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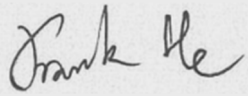
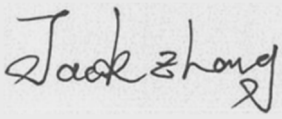
ACCREDITED Cert. # 3235.01

Test report No:
2040634R-RF-US-P06V01

FCC TEST REPORT & ISED TEST REPORT

Product Name	Tunable White Direct Connect Smart Bulb
Trademark	GE
Model and /or type reference	CLEDA199SD1
FCC ID	PUU-A19-DMTW
IC ID	10798A-DMTWA19
Applicant´s name / address	GE Lighting 1975 Noble Road, Cleveland, Ohio, United States
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10: 2013 KDB558074 D01v05r02 RSS-Gen Issue 5 / RSS-247 Issue 2
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Kitty Li/Project Assistant 
Reviewed by (name / position & signature)	Frank He/ Technical Supervisor 
Approved by (name / position & signature)	Jack Zhang/ Supervisor 
Date of issue	2020-07-02
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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.
In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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GENERAL CONDITIONS

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT : Equipment Under Test
QP : Quasi-Peak
CAV : CISPR Average
AV : Average
CDN : Coupling Decoupling Network
SAC : Semi-Anechoic Chamber
OATS : Open Area Test Site
BW : Bandwidth
AM : Amplitude Modulation
PM : Pulse Modulation
HCP : Horizontal Coupling Plane
VCP : Vertical Coupling Plane
U_N : Nominal voltage
*T*x : Transmitter
*R*x : Receiver
N/A : Not Applicable
N/M : Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2040634R-RF-US-P06V01	V1.0	Initial issue of report.	2020-06-10
2040634R-RF-US-P06V01	V1.1	Update the standard name of Chapter 4.1.4.	2020-06-23
2040634R-RF-US-P06V01	V1.2	Update some descriptions.	2020-07-02

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with Part 15 Subpart C Paragraph 15.247, RSS-Gen Issue 5, RSS-247 Issue 2.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result, unless the specification, standard or customer have special requirements.
4. The test results presented in this report relate only to the object tested.
5. The test results relate only to the samples tested.
6. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
7. This report will not be used for social proof function in China market.

USED EQUIPMENT

AC Power Line Conducted Emission / TR1(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100906	2020.04.20	2021.04.19
Two-Line V-Network	R&S	ENV216	101190	2019.05.25	2020.05.24
Two-Line V-Network	R&S	ENV216	101044	2019.05.25	2020.05.24
Current Probe	R&S	EZ-17	100678	2020.03.12	2021.04.11
50ohm Termination	SHX	TF2	07081402	2019.09.02	2020.09.01
50ohm Termination	SHX	TF2	07081403	2019.09.02	2020.09.01
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2019.08.21	2020.08.20
Coaxial Cable	Suhner	RG 223	TR1-C1	2019.08.25	2020.08.24
Coaxial Cable	Suhner	RG 223	TR1-C2	2019.08.25	2020.08.24
Dekra test software					

RF conducted test / TR8(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.09.28	2020.09.27
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2020.04.17	2021.04.16
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2019.08.30	2020.08.29
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2019.07.14	2020.07.13
Power Sensor	Anritsu	MA2411B	0846014	2019.08.12	2020.08.11
Dekra test software					

Radiated Emission(30MHz-1GHz) / AC3(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2020.03.03	2021.03.02
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2019.05.25	2020.05.24
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2019.09.02	2020.09.01
Coaxial Cable	Huber+Suhner	RG 214	AC2-C	2020.04.13	2021.04.12
Dekra test software					

Radiated Emission / AC5(1GHz-40GHz)(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2020.05.08	2021.05.07
Preamplifier	Miteq	NSP1800-25	1364185	2020.05.06	2021.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2020.05.06	2021.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2020.01.22	2021.01.21
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2019.09.02	2020.09.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2020.04.13	2021.04.12
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2020.04.13	2021.04.12
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2020.04.13	2021.04.12
Dekra test software					

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. The Uncertainties is complice with standard required as below.

Test item	Uncertainty
AC Power Line Conducted Emission	9kHz~150kHz: 2.80dB 150kHz~30MHz: 2.40dB
Peak Power Output	± 1.27 dB
Radiated Emission(30MHz~1GHz)	Horizontal: 30MHz~200MHz: 3.50 dB 300MHz~1GHz: 3.60 dB Vertical: 30MHz~200MHz: 3.60 dB 300MHz~1GHz: 3.50 dB
Radiated Emission(1GHz~26.5GHz)	Horizontal: 1GHz~18GHz: 5.00 dB Vertical: 1GHz~18GHz: 4.80 dB
RF antenna conducted test	± 1.27dB
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	±150Hz
Occupied Bandwidth	±1kHz
Power Density	±1.27dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Model / Type number.....:	CLEDA199SD1
Trademark.....:	GE
Manufacturer.....:	GE Lighting
Manufacturer Address .....:	1975 Noble Road, Cleveland, Ohio, United States

Wireless specifiction .....:	WIFI	
Operating frequency range(s).....:	2400~2483.5MHz	
Type of modulation .....:	DSSS: BPSK,QPSK,CCK OFDM: BPSK, QPSK, 16QAM, 64QAM	
Number of channel .....:	802.11b/g/n(20MHz): 11 802.11n(40MHz): 9	
Device category .....:	☐	Fixed point-to-point
	☐	Emit multiple directional beams, simultaneously or sequentially
	☒	Other cases

Rated power supply .....:	Voltage and Frequency	
	☐	AC: 220 – 240 V, 50/60 Hz
	☒	AC: 100 – 240 V, 50/60 Hz
	☐	DC: 12 V, 24 V, 12 / 24 V
	☐	Rated voltage: 100-120Vac 60Hz Rated input: 1100W(Max. Load)
Mounting position.....:	☐	Table top equipment
	☒	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☐	Hand-held equipment
	☐	Other:

1.2 Antenna Information

Antenna model / type number.....:	N/A			
Antenna serial number.....:	N/A			
Antenna Delivery .....:	☒	1TX + 1RX		
	☐	2TX + 2RX		
	☐	Others:·····		
Antenna technology.....:	☒	SISO		
	☐	MIMO	☐	Basic
			☐	CDD
			☐	Sectorized
			☐	Beam-forming
Antenna Type .....:	☐	External	☐	Dipole
			☐	Sectorized
	☒	Internal	☐	PIFA
			☐	PCB
			☒	Metal Monopole Antenna
Antenna Gain.....:	-1.6dBi			

1.3 Test date

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Apr. 25, 2020
Date (start test)	Apr. 28, 2020
Date (finish test)	May.20, 2020

1.4 Data Rate

IEEE 802.11b

Modulation	Data Rate(Mb/s)
DSSS	1
DSSS	2
CCK	5.5
CCK	11

Table 1 –TX Antenna number = 1

IEEE 802.11g

Modulation	R	Data Rate(Mb/s)
BPSK	1/2	6
BPSK	3/4	9
QPSK	1/2	12
QPSK	3/4	18
16-QAM	1/2	24
16-QAM	3/4	36
64-QAM	2/3	48
64-QAM	3/4	54

Table 1 – MCS parameters for TX Antenna number = 1

IEEE 802.11n

Spatial streames	MCS Index	Modulation	R	Data Rate(Mb/s)			
				800ns GI		400ns GI	
				20MHz	40MHz	20MHz	40MHz
1	0	BPSK	1/2	6.5	13.5	7.2	15.0
1	1	QPSK	1/2	13.0	27.0	14.4	30.0
1	2	QPSK	3/4	19.5	40.5	21.7	45.0
1	3	16-QAM	1/2	26.0	54.0	28.9	60.0
1	4	16-QAM	3/4	39.0	81.0	43.3	90.0
1	5	64-QAM	2/3	52.0	108.0	57.8	120.0
1	6	64-QAM	3/4	58.5	121.5	65.0	135.0
1	7	64-QAM	5/6	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

1.5 Channel List

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	-	-

IEEE 802.11n(40MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
003	2422 MHz	004	2427 MHz	005	2432 MHz	006	2437 MHz
007	2442 MHz	008	2447 MHz	009	2452 MHz		

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

Test Mode	Mode 1: Transmit by 802.11b
	Mode 2: Transmit by 802.11g
	Mode 3: Transmit by 802.11n(20MHz)
	Mode 4: Transmit by 802.11n(40MHz)
	Mode 5: Simultaneous transmission

2.2 Support / Auxiliary equipment / unit / Test software for the EUT

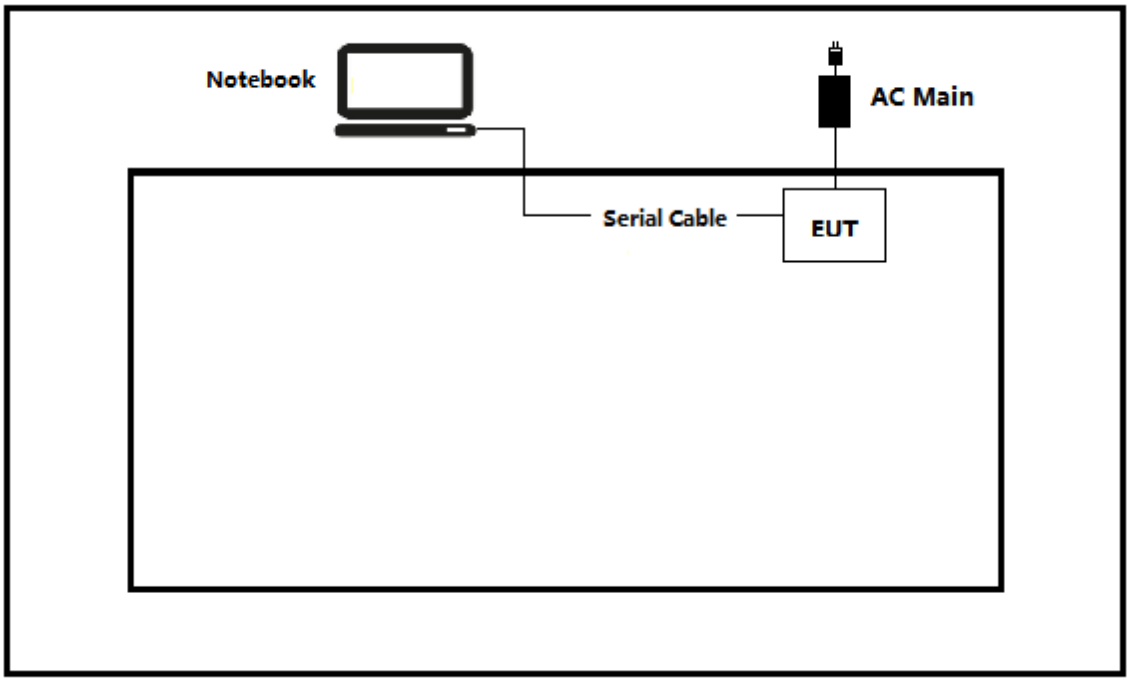
The EUT has been tested with the following auxiliary equipment / unit / software:

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
Notebook	Think pad x220	Lenovo	Adapter
unit / software	Type / Version	Manufacturer	Supplied by
N/A	N/A	N/A	N/A
software	Type / Version	Manufacturer	Supplied by
Ameba series mptool	1V15	N/A	N/A
Supplemental information:			

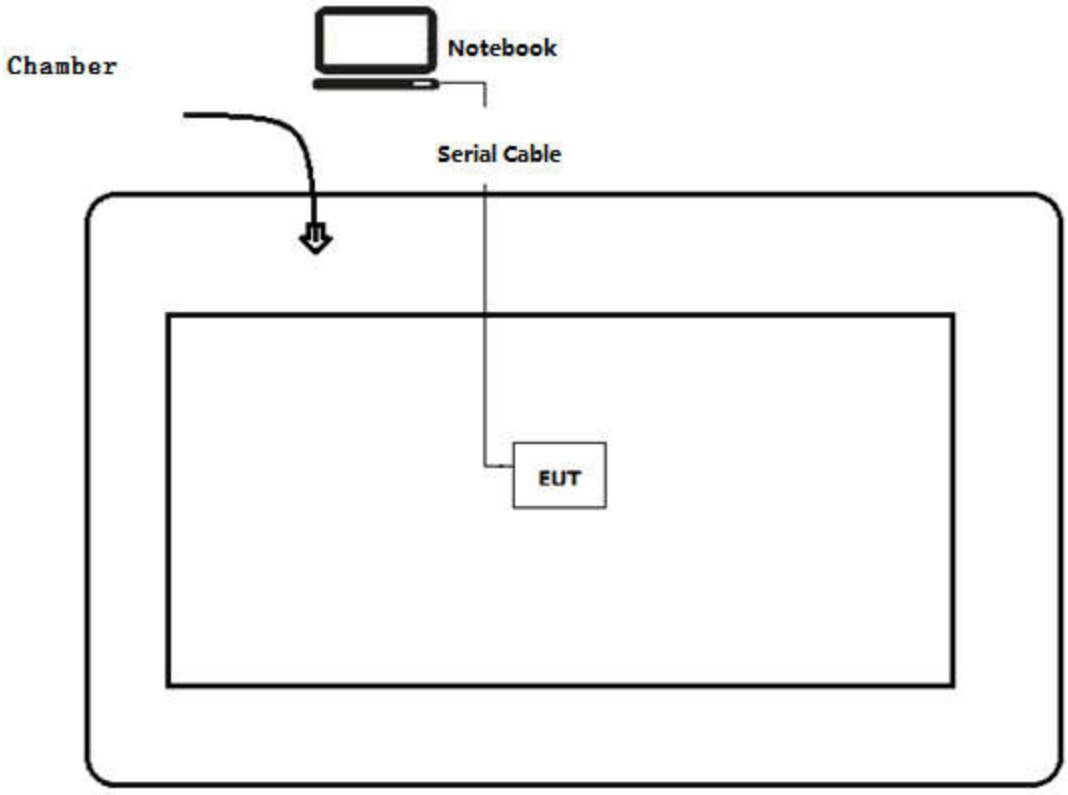
2.3 Test Configuration / Block diagram used for tests

The following test setup / configuration / block diagram has been used during the tests:

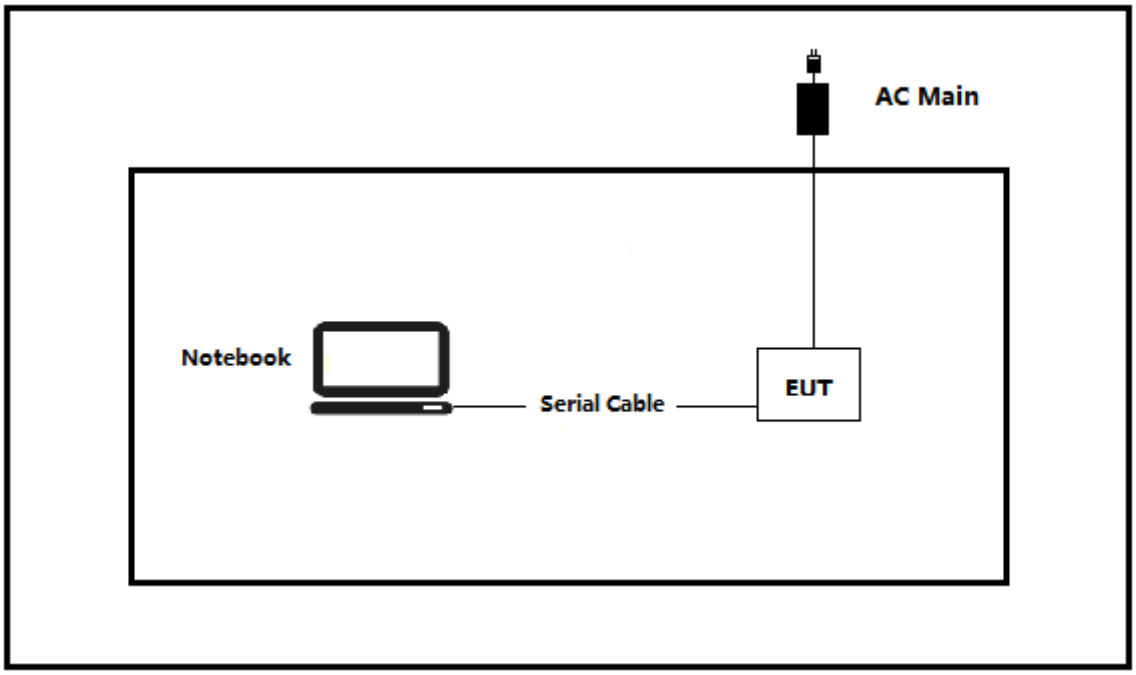
Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Conducted test



2.4 Testing process

1	Setup the EUT as shown in Section 2.4.
2	Configure the test mode, the test channel, and the data rate.
3	Start the continuous Transmitter.
4	Verify that the EUT works properly.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.247	2019	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01V05r02	2019	Guidance for performing compliance measurements on Digital Transmission System (DTS) operating under section 15.247
RSS-Gen Issue 5 Amendment 1	2019	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 2	2017	Digital Transmission Systems (DTSs),Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

3.2 Overview of results

Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	FCC 15.207	PASS	---
Emissions in restricted frequency bands	FCC 15.247(b)(3)	PASS	---
Duty cycle	ANSI C63.10:2013	N/A	
Emissions in non-restricted frequency bands	FCC 15.247(d), FCC 15.209	PASS	---
Radiated Emission Band Edge	FCC 15.247(d)	PASS	---
Fundamental emission output power	FCC 15.247(d), FCC 15.209	PASS	---
DTS Bandwidth	FCC 15.247(a)(2)	PASS	---
Power Spectral Density	FCC 15.247(e)	PASS	---
Antenna Requirement	FCC 15.203	PASS	---
Supplementary information:			

3.3 Test Facility

USA	**:**	**FCC Designation Number: CN1199**
Canada	**:**	**CAB identifier Number: CN0040**

4 TEST RESULTS

4.1 AC Power Line Conducted Emission	VERDICT: PASS

4.1.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.207	
Frequency range [MHz]	Limit: QP [dB(μV)[1)]]	Limit: AV [dB(μV)[1)]]
0,15 - 0,50	66 – 56 [2)]	56 - 46 [2)]
0,50 - 5,0	56	46
5,0 - 30	60	50

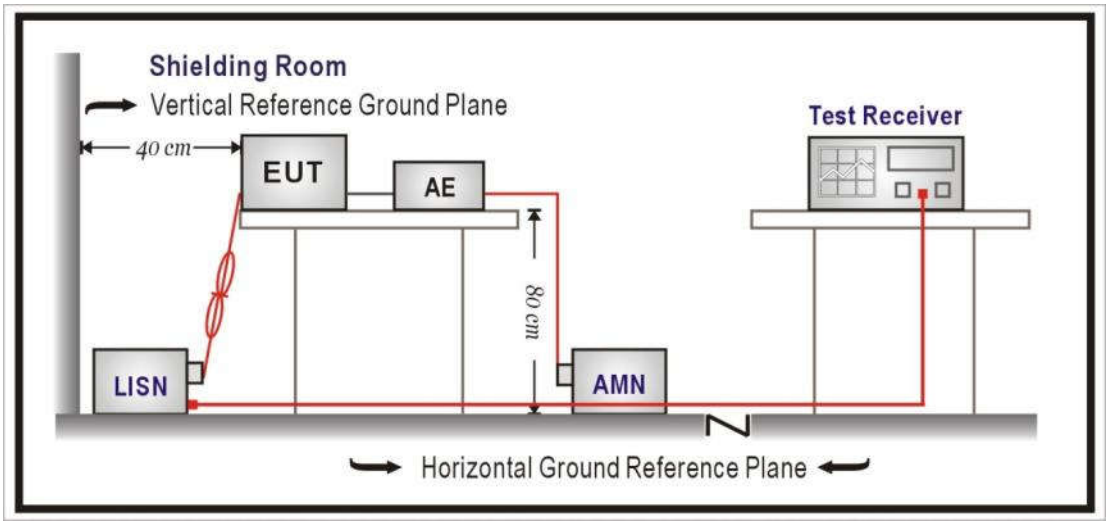
[1)] At the transition frequency, the lower limit applies.

[2)] The limit decreases linearly with the logarithm of the frequency.

NOTE 1: The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz.

NOTE 2: Where the AC output port is directly connected (or via a circuit breaker) to the AC power input port of the EUT the AC power output port need not to be tested.

4.1.2 Test Setup

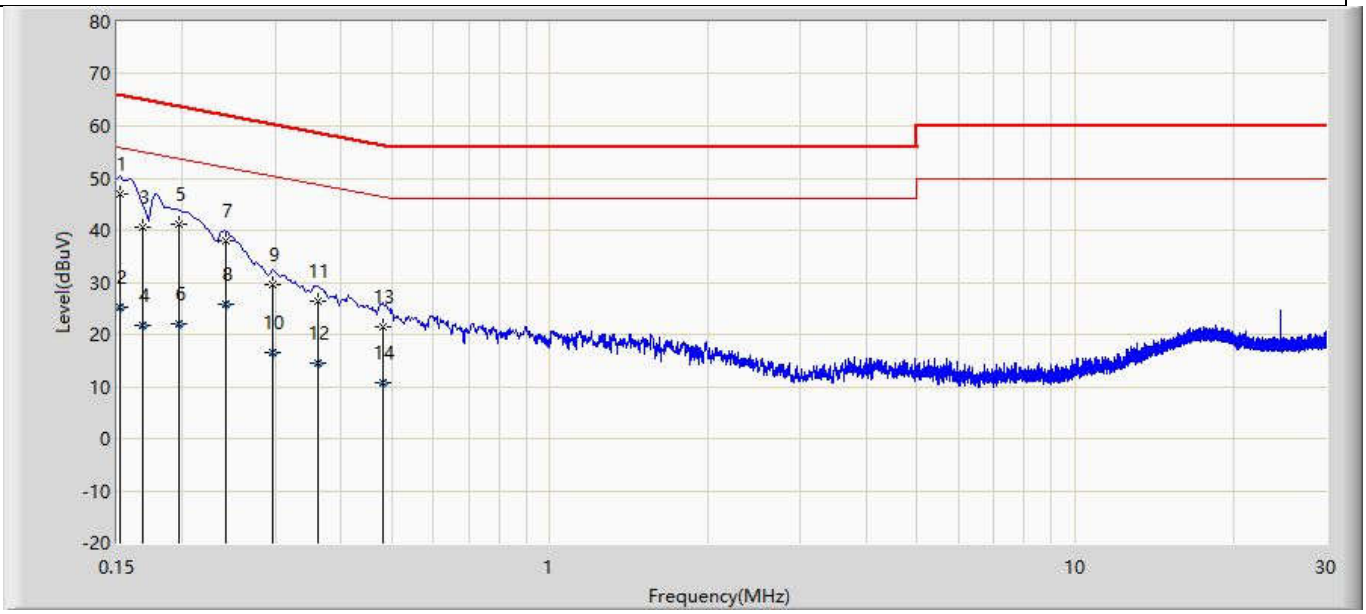


4.1.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

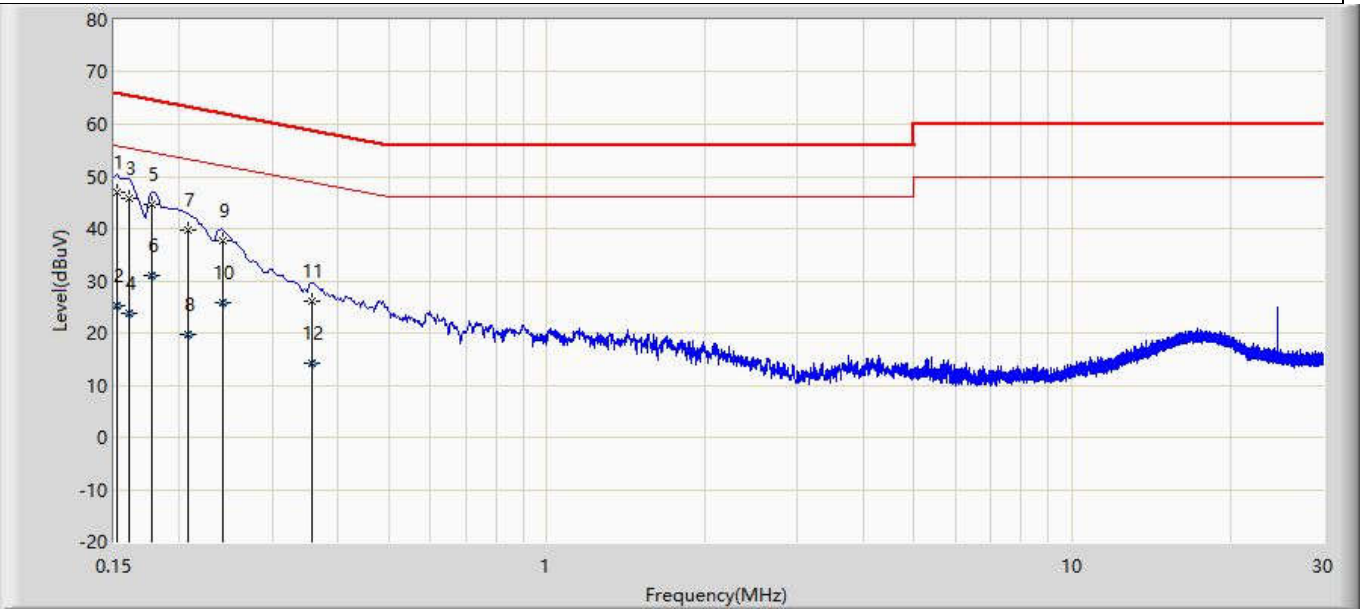
4.1.4 Test Data

Profile: 2040634R	Page No.: 1
Engineer: Pawn	
Site: TR1	Time: 2020/04/24 - 17:10
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.152	47.022	37.384	-18.854	65.876	9.609	0.029	0.000	QP
2		0.152	25.331	15.692	-30.546	55.876	9.609	0.029	0.000	AV
3		0.168	40.540	30.905	-24.496	65.036	9.606	0.028	0.000	QP
4		0.168	21.668	12.033	-33.368	55.036	9.606	0.028	0.000	AV
5		0.197	41.283	31.653	-22.442	63.726	9.601	0.029	0.000	QP
6		0.197	22.101	12.471	-31.624	53.726	9.601	0.029	0.000	AV
7		0.242	37.982	28.352	-24.037	62.019	9.600	0.030	0.000	QP
8		0.242	25.767	16.137	-26.252	52.019	9.600	0.030	0.000	AV
9		0.296	29.488	19.854	-30.859	60.347	9.600	0.034	0.000	QP
10		0.296	16.586	6.952	-33.761	50.347	9.600	0.034	0.000	AV
11		0.361	26.515	16.879	-32.179	58.694	9.600	0.036	0.000	QP
12		0.361	14.423	4.787	-34.271	48.694	9.600	0.036	0.000	AV
13		0.481	21.345	11.703	-34.981	56.326	9.600	0.041	0.000	QP
14		0.481	10.798	1.157	-35.528	46.326	9.600	0.041	0.000	AV

Profile: 2040634R	Page No.: 2
Engineer: Pawn	
Site: TR1	Time: 2020/04/24 - 17:11
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.152	46.878	37.256	-18.998	65.876	9.593	0.029	0.000	QP
2		0.152	25.153	15.531	-30.724	55.876	9.593	0.029	0.000	AV
3		0.160	45.784	36.163	-19.665	65.449	9.592	0.029	0.000	QP
4		0.160	23.798	14.177	-31.651	55.449	9.592	0.029	0.000	AV
5		0.177	44.645	35.022	-19.980	64.625	9.596	0.028	0.000	QP
6		0.177	31.145	21.522	-23.480	54.625	9.596	0.028	0.000	AV
7		0.208	39.579	29.951	-23.686	63.265	9.599	0.029	0.000	QP
8		0.208	19.737	10.110	-33.528	53.265	9.599	0.029	0.000	AV
9		0.242	37.662	28.034	-24.357	62.019	9.598	0.030	0.000	QP
10		0.242	25.660	16.031	-26.359	52.019	9.598	0.030	0.000	AV
11		0.357	25.973	16.342	-32.825	58.798	9.594	0.036	0.000	QP
12		0.357	14.174	4.544	-34.624	48.798	9.594	0.036	0.000	AV

Remark	1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary. 2. " * ", means this data is the worst emission level. 3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

4.2 Emissions in restricted frequency bands — VERDICT: PASS

4.2.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.205

Restricted Bands of operation for FCC

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

Restricted Bands of operation for IC

0.090 - 0.110	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 - 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 - 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	
8.41425 - 8.41475	240 - 285	5350 - 5460	
12.29 - 12.293	322 - 335.4	7250 - 7750	
12.51975 - 12.52025	399.9 - 410	8025 - 8500	
12.57675 - 12.57725	608 - 614	--	

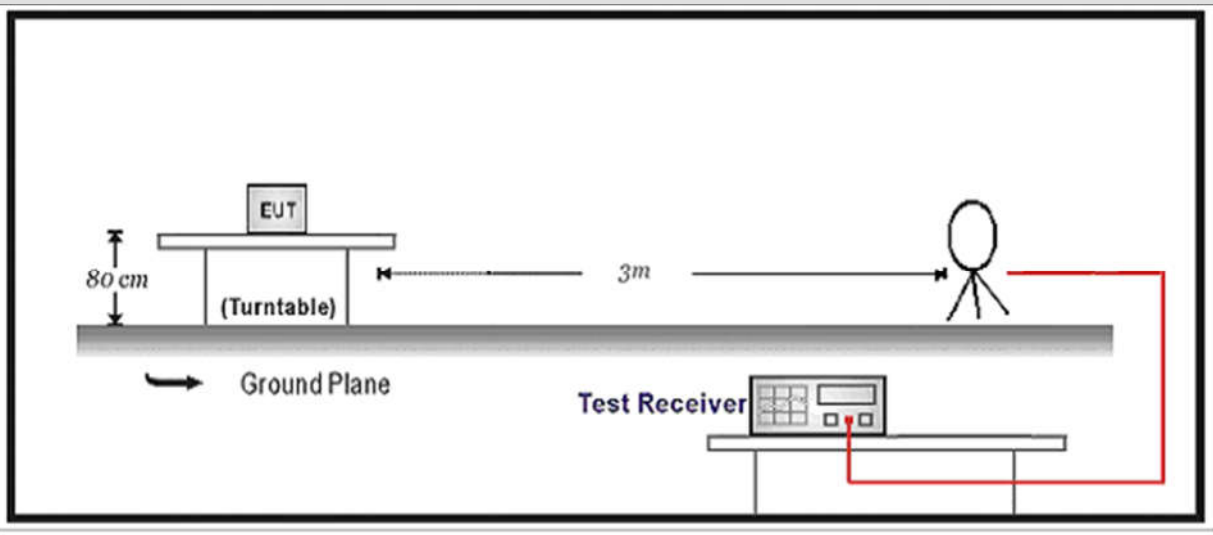
Restricted Band Emissions Limit			
Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30(Note 1)
1.705 - 30	30	29.5	30(Note 1)
30 - 88	100	40	3(Note 2)
88 - 216	150	43.5	3(Note 2)
216 - 960	200	46	3(Note 2)
Above 960	500	54	3(Note 2)

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

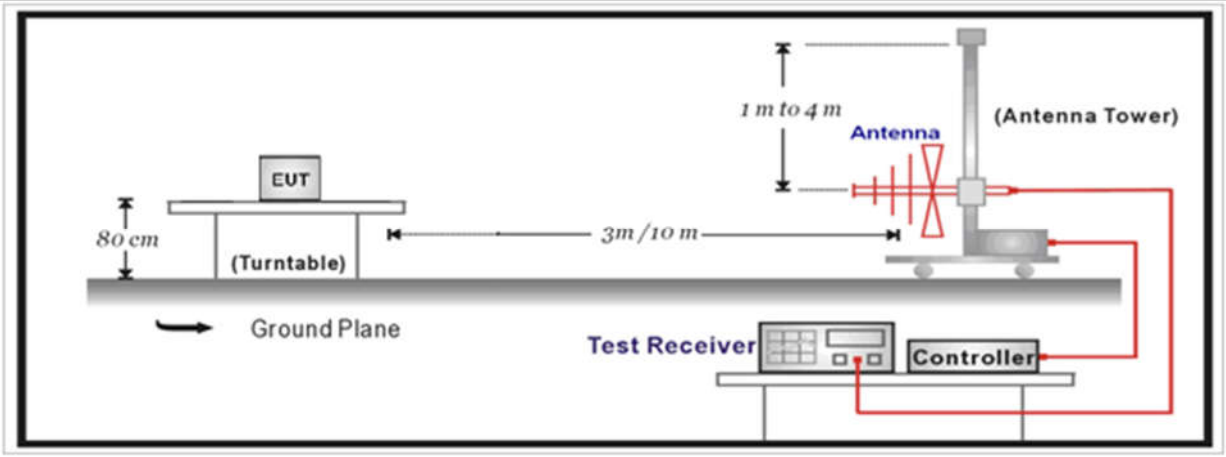
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.2.2 Test Setup

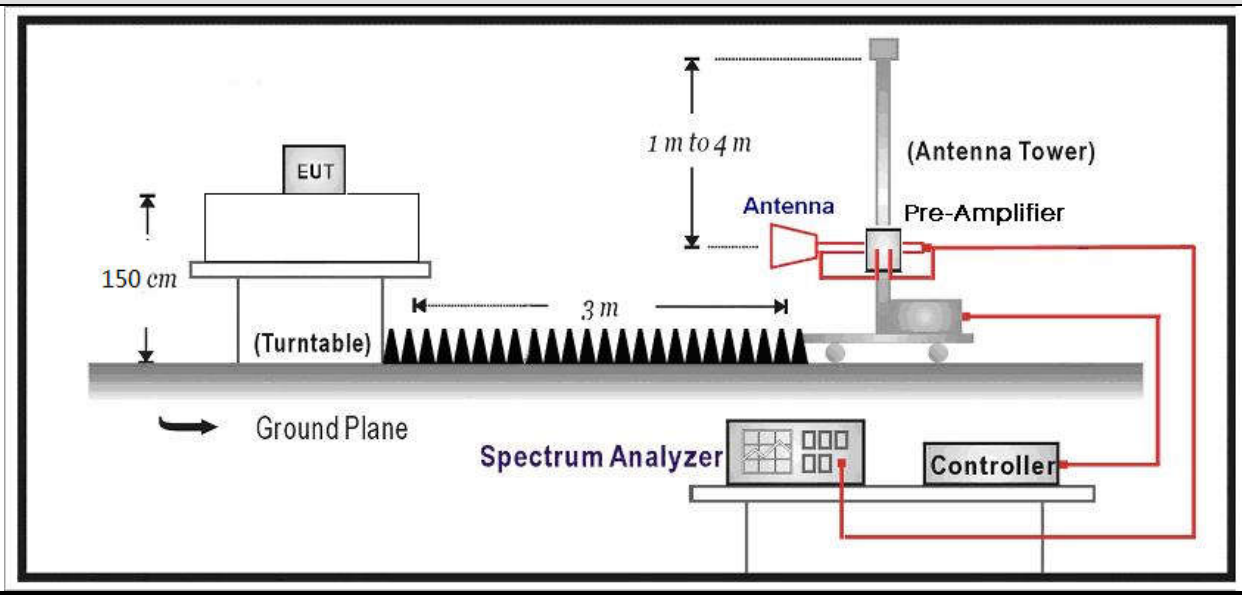
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



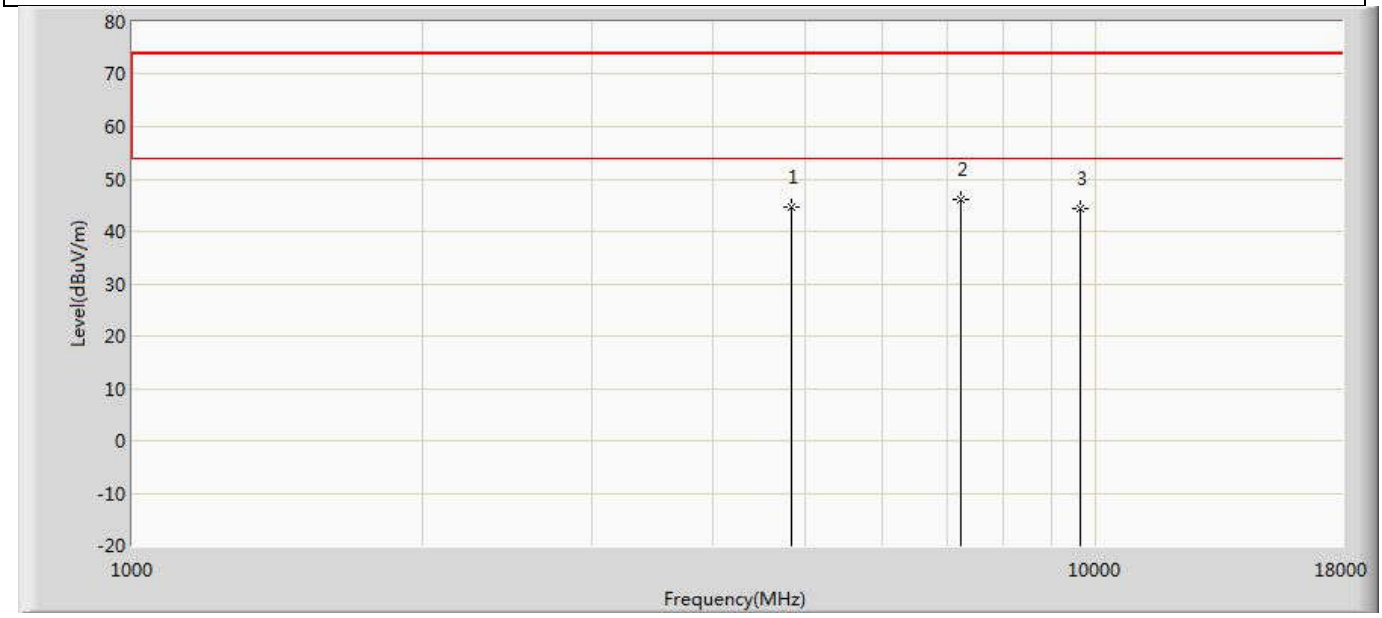
Above 1GHz Test Setup:



4.2.3 Test Procedure						
	References Rule				Chapter	Description
☒	ANSI C63.10				11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10			11.12.1	Radiated emission measurements
	☒	ANSI C63.10			11.12.2.7	Radiated spurious emission test
		☒	ANSI C63.10		6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
		☒	ANSI C63.10		6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
		☒	ANSI C63.10		6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	☐	ANSI C63.10			11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10		11.12.2.3	Quasi-peak measurement procedure
		☐	ANSI C63.10		11.12.2.4	Peak power measurement procedure
		☐	ANSI C63.10		11.12.2.5	Average power measurement procedures
			☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
			☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
			☐	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

