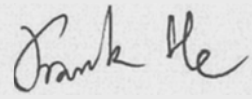
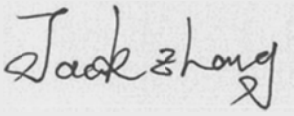
DEKRA Testing and Certification (Suzhou) Co., Ltd.
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
www.dekra-certification.com

Test report No:
19A2159R-RF-US-P06V01

FCC TEST REPORT & ISED TEST REPORT

Product Name	LED lamp
Trademark	PHILIPS
Model and /or type reference	9290022941
Applicant´s name / address	Signify (China) Investment Co., Ltd Building no.9, Lane 888, Tianlin Road, Minhang District, Shanghai, 200233, China
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10: 2013 KD558074 D01 15.247 Meas Guidance v05r02 RSS-Gen Issue 5 / RSS-247 Issue 2
Verdict Summary	IN COMPLIANCE
Documented By	Kitty Li/Project Assistant 
Tested by (name / position & signature)	Frank He/ Technical Supervisor 
Approved by (name / position & signature)	Jack Zhang/ Supervisor 
Date of issue	2019-11-28
Report template No	19A2159R-RF-US-P06V01

INDEX

page

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.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Oct. 29, 2019
Date (start test)	Nov. 08, 2019
Date (finish test)	Nov. 28, 2019

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
19A2159R-RF-US-P06V01	V1.0	Initial issue of report.	2019-11-28

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

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100906	2019.04.20	2020.04.19
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	2019.03.12	2020.03.11
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	2019.09.27	2020.09.26
Coaxial Cable	Suhner	RG 223	TR1-C2	2018.04.26	N/A
Dekra test software	Dekra	-	-	-	-

Emissions in non-restricted frequency bands/ Occupied Bandwidth/ Fundamental emission output power Power Spectral Density / TR8

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	2019.04.17	2020.04.16
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2019.08.30	2020.08.29
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2019.10.14	2020.10.13
Power Sensor	Anritsu	MA2411B	0846014	2019.10.28	2020.10.27
Coaxial Cable	Woken	SFL402	F02-150410-044	2019.06.13	N/A
Dekra test software	Dekra	-	-	-	-

Radiated Emission(30MHz-1GHz) / AC3

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2019.03.03	2020.03.02
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2019.09.23	2020.09.22
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2019.09.02	2020.09.01
Coaxial Cable	Huber+Suhner	RG 214	AC2-C	2019.04.13	2020.04.12
Dekra test software	Dekra	-	-	-	-

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

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2019.09.28	2020.09.27
Preamplifier	Miteq	NSP1800-25	1364185	N/A	N/A
Preamplifier	QuieTek	AP-040G	CHM-0906001	N/A	N/A
DRG Horn	ETS-Lindgren	3117	00123988	2019.09.25	2020.09.24
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2019.09.02	2020.09.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	N/A	N/A
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2019.04.13	2020.04.12
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	N/A	N/A
Dekra test software	Dekra	-	-	-	-

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%

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)

Product Name ..... :	LED lamp
Model No. ..... :	9290022941
Trademark ..... :	PHILIPS
FCC ID ..... :	2AGBW9290022941X
IC ..... :	20812-2941X
Manufacturer ..... :	Signify (China) Investment Co., Ltd.
Manufacturer Address ..... :	Building no.9, Lane 888, Tianlin Road, Minhang District, Shanghai, 200233, China

Wireless specifiction ..... :	Bluetooth 5.0
Operating frequency range(s)	2400~2483.5MHz
Type of Modulation ..... :	GFSK
Number of channel ..... :	40
Operating Temperature Range ..... :	-20℃ - 45 ℃

Rated power supply ..... :	Voltage and Frequency	
	☐	AC: 220 – 240 V, 50/60 Hz
	☒	AC: 110 – 130 V, 50/60 Hz, 5.8W
	☐	DC: 15~24Vdc
	☐	Battery: 3.7V
Mounting position ..... :	☒	Table top equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☐	Hand-held equipment
	☐	Other: Wearable equipment

Note 1: LED lamp supports two kinds of Crystal oscillator (Murata/ KDS), there is not any change in RF design, circuitry or construction for this device, including RF parameters (antenna, software, firmware and hardware versions, power, frequency ranges, etc.), so only power, spurious emission and band-edge were tested for different crystal oscillator, the test data of worse mode is showed with other test items.

1.2 Antenna Information

Antenna model / type number ..... :	N/A			
Antenna serial number ..... :	N/A			
Antenna Delivery ..... :	☒	1TX + 1RX		
	☐	2TX + 2RX		
Antenna technology ..... :	☒	SISO		
	☐	MIMO	☐	CDD
			☐	Beam-forming
Antenna Type ..... :	☐	External	☐	Dipole
			☐	Sectorized
	☒	Internal	☐	PIFA
			☒	PCB
			☐	Ceramic Chip
			☐	Others……..
Antenna Gain ..... :	0.5 dBi			

1.3 Channel List

Bluetooth Working Frequency of Each Channel: (For V5.0)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz	03	2408 MHz
04	2410 MHz	05	2412 MHz	06	2414 MHz	07	2416 MHz
08	2418 MHz	09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz	15	2432 MHz
16	2434 MHz	17	2436 MHz	18	2438 MHz	19	2440 MHz
20	2442 MHz	21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz	27	2456 MHz
28	2458 MHz	29	2460 MHz	30	2462 MHz	31	2464 MHz
32	2466 MHz	33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz	39	2480 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.

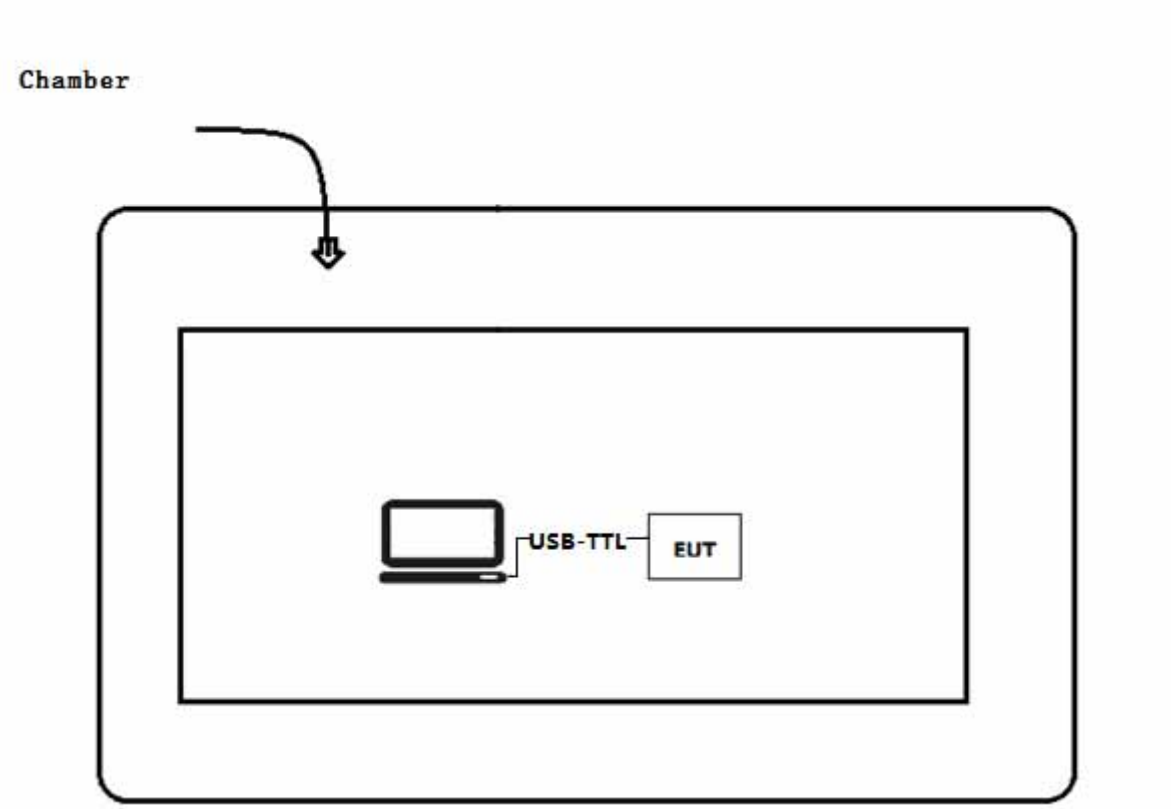
Test Mode For Bluetooth	Mode 1: Transmit by LE_1Mbps(GFSK_LE)
	Mode 2: Transmit by LE_2Mbps(GFSK_LE)
	Mode 3: Transmit by LE_Coded(S=2)(GFSK_LE)
	Mode 4: Transmit by LE_Coded(S=8)(GFSK_LE)
	Mode 5: Normal Operation

2.2 Auxiliary equipment / Test software for the EUT

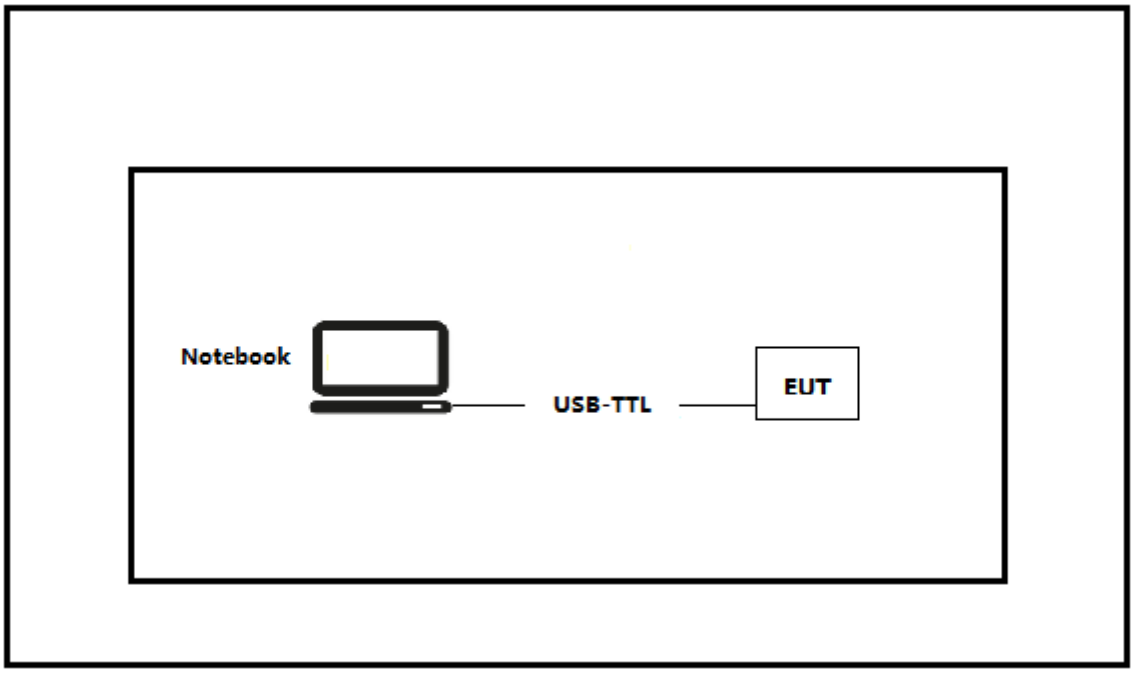
Auxiliary equipment	Type / Version	Manufacturer	Supplied by
Notebook	E470	Lenovo	N/A
software	Type / Version	Manufacturer	Supplied by
HueApprobationTool	1.1.00	Philips	N/A

2.3 Test Configuration / Block diagram used for tests

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	Execute the nRFgo Studio on the EUT
3	Configure the test mode, the test channel, and the data rate.
4	Press “Start Test” to start the continuous Transmitter.
5	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 D01 v05r02	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 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

(Please define the deviations from the standard(s) if applicable)

3.3 Overview of results

For FCC

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	PASS	---
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	---

For ISED

Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	RSS-Gen Issue 5 Section 8.8	PASS	---
Emissions in restricted frequency bands	RSS-Gen Issue 5 Section 8.9	PASS	---
Duty cycle	ANSI C63.10:2013	PASS	---
Emissions in non-restricted frequency bands	RSS-247 Issue 2 Section 5.5	PASS	---
Radiated Emission Band Edge	RSS-Gen Issue 5 Section 8.10	PASS	---
Fundamental emission output power	RSS-247 Issue 2 Section 5.4(d)	PASS	---
DTS Bandwidth	RSS-Gen Issue 5 Section 6.7	PASS	---
Power Spectral Density	RSS-247 Issue 2 Section 5.2(b)	PASS	---
Antenna Requirement	RSS-Gen Issue 5 Section 6.8	PASS	---

3.4 Test Facility

USA	**:**	**FCC Designation Number: CN1199**
CA	**:**	**ISED CAB identifier: CN0040**

4 TEST RESULTS

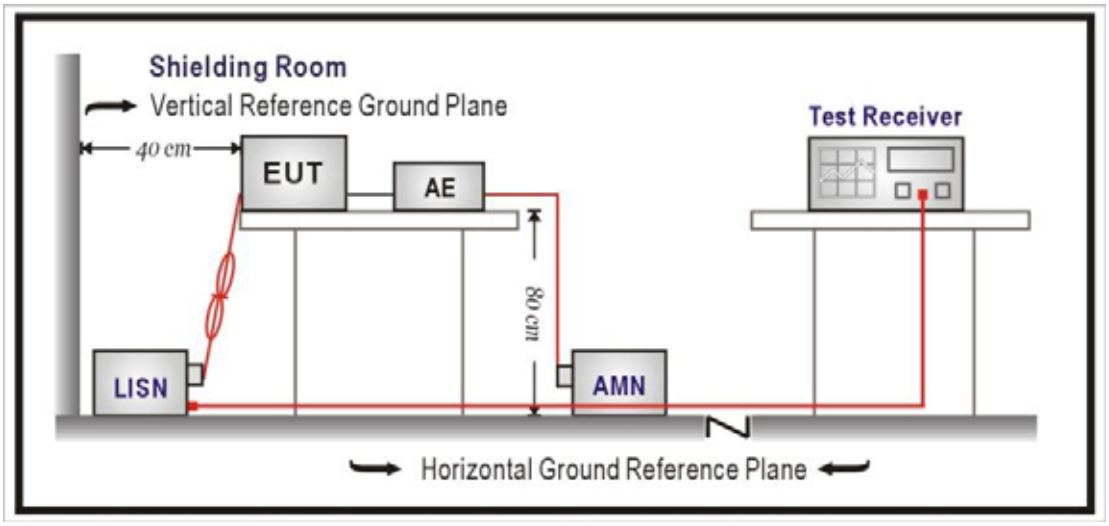
4.1 AC Power Line Conducted Emission	VERDICT: PASS

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

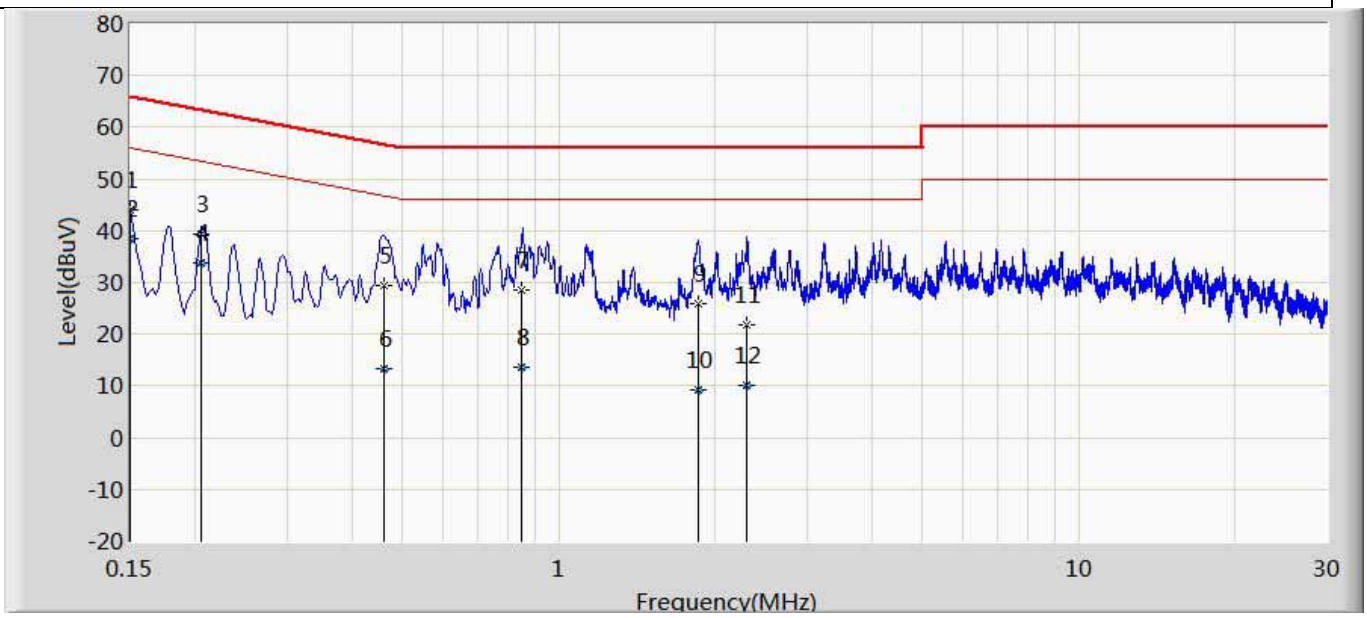


4.1.3 Test Procedure

	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

Engineer: lynee	
Site: TR1	Time: 2019/11/08
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101189(0.009-30MHz)	Polarity: Line
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1	

