

FCC Test Report

Product Name : Smart Lighting System
Trade Name : Noon
Model No. : N100
FCC ID. : 2ALVN-N100

Applicant : Locoroll, Inc.

Address : 20400 Stevens Creek Blvd Suite 370
Cupertino, CA 95014 United States

Date of Receipt : May 31, 2017
Issued Date : Aug. 10, 2017
Report No. : 1760047R-RFUSP04V00
Report Version : V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issued Date : Aug. 10, 2017

Report No. : 1760047R-RFUSP04V00



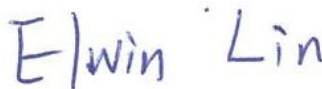
Product Name : Smart Lighting System
Applicant : Locoroll, Inc.
Address : 20400 Stevens Creek Blvd Suite 370 Cupertino, CA 95014
United States
Manufacturer : Locoroll, Inc.
Model No. : N100
FCC ID. : 2ALVN-N100
EUT Voltage : DC 3.8V
Testing Voltage : DC 3.8V
Trade Name : Noon
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2015
ANSI C63.10: 2013
Test Lab : Hsin Chu Laboratory
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TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result : Complied

Documented By :



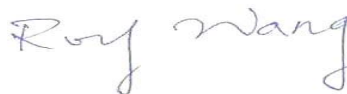
(Carol Tsai / Engineering Adm. Assistant)

Tested By :



(Elwin Lin / Assistant Engineer)

Approved By :



(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
1760047R-RFUSP04V00	V1.0	Initial issue of report	Aug. 10, 2017

Laboratory Information

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

Taiwan R.O.C.	: TAF, Accreditation Number: 3024
USA	: FCC, Registration Number: 0007939127
Canada	: IC, Submission No: 181665 / IC Registration Number: 22397-1 / 22397-2 / 22397-3

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

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

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

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

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1. General Information

1.1. EUT Description

Product Name	Smart Lighting System	
Product Type	WLAN (1TX, 1RX)	
Trade Name	Noon	
Model No.	N100	
Frequency Range/ Channel Number	IEEE 802.11b/g	2412~2462MHz / 11 Channels
	IEEE 802.11n (20MHz)	
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	PIFA Antenna
Antenna Gain	3.42849 dBi

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 Smart Lighting System including 2.4GHz b/g/n (1X1) and BT4.0 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.
3. This device is a composite device in accordance with Part 15 regulations.

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

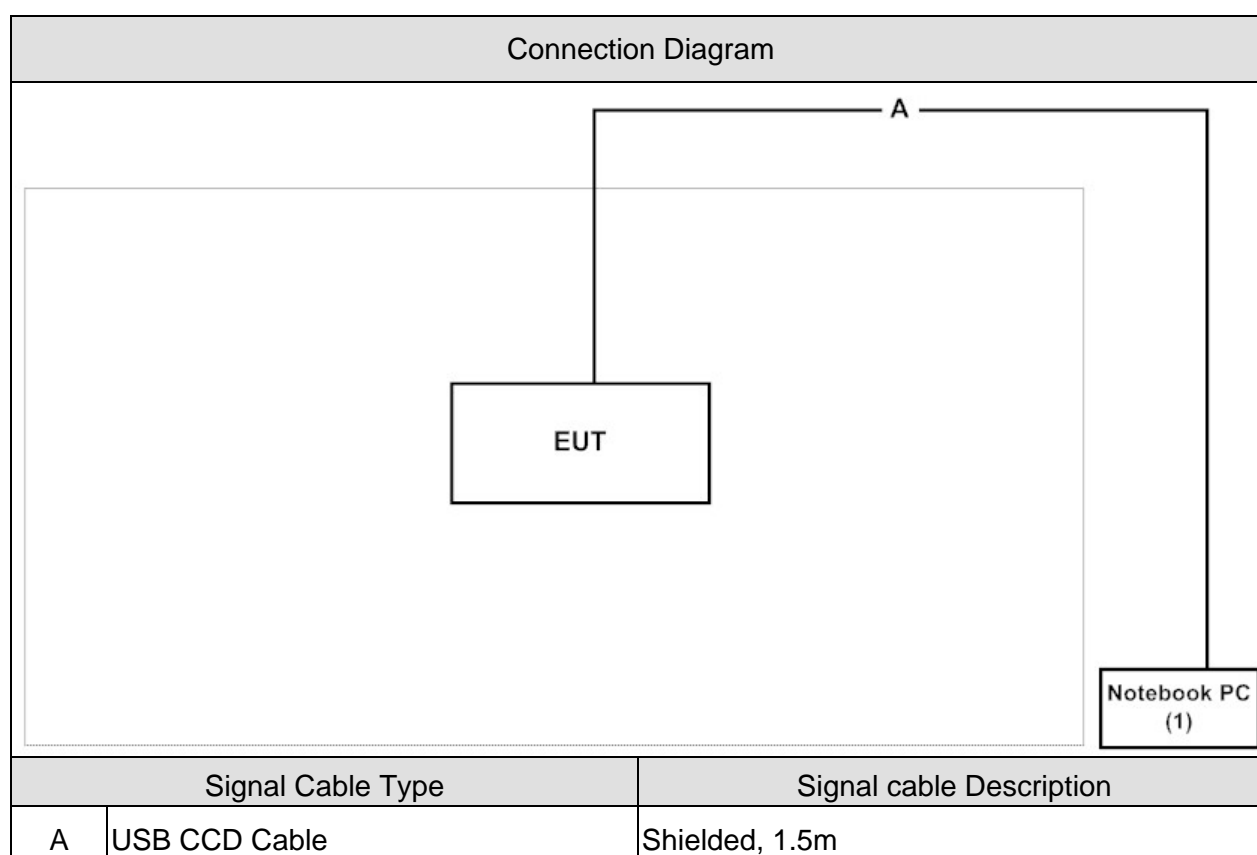
Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	11n(20MHz)	6	0	NA
Peak Power Output	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
Radiated Emission	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 6/ 11	0	Complies
RF antenna conducted test	11b/g	1/ 6/ 11	0	Complies
	11n(20MHz)	1/ 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 equipment, 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	Lenovo	B590	WB1529782	DoC	Non-Shielded, 1.8m, one ferrite core bonded

1.4. Configuration of tested System



1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.
2	Execute the Tera Term and select serial port. Set up band rate :115200.
3	Configure the test mode, the test channel, and the data rate.
4	Start the continuous Receiver.
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 15.247 Conducted Emission	15 - 35	25°C	--
Humidity (%RH)		25 - 75	45%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.

1.7. Duty Cycle

Modulation	Duty cycle	Radiated offset
802.11b	$\approx 98\%$	--
802.11g	$\approx 98\%$	--
802.11n20	$\approx 98\%$	--

Note:

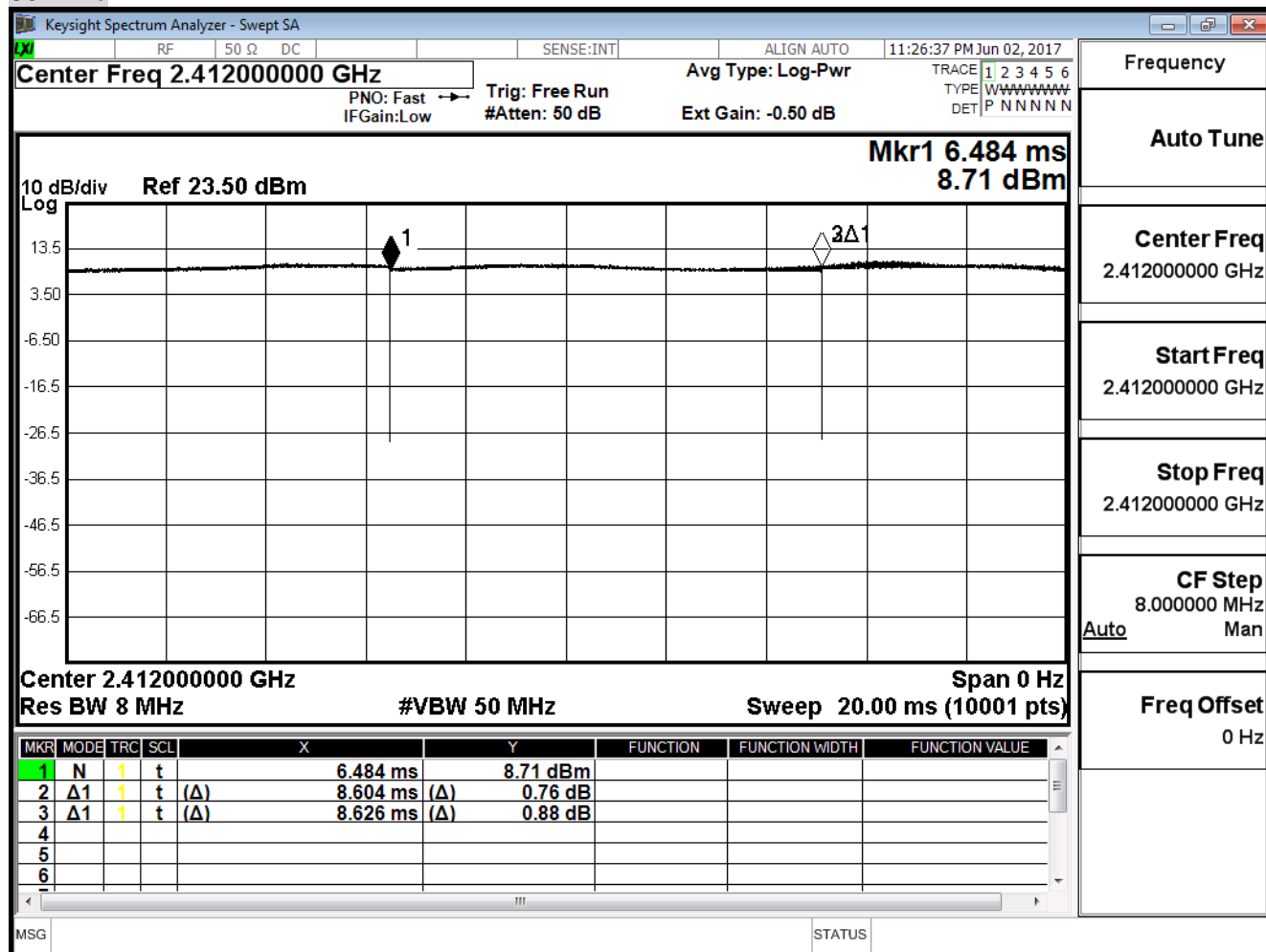
Offset = $20 \log(1/\text{duty cycle})$

Accotding to KDB 789033

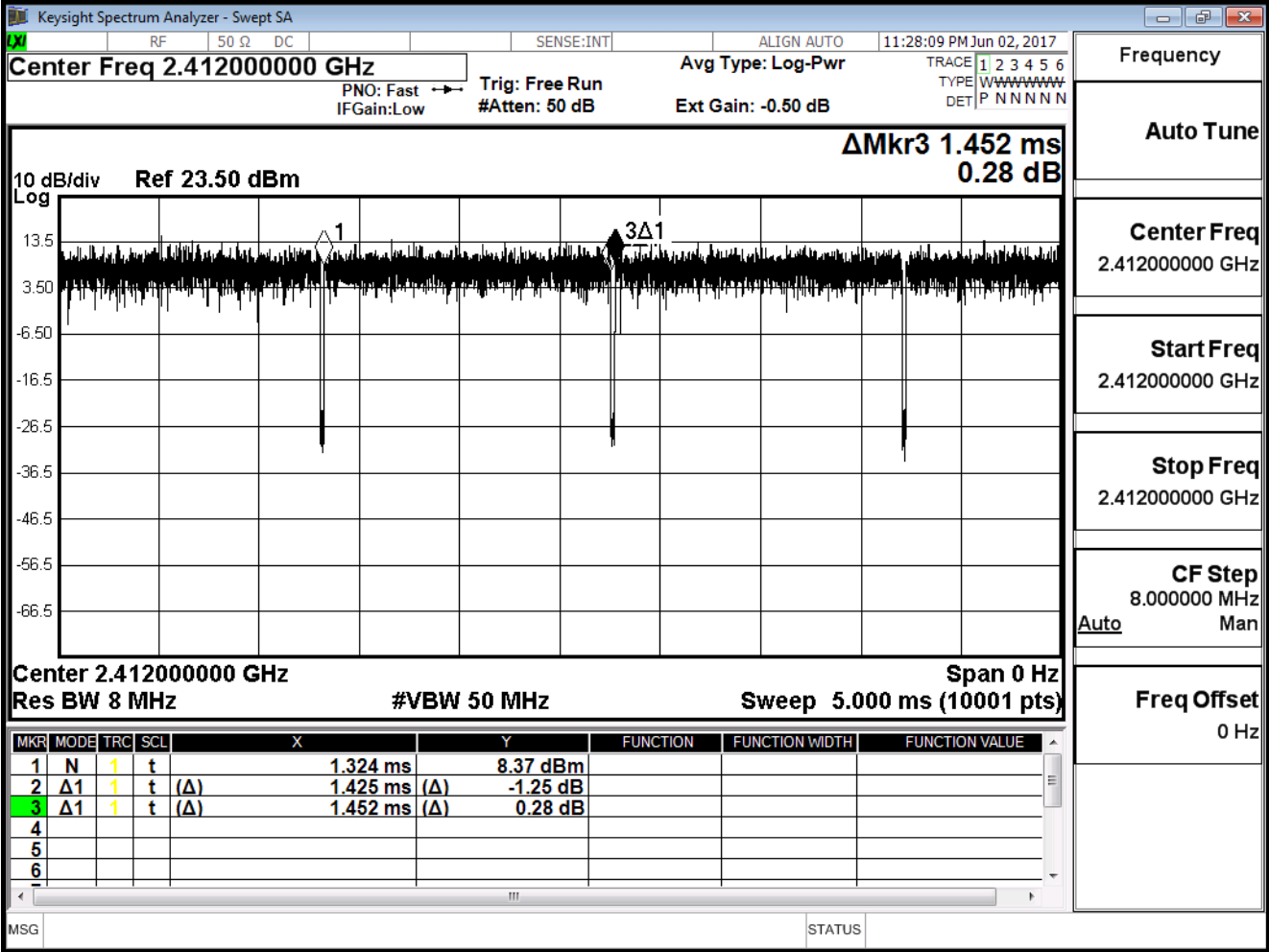
If power averaging (rms) mode was used in step (iv) above, the correction factor is $10 \log (1/x)$, where x is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB must be added to the measured emission levels.

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.

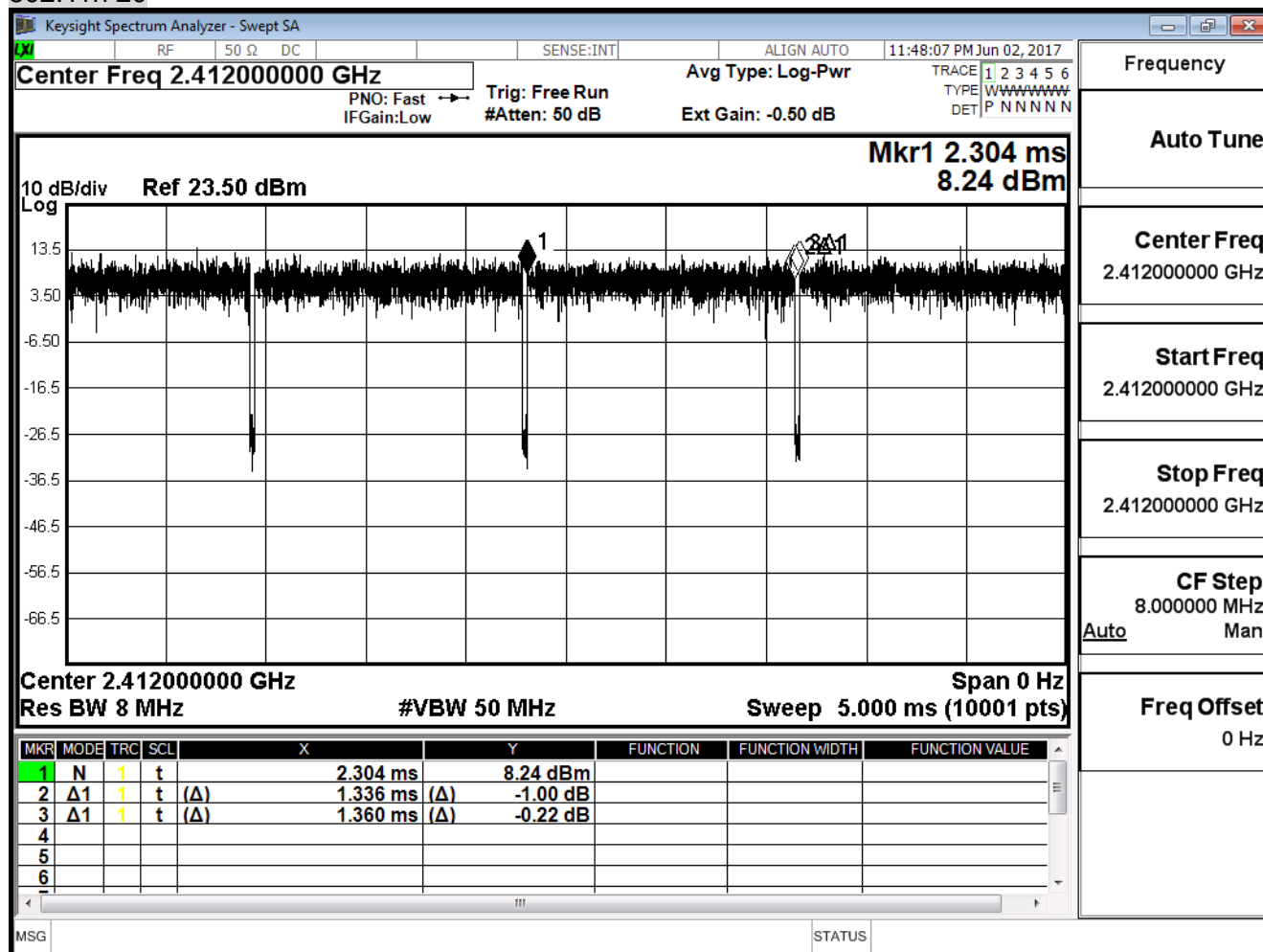
802.11b



802.11g



802.11n 20



2. Conducted Emission

2.1. Test Equipment

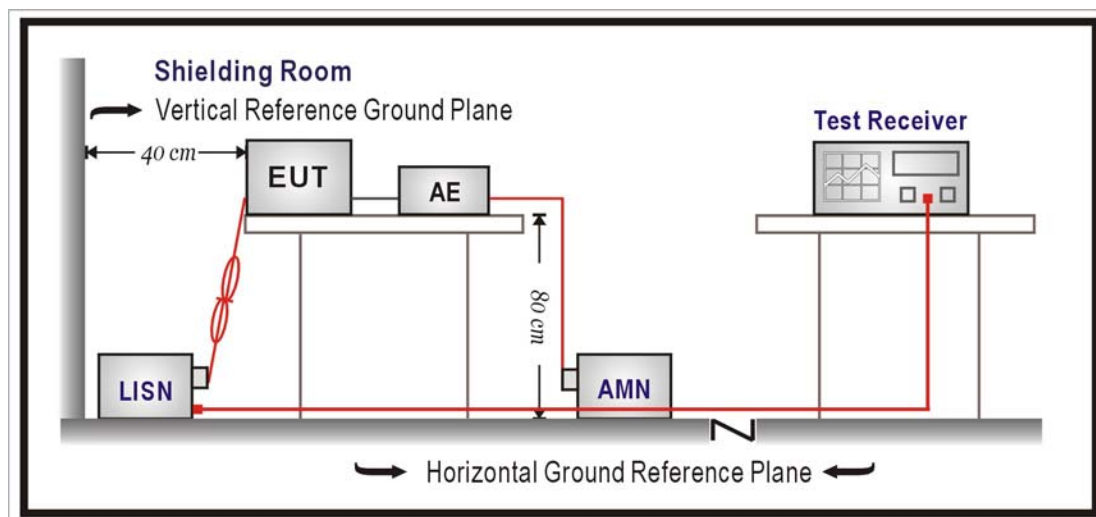
The following test equipment are used during the test:

Conducted Emission / SR2-H

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

Note: All equipment 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 for testing.

3. Peak Power Output

3.1. Test Equipment

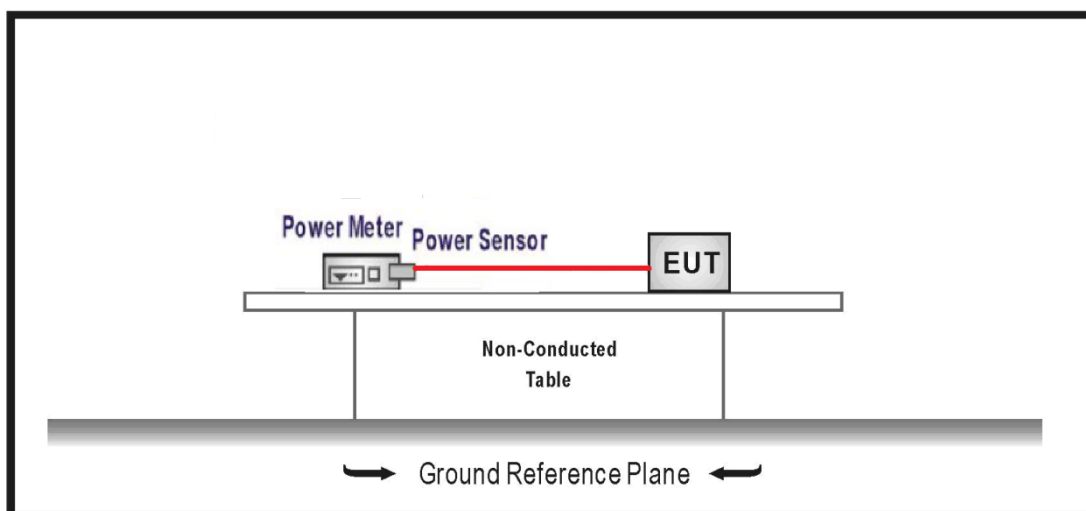
The following test equipment are used during the test:

Peak Power Output / SR10-H

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

Note: All equipment 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 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	Smart Lighting System		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/03	Test Site	SR10-H

IEEE 802.11b (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	16.070	≤ 30
6	2437	16.030	≤ 30
11	2462	16.050	≤ 30

The worst emission of data rate is 1 Mbps

Peak Power Output (dBm)						
Channel No	Frequency (MHz)	Data Rate (Mbps)				Required Limit
		1	2	5.5	11	
1	2412	16.070	--	--	--	$\leq 30\text{dB}$
6	2437	16.030	15.740	15.400	15.080	
11	2462	16.050	--	--	--	

Product	Smart Lighting System		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/03	Test Site	SR10-H

IEEE 802.11g (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	19.780	≤ 30
6	2437	19.700	≤ 30
11	2462	19.670	≤ 30

The worst emission of data rate is 6 Mbps

Peak Power Output (dBm)									
Channel No	Frequency (MHz)	Data Rate (Mbps)							Required Limit
		6	12	18	24	36	48	54	
1	2412	19.780	--	--	--	--	--	--	$\leq 30\text{dB}$
6	2437	19.700	19.470	19.200	18.920	18.620	18.330	18.040	
11	2462	19.670	--	--	--	--	--	--	

Product	Smart Lighting System		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/03	Test Site	SR10-H

IEEE 802.11n20 (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
1	2412	18.380	≤ 30
6	2437	18.490	≤ 30
11	2462	18.710	≤ 30

The worst emission of data rate is 6.5 Mbps

Peak Power Output (dBm)										
Channel No	Frequency (MHz)	MCS Index								Required Limit
		6.5	13.0	19.5	26.0	39.0	52.0	58.5	65.0	
1	2412	18.380	--	--	--	--	--	--	--	$\leq 30\text{dB}$
6	2437	18.490	18.170	17.890	17.600	17.320	16.980	16.690	16.360	
11	2462	18.710	--	--	--	--	--	--	--	

4. Radiated Emission

4.1. Test Equipment

The following test equipment are used during the test:

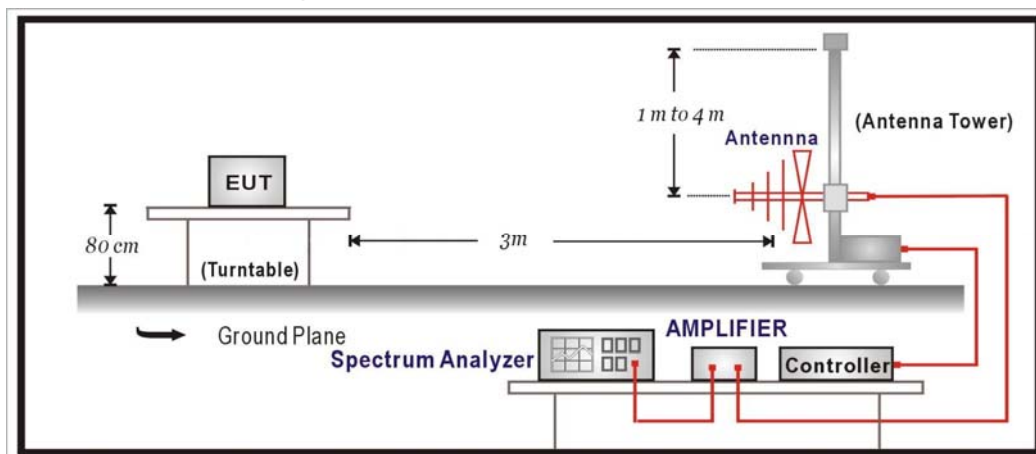
Radiated Emission / CB2-H, CB4-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	Schaffner	CBL6112B	2891	2017/08/14
Horn Antenna	Schwarzbeck	BBHA 9120	D312	2017/10/25
Pre-Amplifier	EMCI	EMC0031835	980233	2018/02/02
Pre-Amplifier	Schwarzbeck	DBL-1840N506	013	2017/09/29
Pre-Amplifier	Miteq	JS41-001040000-58-5P	1573954	2017/10/04
Horn Antenna	Schwarzbeck	BBHA 9170	203	2017/08/28
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/22
Spectrum Analyzer	Agilent	E4440A	MY46187335	2017/12/21

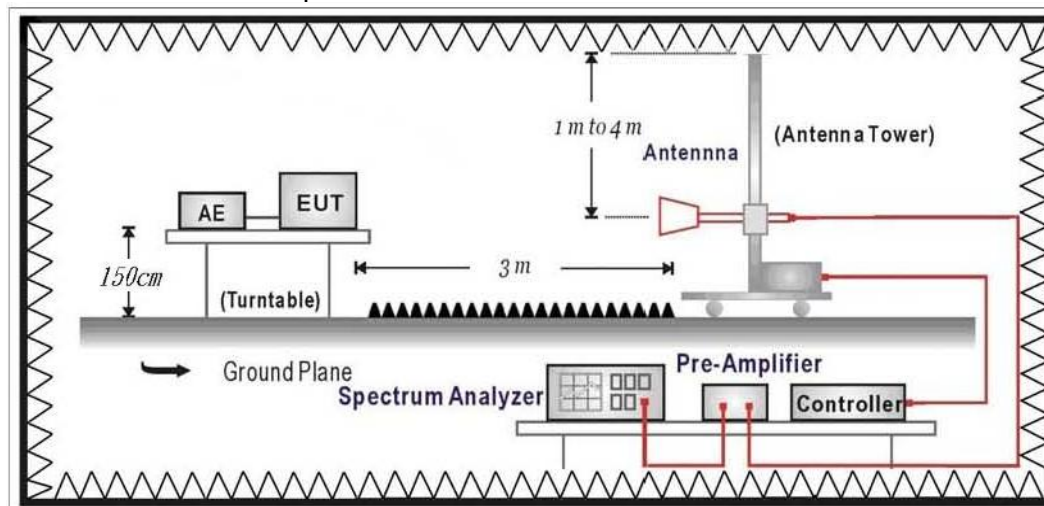
Note: All equipment that need to calibrate are with calibration period of 1 year.

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 V04 for compliance to FCC 47CFR 15.247 requirements.

The EUT and its simulators are placed on a turn table which is 0.8 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

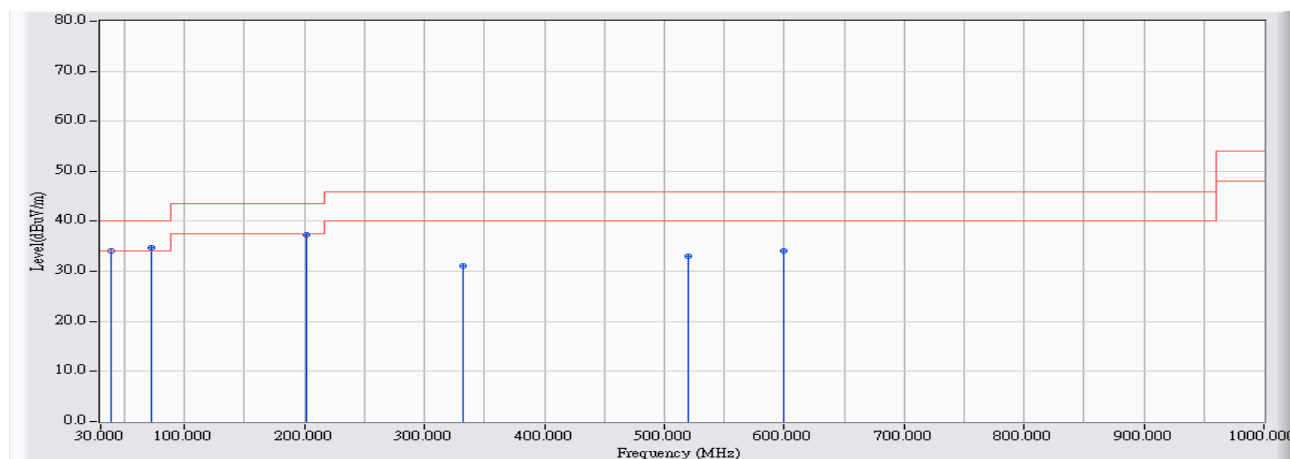
30MHz~1GHz as $\pm 3.43\text{dB}$

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

4.7. Test Result

30MHz-1GHz Spurious

Site : CB2-H	Time : 2017/06/19
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB2-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2437MHz

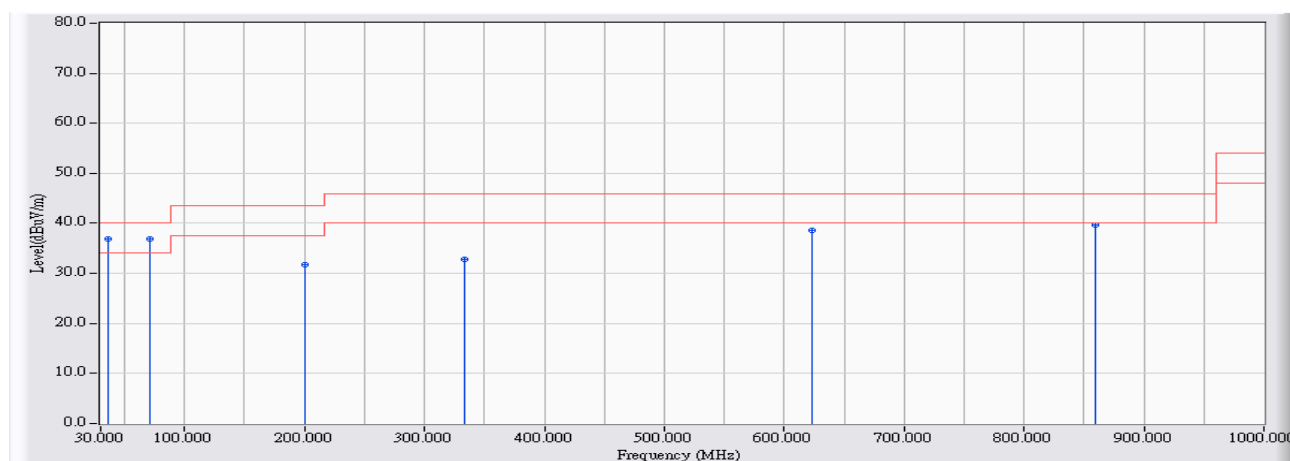


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		38.245	-16.277	50.349	34.072	-5.928	40.000	QUASIPeAK
2	*	71.710	-27.700	62.526	34.826	-5.174	40.000	QUASIPeAK
3		201.690	-23.212	60.449	37.237	-6.263	43.500	QUASIPeAK
4		331.670	-18.421	49.461	31.040	-14.960	46.000	QUASIPeAK
5		520.335	-13.968	47.065	33.096	-12.904	46.000	QUASIPeAK
6		599.875	-13.139	47.174	34.035	-11.965	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 : CB2-H	Time : 2017/06/19
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB2-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2437MHz

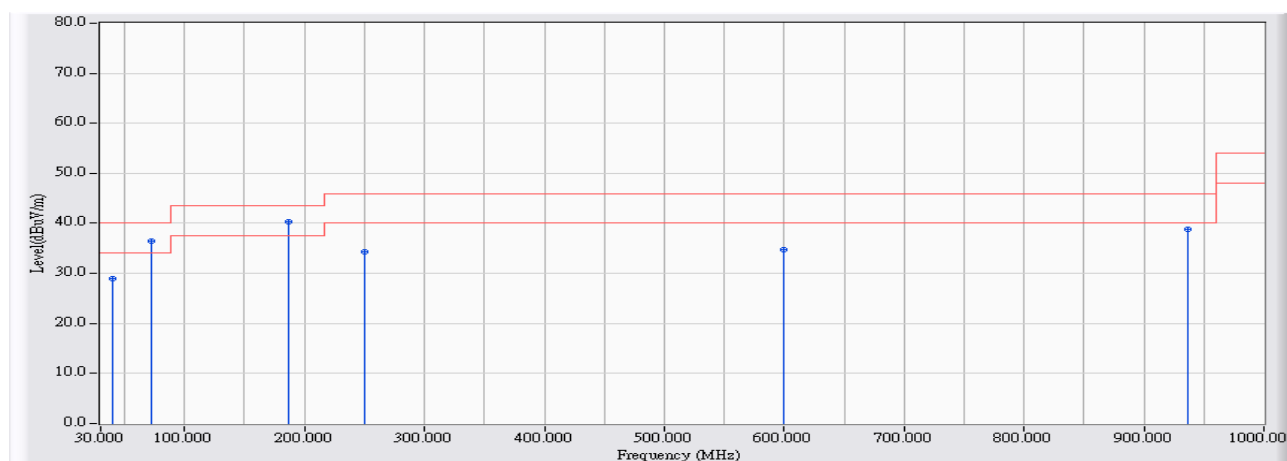


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	36.305	-16.452	53.422	36.970	-3.030	40.000	QUASIPeAK
2		71.225	-27.744	64.598	36.854	-3.146	40.000	QUASIPeAK
3		200.235	-23.317	55.090	31.773	-11.727	43.500	QUASIPeAK
4		333.125	-18.324	51.078	32.754	-13.246	46.000	QUASIPeAK
5		623.155	-12.395	51.051	38.656	-7.344	46.000	QUASIPeAK
6		859.611	-10.439	50.124	39.685	-6.315	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 : CB2-H	Time : 2017/06/19
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB2-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2437MHz

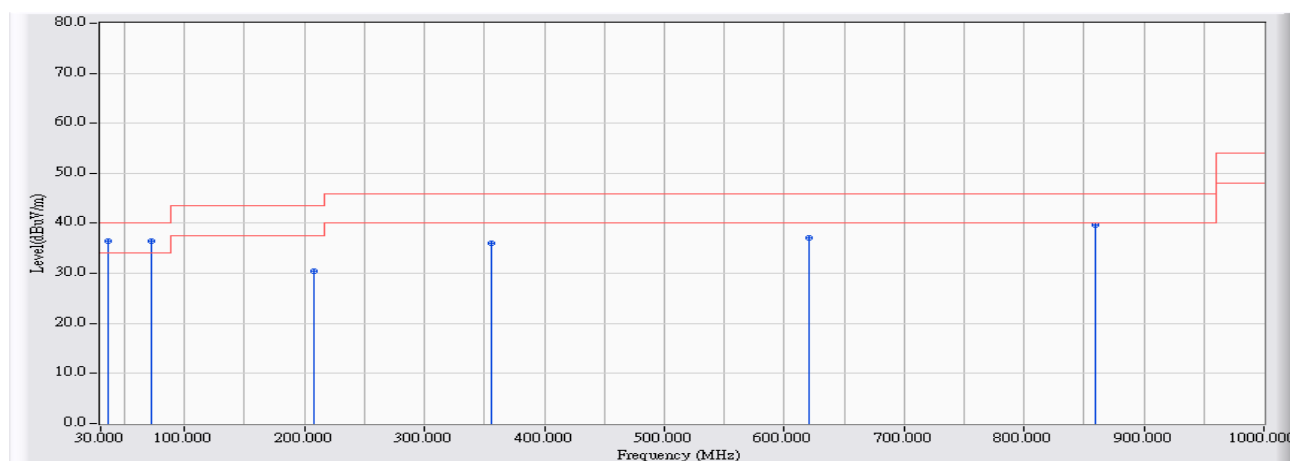


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	39.700	-16.146	45.170	29.024	-10.976	40.000	QUASIPeAK
2	72.195	-27.657	64.101	36.444	-3.556	40.000	QUASIPeAK
3	* 187.140	-23.829	64.093	40.264	-3.236	43.500	QUASIPeAK
4	250.190	-20.286	54.634	34.348	-11.652	46.000	QUASIPeAK
5	599.875	-13.139	47.988	34.849	-11.151	46.000	QUASIPeAK
6	937.120	-7.860	46.650	38.790	-7.210	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 : CB2-H	Time : 2017/06/19
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB2-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2437MHz

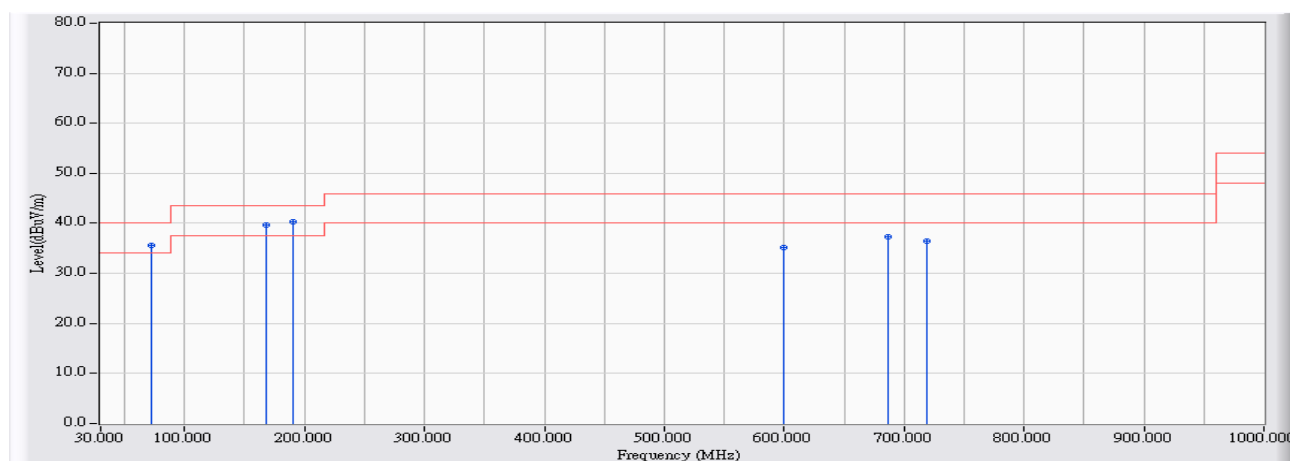


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		35.820	-16.495	52.900	36.404	-3.596	40.000	QUASIPeAK
2	*	71.710	-27.700	64.148	36.448	-3.552	40.000	QUASIPeAK
3		207.995	-22.735	53.181	30.446	-13.054	43.500	QUASIPeAK
4		355.920	-17.506	53.530	36.024	-9.976	46.000	QUASIPeAK
5		620.730	-12.329	49.494	37.166	-8.834	46.000	QUASIPeAK
6		859.430	-10.433	50.120	39.687	-6.313	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 : CB2-H	Time : 2017/06/19
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB2-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2437MHz

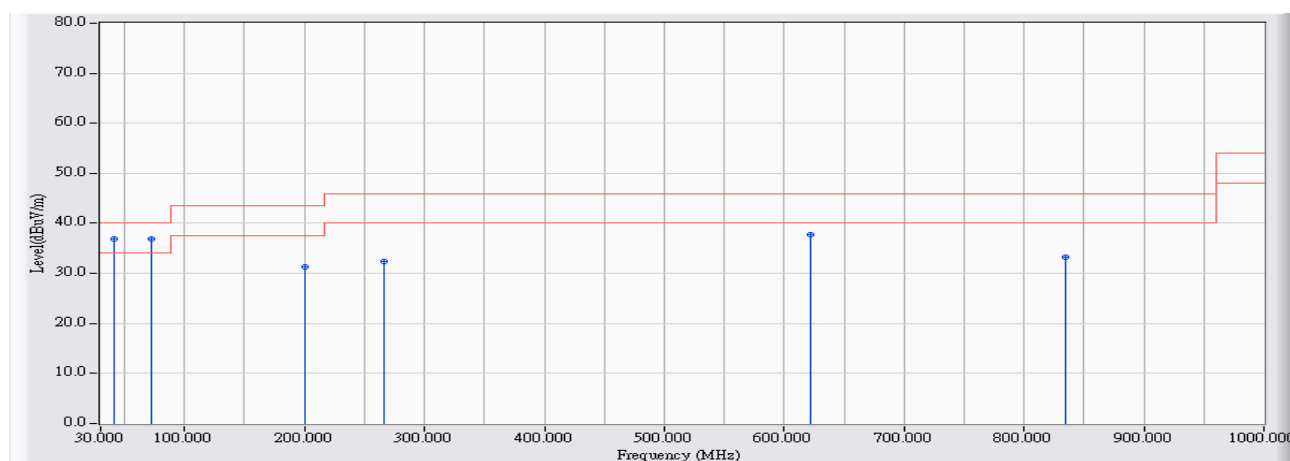


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		72.195	-27.657	63.256	35.599	-4.401	40.000	QUASIPeAK
2		168.225	-23.396	62.968	39.573	-3.927	43.500	QUASIPeAK
3	*	191.020	-23.644	64.044	40.399	-3.101	43.500	QUASIPeAK
4		599.875	-13.139	48.227	35.088	-10.912	46.000	QUASIPeAK
5		687.120	-12.135	49.543	37.408	-8.592	46.000	QUASIPeAK
6		718.700	-11.651	48.152	36.501	-9.499	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 : CB2-H	Time : 2017/06/19
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB2-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2437MHz



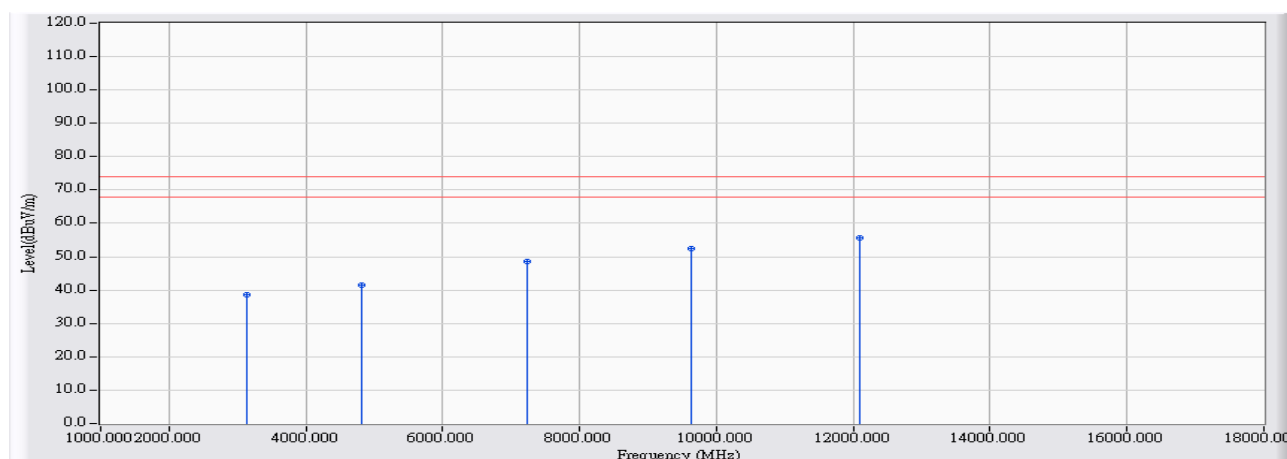
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	41.155	-17.560	54.498	36.938	-3.062	40.000	QUASIPeAK
2		72.195	-27.657	64.517	36.860	-3.140	40.000	QUASIPeAK
3		199.750	-23.349	54.703	31.355	-12.145	43.500	QUASIPeAK
4		266.680	-20.248	52.678	32.430	-13.570	46.000	QUASIPeAK
5		621.700	-12.355	49.998	37.643	-8.357	46.000	QUASIPeAK
6		834.210	-9.975	43.120	33.145	-12.855	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2412MHz