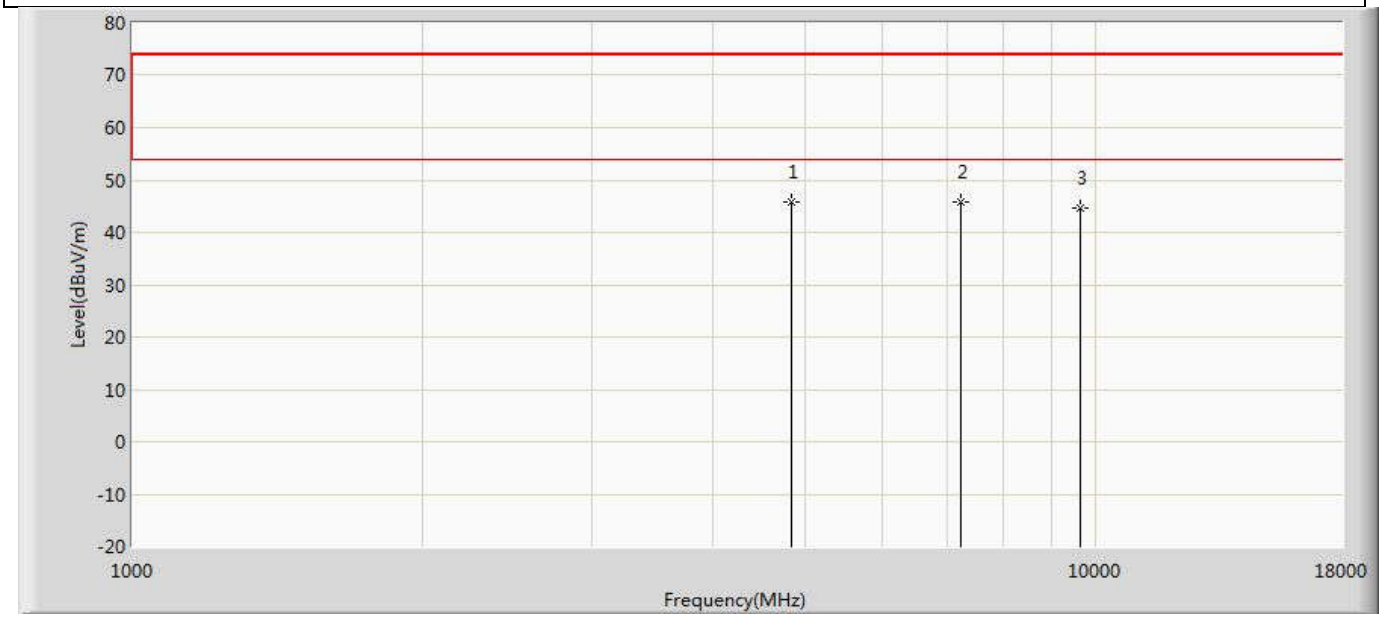
4.2.4 Test Data

Profile: 2040634R	Page No.: 71
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11B	



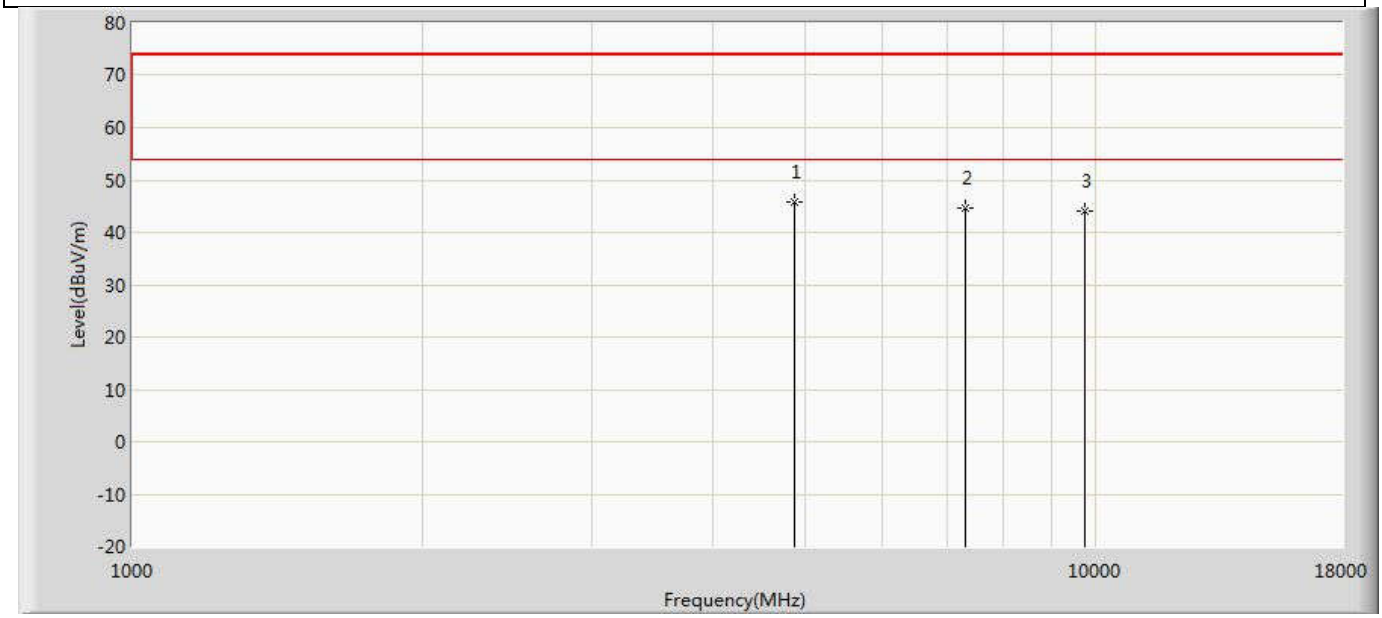
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	44.709	41.209	-29.291	74.000	3.500	PK
2	*	7236.000	46.123	39.275	-27.877	74.000	6.847	PK
3		9648.000	44.480	35.948	-29.520	74.000	8.531	PK

Profile: 2040634R	Page No.: 72
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11B	



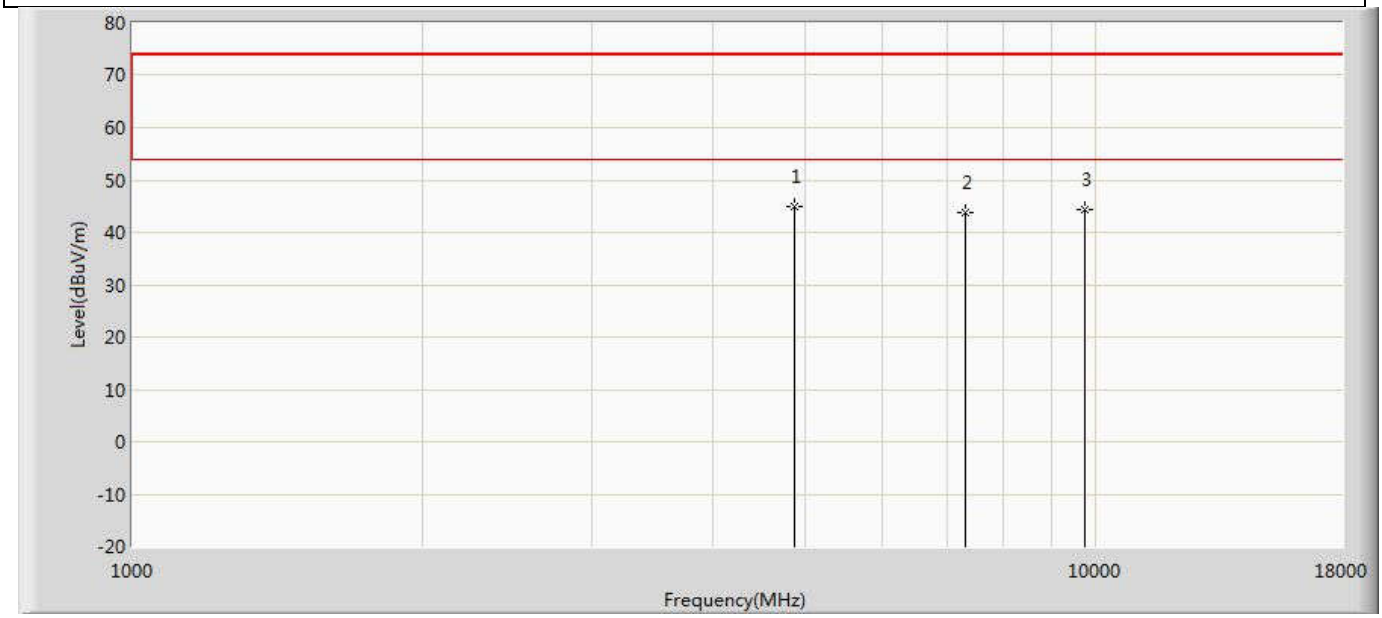
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4824.000	45.713	42.213	-28.287	74.000	3.500	PK
2		7236.000	45.664	38.816	-28.336	74.000	6.847	PK
3		9648.000	44.632	36.100	-29.368	74.000	8.531	PK

Profile: 2040634R	Page No.: 73
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2437MHz by 802.11B	



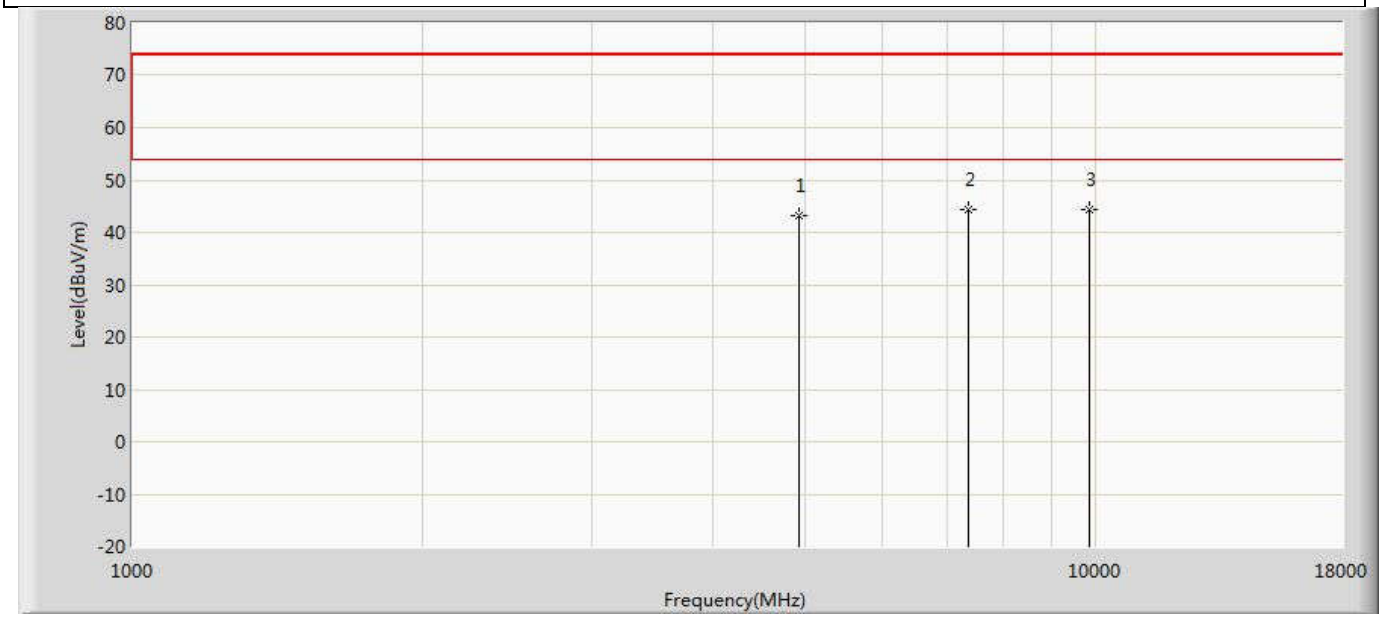
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4874.000	45.898	42.211	-28.102	74.000	3.687	PK
2		7311.000	44.664	38.034	-29.336	74.000	6.630	PK
3		9748.000	44.115	35.495	-29.885	74.000	8.620	PK

Profile: 2040634R	Page No.: 74
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2437MHz by 802.11B	



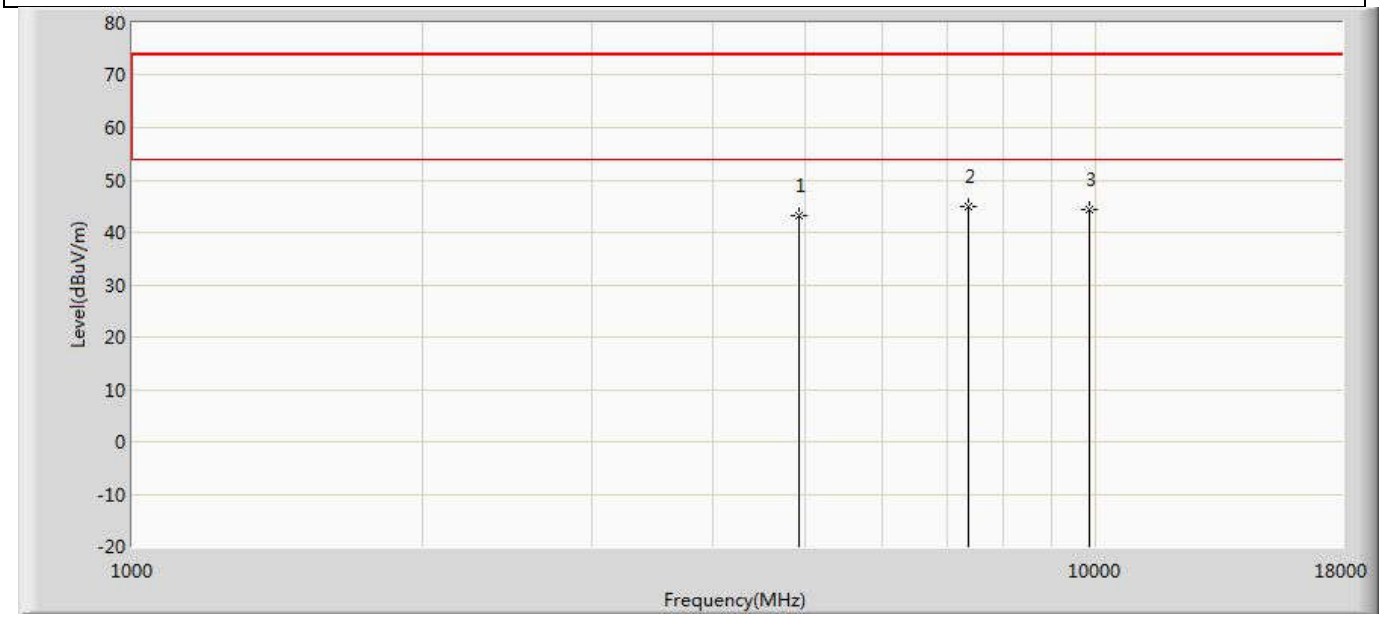
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4874.000	44.818	41.131	-29.182	74.000	3.687	PK
2		7311.000	43.770	37.140	-30.230	74.000	6.630	PK
3		9748.000	44.234	35.614	-29.766	74.000	8.620	PK

Profile: 2040634R	Page No.: 75
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11B	



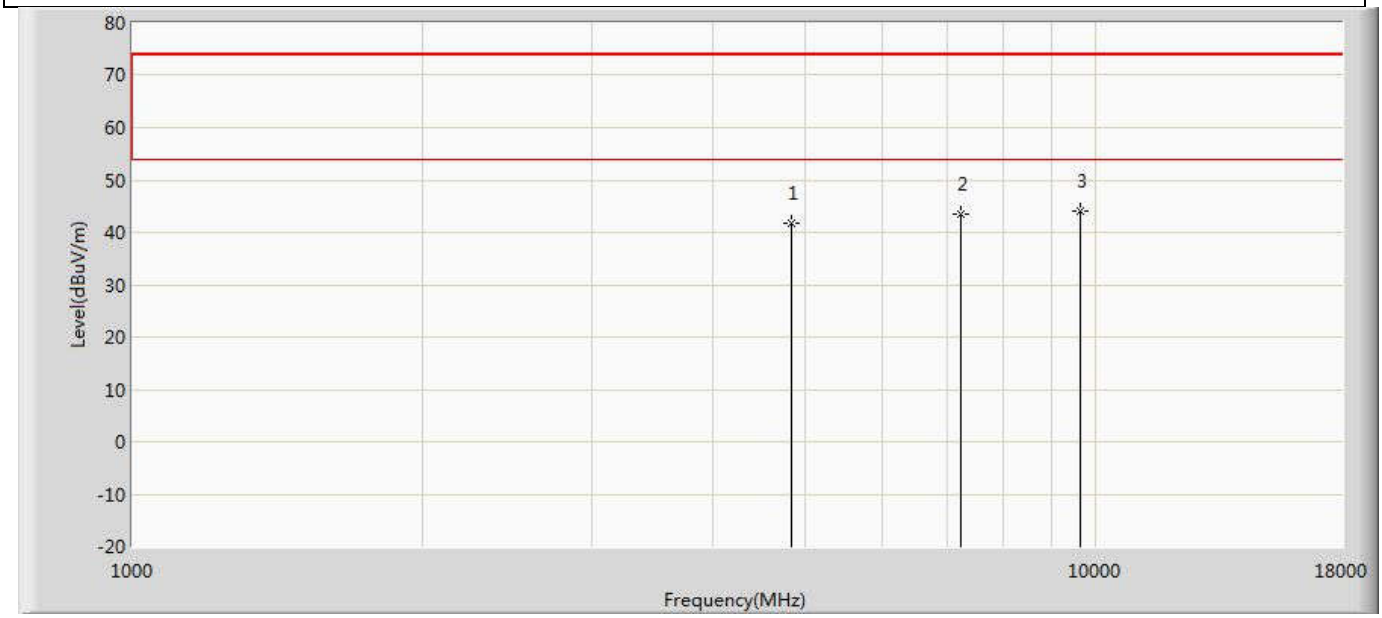
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	43.075	39.511	-30.925	74.000	3.563	PK
2		7386.000	44.296	37.512	-29.704	74.000	6.783	PK
3	*	9848.000	44.471	36.014	-29.529	74.000	8.458	PK

Profile: 2040634R	Page No.: 76
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11B	



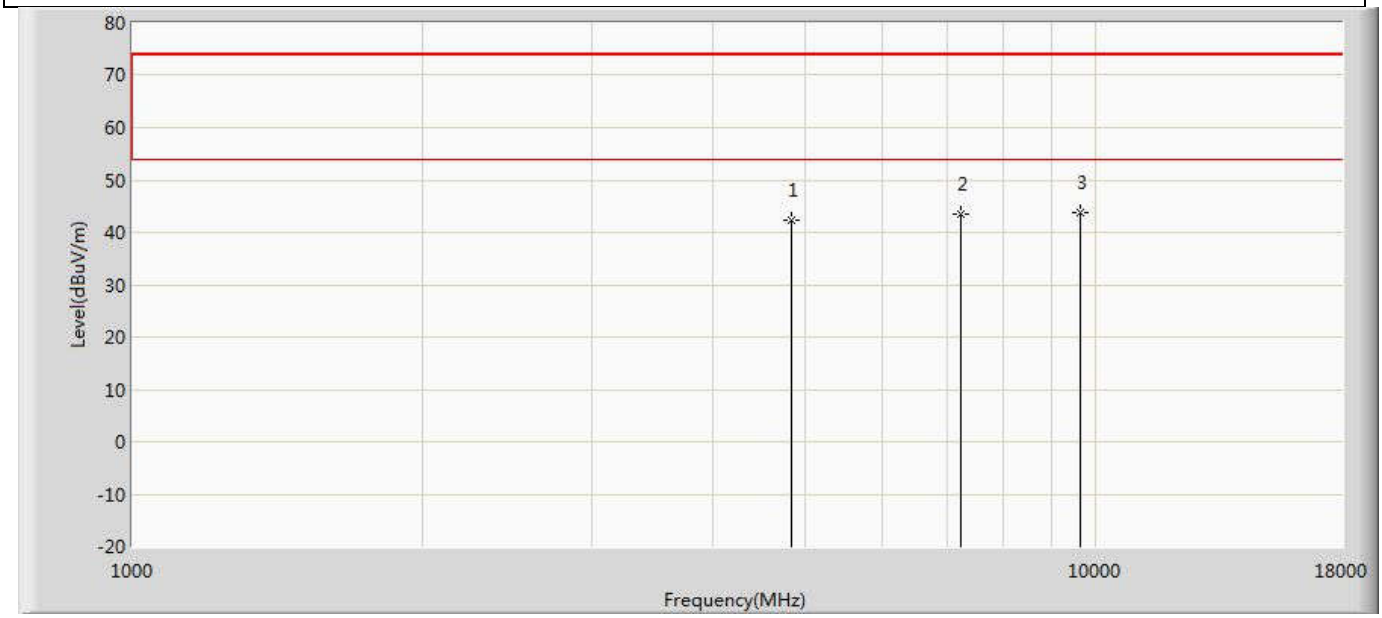
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	43.048	39.484	-30.952	74.000	3.563	PK
2	*	7386.000	44.975	38.191	-29.025	74.000	6.783	PK
3		9848.000	44.274	35.817	-29.726	74.000	8.458	PK

Profile: 2040634R	Page No.: 77
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11G	



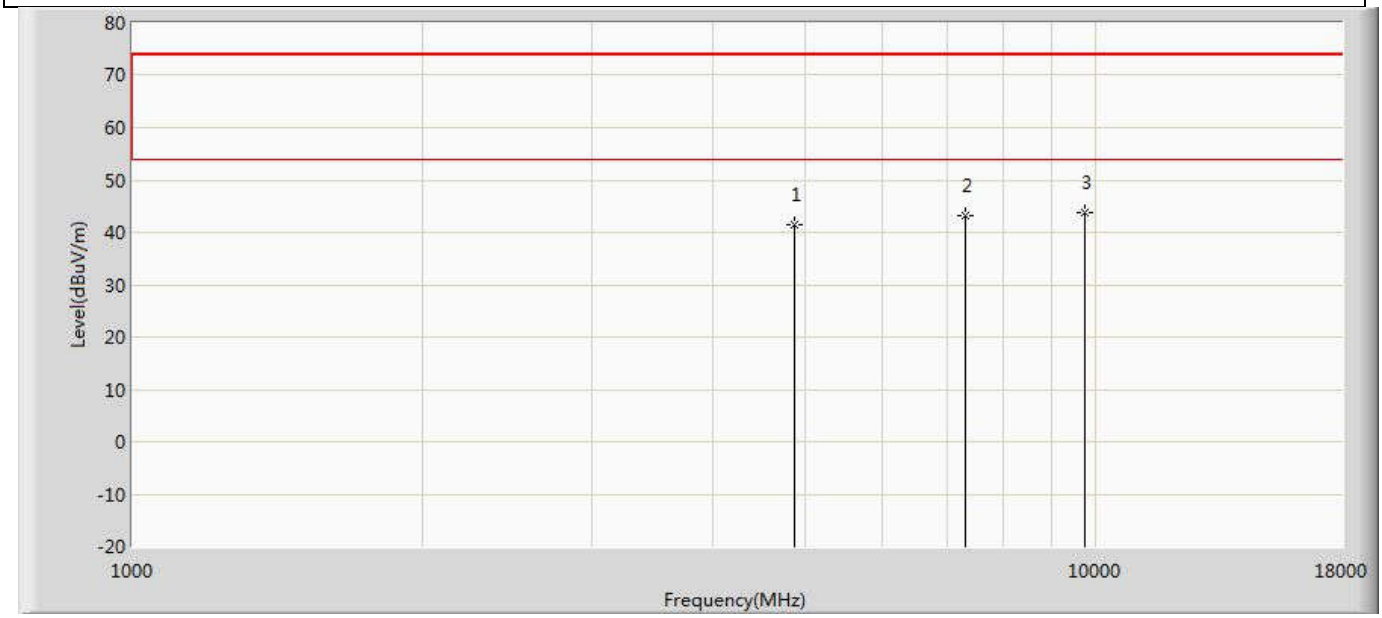
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	41.756	38.256	-32.244	74.000	3.500	PK
2		7236.000	43.433	36.585	-30.567	74.000	6.847	PK
3	*	9648.000	44.156	35.624	-29.844	74.000	8.531	PK

Profile: 2040634R	Page No.: 78
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11G	



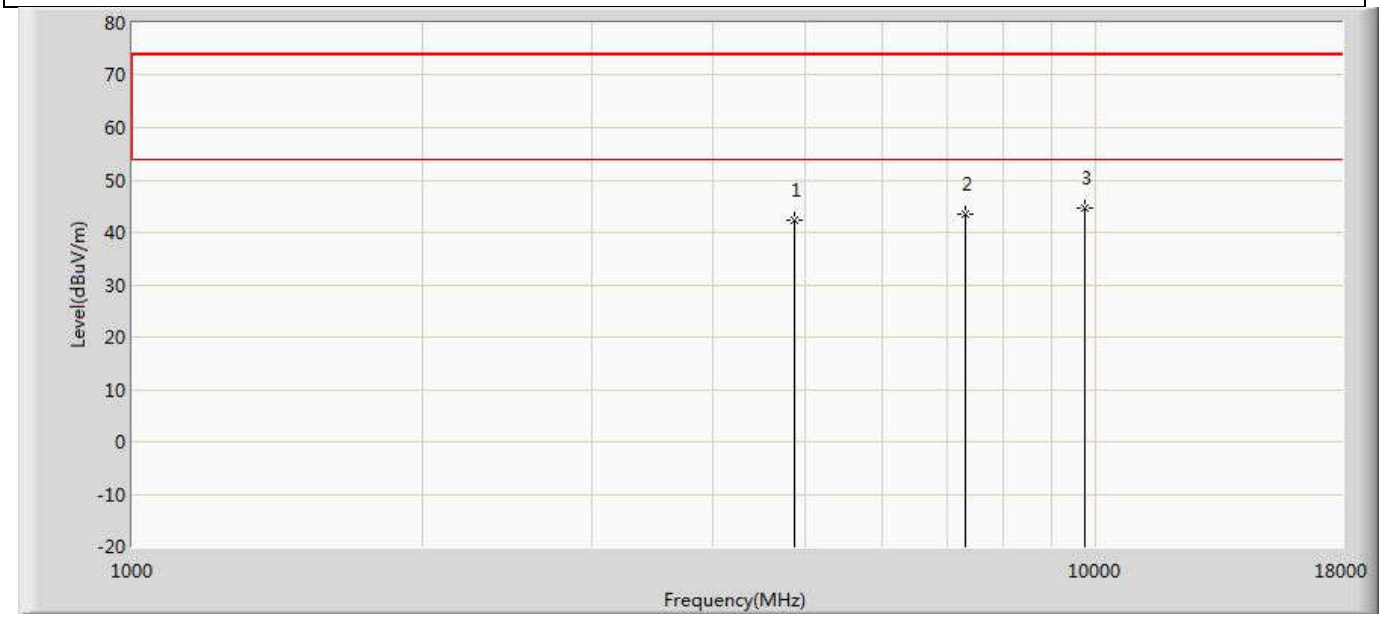
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	42.193	38.693	-31.807	74.000	3.500	PK
2		7236.000	43.583	36.735	-30.417	74.000	6.847	PK
3	*	9648.000	43.874	35.342	-30.126	74.000	8.531	PK

Profile: 2040634R	Page No.: 79
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2437MHz by 802.11G	



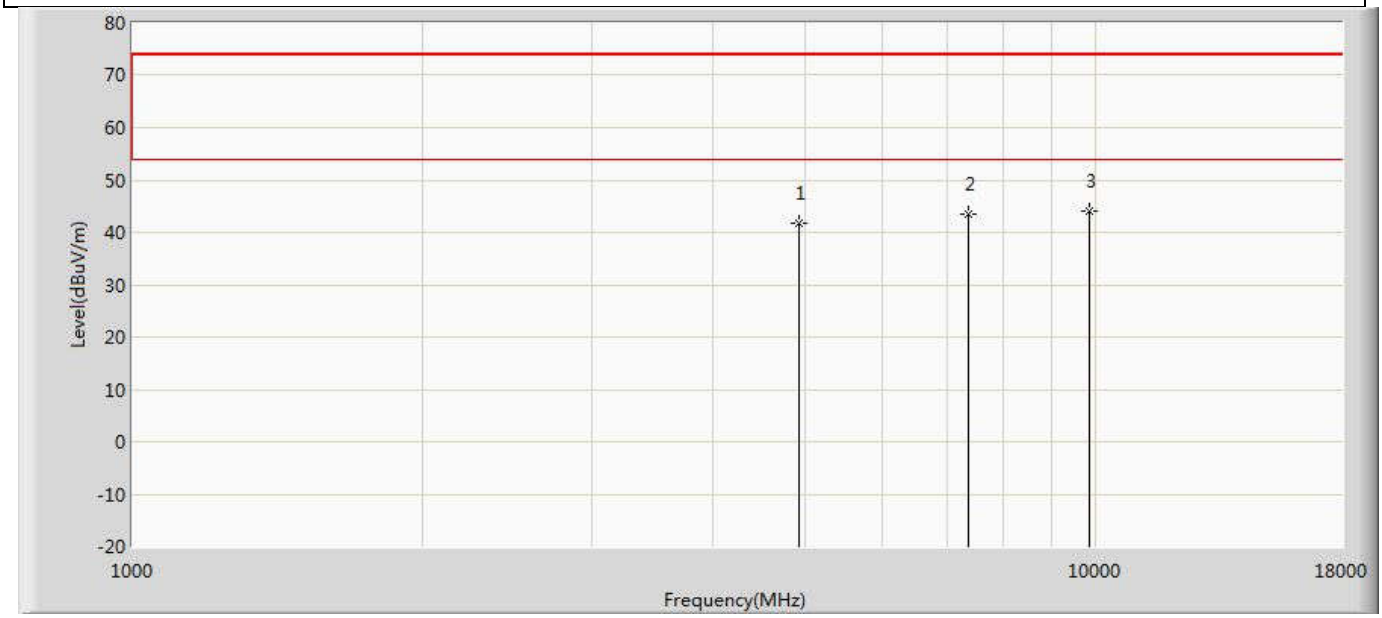
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	41.380	37.693	-32.620	74.000	3.687	PK
2		7311.000	43.100	36.470	-30.900	74.000	6.630	PK
3	*	9748.000	43.811	35.191	-30.189	74.000	8.620	PK

Profile: 2040634R	Page No.: 80
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2437MHz by 802.11G	



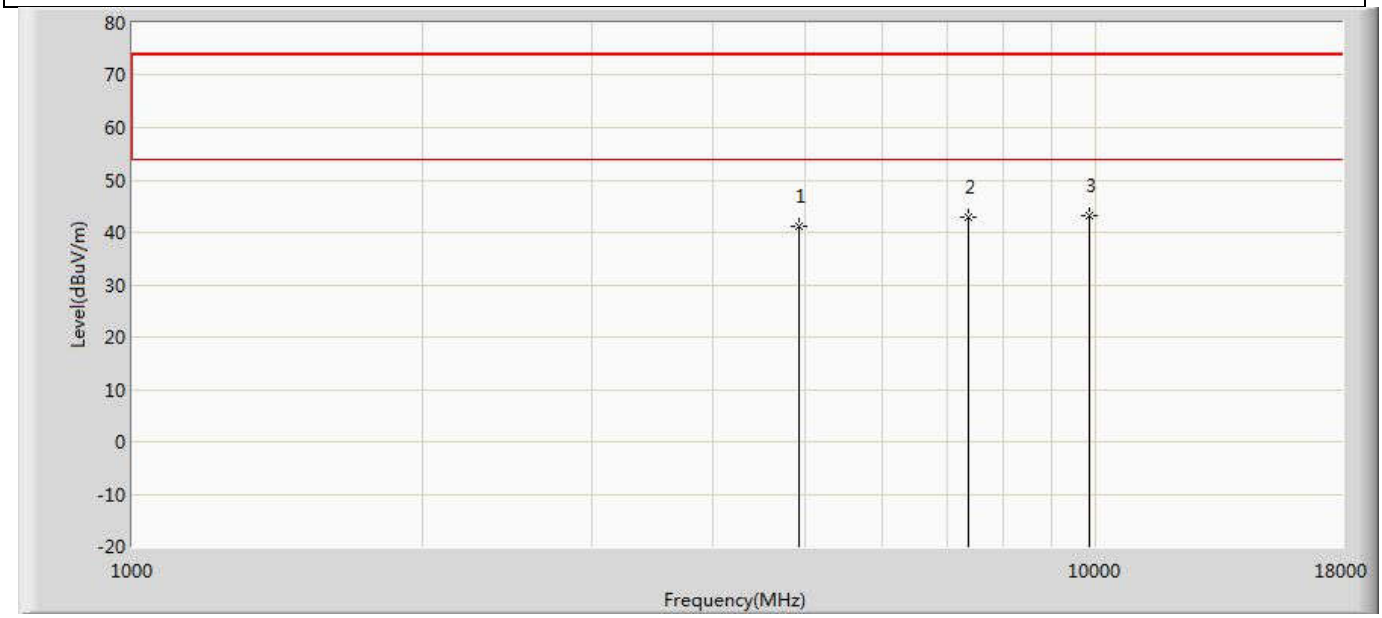
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	42.174	38.487	-31.826	74.000	3.687	PK
2		7311.000	43.424	36.794	-30.576	74.000	6.630	PK
3	*	9748.000	44.509	35.889	-29.491	74.000	8.620	PK

Profile: 2040634R	Page No.: 81
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11G	



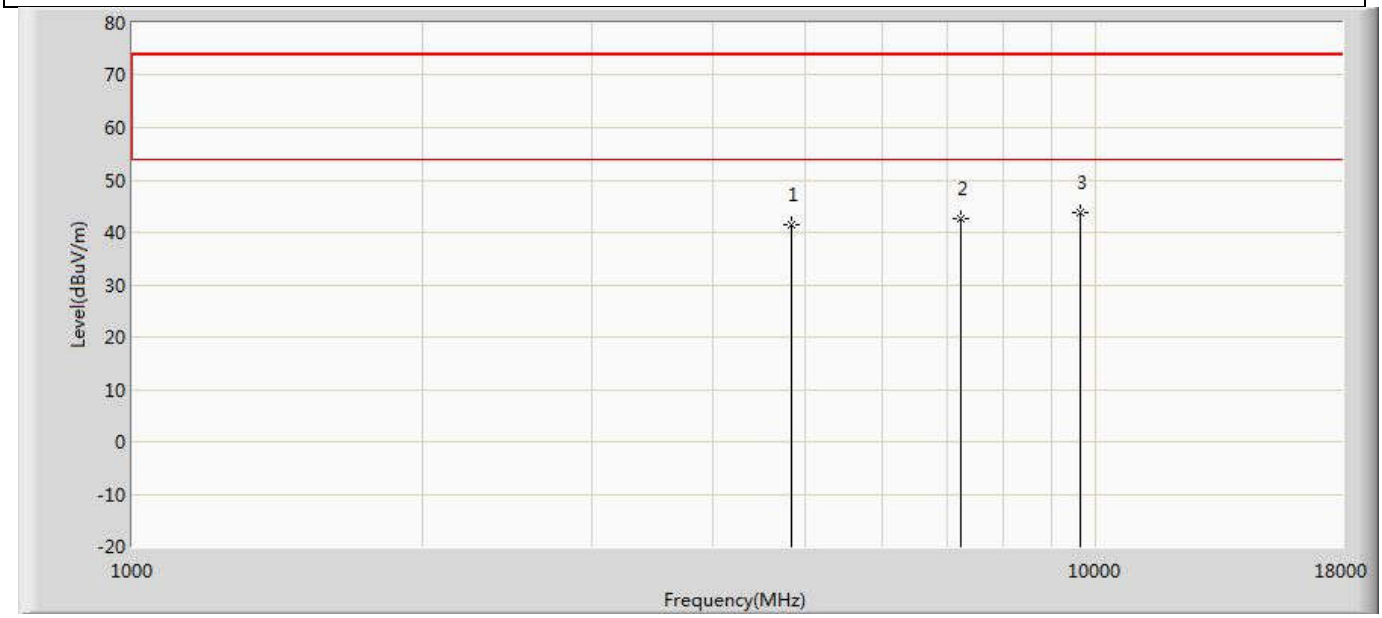
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	41.729	38.165	-32.271	74.000	3.563	PK
2		7386.000	43.514	36.730	-30.486	74.000	6.783	PK
3	*	9848.000	44.027	35.570	-29.973	74.000	8.458	PK

Profile: 2040634R	Page No.: 82
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11G	



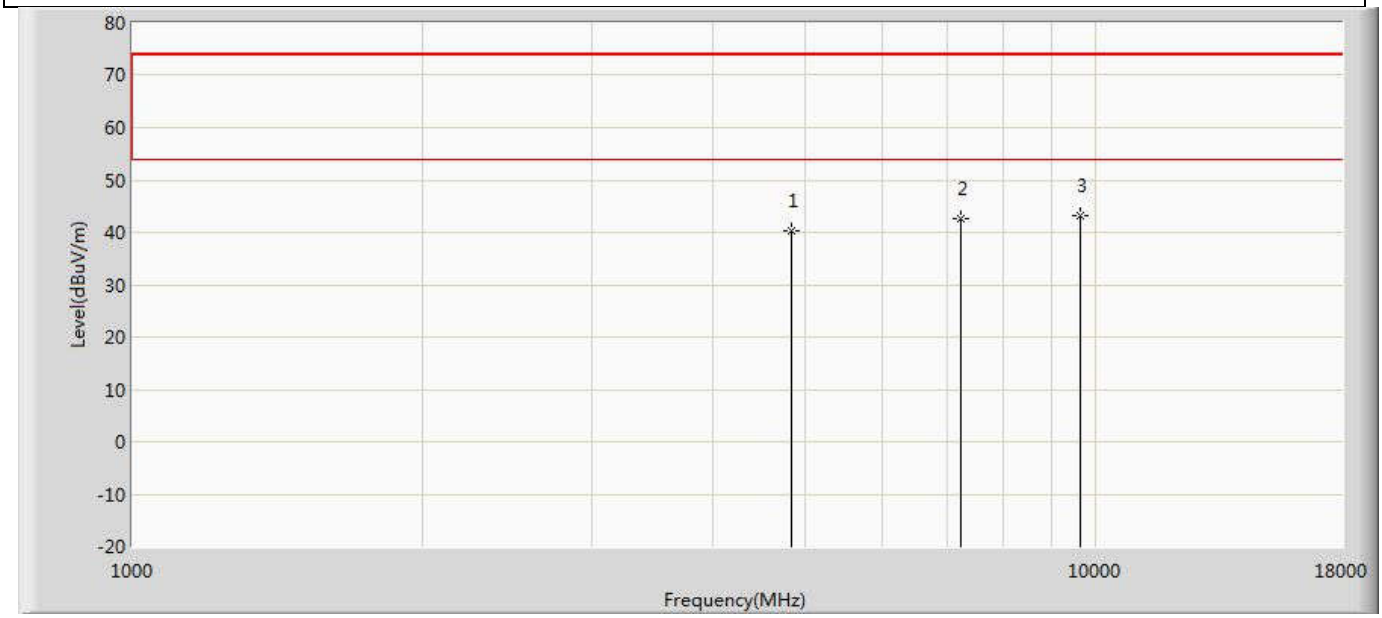
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	41.049	37.485	-32.951	74.000	3.563	PK
2		7386.000	42.924	36.140	-31.076	74.000	6.783	PK
3	*	9848.000	43.321	34.864	-30.679	74.000	8.458	PK

Profile: 2040634R	Page No.: 83
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11N(20MHz)	