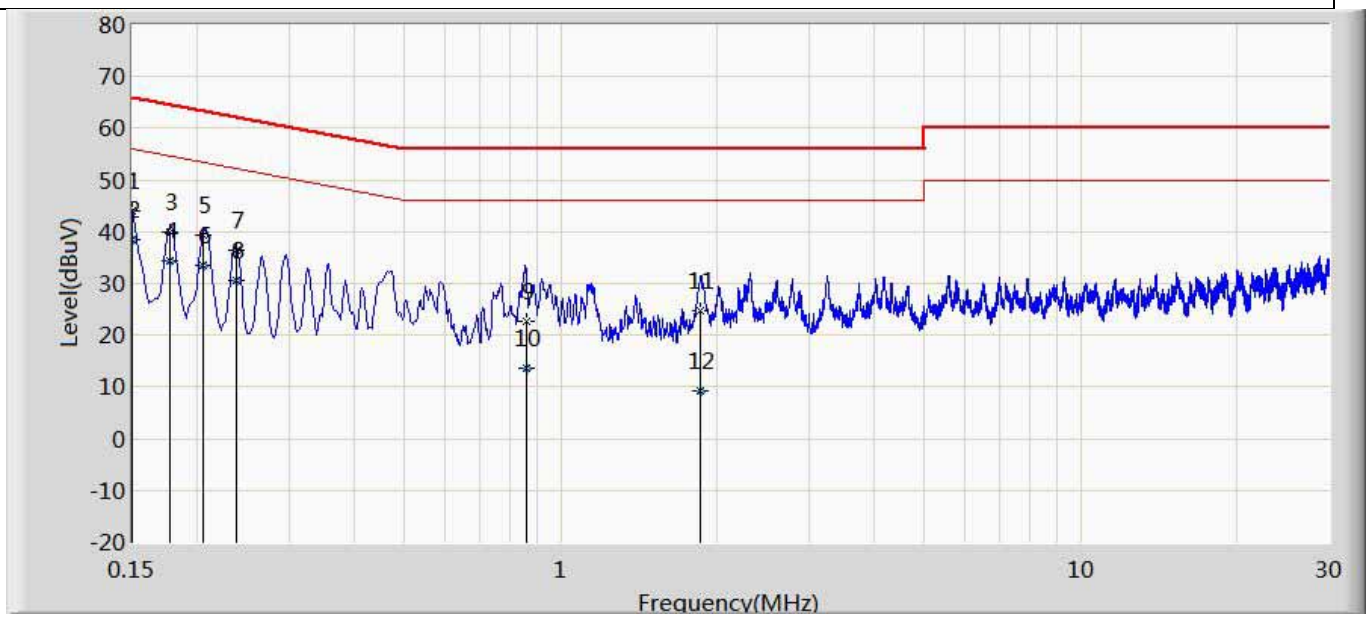


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	43.908	34.029	-22.092	66.000	9.850	0.029	0.000	QP
2	*	0.150	38.401	28.522	-17.599	56.000	9.850	0.029	0.000	AV
3		0.206	39.226	29.337	-24.129	63.355	9.860	0.029	0.000	QP
4		0.206	33.803	23.914	-19.552	53.355	9.860	0.029	0.000	AV
5		0.461	29.491	19.580	-27.193	56.684	9.869	0.041	0.000	QP
6		0.461	13.474	3.563	-33.210	46.684	9.869	0.041	0.000	AV
7		0.849	28.640	18.765	-27.360	56.000	9.821	0.054	0.000	QP
8		0.849	13.506	3.631	-32.494	46.000	9.821	0.054	0.000	AV
9		1.851	25.844	15.959	-30.156	56.000	9.802	0.083	0.000	QP
10		1.851	9.192	-0.693	-36.808	46.000	9.802	0.083	0.000	AV
11		2.305	21.897	12.000	-34.103	56.000	9.803	0.094	0.000	QP
12		2.305	10.124	0.227	-35.876	46.000	9.803	0.094	0.000	AV

Note:

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).

Engineer: lynee	
Site: TR1	Time: 2019/11/08
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101189(0.009-30MHz)	Polarity: Neutral
EUT: LED lamp	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		0.150	43.976	34.104	-22.024	66.000	9.844	0.029	0.000	QP
2	*	0.150	38.424	28.551	-17.576	56.000	9.844	0.029	0.000	AV
3		0.177	39.965	30.091	-24.660	64.625	9.846	0.028	0.000	QP
4		0.177	34.428	24.555	-20.197	54.625	9.846	0.028	0.000	AV
5		0.206	39.334	29.456	-24.021	63.355	9.850	0.029	0.000	QP
6		0.206	33.519	23.641	-19.836	53.355	9.850	0.029	0.000	AV
7		0.238	36.460	26.579	-25.714	62.174	9.852	0.030	0.000	QP
8		0.238	30.440	20.559	-21.734	52.174	9.852	0.030	0.000	AV
9		0.857	22.789	12.995	-33.211	56.000	9.740	0.054	0.000	QP
10		0.857	13.626	3.832	-32.374	46.000	9.740	0.054	0.000	AV
11		1.851	24.749	15.029	-31.251	56.000	9.637	0.083	0.000	QP
12		1.851	9.238	-0.482	-36.762	46.000	9.637	0.083	0.000	AV

Note:

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 15.207

Restricted Bands of operation

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			

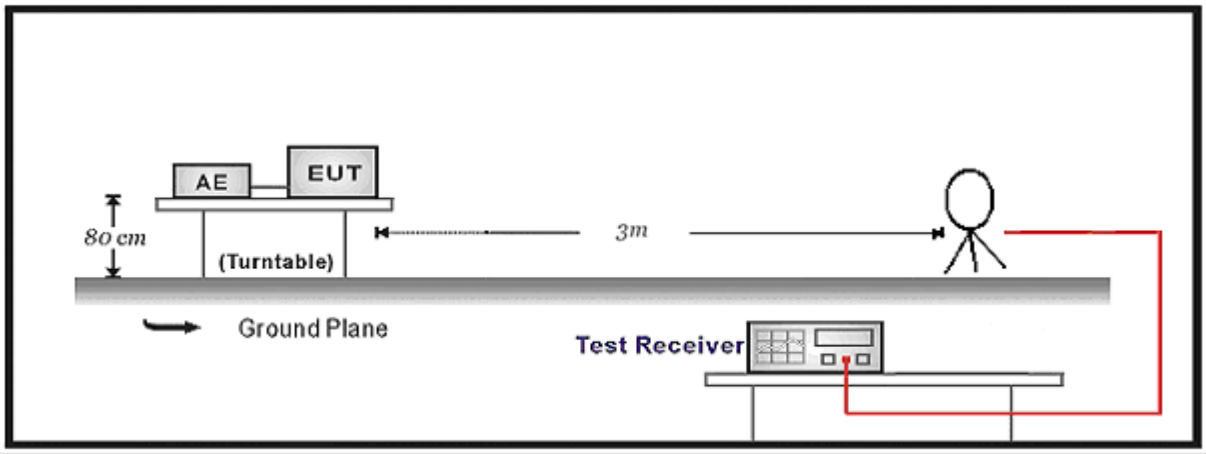
Restricted Band Emissions Limit			
Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30(Note 1)
1.705 - 30	30	29.5	30(Note 1)
30 - 88	100	40	3(Note 2)
88 - 216	150	43.5	3(Note 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).

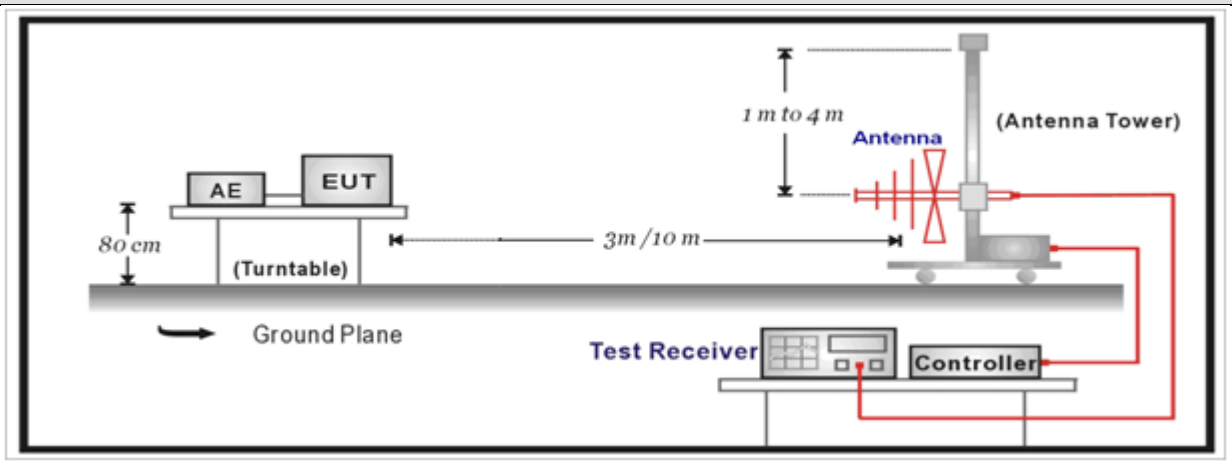
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated 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

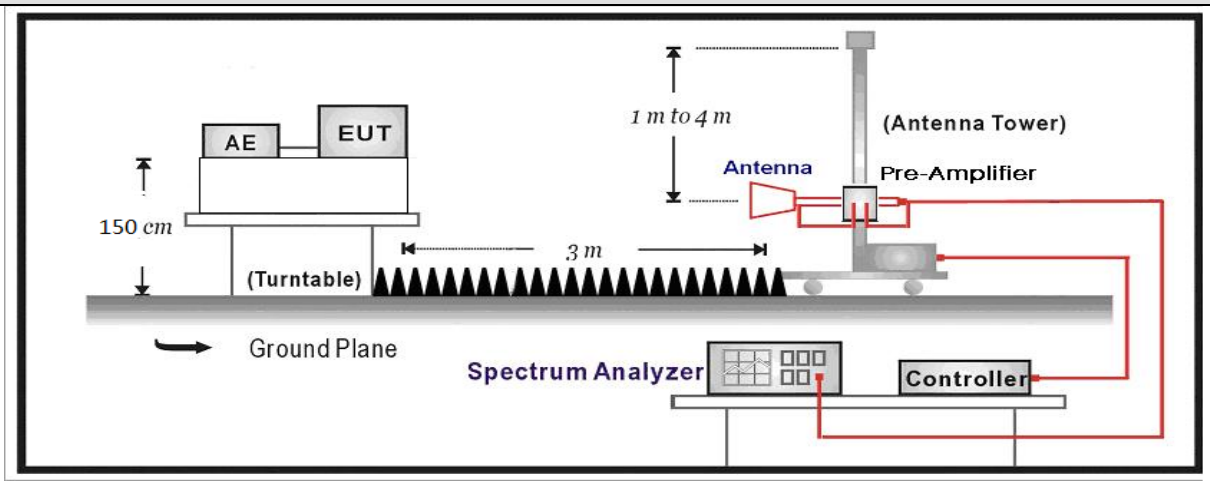
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



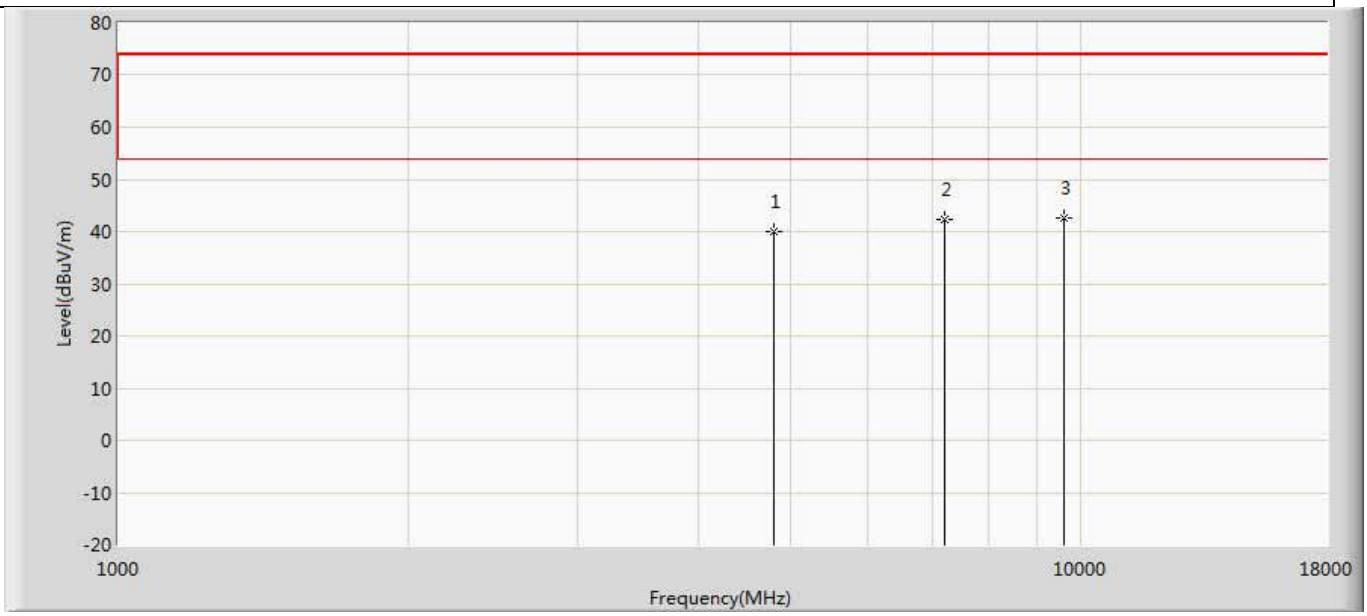
4.2.3 Test Procedure

	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

4.2.4 Test Data

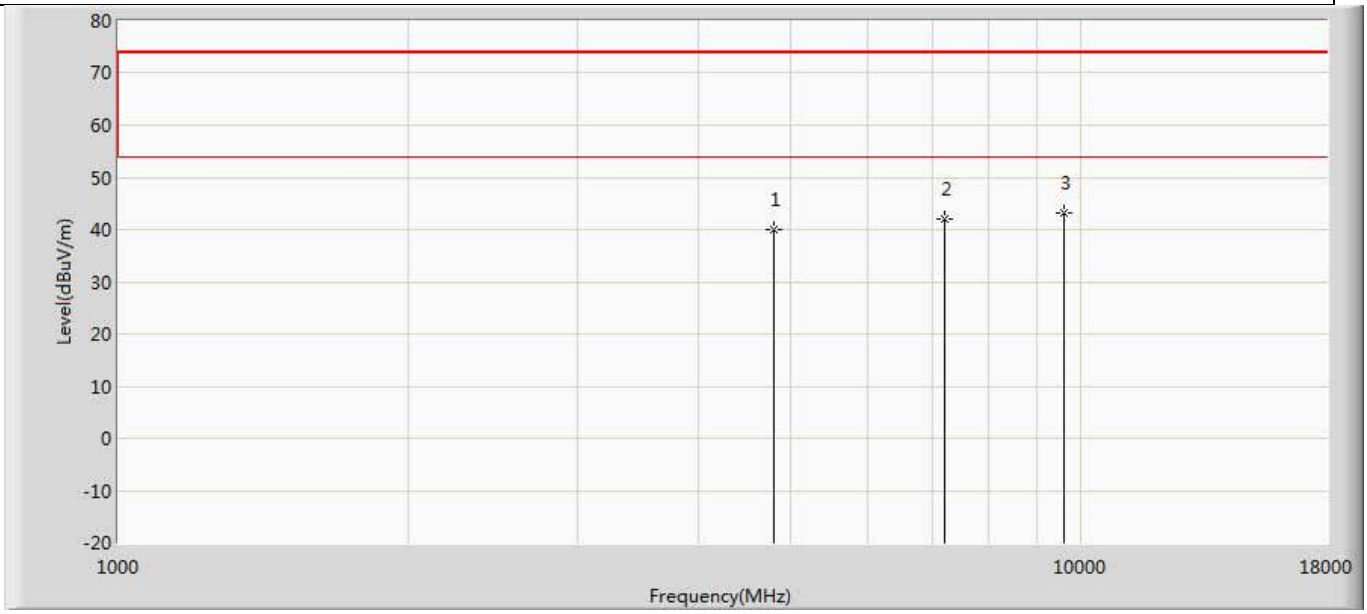
Murata:

Profile: 19A2159R	Page No.: 77
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 10:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