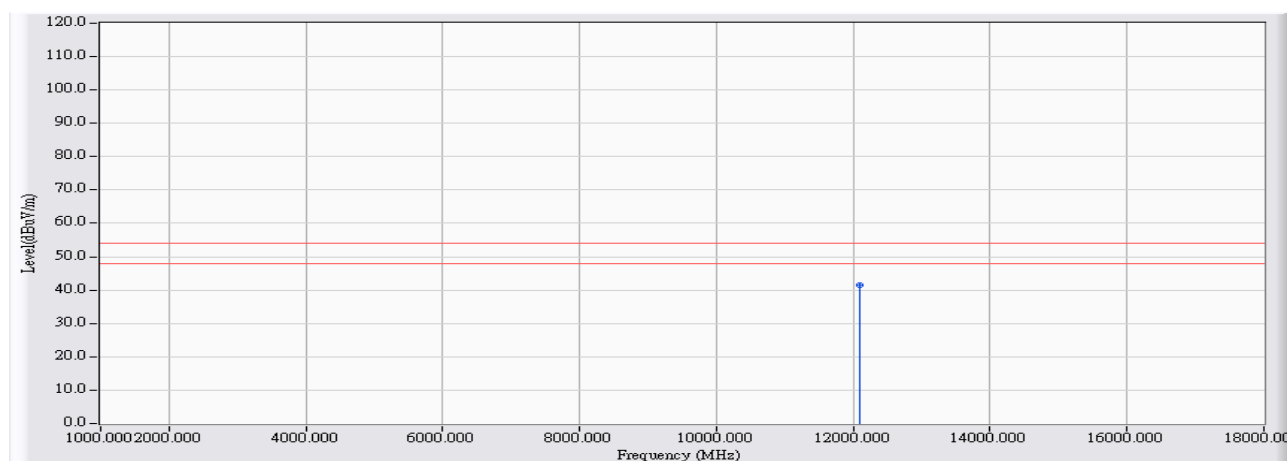


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3125.241	2.034	36.508	38.542	-35.458	74.000	PEAK
2		4824.060	7.434	34.120	41.554	-32.446	74.000	PEAK
3		7233.910	16.046	32.510	48.556	-25.444	74.000	PEAK
4		9639.240	21.819	30.570	52.390	-21.610	74.000	PEAK
5	*	12088.550	25.985	29.640	55.625	-18.375	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2412MHz

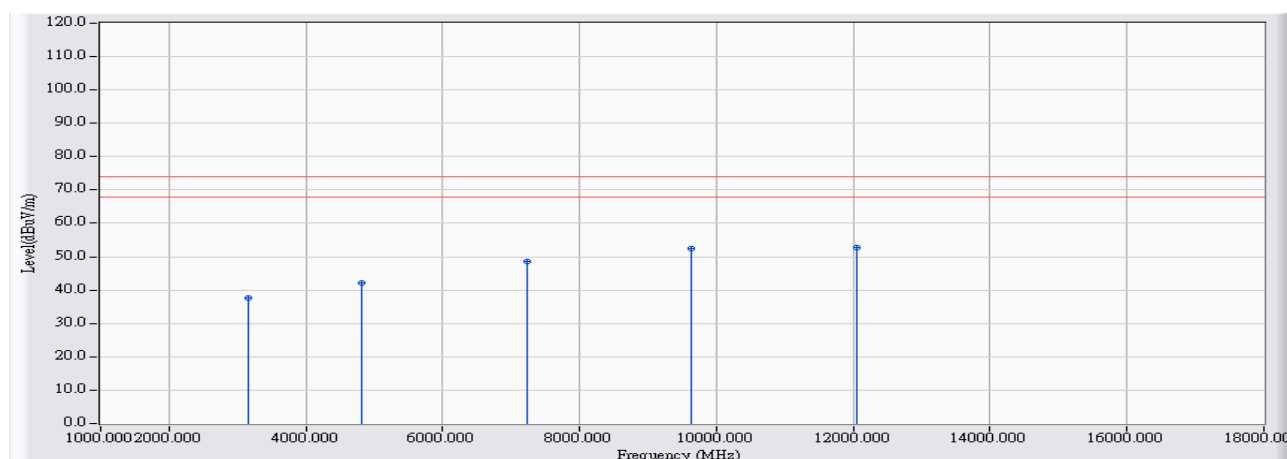


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12097.634	25.968	15.610	41.578	-12.422	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2412MHz

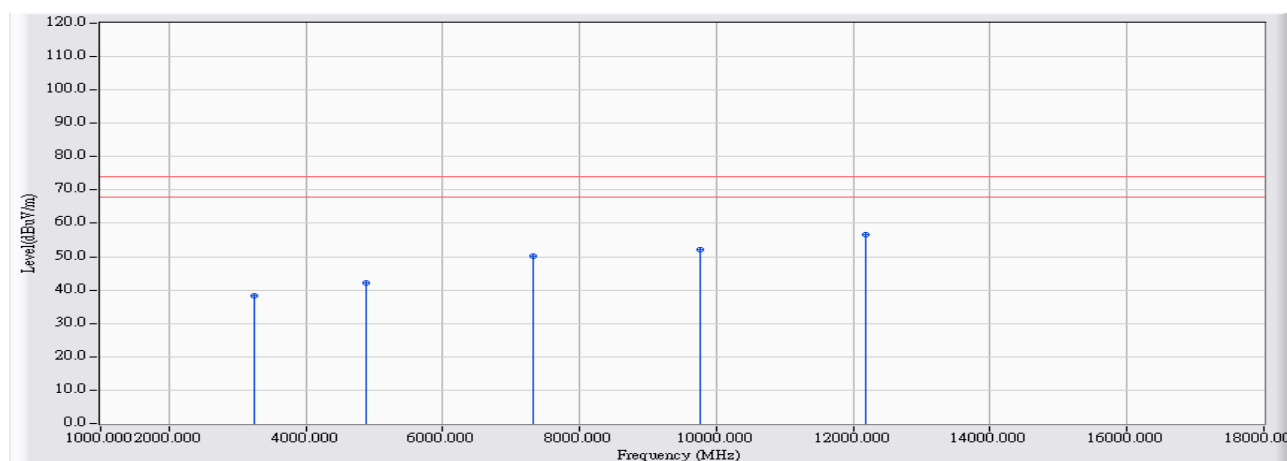


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3153.241	2.078	35.455	37.533	-36.467	74.000	PEAK
2		4824.250	7.434	34.650	42.085	-31.915	74.000	PEAK
3		7243.190	16.090	32.600	48.690	-25.310	74.000	PEAK
4		9639.070	21.819	30.740	52.560	-21.440	74.000	PEAK
5	*	12059.520	26.039	26.840	52.880	-21.120	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2437MHz

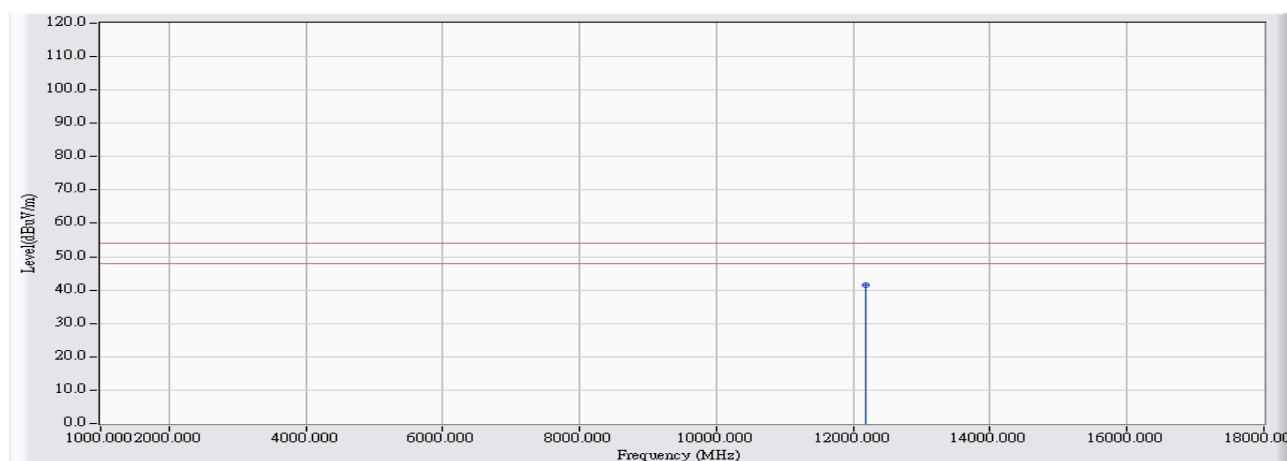


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3254.234	2.233	36.121	38.354	-35.646	74.000	PEAK
2		4873.980	7.558	34.430	41.988	-32.012	74.000	PEAK
3		7315.600	16.407	33.620	50.027	-23.973	74.000	PEAK
4		9753.990	22.145	29.840	51.985	-22.015	74.000	PEAK
5	*	12188.190	25.797	30.840	56.637	-17.363	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2437MHz

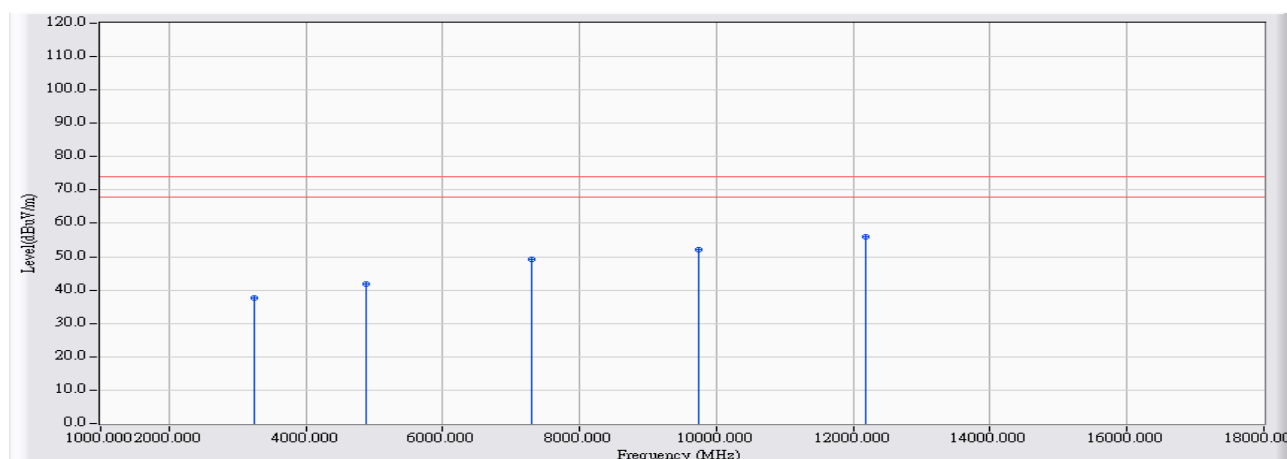


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12189.450	25.795	15.700	41.495	-12.505	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2437MHz

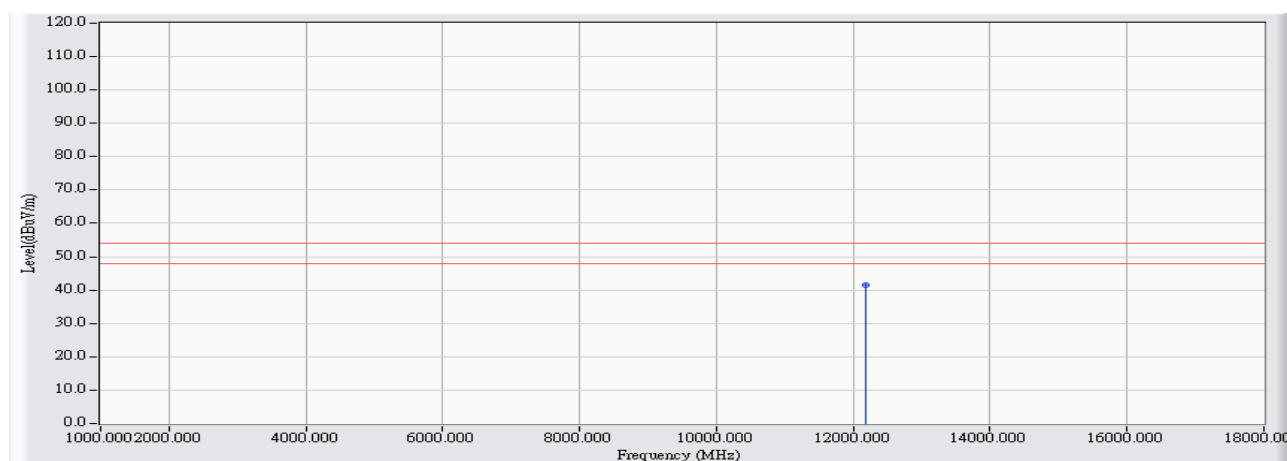


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3249.857	2.227	35.407	37.634	-36.366	74.000	PEAK
2		4873.900	7.558	34.360	41.918	-32.082	74.000	PEAK
3		7308.980	16.379	32.770	49.149	-24.851	74.000	PEAK
4		9743.130	22.115	30.080	52.194	-21.806	74.000	PEAK
5	*	12189.340	25.795	30.240	56.035	-17.965	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2437MHz

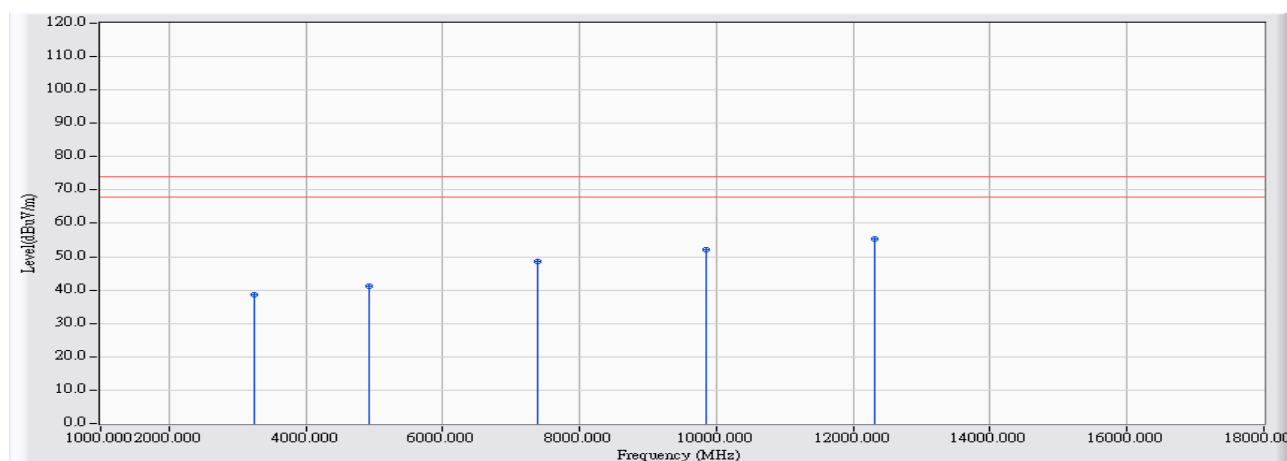


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12187.220	25.800	15.680	41.479	-12.521	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2462MHz

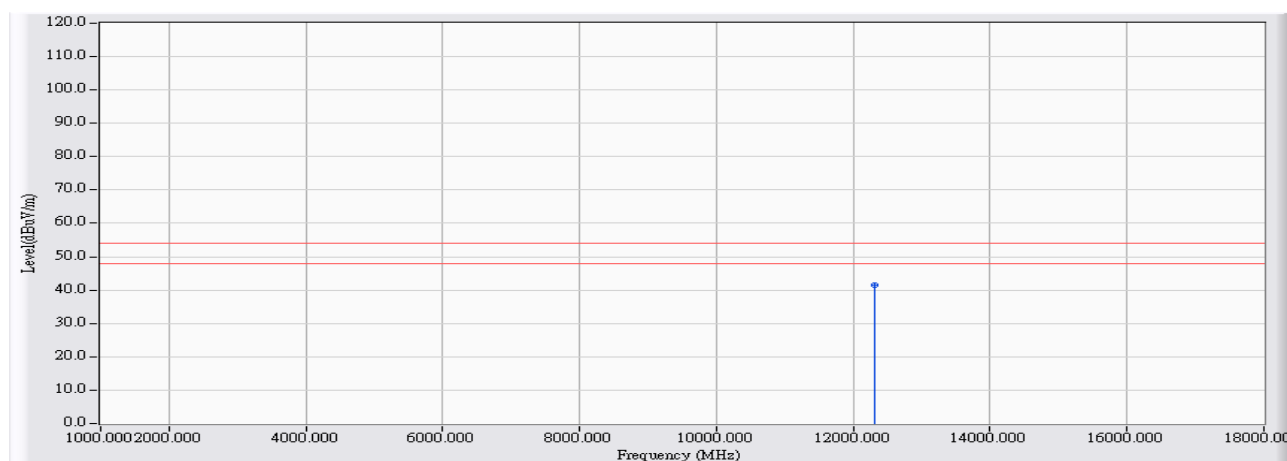


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3253.631	2.232	36.292	38.524	-35.476	74.000	PEAK
2		4924.060	7.681	33.520	41.202	-32.798	74.000	PEAK
3		7394.330	16.750	31.730	48.479	-25.521	74.000	PEAK
4		9843.580	22.344	29.780	52.124	-21.876	74.000	PEAK
5	*	12301.310	25.587	29.750	55.338	-18.662	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2462MHz

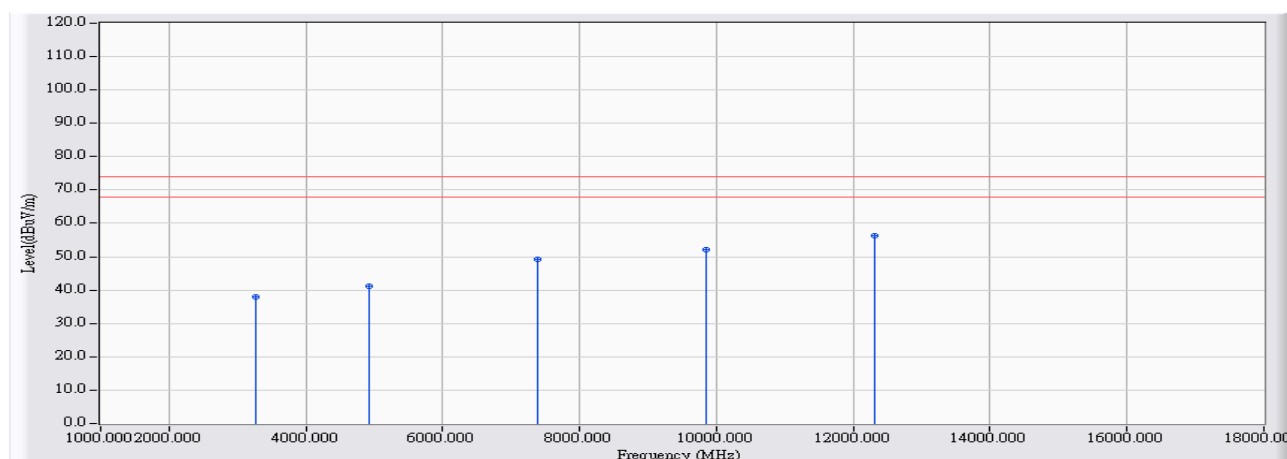


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12319.320	25.554	16.020	41.575	-12.425	54.000	AVERAGE

Note:

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

Site : CB4-H	Time : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2462MHz

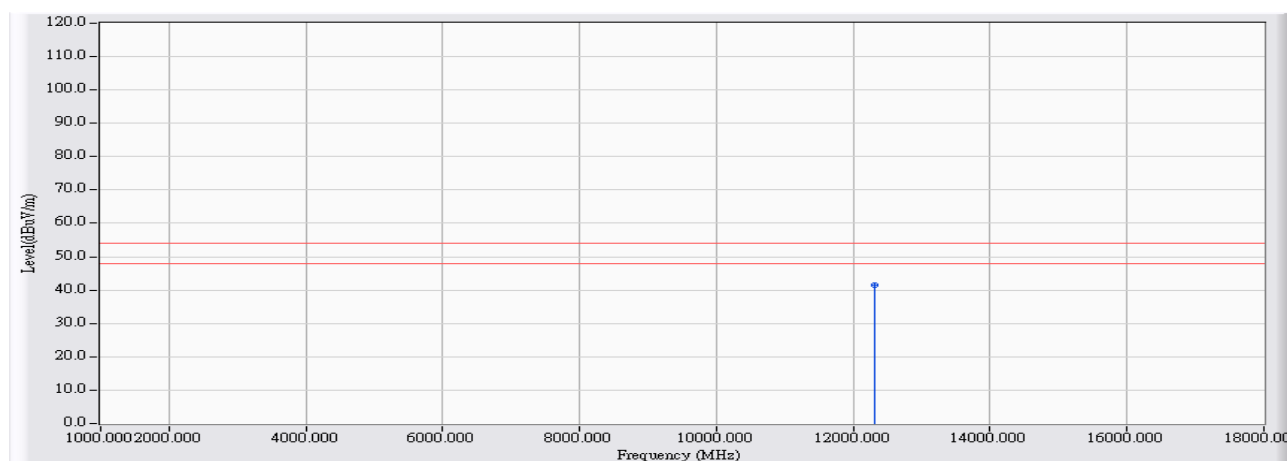


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3258.638	2.239	35.746	37.985	-36.015	74.000	PEAK
2		4923.740	7.680	33.460	41.141	-32.859	74.000	PEAK
3		7383.690	16.703	32.460	49.163	-24.837	74.000	PEAK
4		9840.020	22.336	29.670	52.006	-21.994	74.000	PEAK
5	*	12319.180	25.554	30.710	56.265	-17.735	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2462MHz

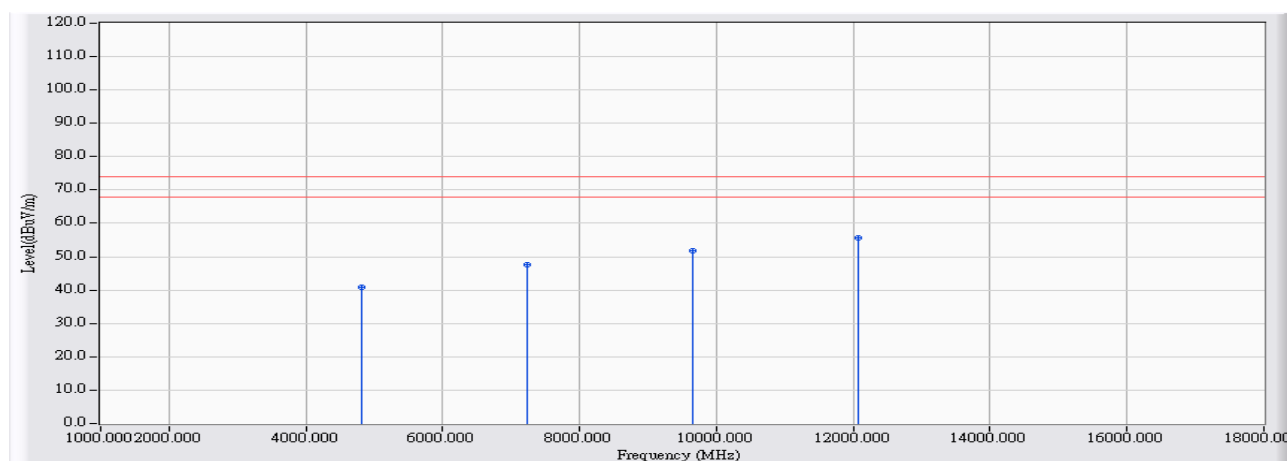


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12303.480	25.583	16.020	41.604	-12.396	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2412MHz

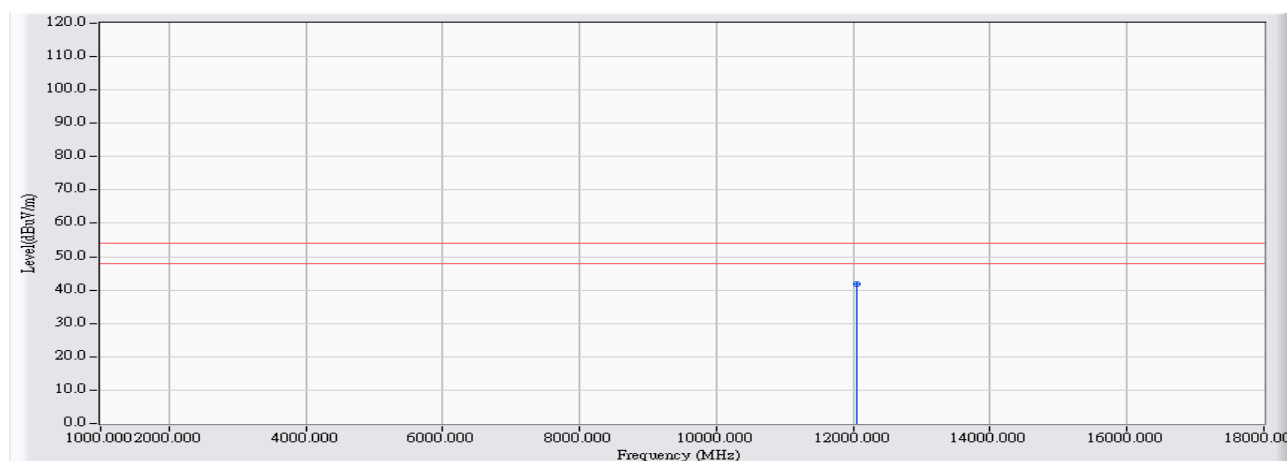


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4816.510	7.416	33.590	41.006	-32.994	74.000	PEAK
2		7226.080	16.008	31.730	47.738	-26.262	74.000	PEAK
3		9656.790	21.869	29.870	51.740	-22.260	74.000	PEAK
4	*	12067.300	26.026	29.710	55.735	-18.265	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2412MHz

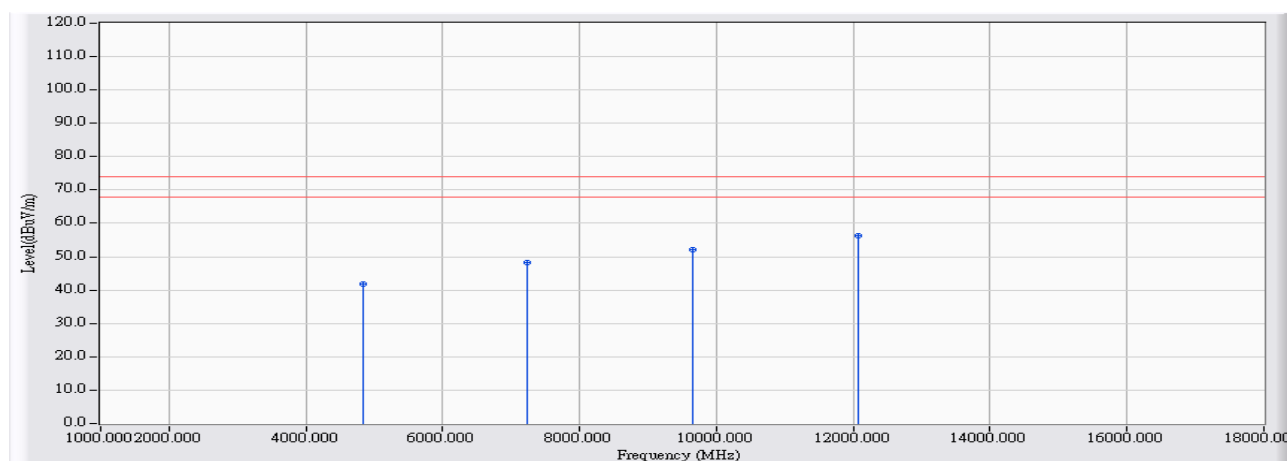


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12056.710	26.045	15.790	41.835	-12.165	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2412MHz

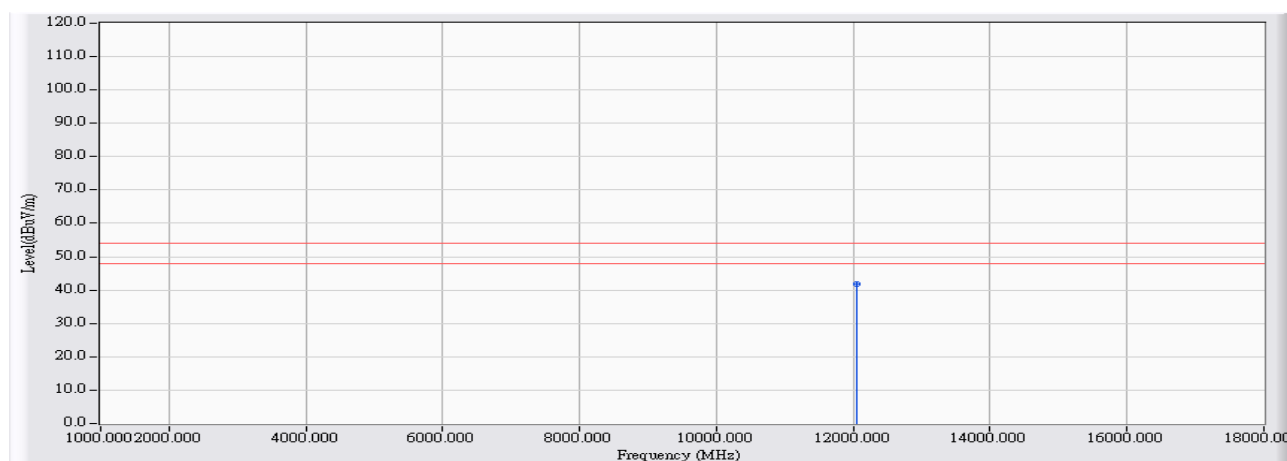


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4832.370	7.455	34.240	41.695	-32.305	74.000	PEAK
2		7233.760	16.046	32.120	48.165	-25.835	74.000	PEAK
3		9642.050	21.829	30.370	52.198	-21.802	74.000	PEAK
4	*	12069.130	26.022	30.320	56.341	-17.659	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2412MHz

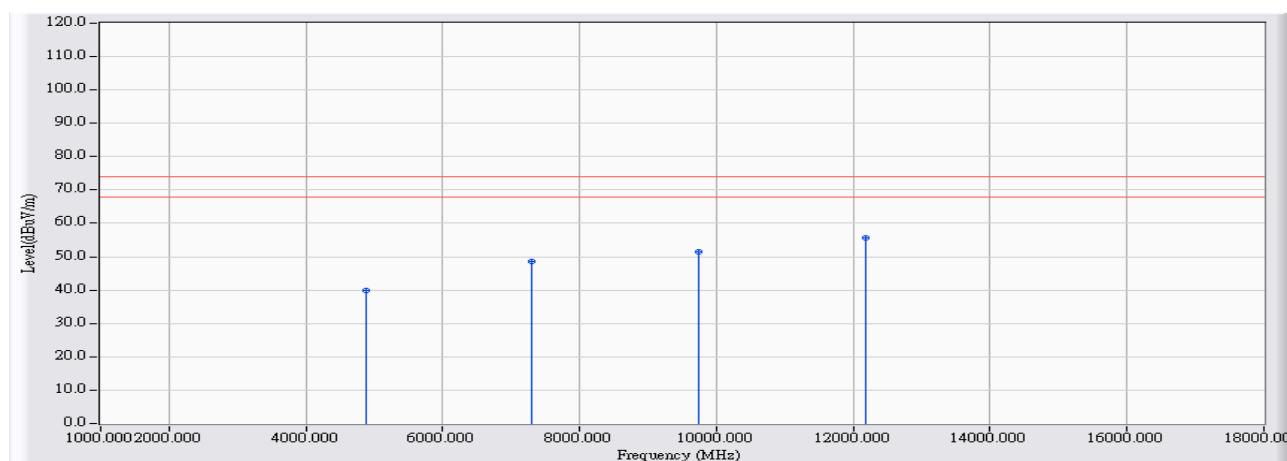


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12050.390	26.057	15.810	41.867	-12.133	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2437MHz

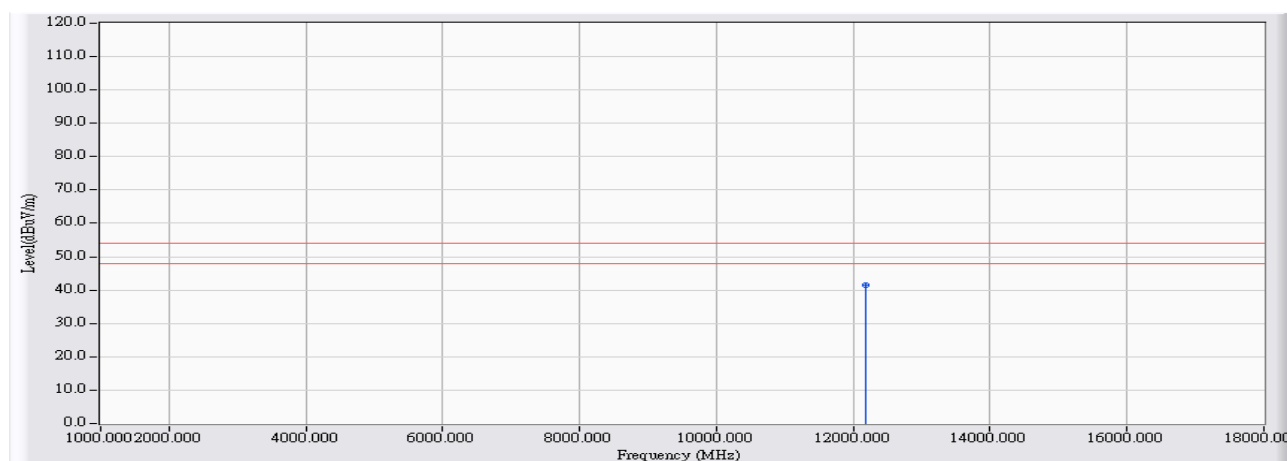


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.150	7.558	32.470	40.028	-33.972	74.000	PEAK
2		7309.440	16.381	32.190	48.571	-25.429	74.000	PEAK
3		9740.620	22.106	29.490	51.597	-22.403	74.000	PEAK
4	*	12179.440	25.814	29.800	55.614	-18.386	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2437MHz

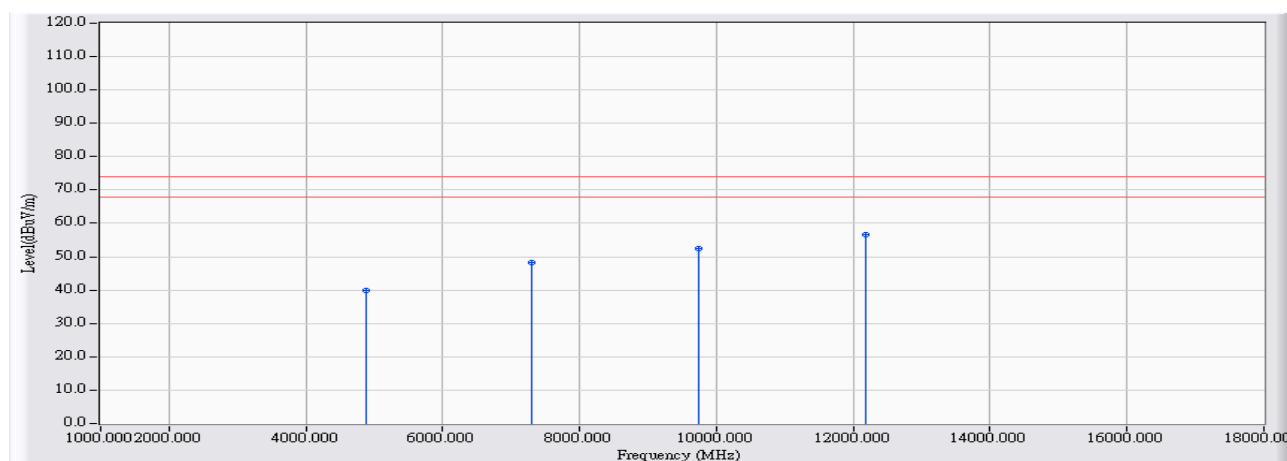


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12185.650	25.802	15.700	41.502	-12.498	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2437MHz

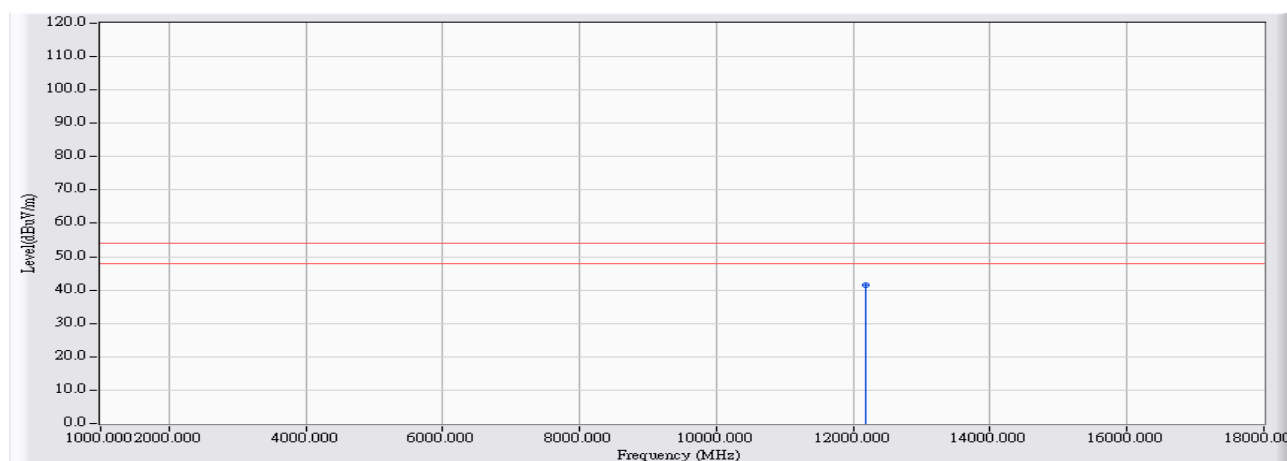


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.480	7.558	32.470	40.029	-33.971	74.000	PEAK
2		7309.110	16.380	31.770	48.149	-25.851	74.000	PEAK
3		9749.110	22.131	30.290	52.421	-21.579	74.000	PEAK
4	*	12177.990	25.817	30.680	56.497	-17.503	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2437MHz

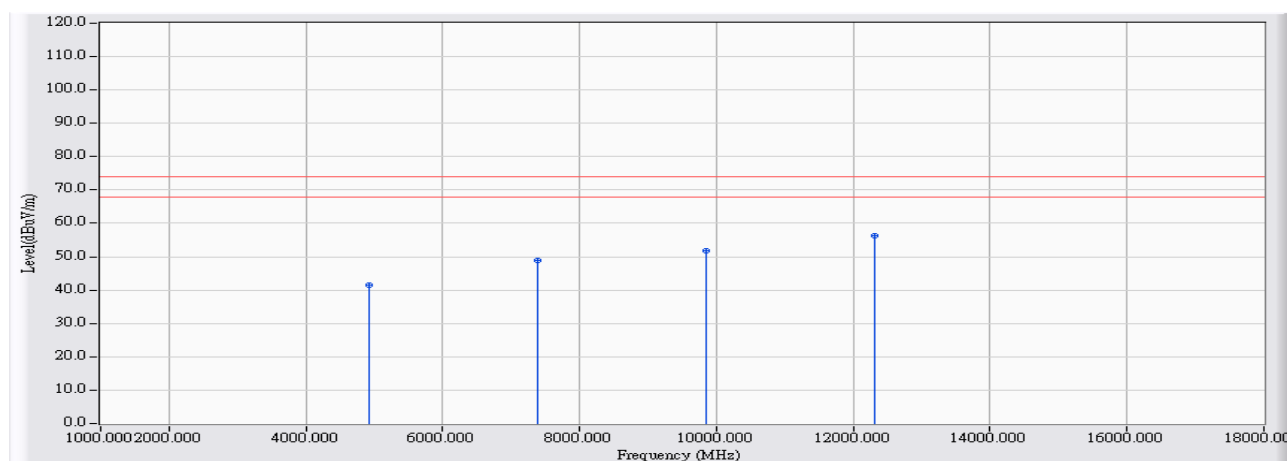


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12190.210	25.793	15.700	41.494	-12.506	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2462MHz

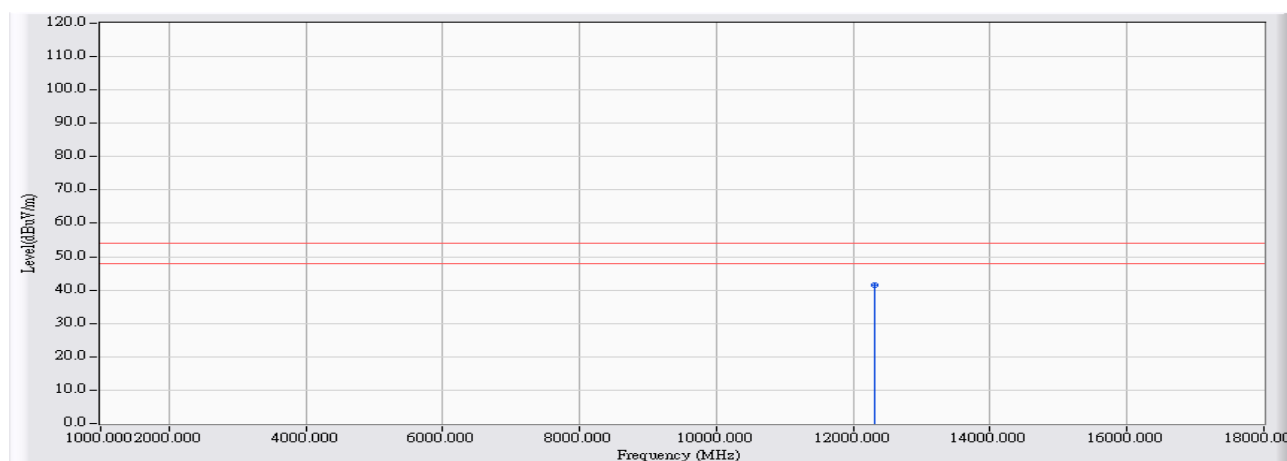


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4923.910	7.681	33.680	41.361	-32.639	74.000	PEAK
2		7382.030	16.696	32.230	48.926	-25.074	74.000	PEAK
3		9855.730	22.371	29.530	51.900	-22.100	74.000	PEAK
4	*	12312.010	25.568	30.720	56.288	-17.712	74.000	PEAK

Note:

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

Site : CB4-H	Time : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2462MHz

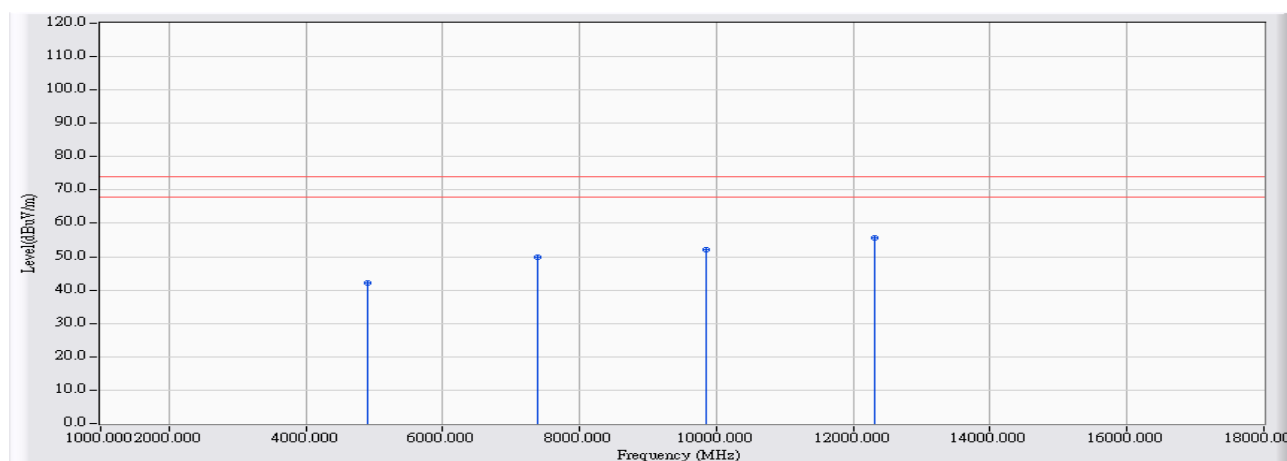


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12316.280	25.560	16.040	41.600	-12.400	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2462MHz

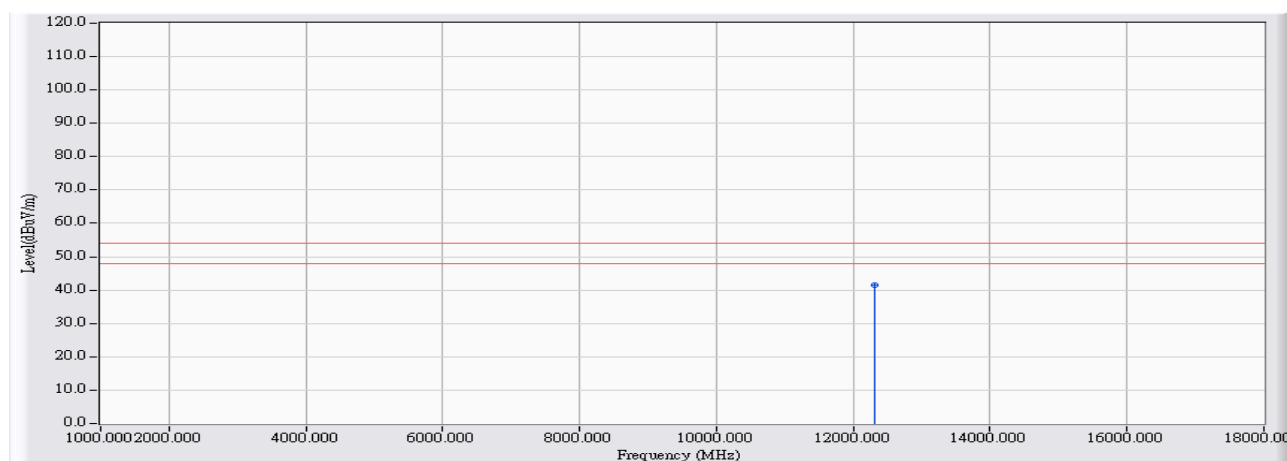


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4910.740	7.649	34.500	42.149	-31.851	74.000	PEAK
2		7384.340	16.707	33.100	49.806	-24.194	74.000	PEAK
3		9848.040	22.353	29.690	52.043	-21.957	74.000	PEAK
4	*	12312.710	25.566	30.190	55.757	-18.243	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2462MHz