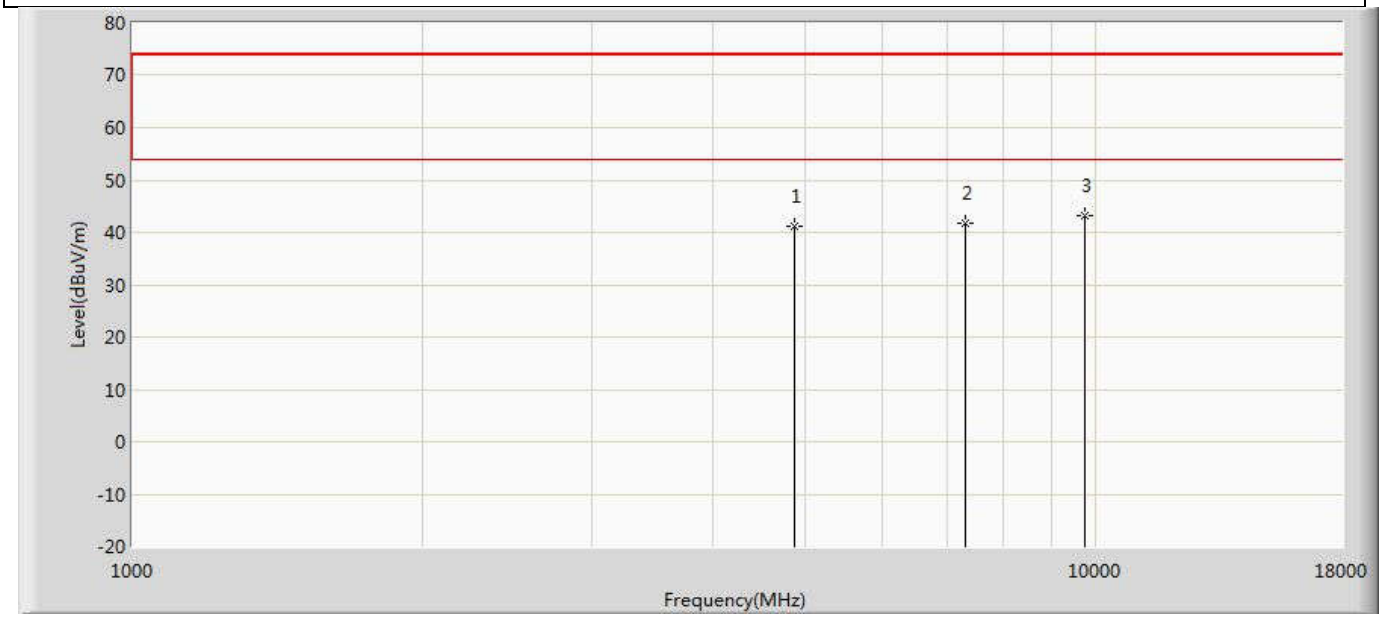
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	41.388	37.888	-32.612	74.000	3.500	PK
2		7236.000	42.565	35.717	-31.435	74.000	6.847	PK
3	*	9648.000	43.730	35.198	-30.270	74.000	8.531	PK

Profile: 2040634R	Page No.: 84
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11N(20MHz)	



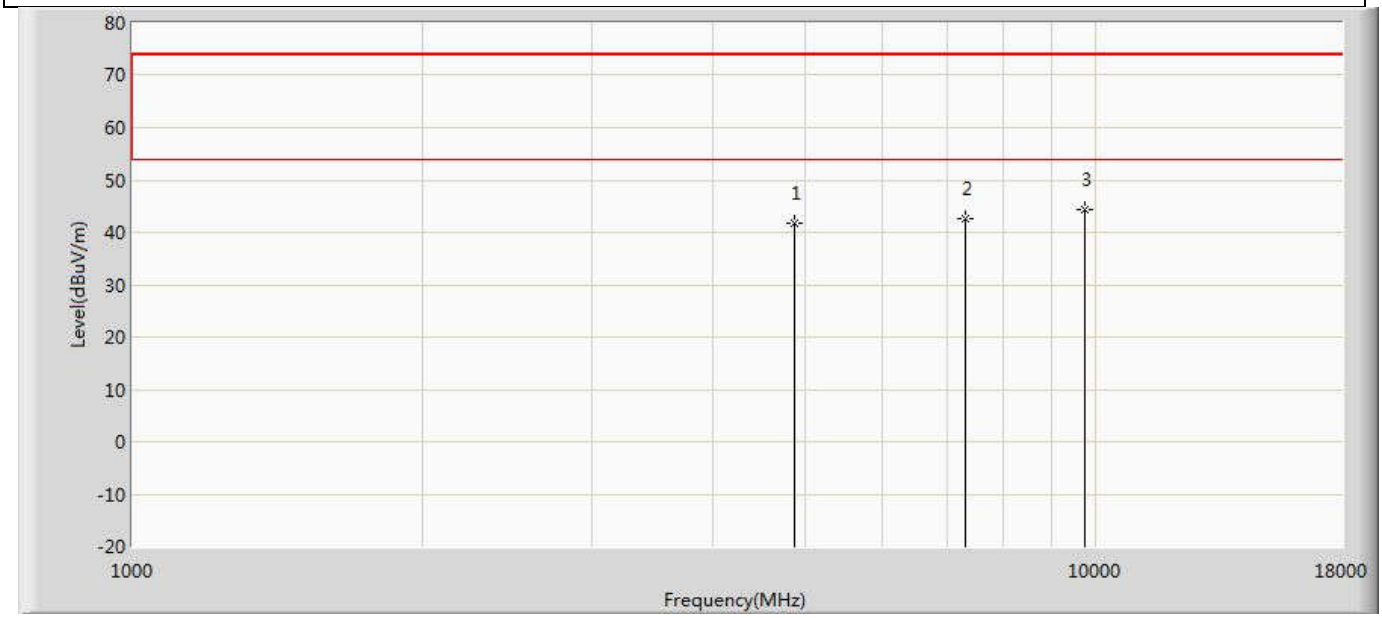
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	40.147	36.647	-33.853	74.000	3.500	PK
2		7236.000	42.639	35.791	-31.361	74.000	6.847	PK
3	*	9648.000	43.210	34.678	-30.790	74.000	8.531	PK

Profile: 2040634R	Page No.: 85
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2437MHz by 802.11N(20MHz)	



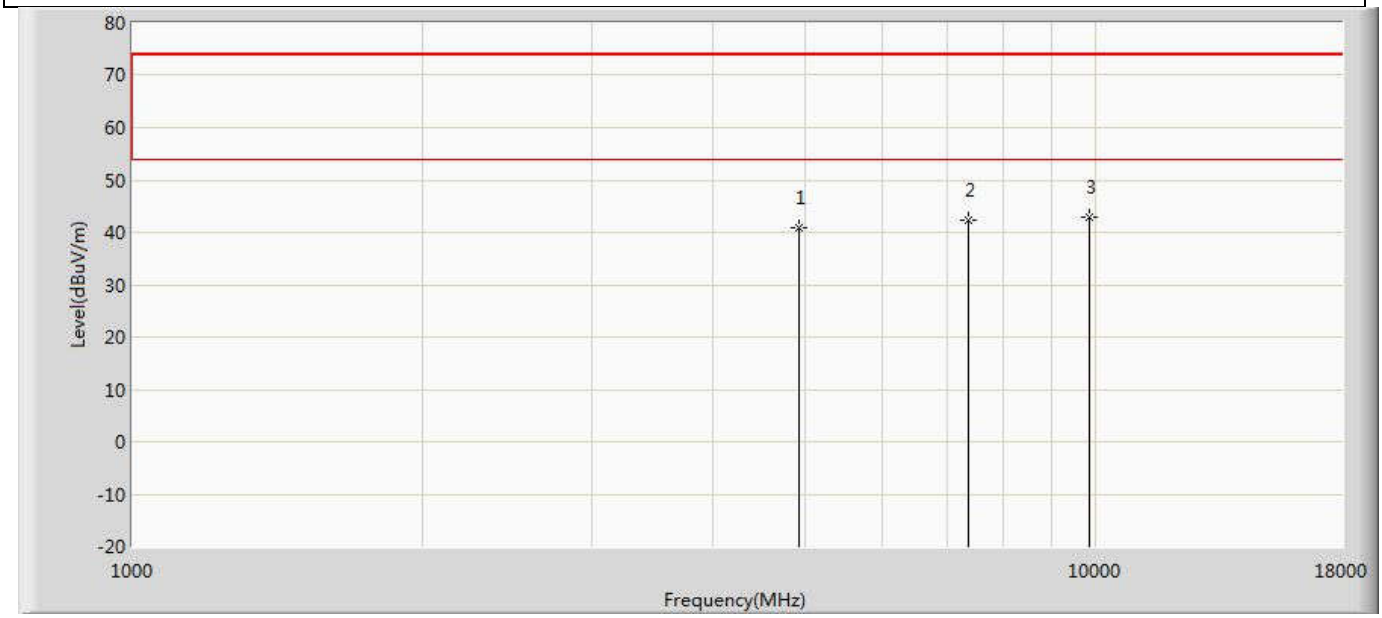
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	41.238	37.551	-32.762	74.000	3.687	PK
2		7311.000	41.632	35.002	-32.368	74.000	6.630	PK
3	*	9748.000	43.066	34.446	-30.934	74.000	8.620	PK

Profile: 2040634R	Page No.: 86
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2437MHz by 802.11N(20MHz)	



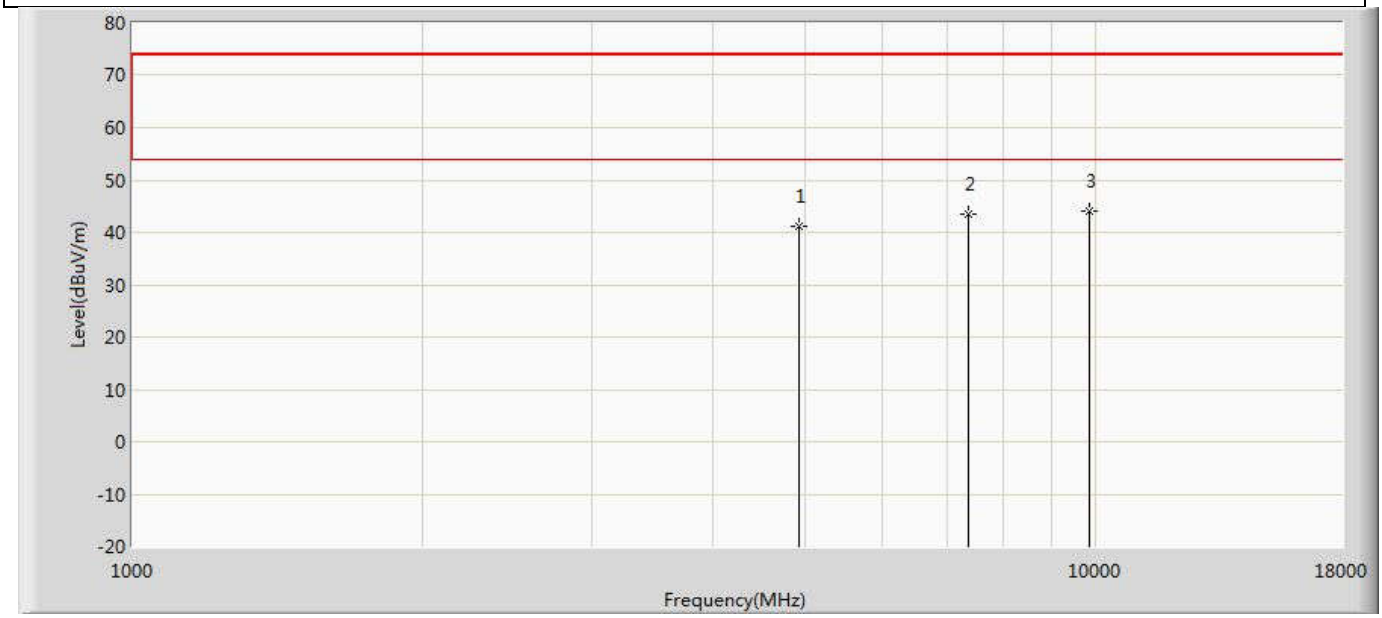
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	41.692	38.005	-32.308	74.000	3.687	PK
2		7311.000	42.672	36.042	-31.328	74.000	6.630	PK
3	*	9748.000	44.455	35.835	-29.545	74.000	8.620	PK

Profile: 2040634R	Page No.: 87
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11N(20MHz)	



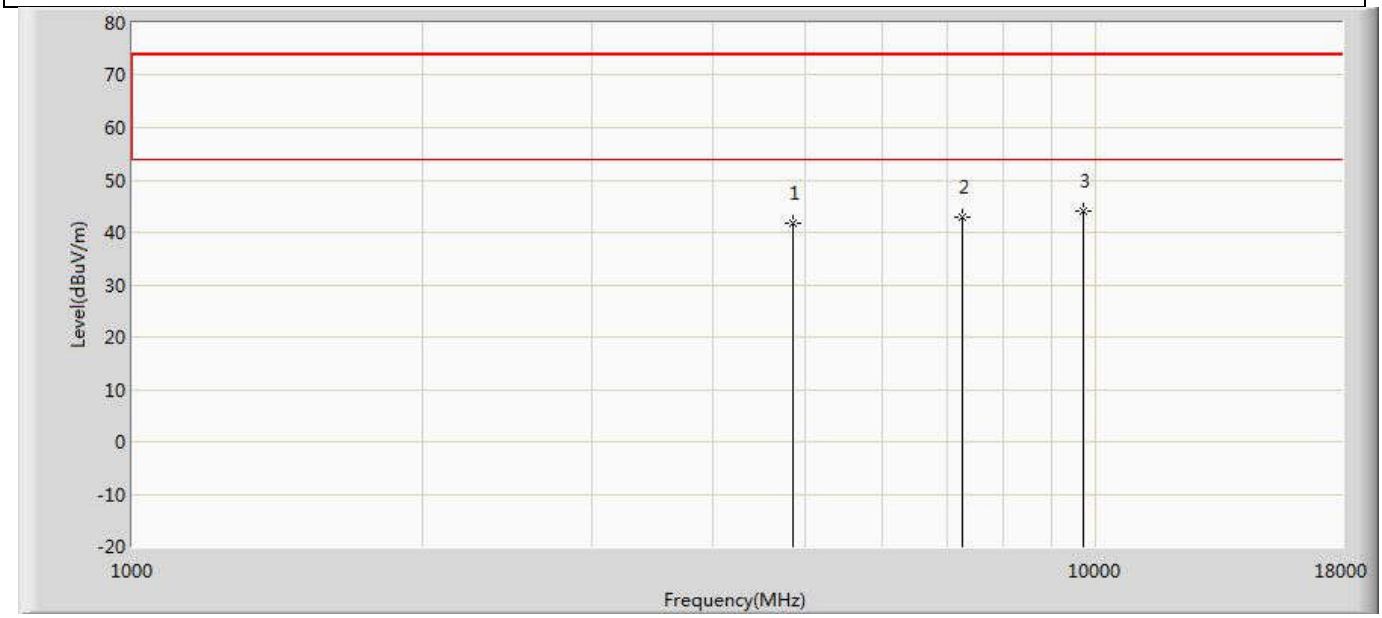
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	40.759	37.195	-33.241	74.000	3.563	PK
2		7386.000	42.189	35.405	-31.811	74.000	6.783	PK
3	*	9848.000	42.951	34.494	-31.049	74.000	8.458	PK

Profile: 2040634R	Page No.: 88
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11N(20MHz)	



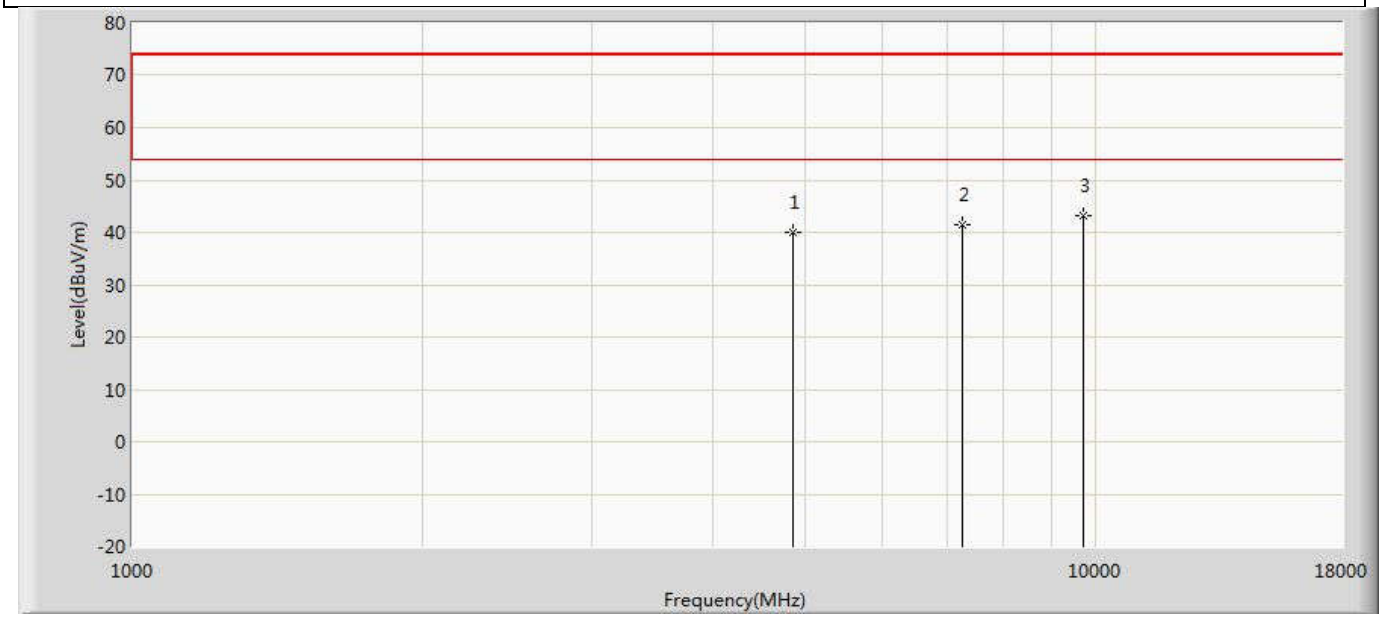
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	41.138	37.574	-32.862	74.000	3.563	PK
2		7386.000	43.376	36.592	-30.624	74.000	6.783	PK
3	*	9848.000	44.034	35.577	-29.966	74.000	8.458	PK

Profile: 2040634R	Page No.: 89
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11N(40MHz)	



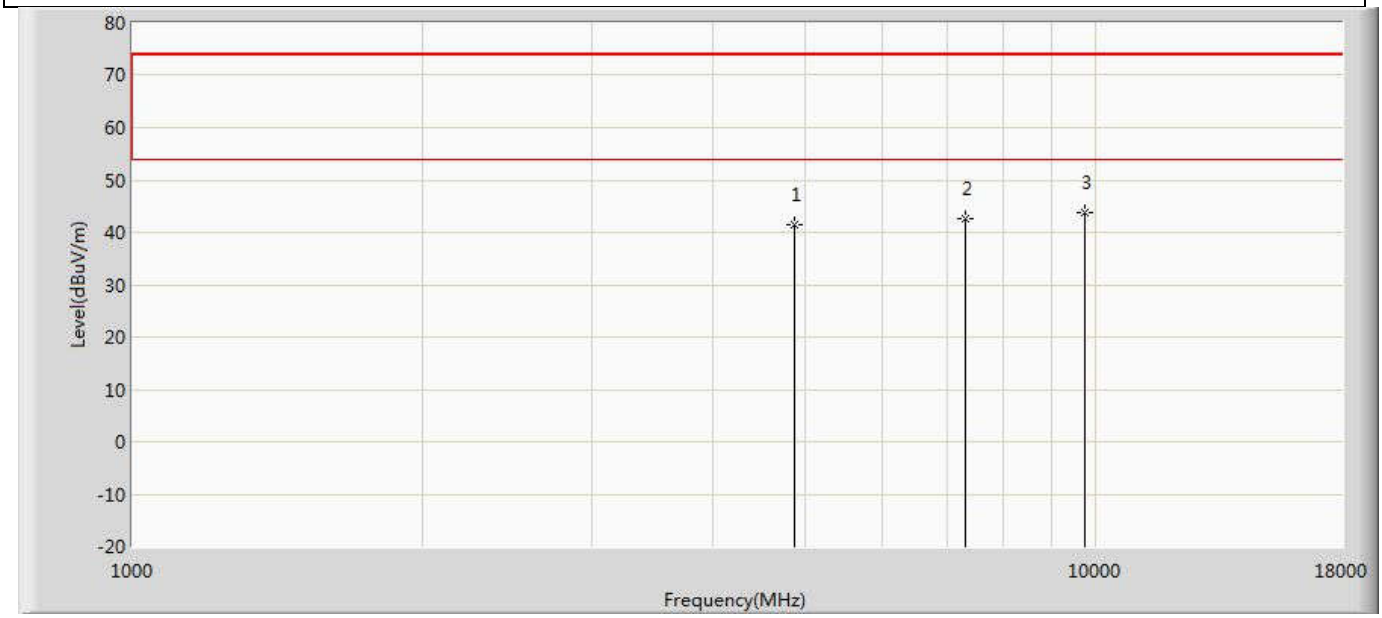
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4844.000	41.689	38.013	-32.311	74.000	3.676	PK
2		7266.000	42.942	36.300	-31.058	74.000	6.642	PK
3	*	9688.000	43.961	35.528	-30.039	74.000	8.434	PK

Profile: 2040634R	Page No.: 90
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11N(40MHz)	



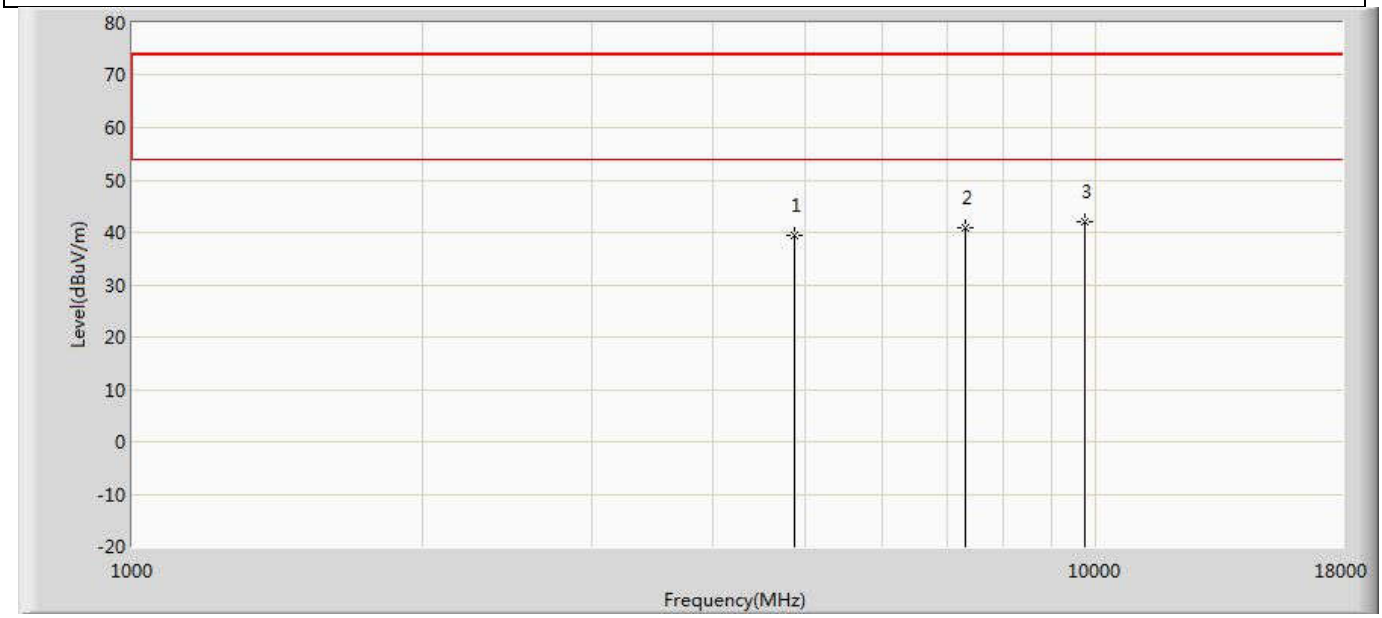
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4844.000	39.893	36.217	-34.107	74.000	3.676	PK
2		7266.000	41.409	34.767	-32.591	74.000	6.642	PK
3	*	9688.000	43.113	34.680	-30.887	74.000	8.434	PK

Profile: 2040634R	Page No.: 91
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2437MHz by 802.11N(40MHz)	



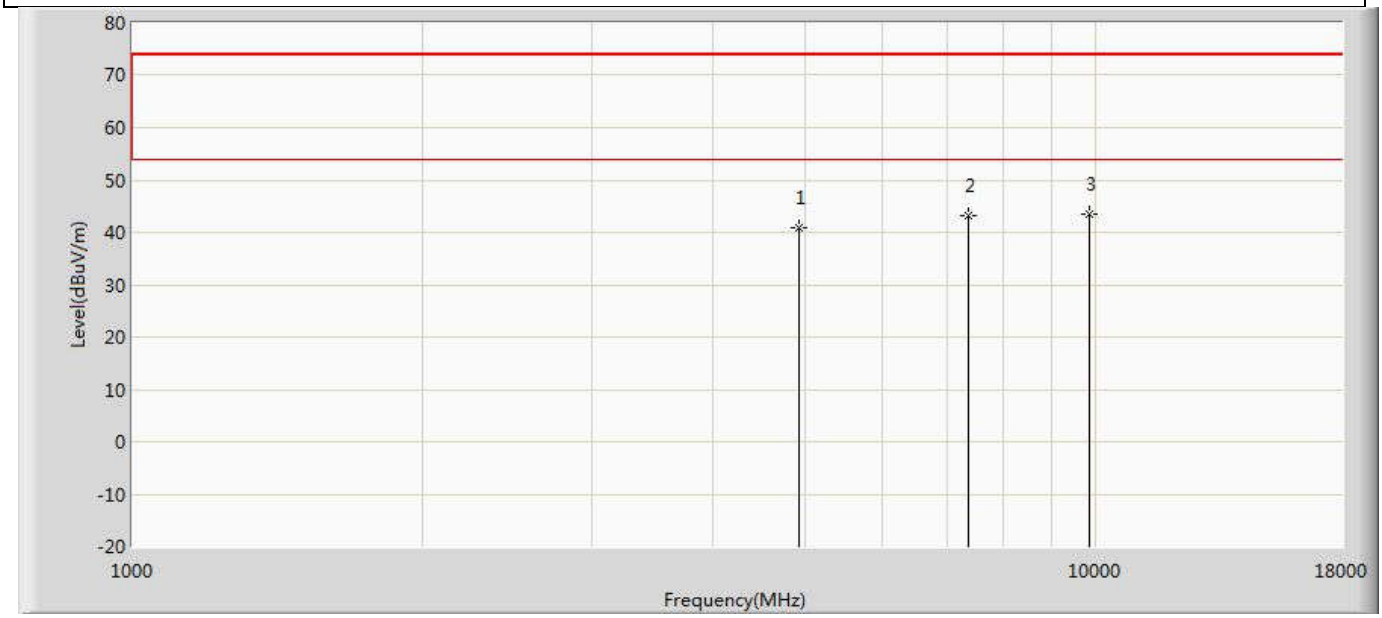
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	41.393	37.706	-32.607	74.000	3.687	PK
2		7311.000	42.698	36.068	-31.302	74.000	6.630	PK
3	*	9748.000	43.868	35.248	-30.132	74.000	8.620	PK

Profile: 2040634R	Page No.: 92
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2437MHz by 802.11N(40MHz)	



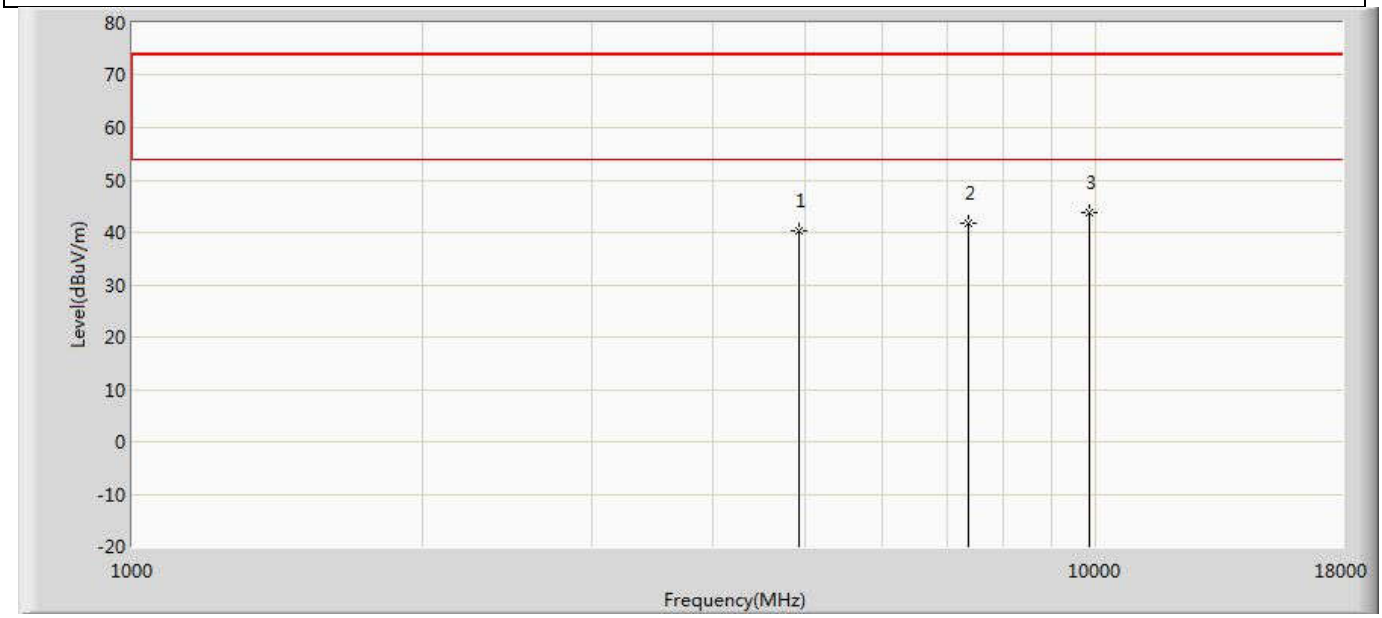
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	39.498	35.811	-34.502	74.000	3.687	PK
2		7311.000	40.738	34.108	-33.262	74.000	6.630	PK
3	*	9748.000	41.921	33.301	-32.079	74.000	8.620	PK

Profile: 2040634R	Page No.: 93
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11N(40MHz)	



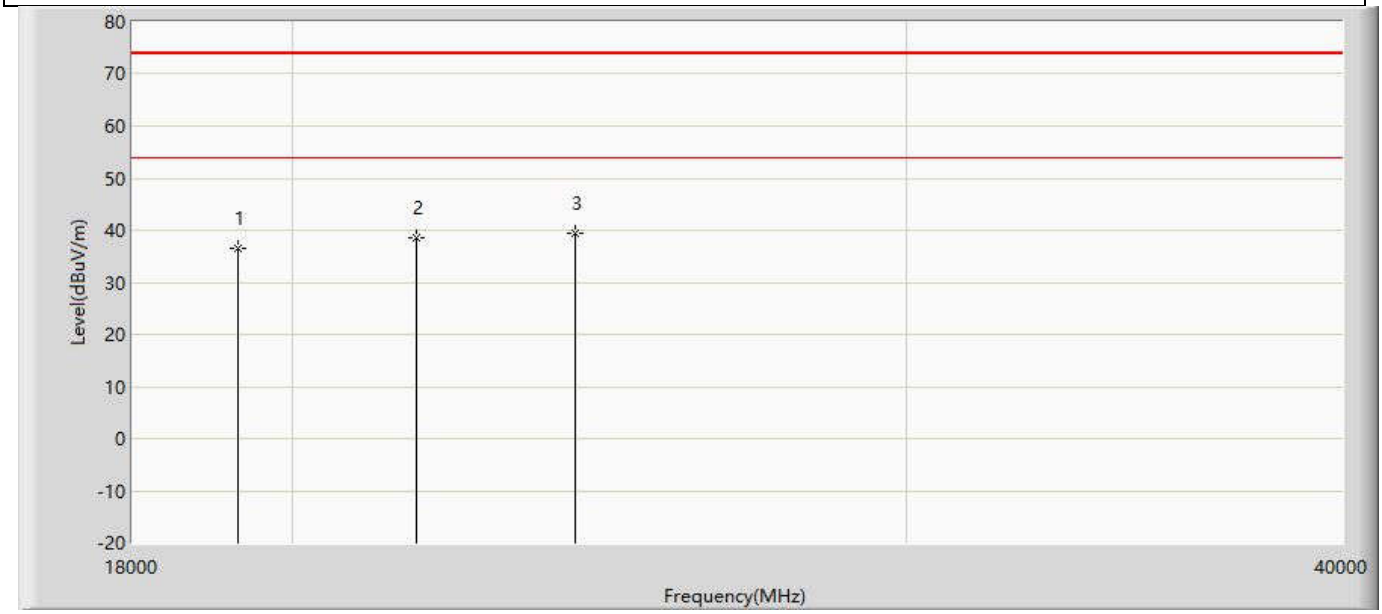
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	40.766	37.202	-33.234	74.000	3.563	PK
2		7386.000	43.114	36.330	-30.886	74.000	6.783	PK
3	*	9848.000	43.579	35.122	-30.421	74.000	8.458	PK

Profile: 2040634R	Page No.: 94
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 22:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11N(40MHz)	



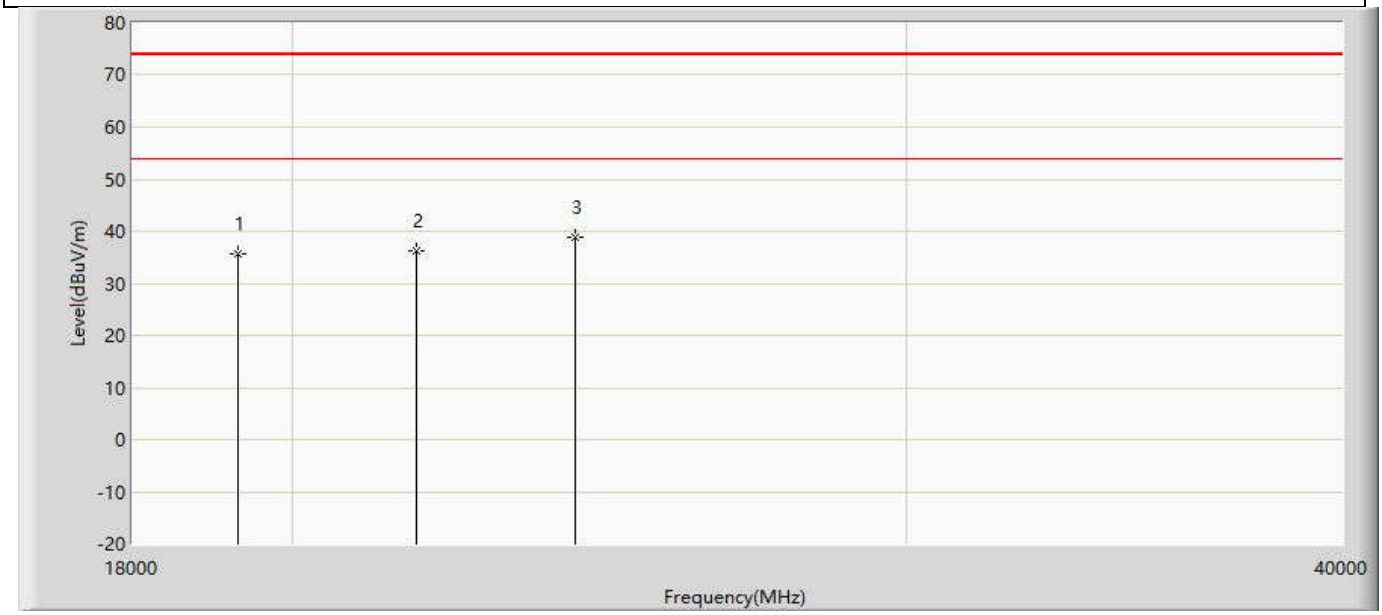
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	40.367	36.803	-33.633	74.000	3.563	PK
2		7386.000	41.808	35.024	-32.192	74.000	6.783	PK
3	*	9848.000	43.742	35.285	-30.258	74.000	8.458	PK

Profile: 2040634R	Page No.: 7
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11B	



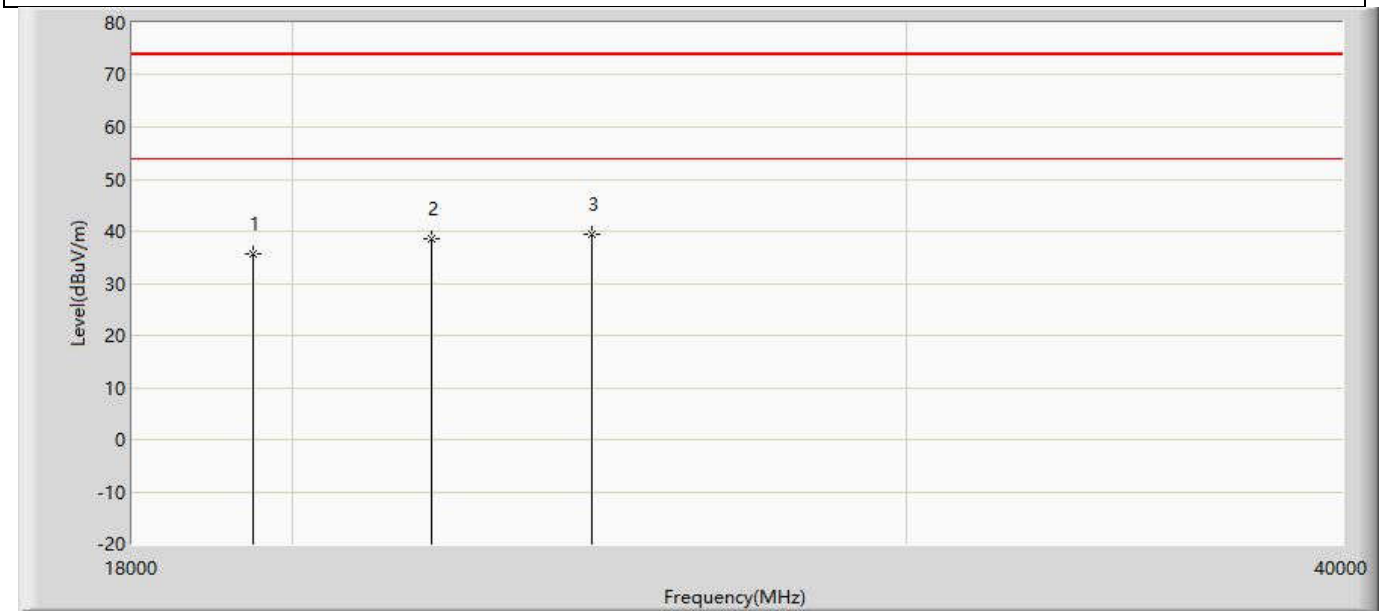
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19296.000	36.454	24.589	-37.546	74.000	11.866	PK
2		21708.000	38.650	26.389	-35.350	74.000	12.261	PK
3	*	24120.000	39.455	25.820	-34.545	74.000	13.635	PK

Profile: 2040634R	Page No.: 8
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11B	