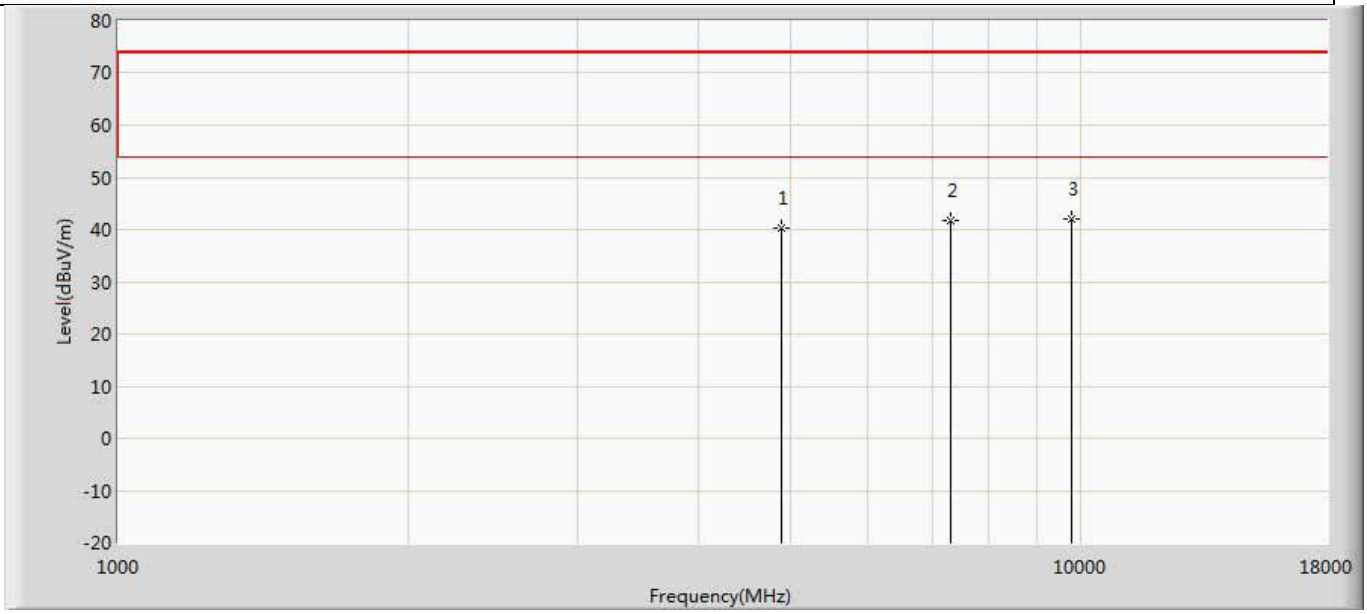
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.912	34.992	-34.088	74.000	4.920	PK
2		7206.000	42.212	34.893	-31.788	74.000	7.319	PK
3	*	9608.000	42.602	33.946	-31.398	74.000	8.657	PK

Profile: 19A2159R	Page No.: 78
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 10:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



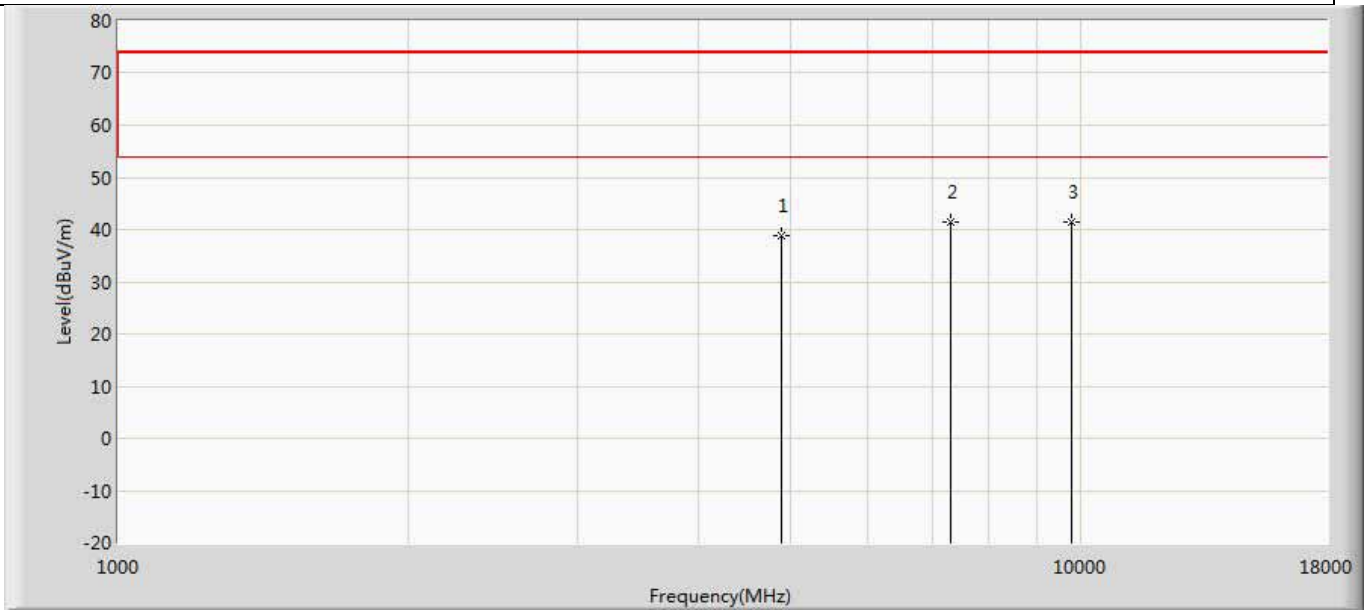
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.112	35.481	-33.888	74.000	4.631	PK
2		7206.000	41.912	33.888	-32.088	74.000	8.024	PK
3	*	9608.000	43.230	33.913	-30.770	74.000	9.318	PK

Profile: 19A2159R	Page No.: 79
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 10:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2440MHz by BLE	



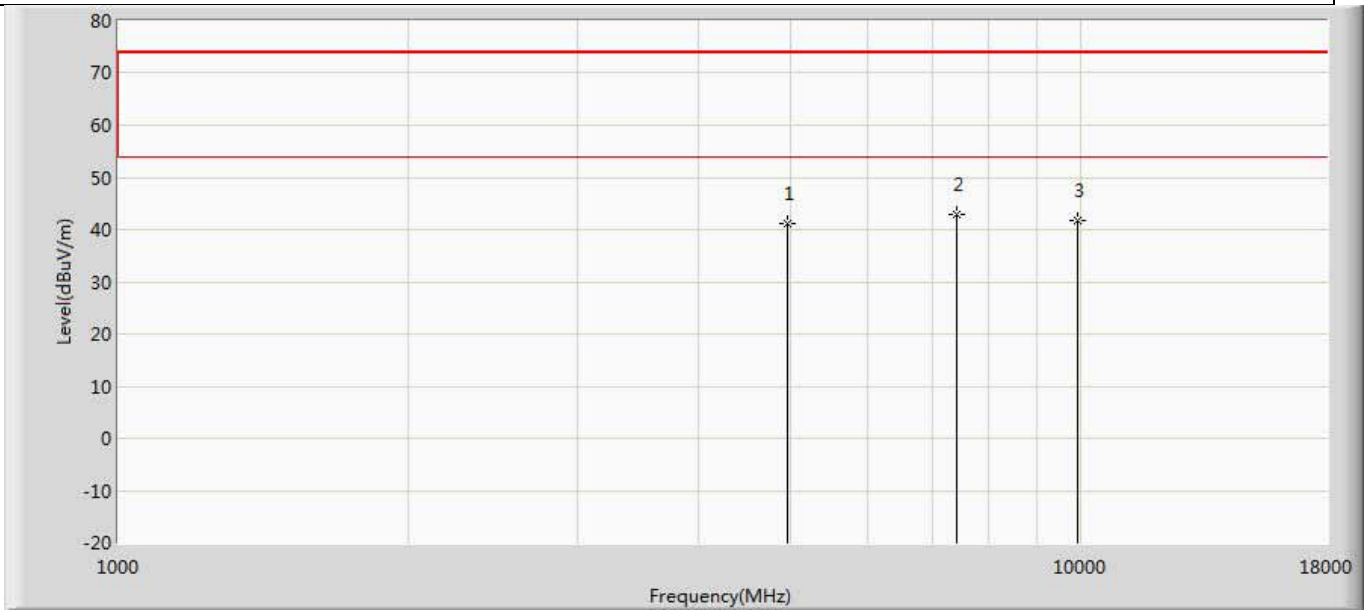
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.180	35.320	-33.820	74.000	4.859	PK
2		7320.000	41.775	34.277	-32.225	74.000	7.499	PK
3	*	9760.000	41.967	33.882	-32.033	74.000	8.085	PK

Profile: 19A2159R	Page No.: 80
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 10:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2440MHz by BLE	



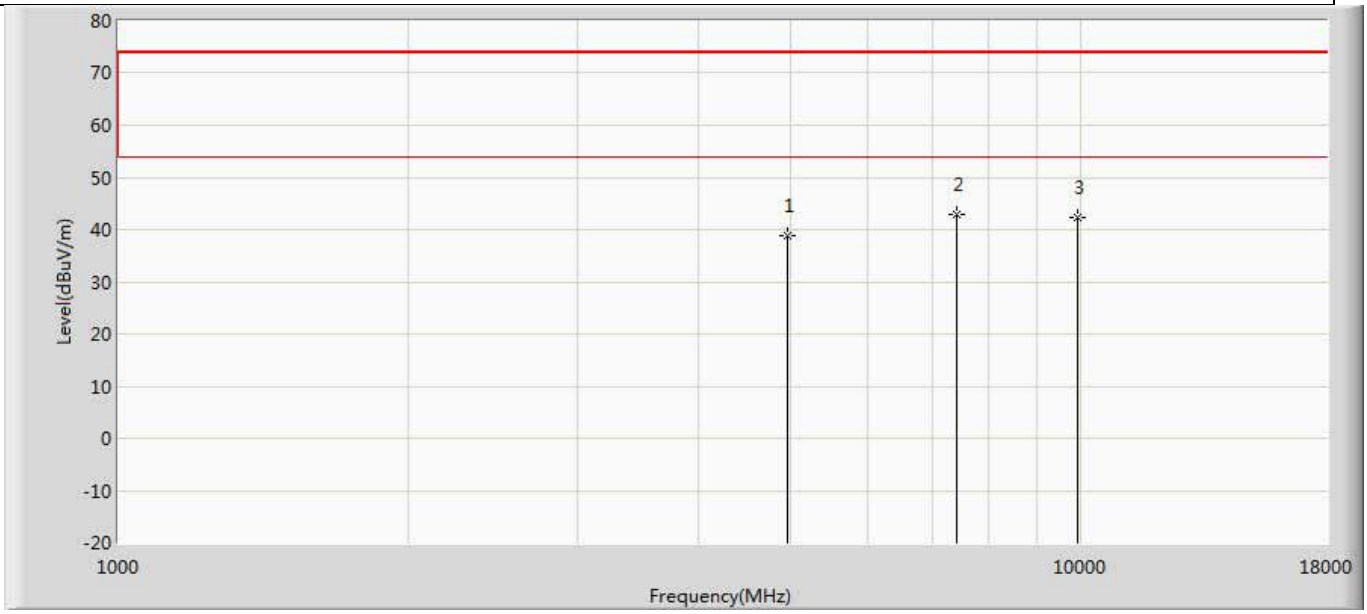
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	38.766	33.906	-35.234	74.000	4.859	PK
2		7320.000	41.374	33.876	-32.626	74.000	7.499	PK
3	*	9760.000	41.577	33.492	-32.423	74.000	8.085	PK

Profile: 19A2159R	Page No.: 81
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 10:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



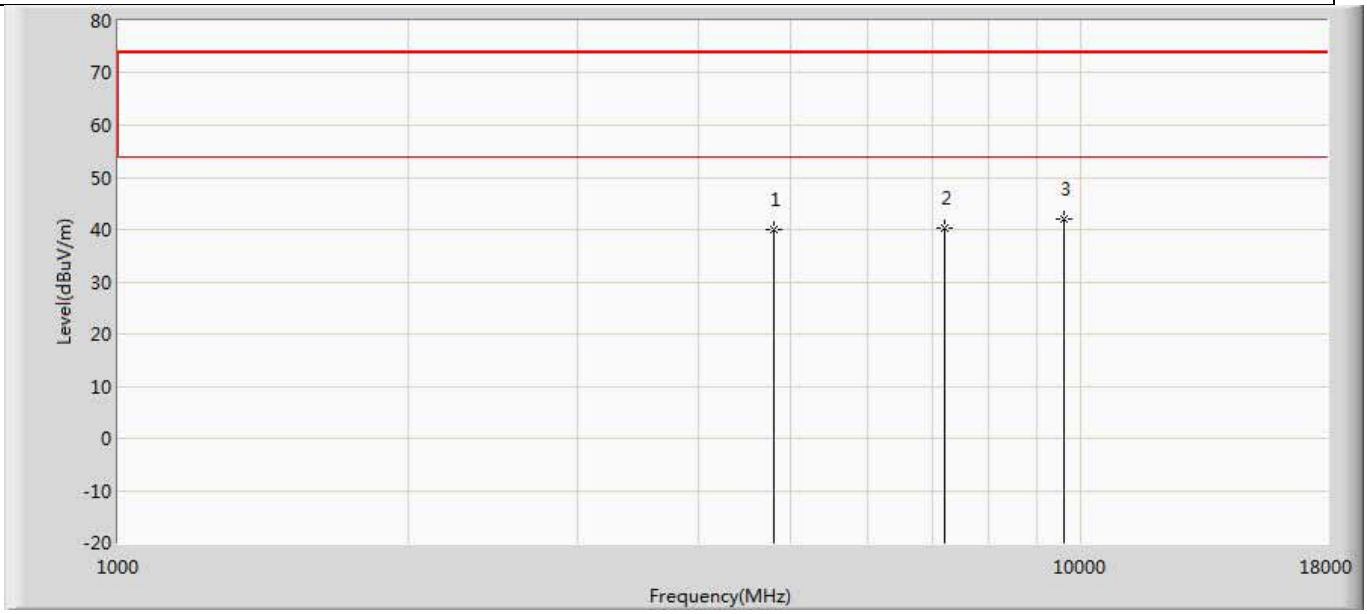
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	41.215	36.519	-32.785	74.000	4.695	PK
2	*	7440.000	42.857	34.773	-31.143	74.000	8.085	PK
3		9920.000	41.831	32.990	-32.169	74.000	8.840	PK

Profile: 19A2159R	Page No.: 82
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 10:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



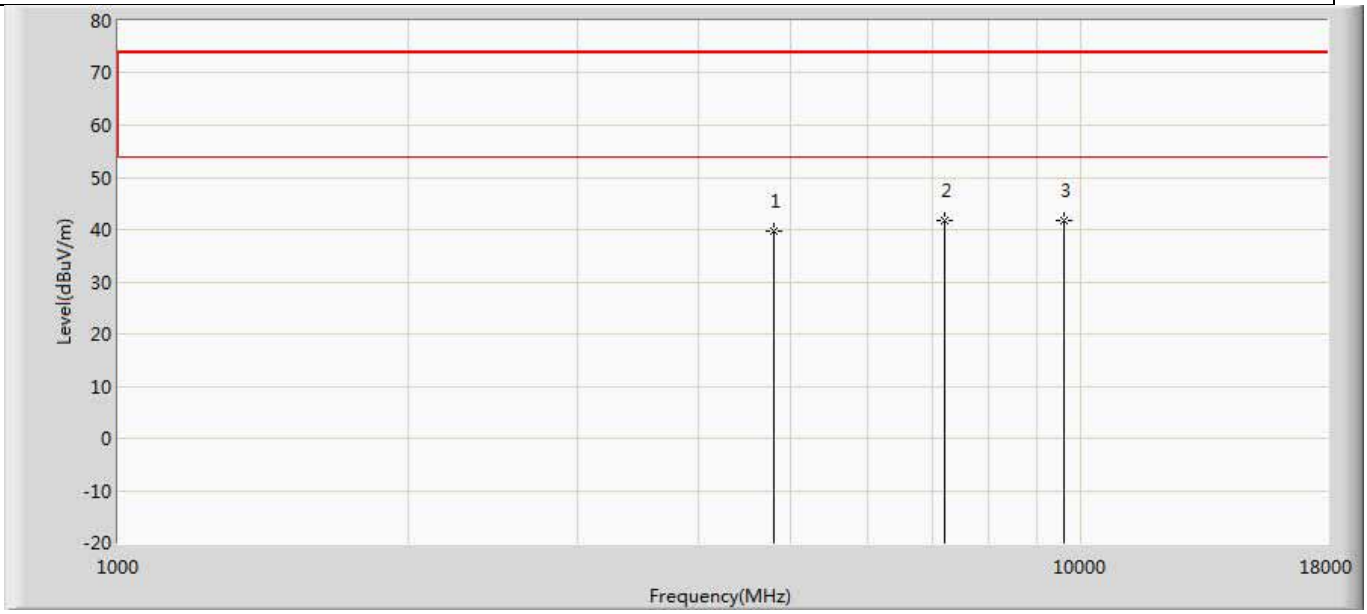
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.748	34.052	-35.252	74.000	4.695	PK
2	*	7440.000	42.826	34.742	-31.174	74.000	8.085	PK
3		9920.000	42.325	33.484	-31.675	74.000	8.840	PK

Profile: 19A2159R	Page No.: 83
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 10:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