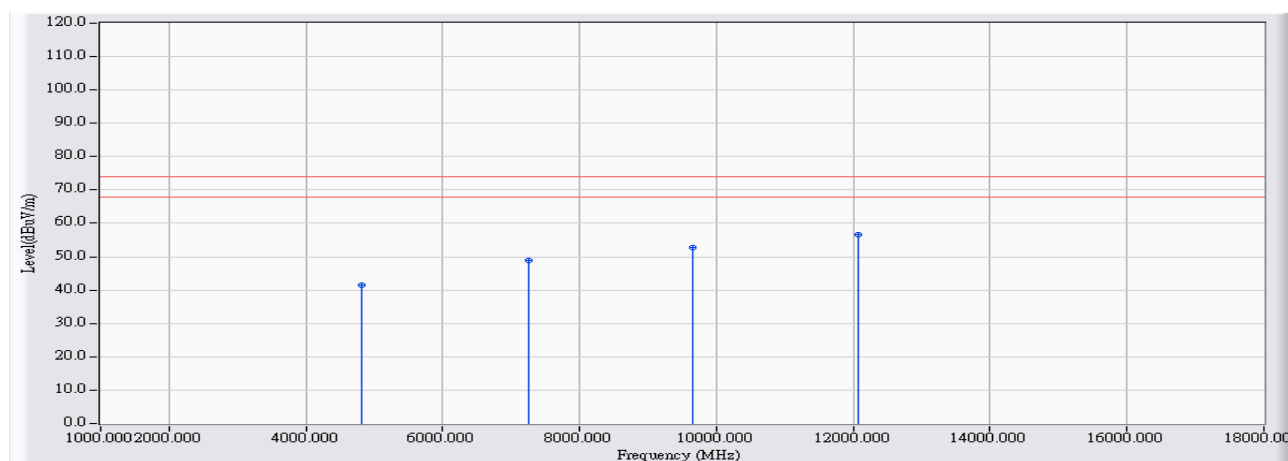


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12310.790	25.571	16.040	41.610	-12.390	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2412MHz

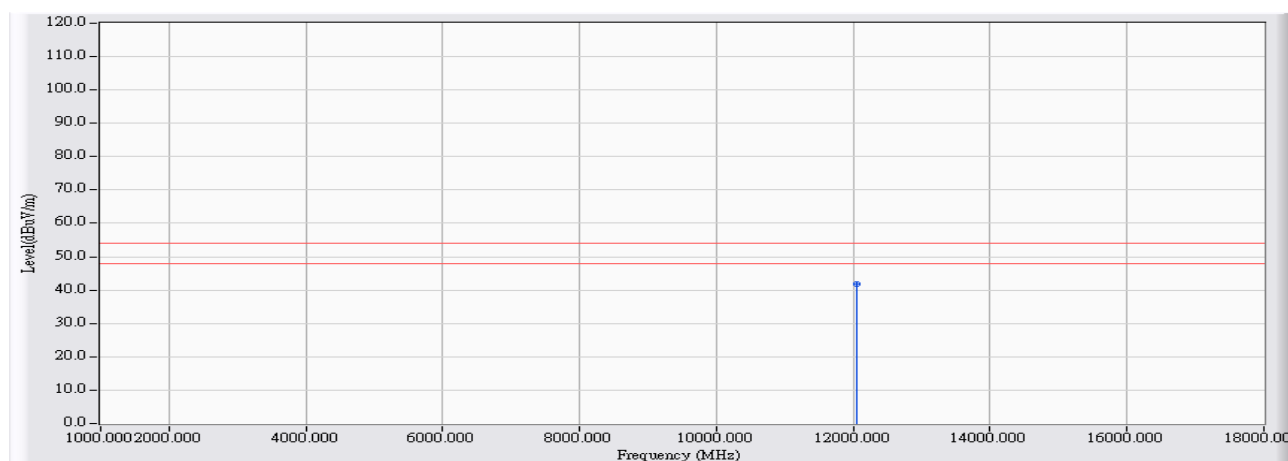


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4823.200	7.432	34.200	41.632	-32.368	74.000	PEAK
2		7245.720	16.101	32.720	48.821	-25.179	74.000	PEAK
3		9645.210	21.837	30.990	52.827	-21.173	74.000	PEAK
4	*	12061.678	26.035	30.480	56.516	-17.484	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2412MHz

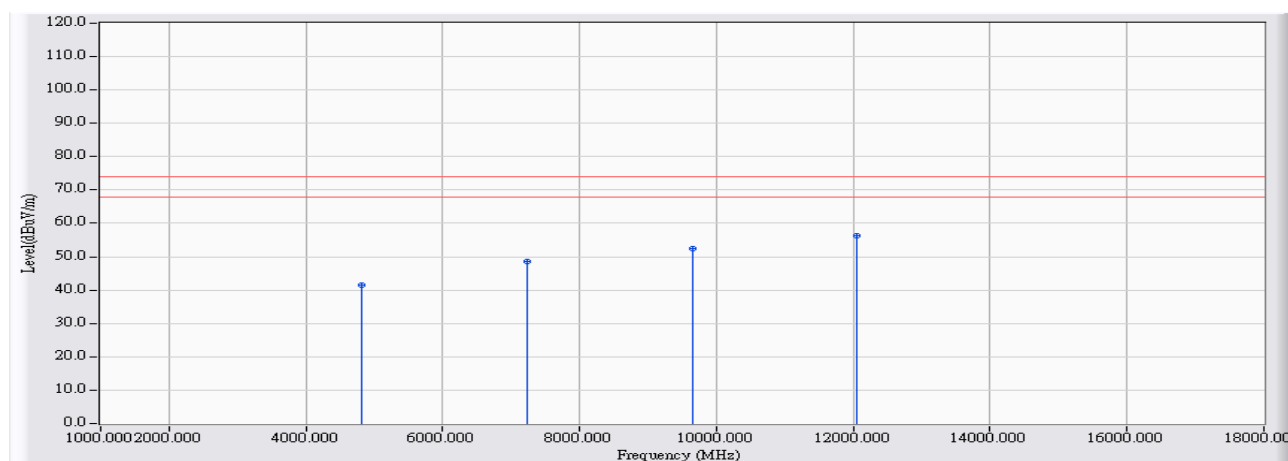


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12050.360	26.057	15.770	41.827	-12.173	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2412MHz

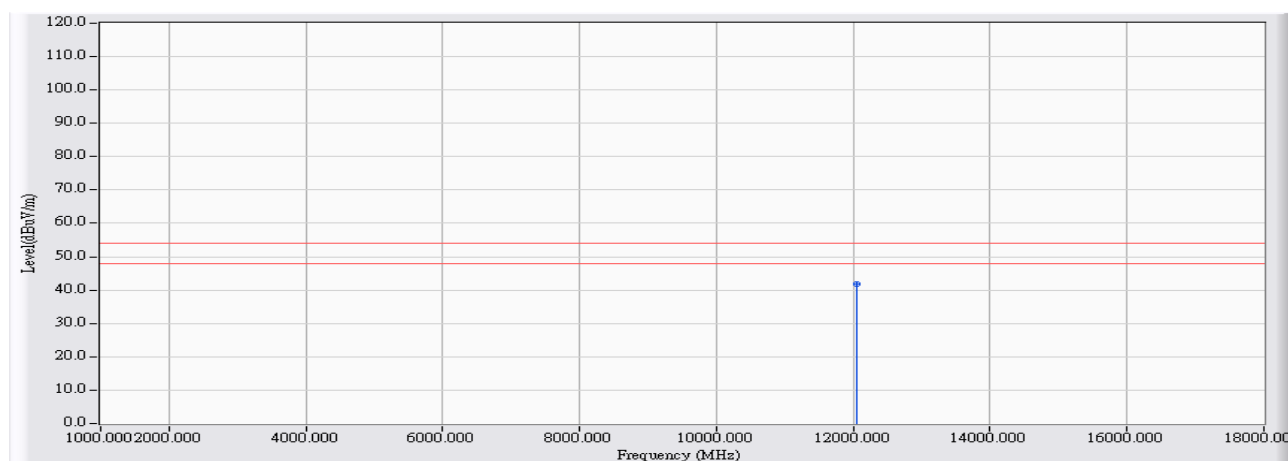


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4819.510	7.423	33.920	41.343	-32.657	74.000	PEAK
2		7233.910	16.046	32.570	48.616	-25.384	74.000	PEAK
3		9647.360	21.843	30.670	52.513	-21.487	74.000	PEAK
4	*	12052.660	26.053	30.320	56.372	-17.628	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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB4-H	Time : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2412MHz

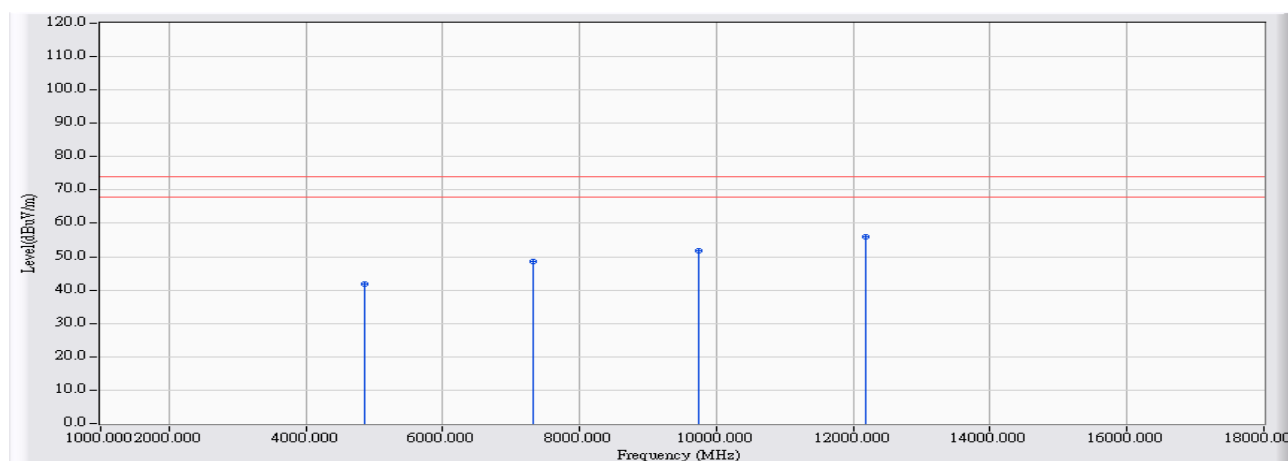


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12052.140	26.054	15.790	41.843	-12.157	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2437MHz

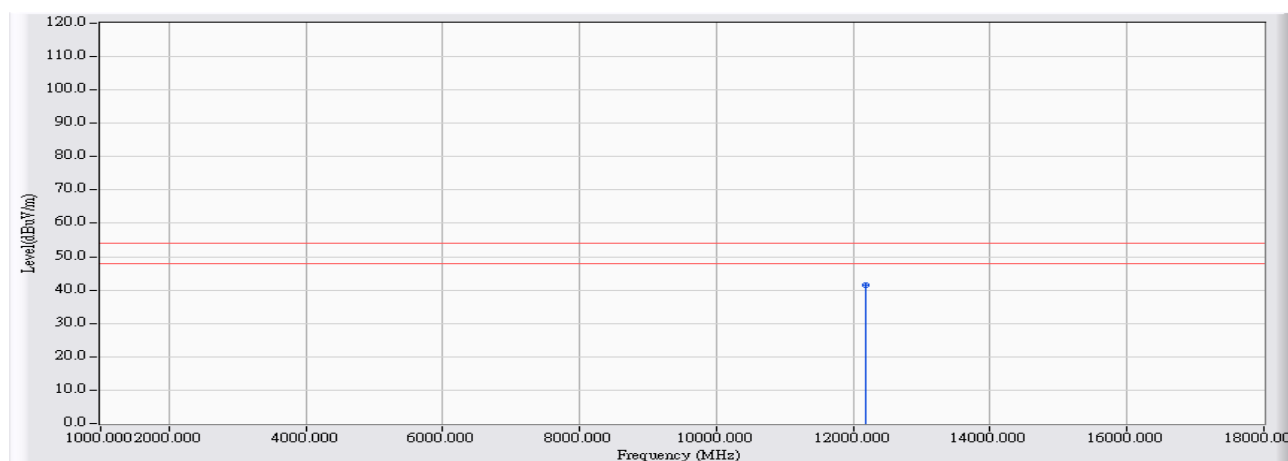


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4867.350	7.542	34.390	41.931	-32.069	74.000	PEAK
2		7319.870	16.426	32.090	48.516	-25.484	74.000	PEAK
3		9745.970	22.123	29.660	51.782	-22.218	74.000	PEAK
4	*	12188.440	25.797	30.280	56.077	-17.923	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2437MHz

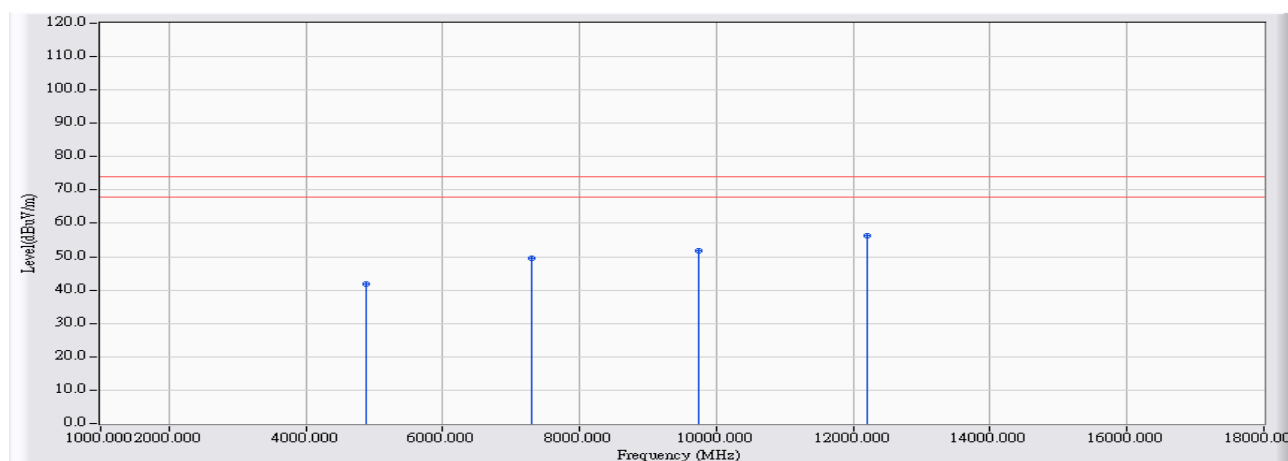


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12177.300	25.819	15.680	41.498	-12.502	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2437MHz

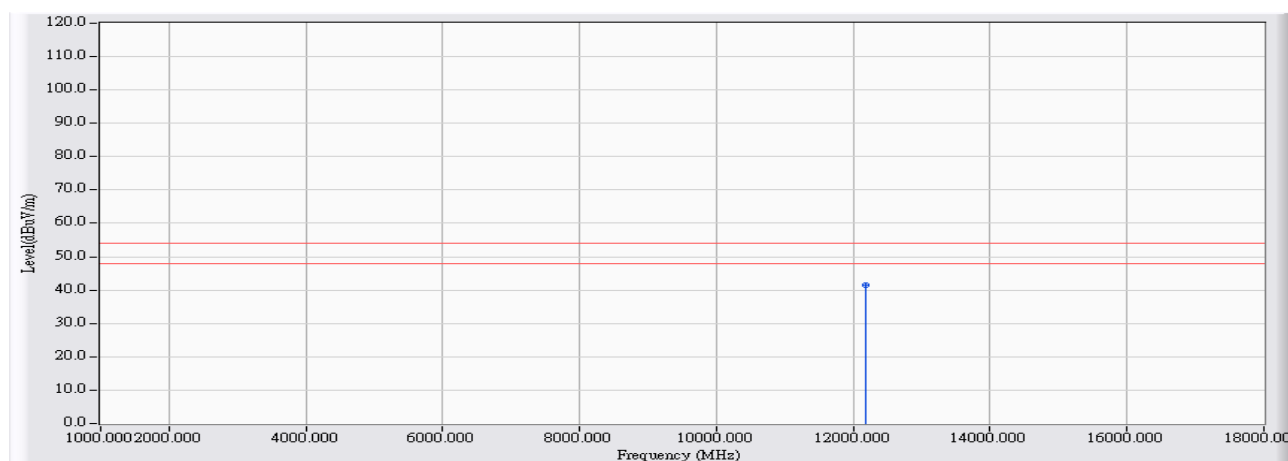


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4882.700	7.579	34.130	41.709	-32.291	74.000	PEAK
2		7302.700	16.351	33.100	49.451	-24.549	74.000	PEAK
3		9748.450	22.130	29.810	51.939	-22.061	74.000	PEAK
4	*	12195.120	25.785	30.420	56.204	-17.796	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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB4-H	Time : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2437MHz

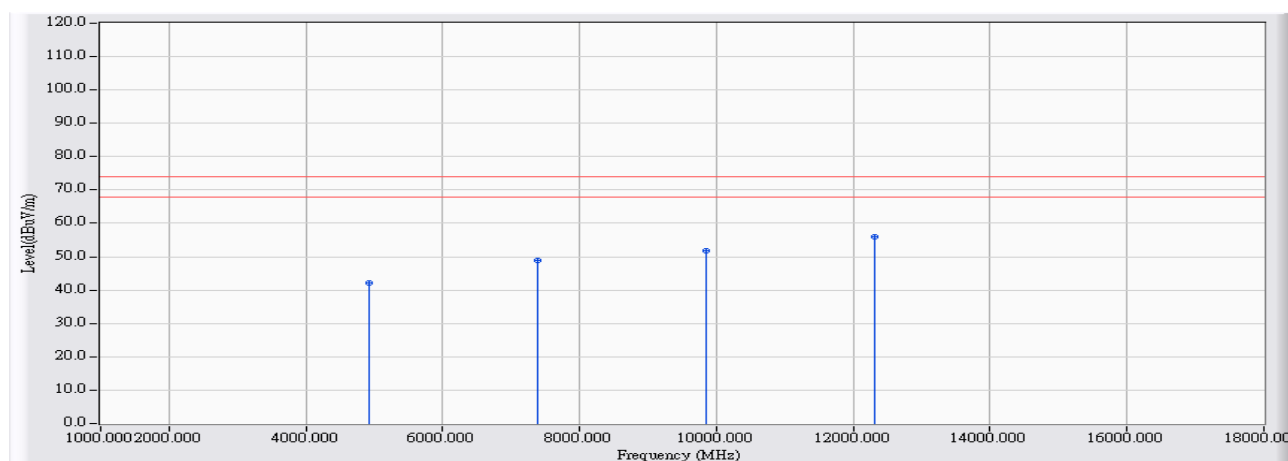


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12191.060	25.792	15.690	41.482	-12.518	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2462MHz

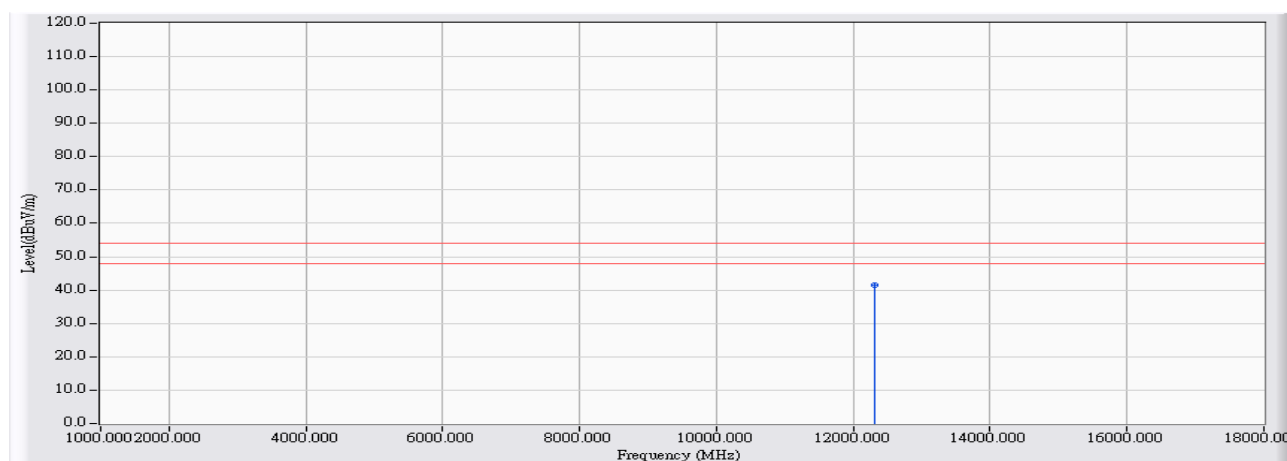


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4917.540	7.666	34.500	42.166	-31.834	74.000	PEAK
2		7378.840	16.683	32.210	48.892	-25.108	74.000	PEAK
3		9843.110	22.342	29.600	51.943	-22.057	74.000	PEAK
4	*	12310.100	25.572	30.510	56.082	-17.918	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2462MHz

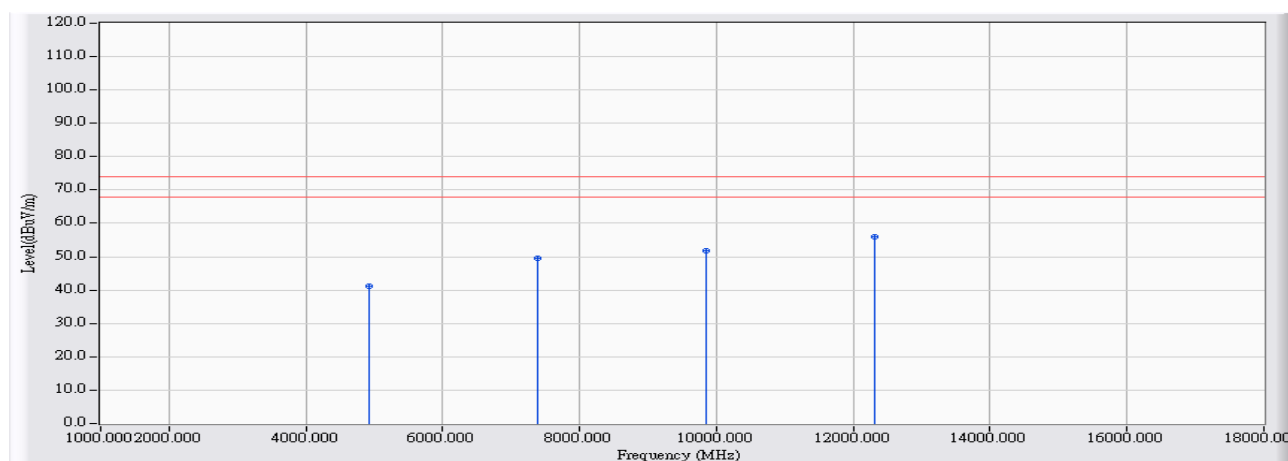


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12316.790	25.559	16.020	41.579	-12.421	54.000	AVERAGE

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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2462MHz

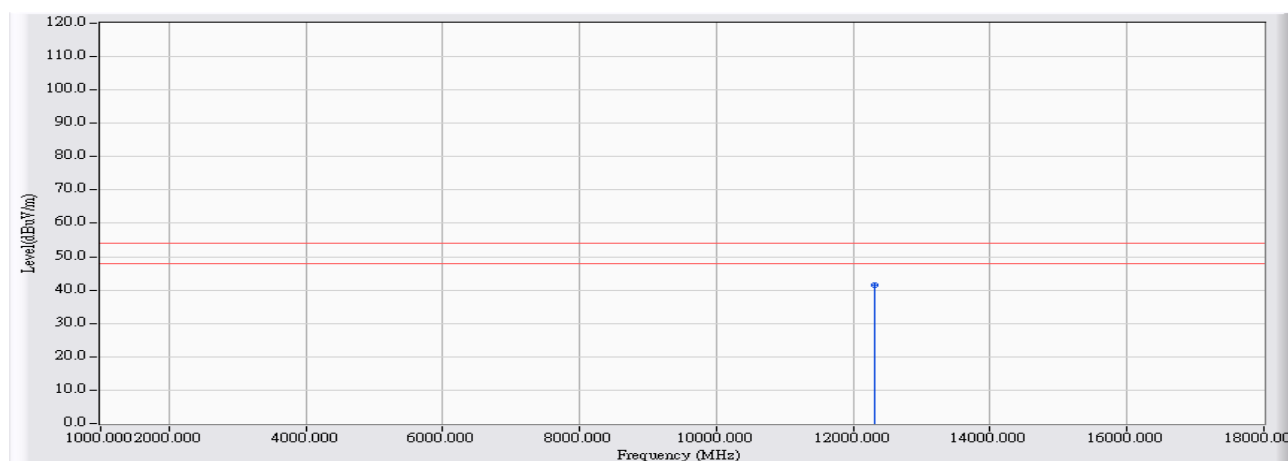


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4923.660	7.680	33.590	41.271	-32.729	74.000	PEAK
2		7387.980	16.722	32.680	49.402	-24.598	74.000	PEAK
3		9850.870	22.360	29.320	51.680	-22.320	74.000	PEAK
4	*	12304.700	25.581	30.540	56.121	-17.879	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power : DC 3.8V
EUT : Smart Lighting 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	*	12301.410	25.587	15.990	41.577	-12.423	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 equipment is used during the test:

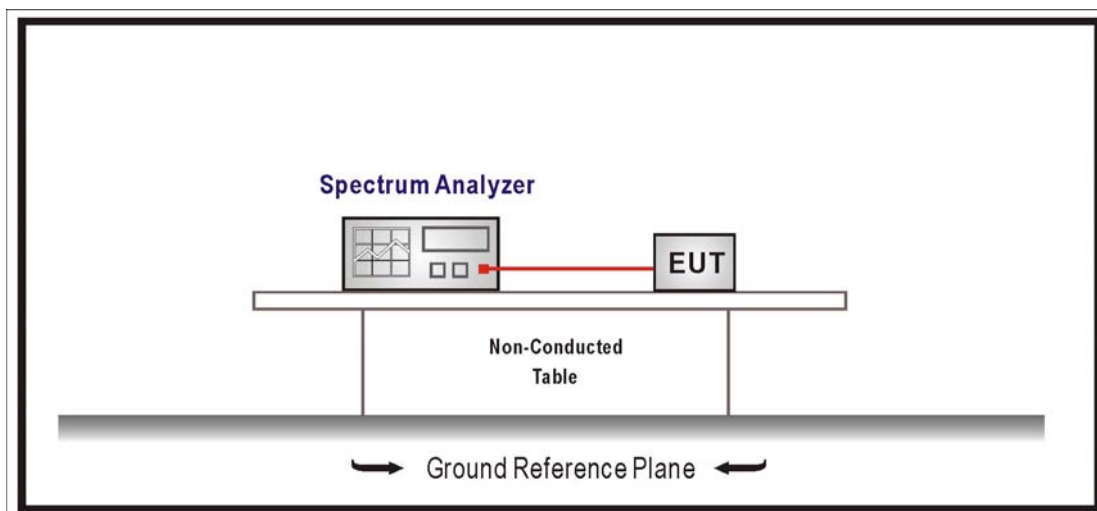
RF Antenna Conducted Test / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/12

Note: All equipment 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 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 $\pm 1.27\text{dB}$

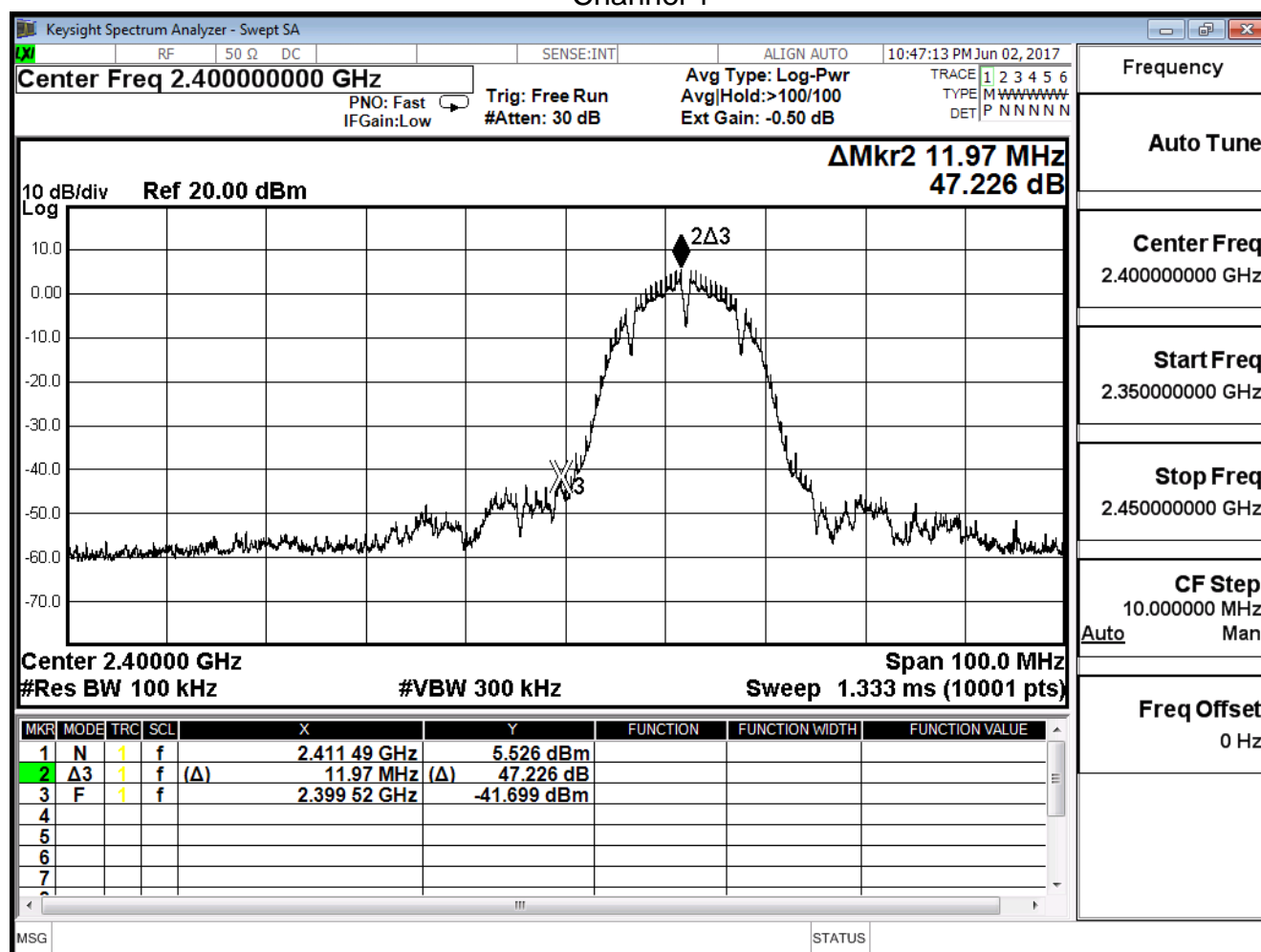
5.7. Test Result

Product	Smart Lighting System		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

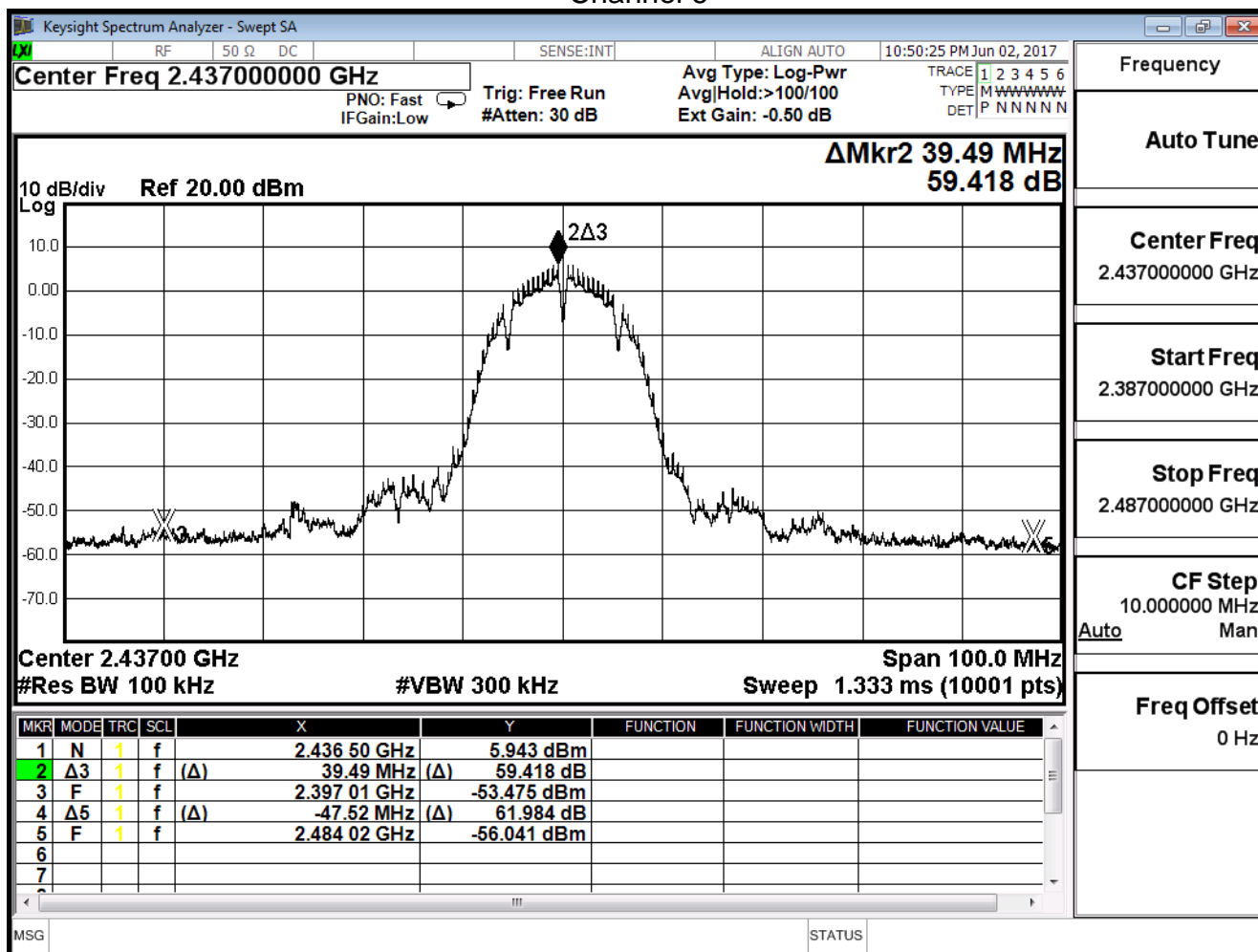
IEEE 802.11b (ANT 0)

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	47.226	≤ 30	Pass
6	2437	59.418	≤ 30	Pass
11	2462	56.101	≤ 30	Pass

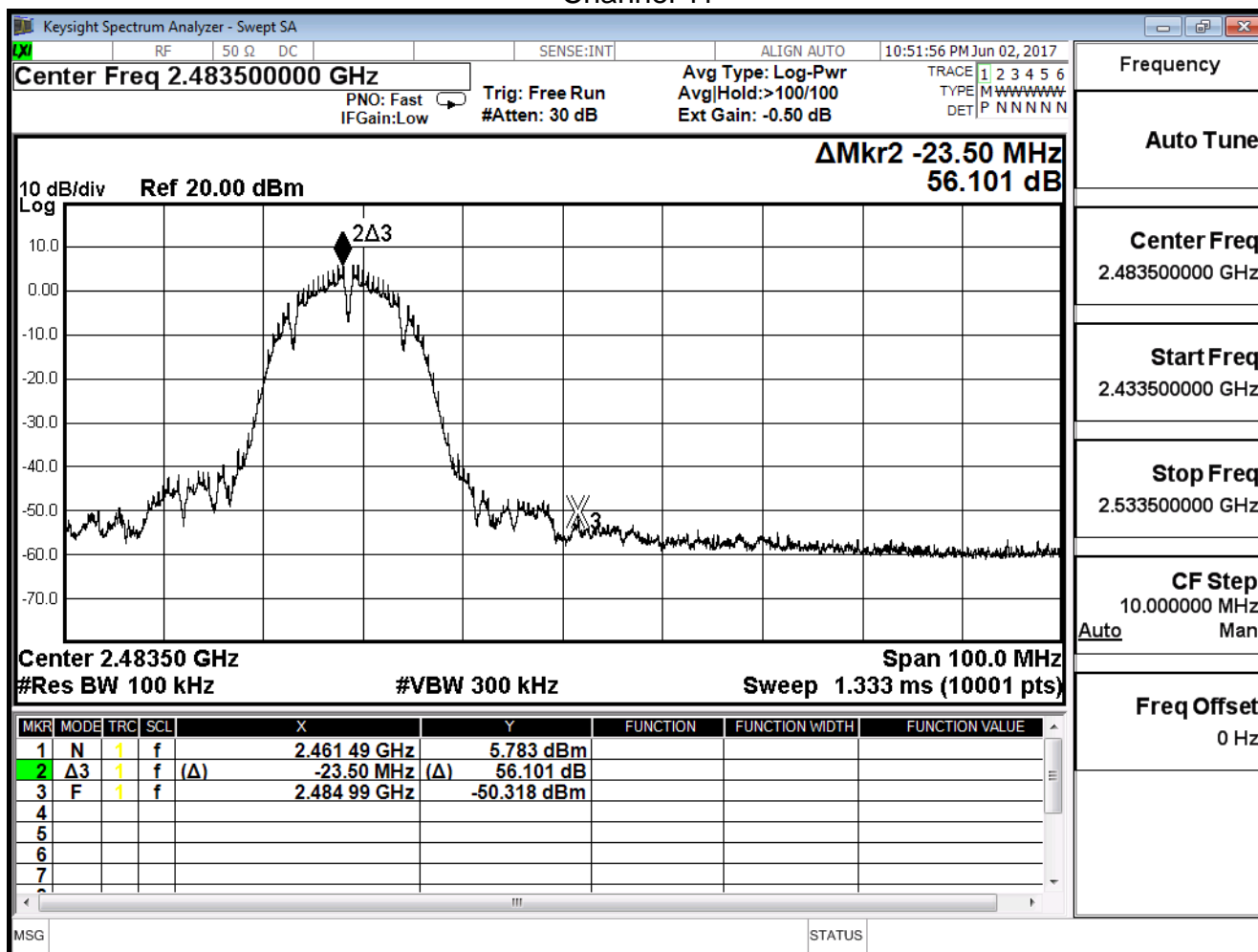
Channel 1



Channel 6



Channel 11

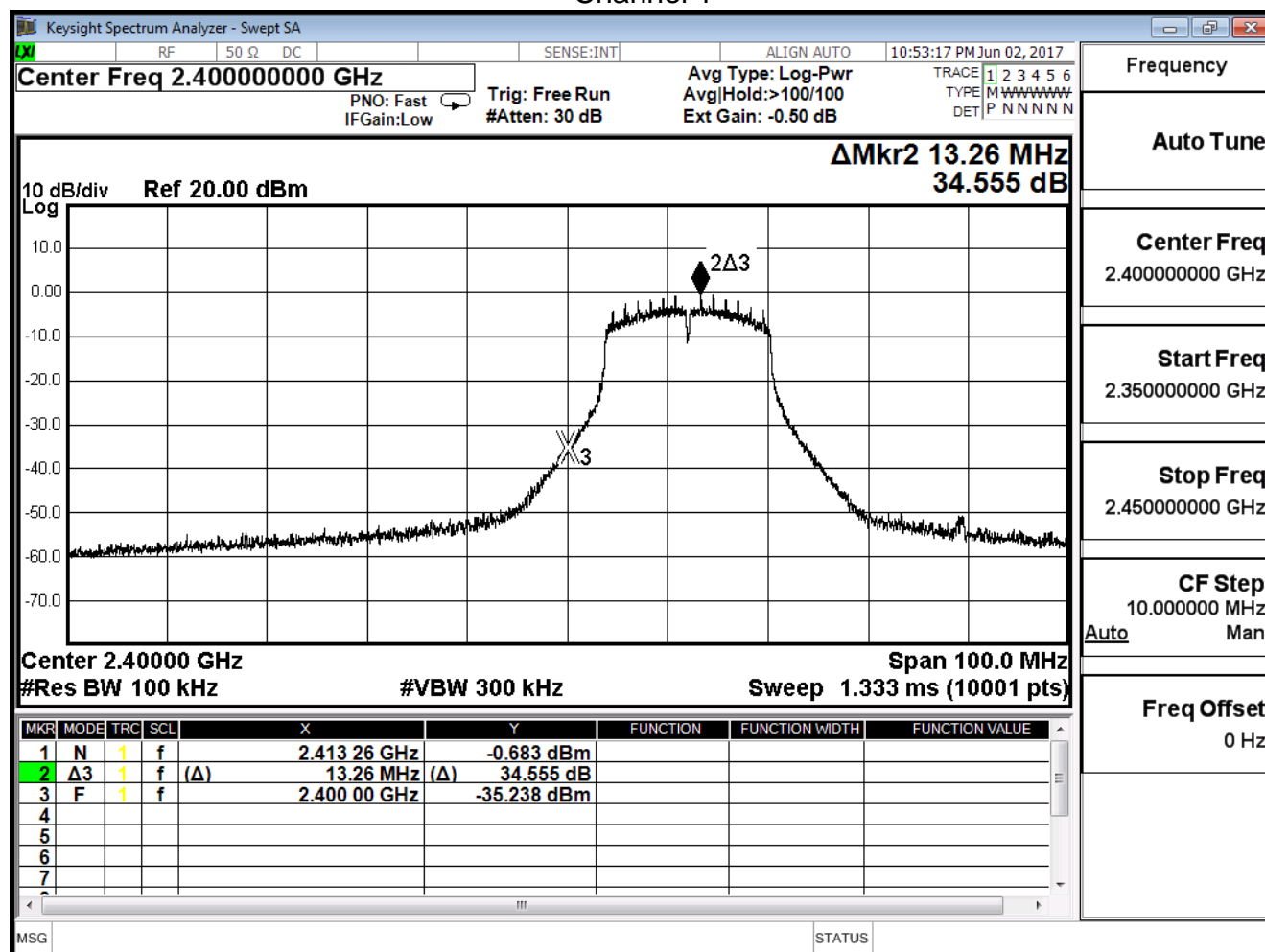


Product	Smart Lighting System		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

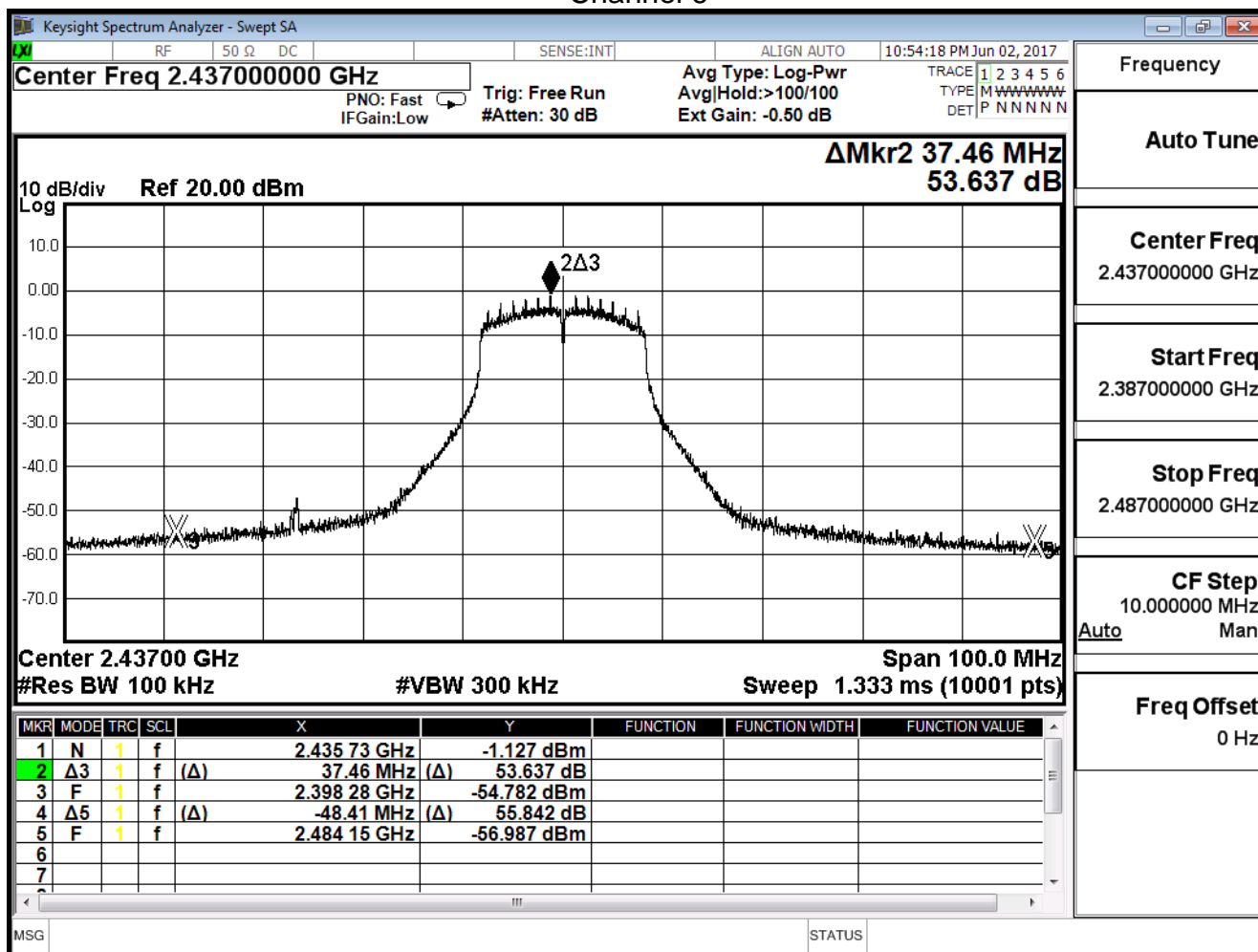
IEEE 802.11g (ANT 0)