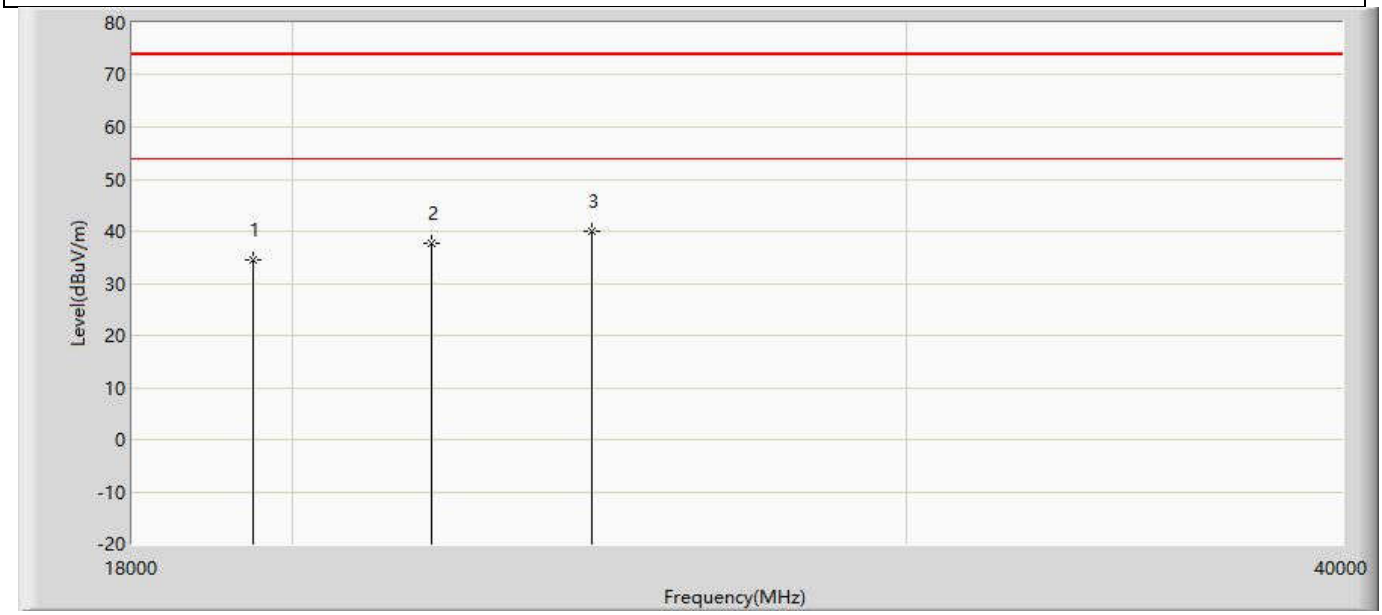
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19296.000	35.754	23.889	-38.246	74.000	11.866	PK
2		21708.000	36.277	24.016	-37.723	74.000	12.261	PK
3	*	24120.000	38.768	25.133	-35.232	74.000	13.635	PK

Profile: 2040634R	Page No.: 9
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2437MHz by 802.11B	



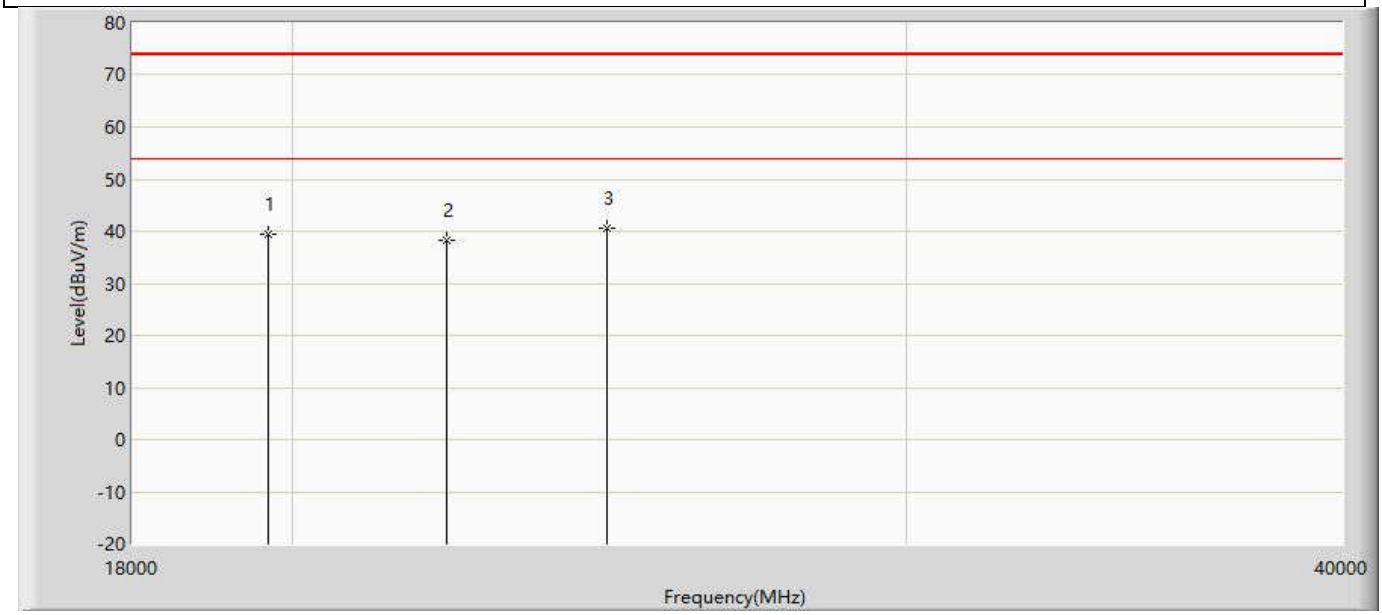
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19496.000	35.654	23.832	-38.346	74.000	11.822	PK
2		21933.000	38.662	26.287	-35.338	74.000	12.376	PK
3	*	24370.000	39.331	25.784	-34.669	74.000	13.547	PK

Profile: 2040634R	Page No.: 10
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2437MHz by 802.11B	



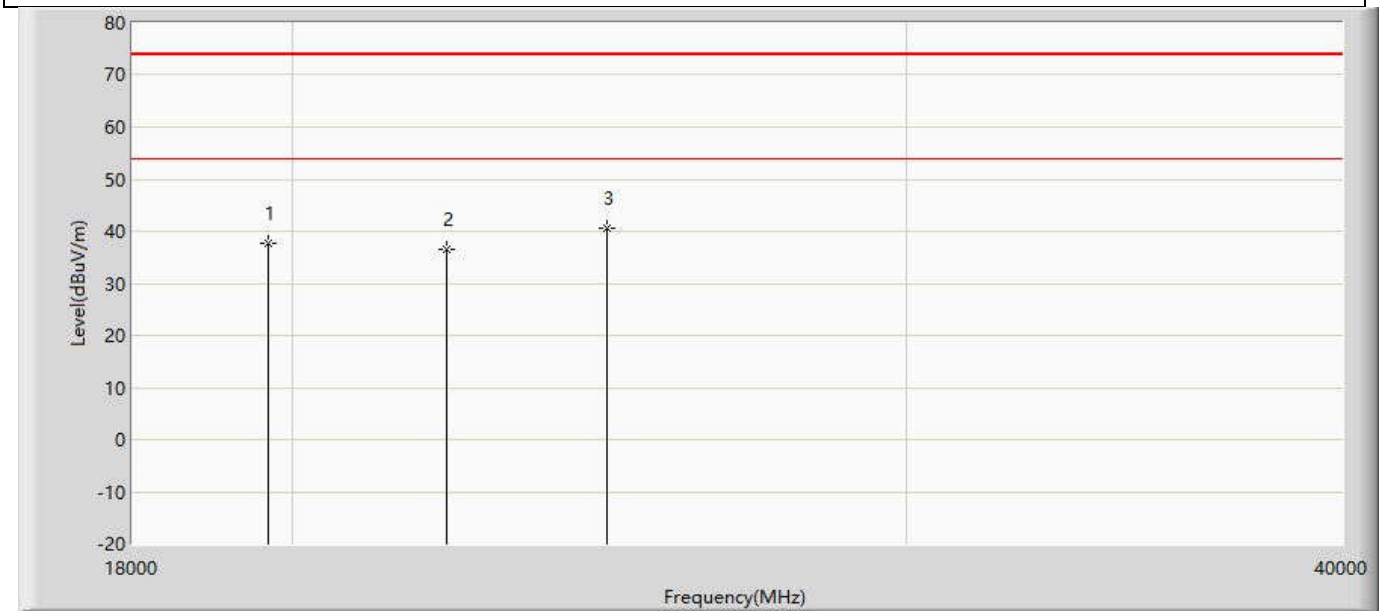
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19496.000	34.434	22.612	-39.566	74.000	11.822	PK
2		21933.000	37.656	25.280	-36.344	74.000	12.376	PK
3	*	24370.000	40.134	26.587	-33.866	74.000	13.547	PK

Profile: 2040634R	Page No.: 11
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11B	



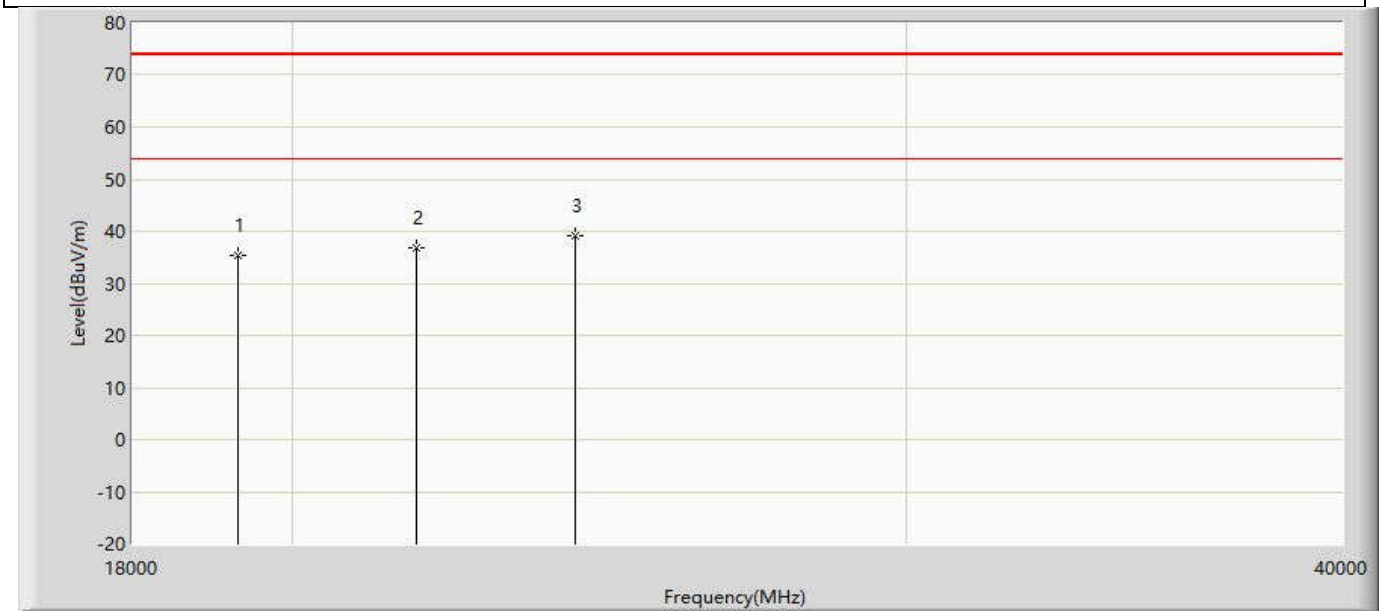
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19696.000	39.437	27.656	-34.563	74.000	11.780	PK
2		22158.000	38.384	25.825	-35.616	74.000	12.559	PK
3	*	24620.000	40.655	27.149	-33.345	74.000	13.506	PK

Profile: 2040634R	Page No.: 12
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11B	



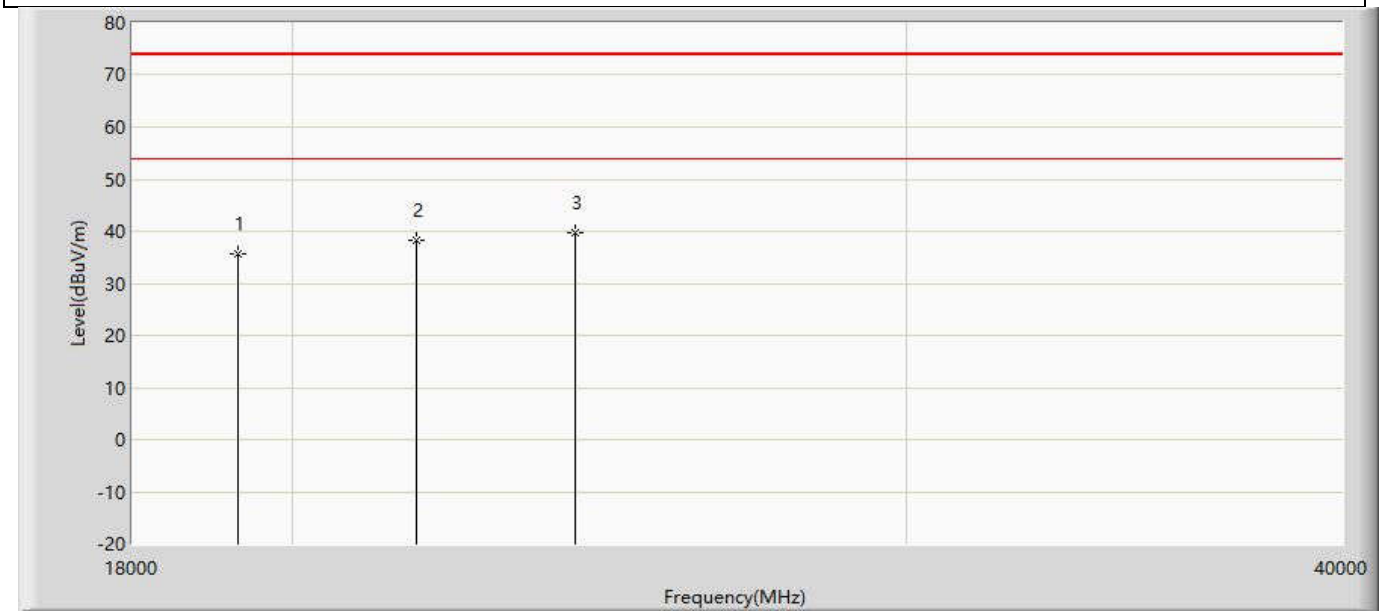
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19696.000	37.683	25.902	-36.317	74.000	11.780	PK
2		22158.000	36.572	24.013	-37.428	74.000	12.559	PK
3	*	24620.000	40.539	27.033	-33.461	74.000	13.506	PK

Profile: 2040634R	Page No.: 13
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11G	



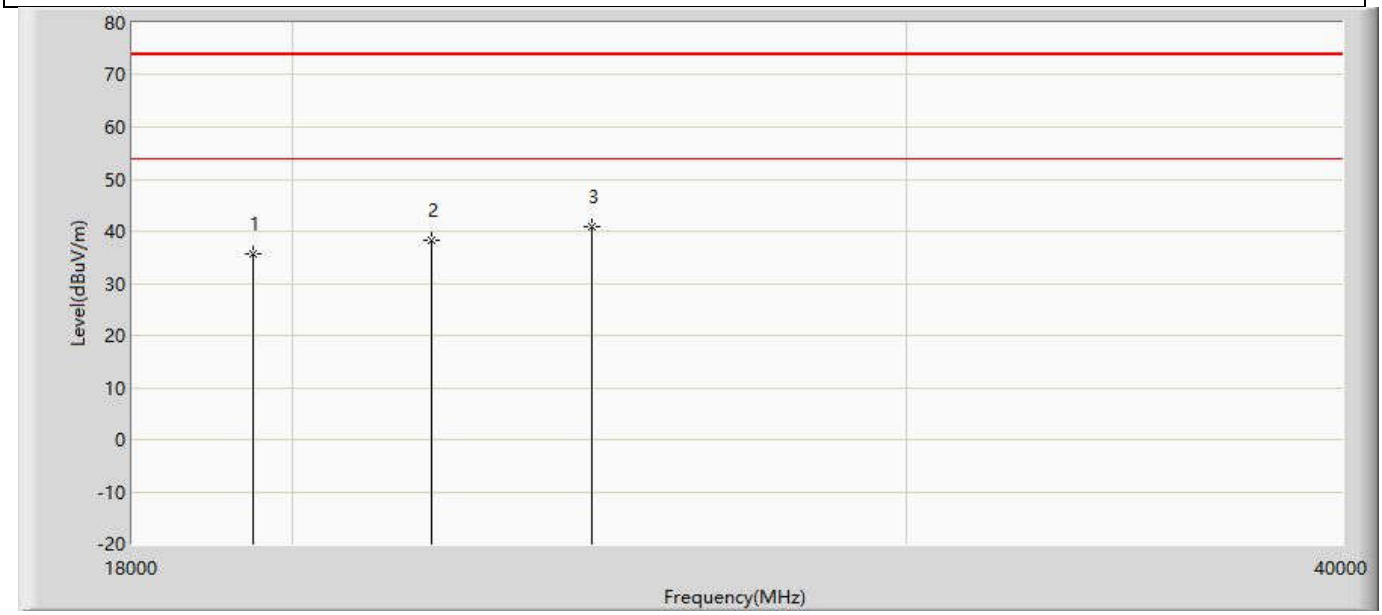
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19296.000	35.378	23.513	-38.622	74.000	11.866	PK
2		21708.000	36.792	24.531	-37.208	74.000	12.261	PK
3	*	24120.000	39.223	25.588	-34.777	74.000	13.635	PK

Profile: 2040634R	Page No.: 14
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11G	



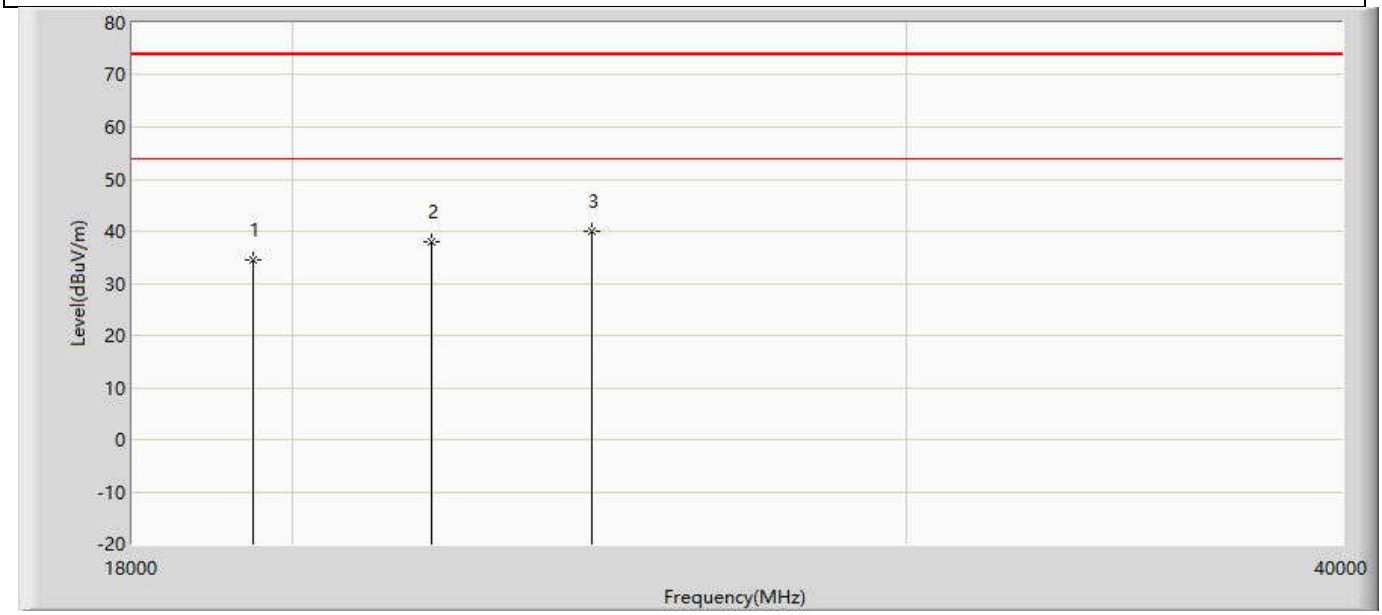
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19296.000	35.745	23.880	-38.255	74.000	11.866	PK
2		21708.000	38.266	26.005	-35.734	74.000	12.261	PK
3	*	24120.000	39.683	26.048	-34.317	74.000	13.635	PK

Profile: 2040634R	Page No.: 15
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2437MHz by 802.11G	



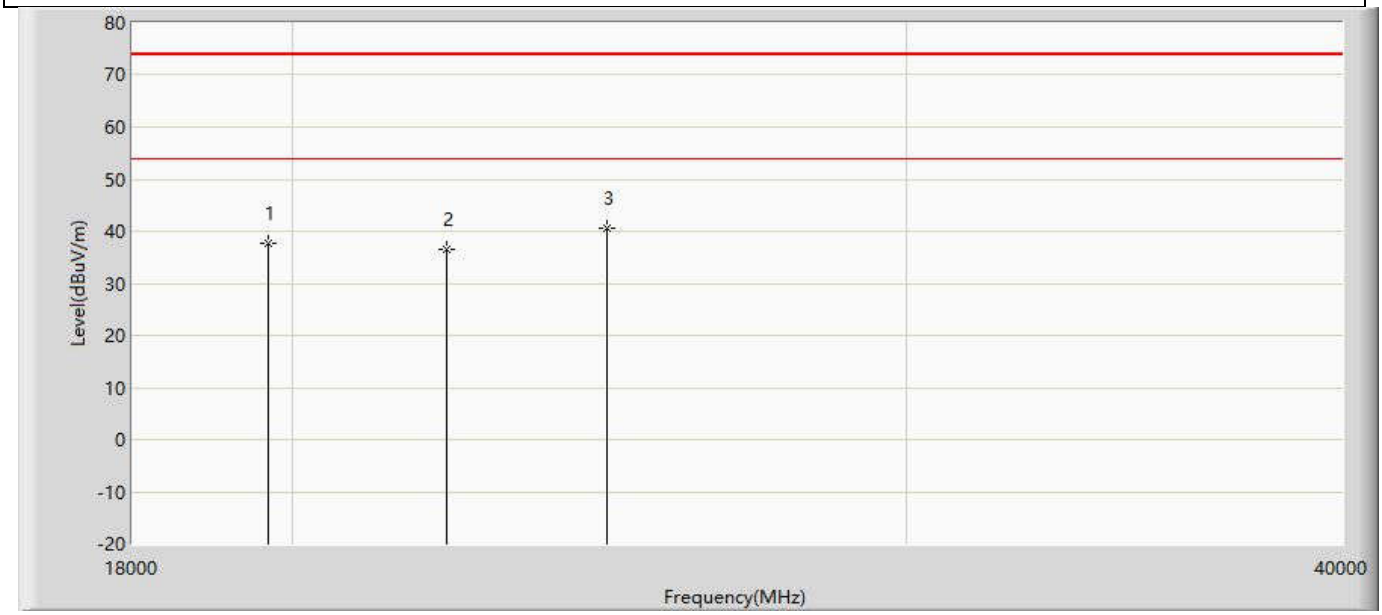
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19496.000	35.532	23.710	-38.468	74.000	11.822	PK
2		21933.000	38.382	26.006	-35.618	74.000	12.376	PK
3	*	24370.000	40.784	27.237	-33.216	74.000	13.547	PK

Profile: 2040634R	Page No.: 16
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2437MHz by 802.11G	



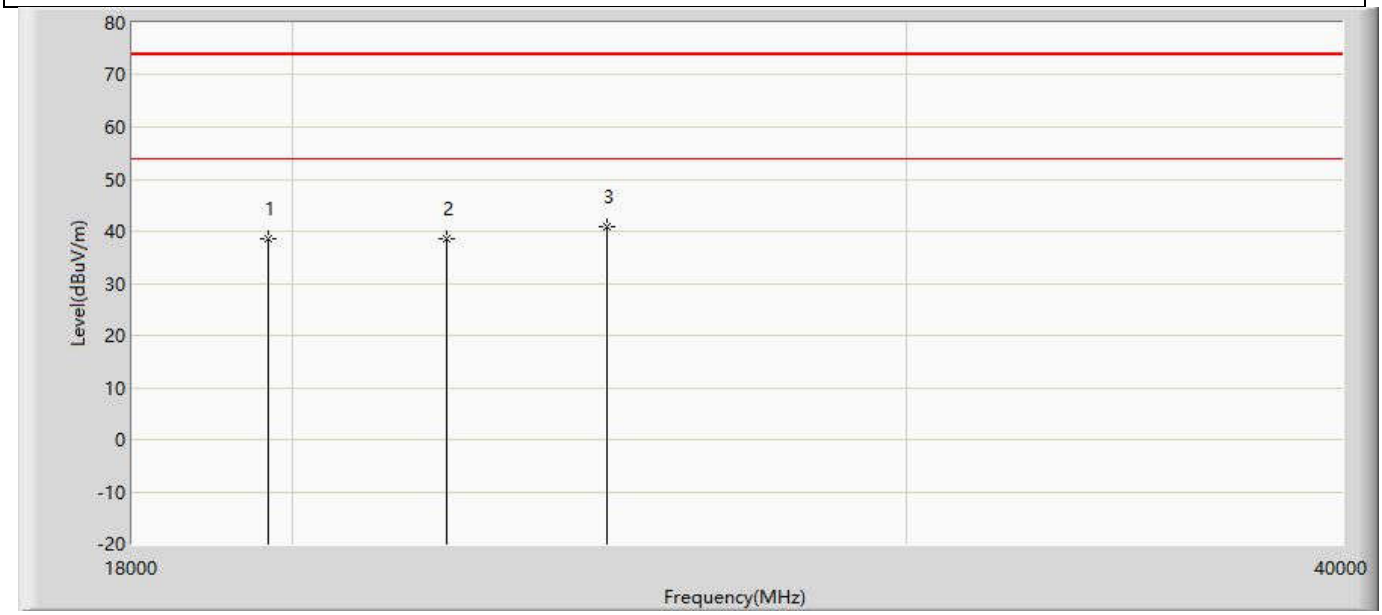
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19496.000	34.439	22.617	-39.561	74.000	11.822	PK
2		21933.000	37.900	25.524	-36.100	74.000	12.376	PK
3	*	24370.000	39.882	26.335	-34.118	74.000	13.547	PK

Profile: 2040634R	Page No.: 17
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11G	



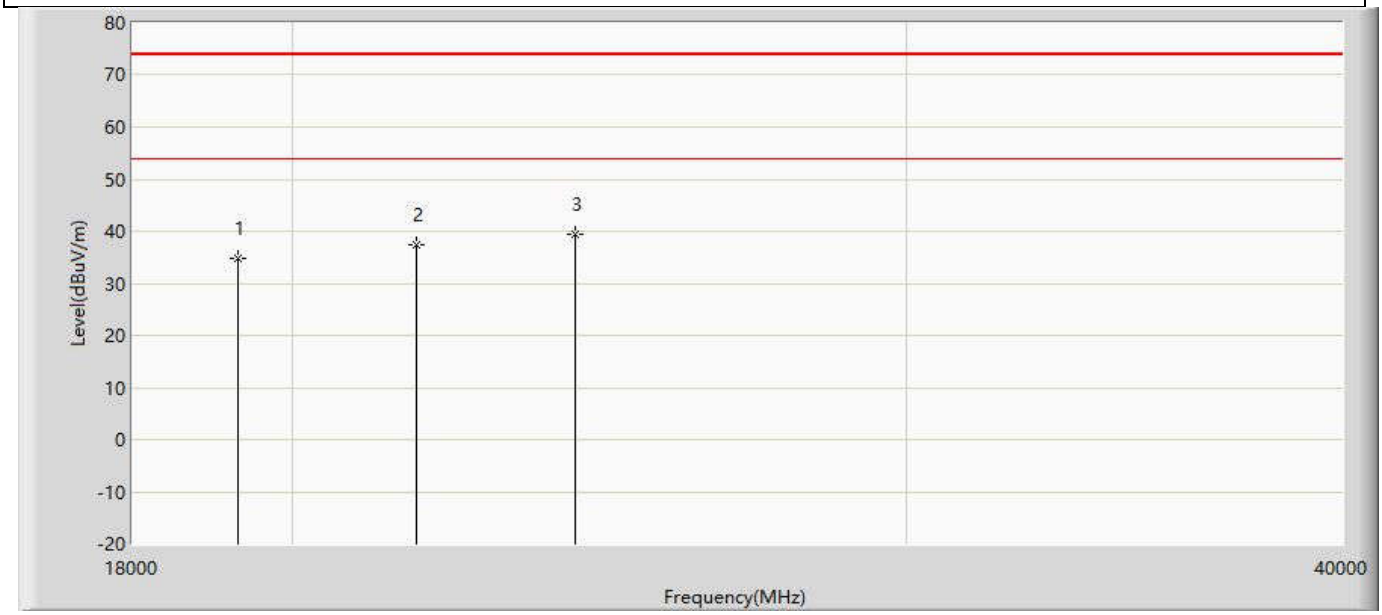
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19696.000	37.648	25.867	-36.352	74.000	11.780	PK
2		22158.000	36.417	23.858	-37.583	74.000	12.559	PK
3	*	24620.000	40.481	26.975	-33.519	74.000	13.506	PK

Profile: 2040634R	Page No.: 18
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11G	



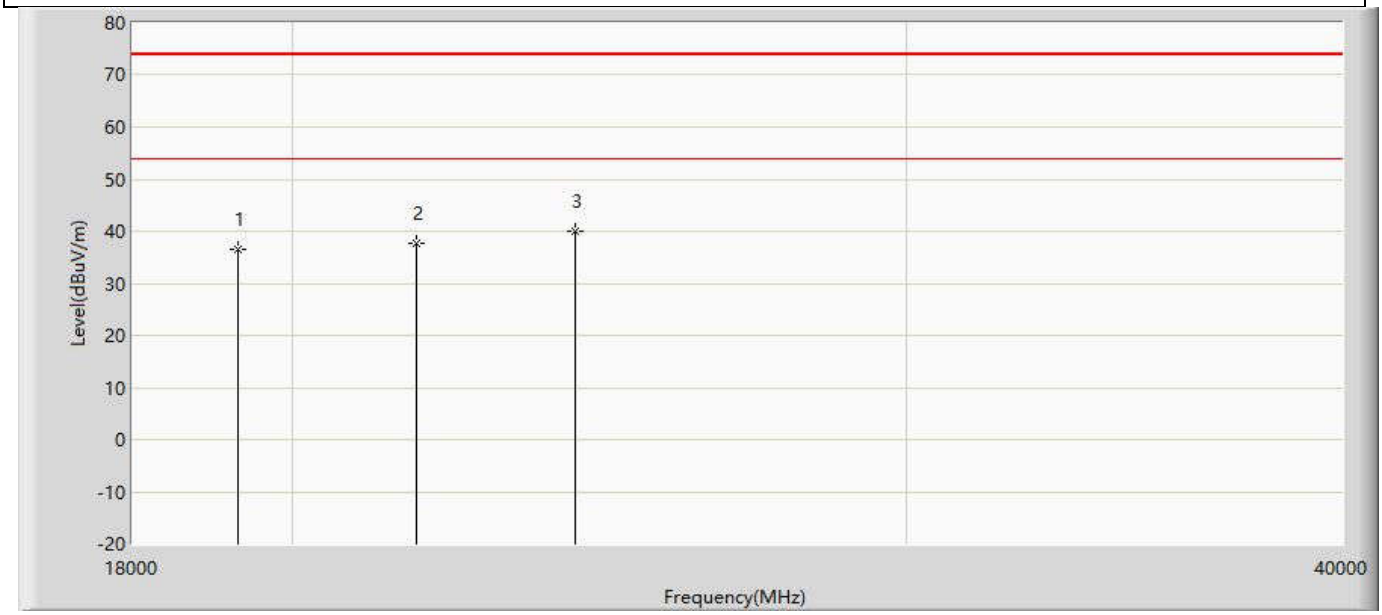
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19696.000	38.458	26.677	-35.542	74.000	11.780	PK
2		22158.000	38.439	25.880	-35.561	74.000	12.559	PK
3	*	24620.000	40.834	27.328	-33.166	74.000	13.506	PK

Profile: 2040634R	Page No.: 19
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11N(20MHz)	



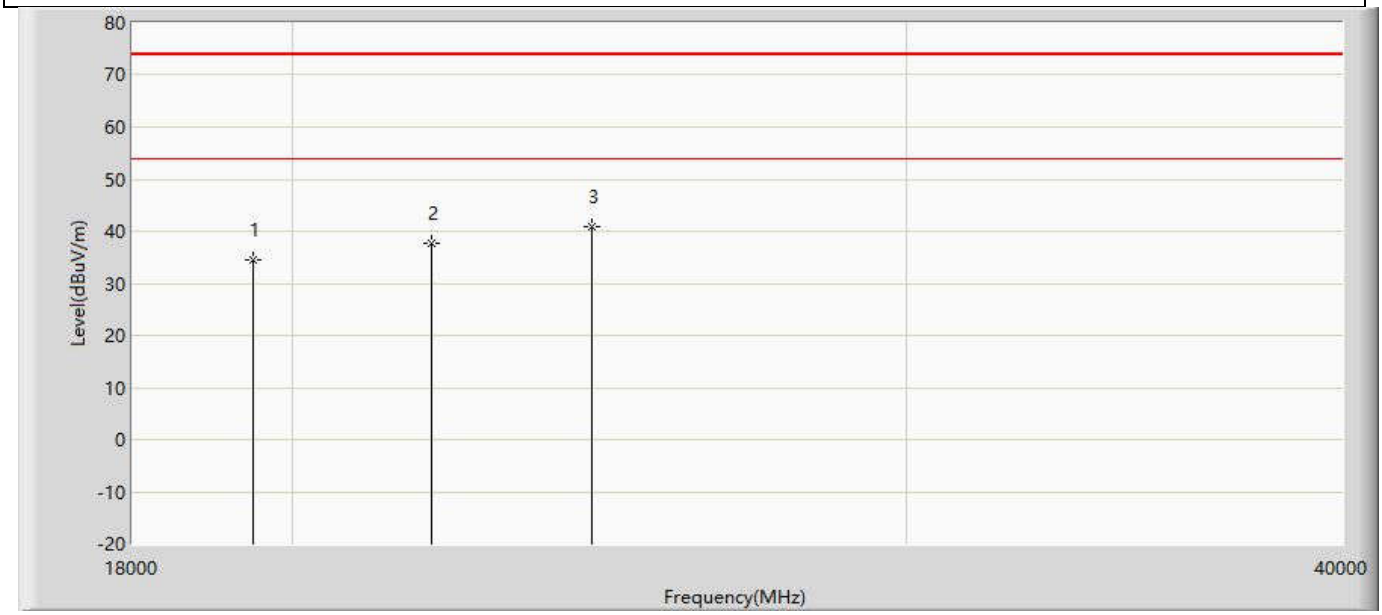
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19296.000	34.786	22.921	-39.214	74.000	11.866	PK
2		21708.000	37.354	25.093	-36.646	74.000	12.261	PK
3	*	24120.000	39.327	25.692	-34.673	74.000	13.635	PK

Profile: 2040634R	Page No.: 20
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11N(20MHz)	



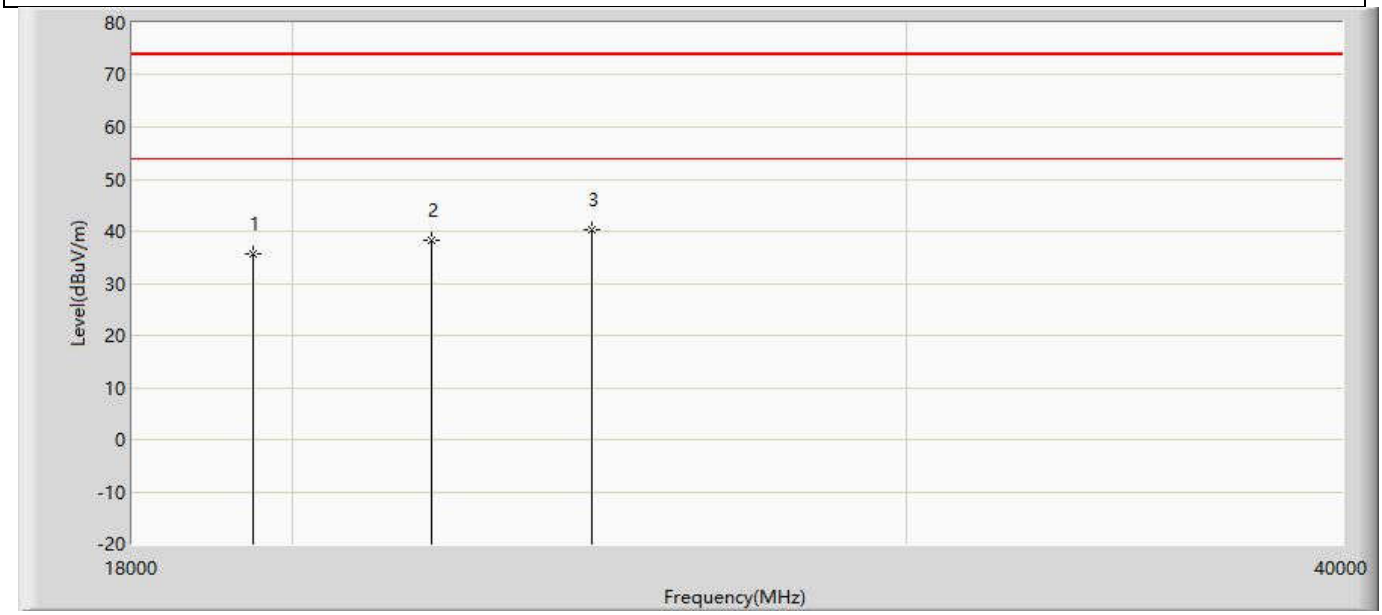
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19296.000	36.378	24.513	-37.622	74.000	11.866	PK
2		21708.000	37.776	25.515	-36.224	74.000	12.261	PK
3	*	24120.000	40.103	26.468	-33.897	74.000	13.635	PK

Profile: 2040634R	Page No.: 21
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2437MHz by 802.11N(20MHz)	



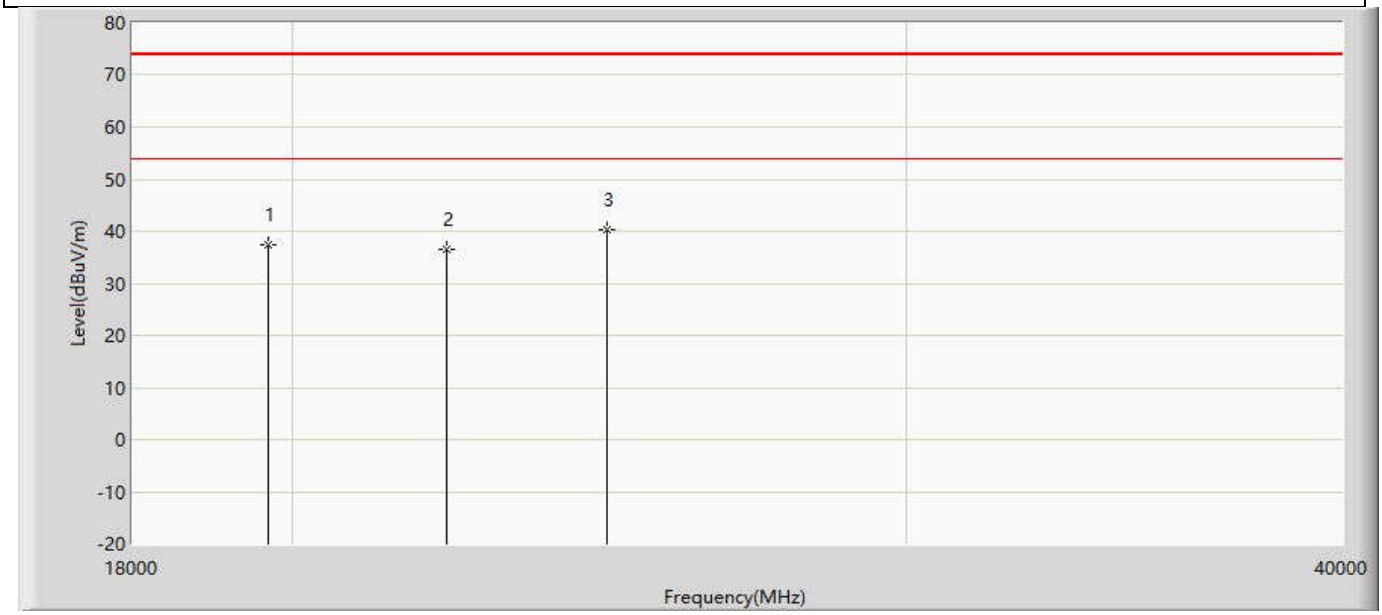
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19496.000	34.549	22.727	-39.451	74.000	11.822	PK
2		21933.000	37.561	25.186	-36.439	74.000	12.376	PK
3	*	24370.000	40.782	27.235	-33.218	74.000	13.547	PK