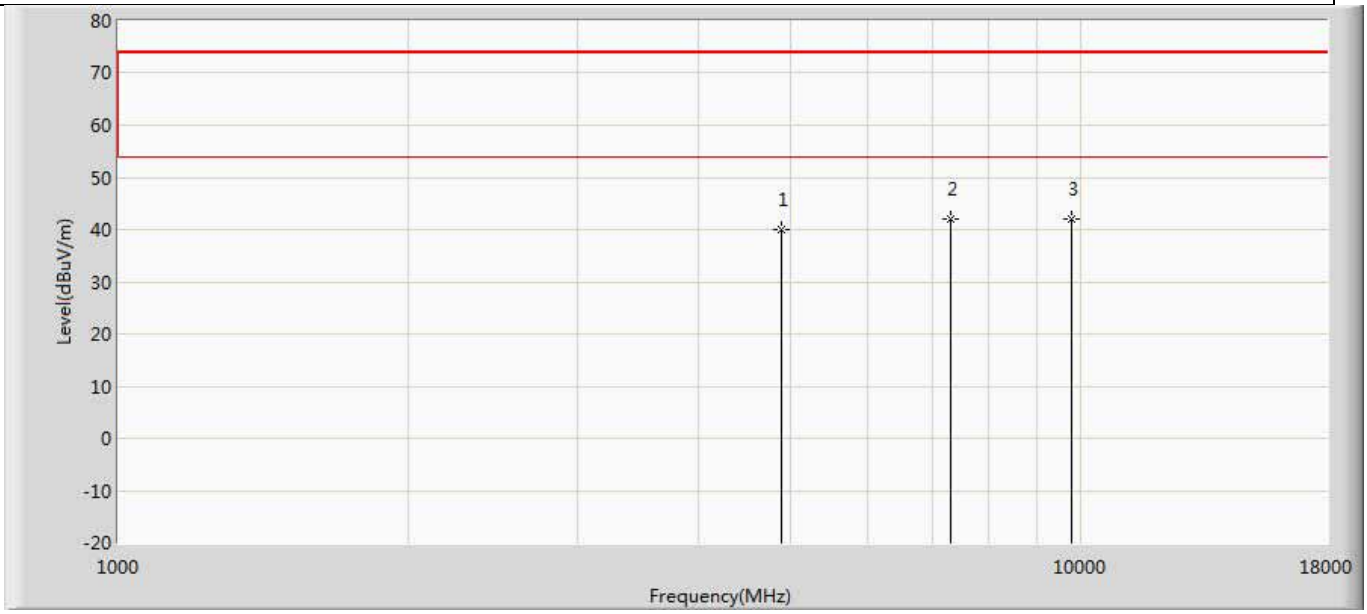
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.007	35.087	-33.993	74.000	4.920	PK
2		7206.000	40.393	33.074	-33.607	74.000	7.319	PK
3	*	9608.000	41.914	33.258	-32.086	74.000	8.657	PK

Profile: 19A2159R	Page No.: 84
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 10:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



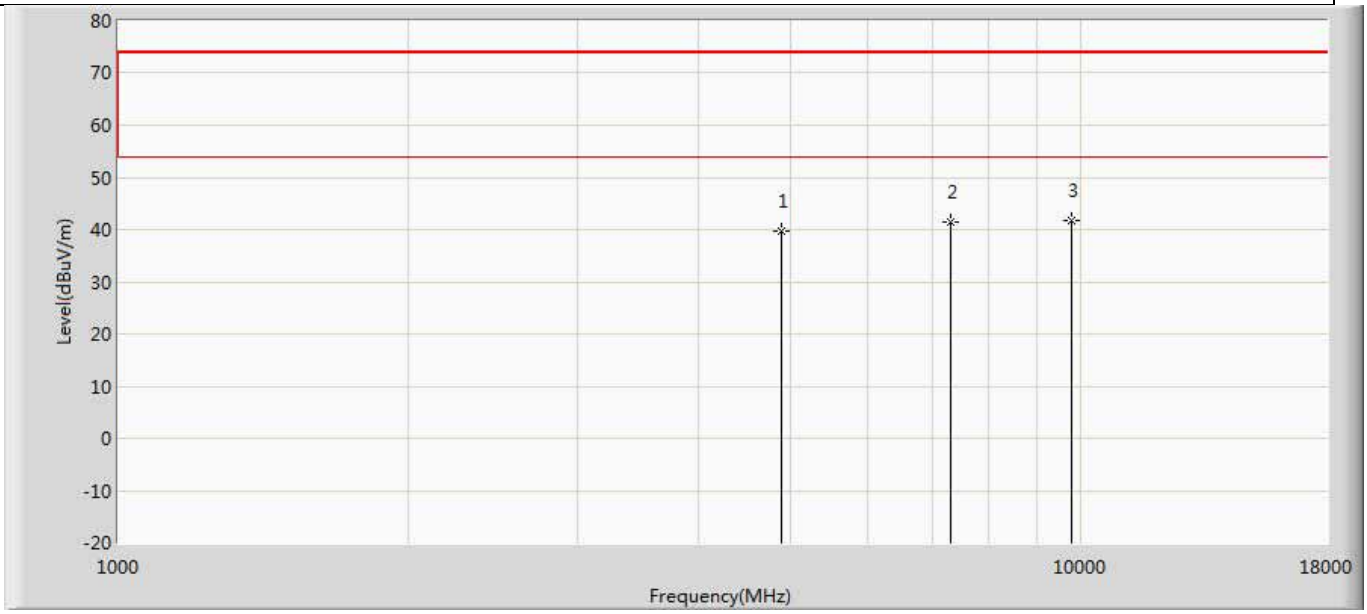
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.786	34.866	-34.214	74.000	4.920	PK
2	*	7206.000	41.773	34.454	-32.227	74.000	7.319	PK
3		9608.000	41.766	33.110	-32.234	74.000	8.657	PK

Profile: 19A2159R	Page No.: 85
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 10:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2440MHz by 2LE	



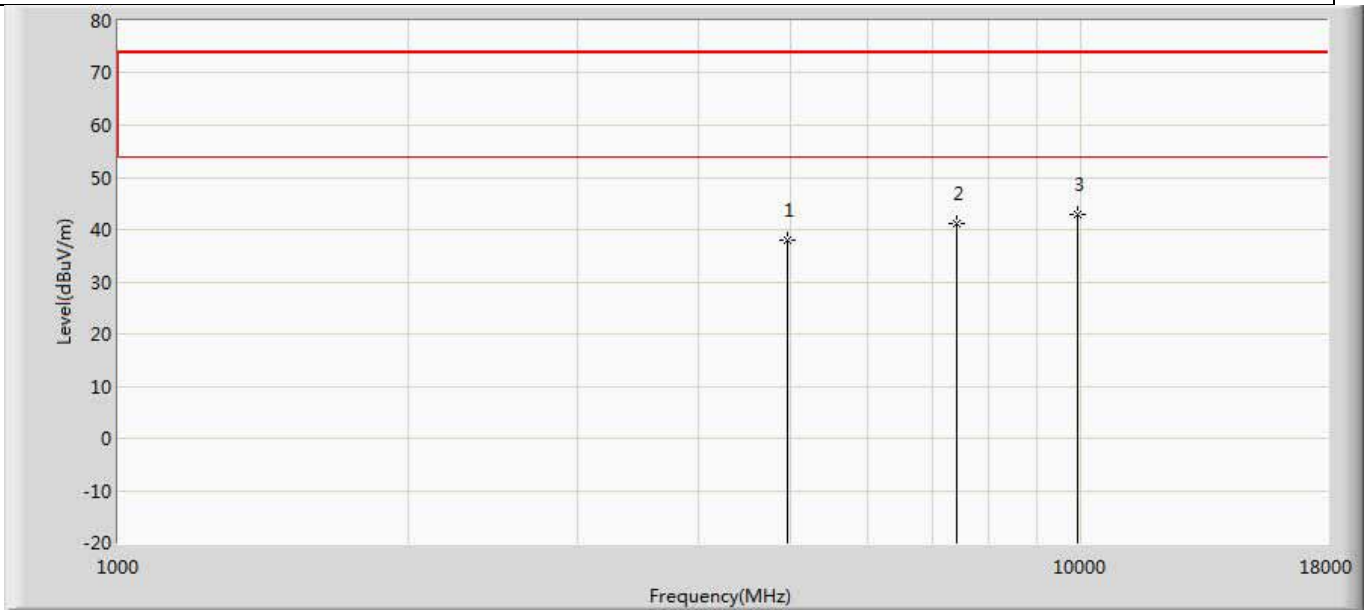
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	39.951	35.091	-34.049	74.000	4.859	PK
2		7320.000	42.030	34.532	-31.970	74.000	7.499	PK
3	*	9760.000	42.143	34.058	-31.857	74.000	8.085	PK

Profile: 19A2159R	Page No.: 86
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 10:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2440MHz by 2LE	



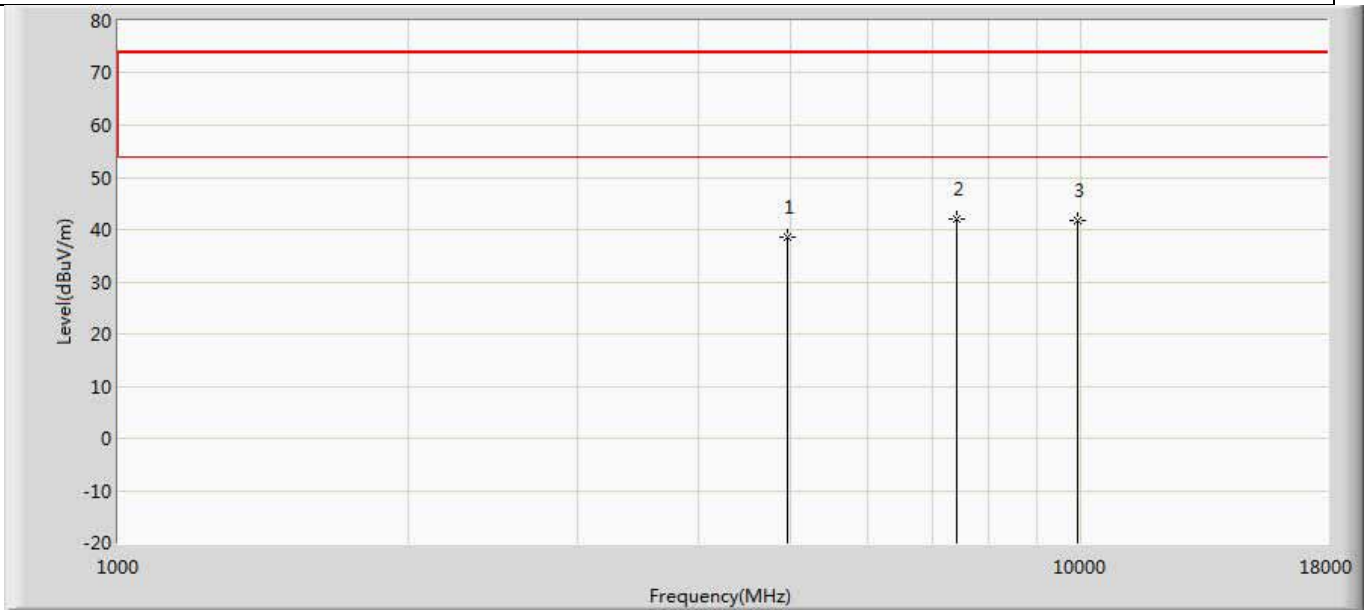
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	39.685	34.825	-34.315	74.000	4.859	PK
2		7320.000	41.581	34.083	-32.419	74.000	7.499	PK
3	*	9760.000	41.596	33.511	-32.404	74.000	8.085	PK

Profile: 19A2159R	Page No.: 87
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



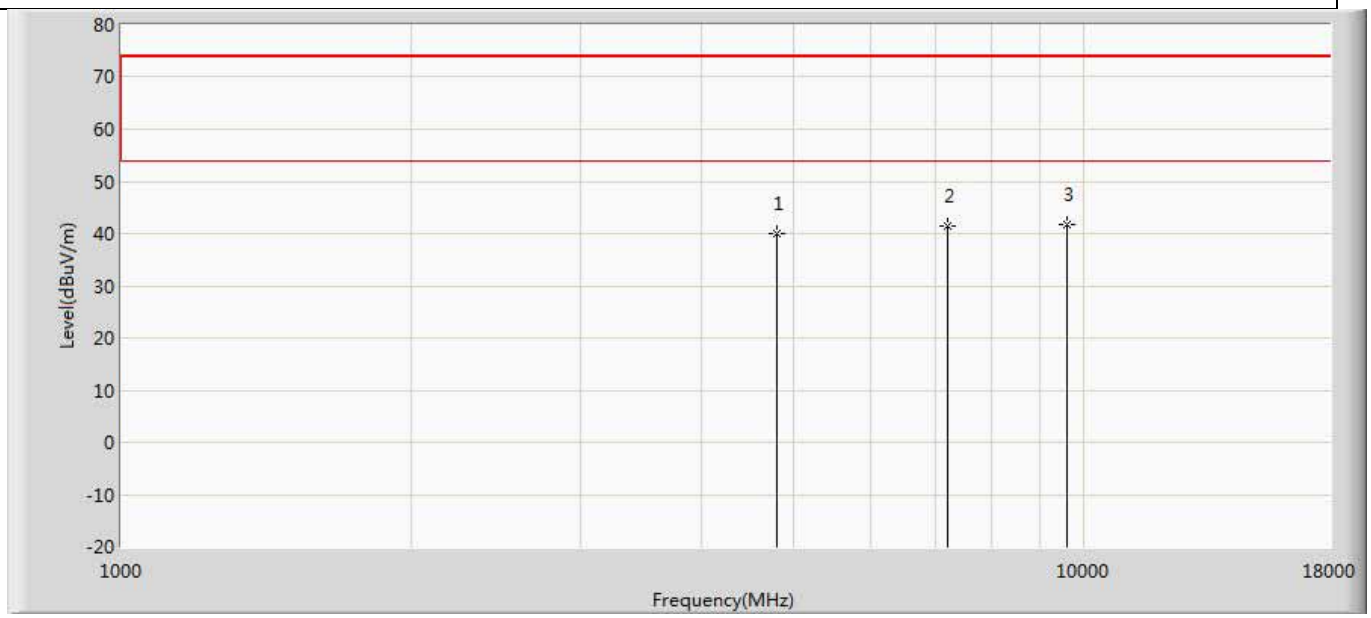
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.030	33.334	-35.970	74.000	4.695	PK
2		7440.000	41.279	33.195	-32.721	74.000	8.085	PK
3	*	9920.000	42.796	33.955	-31.204	74.000	8.840	PK

Profile: 19A2159R	Page No.: 88
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



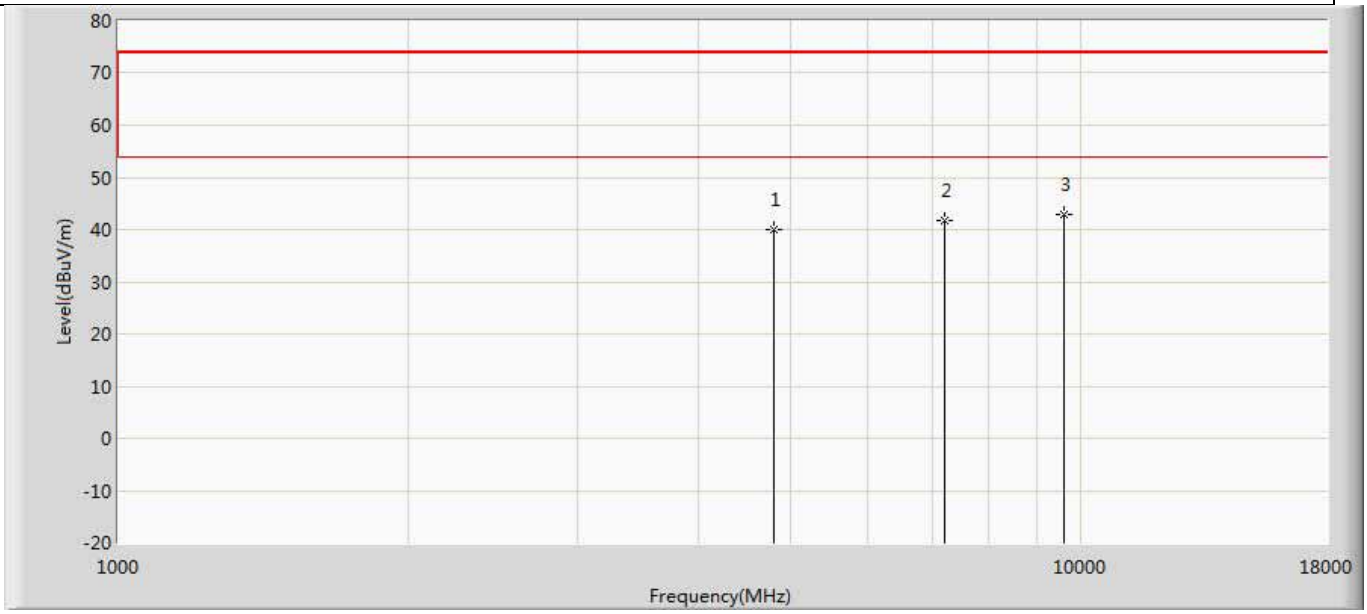
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.552	33.856	-35.448	74.000	4.695	PK
2	*	7440.000	42.056	33.972	-31.944	74.000	8.085	PK
3		9920.000	41.748	32.907	-32.252	74.000	8.840	PK

Profile: 19A2159R	Page No.: 95
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by code8	



