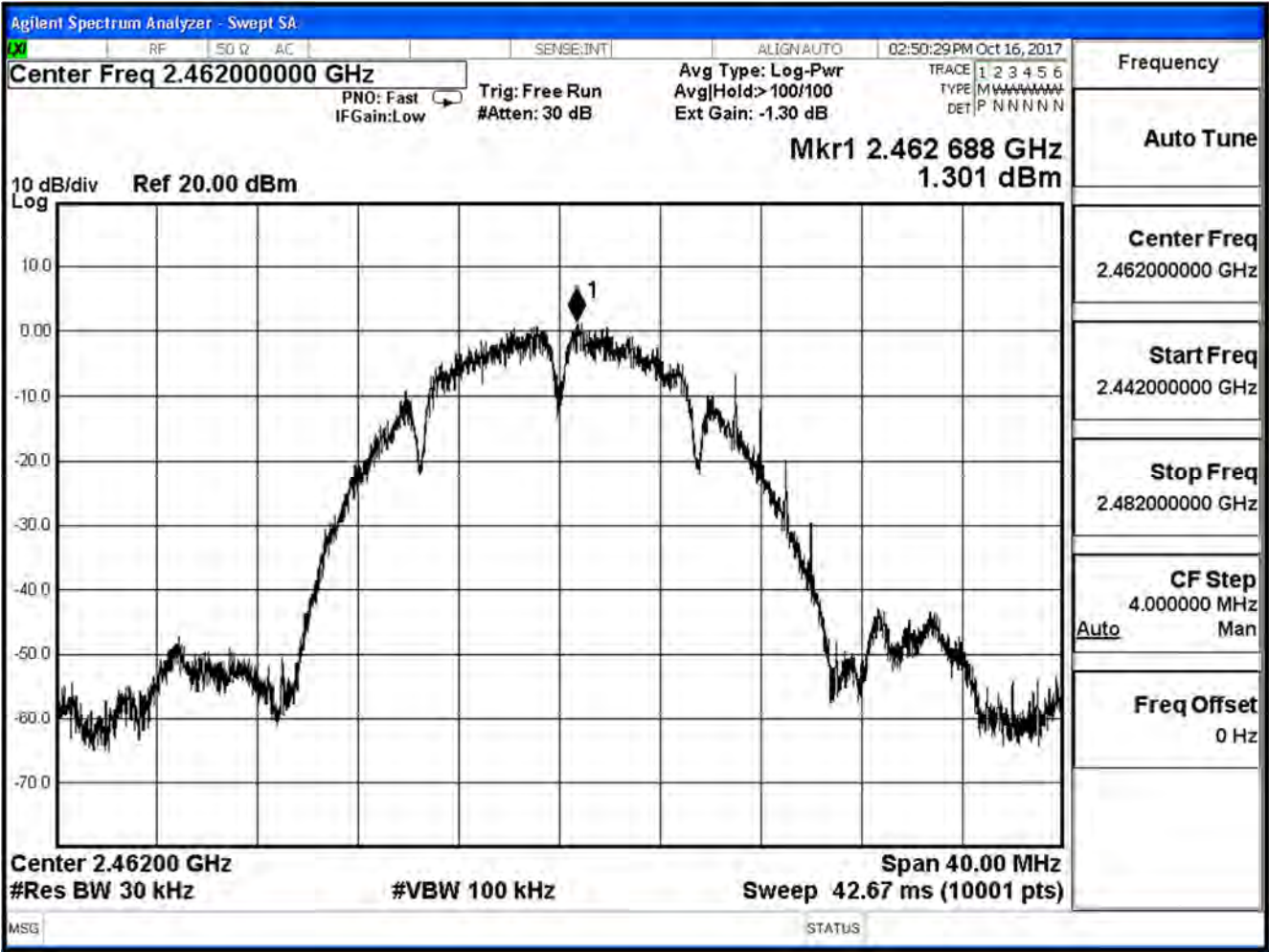
Channel 1



Channel 6



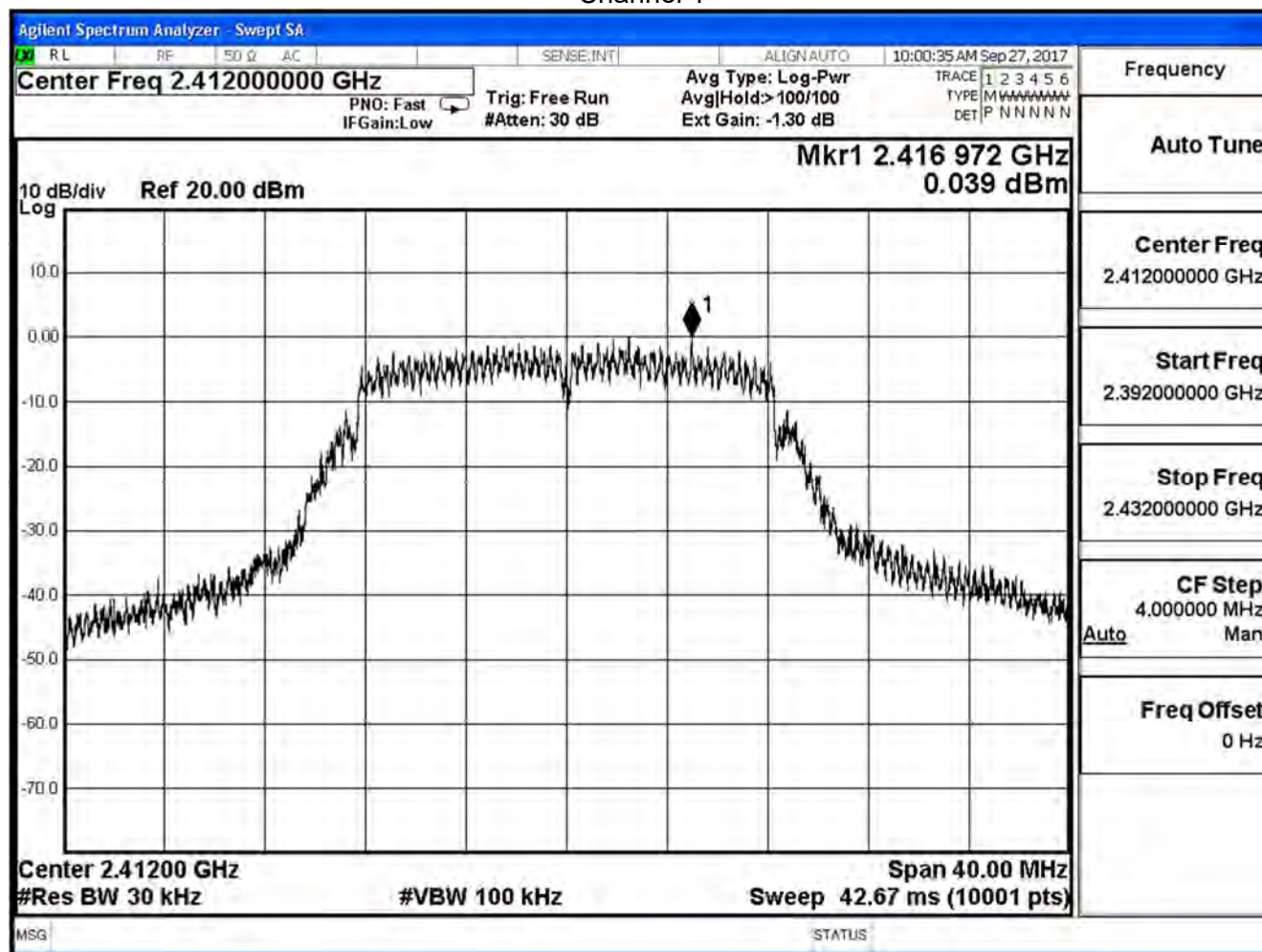
Channel 11