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	34.555	≥ 30	Pass
6	2437	53.637	≥ 30	Pass
11	2462	50.859	≥ 30	Pass

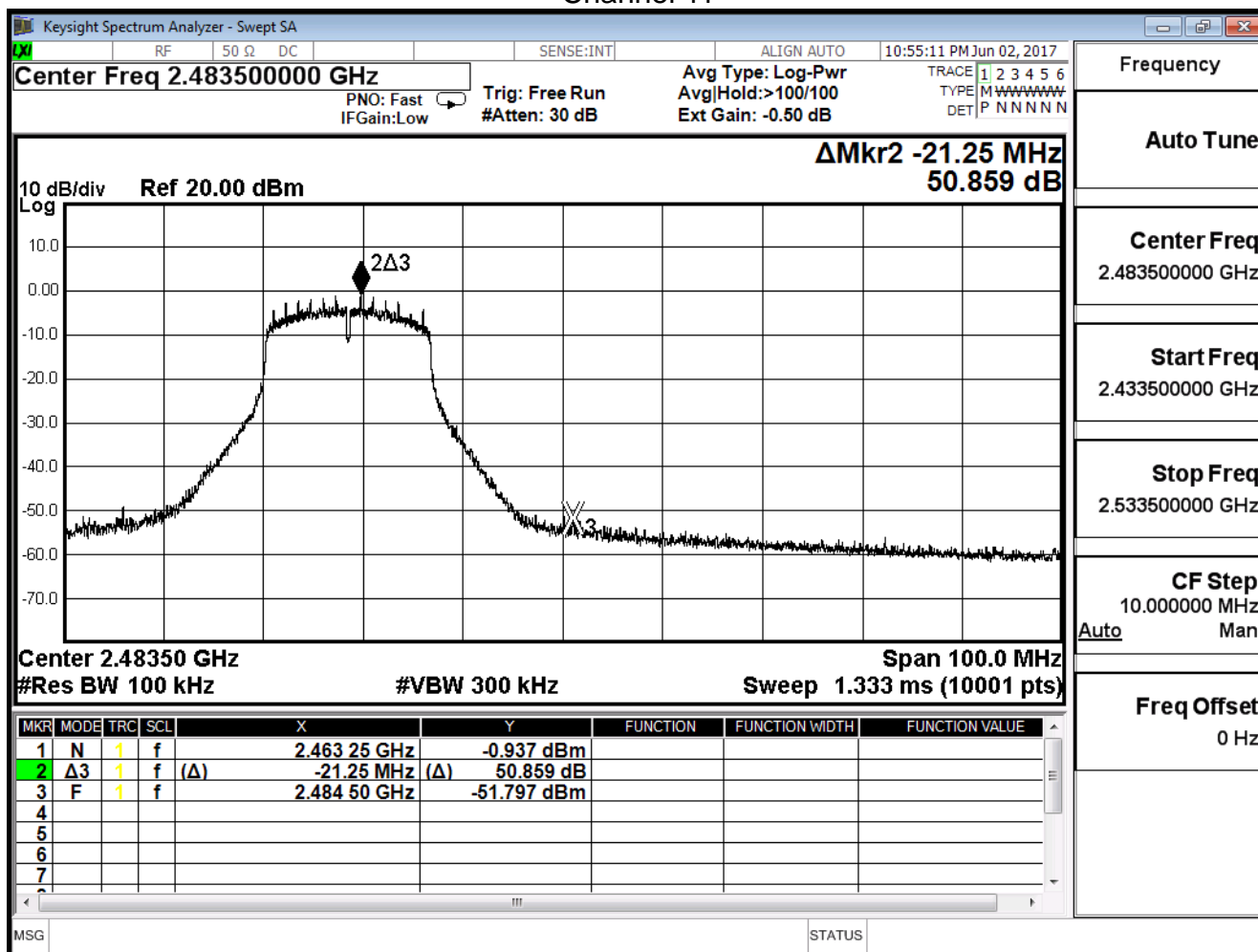
Channel 1



Channel 6



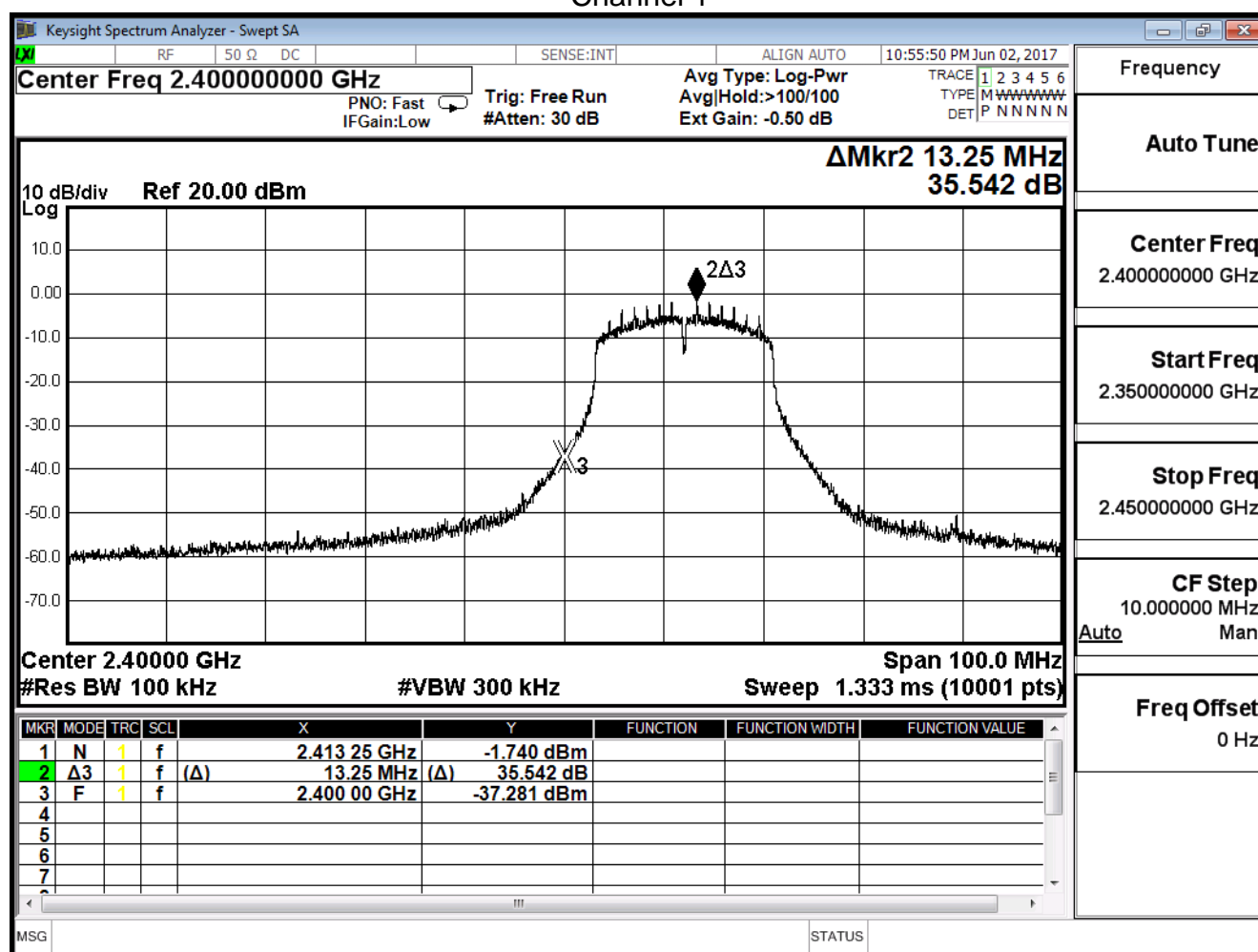
Channel 11



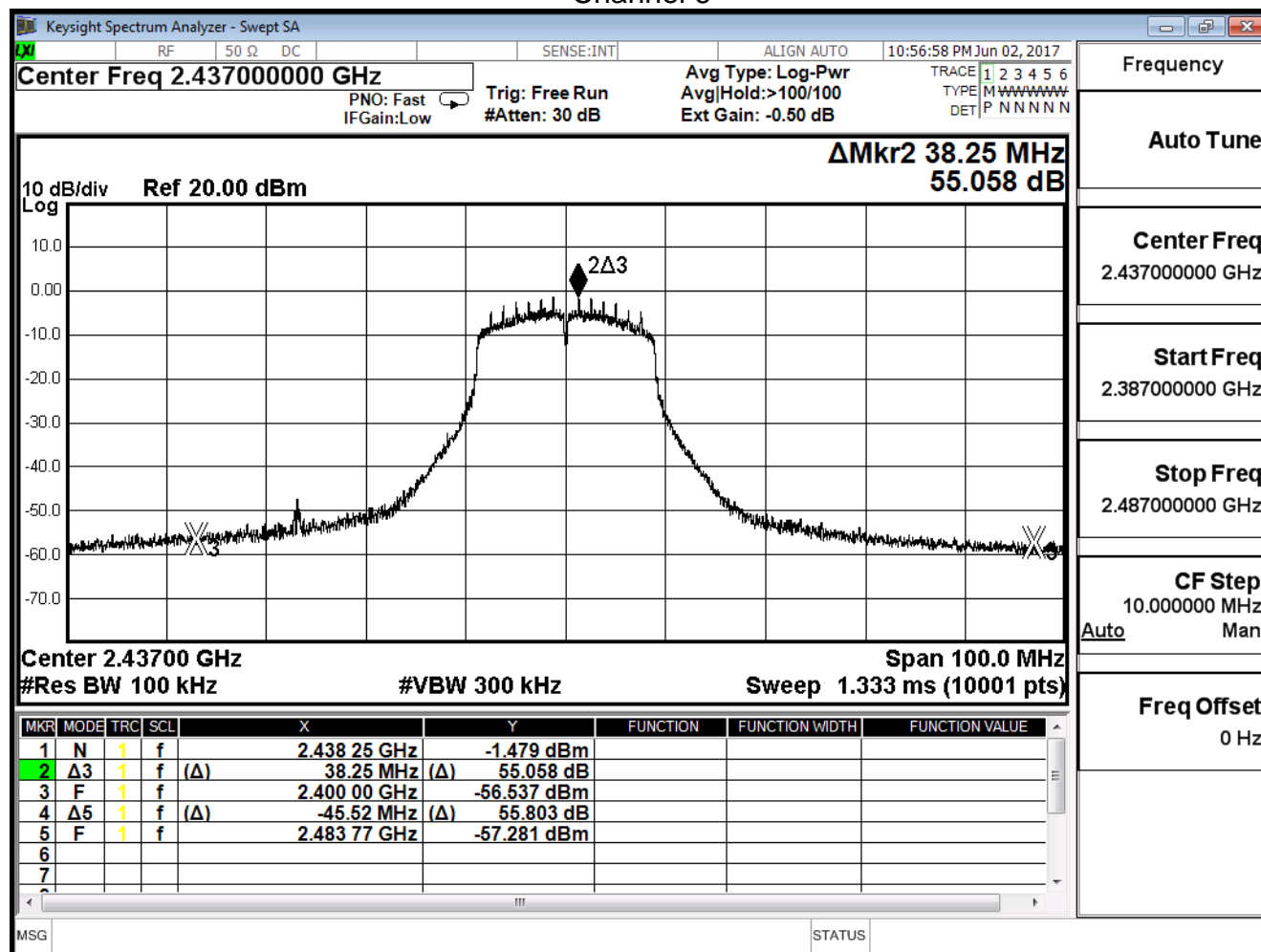
Product	Smart Lighting System		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

IEEE 802.11n_20M (ANT 0)				
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	35.542	≥ 30	Pass
6	2437	55.058	≥ 30	Pass
11	2462	50.796	≥ 30	Pass

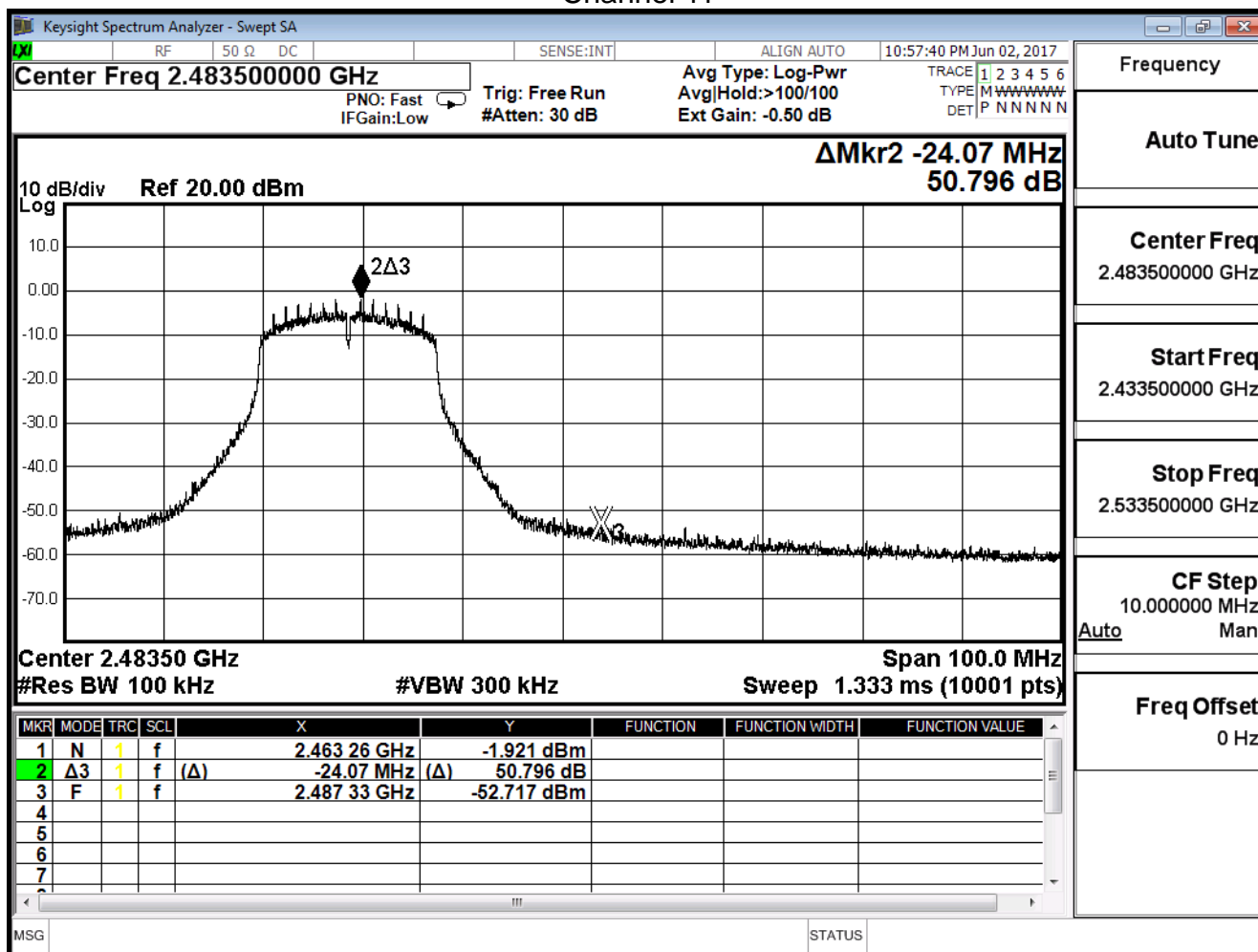
Channel 1



Channel 6

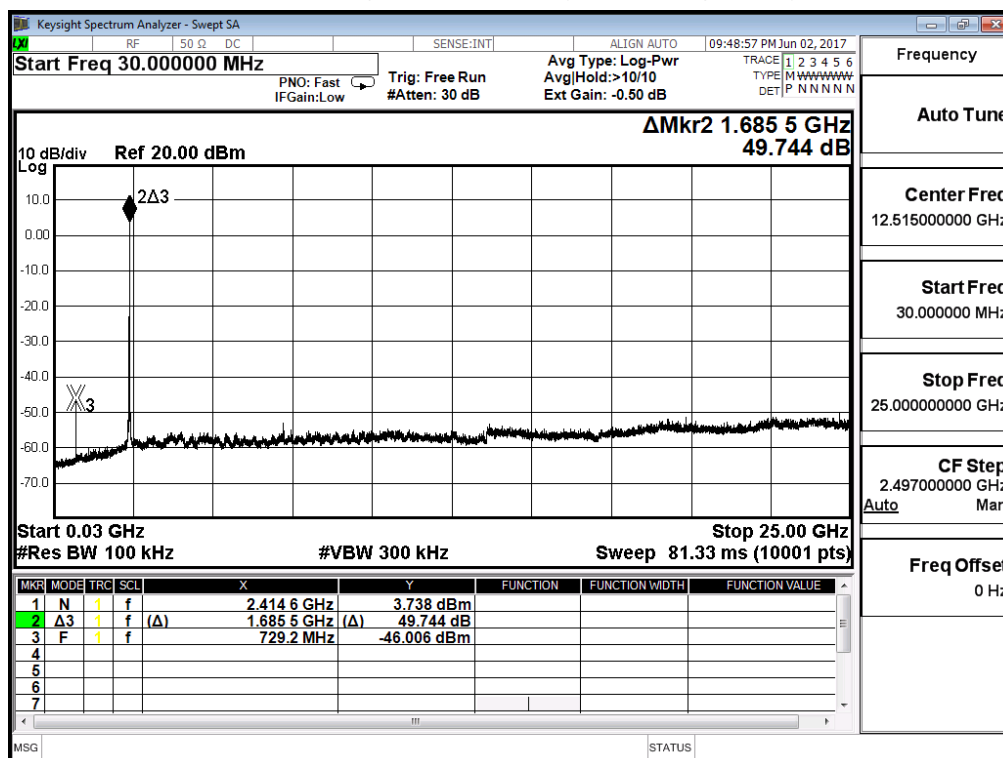


Channel 11

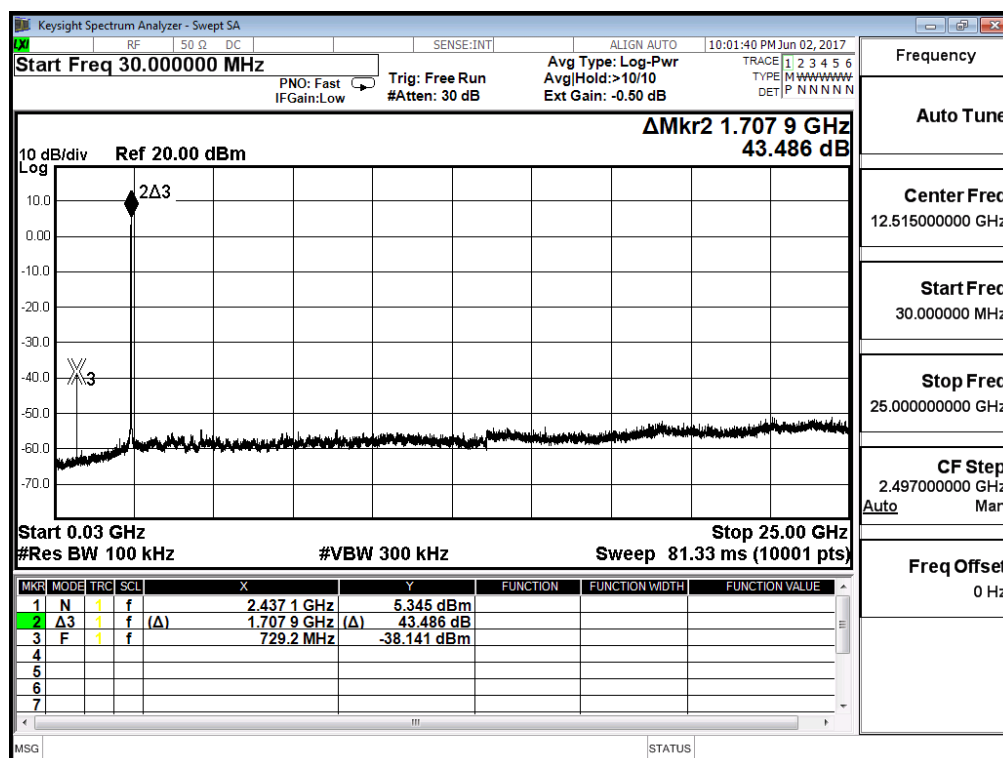


Product	Smart Lighting System		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

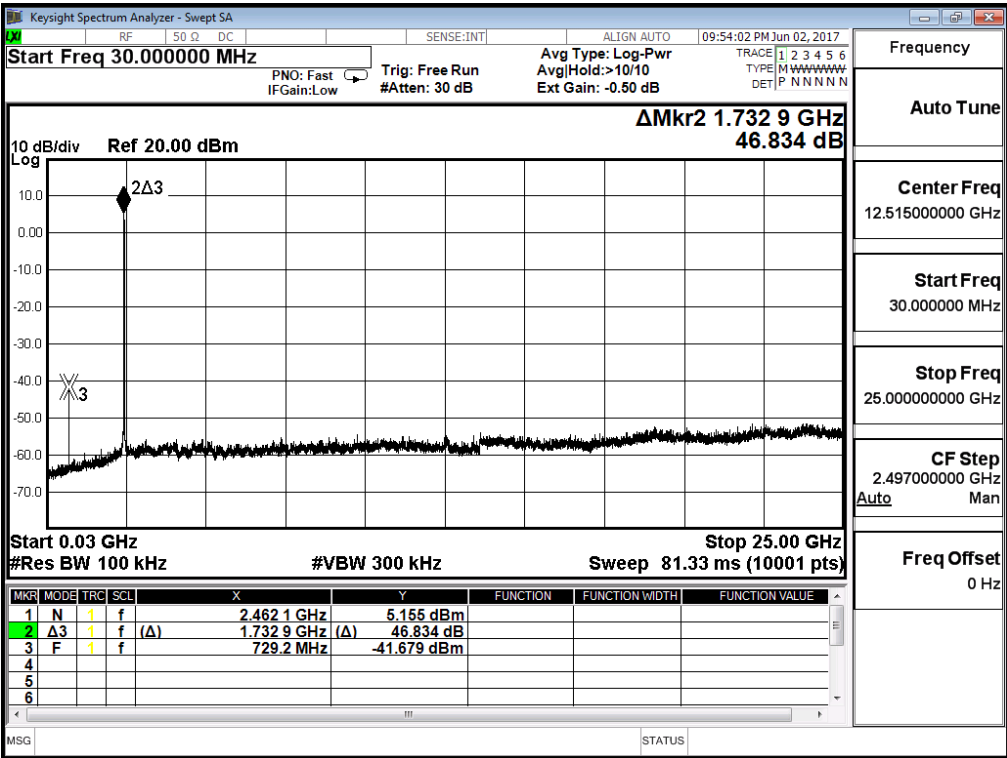
2412MHz (30MHz-25GHz)-802.11b (ANT 0)



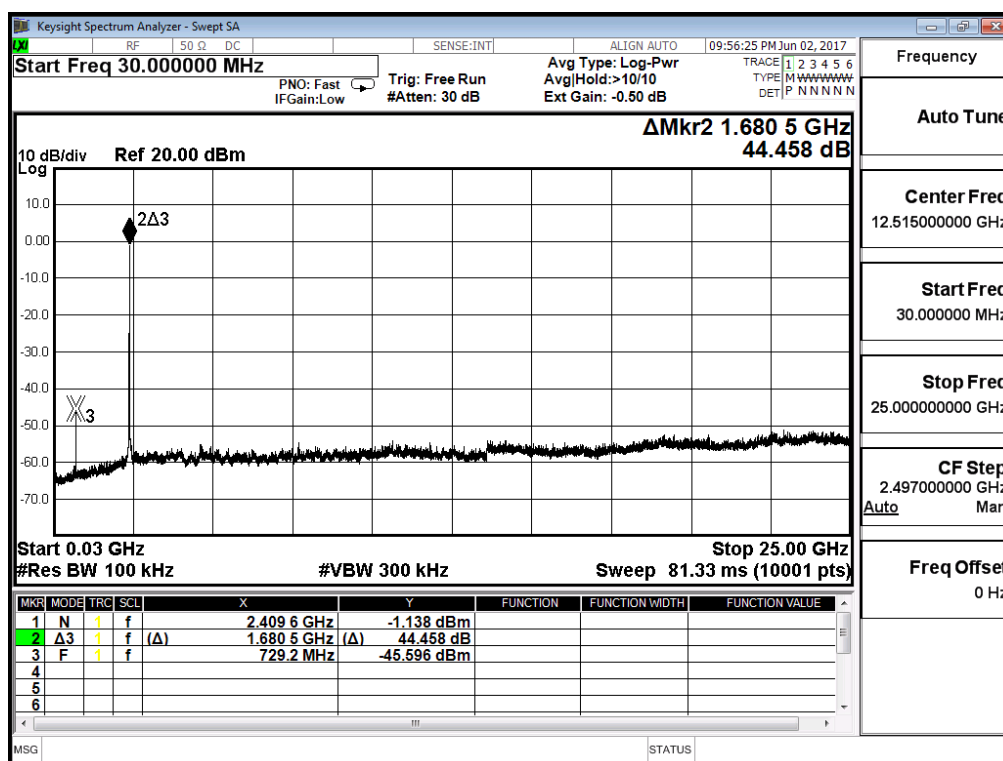
2437MHz (30MHz-25GHz)-802.11b (ANT 0)



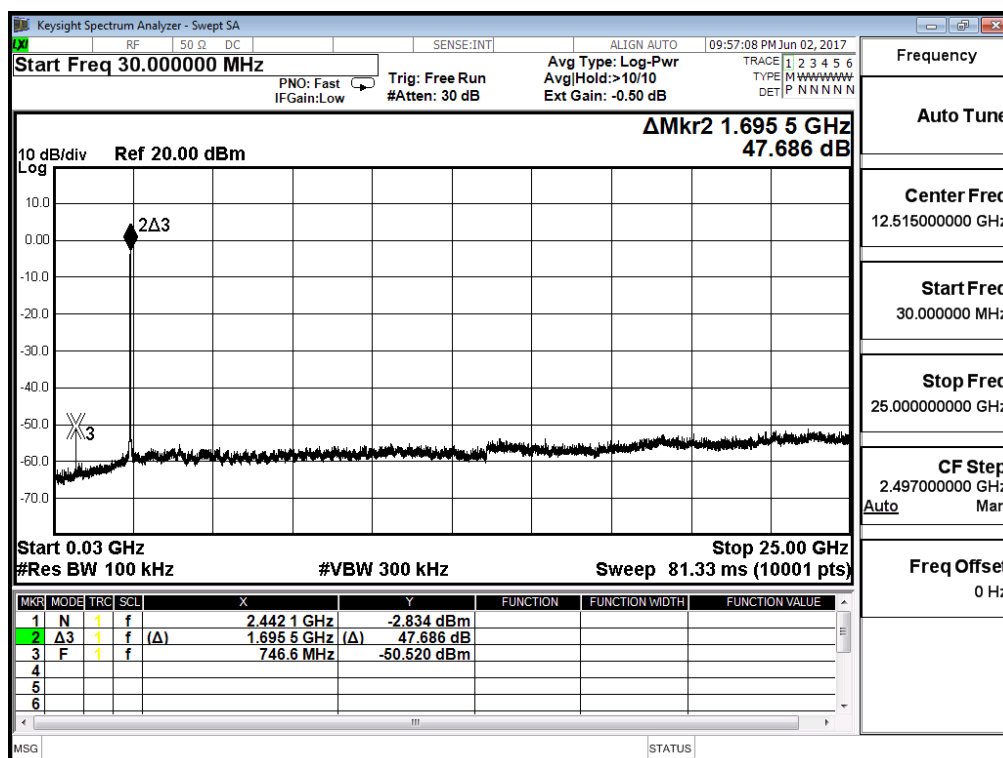
2462MHz (30MHz-25GHz)-802.11b (ANT 0)



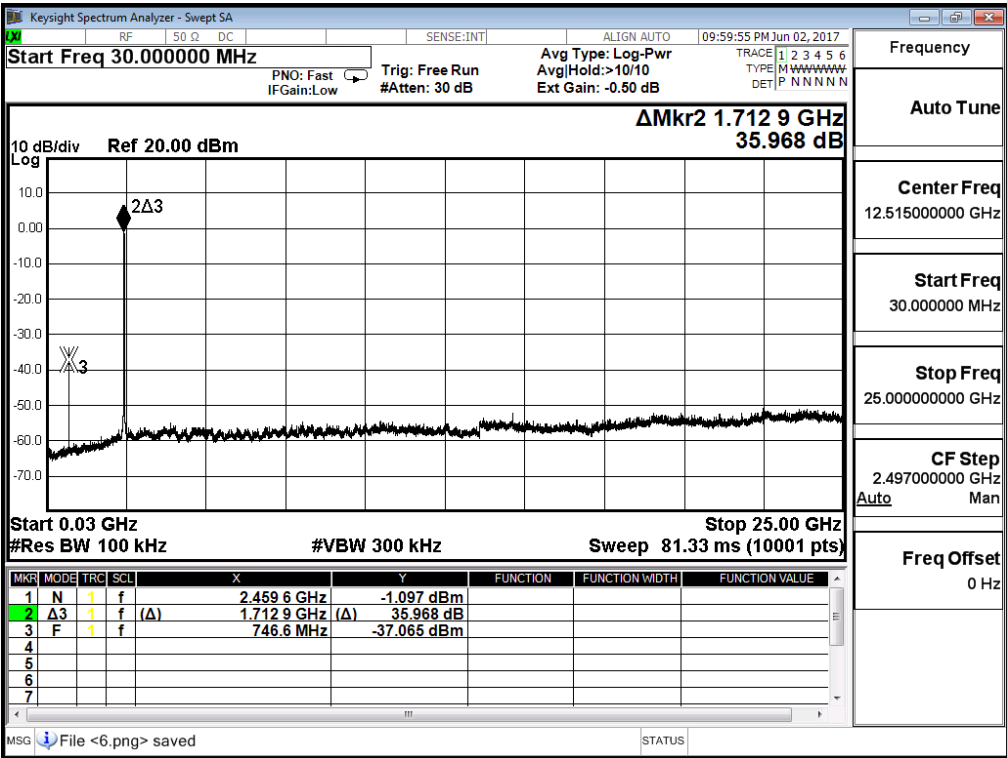
2412MHz (30MHz-25GHz)-802.11g (ANT 0)



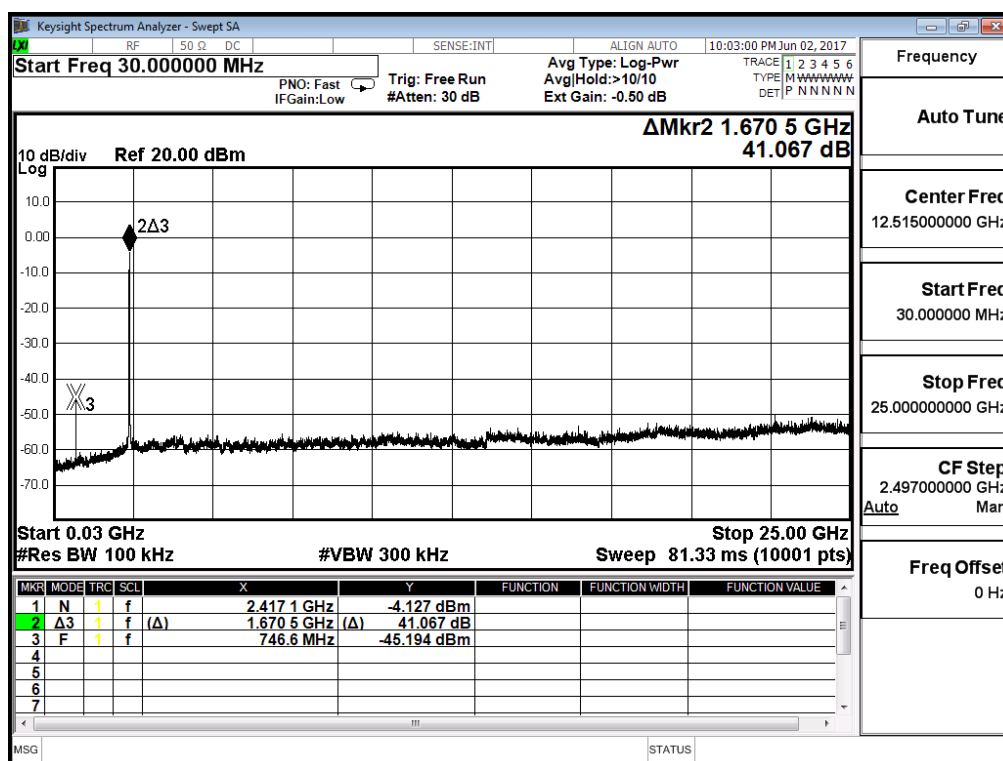
2437MHz (30MHz-25GHz)-802.11 g (ANT 0)



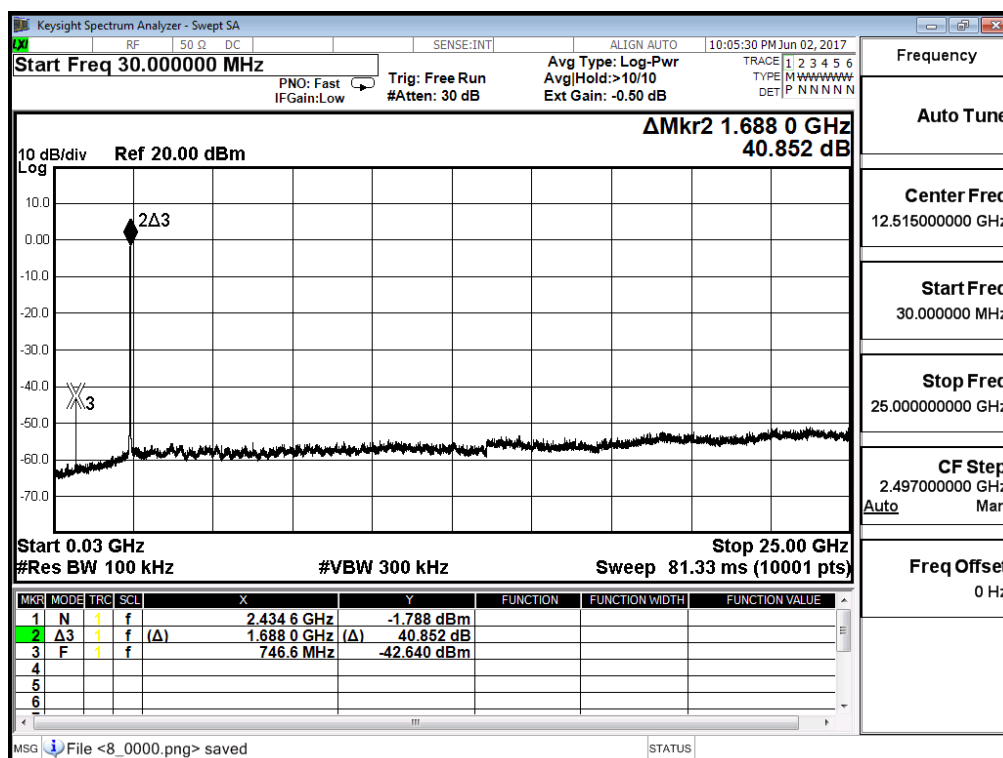
2462MHz (30MHz-25GHz)-802.11g (ANT 0)



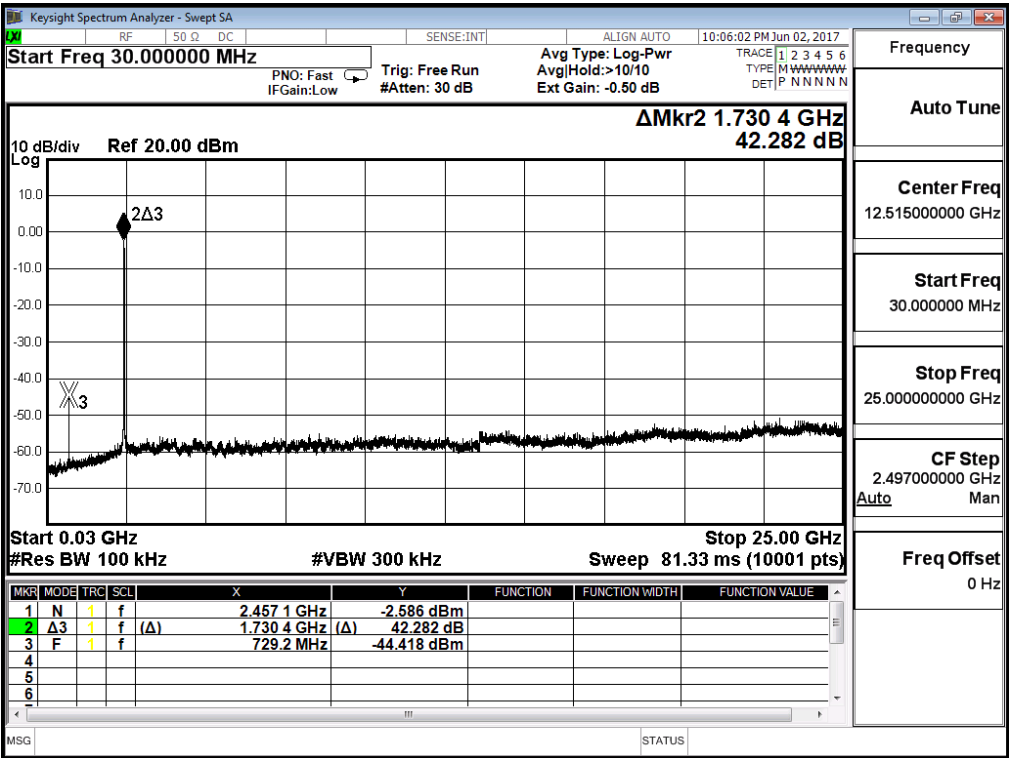
2412MHz (30MHz-25GHz)- IEEE802.11n 20MHz (ANT 0)



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



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



6. Band Edge

6.1. Test Equipment

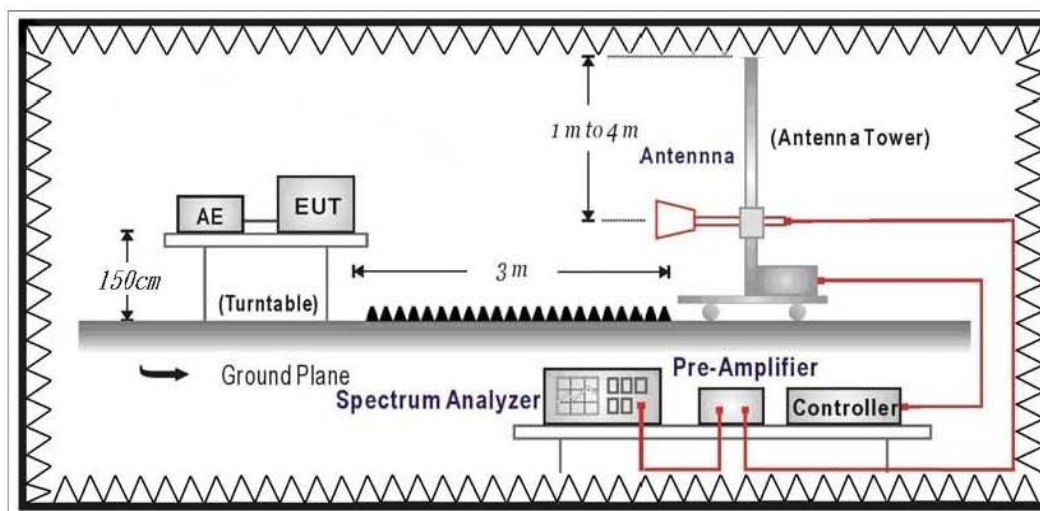
The following test equipment are used during the test:

Band Edge / CB4-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Horn Antenna	Schwarzbeck	BBHA 9120	D312	2017/10/25
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/22
Pre-Amplifier	EMCI	EMC01820I	980364	2018/03/28
Spectrum Analyzer	Agilent	E4440A	MY46187335	2017/12/21

Note: All equipment 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 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

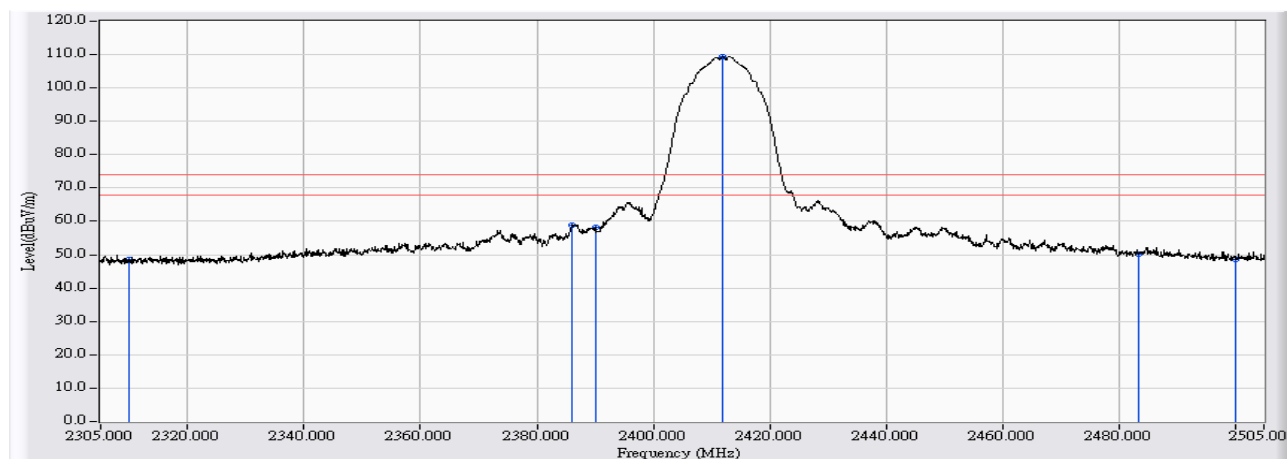
According to FCC Part 15 Subpart C Paragraph 15.247: 2015

6.6. Uncertainty

The measurement uncertainty
 ± 3.9 dB above 1GHz

6.7. Test Result

Site : CB4-H	Time : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2412MHz

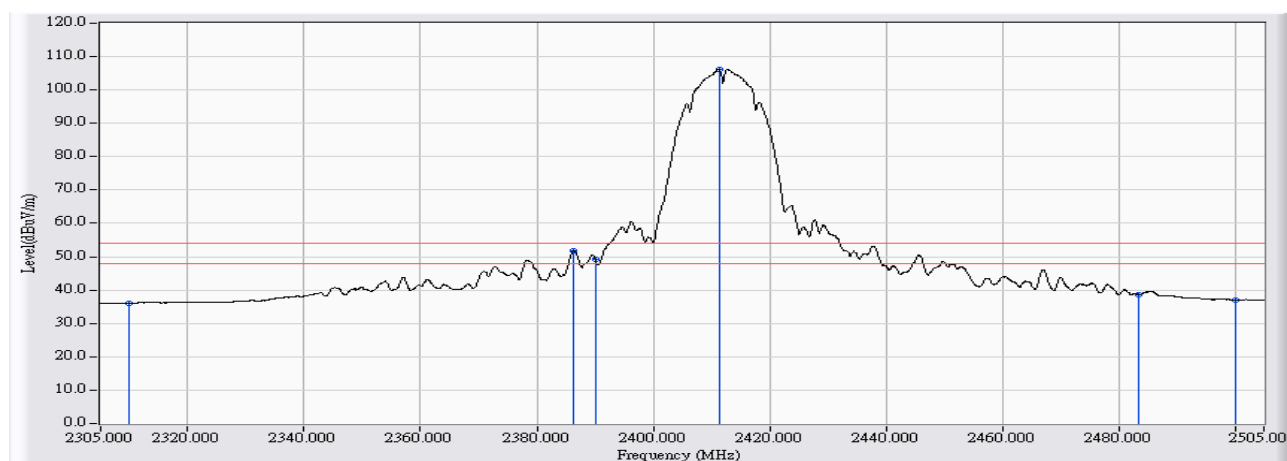


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	48.962	48.460	-25.540	74.000	PEAK
2	2386.100	-0.208	59.073	58.865	-15.135	74.000	PEAK
3	2390.000	-0.193	58.377	58.184	-15.816	74.000	PEAK
4	* 2412.000	-0.108	109.648	109.540	35.540	74.000	PEAK
5	2483.500	0.168	50.029	50.197	-23.803	74.000	PEAK
6	2500.000	0.230	48.341	48.572	-25.428	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2412MHz