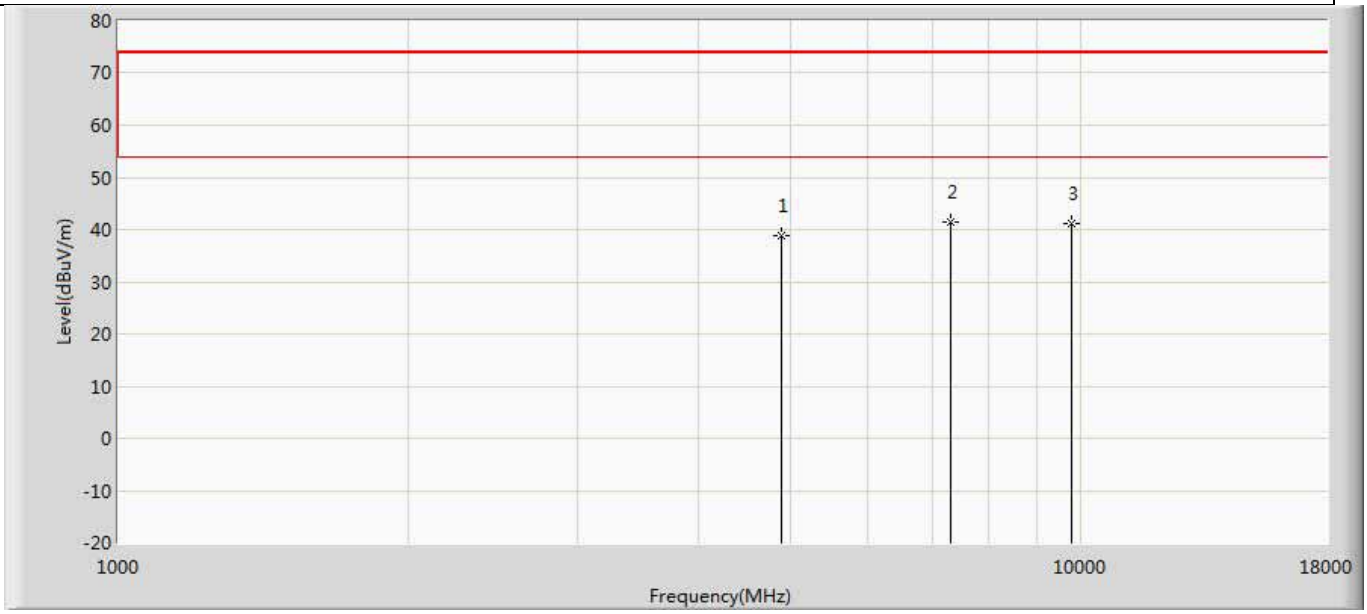
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.033	35.113	-33.967	74.000	4.920	PK
2		7206.000	41.331	34.012	-32.669	74.000	7.319	PK
3	*	9608.000	41.784	33.128	-32.216	74.000	8.657	PK

Profile: 19A2159R	Page No.: 96
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by code8	



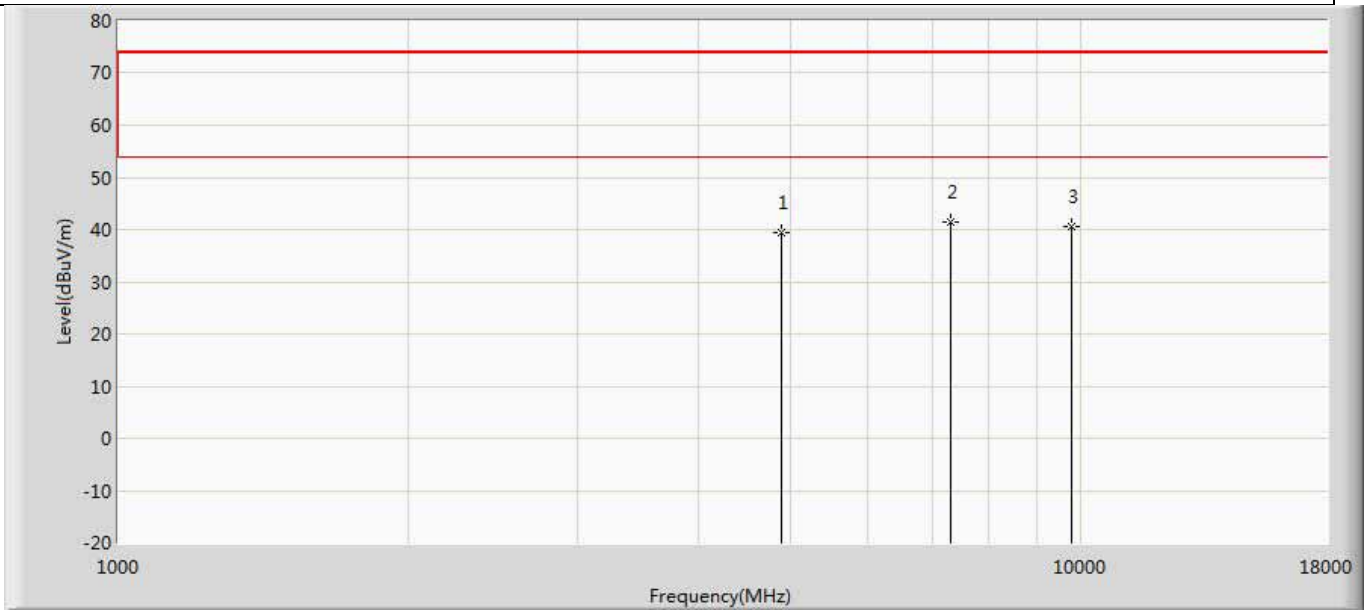
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.043	35.123	-33.957	74.000	4.920	PK
2		7206.000	41.825	34.506	-32.175	74.000	7.319	PK
3	*	9608.000	42.842	34.186	-31.158	74.000	8.657	PK

Profile: 19A2159R	Page No.: 97
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2440MHz by code8	



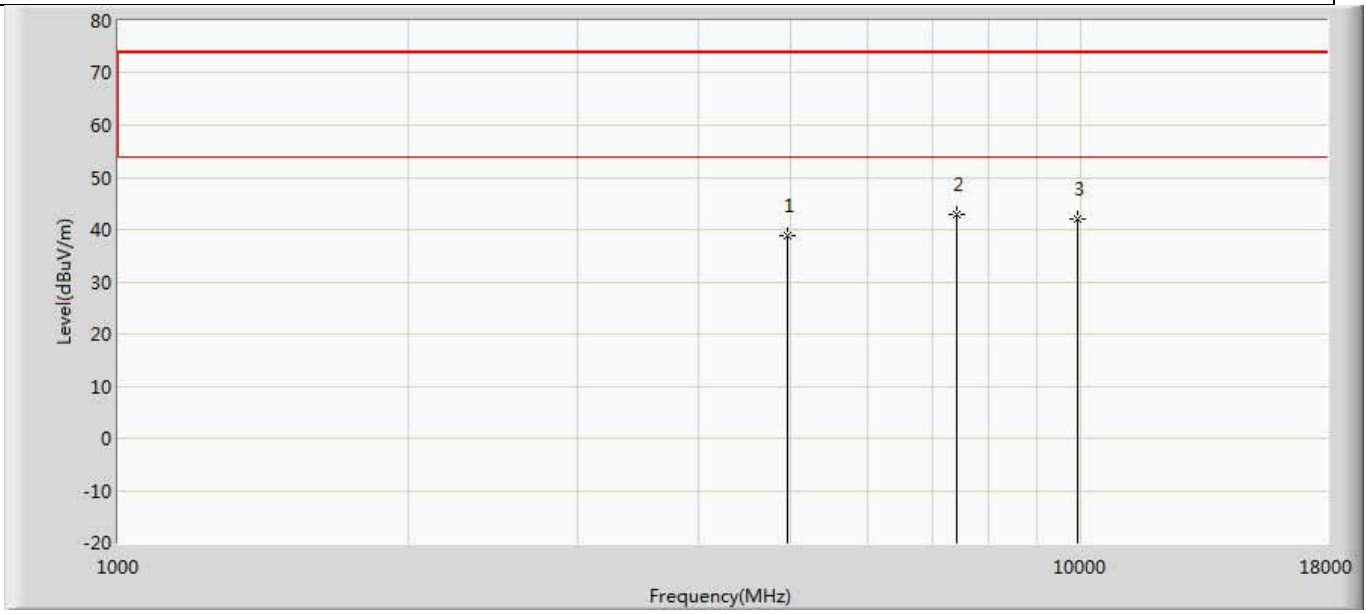
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	38.800	33.940	-35.200	74.000	4.859	PK
2	*	7320.000	41.352	33.854	-32.648	74.000	7.499	PK
3		9760.000	41.039	32.954	-32.961	74.000	8.085	PK

Profile: 19A2159R	Page No.: 98
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2440MHz by code8	



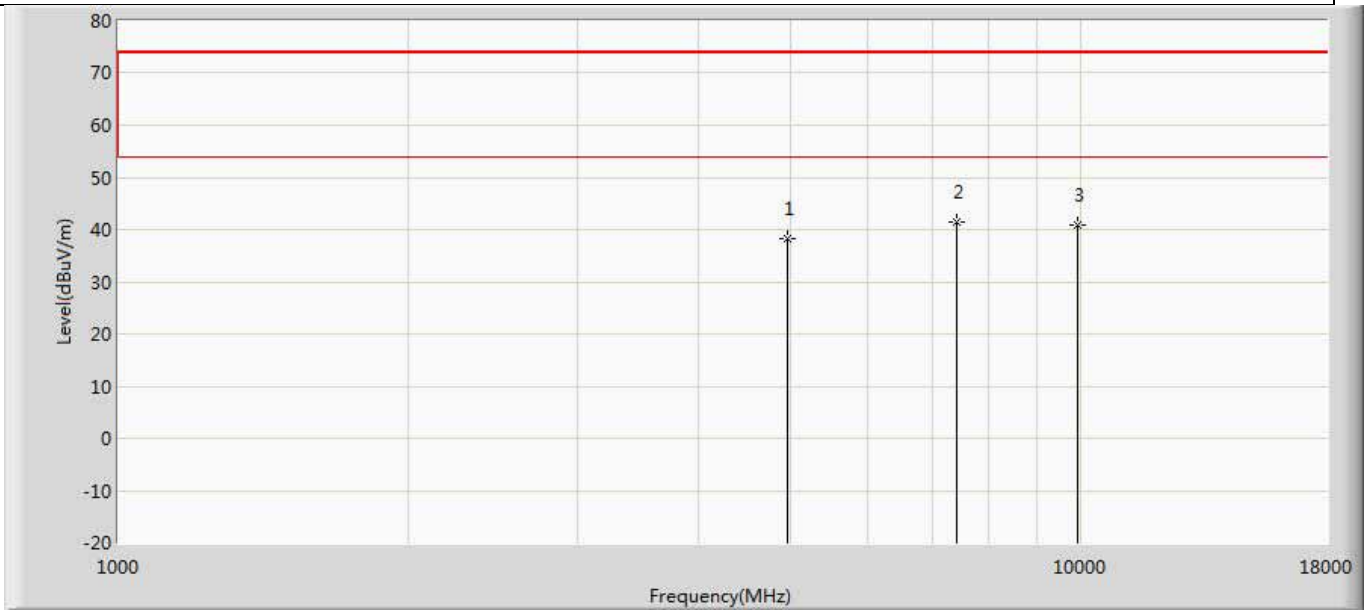
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	39.542	34.682	-34.458	74.000	4.859	PK
2	*	7320.000	41.541	34.043	-32.459	74.000	7.499	PK
3		9760.000	40.635	32.550	-33.365	74.000	8.085	PK

Profile: 19A2159R	Page No.: 99
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by code8	



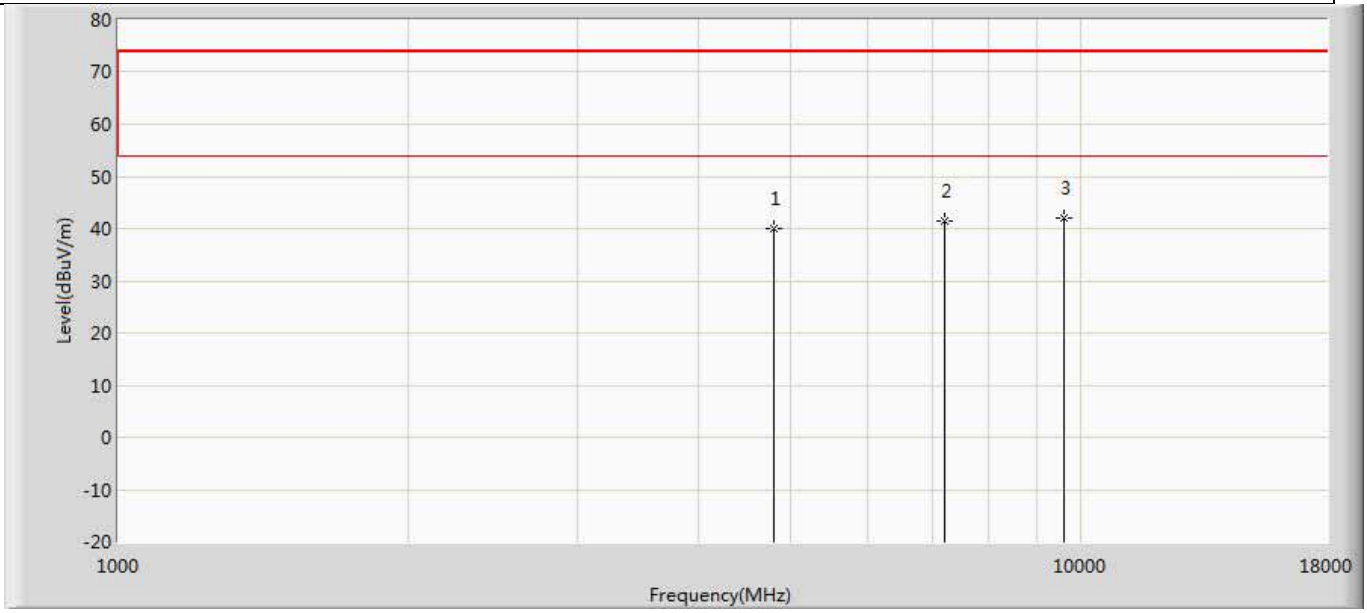
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.725	34.029	-35.275	74.000	4.695	PK
2	*	7440.000	42.765	34.681	-31.235	74.000	8.085	PK
3		9920.000	42.155	33.314	-31.845	74.000	8.840	PK

Profile: 19A2159R	Page No.: 100
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by code8	



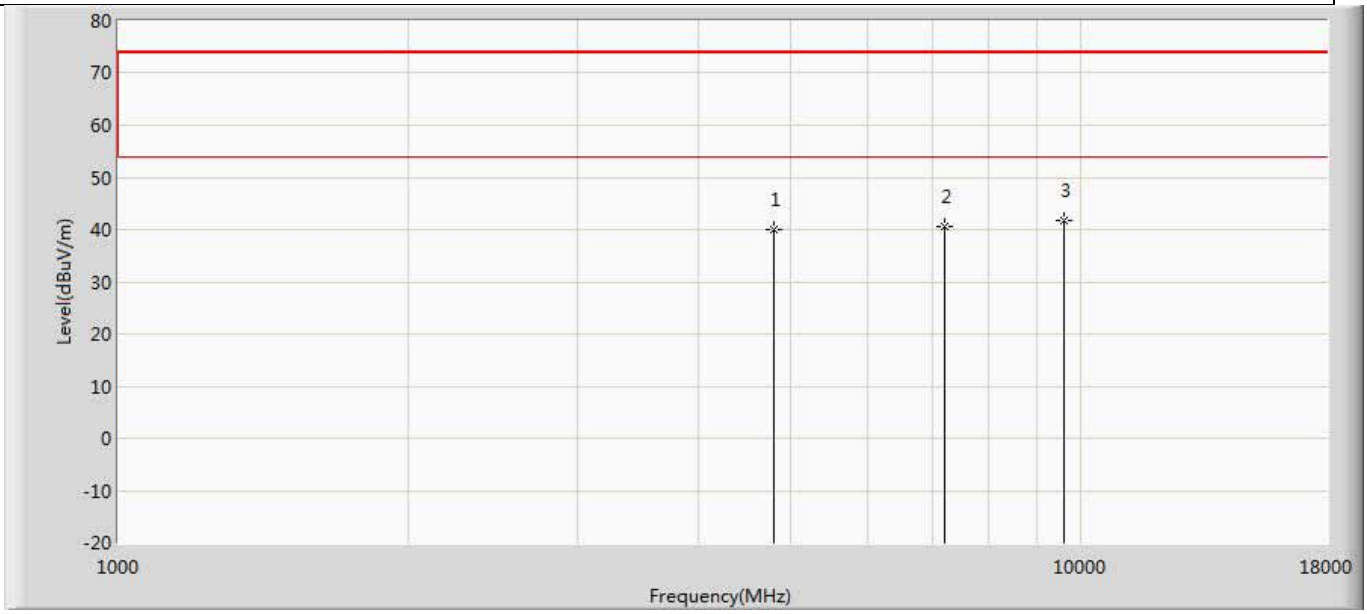
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.218	33.522	-35.782	74.000	4.695	PK
2	*	7440.000	41.529	33.445	-32.471	74.000	8.085	PK
3		9920.000	40.924	32.083	-33.076	74.000	8.840	PK

Profile: 19A2159R	Page No.: 89
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz by code2	