Profile: 2040634R	Page No.: 22
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2437MHz by 802.11N(20MHz)	



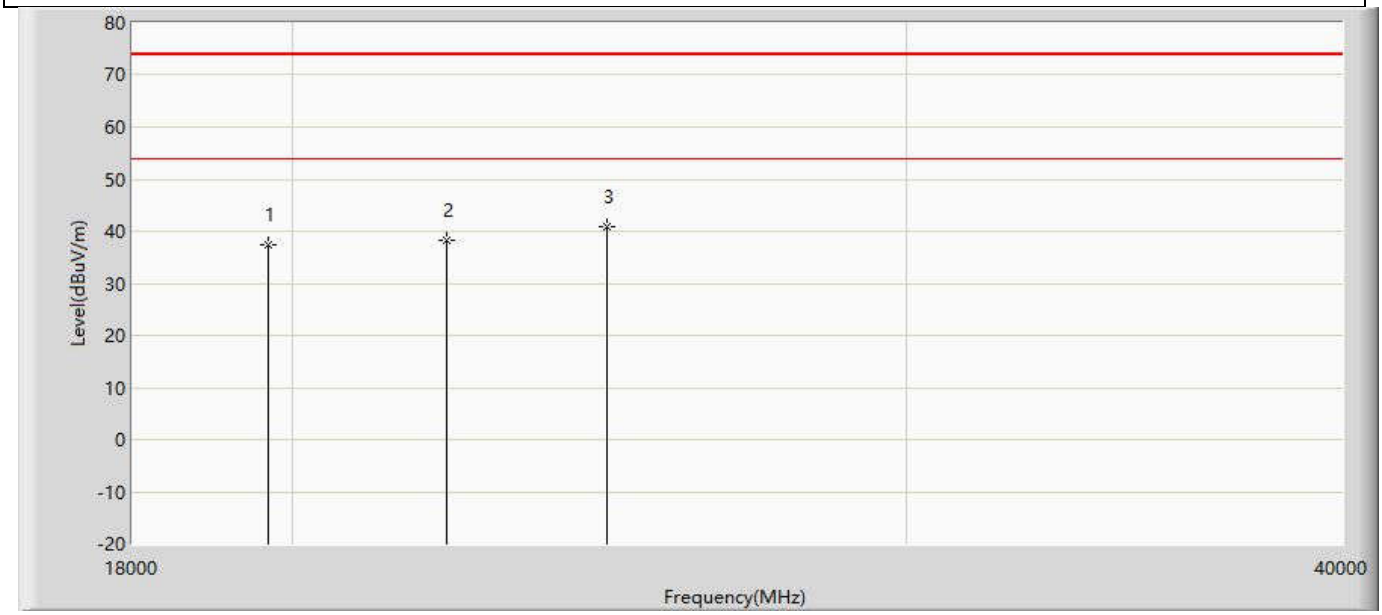
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19496.000	35.528	23.706	-38.472	74.000	11.822	PK
2		21933.000	38.284	25.909	-35.716	74.000	12.376	PK
3	*	24370.000	40.284	26.737	-33.716	74.000	13.547	PK

Profile: 2040634R	Page No.: 23
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11N(20MHz)	



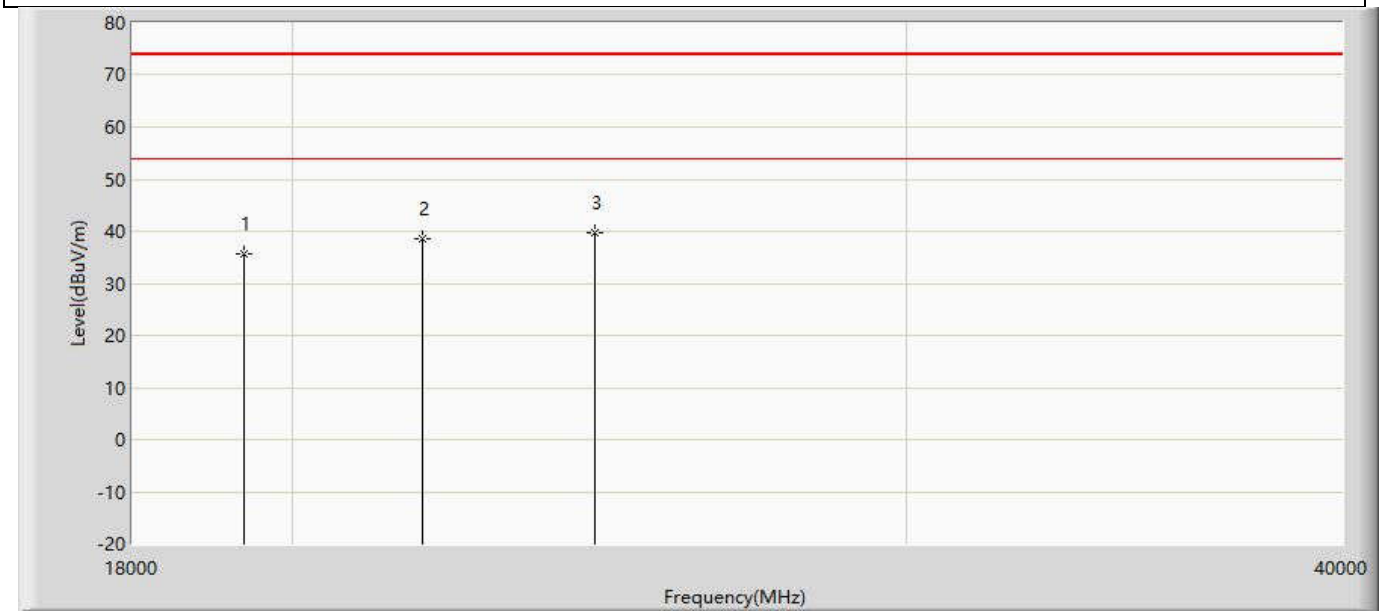
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19696.000	37.318	25.537	-36.682	74.000	11.780	PK
2		22158.000	36.584	24.025	-37.416	74.000	12.559	PK
3	*	24620.000	40.278	26.772	-33.722	74.000	13.506	PK

Profile: 2040634R	Page No.: 24
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11N(20MHz)	



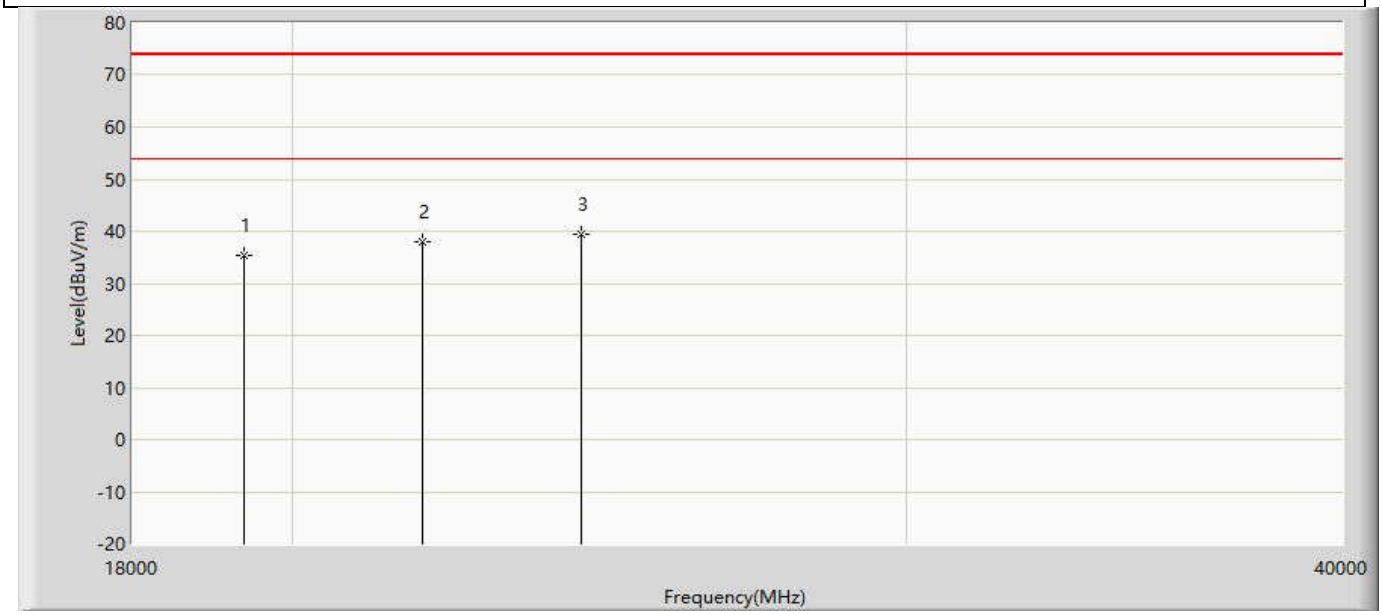
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19696.000	37.290	25.509	-36.710	74.000	11.780	PK
2		22158.000	38.347	25.788	-35.653	74.000	12.559	PK
3	*	24620.000	40.847	27.341	-33.153	74.000	13.506	PK

Profile: 2040634R	Page No.: 25
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11N(40MHz)	



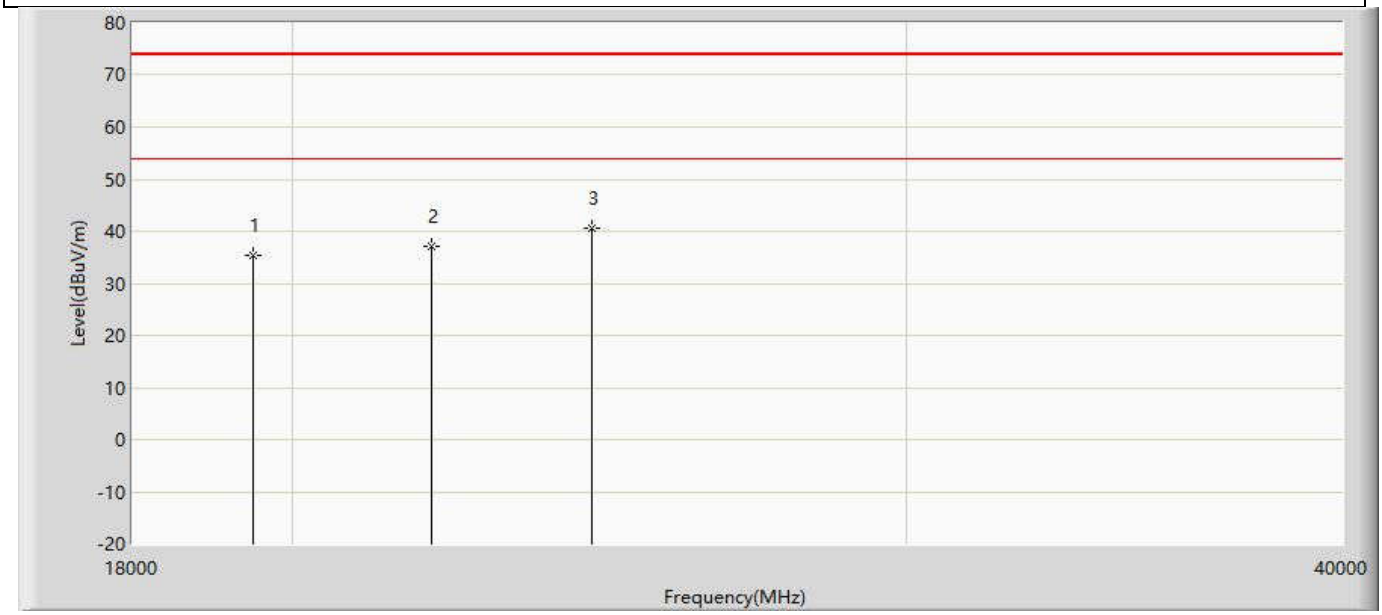
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19376.000	35.675	23.818	-38.325	74.000	11.858	PK
2		21798.000	38.481	26.174	-35.519	74.000	12.307	PK
3	*	24420.000	39.825	26.293	-34.175	74.000	13.532	PK

Profile: 2040634R	Page No.: 26
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11N(40MHz)	



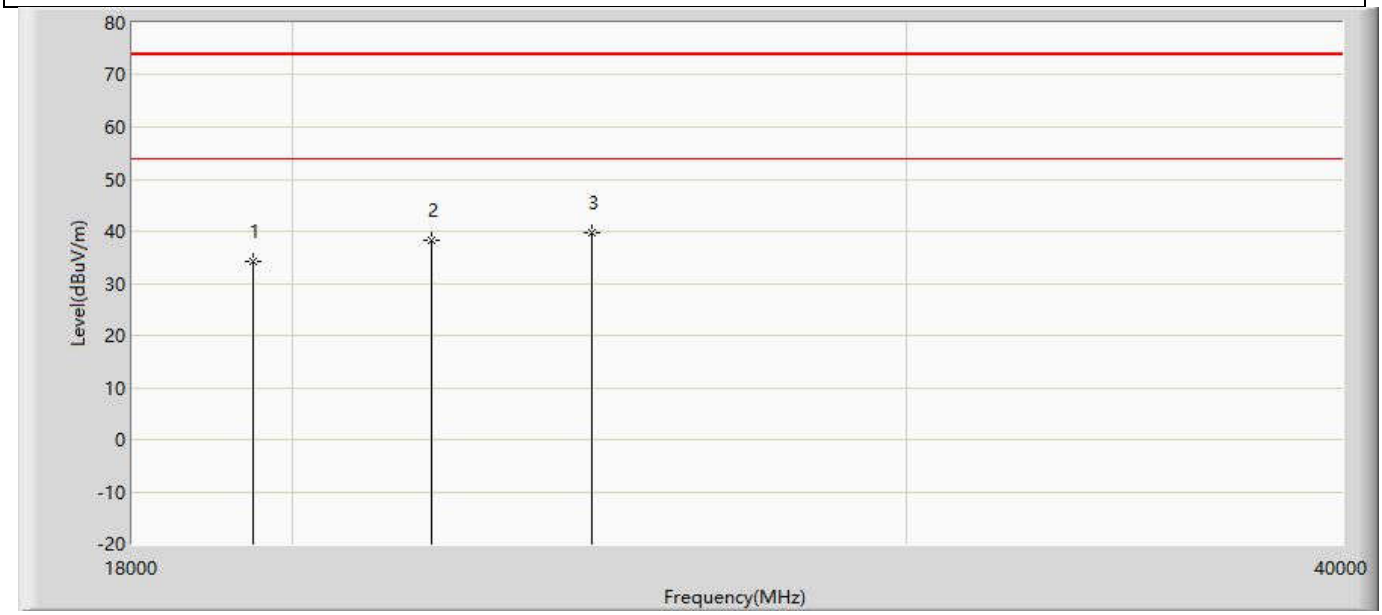
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19376.000	35.437	23.580	-38.563	74.000	11.858	PK
2		21798.000	37.922	25.615	-36.078	74.000	12.307	PK
3	*	24220.000	39.386	25.798	-34.614	74.000	13.588	PK

Profile: 2040634R	Page No.: 27
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2437MHz by 802.11N(40MHz)	



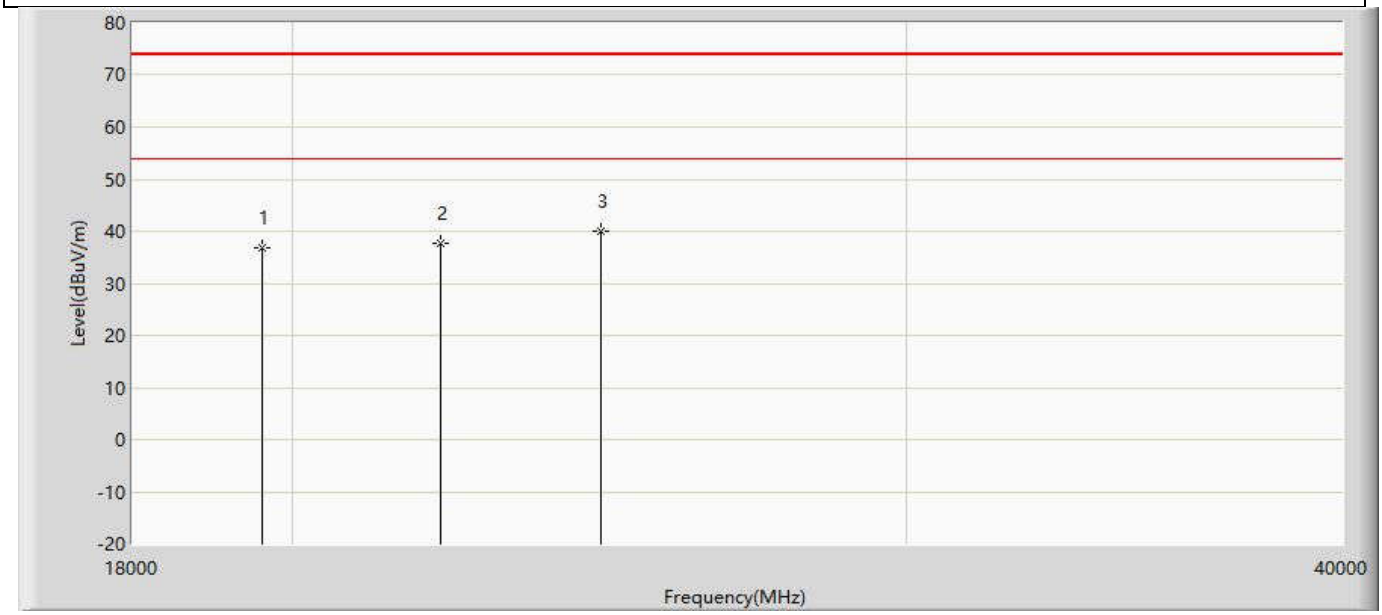
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19496.000	35.276	23.454	-38.724	74.000	11.822	PK
2		21933.000	37.177	24.802	-36.823	74.000	12.376	PK
3	*	24370.000	40.527	26.980	-33.473	74.000	13.547	PK

Profile: 2040634R	Page No.: 28
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2437MHz by 802.11N(40MHz)	



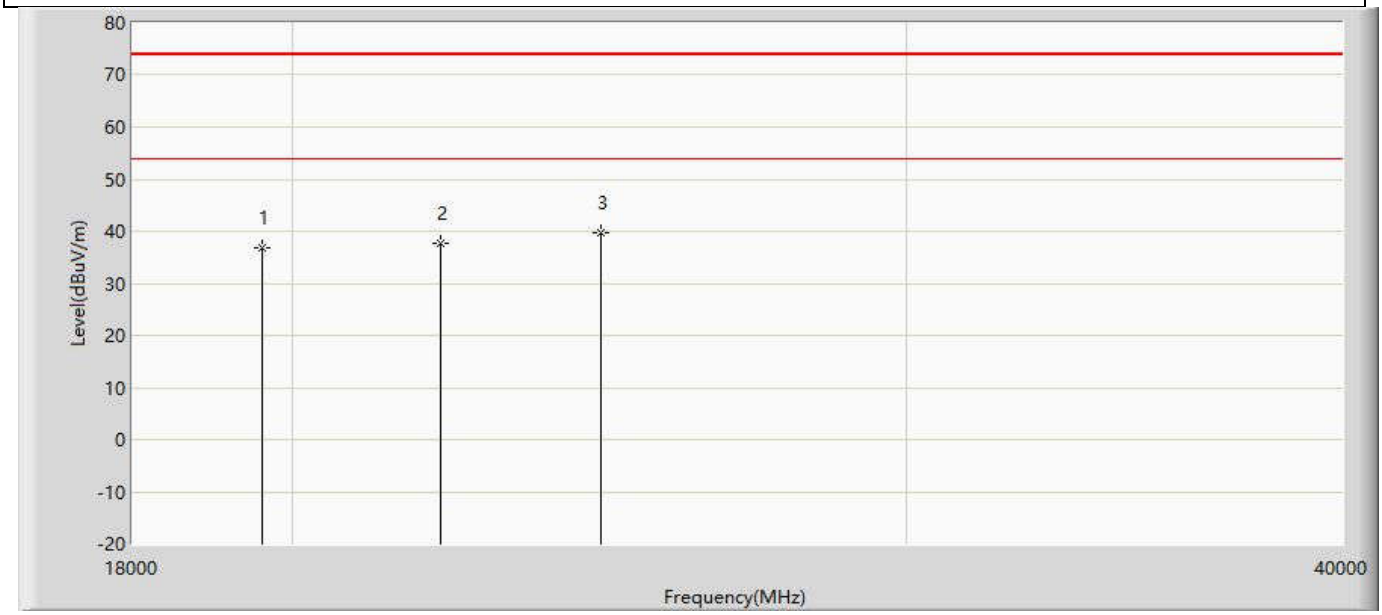
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19496.000	34.137	22.315	-39.863	74.000	11.822	PK
2		21933.000	38.264	25.889	-35.736	74.000	12.376	PK
3	*	24370.000	39.736	26.189	-34.264	74.000	13.547	PK

Profile: 2040634R	Page No.: 29
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11N(40MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19616.000	36.838	25.041	-37.162	74.000	11.797	PK
2		22068.000	37.672	25.199	-36.328	74.000	12.473	PK
3	*	24520.000	40.013	26.508	-33.987	74.000	13.505	PK

Profile: 2040634R	Page No.: 30
Engineer: Pawn	
Site: AC5	Time: 2020/05/19 - 15:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11N(40MHz)	



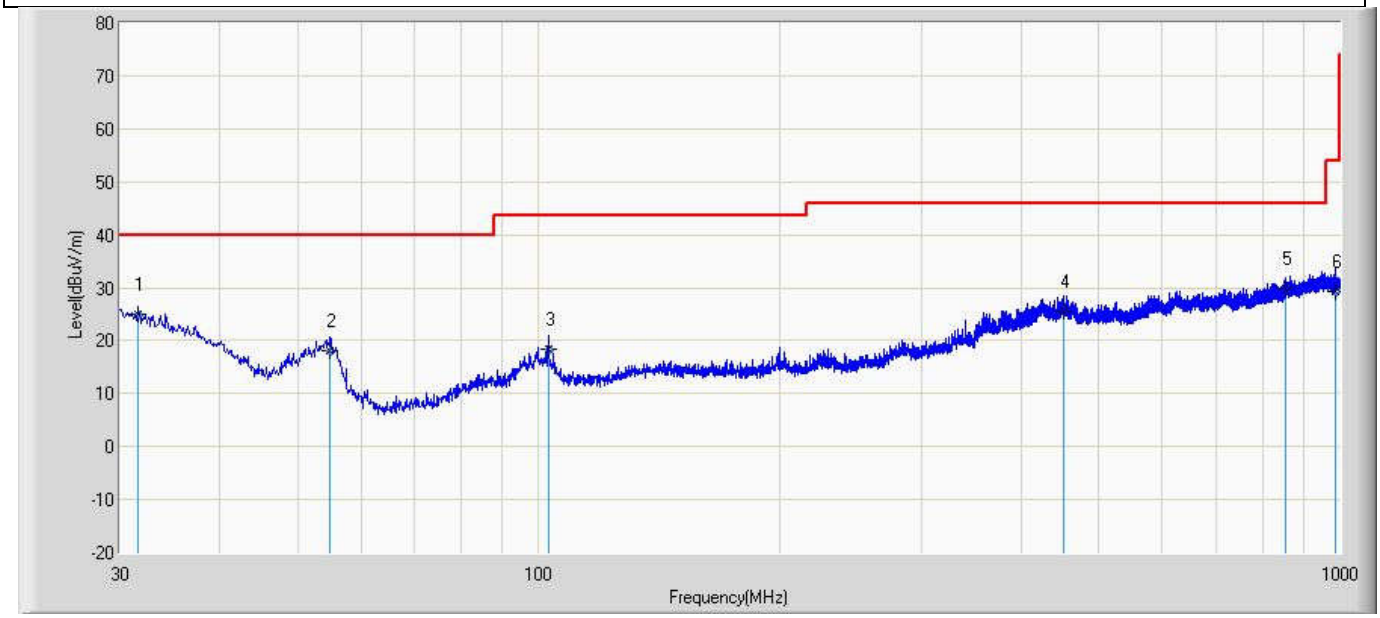
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19616.000	36.731	24.934	-37.269	74.000	11.797	PK
2		22068.000	37.572	25.099	-36.428	74.000	12.473	PK
3	*	24520.000	39.667	26.162	-34.333	74.000	13.505	PK

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

The worst case of Radiated Emission below 1GHz:

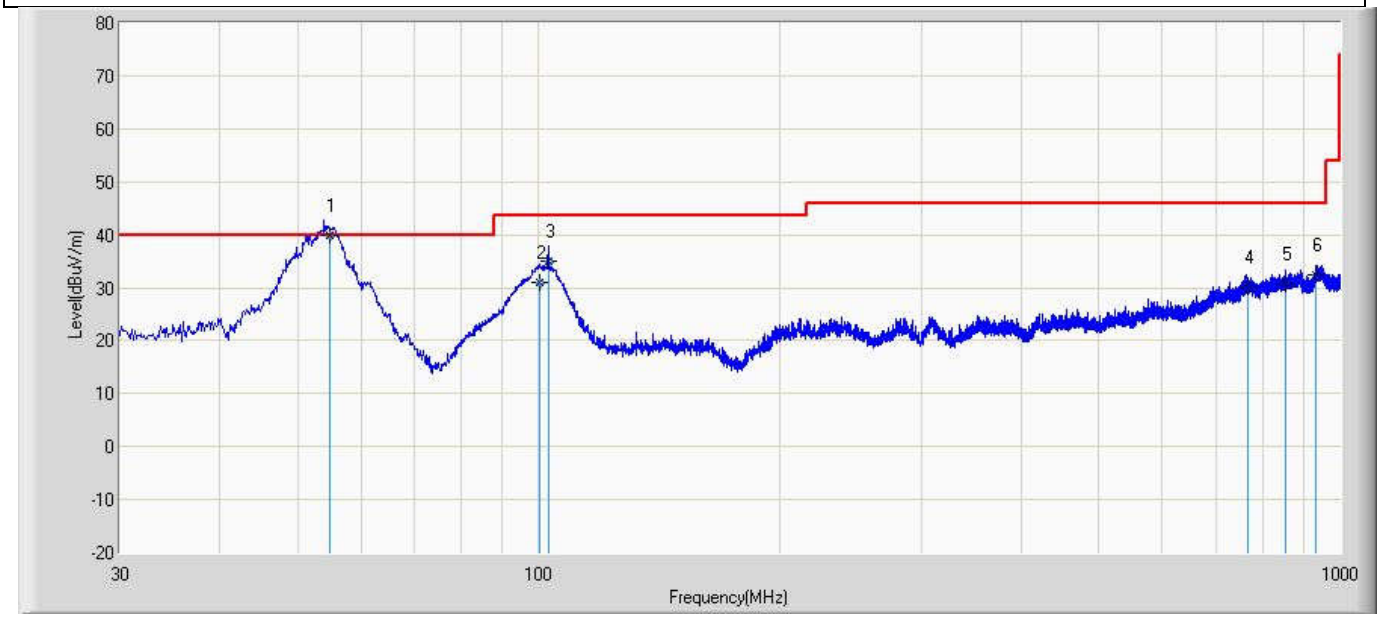
Profile: 2040634R	Page No.: 1
Engineer: Pawn	
Site: AC3	Time: 2020/04/24 - 10:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1	*	31.570	25.041	-2.000	-14.959	40.000	20.578	6.463	0.000	200	300	QP
2		54.850	18.053	4.800	-21.947	40.000	6.632	6.620	0.000	100	70	QP
3		102.750	18.337	1.800	-25.163	43.500	9.670	6.867	0.000	100	88	QP
4		451.300	25.684	-1.400	-20.316	46.000	19.048	8.036	0.000	100	120	QP
5		854.500	29.810	-1.500	-16.190	46.000	22.305	9.005	0.000	100	80	QP
6		987.000	29.148	-3.000	-24.852	54.000	22.869	9.279	0.000	100	80	QP

Note:
1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Profile: 2040634R	Page No.: 2
Engineer: Pawn	
Site: AC3	Time: 2020/04/24 - 10:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1	

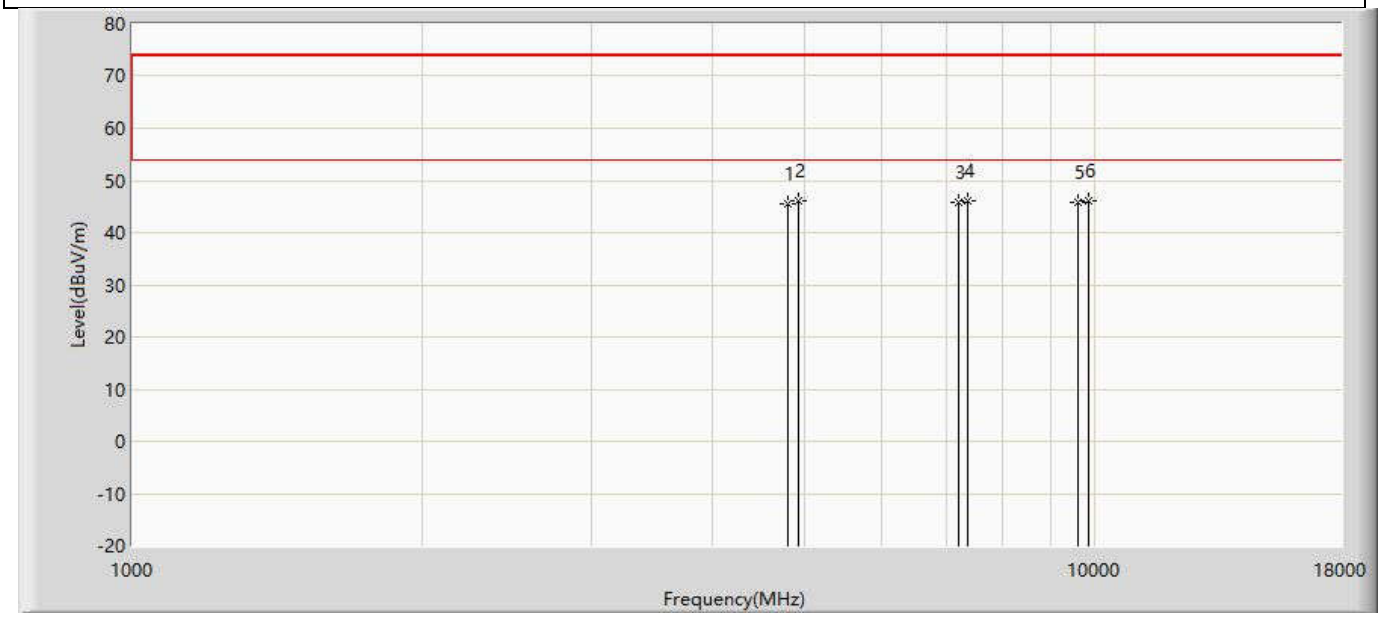


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1	*	54.740	39.976	23.000	-0.024	40.000	10.355	6.620	0.000	100	3	QP
2		100.300	30.893	8.800	-12.607	43.500	15.241	6.851	0.000	100	70	QP
3		102.800	35.075	13.000	-8.425	43.500	15.208	6.867	0.000	100	50	QP
4		765.800	30.200	-2.000	-15.800	46.000	23.392	8.807	0.000	100	50	QP
5		855.955	30.685	-2.200	-15.315	46.000	23.881	9.005	0.000	100	230	QP
6		934.200	32.529	-1.600	-13.471	46.000	24.962	9.168	0.000	100	50	QP

Note:
1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

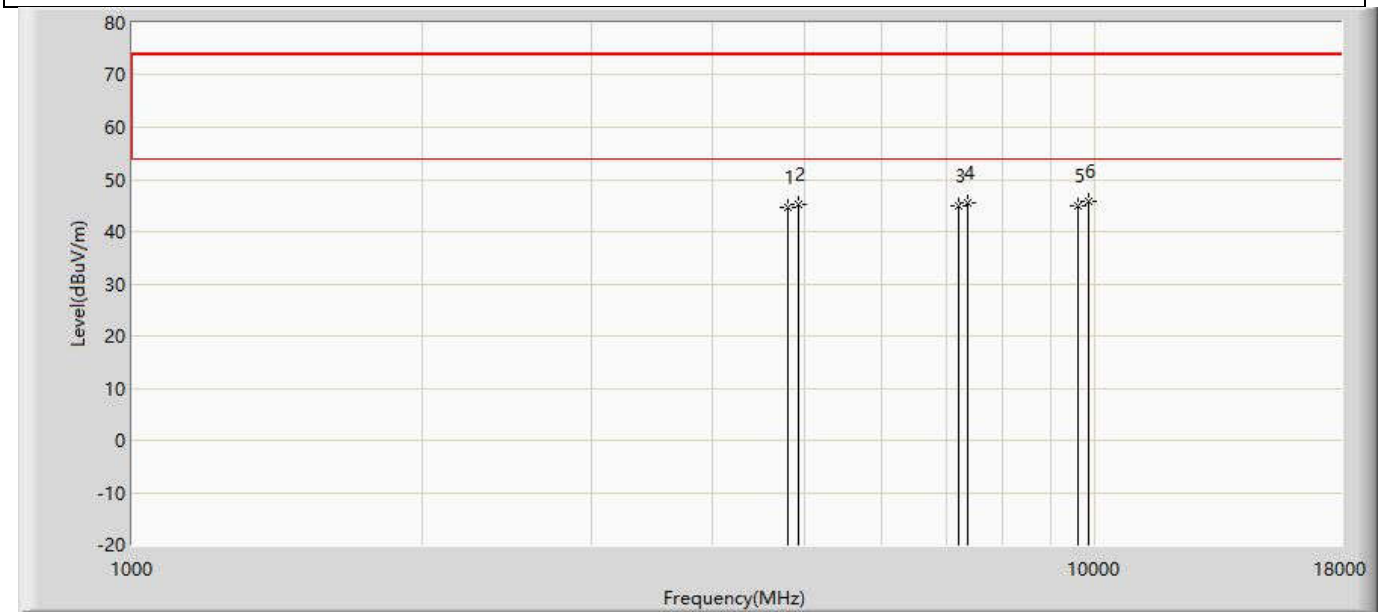
The worst case of Simultaneous transmission:

Profile: 2040634R	Page No.: 33
Engineer: Pawn	
Site: AC5	Time: 2020/05/20 - 15:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode5:Transmit at 2402MHz by BLE & 2462MHz by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	45.378	41.717	-28.622	74.000	3.662	PK
2		4924.000	45.991	42.427	-28.009	74.000	3.563	PK
3		7206.000	45.768	39.105	-28.232	74.000	6.663	PK
4		7386.000	46.014	39.230	-27.986	74.000	6.783	PK
5		9608.000	45.773	37.637	-28.227	74.000	8.137	PK
6	*	9848.000	46.229	37.772	-27.771	74.000	8.458	PK

Profile: 2040634R	Page No.: 34
Engineer: Pawn	
Site: AC5	Time: 2020/05/20 - 15:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode5:Transmit at 2402MHz by BLE & 2462MHz by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	44.776	41.115	-29.224	74.000	3.662	PK
2		4924.000	45.117	41.553	-28.883	74.000	3.563	PK
3		7206.000	44.886	38.223	-29.114	74.000	6.663	PK
4		7386.000	45.418	38.634	-28.582	74.000	6.783	PK
5		9608.000	45.011	36.875	-28.989	74.000	8.137	PK
6	*	9848.000	45.872	37.415	-28.128	74.000	8.458	PK

Note:
1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

4.3 Emissions in non-restricted frequency band	VERDICT: PASS

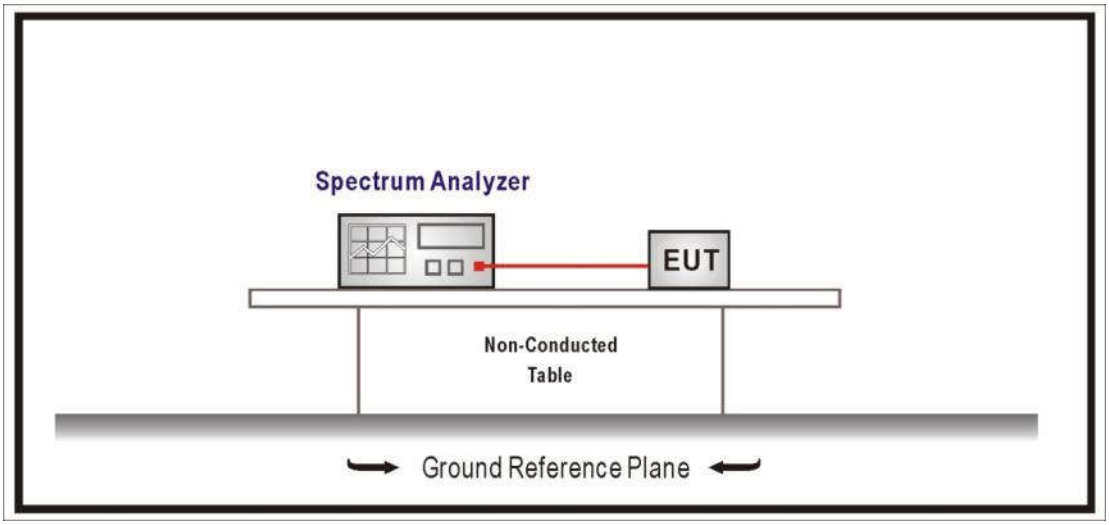
4.3.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d)
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30dBc(Note1)
RF Output power(PK detector)	20dBc(Note2)

Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).