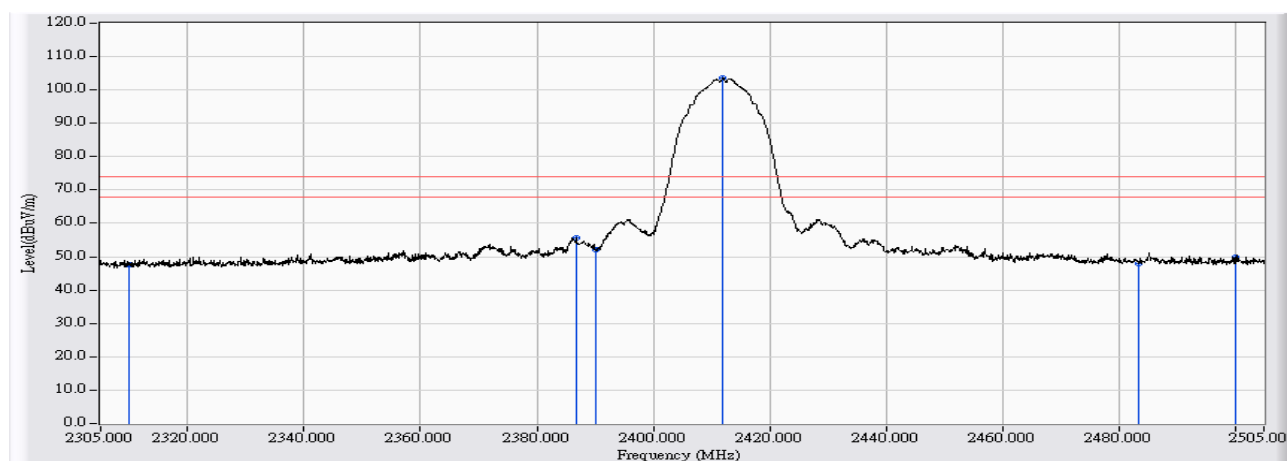


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.591	36.089	-17.911	54.000	AVERAGE
2	2386.200	-0.207	52.049	51.841	-2.159	54.000	AVERAGE
3	2390.000	-0.193	49.403	49.210	-4.790	54.000	AVERAGE
4	* 2411.300	-0.111	106.414	106.303	52.303	54.000	AVERAGE
5	2483.500	0.168	38.528	38.696	-15.304	54.000	AVERAGE
6	2500.000	0.230	36.868	37.099	-16.901	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2412MHz

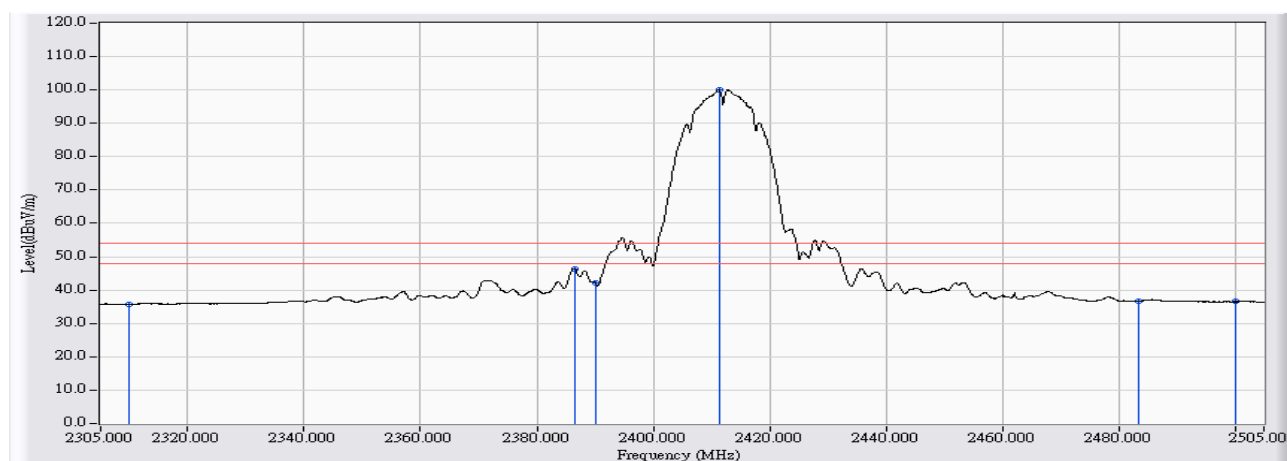


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	48.246	47.744	-26.256	74.000	PEAK
2	2386.800	-0.206	56.020	55.815	-18.185	74.000	PEAK
3	2390.000	-0.193	52.277	52.084	-21.916	74.000	PEAK
4	* 2412.000	-0.108	103.604	103.496	29.496	74.000	PEAK
5	2483.500	0.168	47.807	47.975	-26.025	74.000	PEAK
6	2500.000	0.230	49.654	49.885	-24.115	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2412MHz

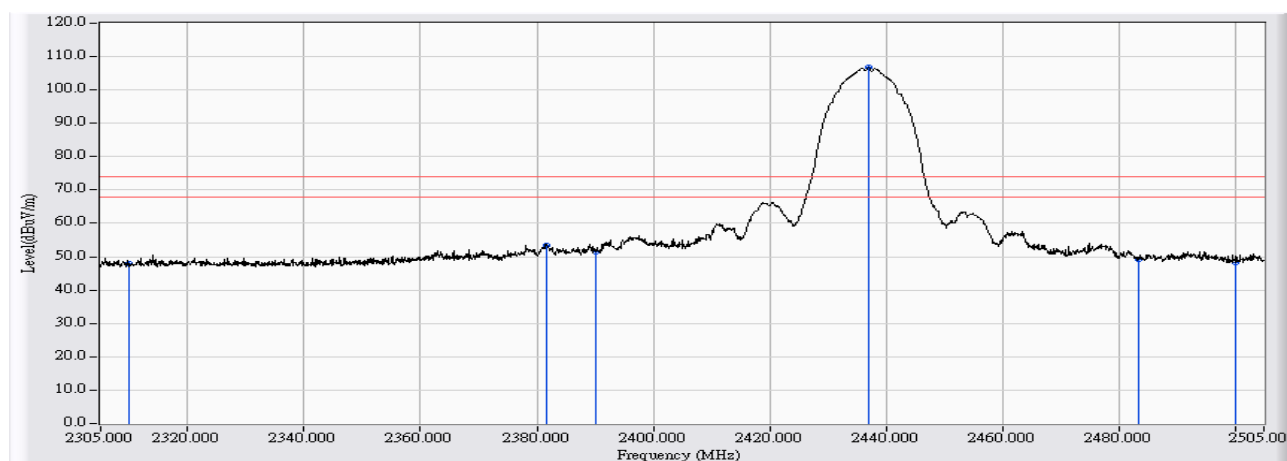


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.285	35.783	-18.217	54.000	AVERAGE
2	2386.500	-0.206	46.628	46.422	-7.578	54.000	AVERAGE
3	2390.000	-0.193	42.467	42.274	-11.726	54.000	AVERAGE
4	* 2411.300	-0.111	100.276	100.165	46.165	54.000	AVERAGE
5	2483.500	0.168	36.561	36.729	-17.271	54.000	AVERAGE
6	2500.000	0.230	36.310	36.541	-17.459	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting 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	-0.502	48.506	48.004	-25.996	74.000	PEAK
2	2381.600	-0.225	53.754	53.529	-20.471	74.000	PEAK
3	2390.000	-0.193	51.514	51.321	-22.679	74.000	PEAK
4	* 2437.100	-0.011	106.672	106.661	32.661	74.000	PEAK
5	2483.500	0.168	49.075	49.243	-24.757	74.000	PEAK
6	2500.000	0.230	47.963	48.194	-25.806	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2437MHz

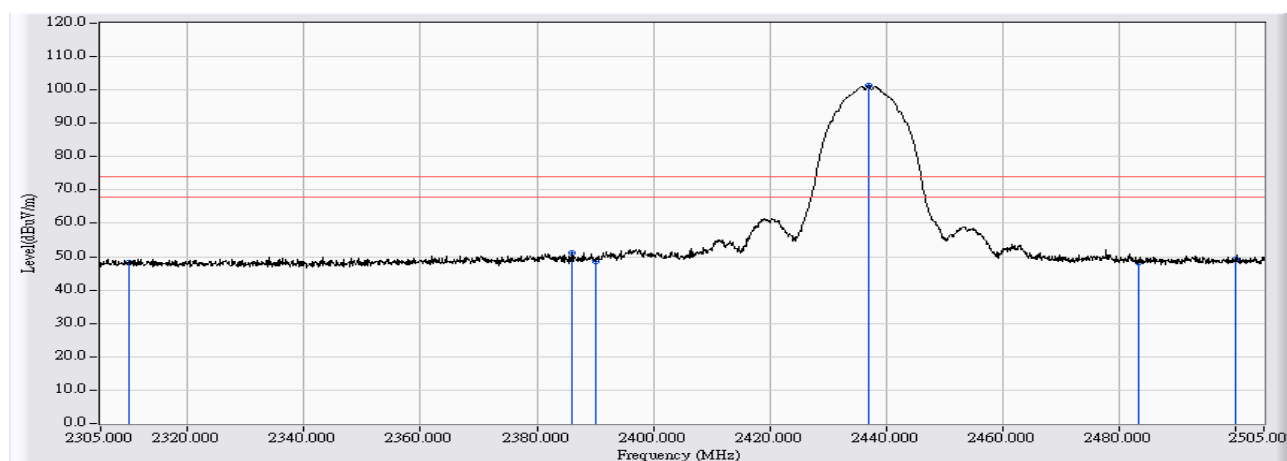


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.412	35.910	-18.090	54.000	AVERAGE
2	2381.500	-0.225	43.076	42.850	-11.150	54.000	AVERAGE
3	2390.000	-0.193	40.526	40.333	-13.667	54.000	AVERAGE
4	* 2436.200	-0.014	103.442	103.428	49.428	54.000	AVERAGE
5	2483.500	0.168	37.447	37.615	-16.385	54.000	AVERAGE
6	2500.000	0.230	36.894	37.125	-16.875	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2437MHz

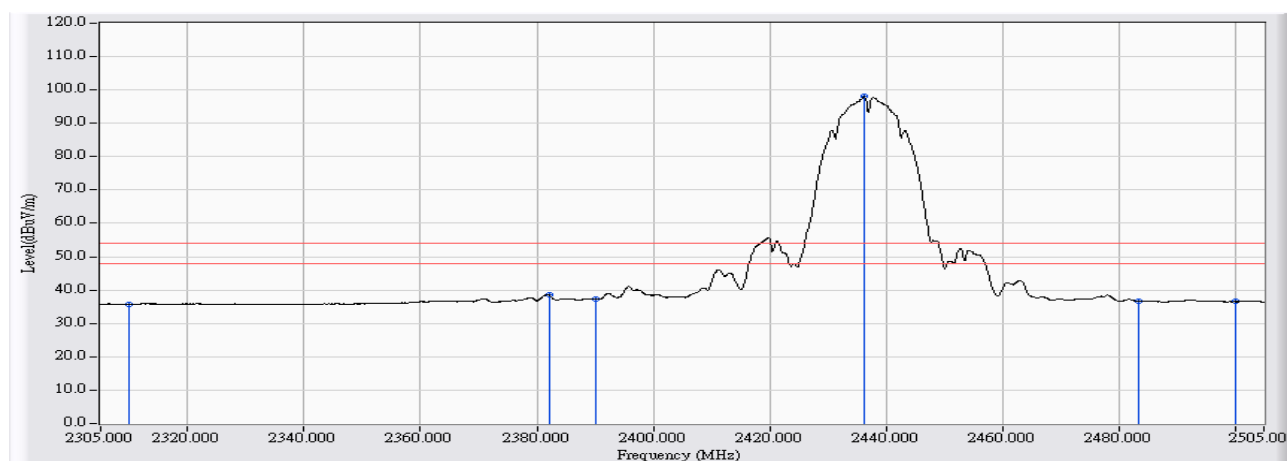


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	48.715	48.213	-25.787	74.000	PEAK
2	2386.100	-0.208	51.507	51.299	-22.701	74.000	PEAK
3	2390.000	-0.193	48.919	48.726	-25.274	74.000	PEAK
4	* 2437.000	-0.011	101.229	101.218	27.218	74.000	PEAK
5	2483.500	0.168	48.178	48.346	-25.654	74.000	PEAK
6	2500.000	0.230	48.996	49.227	-24.773	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2437MHz

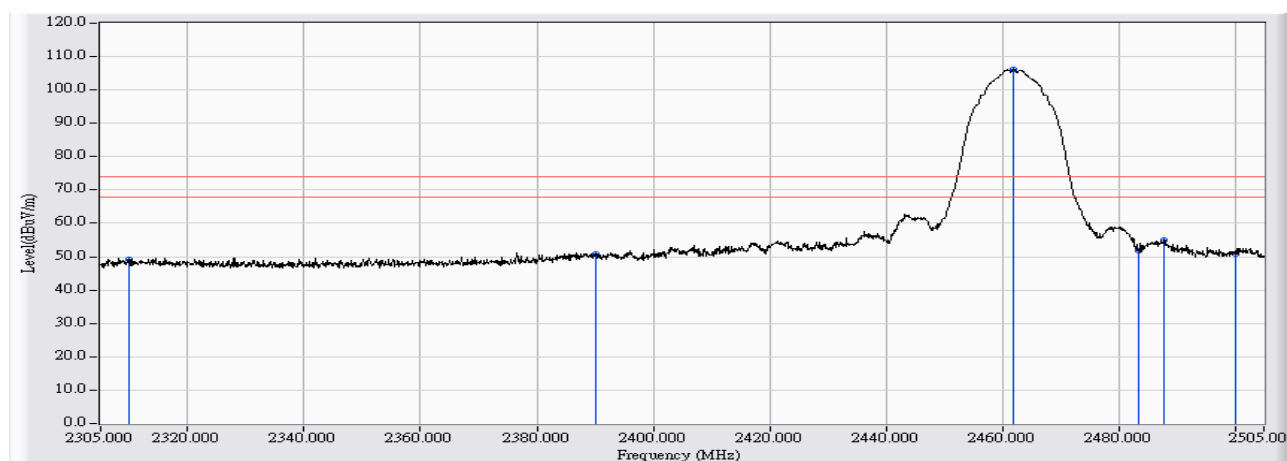


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.275	35.773	-18.227	54.000	AVERAGE
2	2382.100	-0.223	38.751	38.528	-15.472	54.000	AVERAGE
3	2390.000	-0.193	37.599	37.406	-16.594	54.000	AVERAGE
4	* 2436.300	-0.014	97.985	97.971	43.971	54.000	AVERAGE
5	2483.500	0.168	36.421	36.589	-17.411	54.000	AVERAGE
6	2500.000	0.230	36.317	36.548	-17.452	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting 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	-0.502	49.862	49.360	-24.640	74.000	PEAK
2		2390.000	-0.193	50.886	50.693	-23.307	74.000	PEAK
3	*	2462.000	0.086	106.145	106.230	32.230	74.000	PEAK
4		2483.500	0.168	51.488	51.656	-22.344	74.000	PEAK
5		2487.700	0.184	54.912	55.097	-18.903	74.000	PEAK
6		2500.000	0.230	50.711	50.942	-23.058	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2462MHz

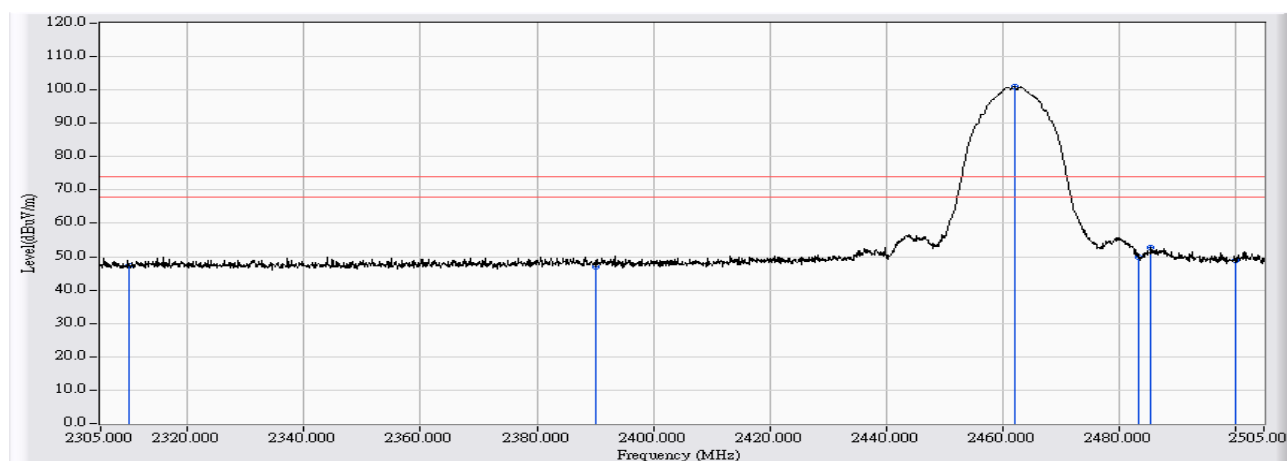


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.790	36.288	-17.712	54.000	AVERAGE
2	2390.000	-0.193	38.740	38.547	-15.453	54.000	AVERAGE
3	* 2461.200	0.082	102.934	103.016	49.016	54.000	AVERAGE
4	2483.500	0.168	40.112	40.280	-13.720	54.000	AVERAGE
5	2488.000	0.186	44.198	44.384	-9.616	54.000	AVERAGE
6	2500.000	0.230	38.755	38.986	-15.014	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting 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	-0.502	47.641	47.139	-26.861	74.000	PEAK
2		2390.000	-0.193	47.282	47.089	-26.911	74.000	PEAK
3	*	2462.100	0.086	101.072	101.158	27.158	74.000	PEAK
4		2483.500	0.168	49.619	49.787	-24.213	74.000	PEAK
5		2485.600	0.176	52.610	52.787	-21.213	74.000	PEAK
6		2500.000	0.230	48.825	49.056	-24.944	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11b_2462MHz

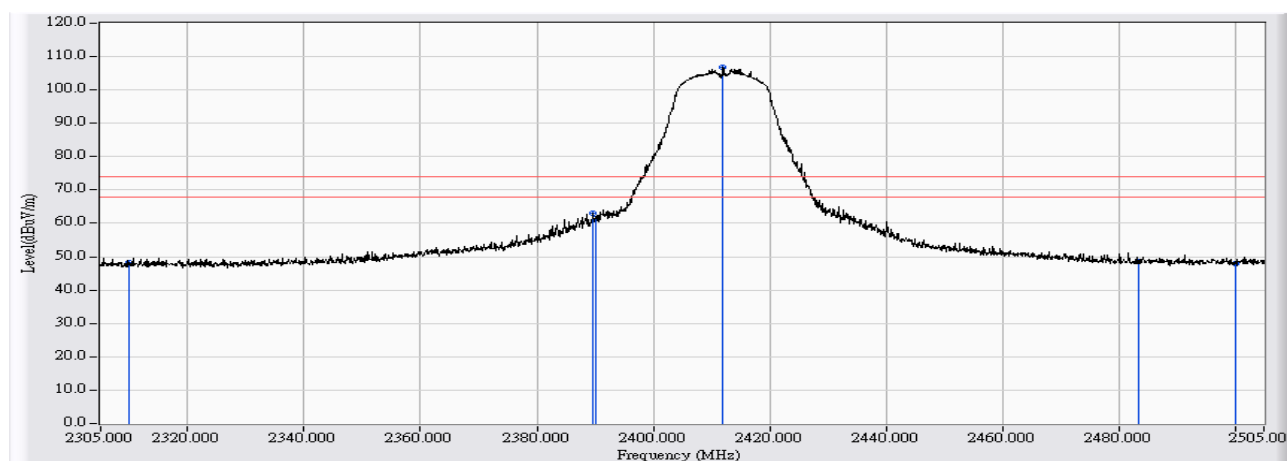


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.256	35.754	-18.246	54.000	AVERAGE
2	2390.000	-0.193	36.542	36.349	-17.651	54.000	AVERAGE
3	* 2461.300	0.083	97.826	97.909	43.909	54.000	AVERAGE
4	2483.500	0.168	38.253	38.421	-15.579	54.000	AVERAGE
5	2488.000	0.186	40.676	40.862	-13.138	54.000	AVERAGE
6	2500.000	0.230	37.335	37.566	-16.434	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2412MHz

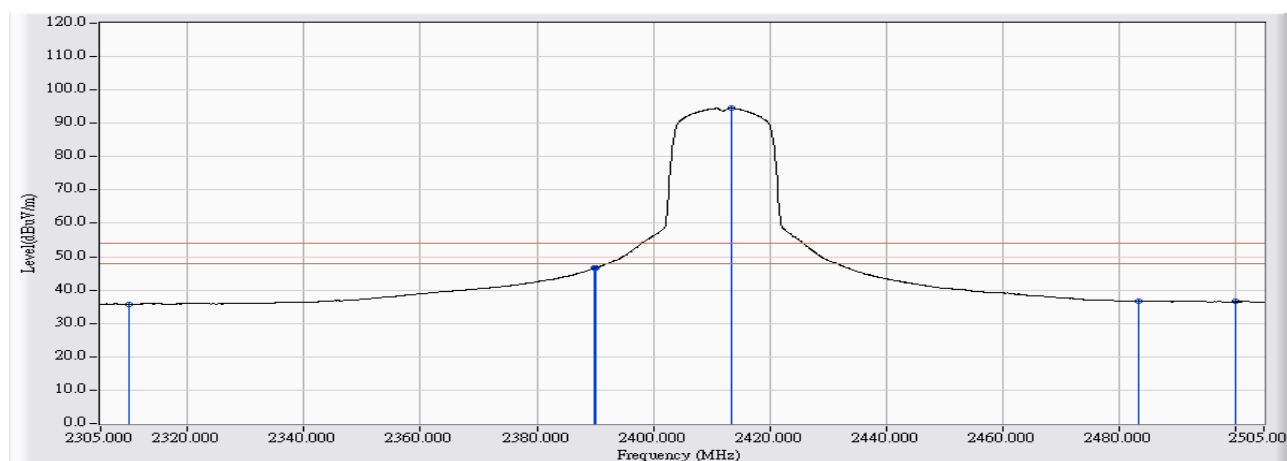


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	48.667	48.165	-25.835	74.000	PEAK
2	2389.700	-0.194	63.133	62.939	-11.061	74.000	PEAK
3	2390.000	-0.193	61.654	61.461	-12.539	74.000	PEAK
4	* 2411.900	-0.108	106.856	106.748	32.748	74.000	PEAK
5	2483.500	0.168	48.527	48.695	-25.305	74.000	PEAK
6	2500.000	0.230	47.606	47.837	-26.163	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2412MHz

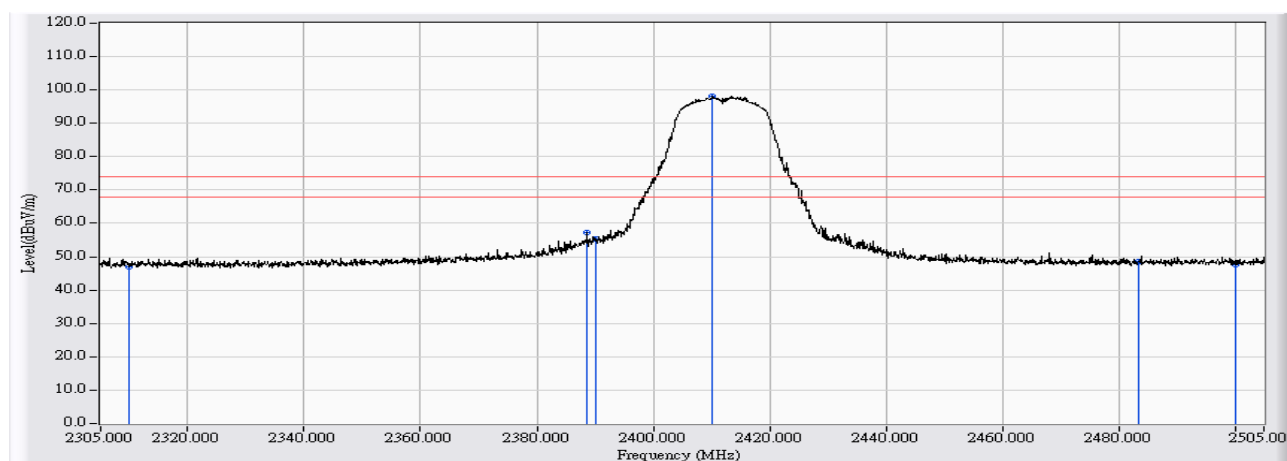


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.303	35.801	-18.199	54.000	AVERAGE
2	2389.800	-0.193	46.710	46.516	-7.484	54.000	AVERAGE
3	2390.000	-0.193	46.809	46.616	-7.384	54.000	AVERAGE
4	* 2413.500	-0.102	94.617	94.515	40.515	54.000	AVERAGE
5	2483.500	0.168	36.497	36.665	-17.335	54.000	AVERAGE
6	2500.000	0.230	36.316	36.547	-17.453	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2412MHz

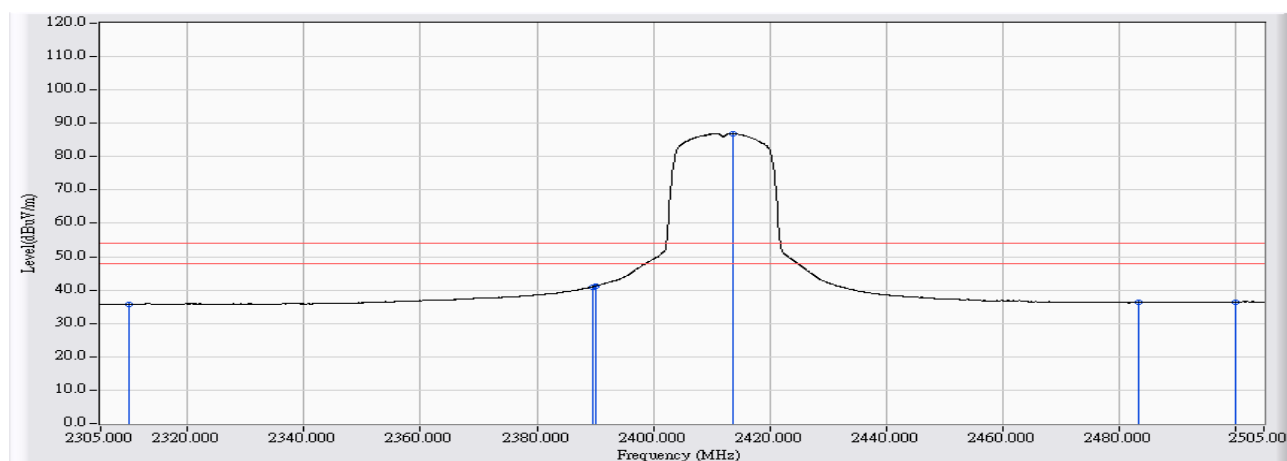


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	47.489	46.987	-27.013	74.000	PEAK
2	2388.600	-0.198	57.442	57.244	-16.756	74.000	PEAK
3	2390.000	-0.193	55.606	55.413	-18.587	74.000	PEAK
4	* 2410.200	-0.115	98.158	98.043	24.043	74.000	PEAK
5	2483.500	0.168	48.310	48.478	-25.522	74.000	PEAK
6	2500.000	0.230	47.518	47.749	-26.251	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2412MHz

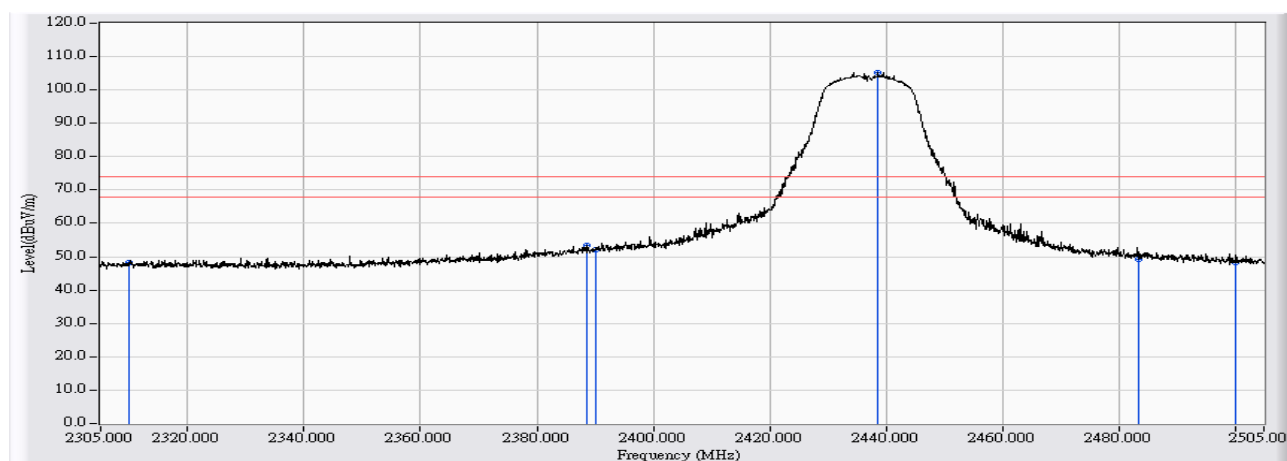


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.233	35.731	-18.269	54.000	AVERAGE
2	2389.500	-0.195	41.139	40.944	-13.056	54.000	AVERAGE
3	2390.000	-0.193	41.405	41.212	-12.788	54.000	AVERAGE
4	* 2413.600	-0.101	87.092	86.990	32.990	54.000	AVERAGE
5	2483.500	0.168	36.143	36.311	-17.689	54.000	AVERAGE
6	2500.000	0.230	36.235	36.466	-17.534	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2437MHz

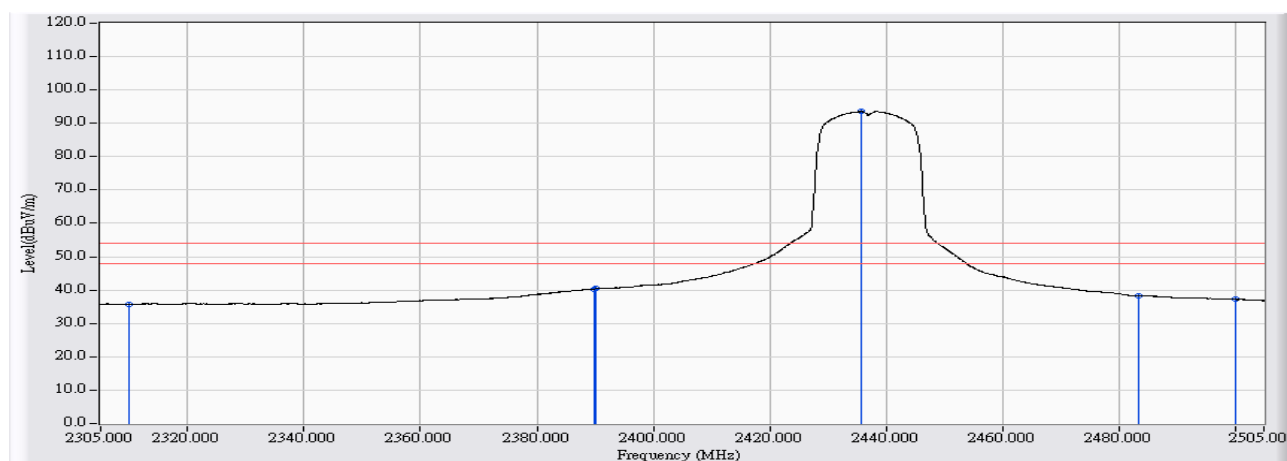


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	48.626	48.124	-25.876	74.000	PEAK
2	2388.700	-0.198	53.527	53.329	-20.671	74.000	PEAK
3	2390.000	-0.193	52.233	52.040	-21.960	74.000	PEAK
4	* 2438.700	-0.005	105.199	105.194	31.194	74.000	PEAK
5	2483.500	0.168	49.103	49.271	-24.729	74.000	PEAK
6	2500.000	0.230	48.083	48.314	-25.686	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2437MHz

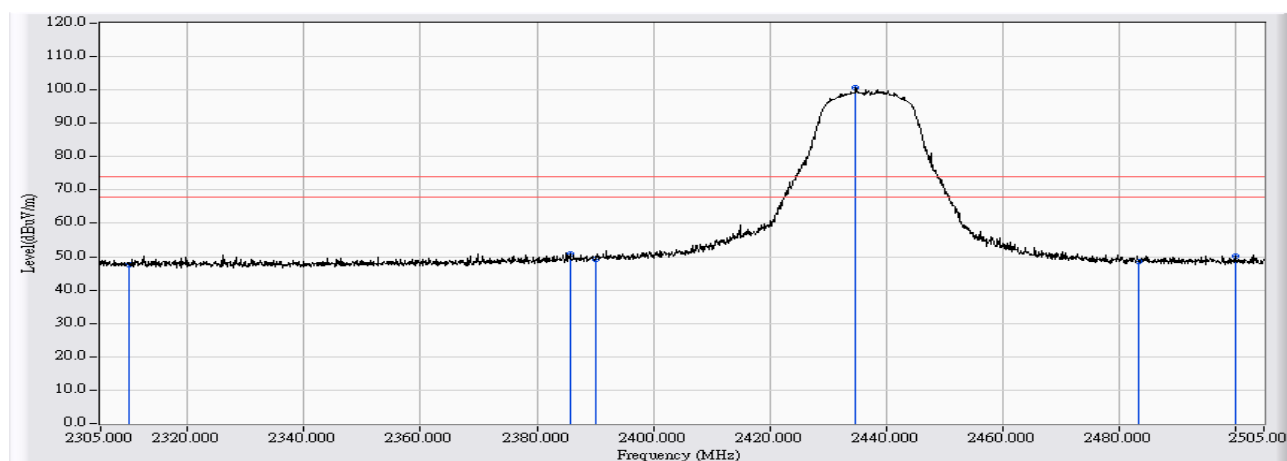


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.288	35.786	-18.214	54.000	AVERAGE
2	2389.800	-0.193	40.544	40.350	-13.650	54.000	AVERAGE
3	2390.000	-0.193	40.572	40.379	-13.621	54.000	AVERAGE
4	* 2435.800	-0.016	93.554	93.538	39.538	54.000	AVERAGE
5	2483.500	0.168	38.234	38.402	-15.598	54.000	AVERAGE
6	2500.000	0.230	36.949	37.180	-16.820	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2437MHz

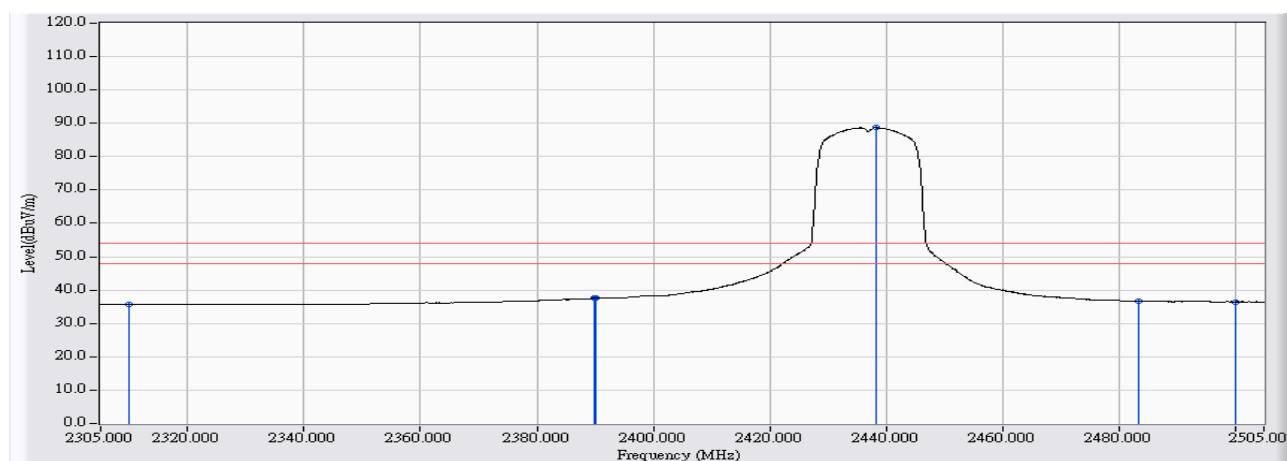


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	48.138	47.636	-26.364	74.000	PEAK
2	2385.700	-0.209	51.014	50.805	-23.195	74.000	PEAK
3	2390.000	-0.193	49.379	49.186	-24.814	74.000	PEAK
4	* 2434.800	-0.019	100.713	100.693	26.693	74.000	PEAK
5	2483.500	0.168	48.310	48.478	-25.522	74.000	PEAK
6	2500.000	0.230	50.019	50.250	-23.750	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2437MHz

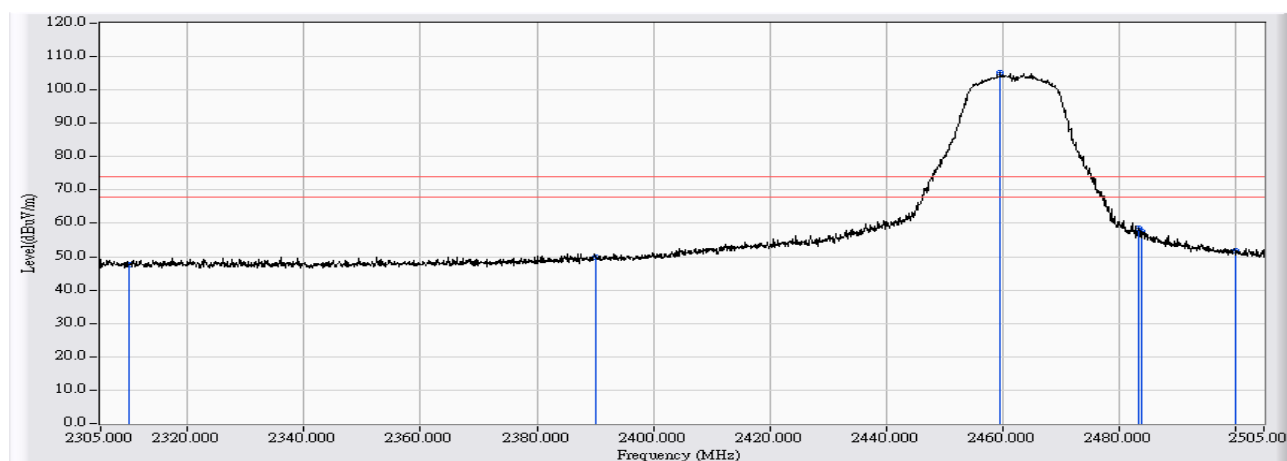


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-0.502	36.126	35.624	-18.376	54.000	AVERAGE
2		2389.800	-0.193	37.698	37.504	-16.496	54.000	AVERAGE
3		2390.000	-0.193	37.768	37.575	-16.425	54.000	AVERAGE
4	*	2438.400	-0.006	88.690	88.684	34.684	54.000	AVERAGE
5		2483.500	0.168	36.471	36.639	-17.361	54.000	AVERAGE
6		2500.000	0.230	36.202	36.433	-17.567	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2462MHz

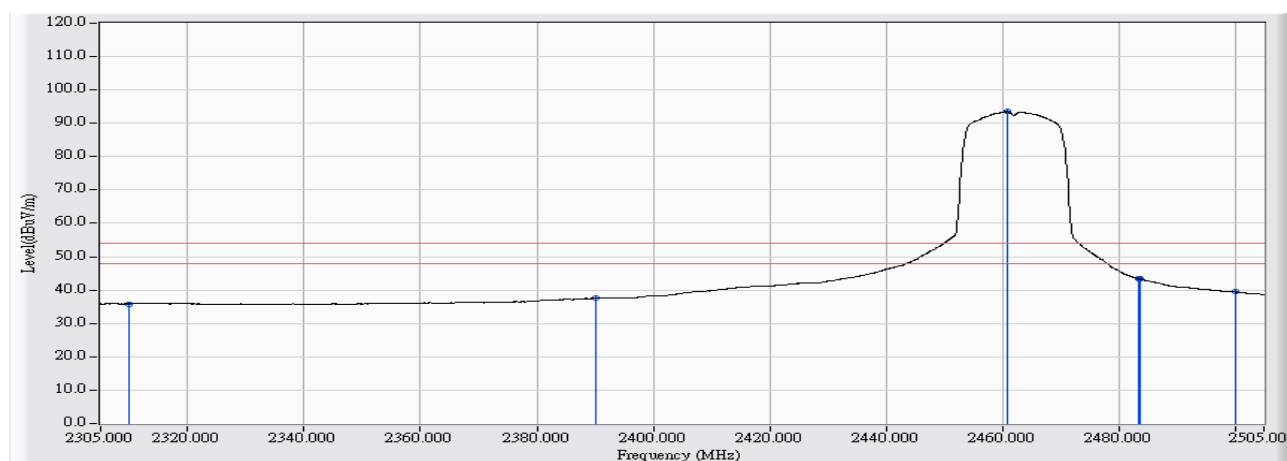


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	47.963	47.461	-26.539	74.000	PEAK
2	2390.000	-0.193	49.954	49.761	-24.239	74.000	PEAK
3	* 2459.600	0.076	104.971	105.047	31.047	74.000	PEAK
4	2483.500	0.168	58.463	58.631	-15.369	74.000	PEAK
5	2483.900	0.170	57.281	57.451	-16.549	74.000	PEAK
6	2500.000	0.230	51.430	51.661	-22.339	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.