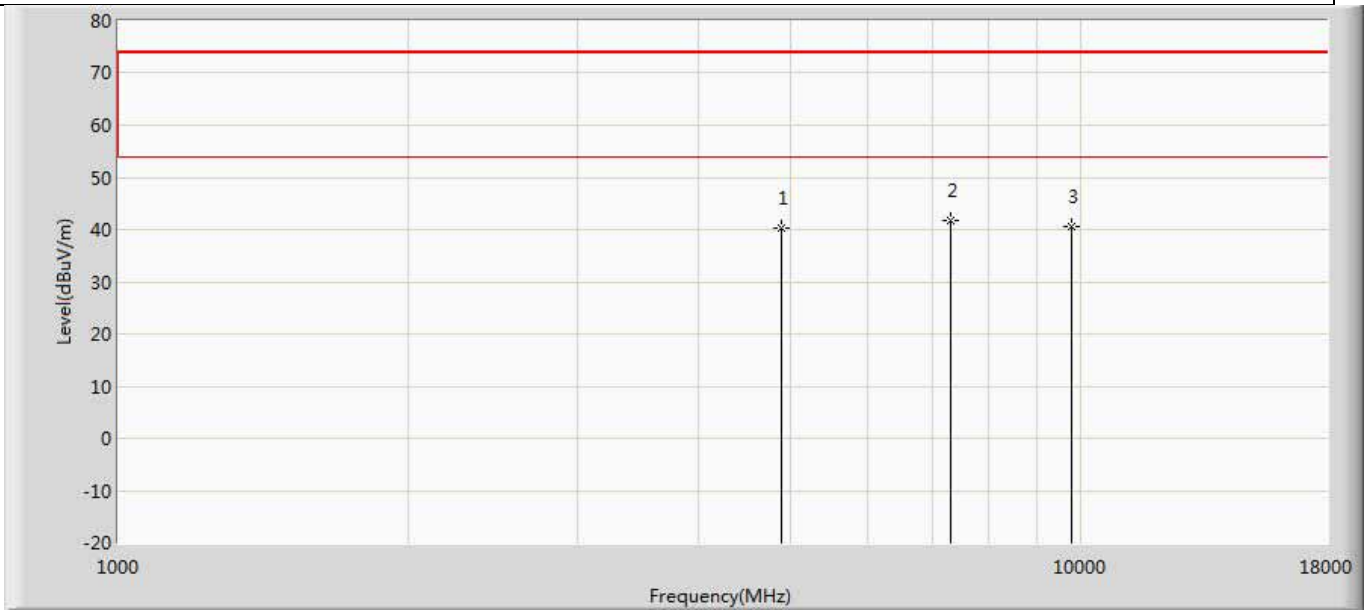
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.989	35.069	-34.011	74.000	4.920	PK
2		7206.000	41.517	34.198	-32.483	74.000	7.319	PK
3	*	9608.000	41.899	33.243	-32.101	74.000	8.657	PK

Profile: 19A2159R	Page No.: 90
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz by code2	



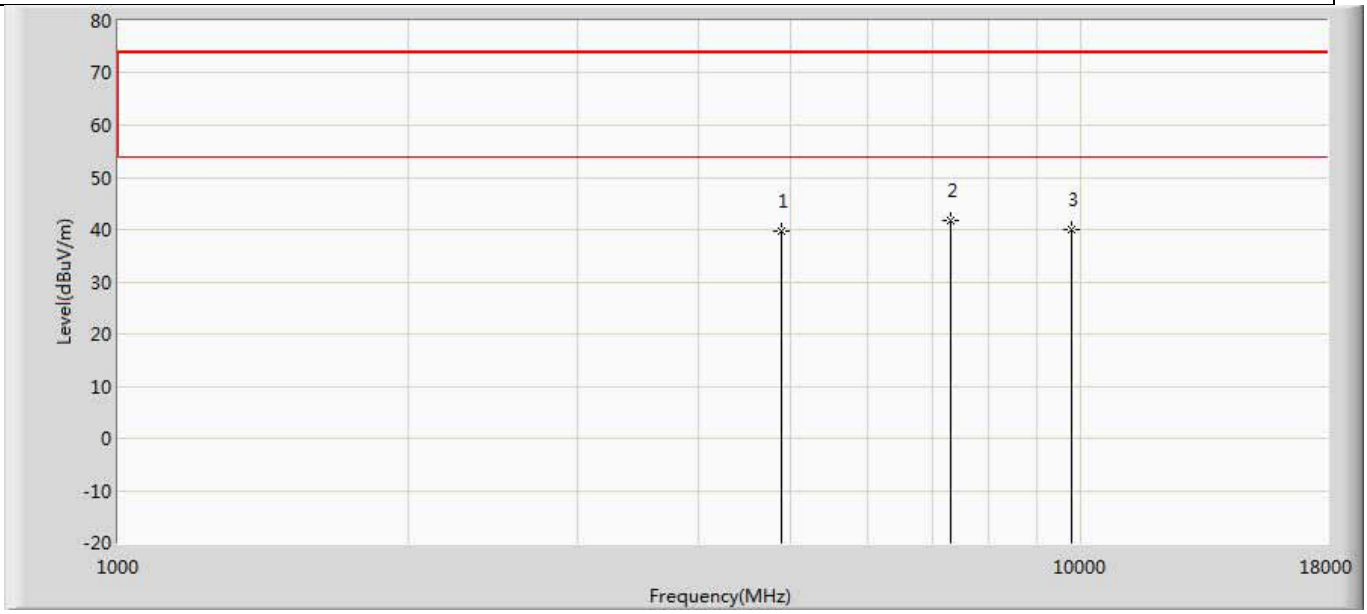
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.968	35.048	-34.032	74.000	4.920	PK
2		7206.000	40.647	33.328	-33.353	74.000	7.319	PK
3	*	9608.000	41.666	33.010	-32.334	74.000	8.657	PK

Profile: 19A2159R	Page No.: 91
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2440MHz by code2	



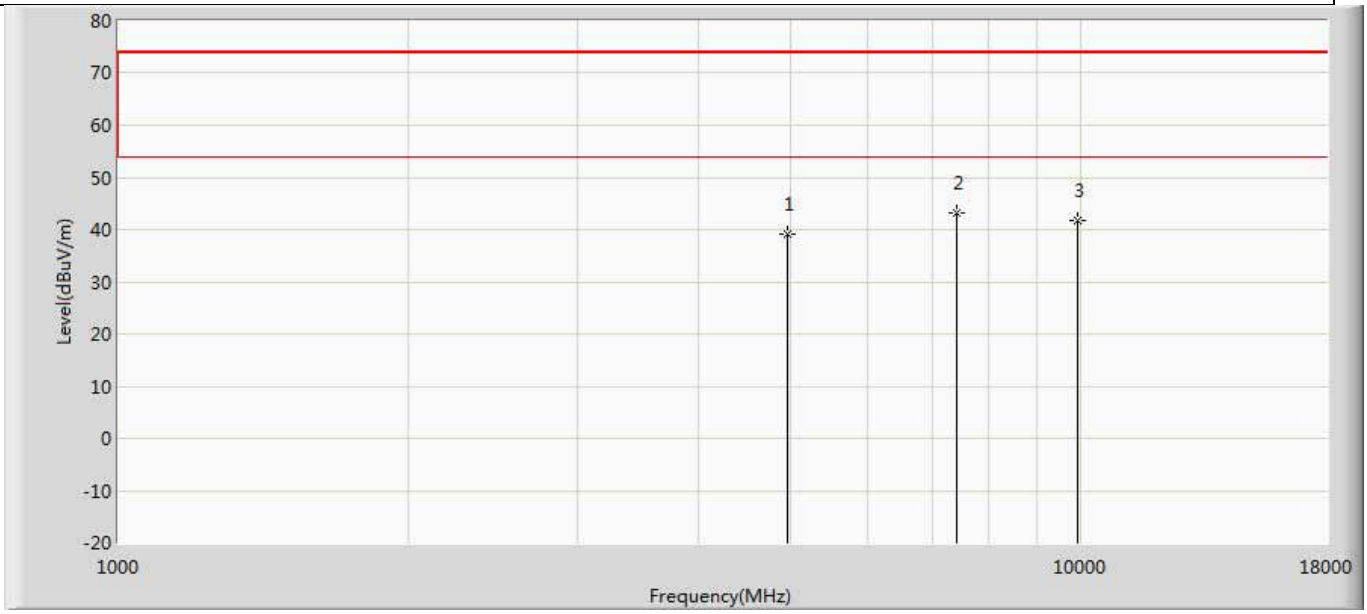
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.202	35.342	-33.798	74.000	4.859	PK
2	*	7320.000	41.739	34.241	-32.261	74.000	7.499	PK
3		9760.000	40.569	32.484	-33.431	74.000	8.085	PK

Profile: 19A2159R	Page No.: 92
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2440MHz by code2	



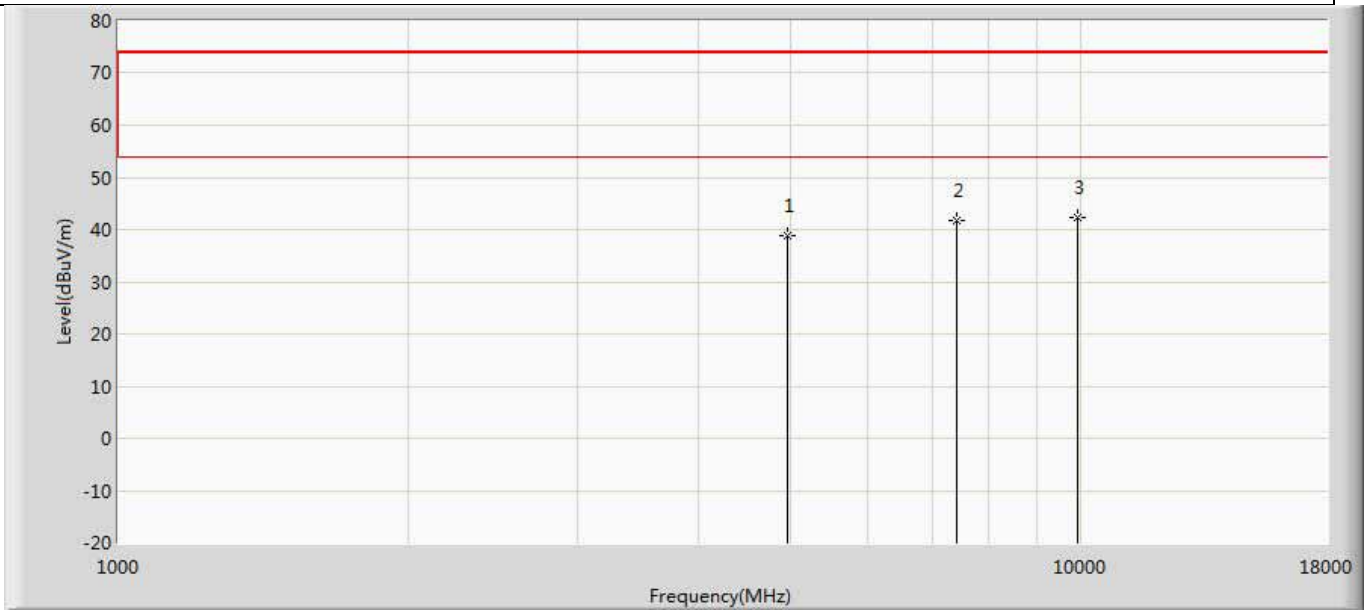
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	39.646	34.786	-34.354	74.000	4.859	PK
2	*	7320.000	41.626	34.128	-32.374	74.000	7.499	PK
3		9760.000	39.975	31.890	-34.025	74.000	8.085	PK

Profile: 19A2159R	Page No.: 93
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz by code2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	39.169	34.473	-34.831	74.000	4.695	PK
2	*	7440.000	43.104	35.020	-30.896	74.000	8.085	PK
3		9920.000	41.663	32.822	-32.337	74.000	8.840	PK

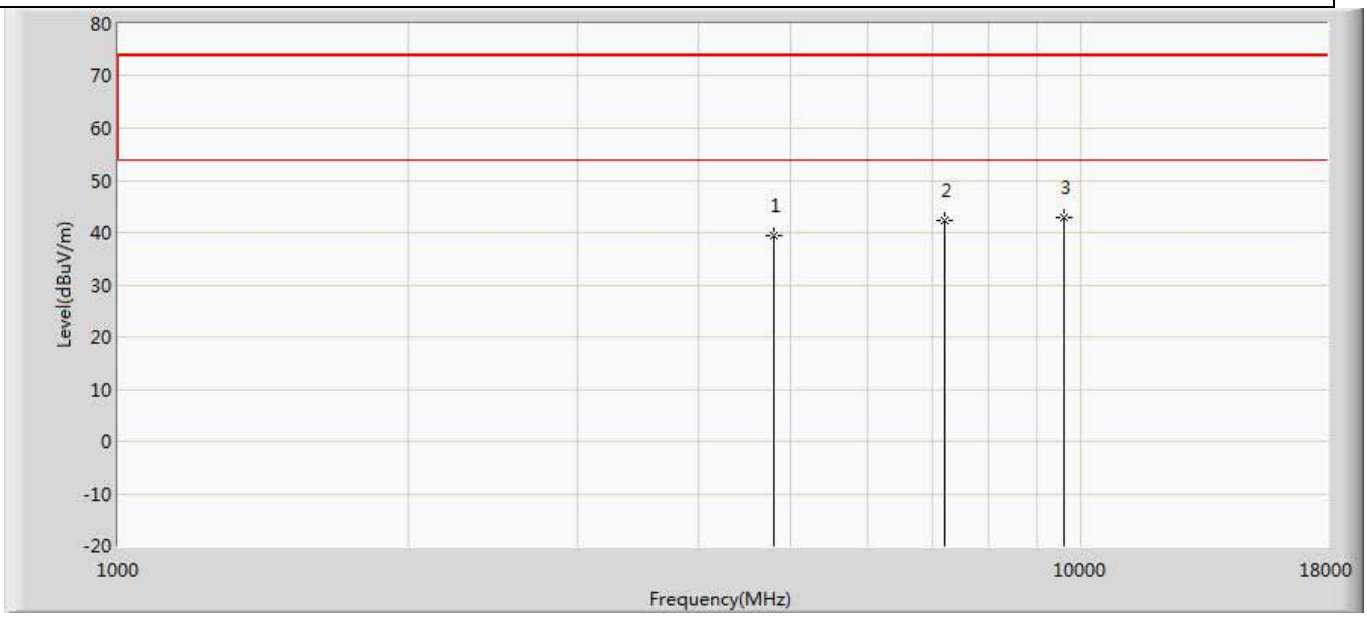
Profile: 19A2159R	Page No.: 94
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 11:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz by code2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.717	34.021	-35.283	74.000	4.695	PK
2		7440.000	41.756	33.672	-32.244	74.000	8.085	PK
3	*	9920.000	42.383	33.542	-31.617	74.000	8.840	PK

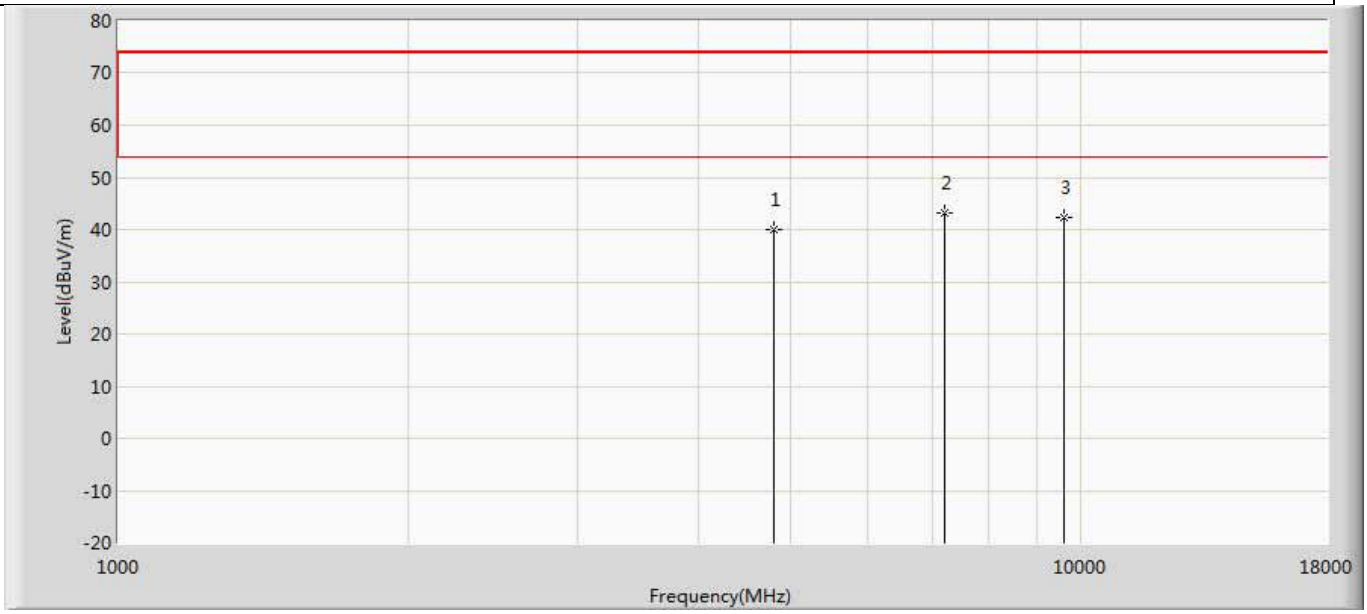
KDS:

Profile: 19A2159R	Page No.: 37
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402 by BLE	