4.3.2 Test Setup



4.3.3 Test Procedure

References Rule			Chapter	Description
☒	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	☒	ANSI C63.10	11.11.1	General
	☒	ANSI C63.10	11.11.2	Reference level measurement
	☒	ANSI C63.10	11.11.3	Emission level measurement

4.3.4 Test Data

Mode	Channel	Test Frequency (MHz)	Maximum In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	1	2412	10.023	2400	-29.379	39.402	⩾20	Pass
	11	2462	10.430	2500	-45.765	56.195	⩾20	Pass
2	1	2412	5.594	2400	-26.736	32.330	⩾20	Pass
	11	2462	3.768	2500	-46.172	49.940	⩾20	Pass
3	1	2412	3.938	2400	-30.095	34.033	⩾20	Pass
	11	2462	3.073	2500	-44.357	47.430	⩾20	Pass
4	3	2422	1.422	2400	-36.171	37.593	⩾20	Pass
	9	2452	-0.033	2500	-45.546	45.513	⩾20	Pass

Note: The worst case of emissions in non-restricted frequency bands as below:

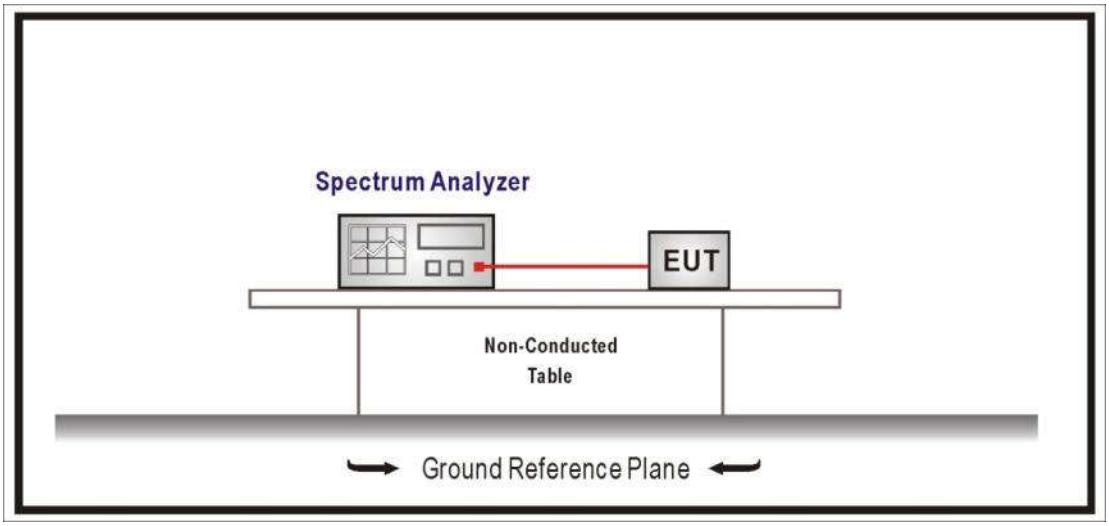
Mode 2 CH01(2412MHz)

4.4 Duty cycle	VERDICT: PASS

4.4.1 Limit

N/A

4.4.2 Test Setup



4.4.3 Test Procedure

References Rule		Chapter	Description
☒	ANSI C63.10	11.6	Duty cycle (D), transmission duration (T), and maximum power control level

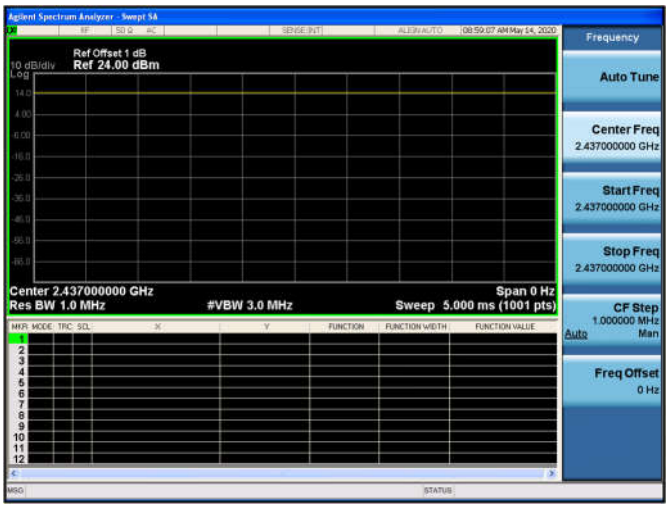
4.4.4 Test Data

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
1	N/A	N/A	10Hz	N/A	100%
2	2.055	0.140	487Hz	2.195	93.62%
3	1.905	0.950	525HZ	2.045	93.15%
4	0.909	0.165	1.1kHz	1.074	84.64%

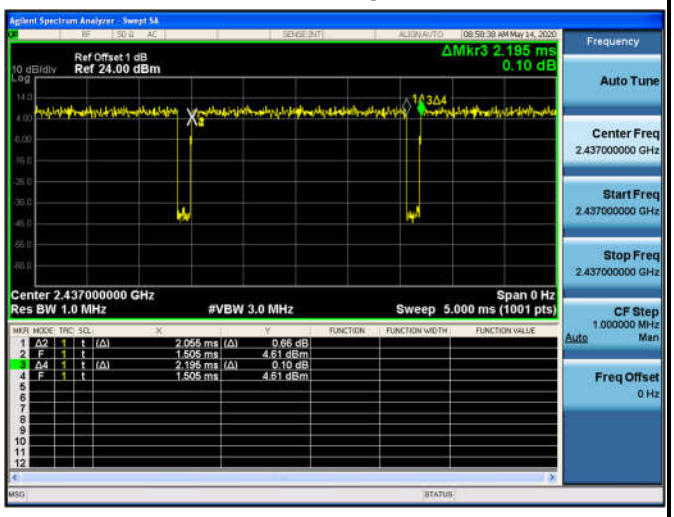
Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Note 2: According to KDB 558074, when test for Radiated Emission Band Edge and Radiated Emission, for average detector set: VBW ≥ 1/T will be used.

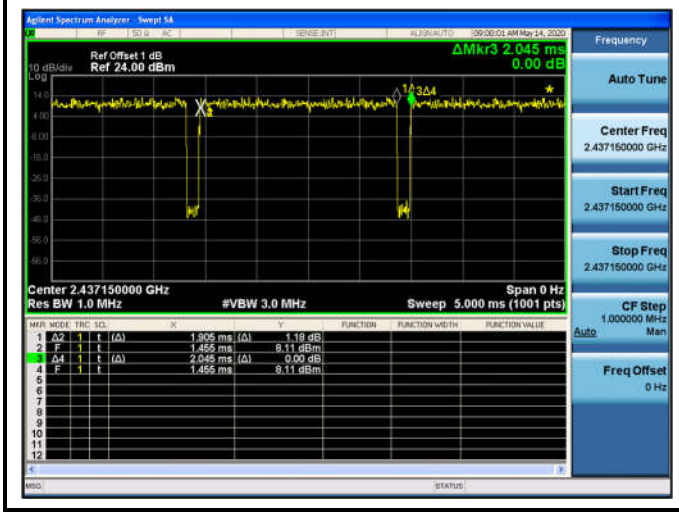
802.11b



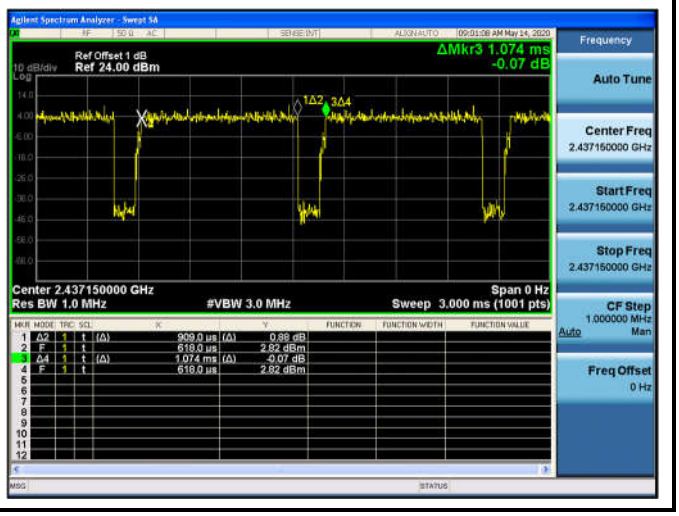
802.11g



802.11n(20MHz)



802.11n(40MHz)



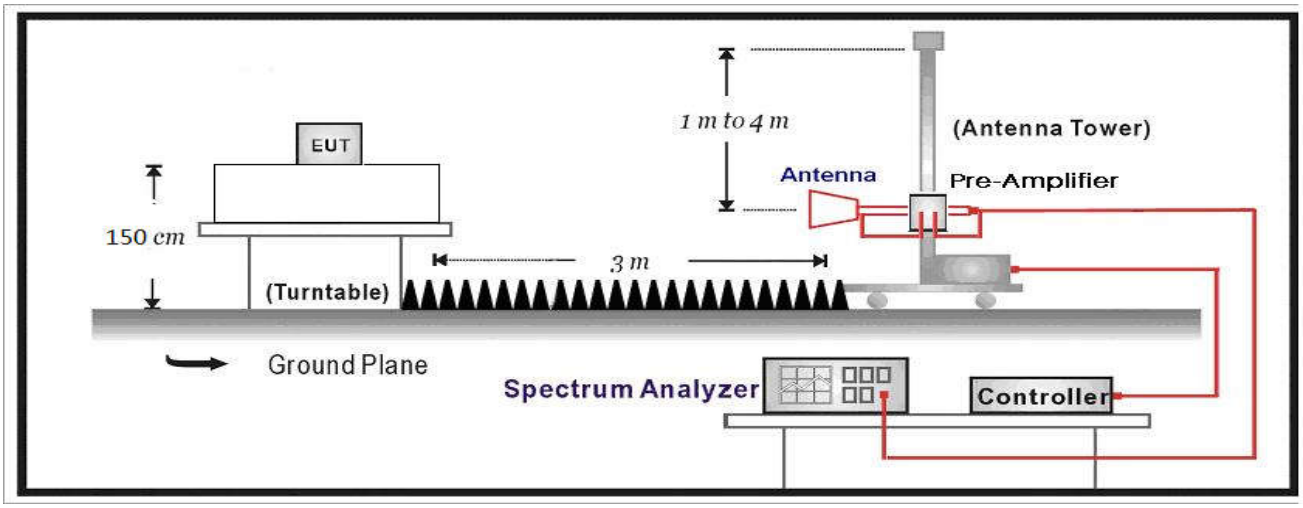
4.5 Radiated Emission Band Edge	VERDICT: PASS

4.5.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209			
Frequency bands (MHz)	Detector	Limit (dBμV/m)	RBW (MHz)	Distance (m)
2310-2390 2483.5-2500	PK	74	1	3
	AV	54	1	3
Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.				

4.5.2 Test Setup

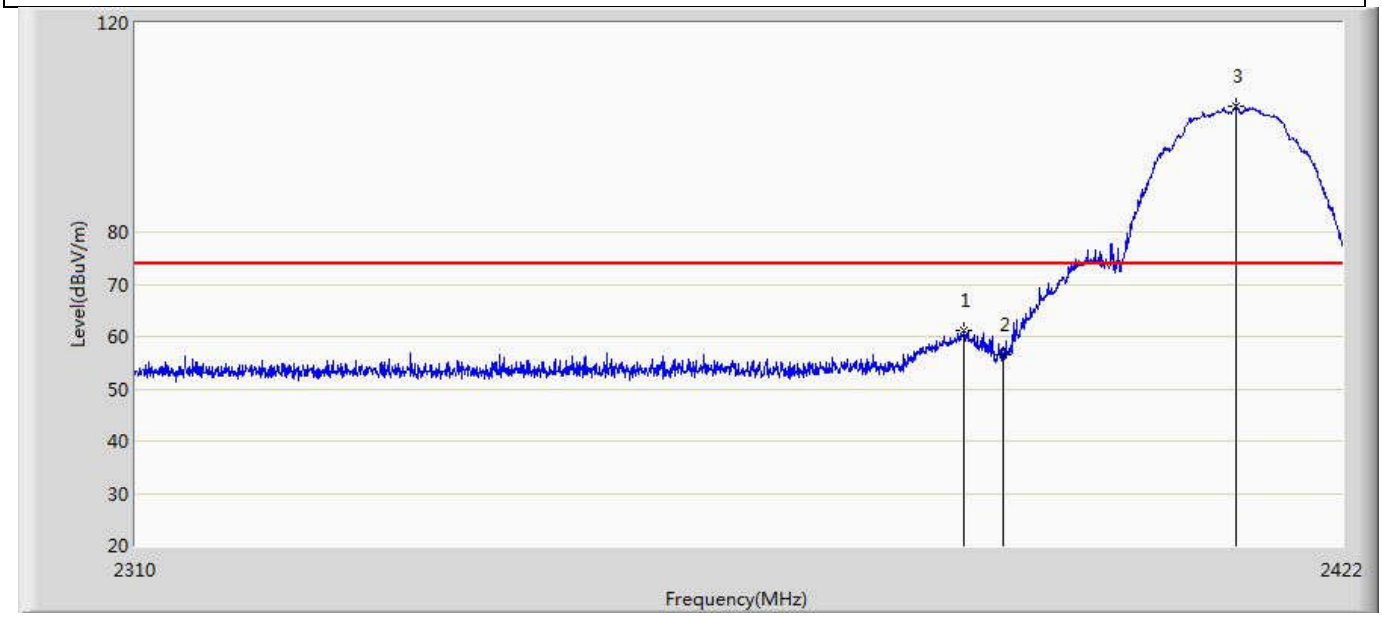
Above 1GHz Test Setup:



4.5.3 Test Procedure									
	References Rule							Chapter	Description
☒	ANSI C63.10							6.10	Band-edge testing
	☒	ANSI C63.10						6.10.5	Restricted-band band-edge measurements
	☐	ANSI C63.10						6.10.6	Marker-delta method
☒	ANSI C63.10							11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10						11.12.1	Radiated emission measurements
	☒	ANSI C63.10						11.12.2.7	Radiated spurious emission test
☐	ANSI C63.10							6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10							6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☒	ANSI C63.10							6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	☐	ANSI C63.10						11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10					11.12.2.3	Quasi-peak measurement procedure
		☐	ANSI C63.10					11.12.2.4	Peak power measurement procedure
		☐	ANSI C63.10					11.12.2.5	Average power measurement procedures
			☐	ANSI C63.10				11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
			☐	ANSI C63.10				11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
			☐	ANSI C63.10				11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

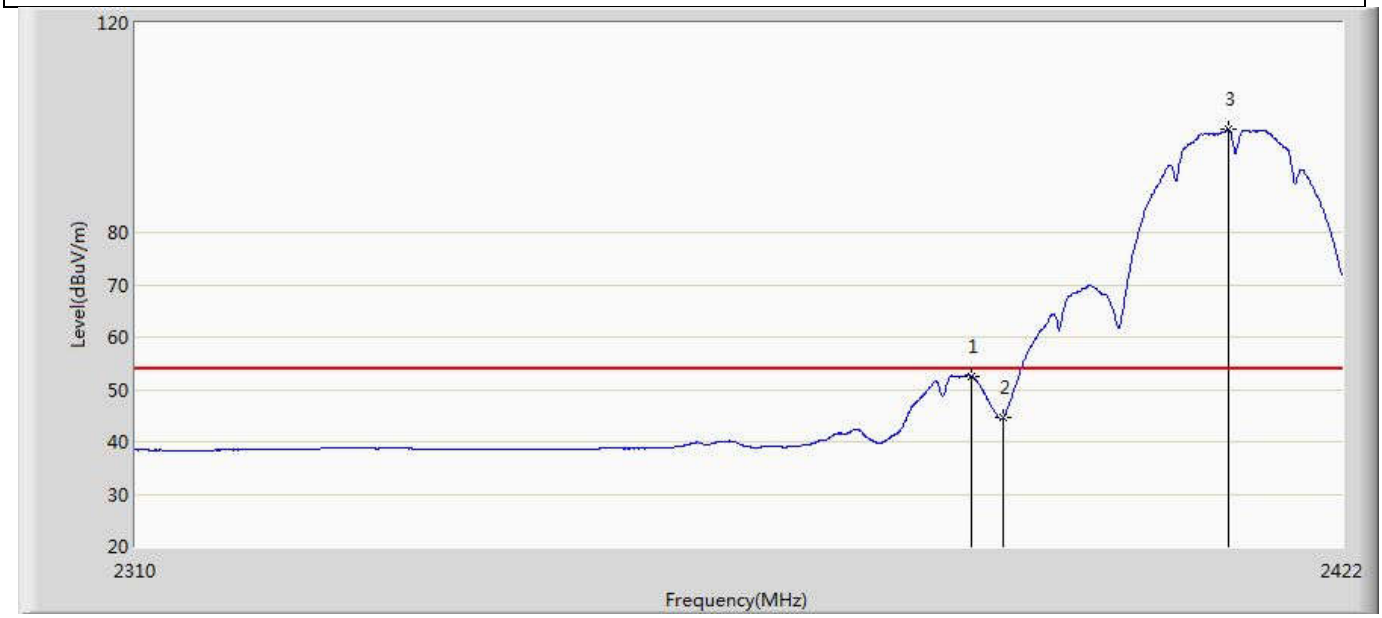
4.5.4 Test Data

Profile: 2040634R	Page No.: 10
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11B	



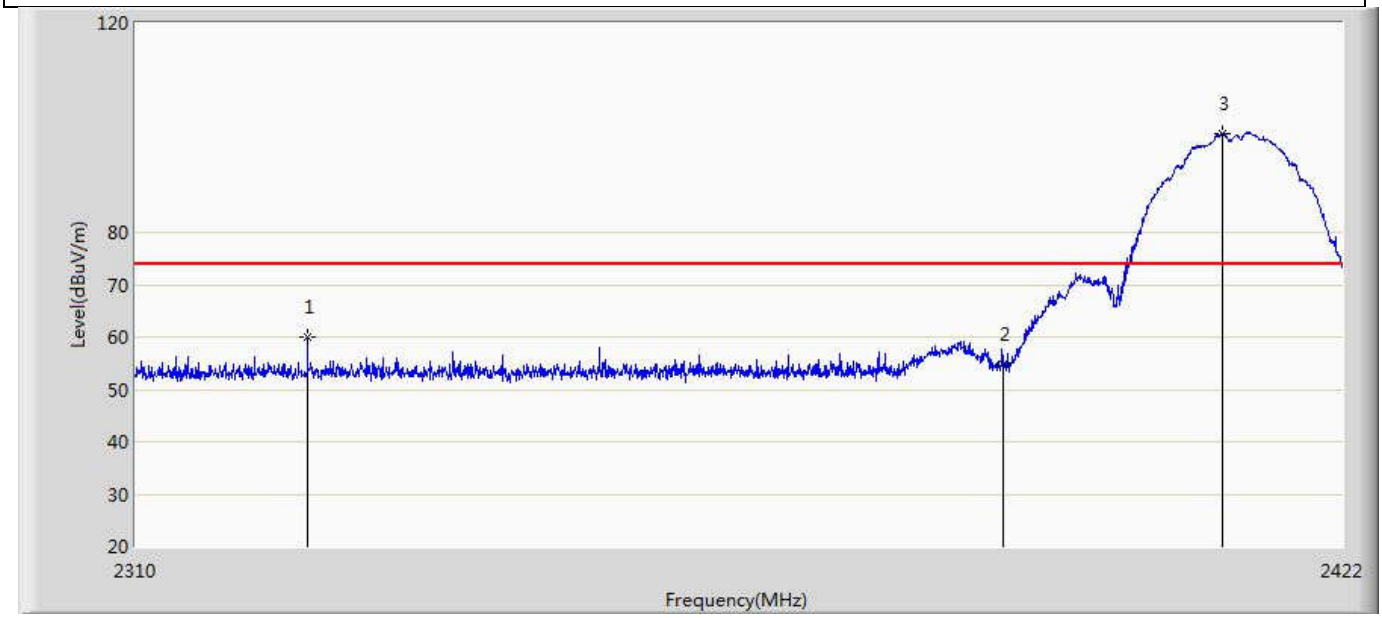
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2386.328	61.129	25.816	-12.871	74.000	35.313	PK
2		2390.000	56.654	21.339	-17.346	74.000	35.315	PK
3	*	2411.920	104.104	68.796	N/A	N/A	35.308	PK

Profile: 2040634R	Page No.: 9
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 19:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11B	



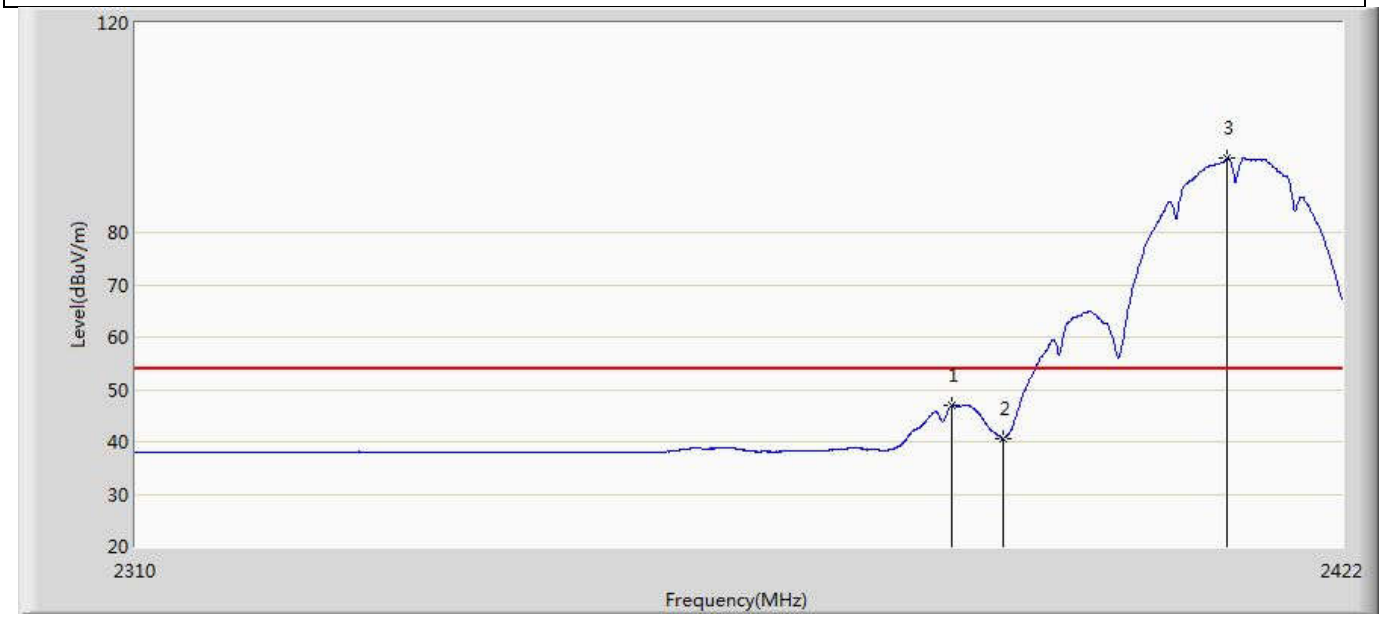
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2387.000	52.459	17.145	-1.541	54.000	35.314	AV
2		2390.000	44.527	9.212	-9.473	54.000	35.315	AV
3	*	2411.192	99.604	64.296	N/A	N/A	35.308	AV

Profile: 2040634R	Page No.: 12
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11B	



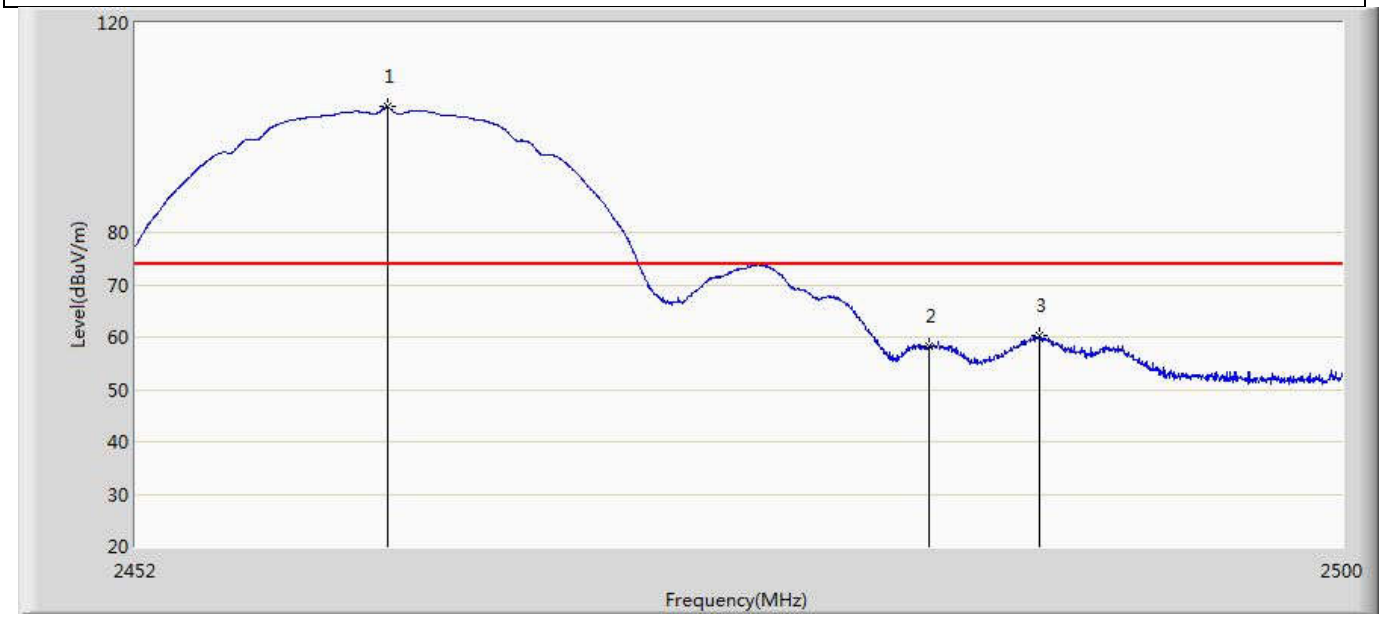
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2325.680	59.982	24.664	-14.018	74.000	35.317	PK
2		2390.000	54.736	19.421	-19.264	74.000	35.315	PK
3	*	2410.632	98.737	63.429	N/A	N/A	35.308	PK

Profile: 2040634R	Page No.: 11
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11B	



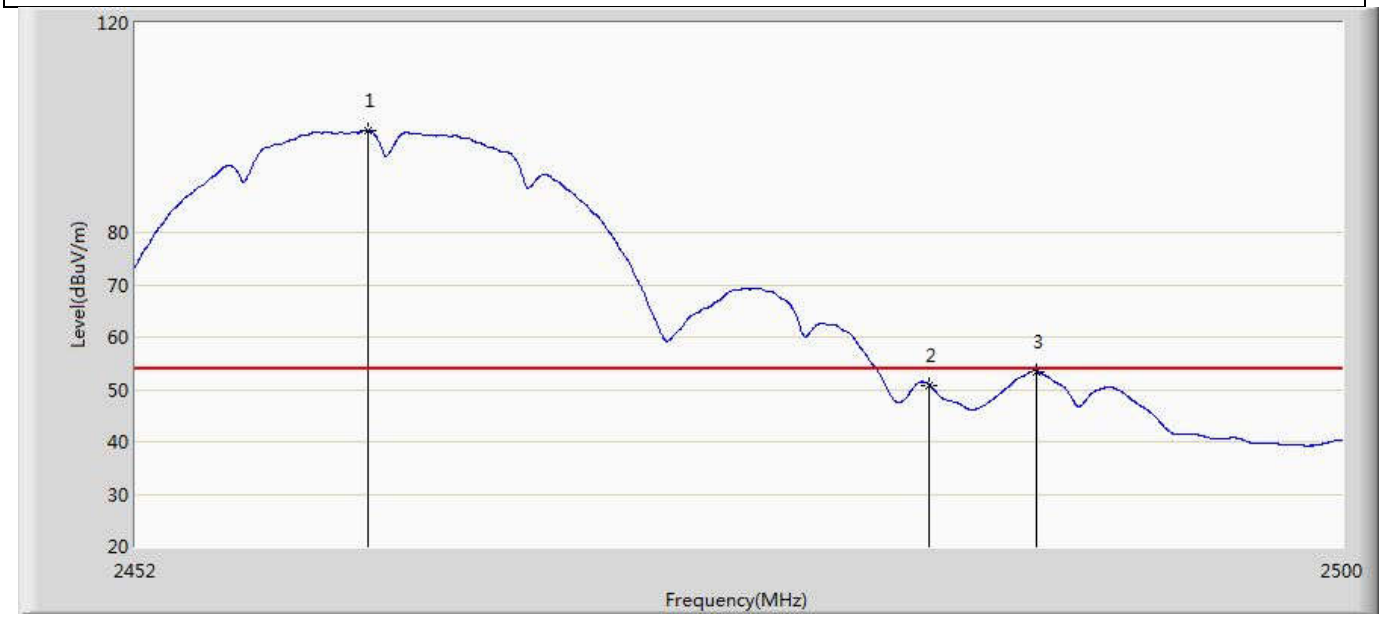
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2385.264	46.868	11.555	-7.132	54.000	35.313	AV
2		2390.000	40.639	5.324	-13.361	54.000	35.315	AV
3	*	2411.136	94.071	58.763	N/A	N/A	35.308	AV

Profile: 2040634R	Page No.: 14
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11B	



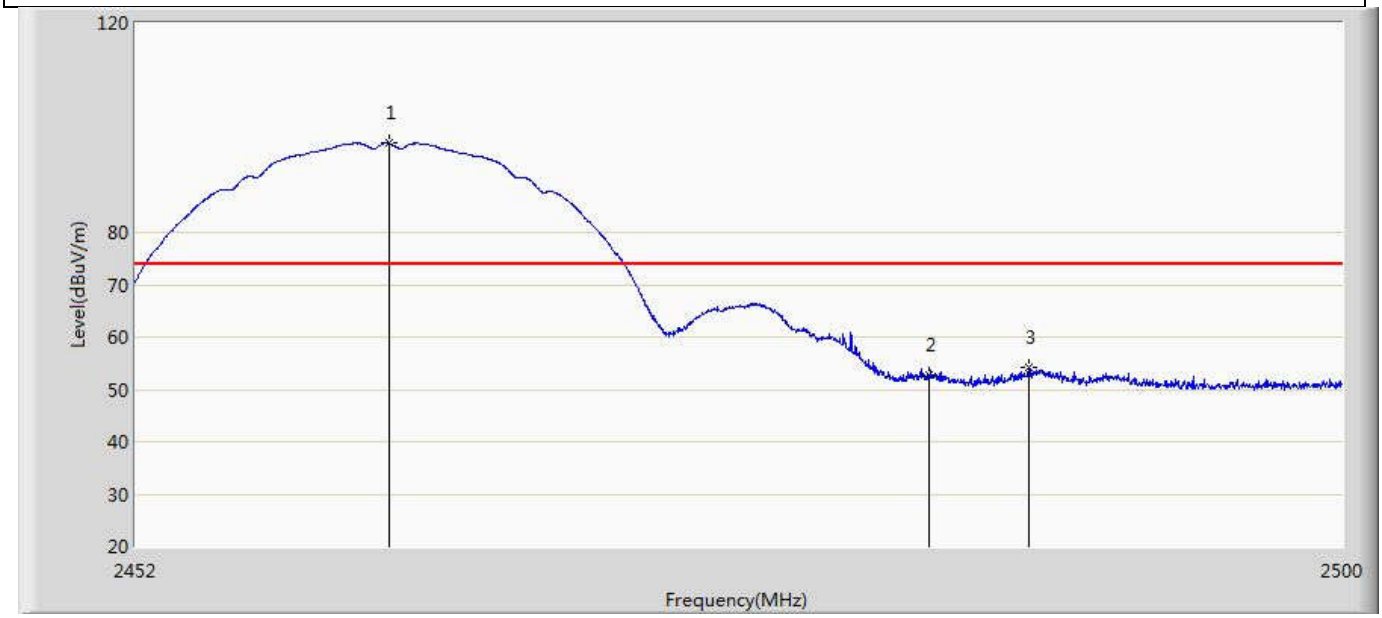
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.960	104.000	68.691	N/A	N/A	35.309	PK
2		2483.500	58.123	22.825	-15.877	74.000	35.297	PK
3		2487.904	60.195	24.899	-13.805	74.000	35.296	PK

Profile: 2040634R	Page No.: 13
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11B	



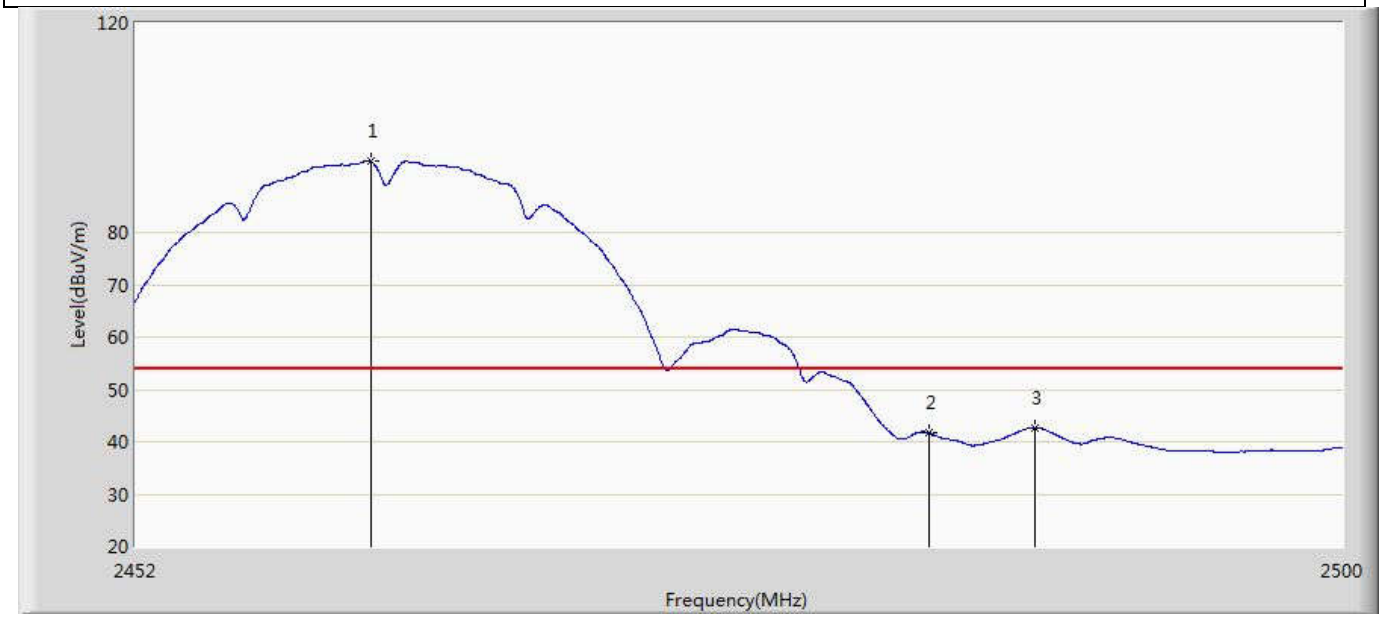
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.216	99.422	64.113	N/A	N/A	35.309	AV
2		2483.500	50.761	15.463	-3.239	54.000	35.297	AV
3		2487.784	53.439	18.143	-0.561	54.000	35.296	AV

Profile: 2040634R	Page No.: 16
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11B	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.032	96.993	61.684	N/A	N/A	35.309	PK
2		2483.500	52.821	17.523	-21.179	74.000	35.297	PK
3		2487.472	54.104	18.808	-19.896	74.000	35.296	PK

Profile: 2040634R	Page No.: 15
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11B	

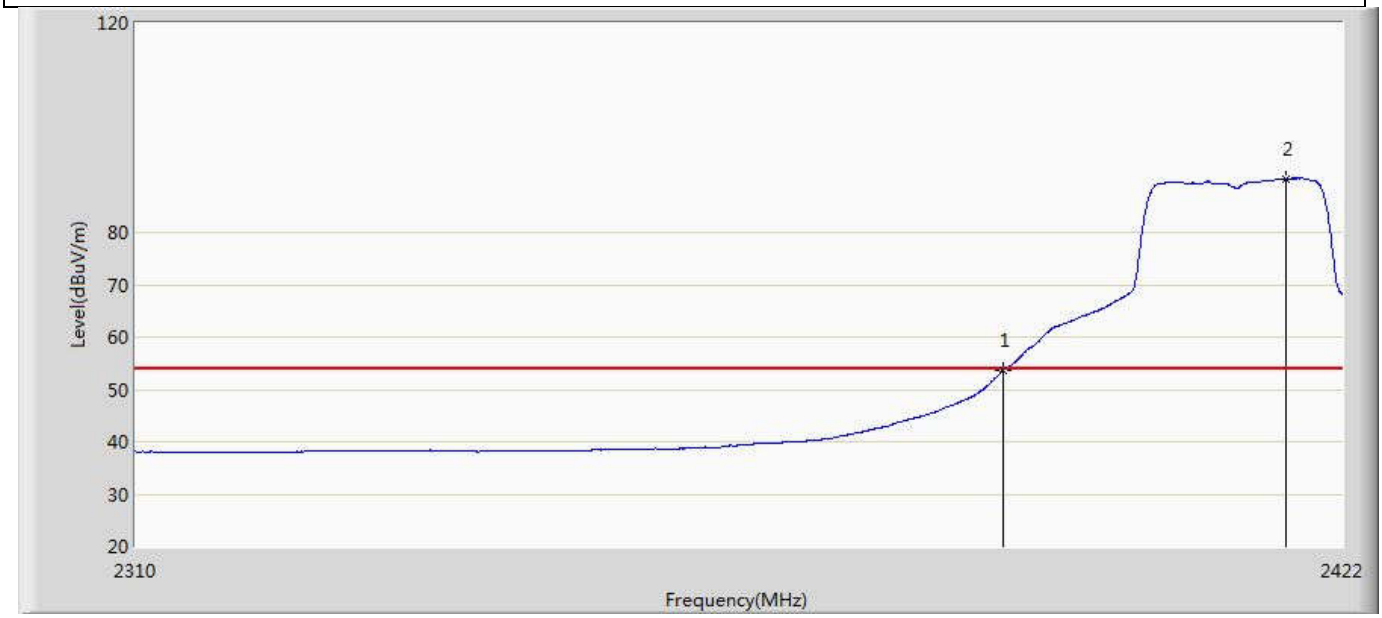


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.288	93.543	N/A	N/A	54.000	35.309	AV
2		2483.500	41.621	6.323	-12.379	54.000	35.297	AV
3		2487.712	42.697	7.401	-11.303	54.000	35.296	AV

Profile: 2040634R	Page No.: 18
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11G	