Site : CB4-H	Time : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2462MHz

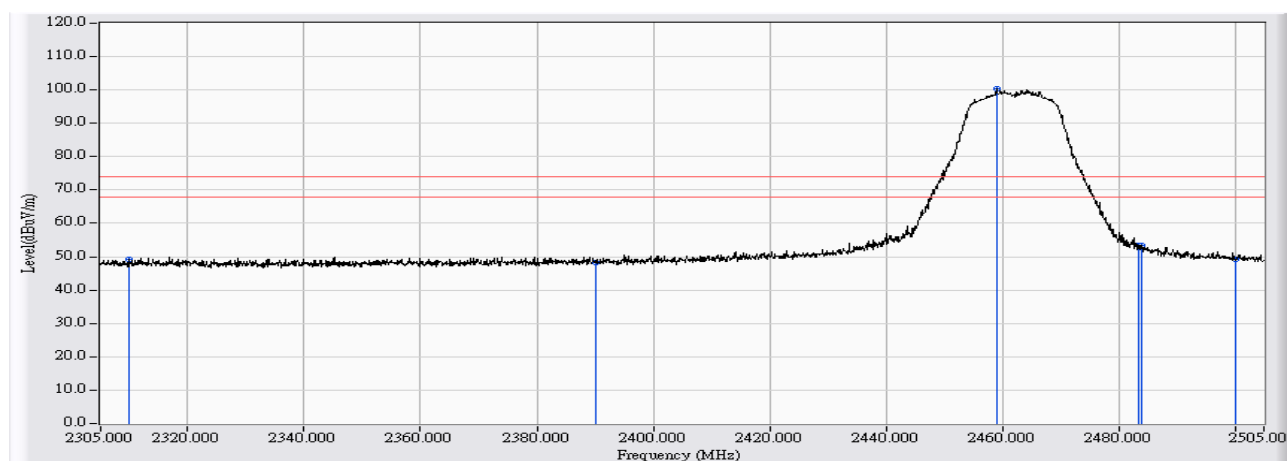


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.346	35.844	-18.156	54.000	AVERAGE
2	2390.000	-0.193	37.736	37.543	-16.457	54.000	AVERAGE
3	* 2460.800	0.081	93.438	93.519	39.519	54.000	AVERAGE
4	2483.500	0.168	43.245	43.413	-10.587	54.000	AVERAGE
5	2483.600	0.169	43.194	43.363	-10.637	54.000	AVERAGE
6	2500.000	0.230	39.234	39.465	-14.535	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2462MHz

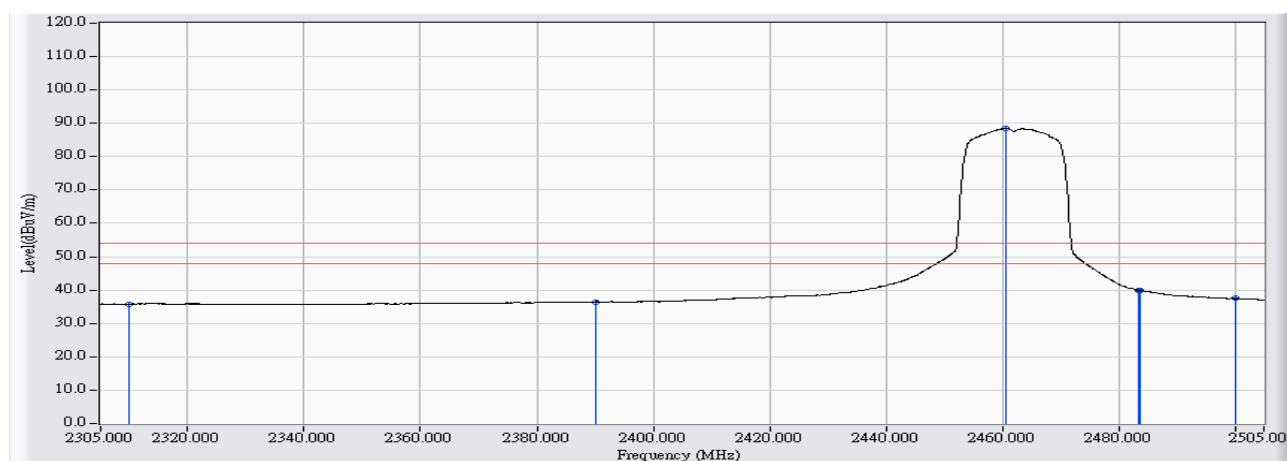


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-0.502	49.636	49.134	-24.866	74.000	PEAK
2		2390.000	-0.193	48.381	48.188	-25.812	74.000	PEAK
3	*	2459.000	0.074	100.183	100.257	26.257	74.000	PEAK
4		2483.500	0.168	53.332	53.500	-20.500	74.000	PEAK
5		2483.900	0.170	53.357	53.527	-20.473	74.000	PEAK
6		2500.000	0.230	48.836	49.067	-24.933	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11g_2462MHz

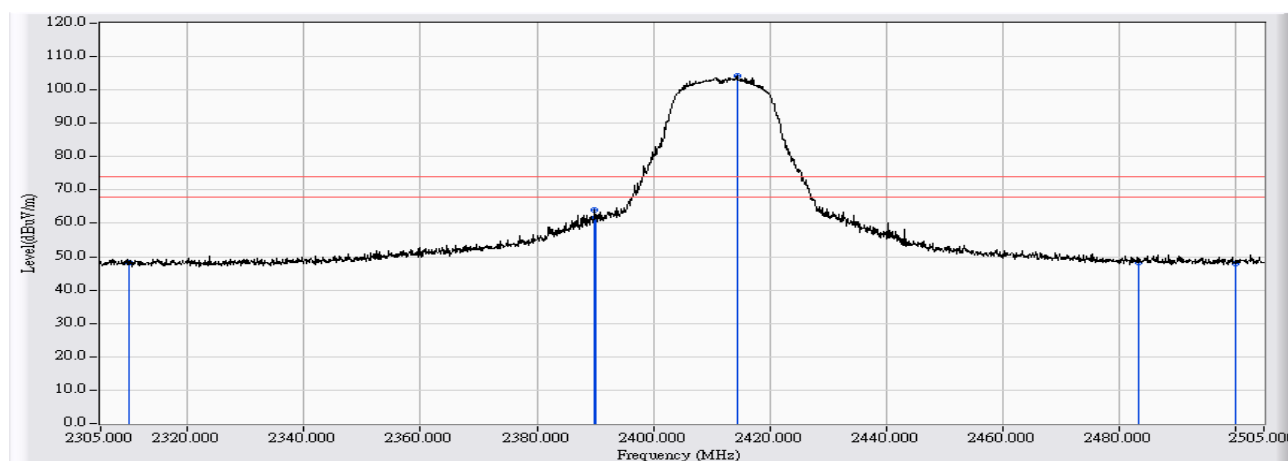


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.321	35.819	-18.181	54.000	AVERAGE
2	2390.000	-0.193	36.639	36.446	-17.554	54.000	AVERAGE
3	* 2460.600	0.080	88.442	88.522	34.522	54.000	AVERAGE
4	2483.500	0.168	39.713	39.881	-14.119	54.000	AVERAGE
5	2483.600	0.169	39.672	39.841	-14.159	54.000	AVERAGE
6	2500.000	0.230	37.253	37.484	-16.516	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2412MHz

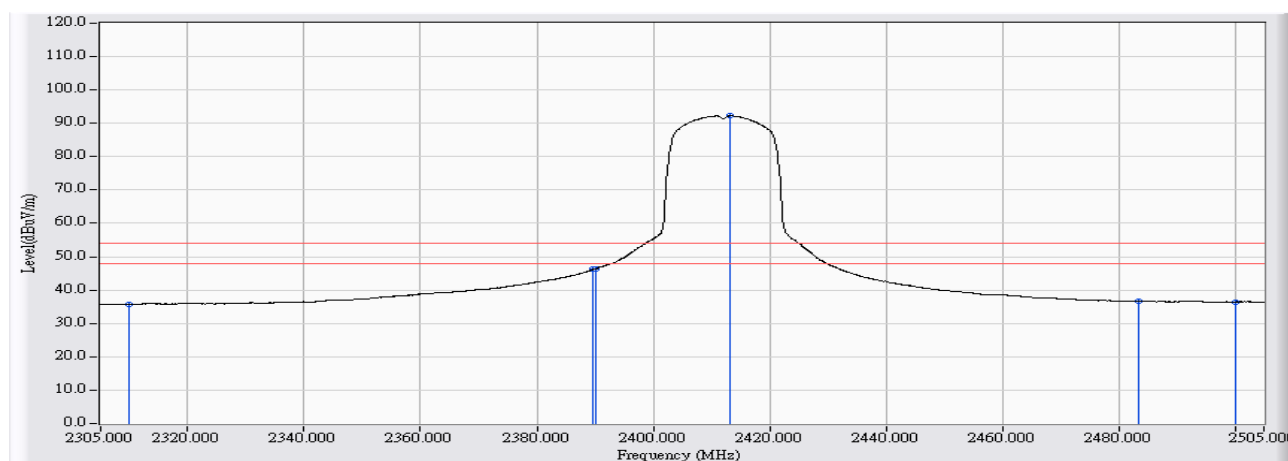


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	48.737	48.235	-25.765	74.000	PEAK
2	2389.900	-0.193	64.317	64.124	-9.876	74.000	PEAK
3	2390.000	-0.193	61.893	61.700	-12.300	74.000	PEAK
4	* 2414.400	-0.098	104.230	104.131	30.131	74.000	PEAK
5	2483.500	0.168	48.238	48.406	-25.594	74.000	PEAK
6	2500.000	0.230	47.772	48.003	-25.997	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2412MHz

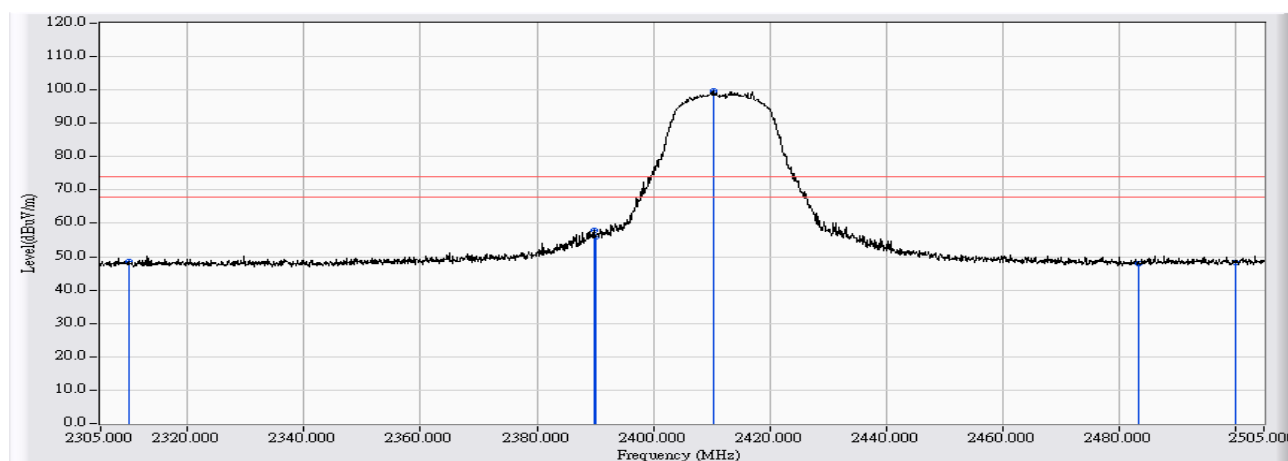


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.234	35.732	-18.268	54.000	AVERAGE
2	2389.700	-0.194	46.526	46.332	-7.668	54.000	AVERAGE
3	2390.000	-0.193	46.648	46.455	-7.545	54.000	AVERAGE
4	* 2413.300	-0.103	92.416	92.313	38.313	54.000	AVERAGE
5	2483.500	0.168	36.486	36.654	-17.346	54.000	AVERAGE
6	2500.000	0.230	36.251	36.482	-17.518	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2412MHz

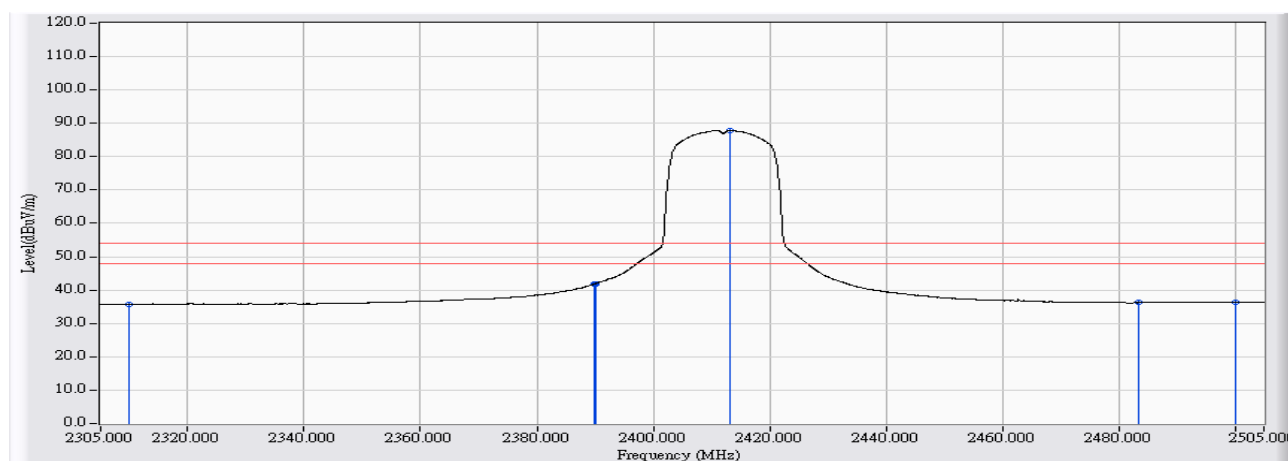


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	49.188	48.686	-25.314	74.000	PEAK
2	2389.800	-0.193	57.944	57.750	-16.250	74.000	PEAK
3	2390.000	-0.193	56.215	56.022	-17.978	74.000	PEAK
4	* 2410.300	-0.114	99.774	99.660	25.660	74.000	PEAK
5	2483.500	0.168	47.662	47.830	-26.170	74.000	PEAK
6	2500.000	0.230	47.910	48.141	-25.859	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 : 2017/06/09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2412MHz

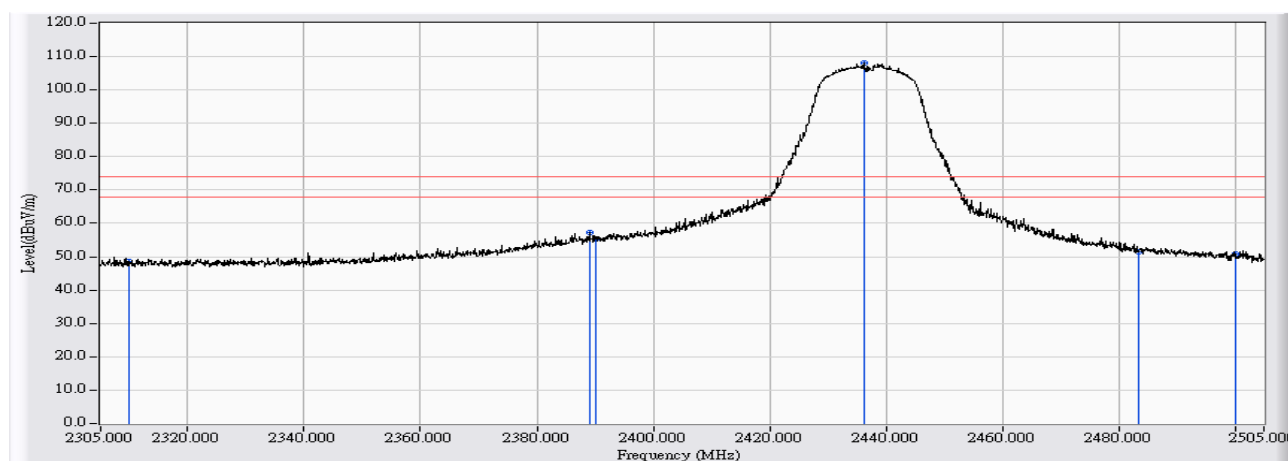


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.203	35.701	-18.299	54.000	AVERAGE
2	2389.800	-0.193	41.918	41.724	-12.276	54.000	AVERAGE
3	2390.000	-0.193	42.073	41.880	-12.120	54.000	AVERAGE
4	* 2413.300	-0.103	88.075	87.972	33.972	54.000	AVERAGE
5	2483.500	0.168	36.110	36.278	-17.722	54.000	AVERAGE
6	2500.000	0.230	36.172	36.403	-17.597	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2437MHz

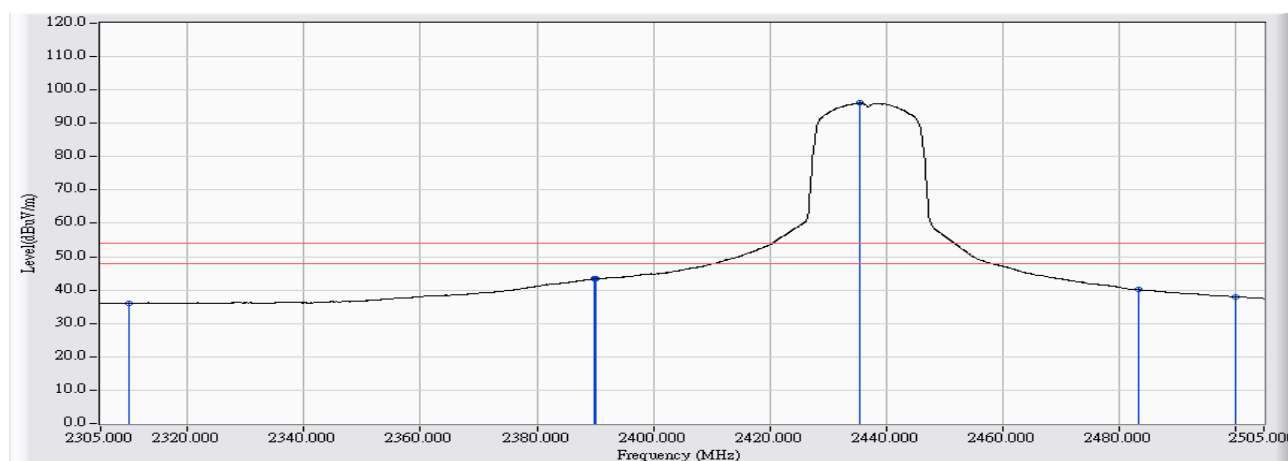


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	48.945	48.443	-25.557	74.000	PEAK
2	2389.000	-0.196	57.474	57.277	-16.723	74.000	PEAK
3	2390.000	-0.193	55.427	55.234	-18.766	74.000	PEAK
4	* 2436.400	-0.014	108.058	108.044	34.044	74.000	PEAK
5	2483.500	0.168	51.176	51.344	-22.656	74.000	PEAK
6	2500.000	0.230	50.535	50.766	-23.234	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2437MHz

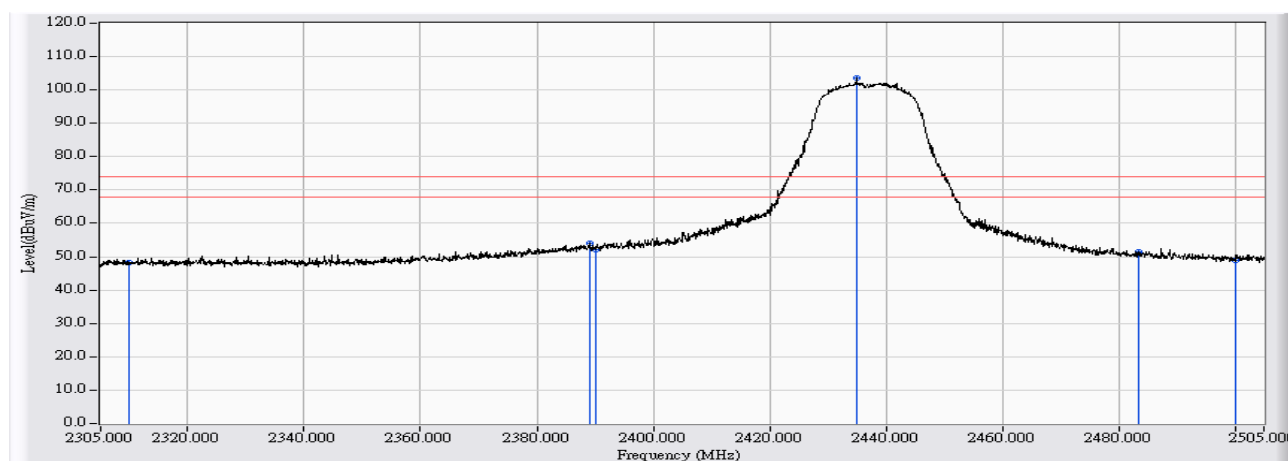


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.408	35.906	-18.094	54.000	AVERAGE
2	2389.800	-0.193	43.529	43.335	-10.665	54.000	AVERAGE
3	2390.000	-0.193	43.482	43.289	-10.711	54.000	AVERAGE
4	* 2435.500	-0.017	96.108	96.091	42.091	54.000	AVERAGE
5	2483.500	0.168	39.925	40.093	-13.907	54.000	AVERAGE
6	2500.000	0.230	37.766	37.997	-16.003	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2437MHz

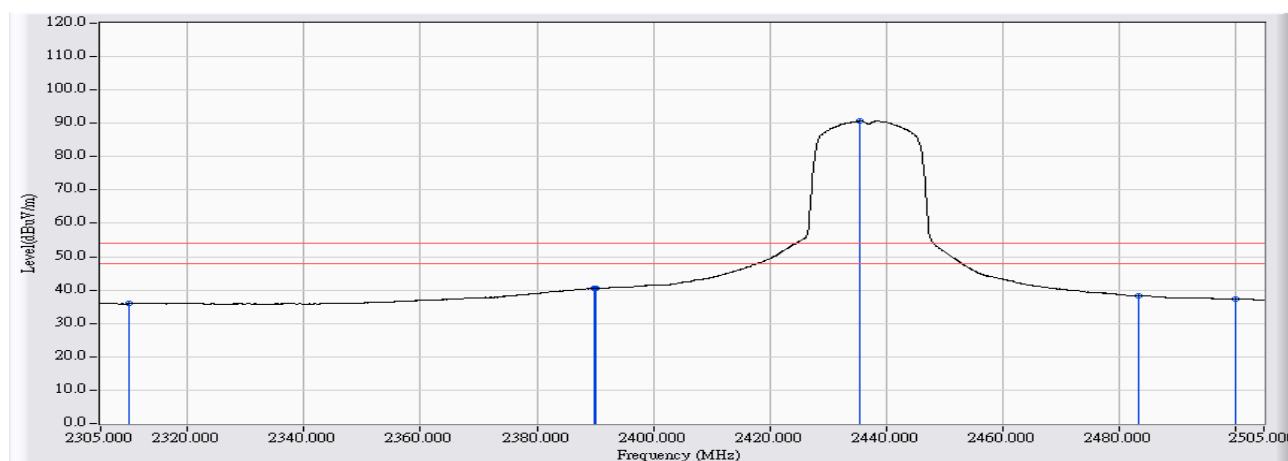


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	48.730	48.228	-25.772	74.000	PEAK
2	2389.000	-0.196	54.224	54.027	-19.973	74.000	PEAK
3	2390.000	-0.193	52.444	52.251	-21.749	74.000	PEAK
4	* 2435.000	-0.019	103.753	103.734	29.734	74.000	PEAK
5	2483.500	0.168	51.159	51.327	-22.673	74.000	PEAK
6	2500.000	0.230	48.588	48.819	-25.181	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2437MHz

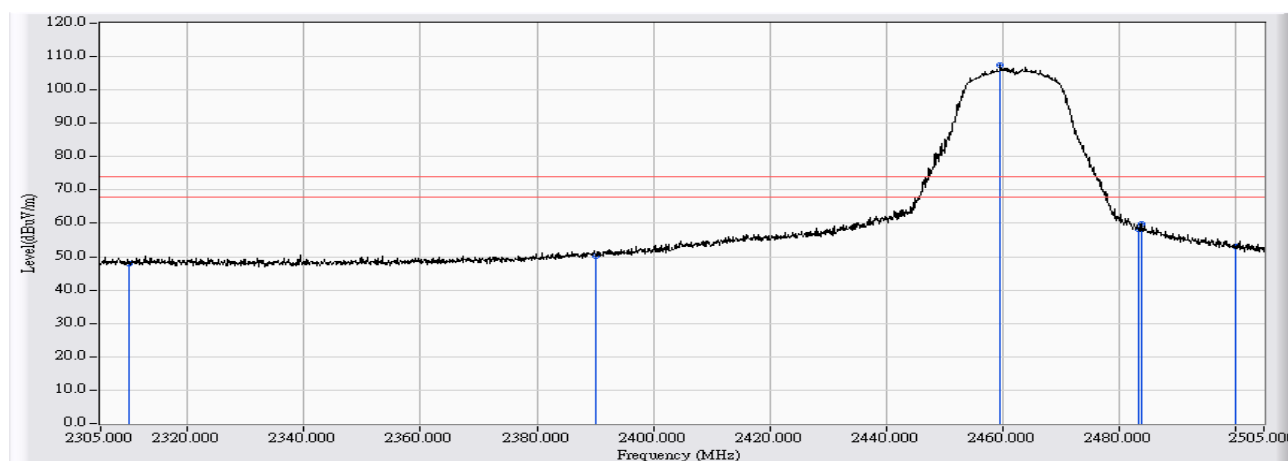


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.411	35.909	-18.091	54.000	AVERAGE
2	2389.800	-0.193	40.708	40.514	-13.486	54.000	AVERAGE
3	2390.000	-0.193	40.766	40.573	-13.427	54.000	AVERAGE
4	* 2435.500	-0.017	90.721	90.704	36.704	54.000	AVERAGE
5	2483.500	0.168	38.036	38.204	-15.796	54.000	AVERAGE
6	2500.000	0.230	36.998	37.229	-16.771	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2462MHz

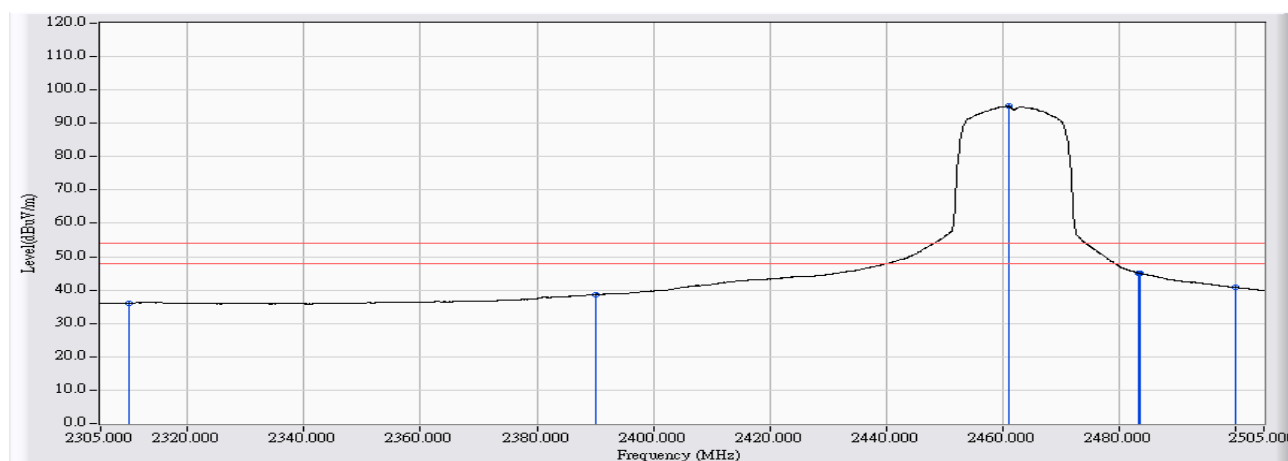


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	48.521	48.019	-25.981	74.000	PEAK
2	2390.000	-0.193	50.456	50.263	-23.737	74.000	PEAK
3	* 2459.700	0.076	107.519	107.596	33.596	74.000	PEAK
4	2483.500	0.168	58.110	58.278	-15.722	74.000	PEAK
5	2484.000	0.171	59.797	59.967	-14.033	74.000	PEAK
6	2500.000	0.230	52.834	53.065	-20.935	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2462MHz

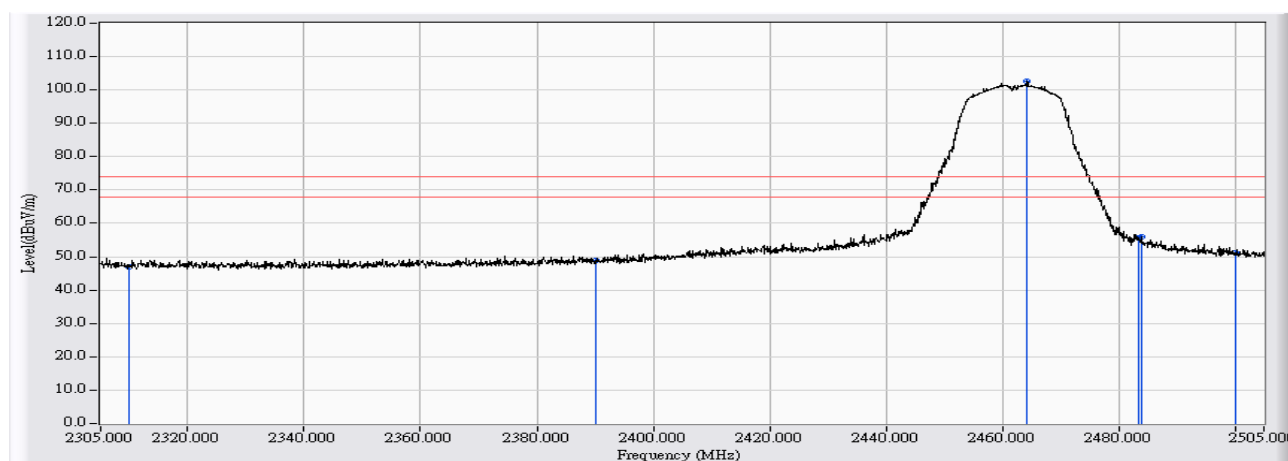


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	36.652	36.150	-17.850	54.000	AVERAGE
2	2390.000	-0.193	38.889	38.696	-15.304	54.000	AVERAGE
3	* 2461.100	0.082	95.033	95.115	41.115	54.000	AVERAGE
4	2483.500	0.168	44.932	45.100	-8.900	54.000	AVERAGE
5	2483.600	0.169	44.922	45.091	-8.909	54.000	AVERAGE
6	2500.000	0.230	40.494	40.725	-13.275	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 : 2017/06/10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting System	Note : 802.11n(20M)_2462MHz

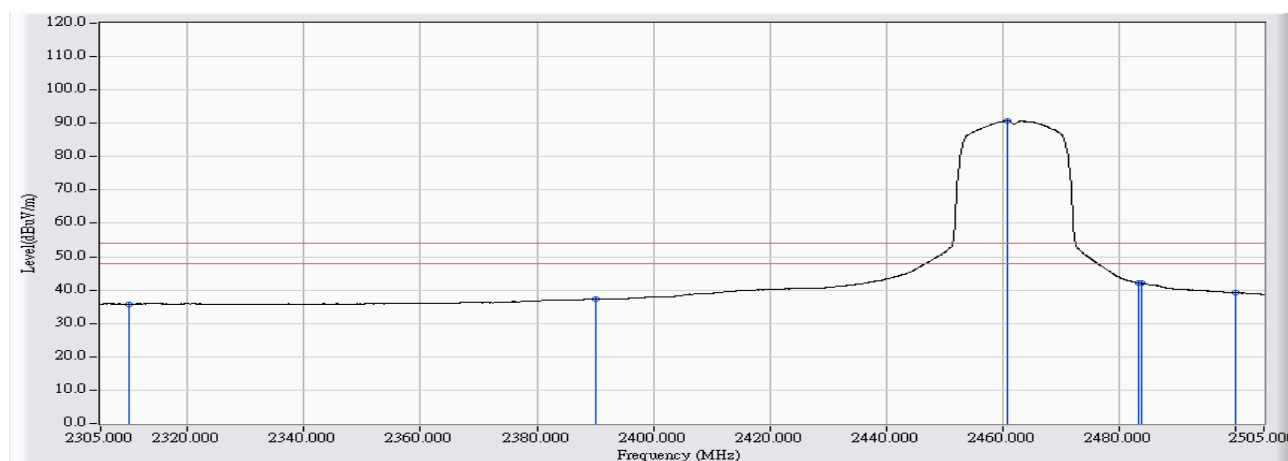


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	-0.502	47.436	46.934	-27.066	74.000	PEAK
2	2390.000	-0.193	48.982	48.789	-25.211	74.000	PEAK
3	* 2464.300	0.094	102.666	102.760	28.760	74.000	PEAK
4	2483.500	0.168	55.611	55.779	-18.221	74.000	PEAK
5	2484.000	0.171	55.875	56.045	-17.955	74.000	PEAK
6	2500.000	0.230	50.915	51.146	-22.854	74.000	PEAK

Note:

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

Site : CB4-H	Time : 2017/06/10
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	Power :DC 3.8V
EUT : Smart Lighting 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	-0.502	36.268	35.766	-18.234	54.000	AVERAGE
2	2390.000	-0.193	37.521	37.328	-16.672	54.000	AVERAGE
3	* 2460.800	0.081	90.638	90.719	36.719	54.000	AVERAGE
4	2483.500	0.168	41.905	42.073	-11.927	54.000	AVERAGE
5	2483.900	0.170	41.894	42.064	-11.936	54.000	AVERAGE
6	2500.000	0.230	38.968	39.199	-14.801	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

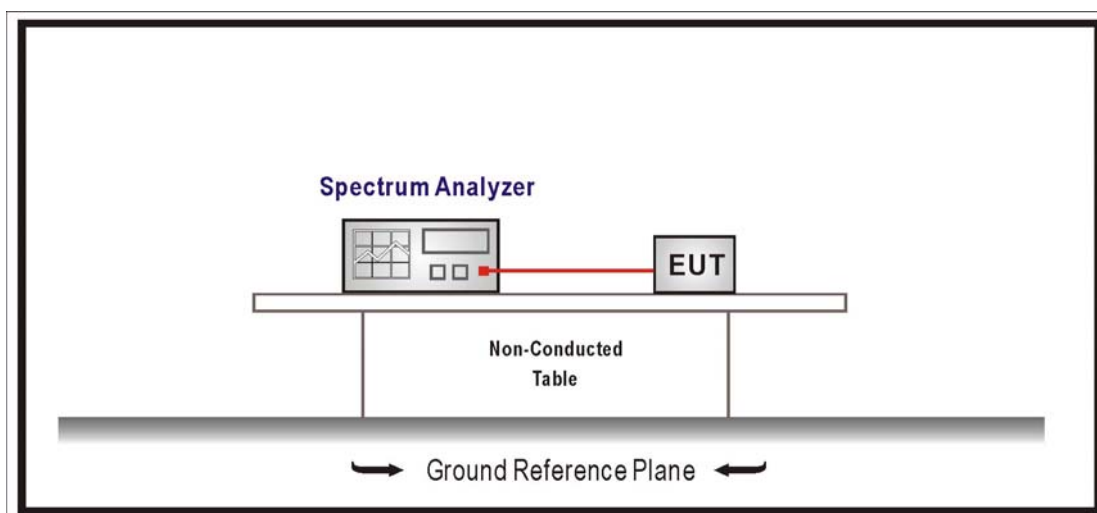
The following test equipment is used during the test:

DTS Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/12

Note: All equipment 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 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 $\pm 150\text{Hz}$

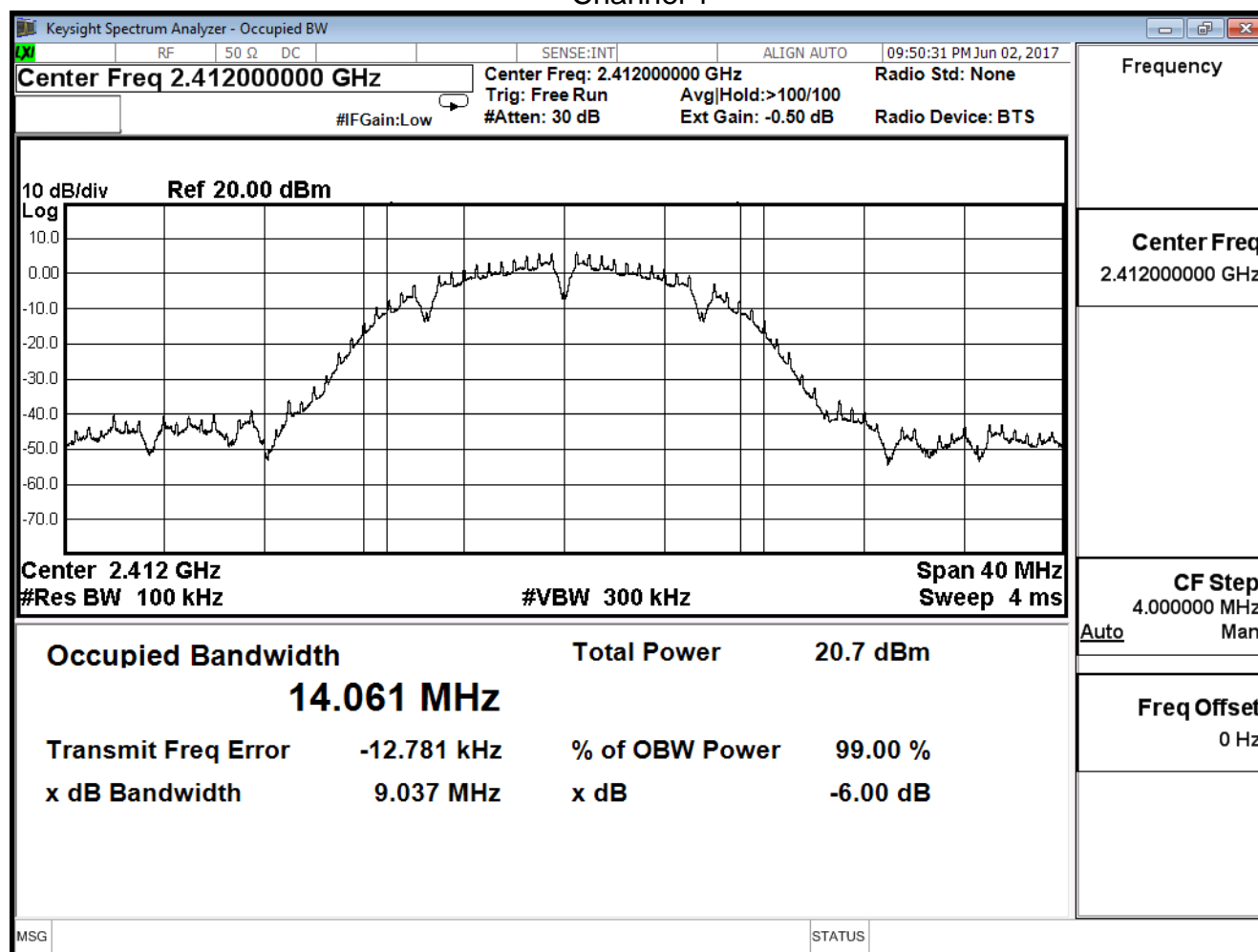
7.7. Test Result

Product	Smart Lighting System		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

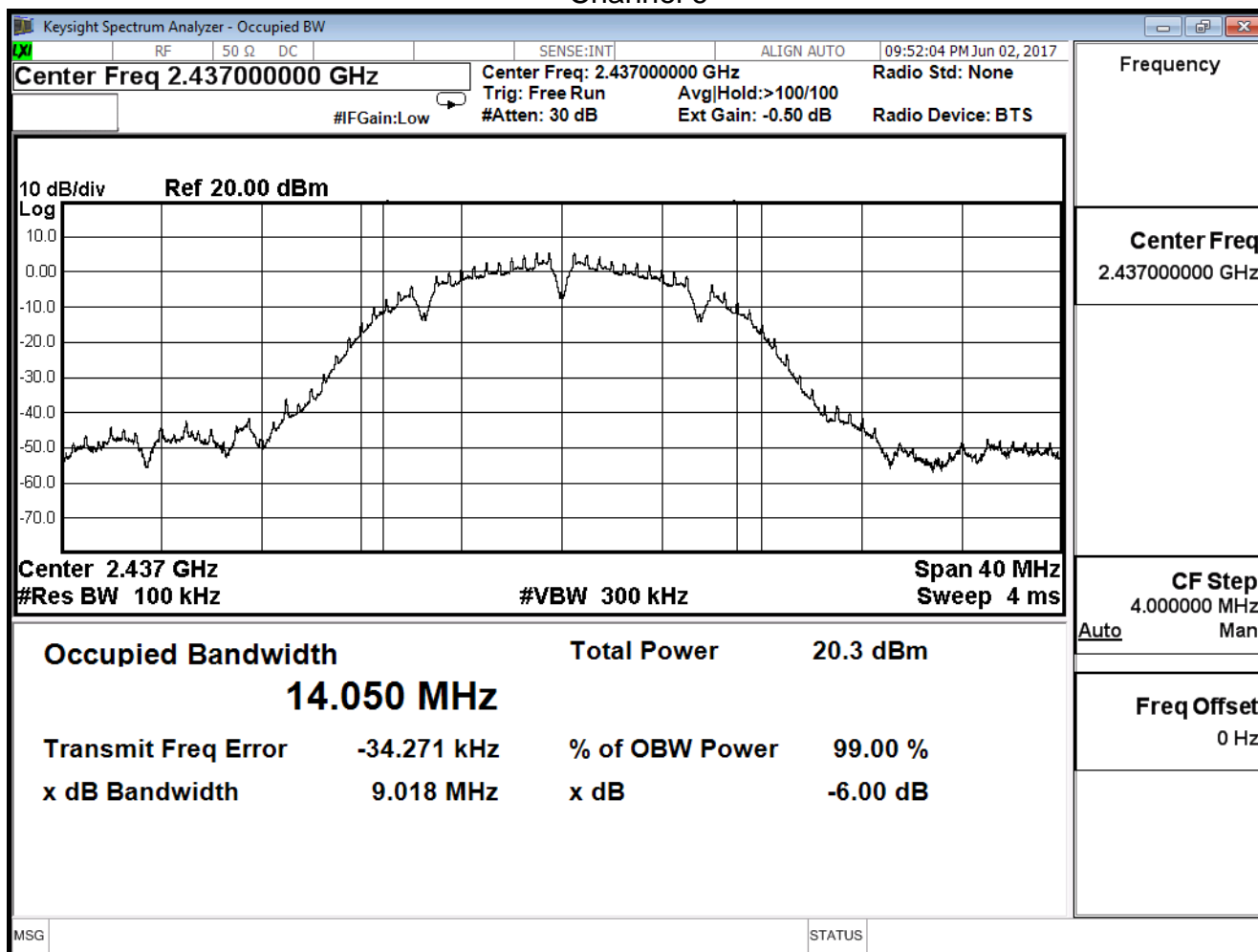
802.11 b (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
1	2412	9.037	≥ 0.5	Pass
6	2437	9.018	≥ 0.5	Pass
11	2462	8.565	≥ 0.5	Pass

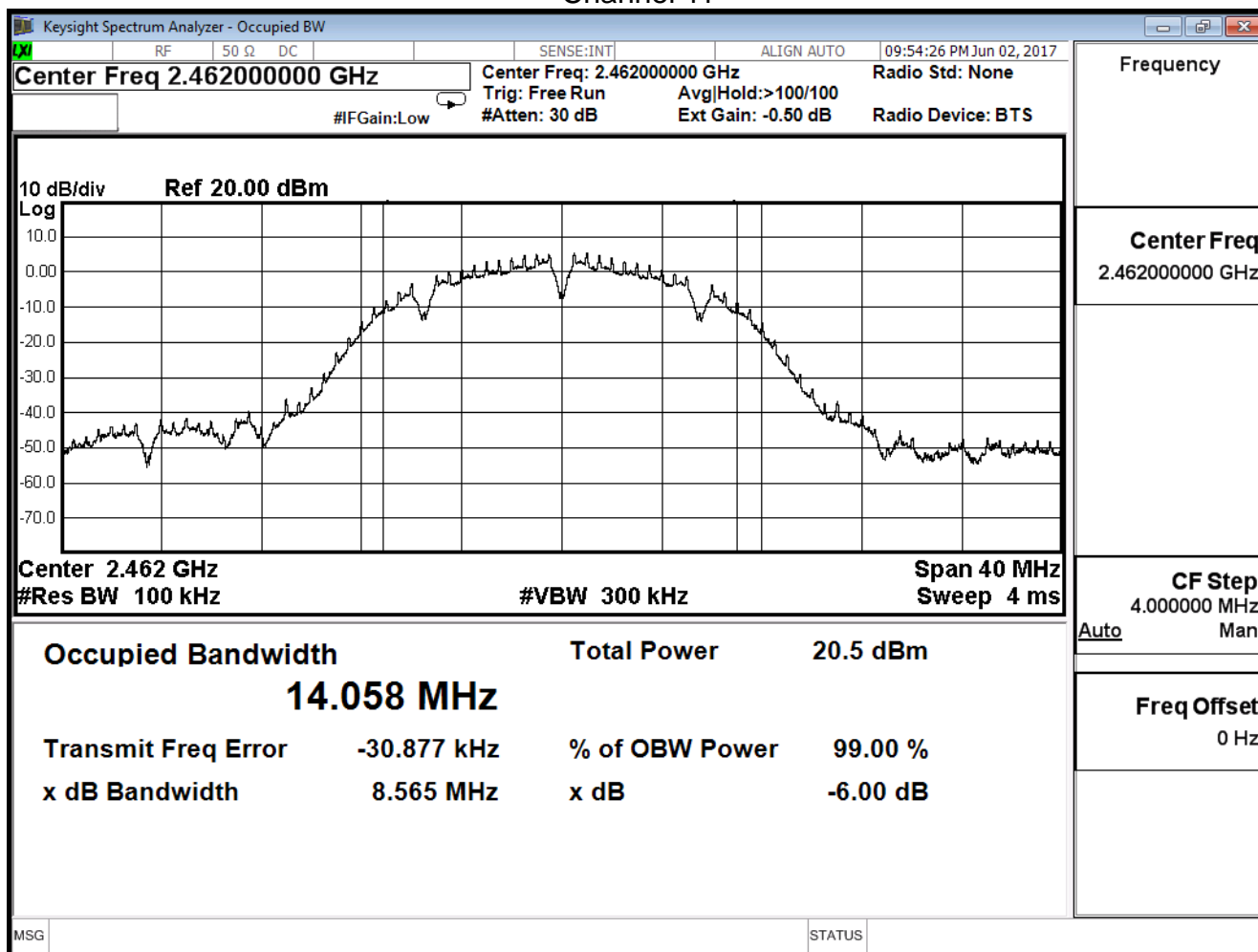
Channel 1



Channel 6



Channel 11

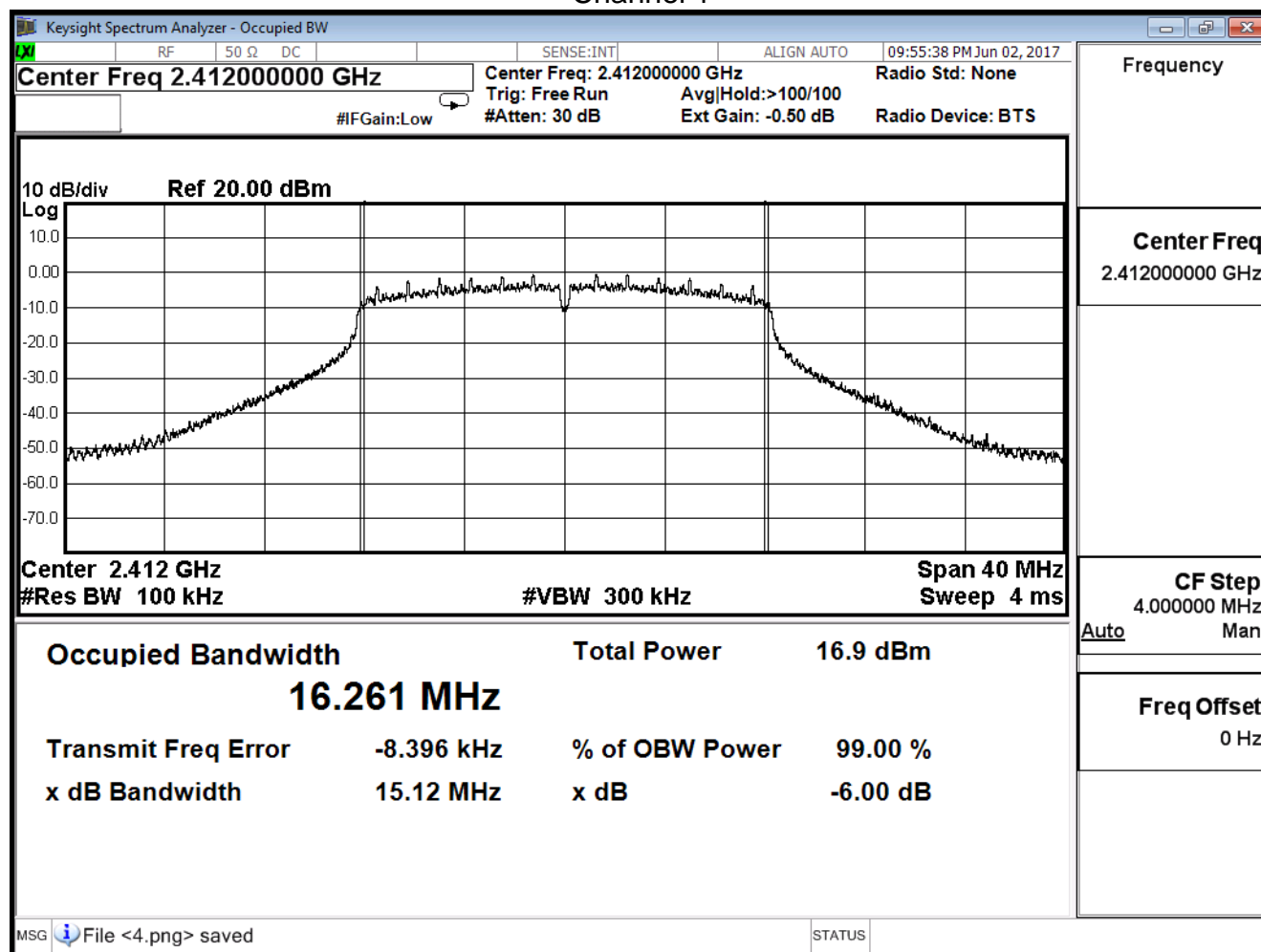


Product	Smart Lighting System		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