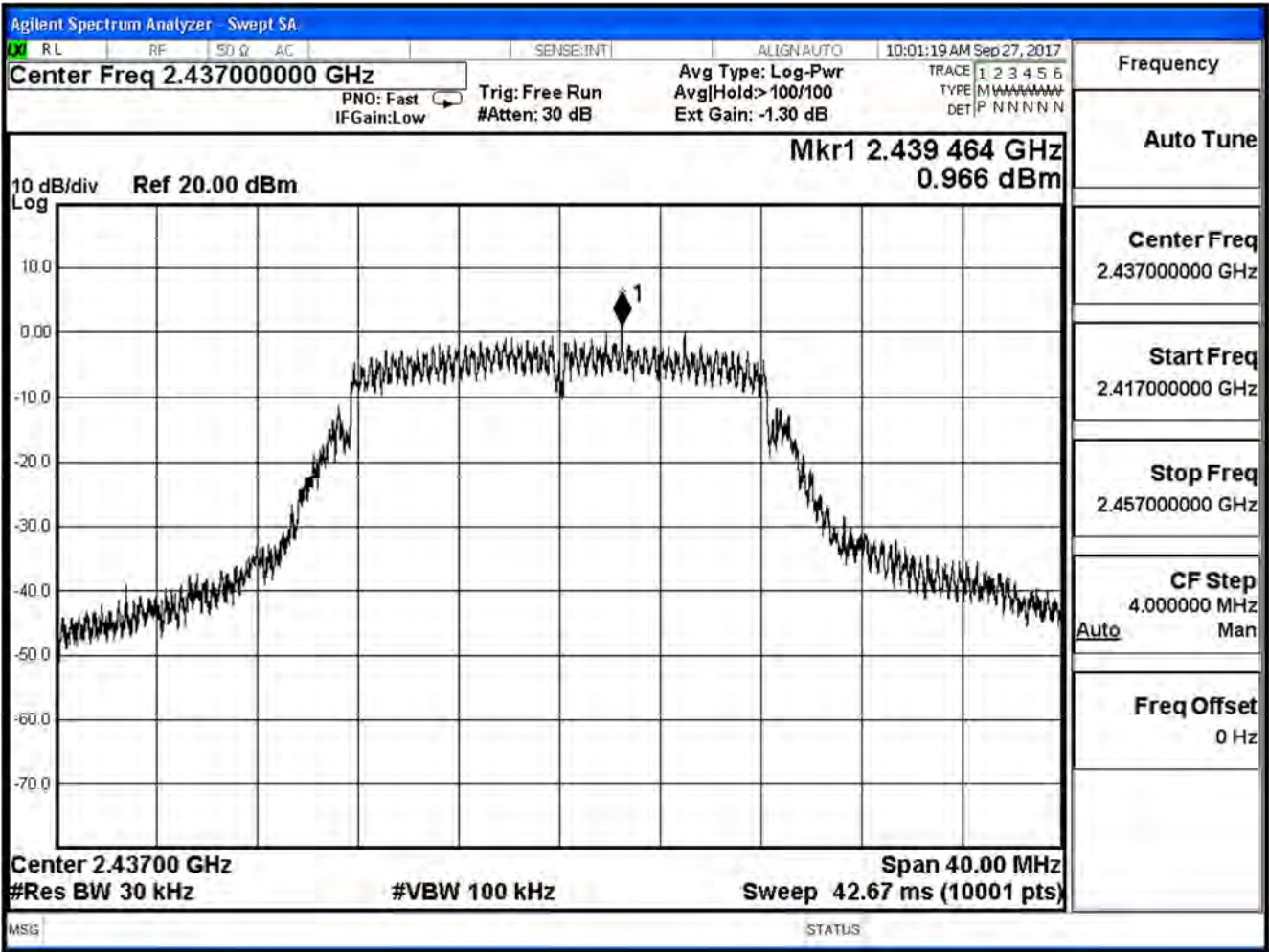
Product	Multimedia System		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

IEEE 802.11g (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm/30kHz)	Limit (dBm/3kHz)	Result
1	2412	0.039	≤ 8.00	Pass
6	2437	0.966	≤ 8.00	Pass
11	2462	0.964	≤ 8.00	Pass