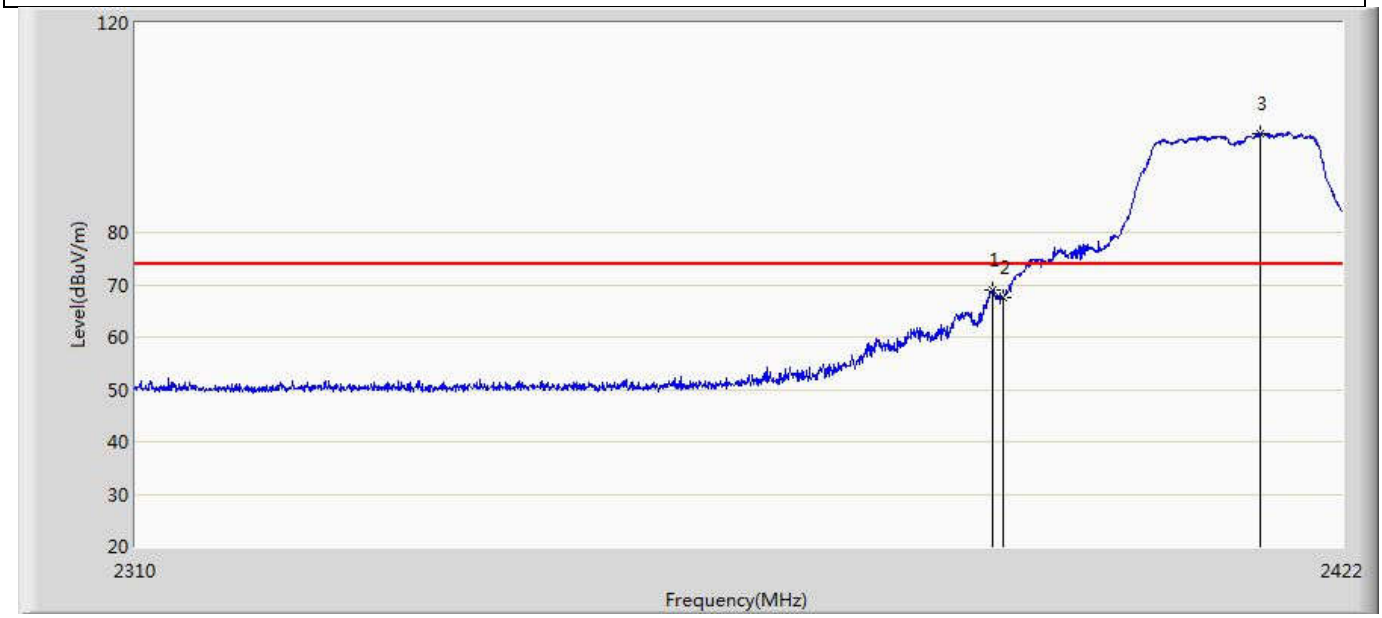
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.904	71.118	35.804	-2.882	74.000	35.314	PK
2		2390.000	70.788	35.473	-3.212	74.000	35.315	PK
3	*	2418.304	105.597	70.291	N/A	N/A	35.306	PK

Profile: 2040634R	Page No.: 17
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11G	



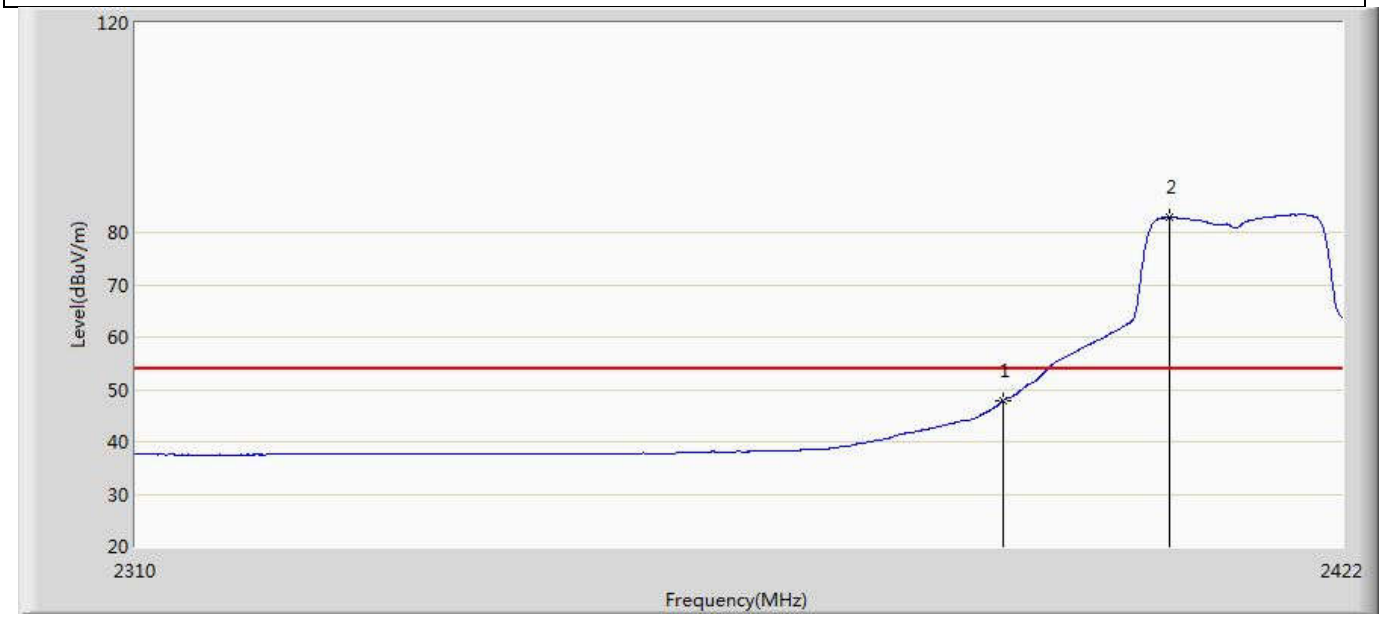
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.662	18.347	-0.338	54.000	35.315	AV
2	*	2416.736	90.130	54.823	N/A	N/A	35.307	AV

Profile: 2040634R	Page No.: 20
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11G	



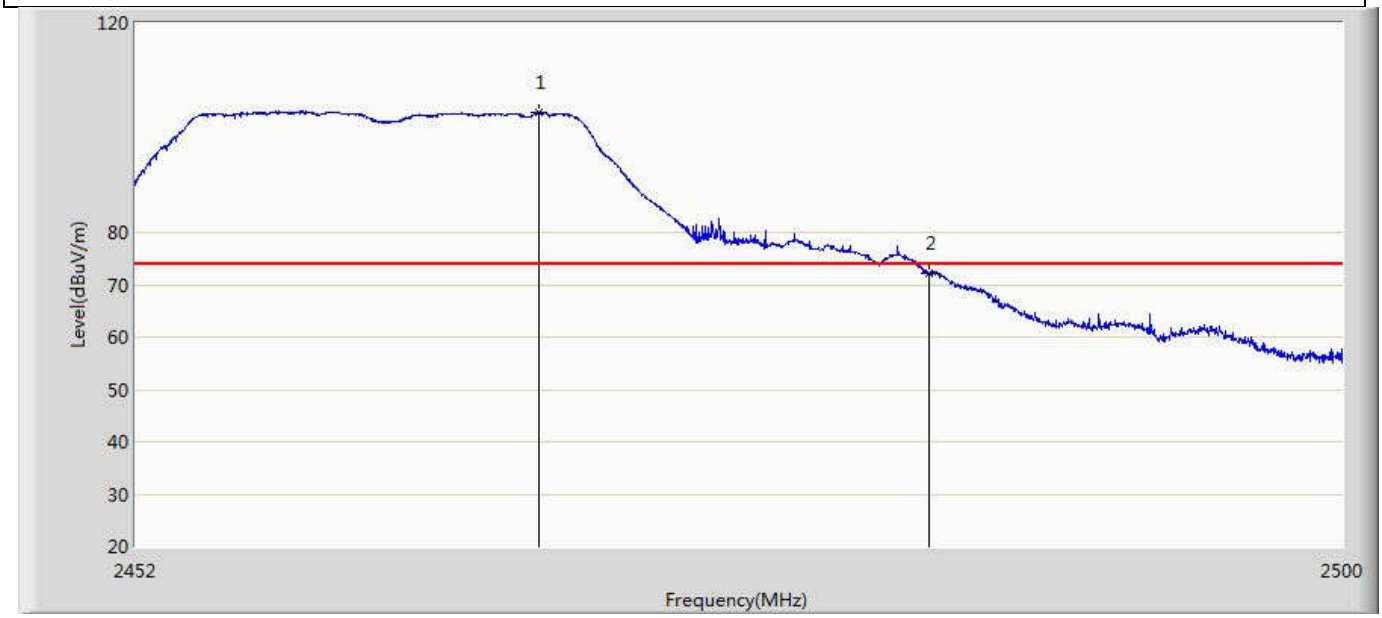
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.072	69.086	33.772	-4.914	74.000	35.314	PK
2		2390.000	67.572	32.257	-6.428	74.000	35.315	PK
3	*	2414.216	98.836	63.529	N/A	N/A	35.308	PK

Profile: 2040634R	Page No.: 19
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11G	



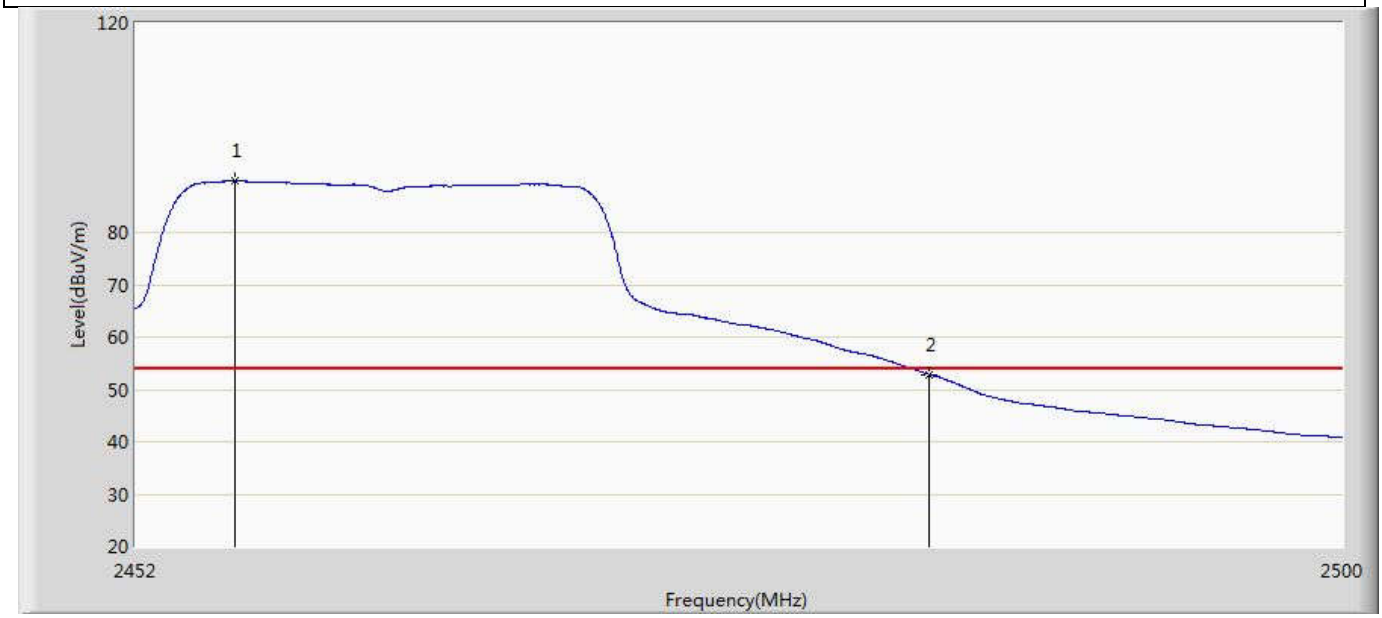
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.837	12.522	-6.163	54.000	35.315	AV
2	*	2405.704	82.921	47.610	N/A	N/A	35.311	AV

Profile: 2040634R	Page No.: 22
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11G	



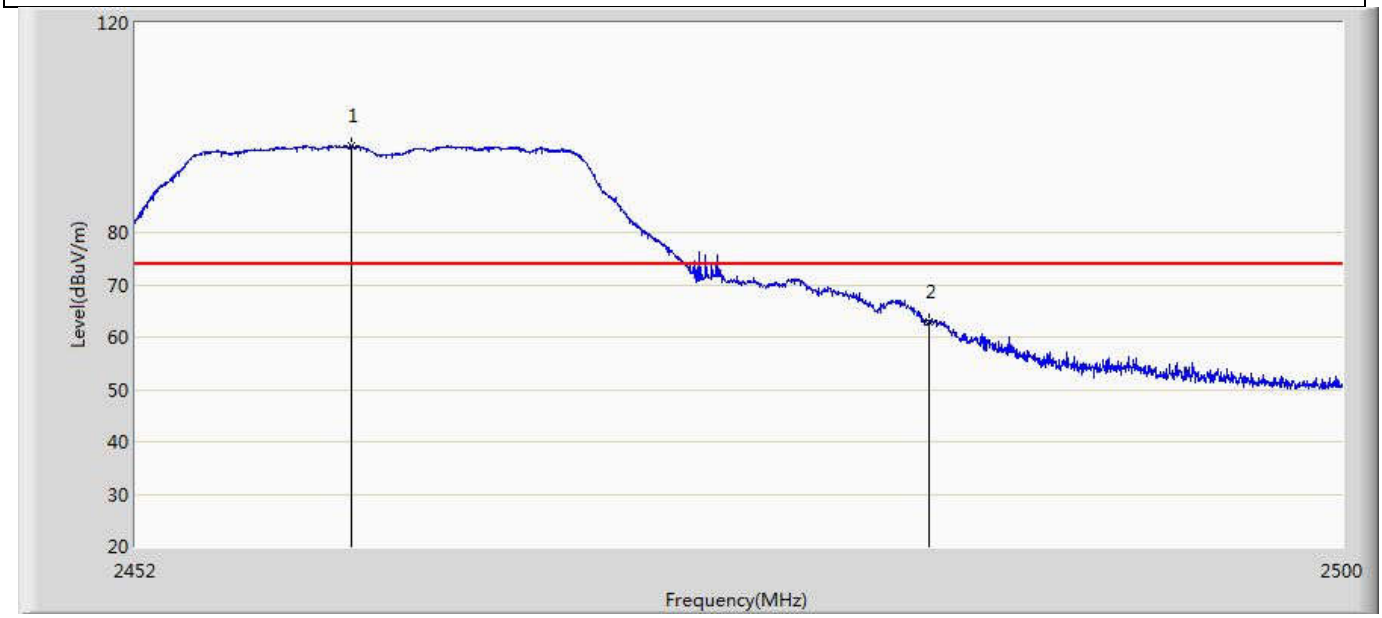
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2467.936	102.801	67.496	N/A	N/A	35.306	PK
2		2483.500	72.057	36.759	-1.943	74.000	35.297	PK

Profile: 2040634R	Page No.: 21
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11G	



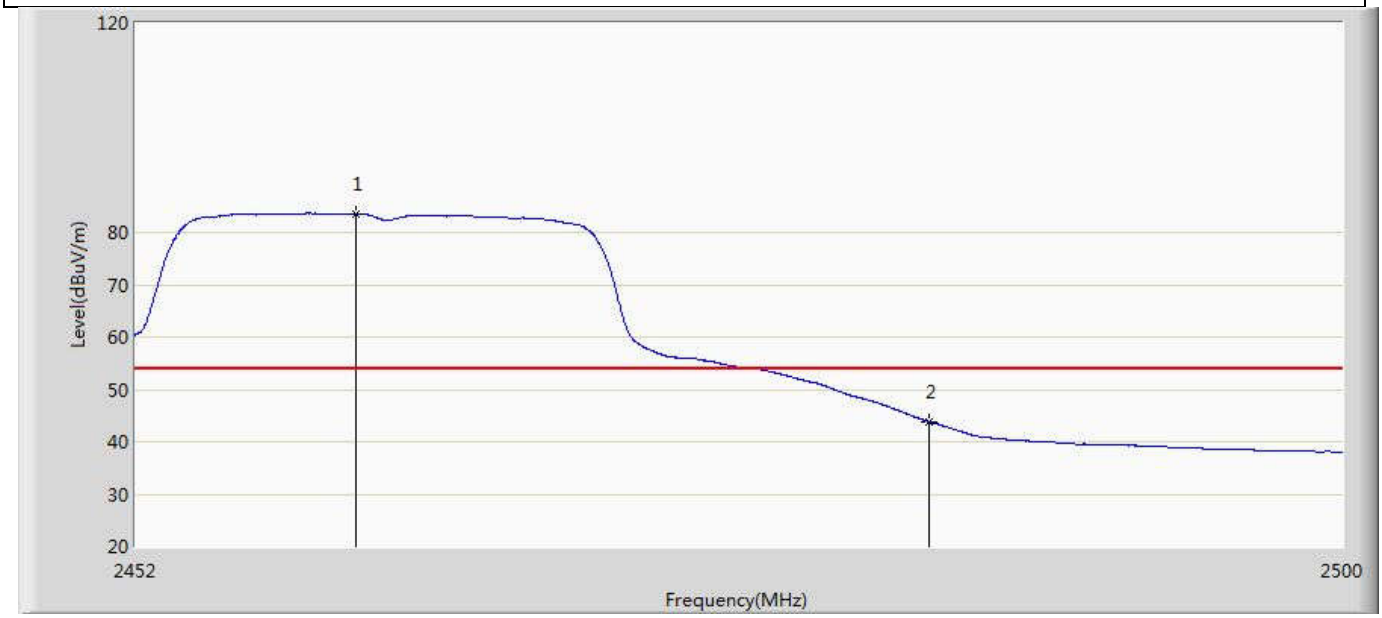
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.912	89.814	54.503	N/A	N/A	35.311	AV
2		2483.500	52.841	17.543	-1.159	54.000	35.297	AV

Profile: 2040634R	Page No.: 24
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11G	



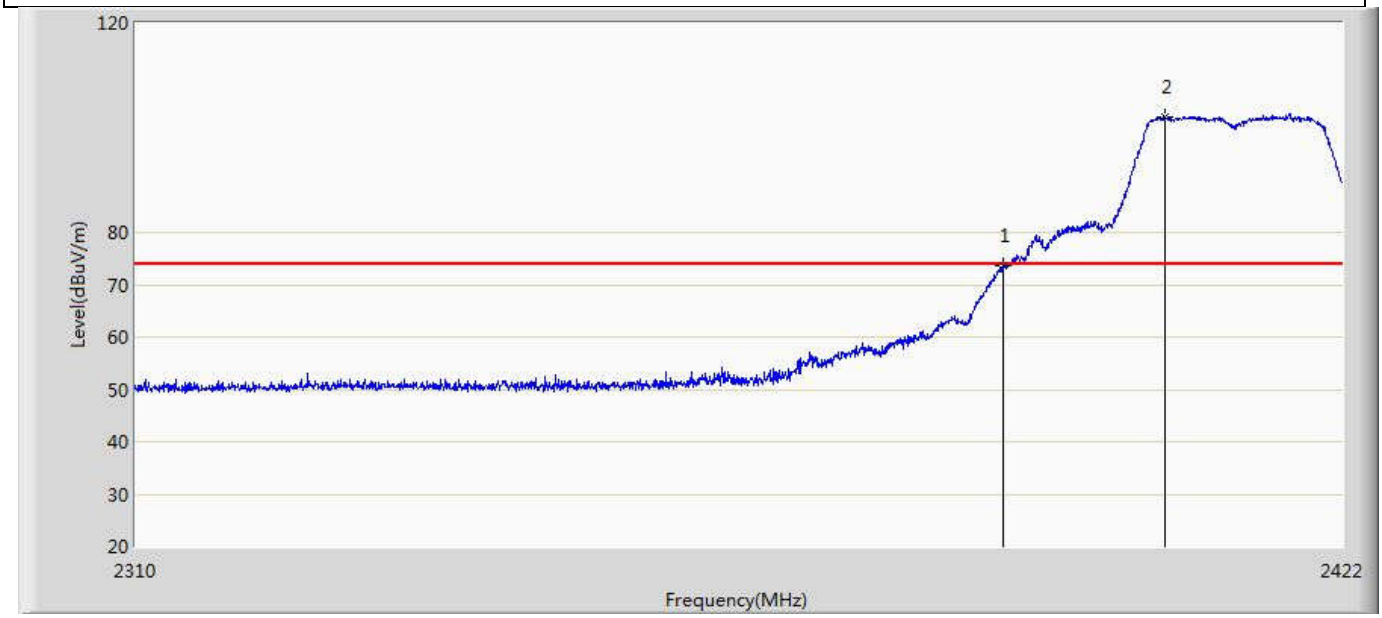
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.544	96.386	61.077	N/A	N/A	35.310	PK
2		2483.500	62.798	27.500	-11.202	74.000	35.297	PK

Profile: 2040634R	Page No.: 23
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11G	



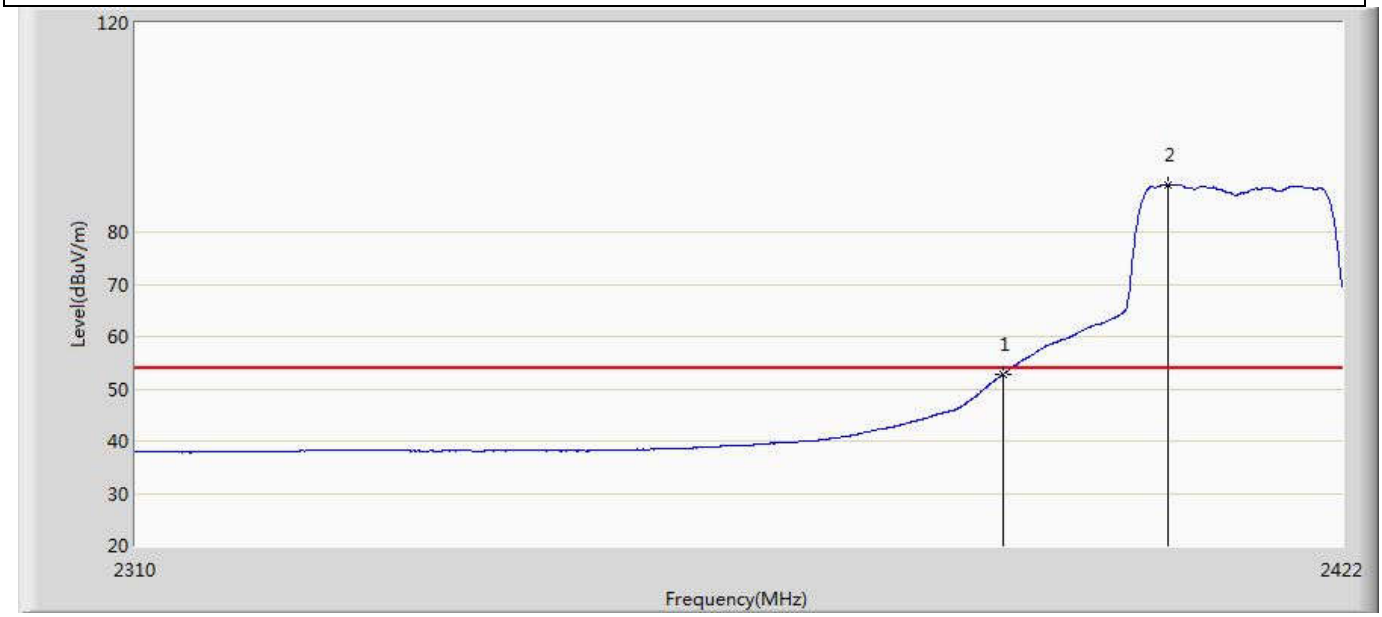
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.712	83.523	48.214	N/A	N/A	35.310	AV
2		2483.500	43.832	8.534	-10.168	54.000	35.297	AV

Profile: 2040634R	Page No.: 26
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11N(20MHz)	



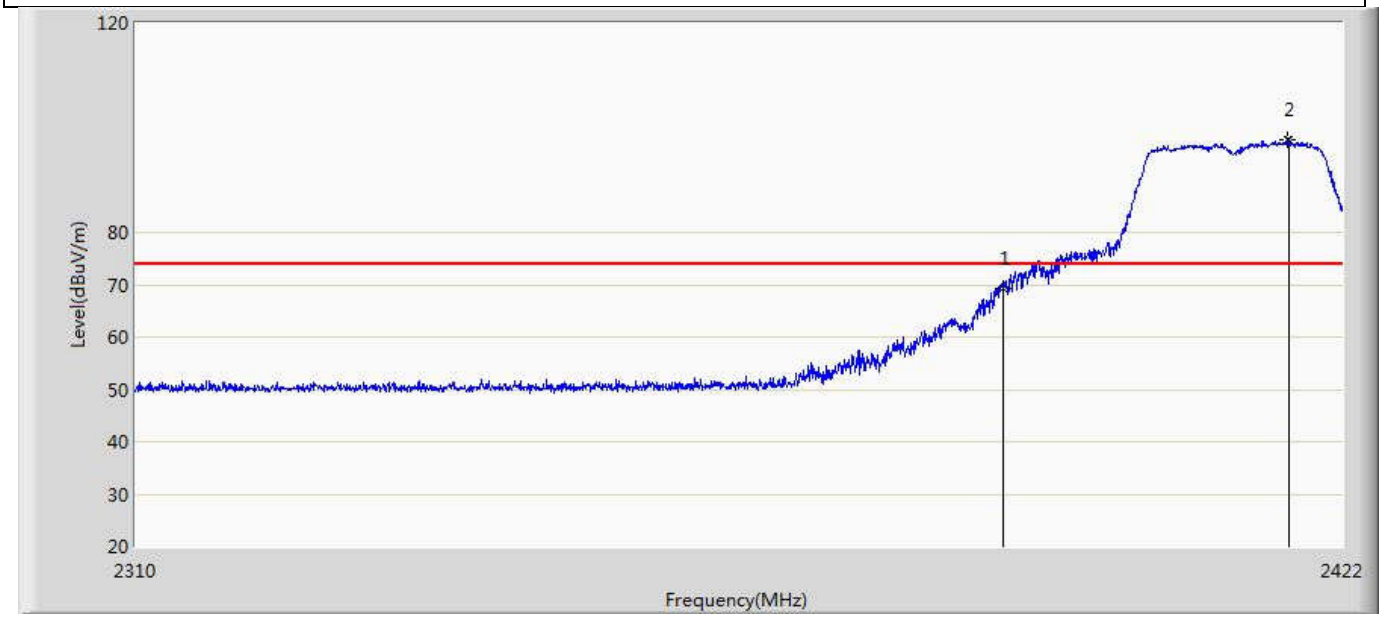
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	73.557	38.242	-0.443	74.000	35.315	PK
2	*	2405.312	102.168	66.857	N/A	N/A	35.311	PK

Profile: 2040637R	Page No.: 18
Profile: 2040634R	Page No.: 25
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11N(20MHz)	



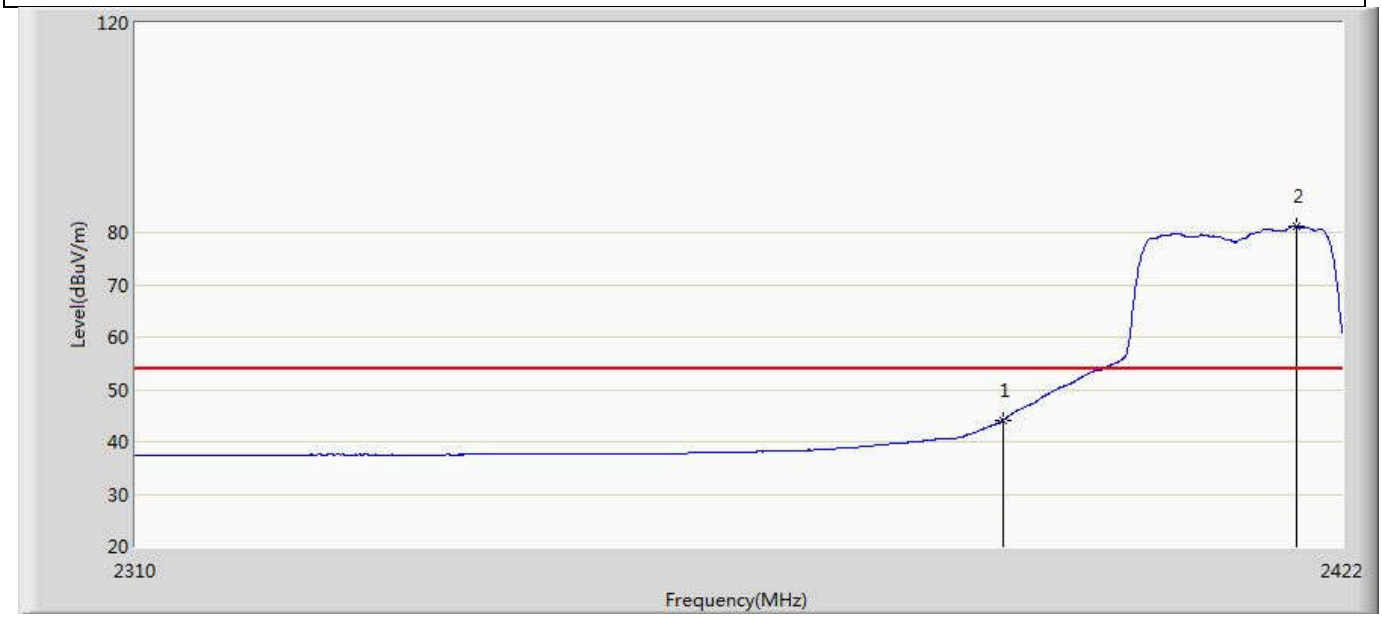
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.750	17.435	-1.250	54.000	35.315	AV
2	*	2405.480	88.873	53.562	N/A	N/A	35.311	AV

Profile: 2040634R	Page No.: 28
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11N(20MHz)	



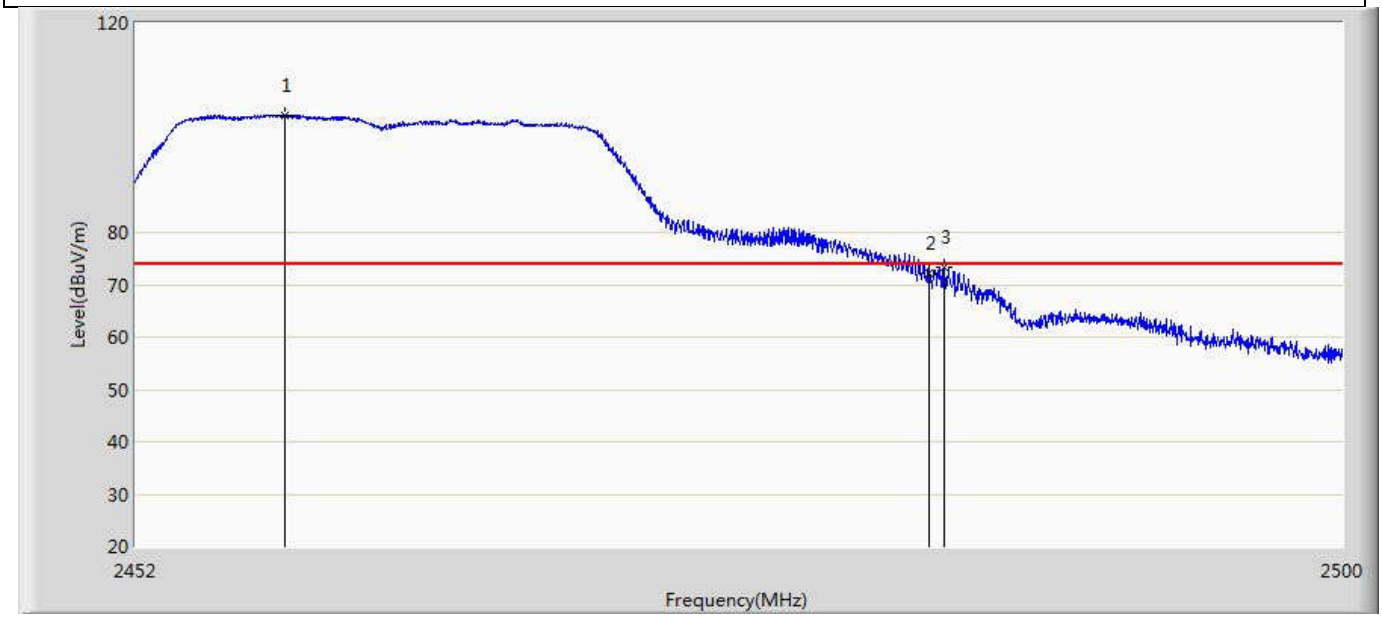
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	69.314	33.999	-4.686	74.000	35.315	PK
2	*	2416.904	97.681	62.374	N/A	N/A	35.307	PK

Profile: 2040634R	Page No.: 27
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11N(20MHz)	



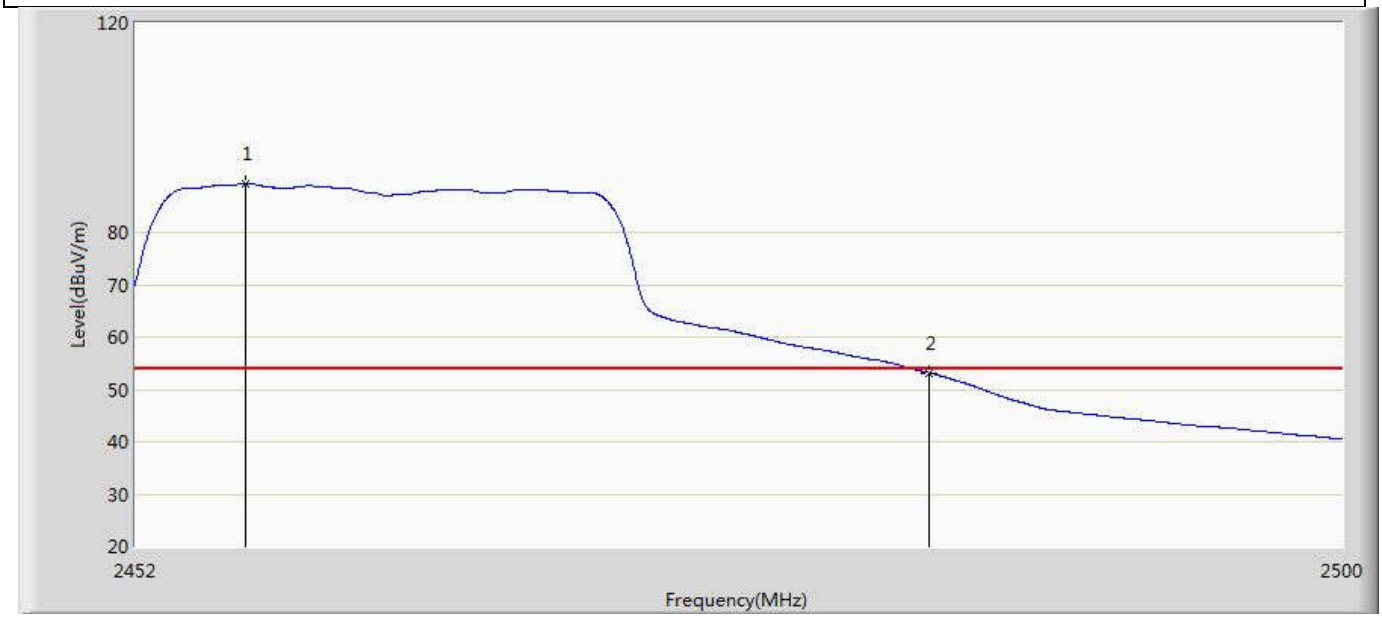
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	44.198	8.883	-9.802	54.000	35.315	AV
2	*	2417.632	81.076	45.770	N/A	N/A	35.306	AV

Profile: 2040634R	Page No.: 30
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11N(20MHz)	



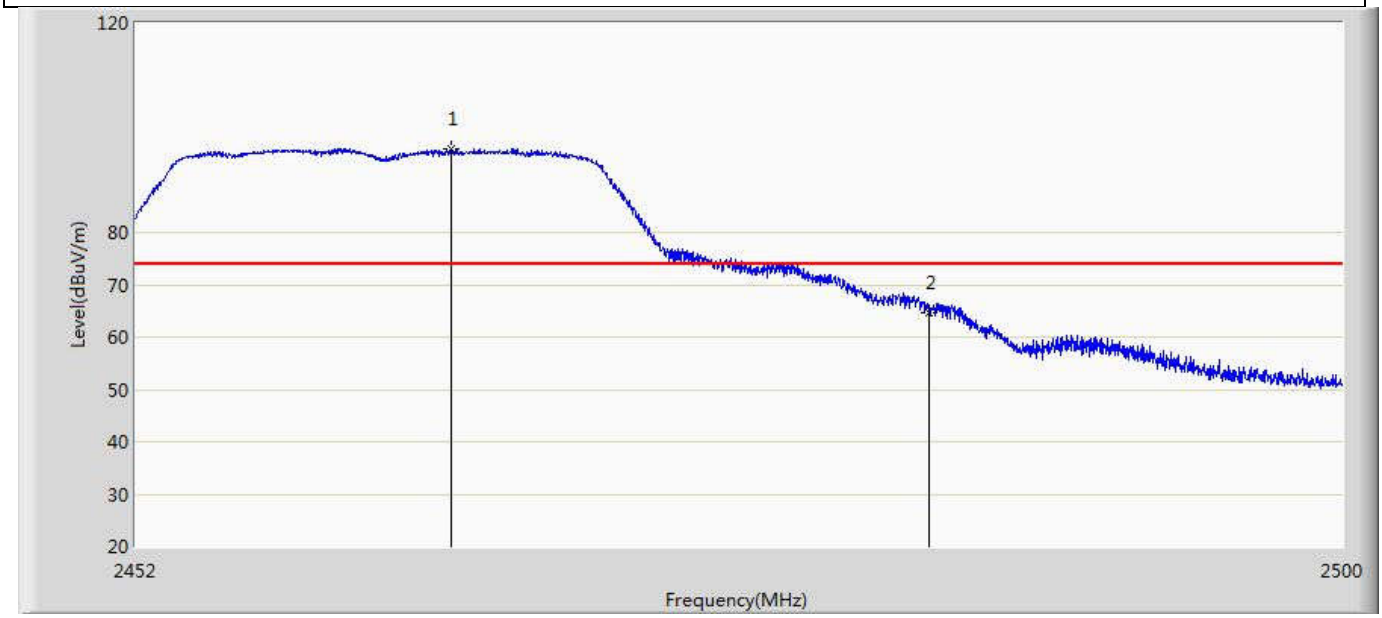
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.928	102.187	66.877	N/A	N/A	35.310	PK
2		2483.500	72.041	36.743	-1.959	74.000	35.297	PK
3		2484.064	73.408	38.111	-0.592	74.000	35.297	PK

Profile: 2040634R	Page No.: 29
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11N(20MHz)	



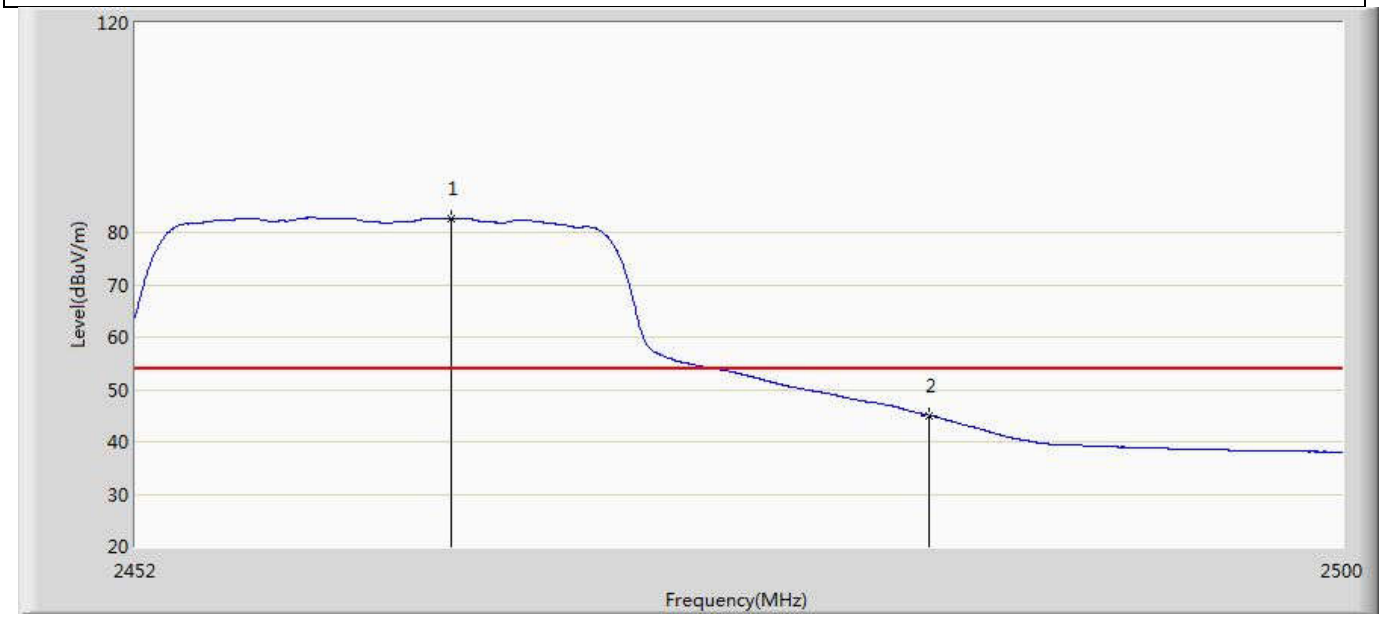
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2456.368	89.201	53.890	N/A	N/A	35.310	AV
2		2483.500	53.137	17.839	-0.863	54.000	35.297	AV