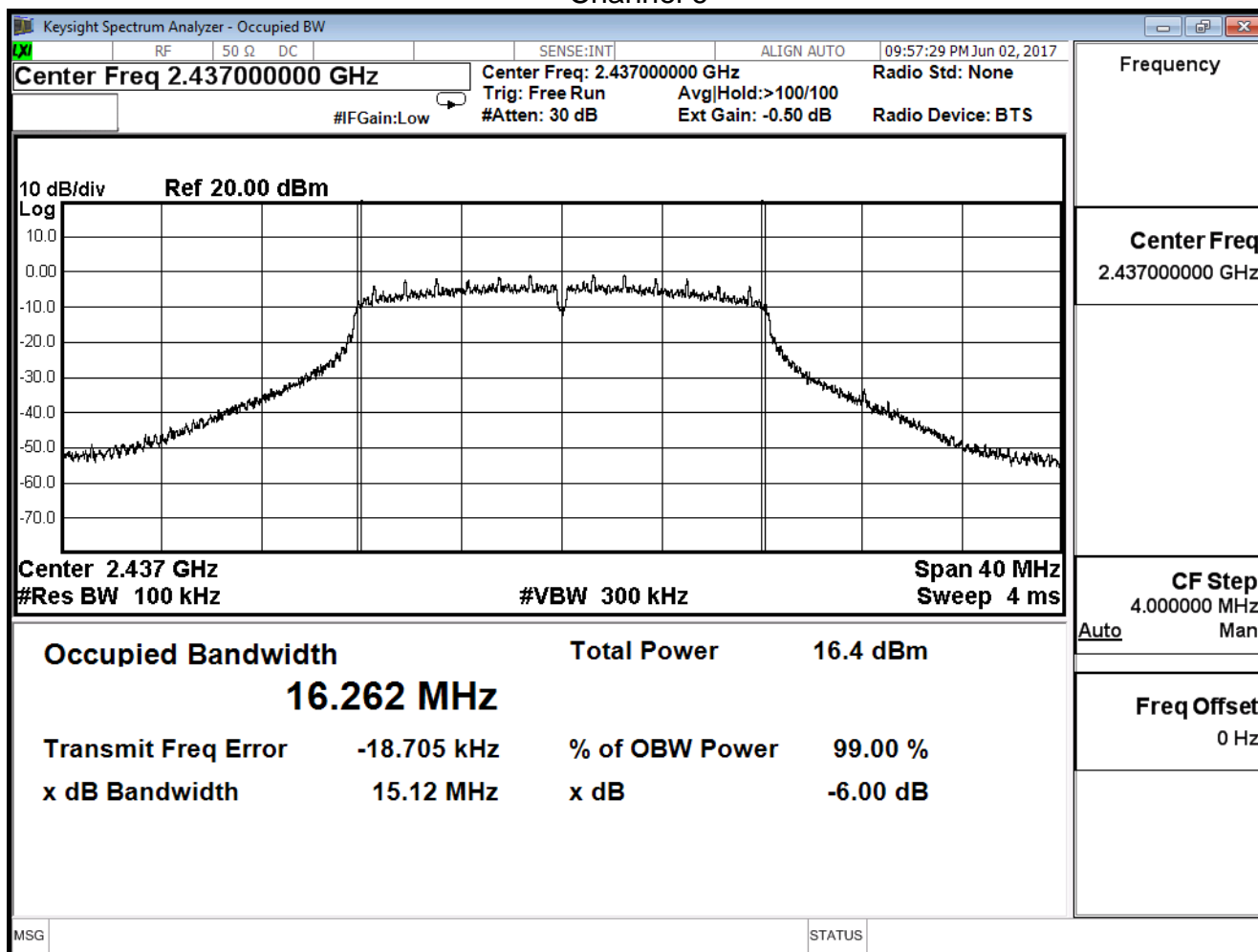
802.11 g (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
1	2412	15.120	≥ 0.5	Pass
6	2437	15.120	≥ 0.5	Pass
11	2462	15.110	≥ 0.5	Pass

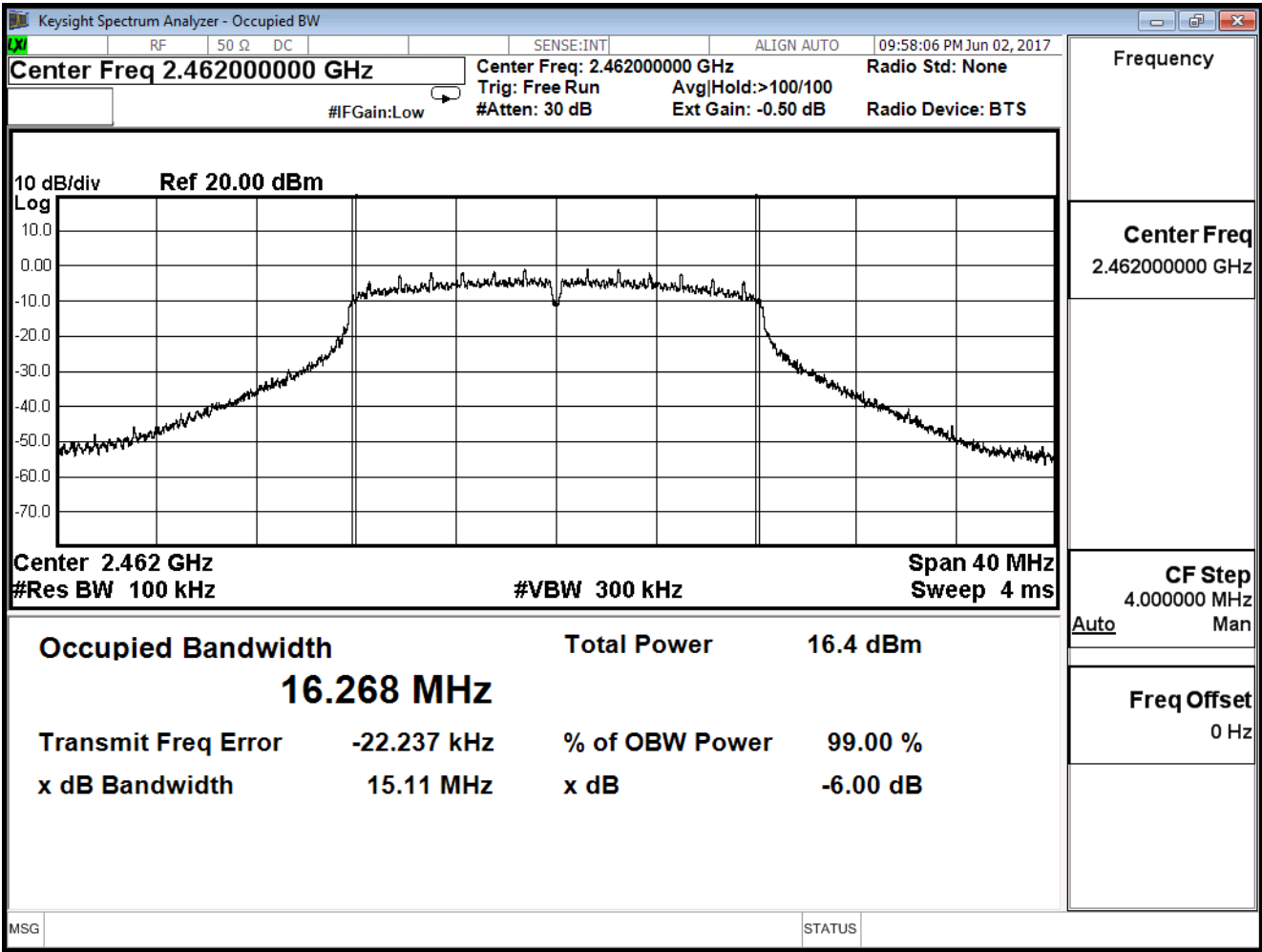
Channel 1



Channel 6



Channel 11

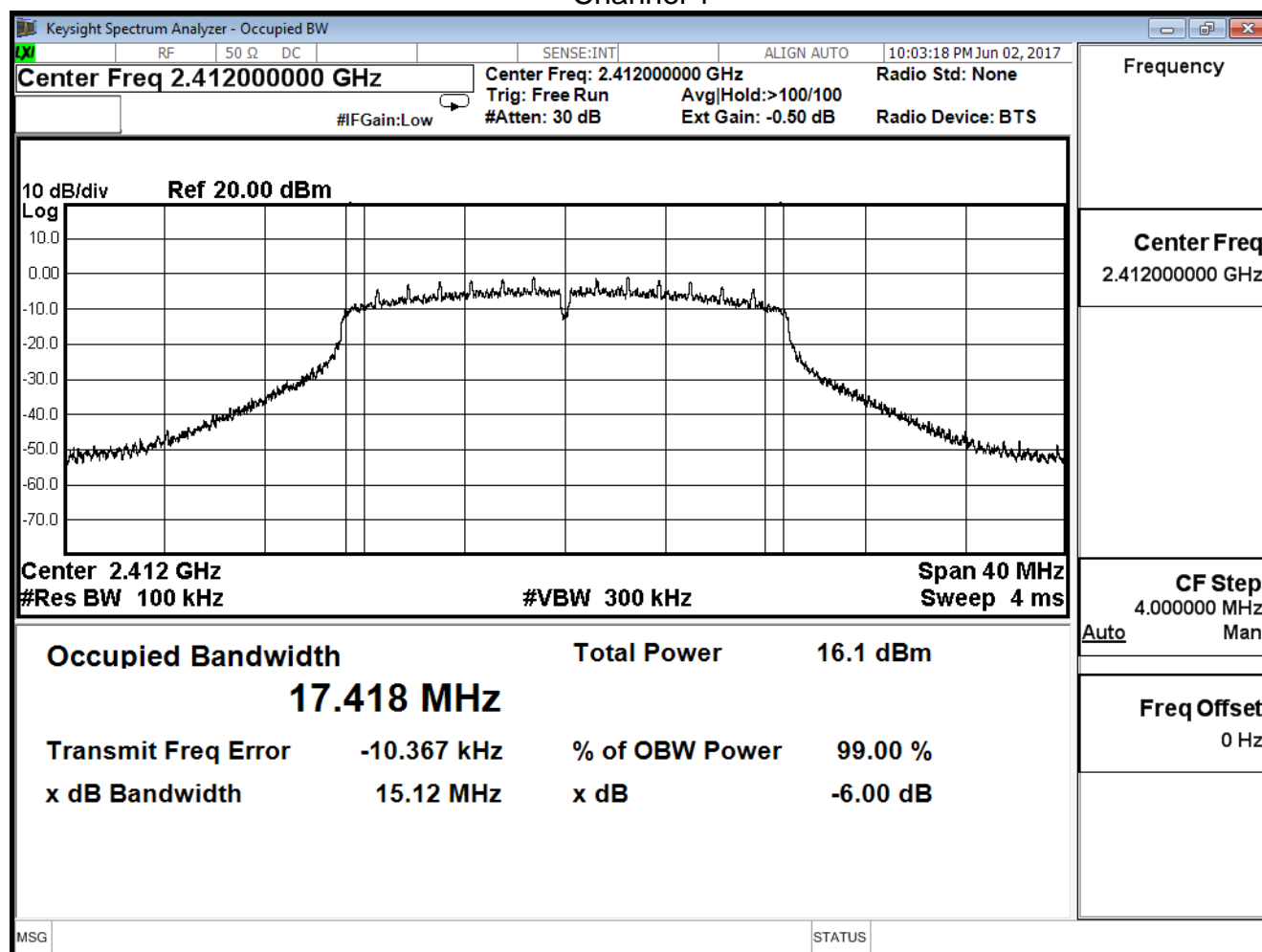


Product	Smart Lighting System		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

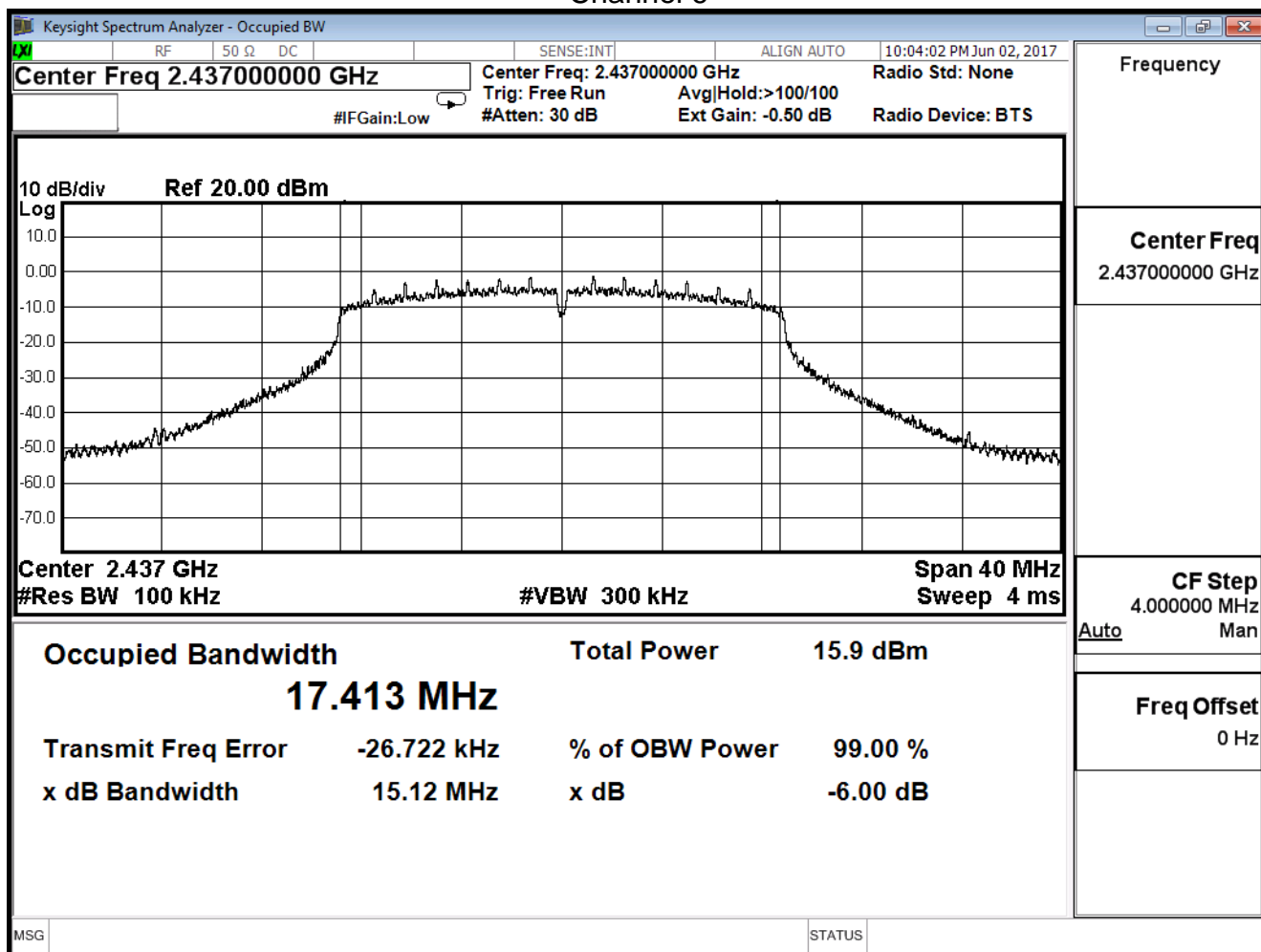
IEEE 802.11n_20M (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
1	2412	15.120	≥ 0.5	Pass
6	2437	15.120	≥ 0.5	Pass
11	2462	15.120	≥ 0.5	Pass

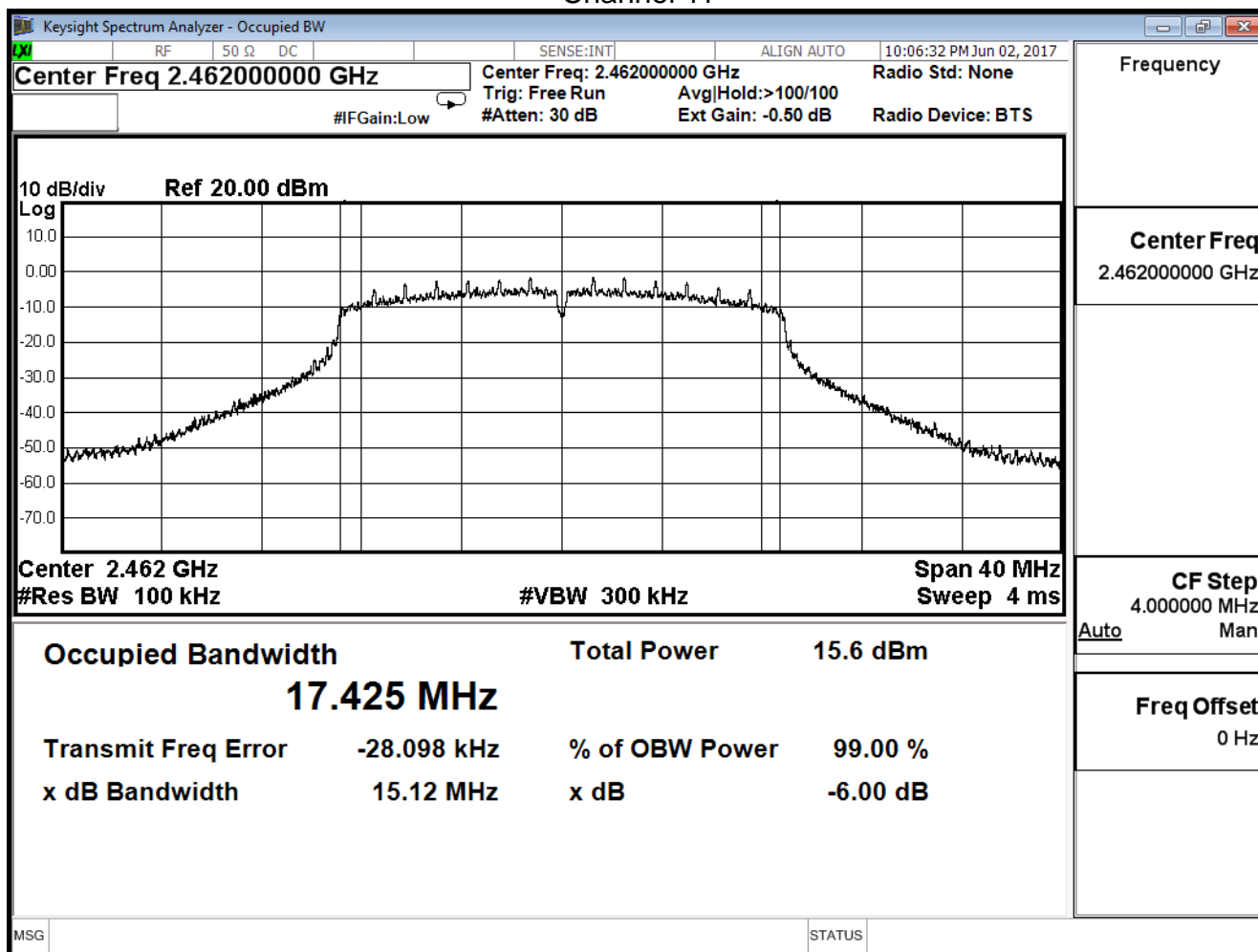
Channel 1



Channel 6



Channel 11



8. Occupied Bandwidth

8.1. Test Equipment

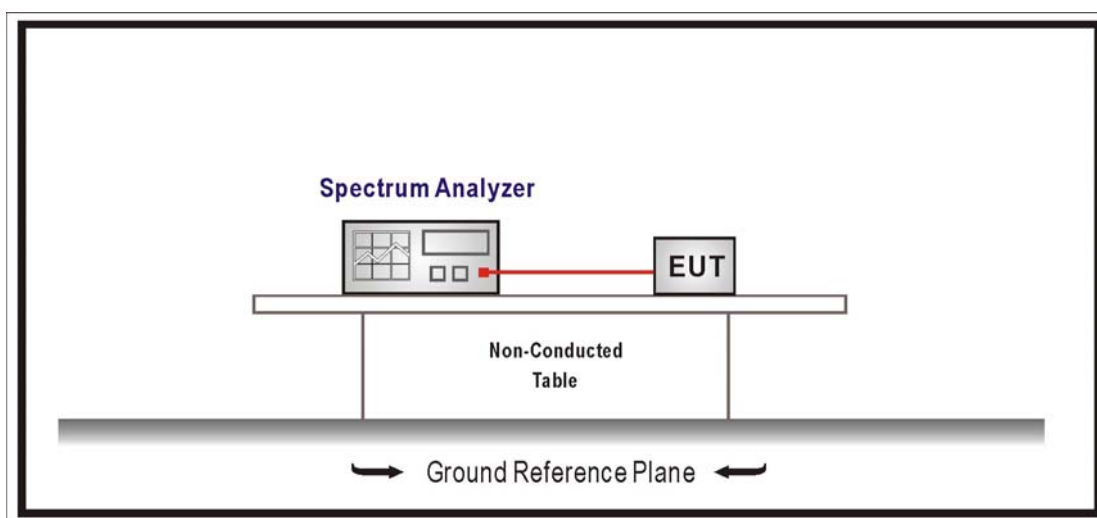
The following test equipment is used during the test:

Occupied Bandwidth / SR10-H

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

Note: All equipment 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 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 $\pm 150\text{Hz}$

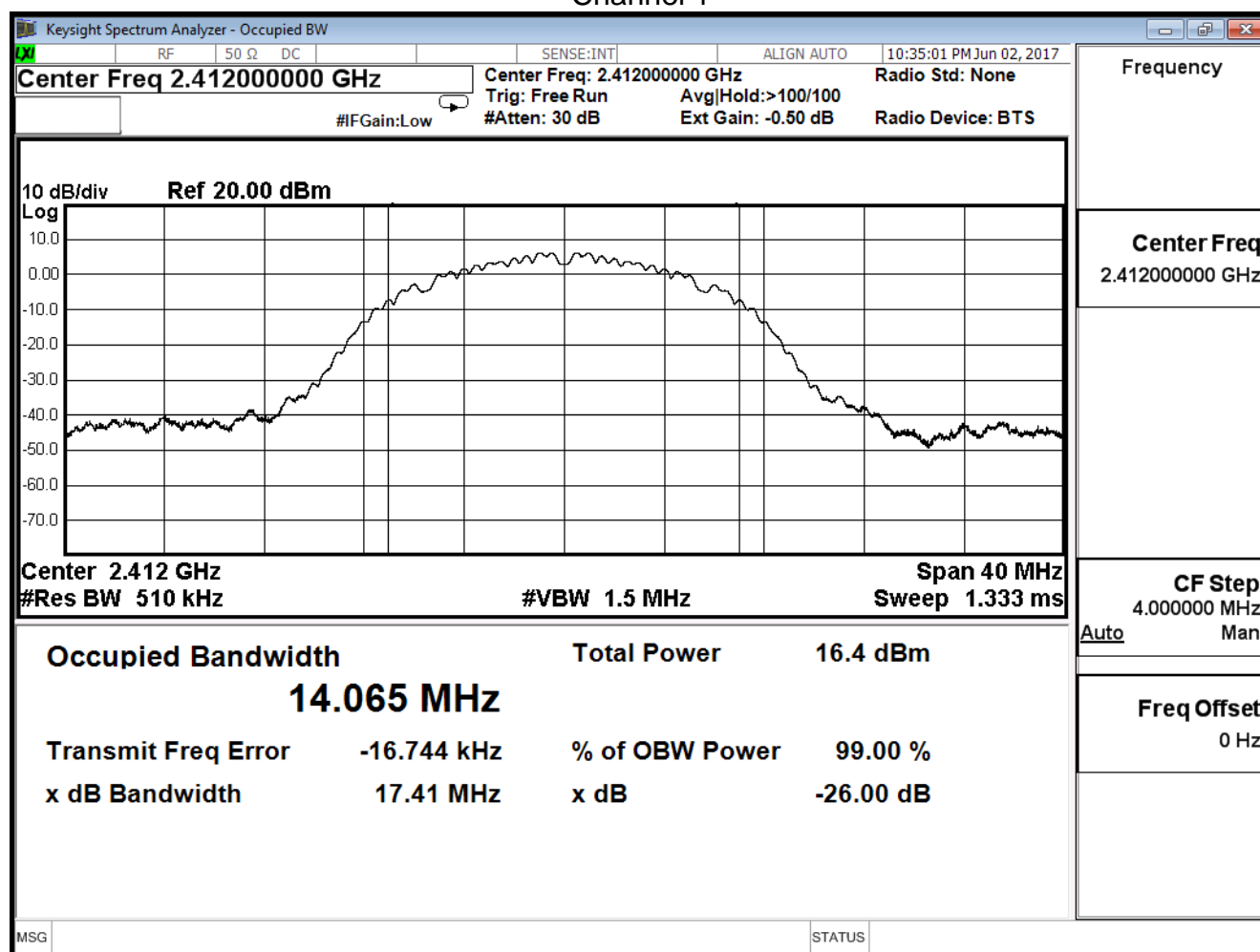
8.7. Test Result

Product	Smart Lighting System		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

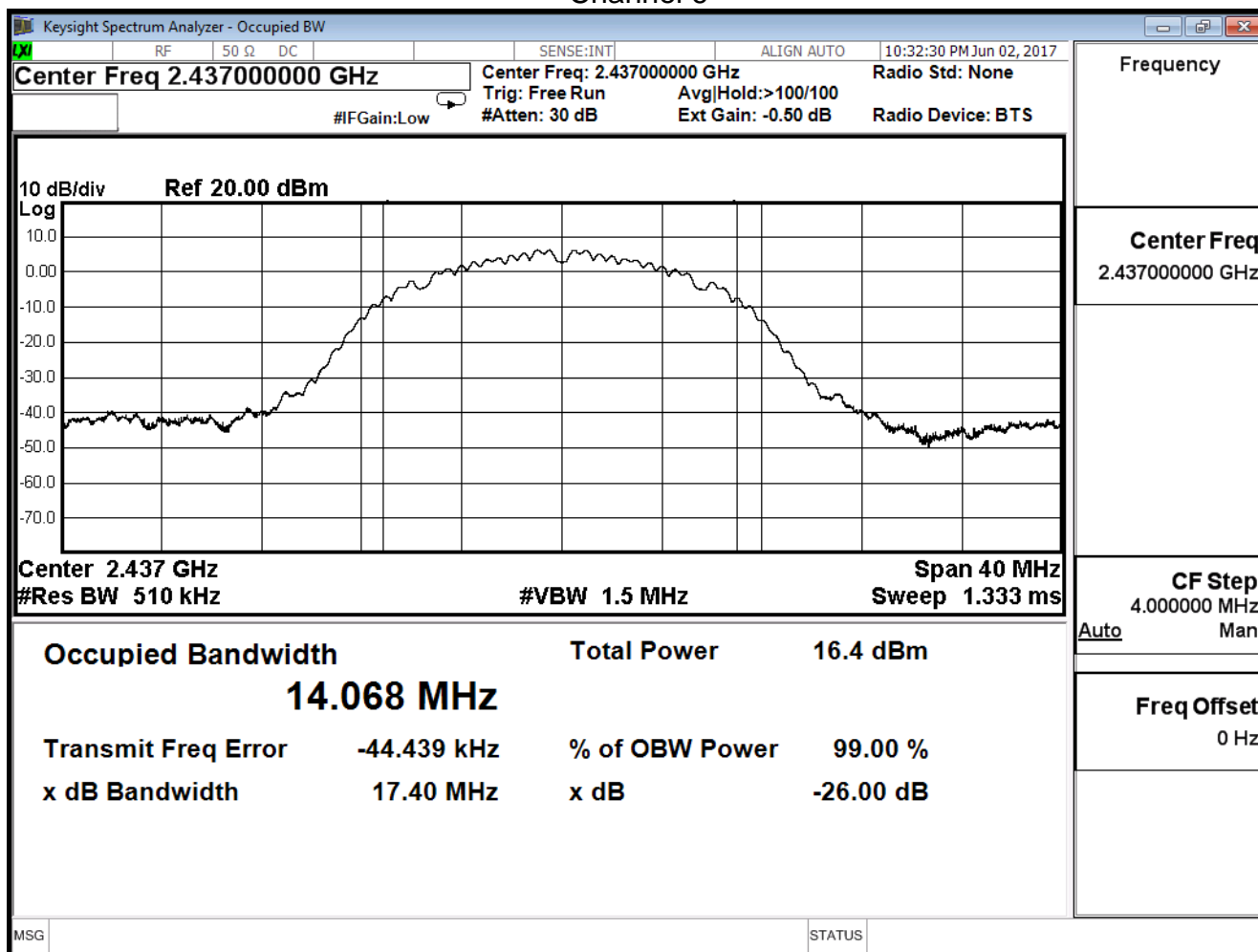
802.11 b (ANT 0)

Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
1	2412	14.065	--	Pass
6	2437	14.068	--	Pass
11	2462	14.071	--	Pass

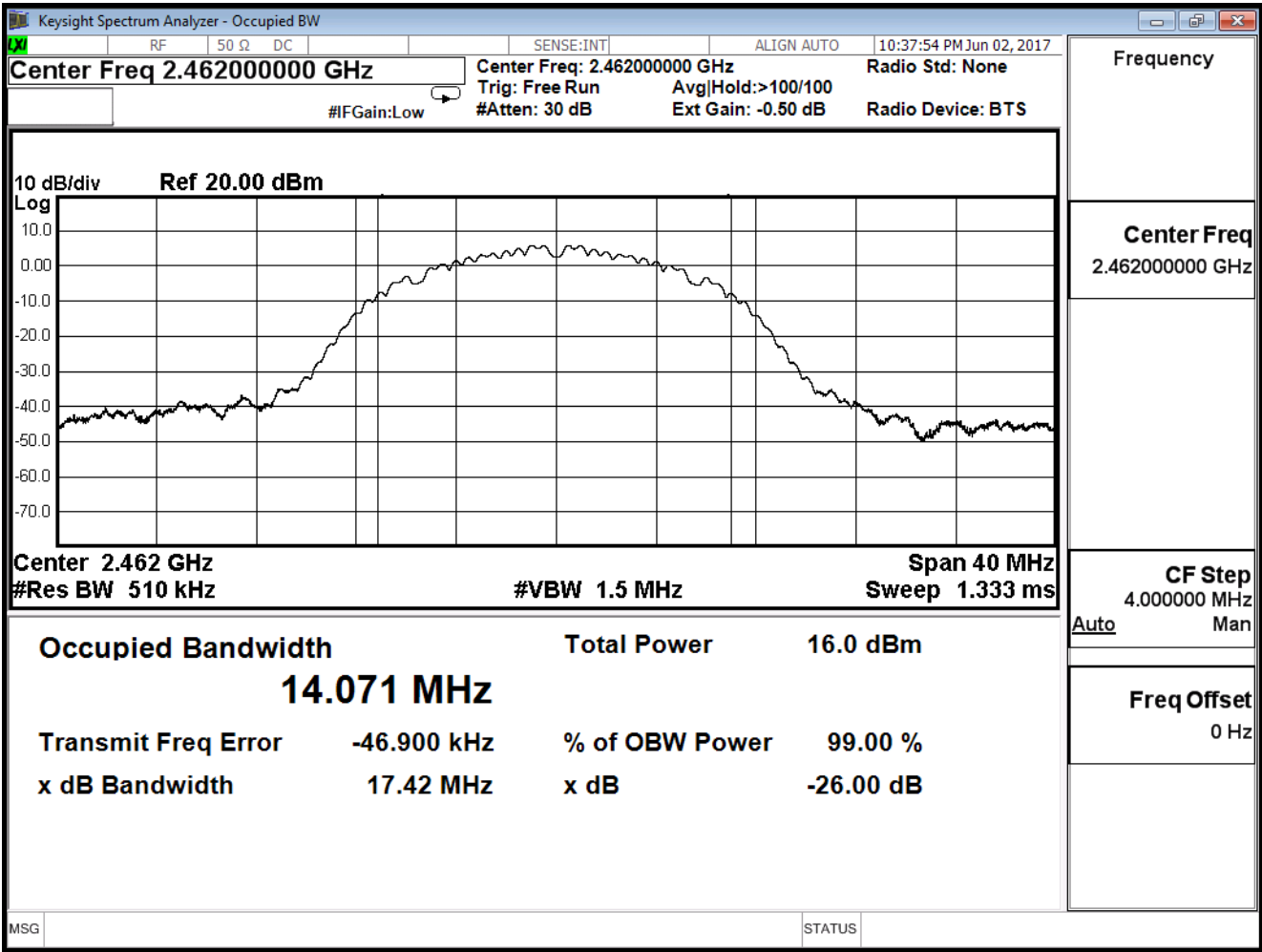
Channel 1



Channel 6



Channel 11

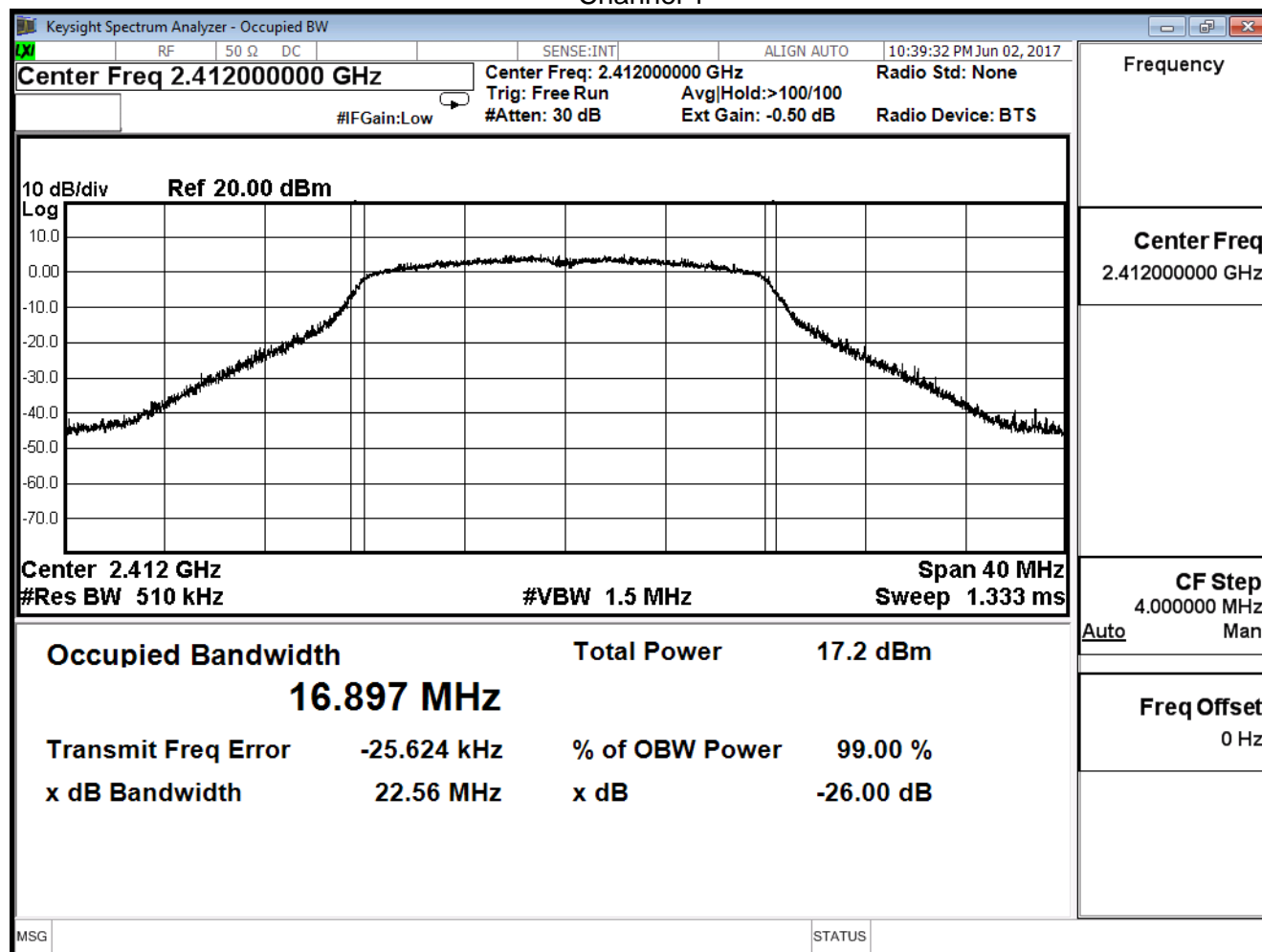


Product	Smart Lighting System		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

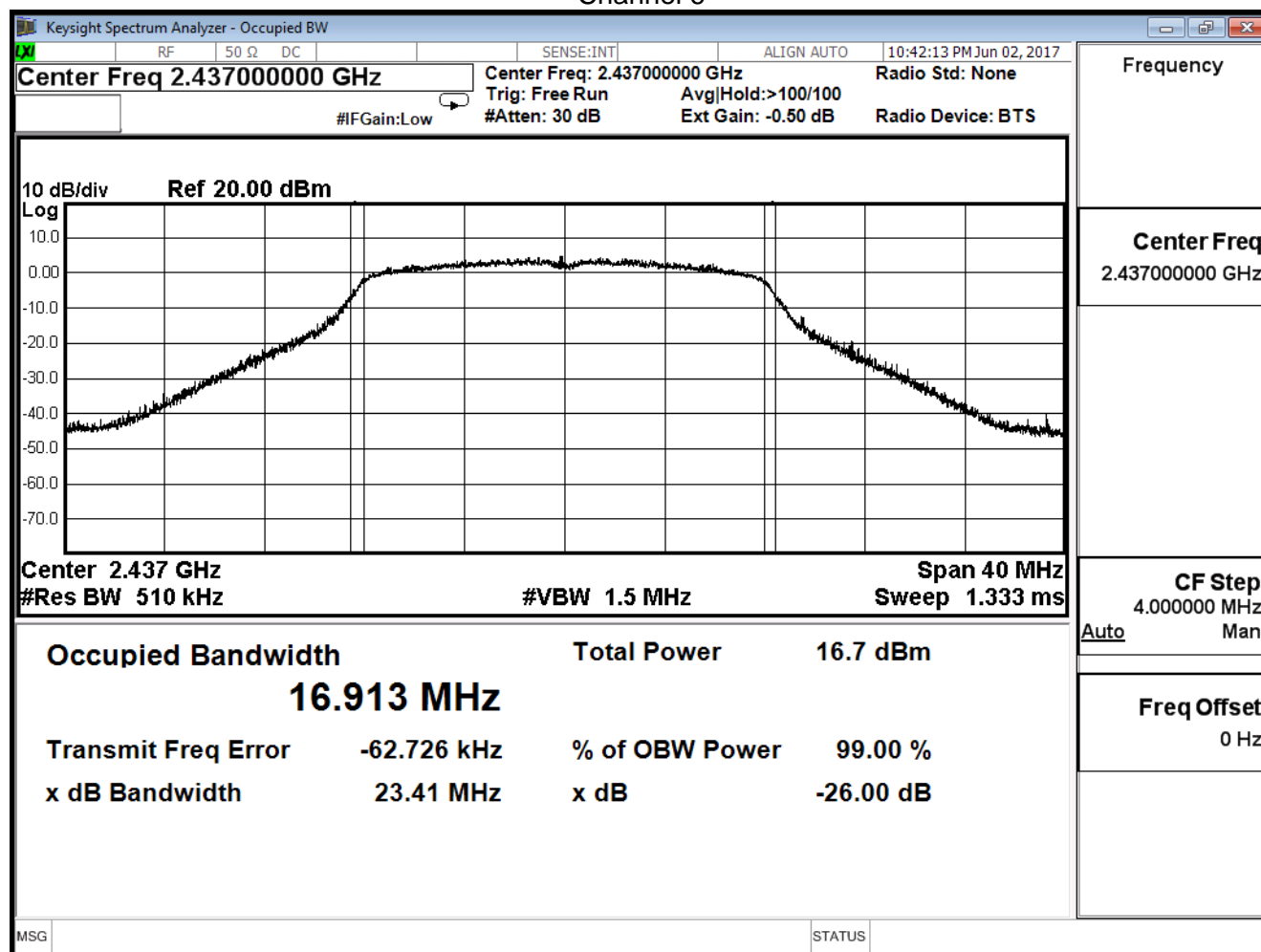
802.11 g (ANT 0)

Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
1	2412	16.897	--	Pass
6	2437	16.913	--	Pass
11	2462	16.914	--	Pass