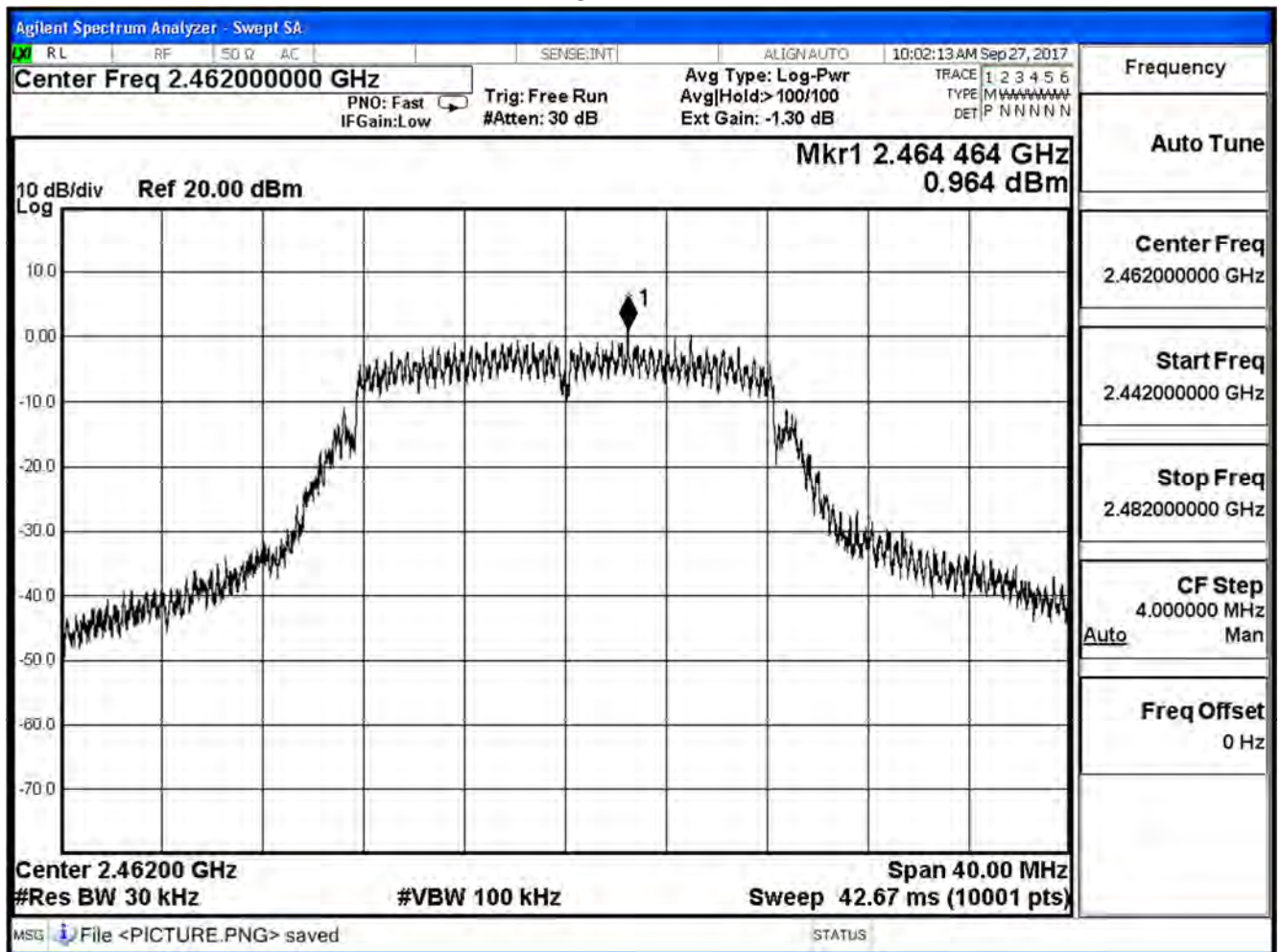
Channel 1



Channel 6



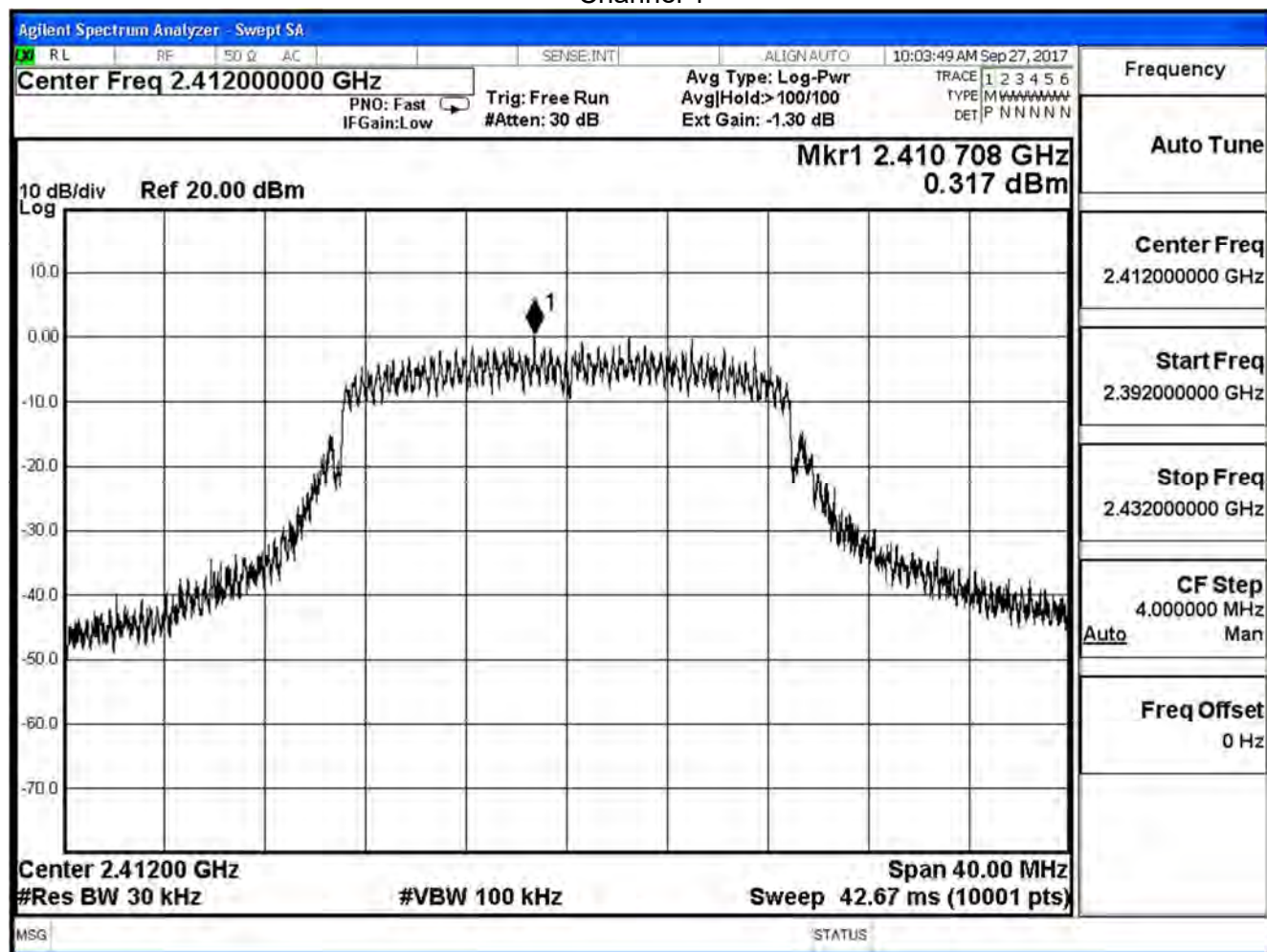
Channel 11



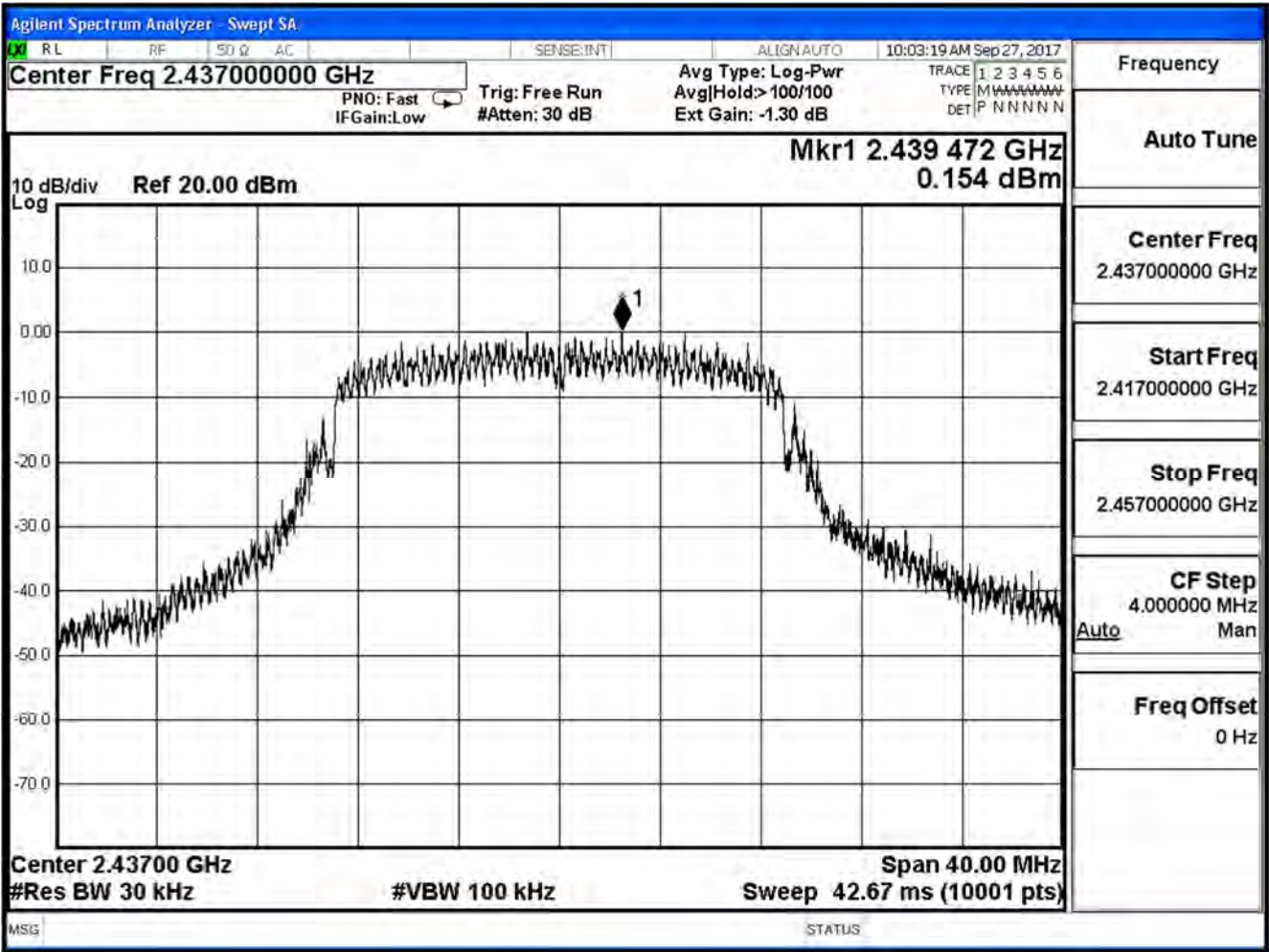
Product	Multimedia System		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2017/09/27	Test Site	SR10-H

IEEE802.11n 20MHz (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm/30kHz)	Limit (dBm/3kHz)	Result
1	2412	0.317	≤ 8.00	Pass
6	2437	0.154	≤ 8.00	Pass
11	2462	0.221	≤ 8.00	Pass

Channel 1



Channel 6



Channel 11