Profile: 2040634R	Page No.: 32
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11N(20MHz)	



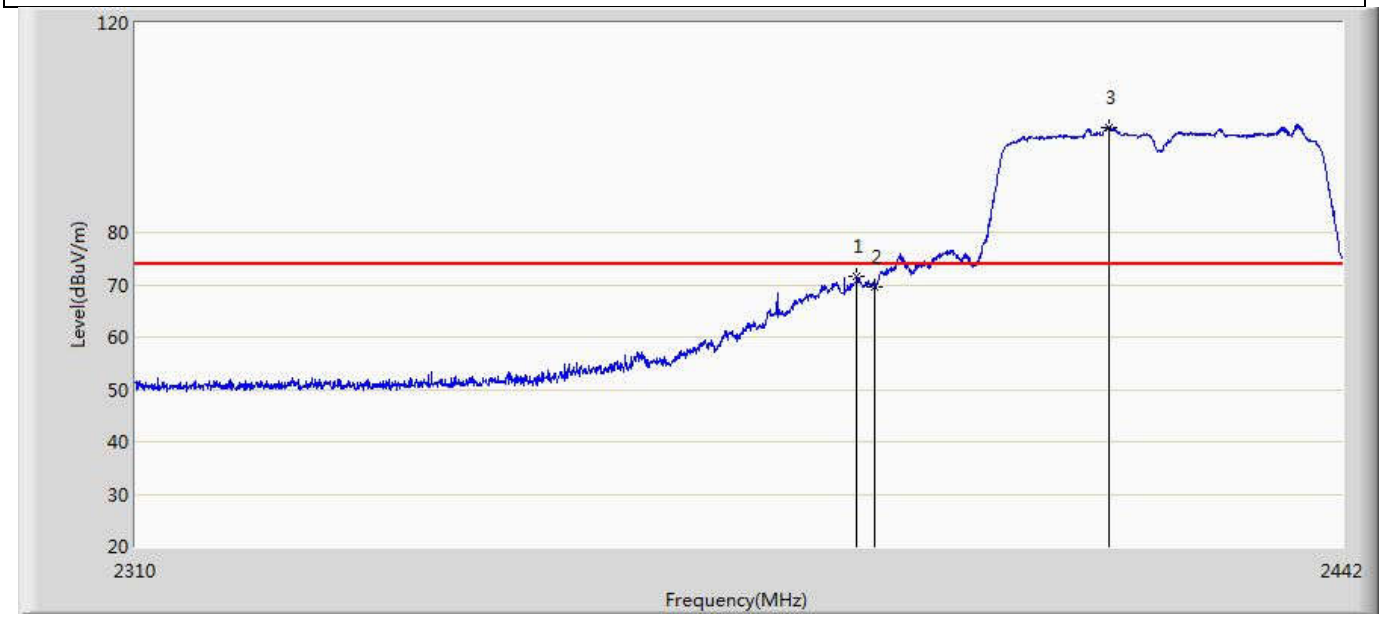
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.504	95.992	60.685	N/A	N/A	35.307	PK
2		2483.500	64.684	29.386	-9.316	74.000	35.297	PK

Profile: 2040634R	Page No.: 31
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 20:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11N(20MHz)	



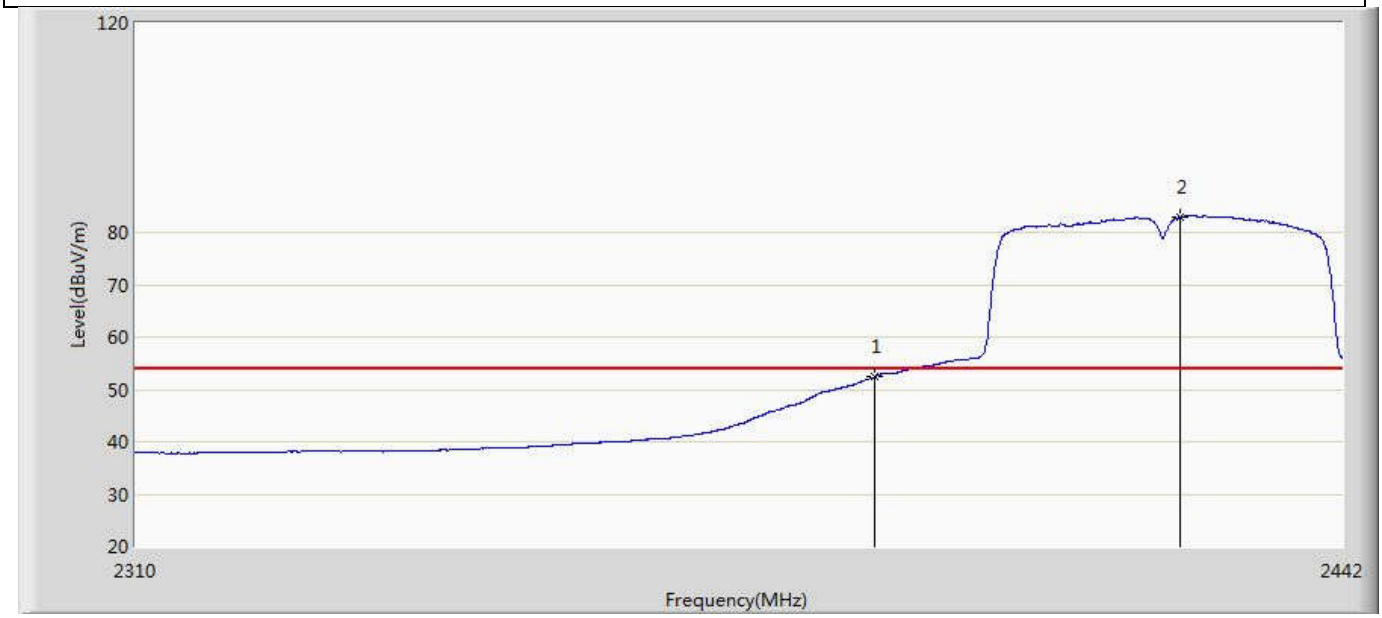
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.504	82.623	47.316	N/A	N/A	35.307	AV
2		2483.500	45.016	9.718	-8.984	54.000	35.297	AV

Profile: 2040634R	Page No.: 34
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 21:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11N(40MHz)	



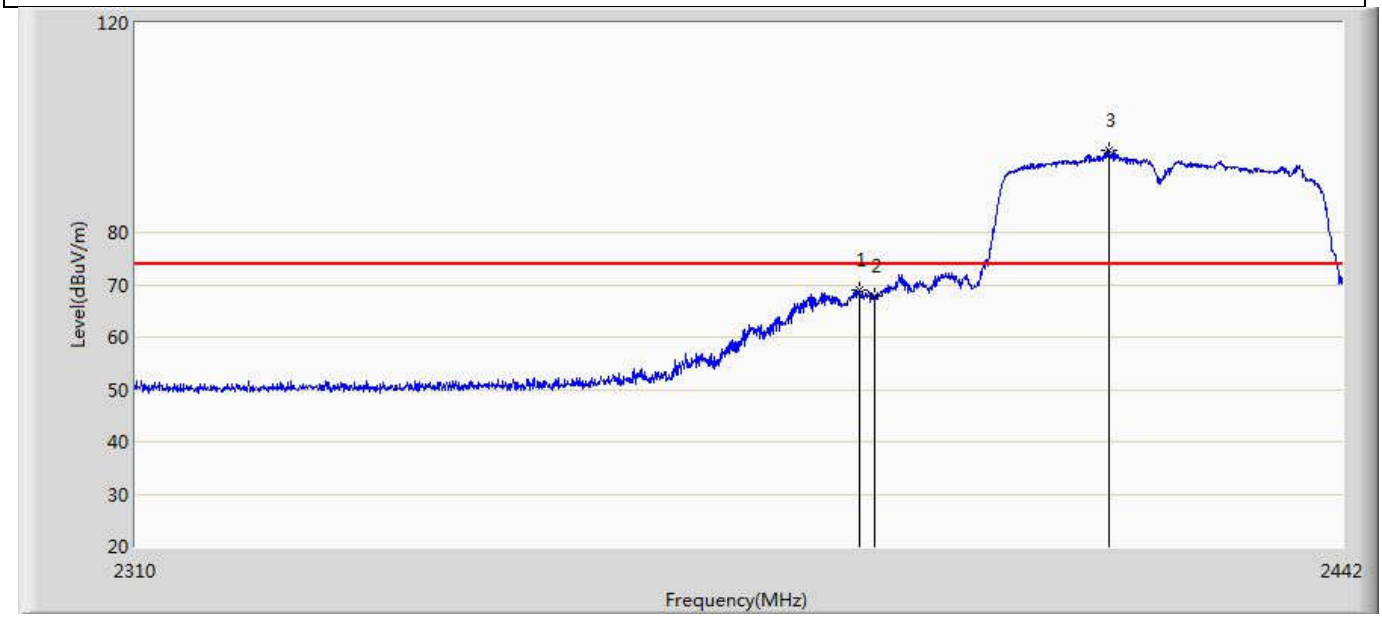
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.078	71.552	36.238	-2.448	74.000	35.314	PK
2		2390.000	69.573	34.258	-4.427	74.000	35.315	PK
3	*	2415.996	100.035	64.728	N/A	N/A	35.307	PK

Profile: 2040634R	Page No.: 33
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 21:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11N(40MHz)	



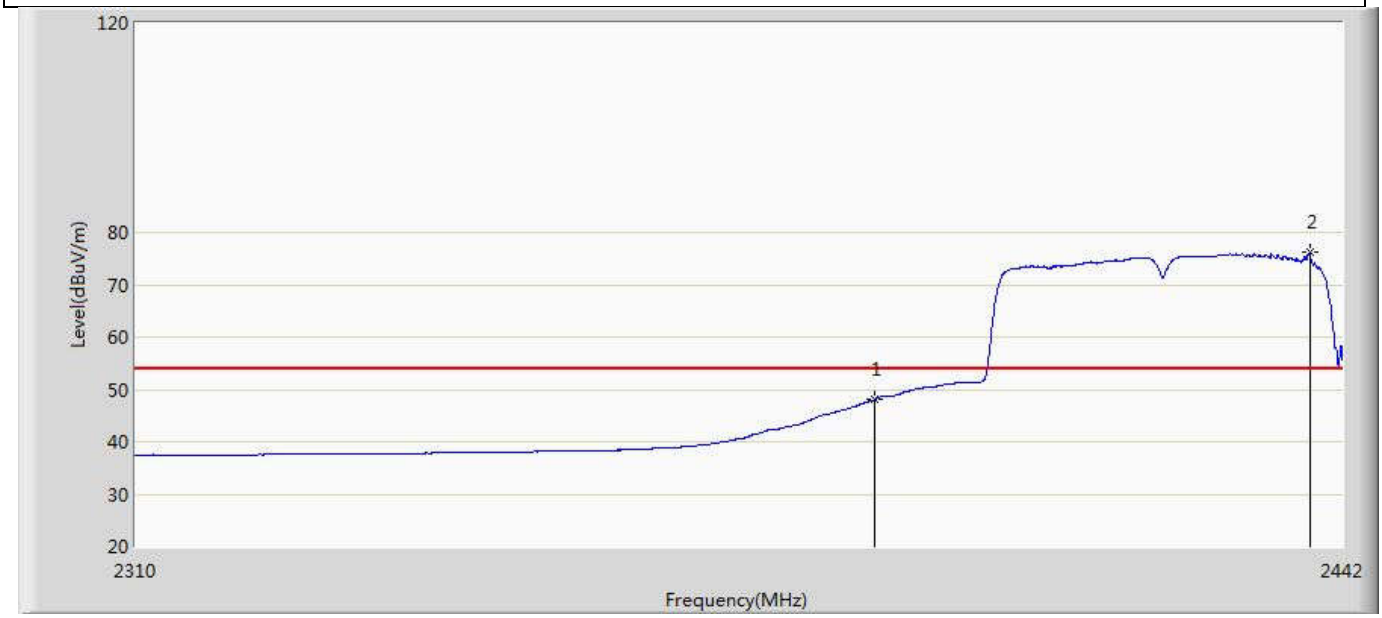
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.343	17.028	-1.657	54.000	35.315	AV
2	*	2423.916	82.904	47.599	N/A	N/A	35.305	AV

Profile: 2040634R	Page No.: 36
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 21:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11N(40MHz)	



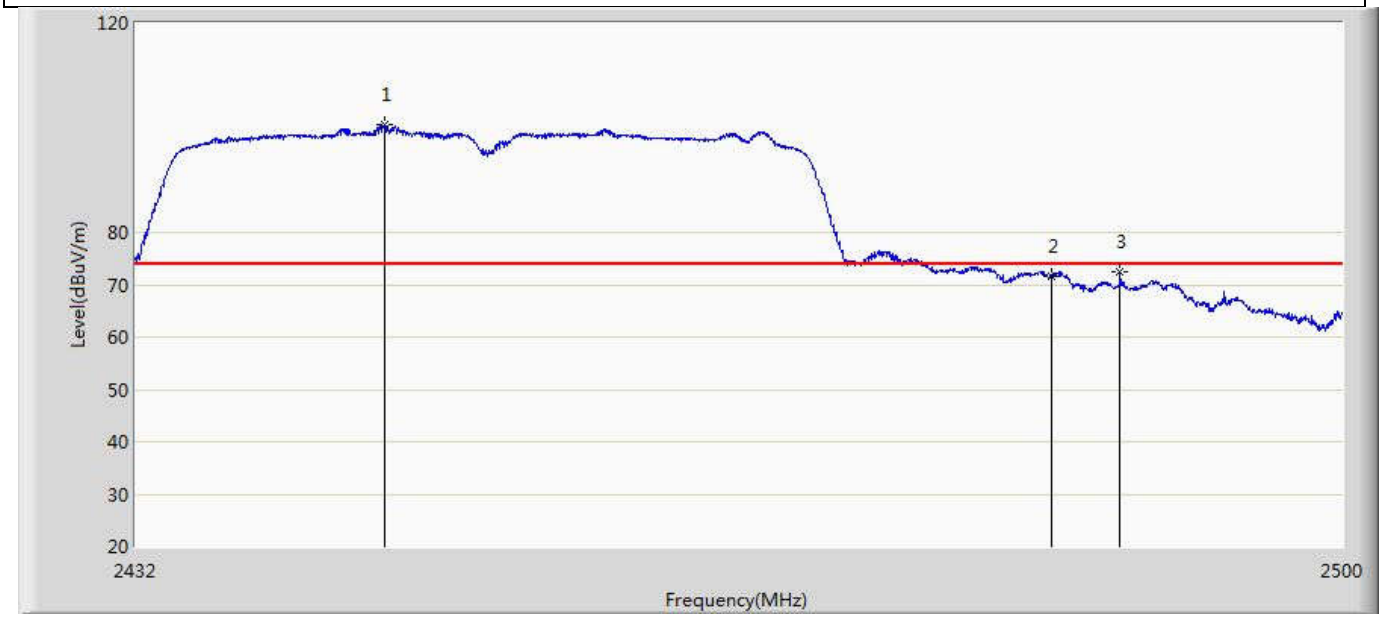
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.342	69.020	33.706	-4.980	74.000	35.314	PK
2		2390.000	67.734	32.419	-6.266	74.000	35.315	PK
3	*	2415.930	95.560	60.253	N/A	N/A	35.307	PK

Profile: 2040634R	Page No.: 35
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 21:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11N(40MHz)	



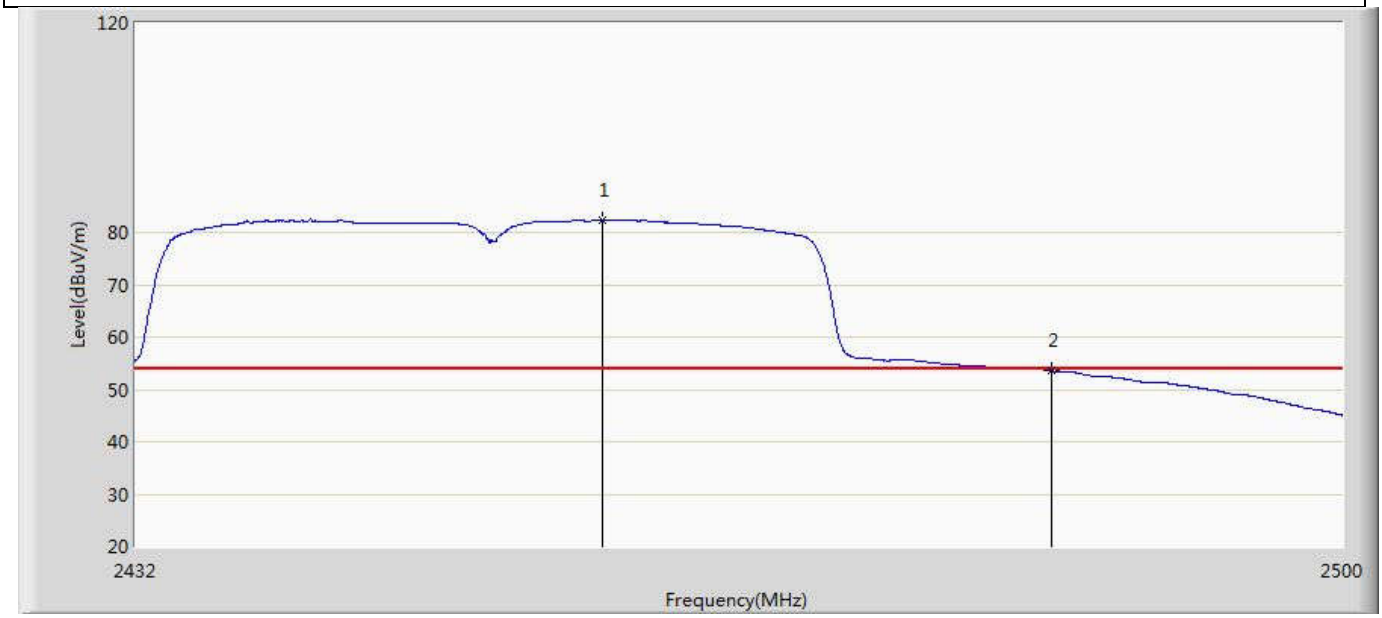
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.972	12.657	-6.028	54.000	35.315	AV
2	*	2438.370	76.131	40.821	N/A	N/A	35.311	AV

Profile: 2040634R	Page No.: 38
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 21:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11N(40MHz)	



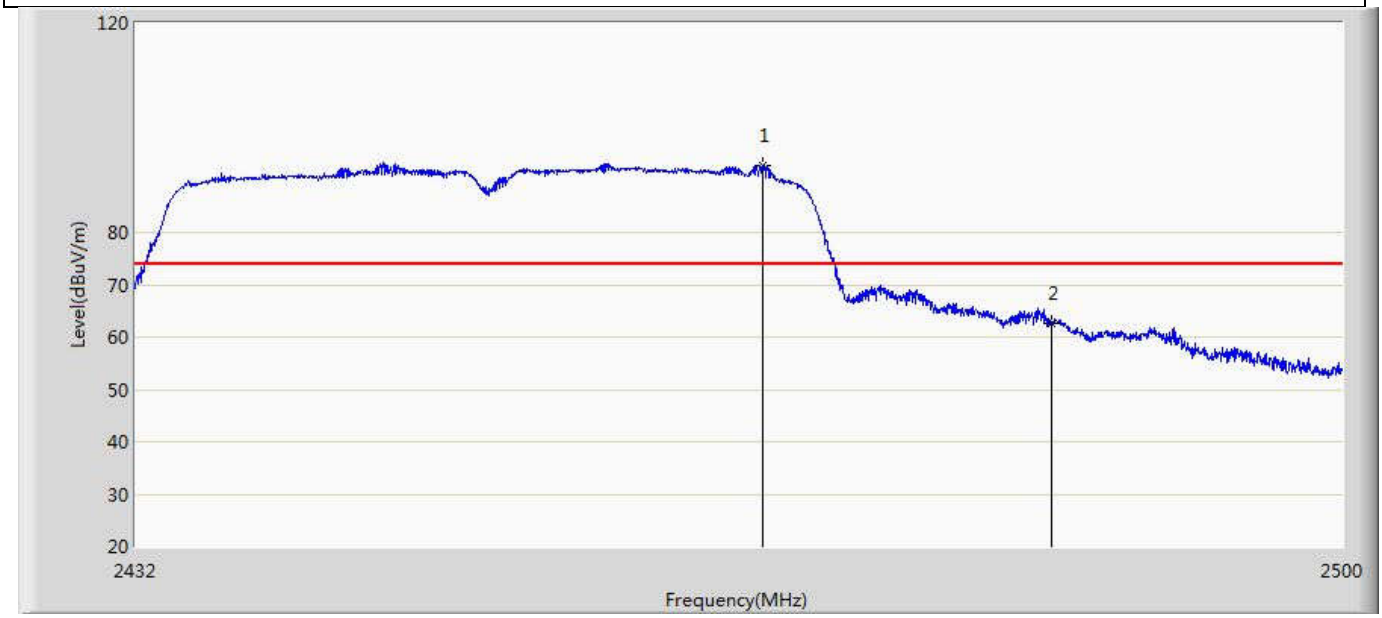
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2445.906	100.463	65.149	N/A	N/A	35.315	PK
2		2483.500	71.492	36.194	-2.508	74.000	35.297	PK
3		2487.352	72.475	37.179	-1.525	74.000	35.296	PK

Profile: 2040634R	Page No.: 37
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 21:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11N(40MHz)	



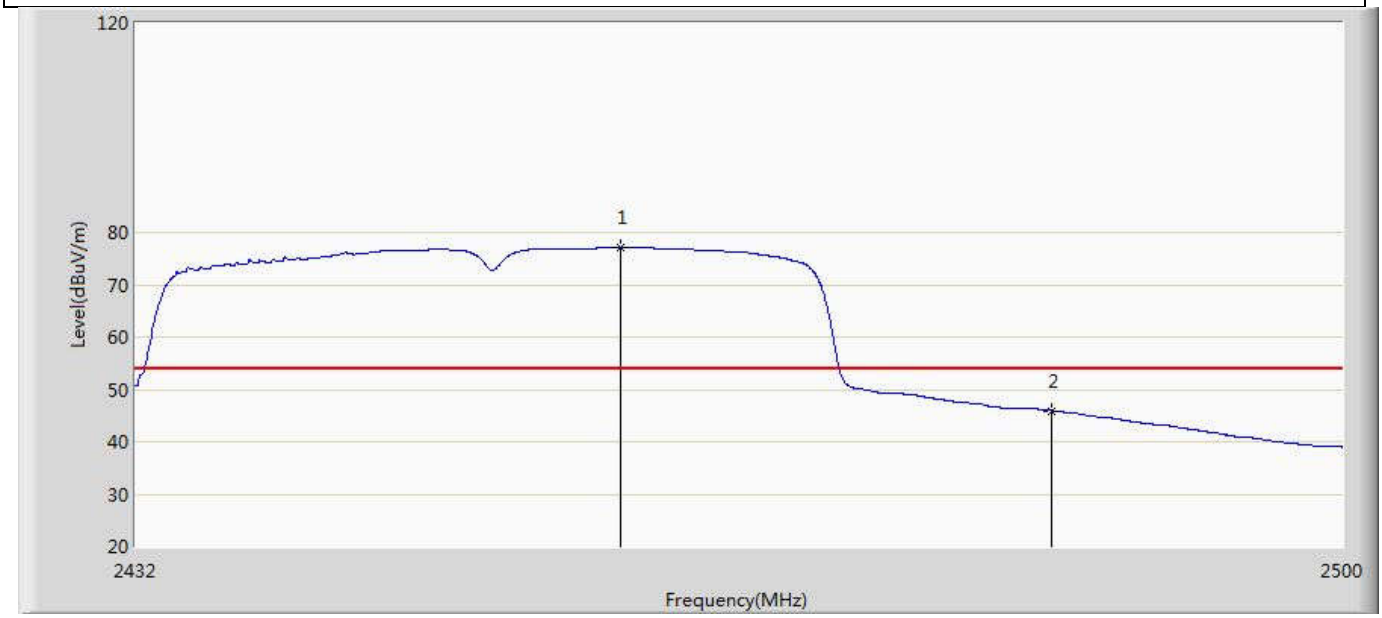
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2458.146	82.343	47.033	N/A	N/A	35.310	AV
2		2483.500	53.525	18.227	-0.475	54.000	35.297	AV

Profile: 2040634R	Page No.: 40
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 21:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11N(40MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2467.088	92.877	57.571	N/A	N/A	35.306	PK
2		2483.500	62.674	27.376	-11.326	74.000	35.297	PK

Profile: 2040634R	Page No.: 39
Engineer: Pawn	
Site: AC5	Time: 2020/05/12 - 21:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tunable White Direct Connect Smart Bulb	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11N(40MHz)	



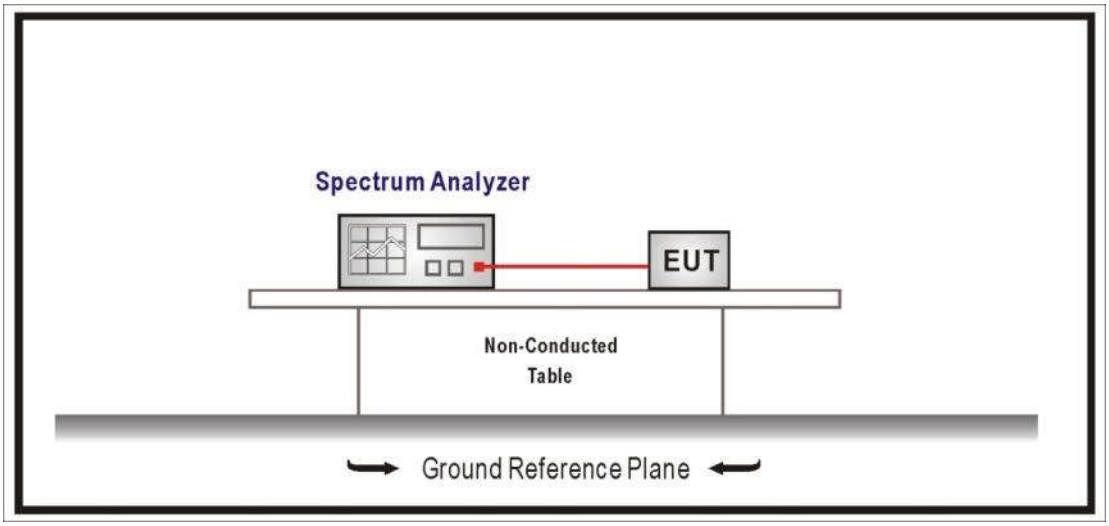
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2459.098	77.068	41.758	N/A	N/A	35.309	AV
2		2483.500	45.940	10.642	-8.060	54.000	35.297	AV

Remark	1. " * ", means this data is the worst emission level. 2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp). 3. The complete raw data please refer to Appendix RSE, Shown in the report is the worst data.

4.6 DTS Bandwidth	VERDICT: PASS

4.6.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(2)
Systems using digital modulation techniques operate in the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz	

4.6.2 Test Setup



4.6.3 Test Procedure

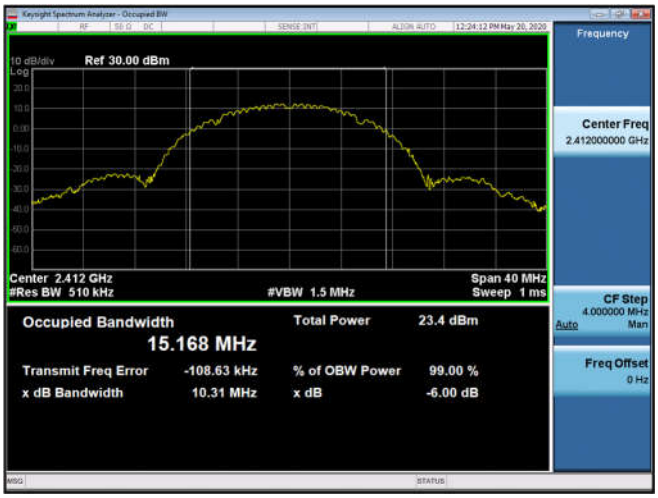
	Reference Rule		Chapter	Description
☒	ANSI C63.10		11.8	DTS bandwidth
	☐	ANSI C63.10	11.8.1	Option 1
	☒	ANSI C63.10	11.8.2	Option 2

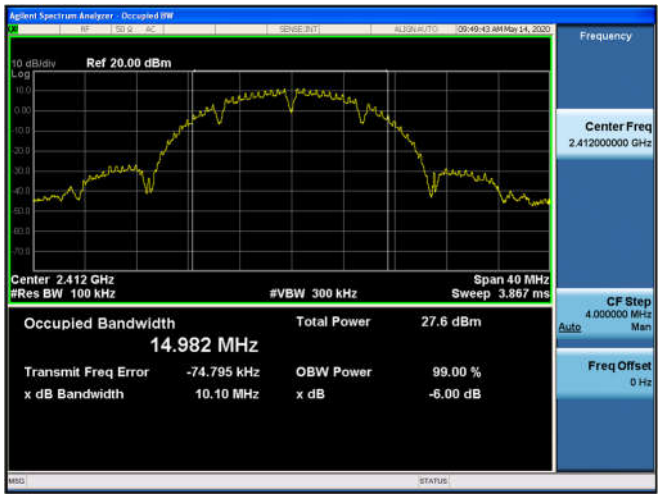
4.6.4 Test Data

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	1	2412	15.168	10.10	≥500	Pass
	6	2437	15.191	10.11	≥500	Pass
	11	2462	15.228	10.11	≥500	Pass
2	1	2412	17.772	16.40	≥500	Pass
	6	2437	17.767	16.37	≥500	Pass
	11	2462	17.743	16.38	≥500	Pass
3	1	2412	18.391	17.39	≥500	Pass
	6	2437	18.403	17.55	≥500	Pass
	11	2462	18.383	17.55	≥500	Pass
4	3	2422	35.883	35.24	≥500	Pass
	6	2437	35.870	35.21	≥500	Pass
	9	2452	35.870	35.24	≥500	Pass

Note : The worst case of Occupied Bandwidth as below in next page:

99% Occupied Bandwidth	6dB Occupied Bandwidth
Mode 1 CH01 (2412MHz)	**Mode 1 CH01 (2412MHz)**





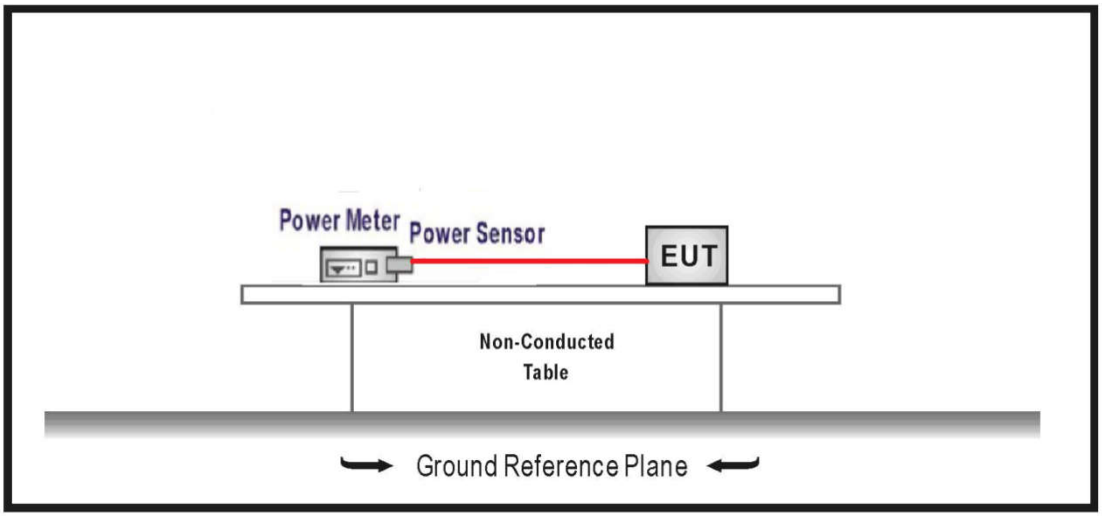
4.7 Fundamental emission output power	VERDICT: PASS

4.7.1 Limit

Standard			FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
☒	GTX ＜6dBi		Pout≤30dBm
☐	GTX ＞6dBi		
	☐	Non-Fix point-point	Pout≤30-(GTX -6)
	☐	Fix point-point	Pout≤30-[(GTX-6)]/3
	☐	Point-to-multipoint	Pout≤30-(GTX-6)
	☐	Overlap Beams	Pout≤30-[(GTX-6)]/3
	☐	Aggregate power transmitted simultaneously on all beams	Pout≤30-[(GTX-6)]/3
	☐	single directional beam	Pout≤30-[(GTX-6)]/3+8dB

Note 1 : GTX directional gain of transmitting antennas.
Note 2 : Pout is maximum peak conducted output power .

4.7.2 Test Setup



4.7.3 Test Procedure							
	References Rule					Chapter	Description
☒	ANSI C63.10					11.9	Fundamental emission output power
	☒	ANSI C63.10				11.9.1	Maximum peak conducted output power
		☐	ANSI C63.10			11.9.1.1	RBW ⩾ DTS bandwidth
		☐	ANSI C63.10			11.9.1.2	Integrated band power method
		☐	ANSI C63.10			11.9.1.3	PKPM1 Peak power meter method
	☐	ANSI C63.10				11.9.2	Maximum conducted (average) output power
		☐	ANSI C63.10			11.9.2.2	Measurement using a spectrum analyzer (SA)
			☐	ANSI C63.10		11.9.2.2.2	Method AVGSA-1(Duty cycle⩾98%)
			☐	ANSI C63.10		11.9.2.2.3	Method AVGSA-1A(Duty cycle⩾98%)
			☐	ANSI C63.10		11.9.2.2.4	Method AVGSA-2(Duty cycle⩽98%)
			☐	ANSI C63.10		11.9.2.2.5	Method AVGSA-2A(Duty cycle⩽98%)
			☐	ANSI C63.10		11.9.2.2.4	Method AVGSA-3
			☐	ANSI C63.10		11.9.2.2.5	Method AVGSA-3A
		☒	ANSI C63.10			11.9.2.3	Measurement using a power meter (PM)
			☒	ANSI C63.10		11.9.2.3.1	Method AVGPM
			☐	ANSI C63.10		11.9.2.3.2	Method AVGPM-G

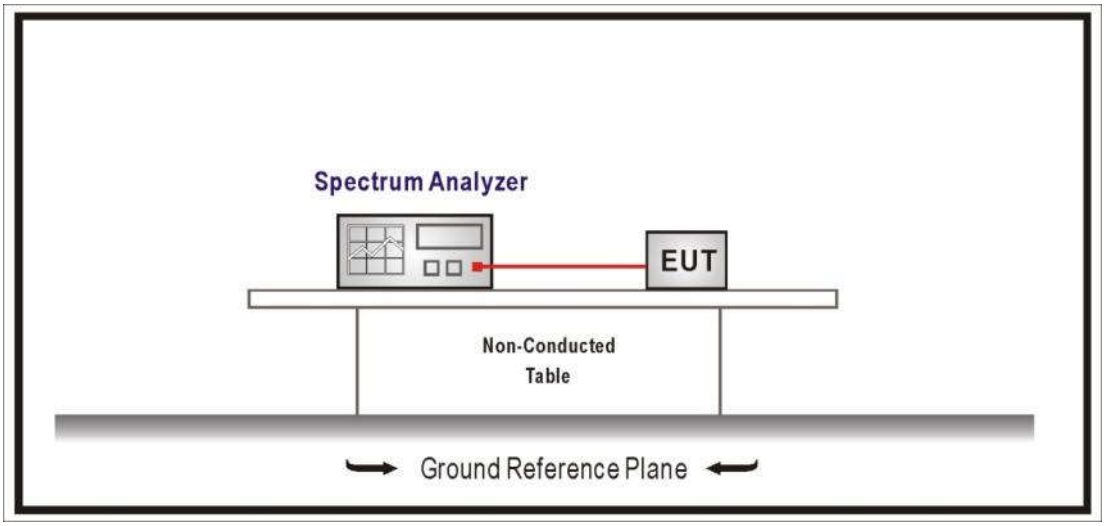
4.7.4 Test Data

Mode	Channel	Test Frequency (MHz)	Power Output (dBm)	Limit (dBm)	Result
1	1	2412	22.87	30.00	Pass
	6	2437	22.69	30.00	Pass
	11	2462	21.65	30.00	Pass
2	1	2412	22.02	30.00	Pass
	6	2437	22.05	30.00	Pass
	11	2462	20.89	30.00	Pass
3	1	2412	20.42	30.00	Pass
	6	2437	20.46	30.00	Pass
	11	2462	19.68	30.00	Pass
4	3	2422	20.52	30.00	Pass
	6	2437	20.41	30.00	Pass
	9	2452	19.24	30.00	Pass

4.8 Power Density	VERDICT: PASS

4.8.1 Limit:	
Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
Power Spectral Density≤8dBm/3kHz	

4.8.2 Test Setup



4.8.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	☒	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	☐	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle≥98%)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle≥98%)
	☐	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle＜98%)
	☐	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle＜98%)
	☐	ANSI C63.10	11.10.7	Method AVGPSD-3
	☐	ANSI C63.10	11.10.8	Method AVGPSD-3A

4.8.4 Test Data

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Antenna Gain (dBi)	Limit (dBm/3kHz)	Result
1	1	2412	2.522	-1.6	≤8	Pass
	6	2437	0.928	-1.6	≤8	Pass
	11	2462	-1.335	-1.6	≤8	Pass
2	1	2412	-10.414	-1.6	≤8	Pass
	6	2437	-10.946	-1.6	≤8	Pass
	11	2462	-11.049	-1.6	≤8	Pass
3	1	2412	-12.712	-1.6	≤8	Pass
	6	2437	-11.740	-1.6	≤8	Pass
	11	2462	-11.962	-1.6	≤8	Pass
4	3	2422	-13.953	-1.6	≤8	Pass
	6	2437	-14.773	-1.6	≤8	Pass
	9	2452	-14.304	-1.6	≤8	Pass

Remark: The worst data as below:

Mode 1 CH11(2412MHz)

4.9 Antenna Requirement	VERDICT: PASS

4.9.1 Limit:	
Standard	FCC Part 15 Subpart C Paragraph 15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221.

Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

4.9.2 Antenna Connector Construction:	
☐	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☐	The use of a nonstandard antenna jack or electrical connector

Please refer to the attached document "Internal Photograph" to show the antenna connector.

4.10 Test setup photo and EUT Photo	VERDICT: PASS

Remark: The test setup photo and EUT Photo please see appendix.

The End