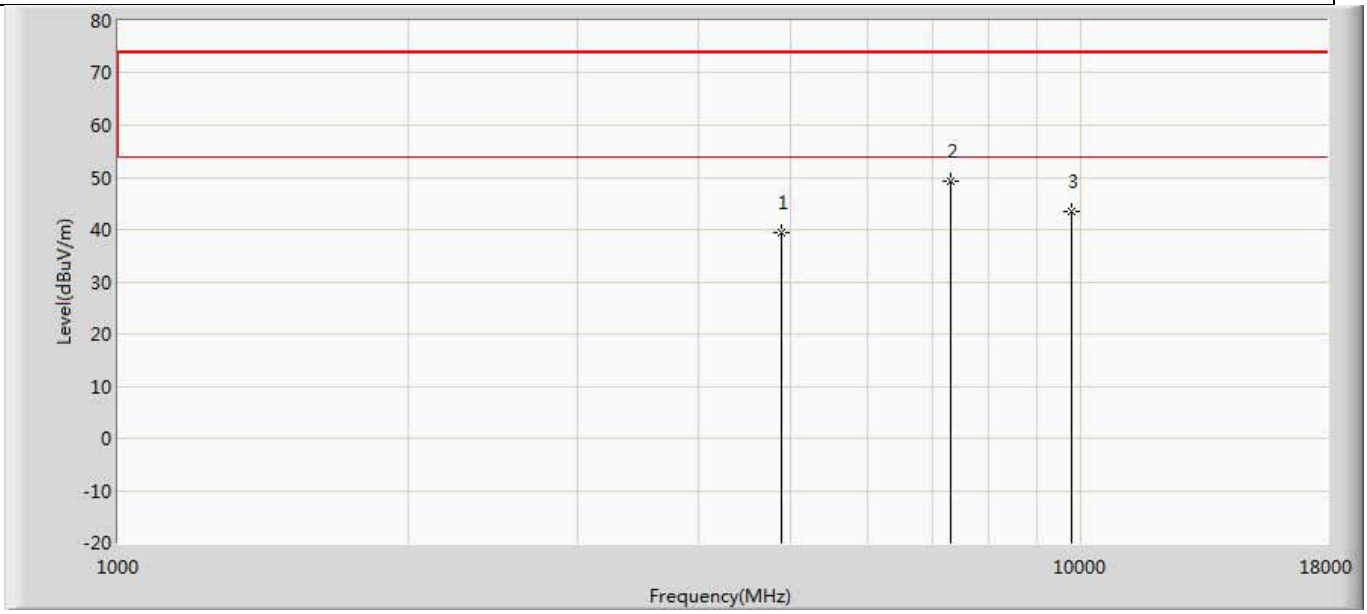
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.370	34.739	-34.630	74.000	4.631	PK
2		7206.000	42.302	34.278	-31.698	74.000	8.024	PK
3	*	9608.000	42.884	33.567	-31.116	74.000	9.318	PK

Profile: 19A2159R	Page No.: 38
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402 by BLE	



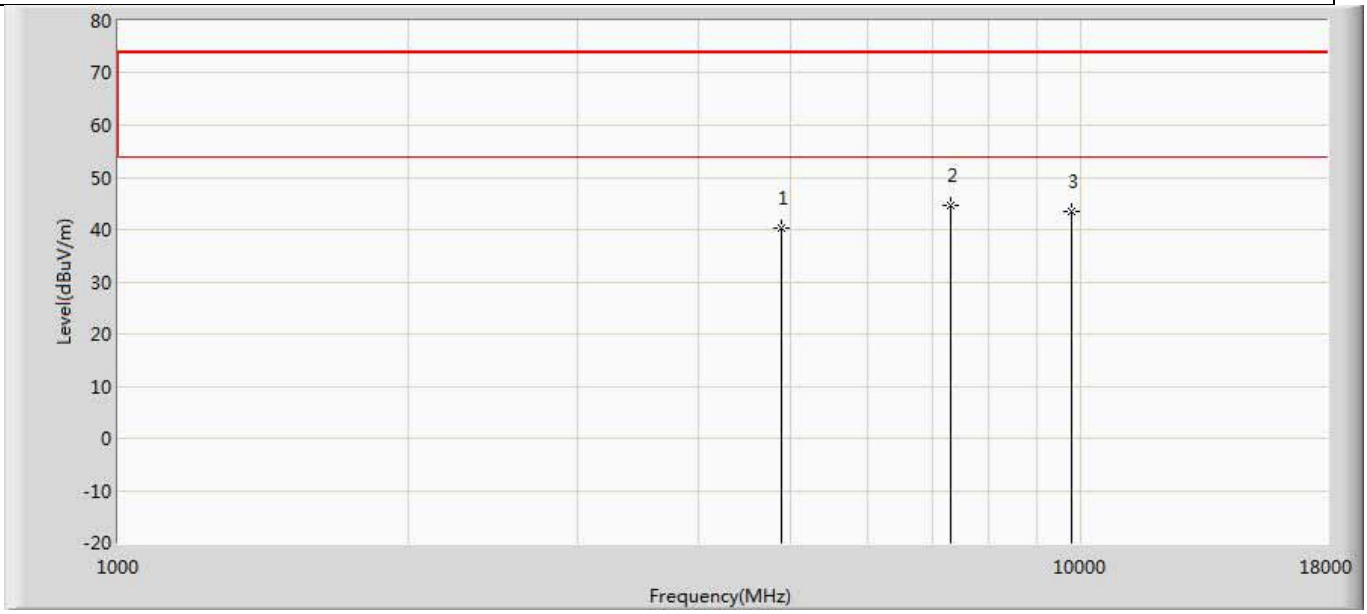
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.049	35.418	-33.951	74.000	4.631	PK
2	*	7206.000	43.134	35.110	-30.866	74.000	8.024	PK
3		9608.000	42.259	32.942	-31.741	74.000	9.318	PK

Profile: 19A2159R	Page No.: 39
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2440 by BLE	



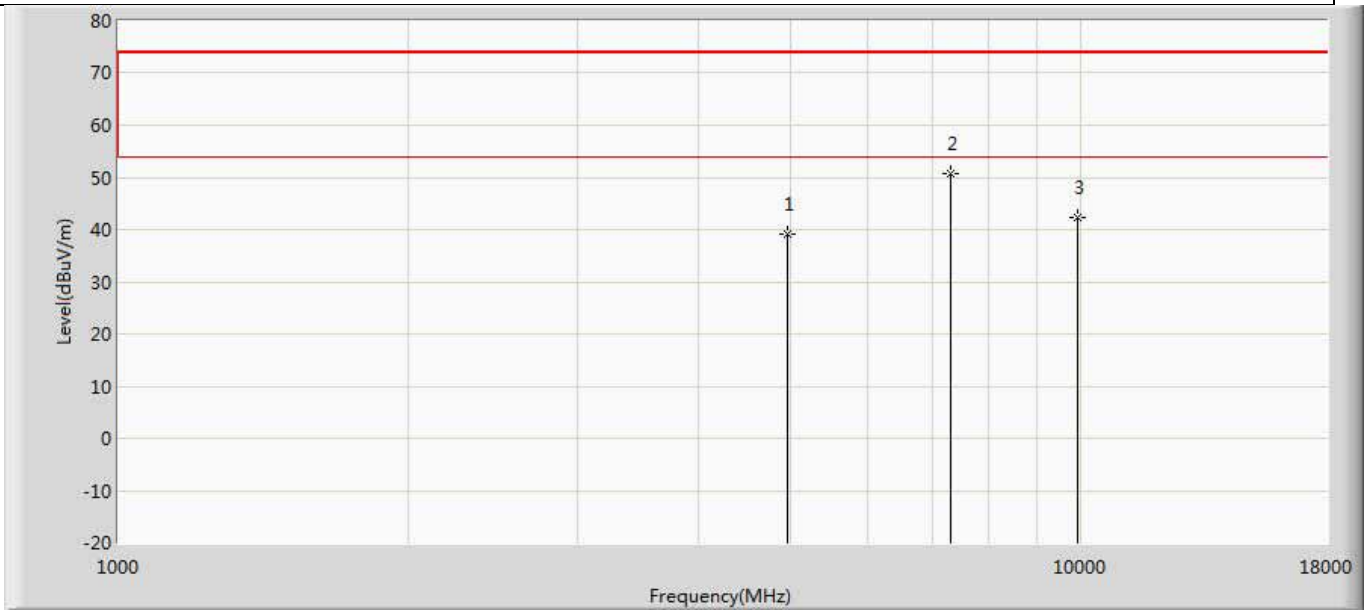
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	39.419	34.640	-34.581	74.000	4.778	PK
2	*	7324.000	49.376	41.271	-24.624	74.000	8.105	PK
3		9760.000	43.473	33.569	-30.527	74.000	9.904	PK

Profile: 19A2159R	Page No.: 40
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2440 by BLE	



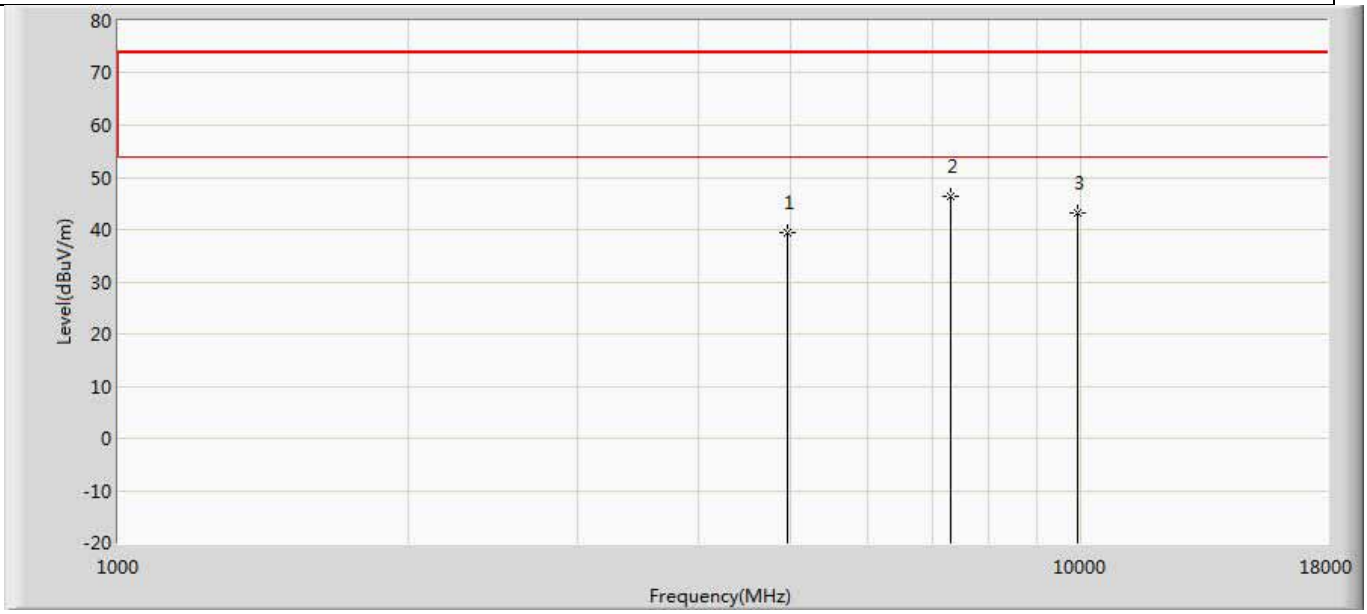
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.381	35.602	-33.619	74.000	4.778	PK
2	*	7320.000	44.661	36.591	-29.339	74.000	8.071	PK
3		9760.000	43.470	33.566	-30.530	74.000	9.904	PK

Profile: 19A2159R	Page No.: 41
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480 by BLE	



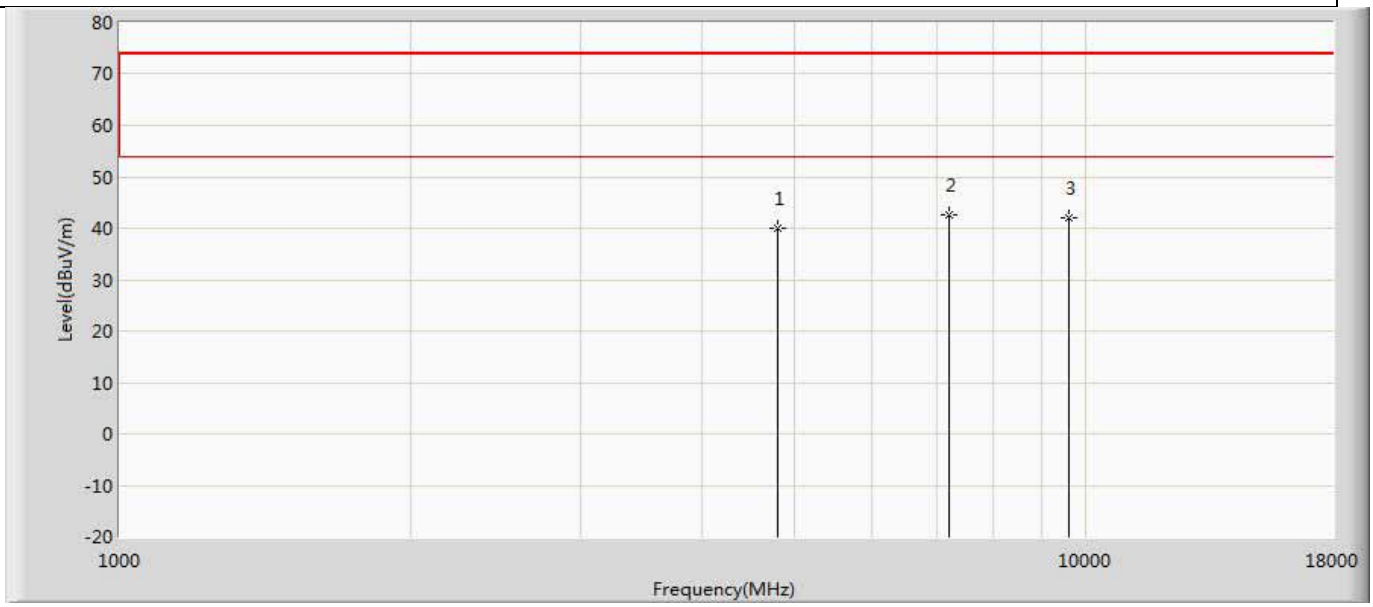
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.986	34.201	-35.014	74.000	4.784	PK
2	*	7315.500	50.729	42.699	-23.271	74.000	8.031	PK
3		9920.000	42.431	32.536	-31.569	74.000	9.894	PK

Profile: 19A2159R	Page No.: 42
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480 by BLE	



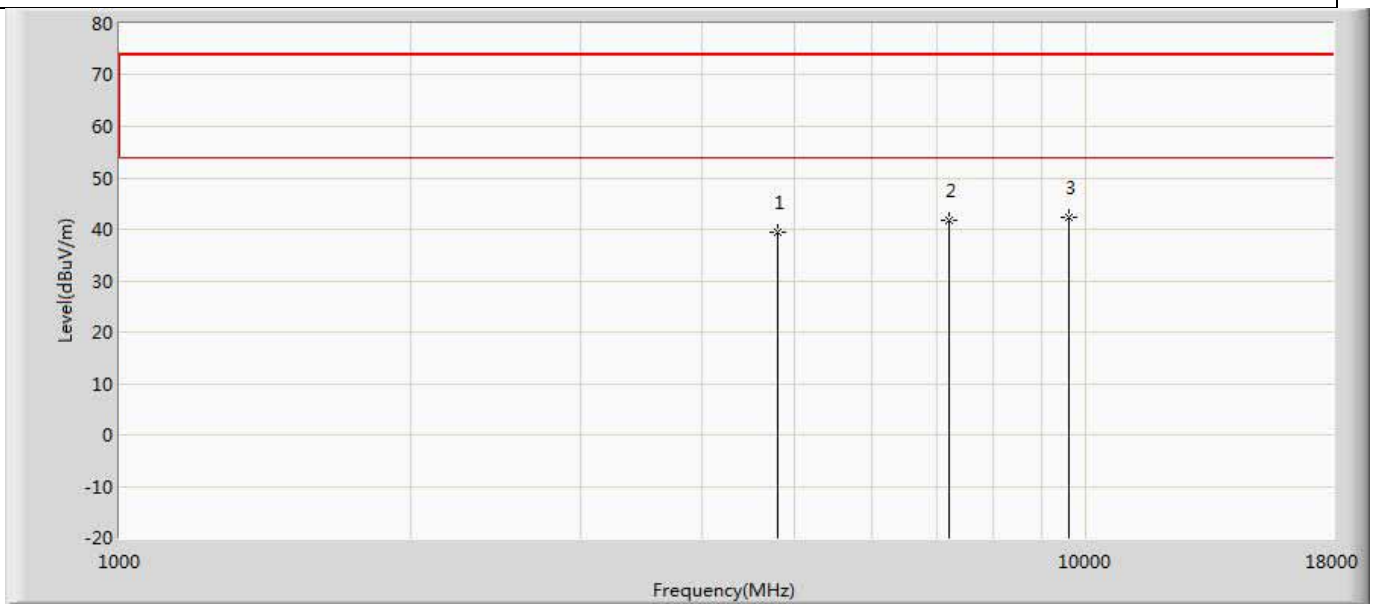
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	39.434	34.649	-34.566	74.000	4.784	PK
2	*	7315.500	46.444	38.414	-27.556	74.000	8.031	PK
3		9920.000	43.299	33.404	-30.701	74.000	9.894	PK

Profile: 19A2159R	Page No.: 43
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402 by 2LE	