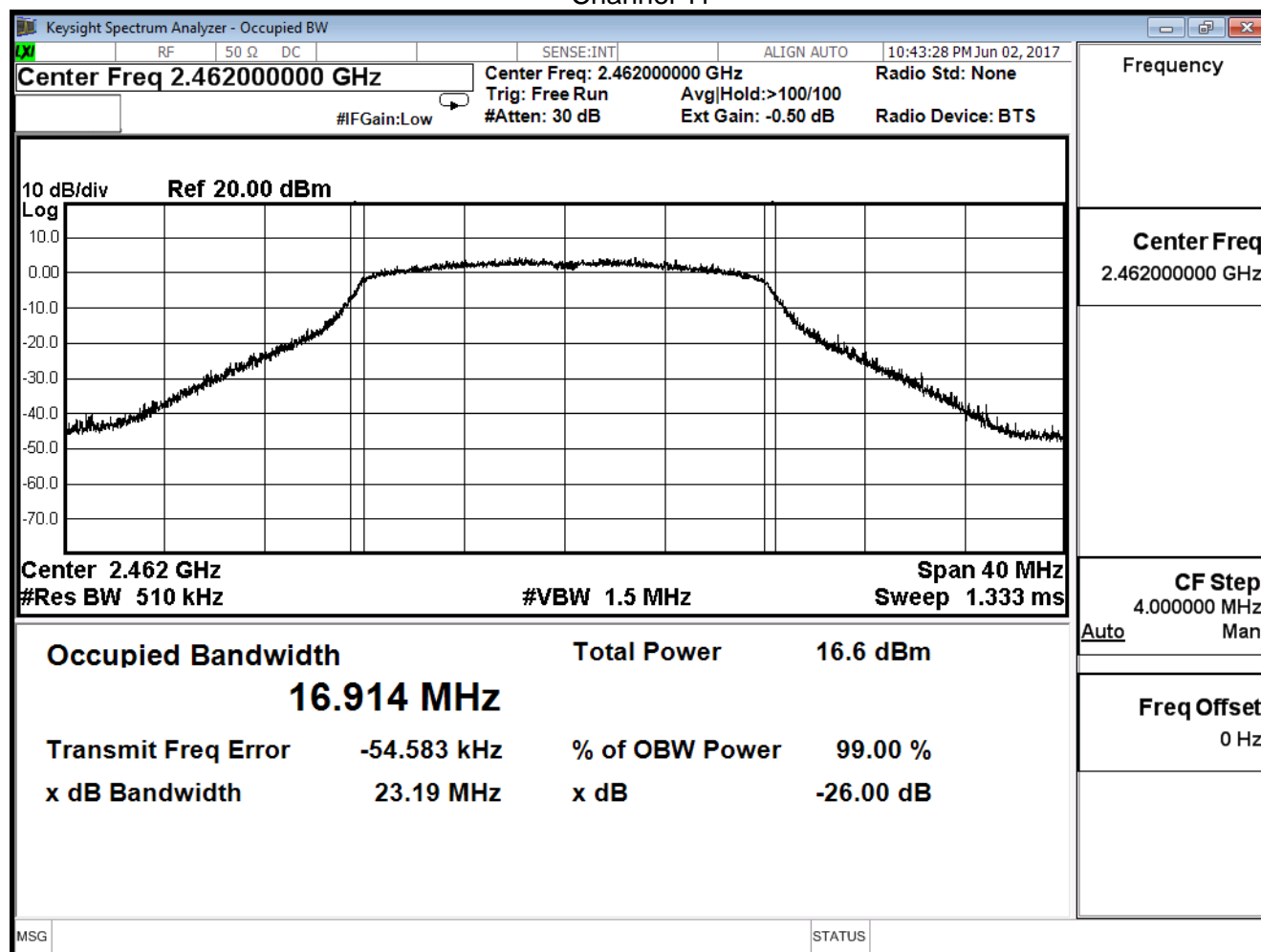
Channel 1



Channel 6



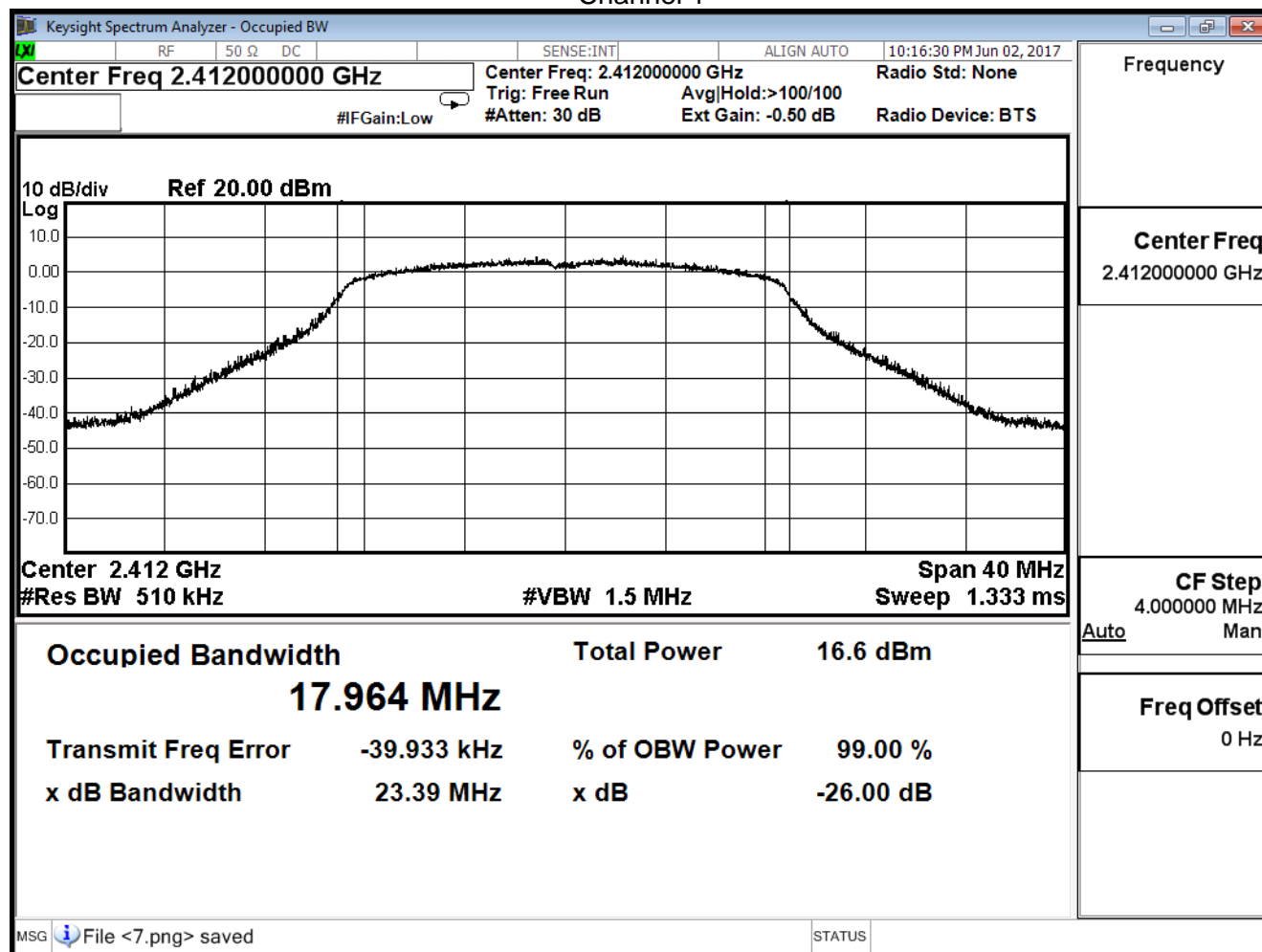
Channel 11



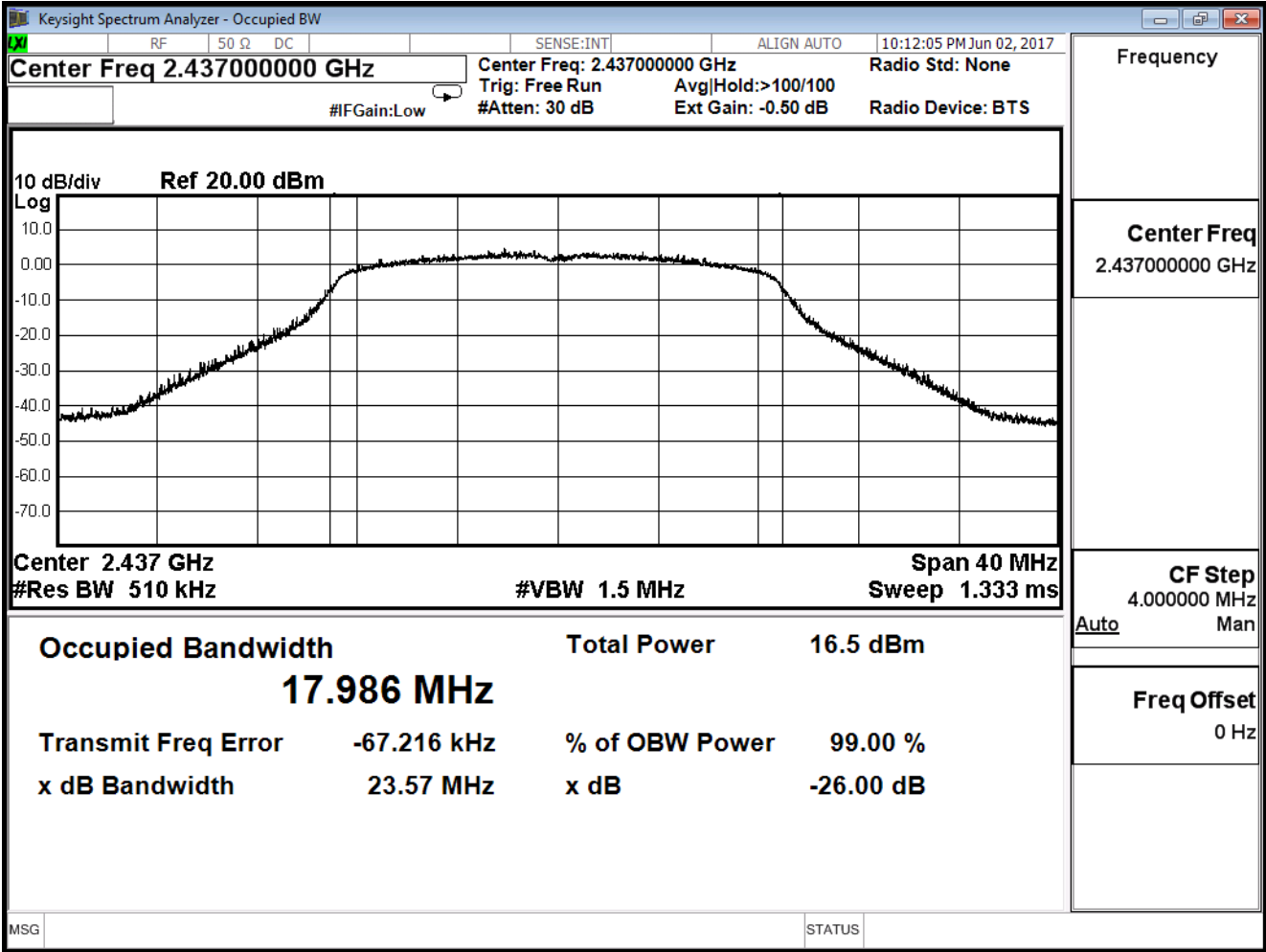
Product	Smart Lighting System		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

IEEE802.11n 20MHz (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
1	2412	17.964	--	Pass
6	2437	17.986	--	Pass
11	2462	17.960	--	Pass

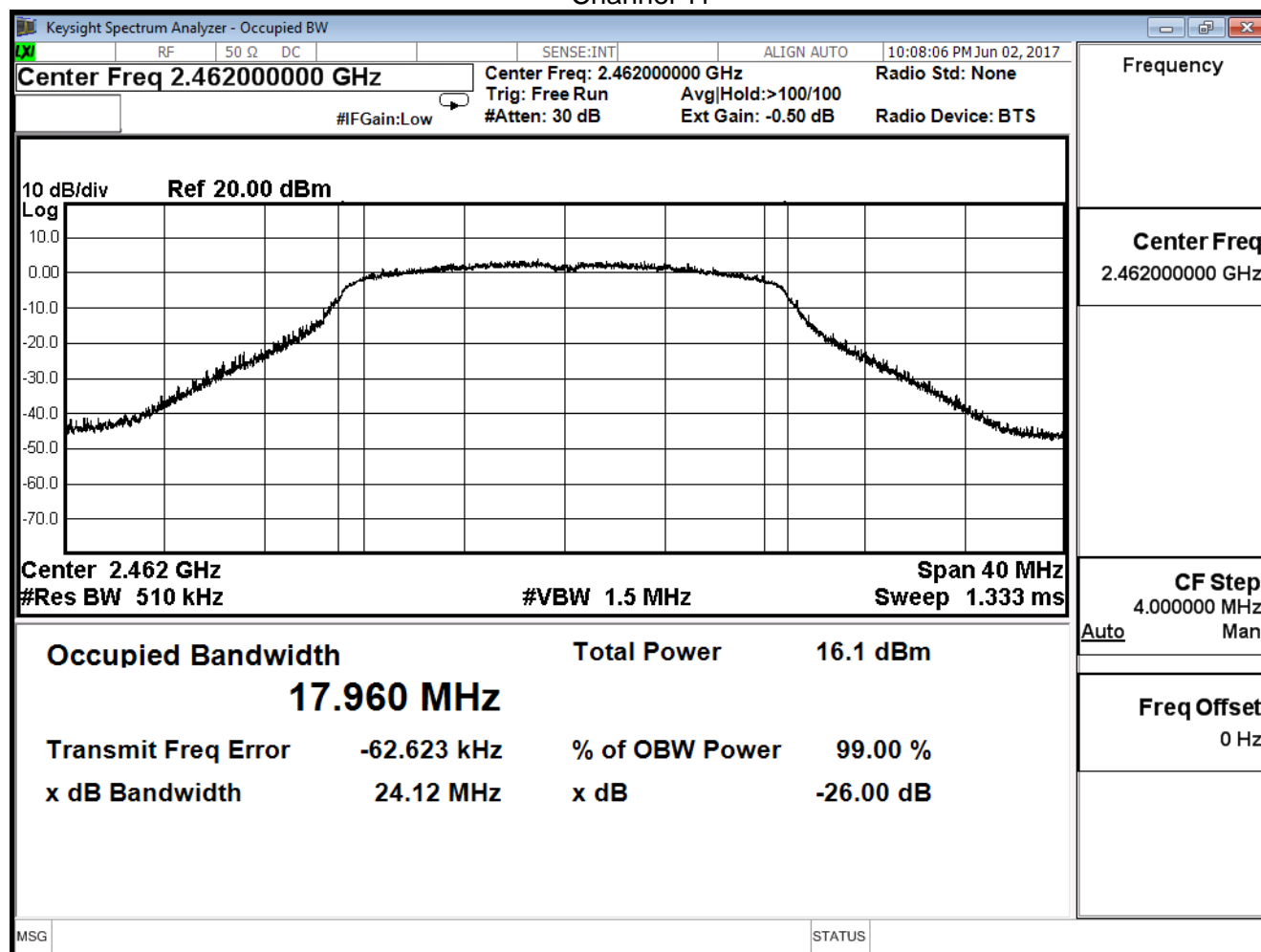
Channel 1



Channel 6



Channel 11



9. Power Density

9.1. Test Equipment

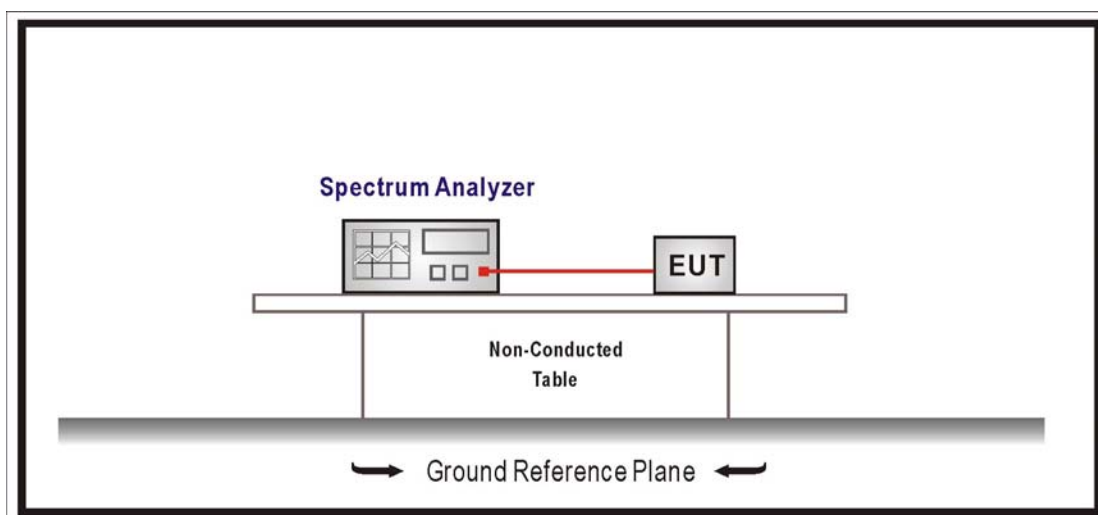
The following test equipment is used during the test:

Power Density / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/12

Note: All equipment 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 V04 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 $\pm 1.27\text{dB}$.

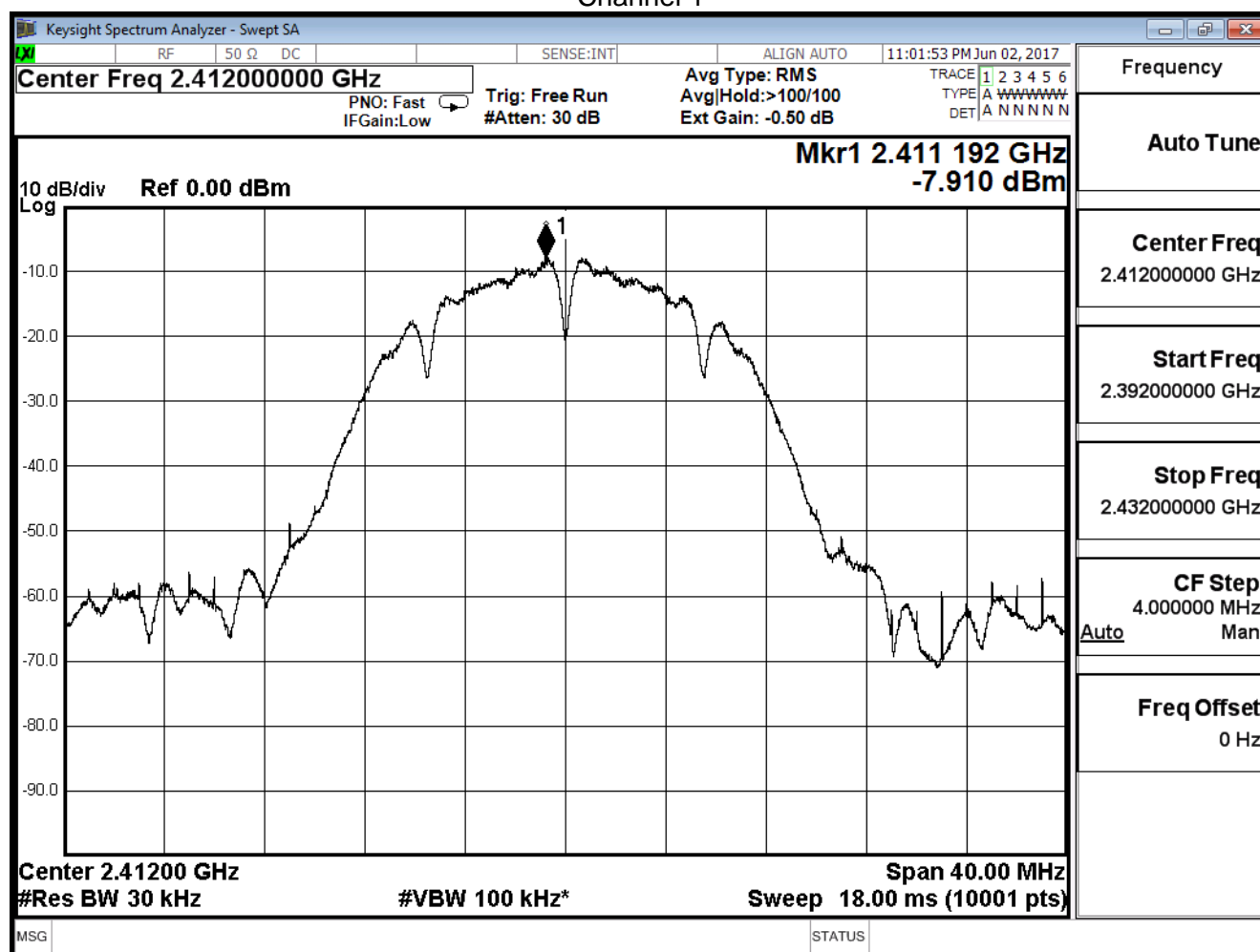
9.7. Test Result

Product	Smart Lighting System		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

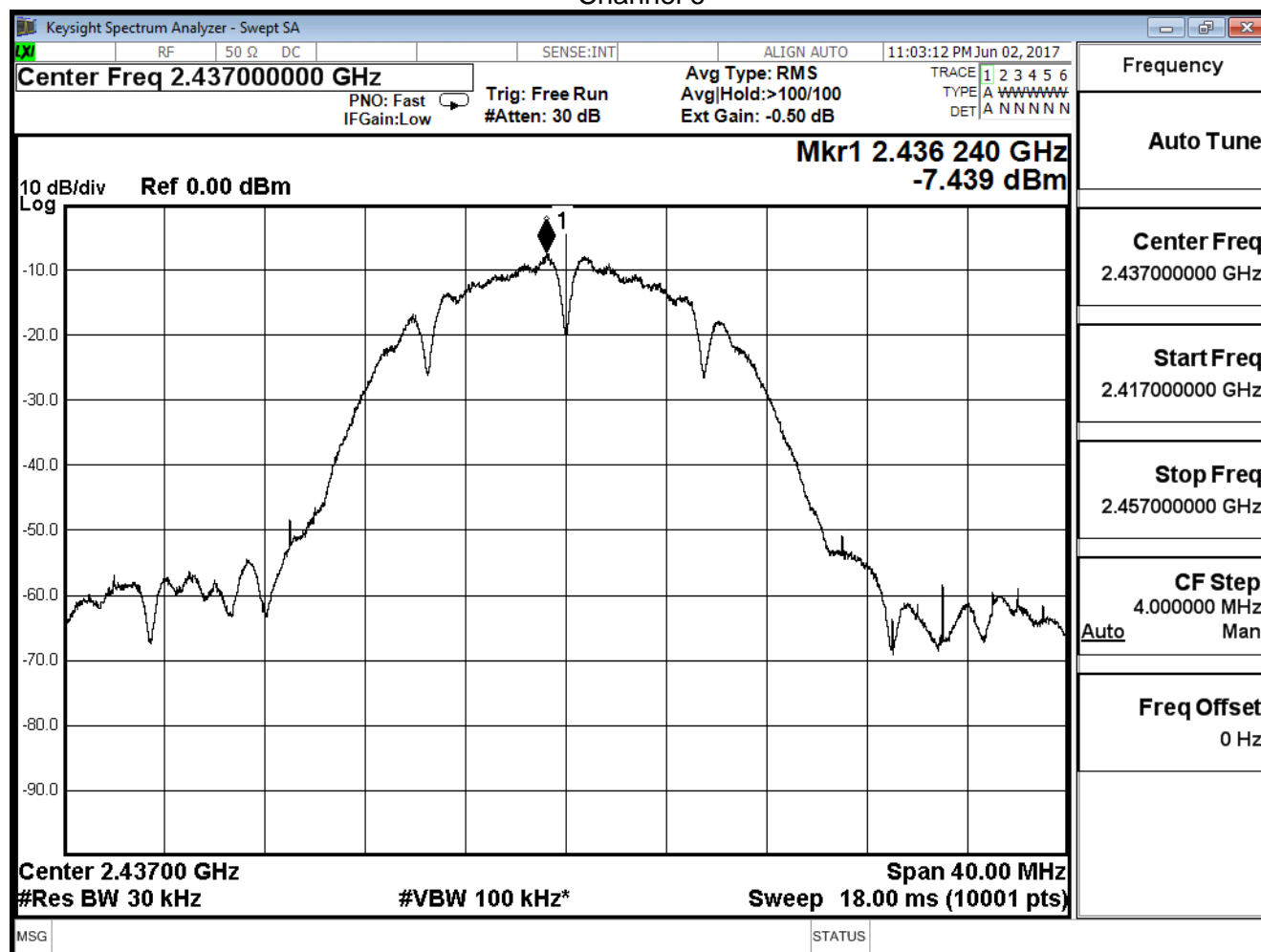
IEEE 802.11b (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-7.910	≤ 8	Pass
6	2437	-7.439	≤ 8	Pass
11	2462	-7.732	≤ 8	Pass

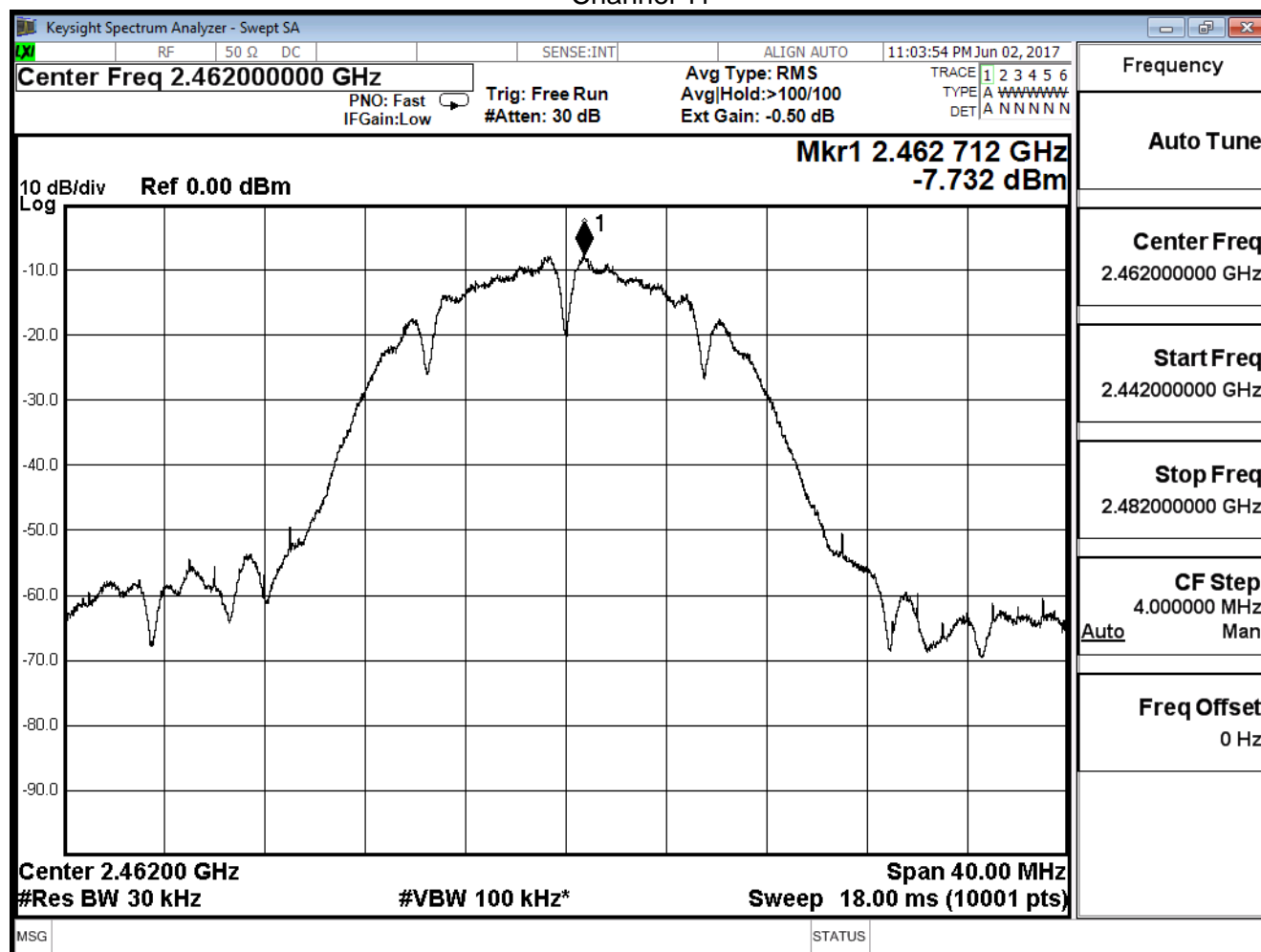
Channel 1



Channel 6



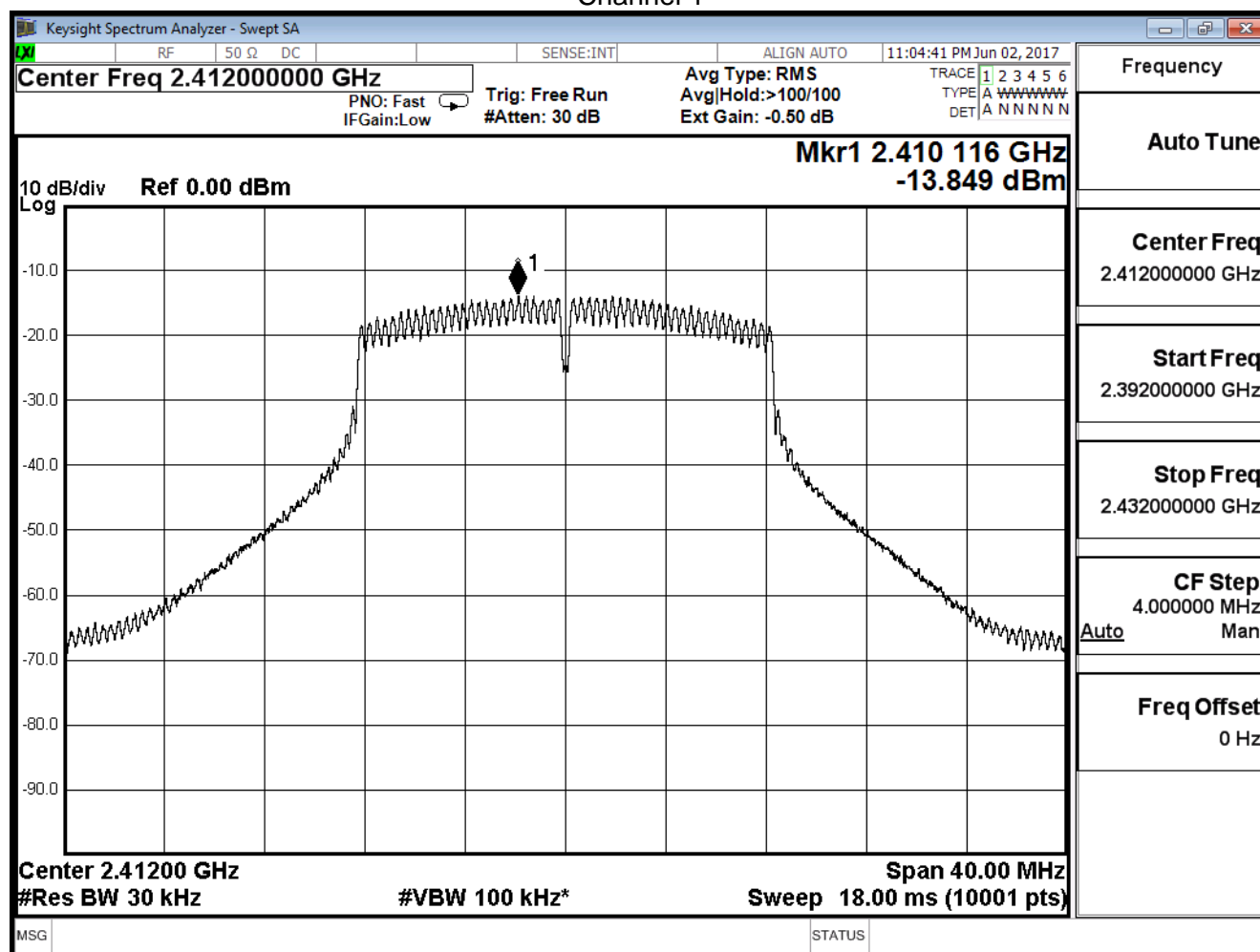
Channel 11



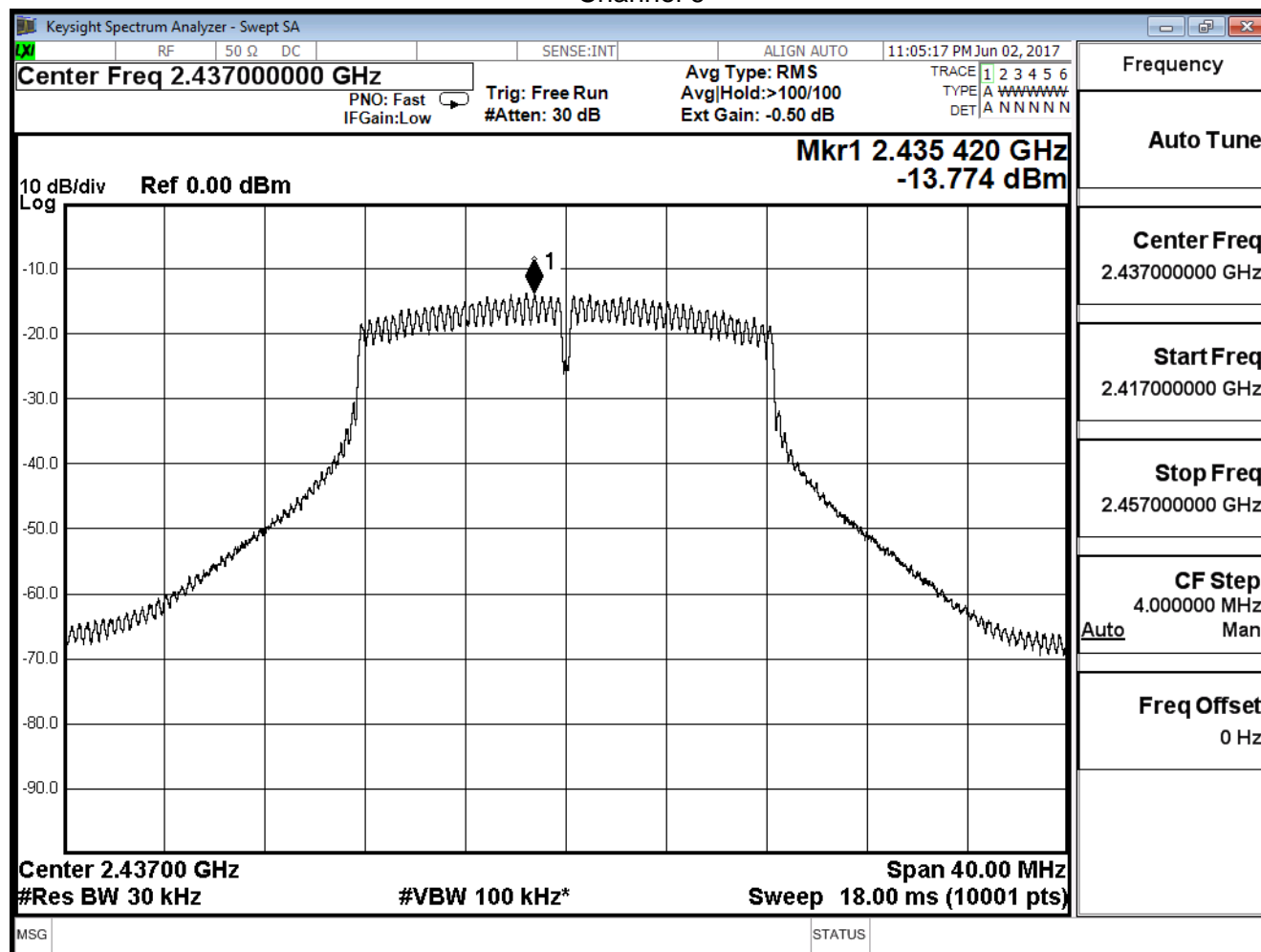
Product	Smart Lighting System		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

IEEE 802.11g (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-13.849	≤ 8	Pass
6	2437	-13.774	≤ 8	Pass
11	2462	-13.942	≤ 8	Pass

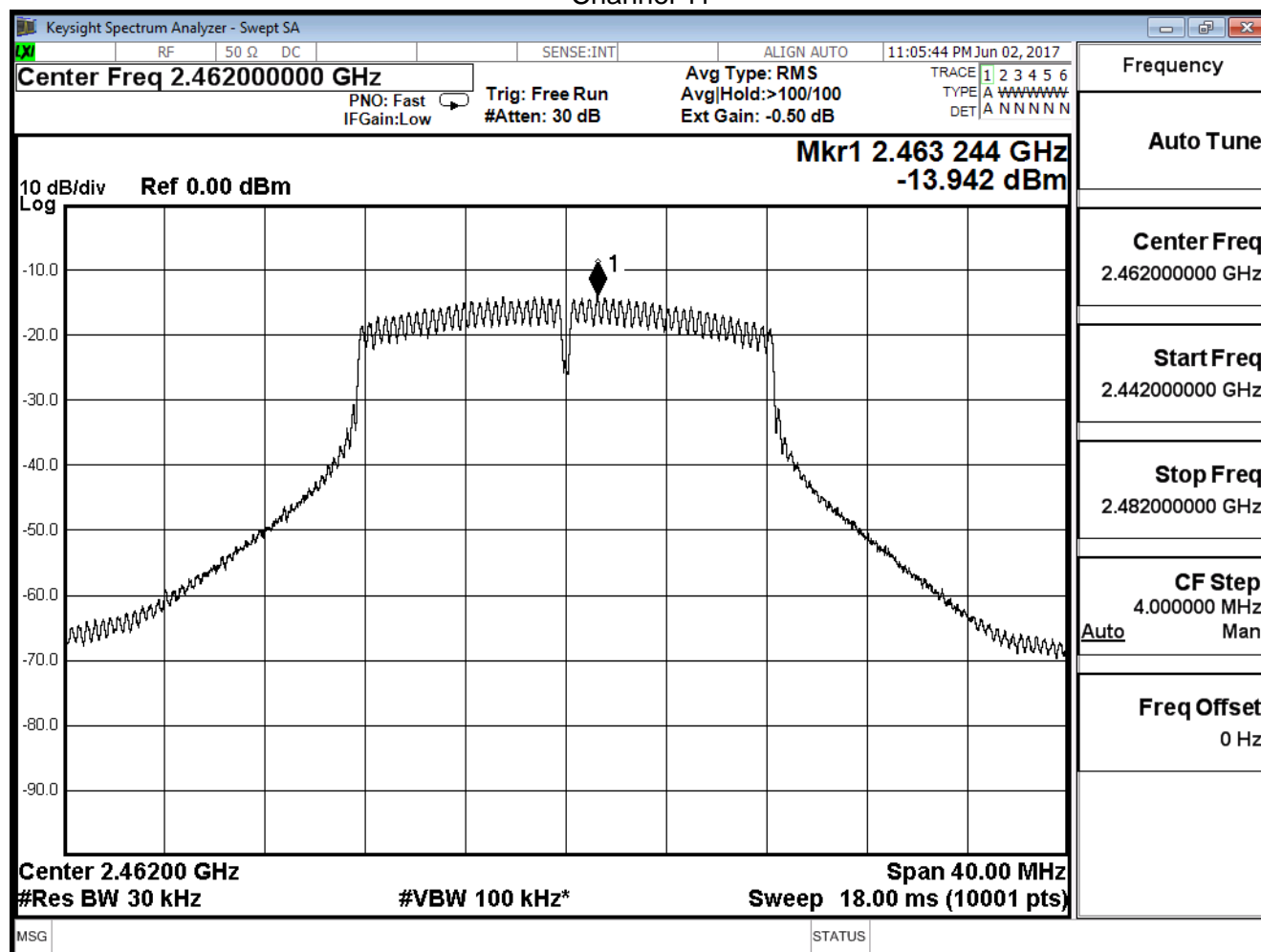
Channel 1



Channel 6



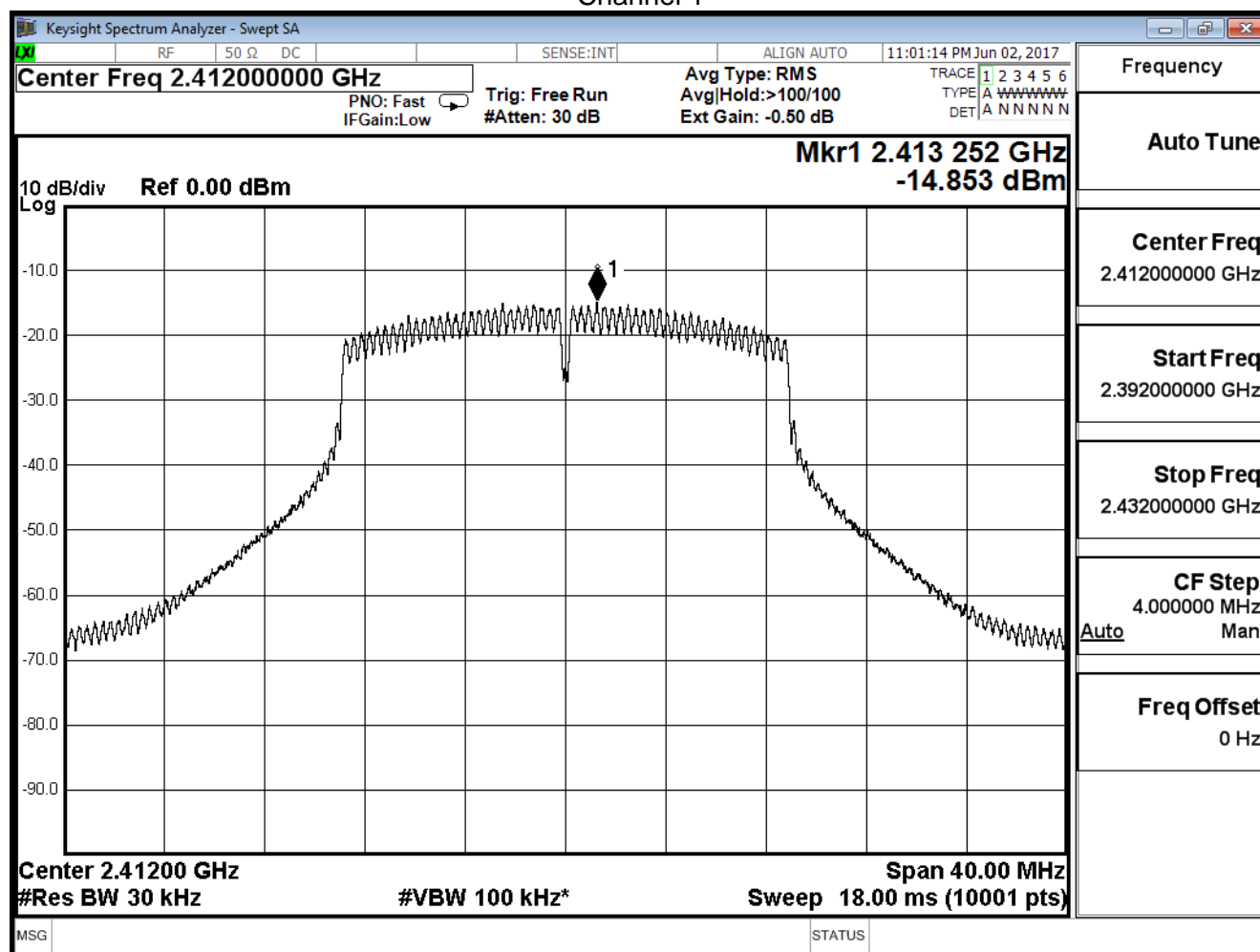
Channel 11



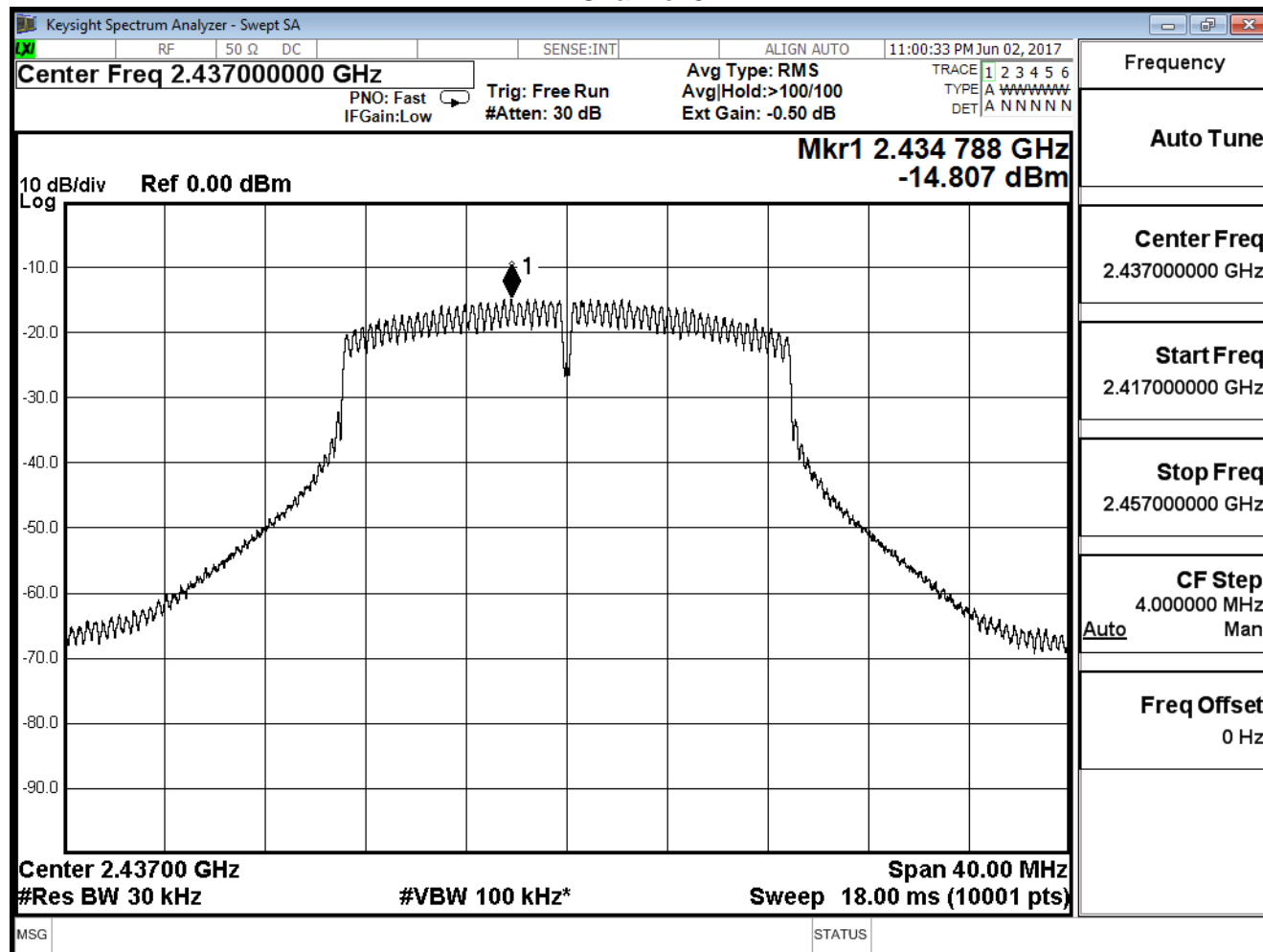
Product	Smart Lighting System		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2017/06/02	Test Site	SR10-H

IEEE802.11n 20MHz (ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-14.853	≤ 8	Pass
6	2437	-14.807	≤ 8	Pass
11	2462	-15.183	≤ 8	Pass

Channel 1



Channel 6



Channel 11