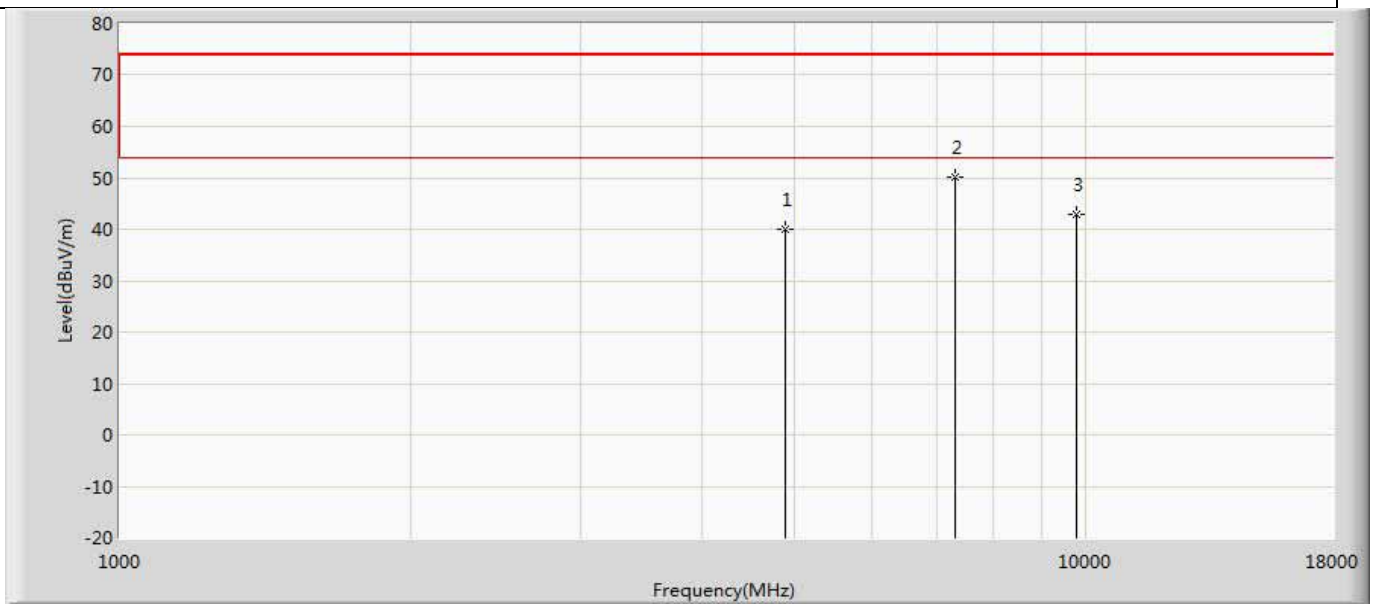
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.097	35.466	-33.903	74.000	4.631	PK
2	*	7206.000	42.659	34.635	-31.341	74.000	8.024	PK
3		9608.000	41.925	32.608	-32.075	74.000	9.318	PK

Profile: 19A2159R	Page No.: 44
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402 by 2LE	



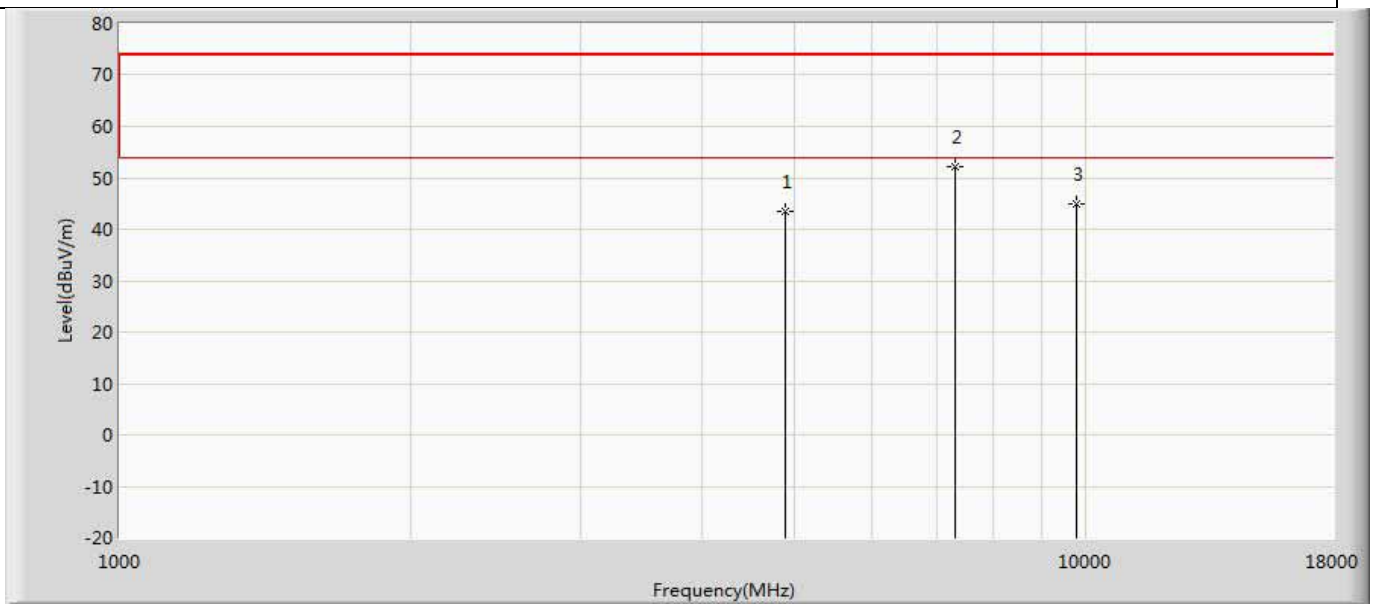
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.486	34.855	-34.514	74.000	4.631	PK
2		7206.000	41.818	33.794	-32.182	74.000	8.024	PK
3	*	9608.000	42.410	33.093	-31.590	74.000	9.318	PK

Profile: 19A2159R	Page No.: 45
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2440 by 2LE	



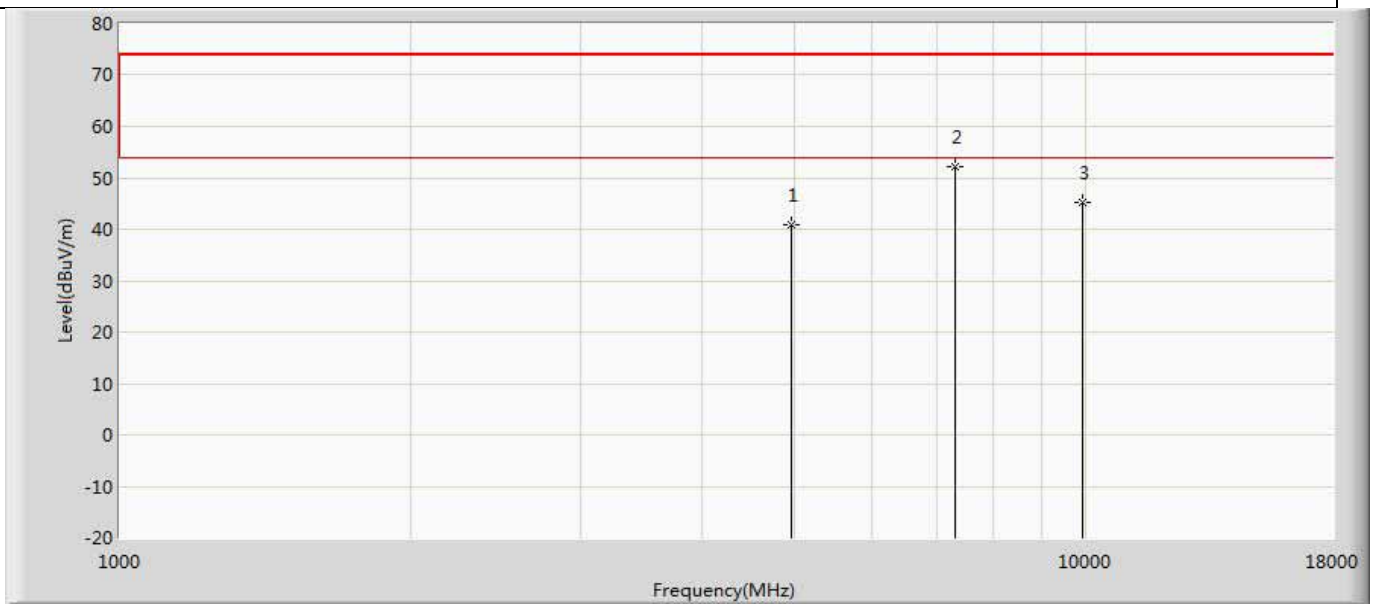
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	39.895	35.116	-34.105	74.000	4.778	PK
2	*	7324.000	50.002	41.897	-23.998	74.000	8.105	PK
3		9760.000	42.991	33.087	-31.009	74.000	9.904	PK

Profile: 19A2159R	Page No.: 46
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2440 by 2LE	



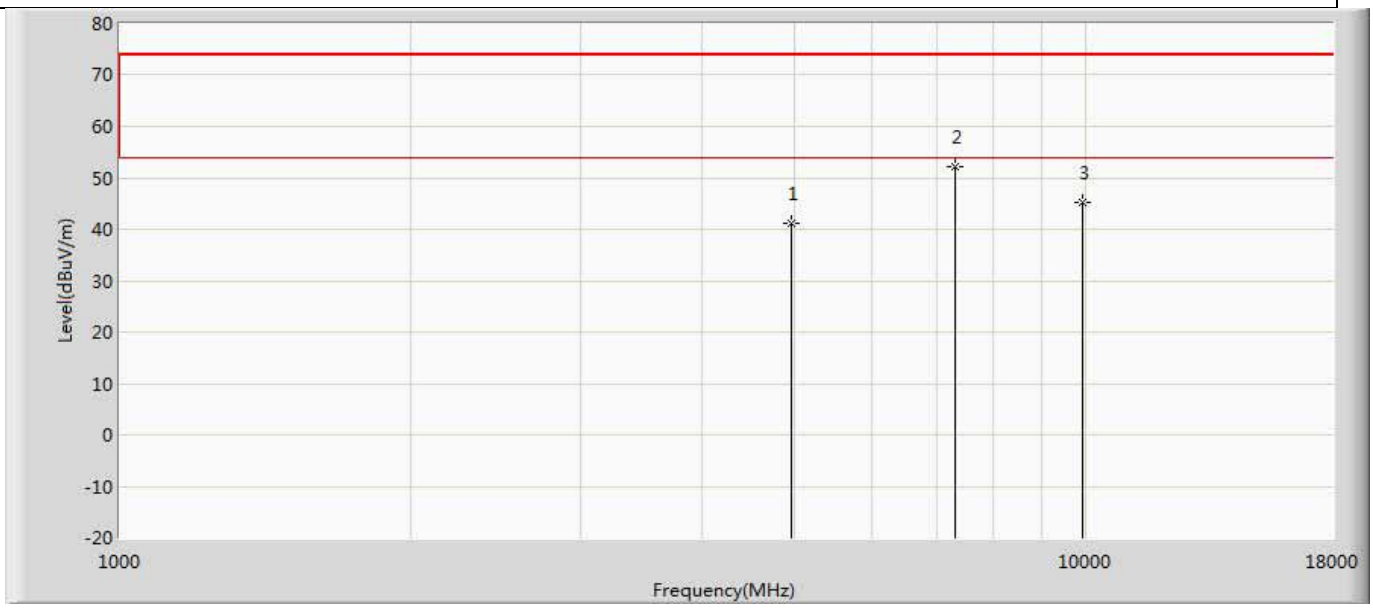
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	43.545	38.766	-30.455	74.000	4.778	PK
2	*	7315.500	52.241	44.211	-21.759	74.000	8.031	PK
3		9760.000	44.922	35.018	-29.078	74.000	9.904	PK

Profile: 19A2159R	Page No.: 47
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480 by 2LE	



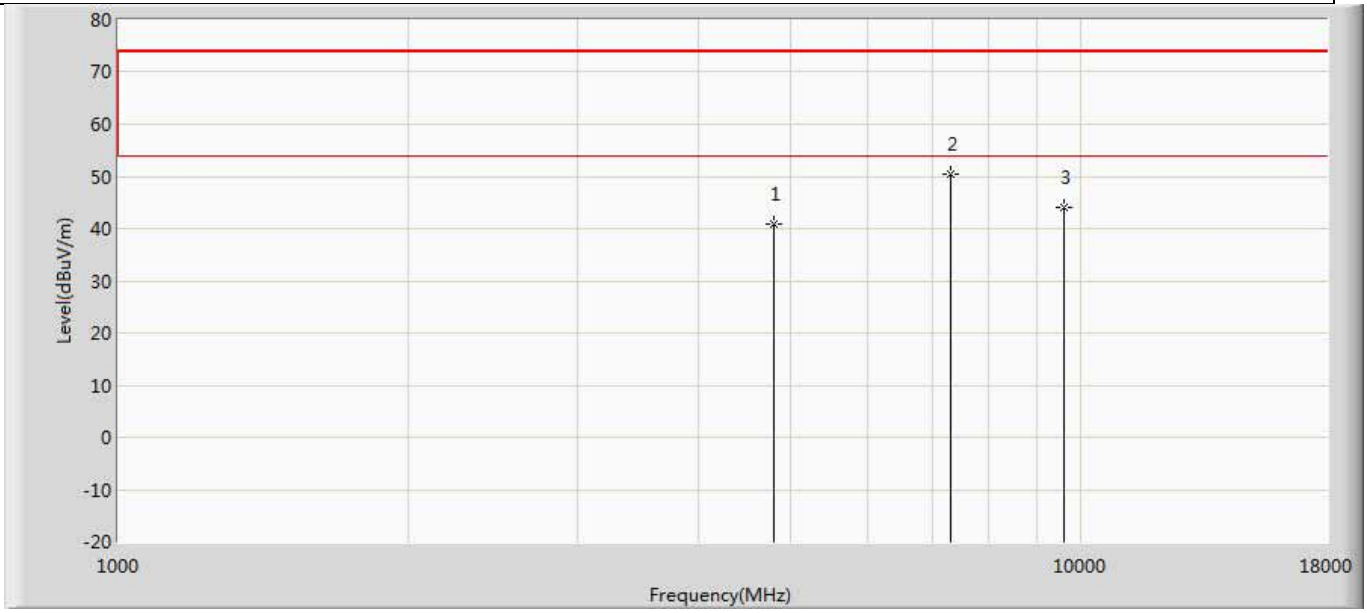
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.907	36.122	-33.093	74.000	4.784	PK
2	*	7315.500	52.241	44.211	-21.759	74.000	8.031	PK
3		9920.000	45.258	35.363	-28.742	74.000	9.894	PK

Profile: 19A2159R	Page No.: 48
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480 by 2LE	



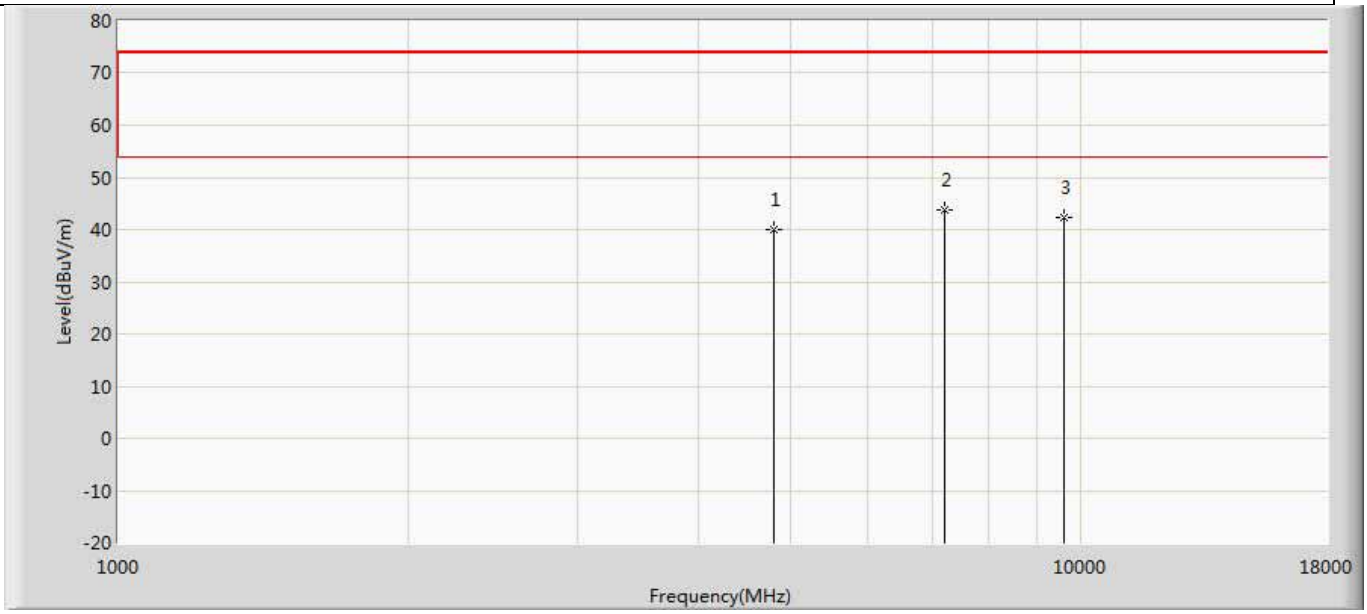
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	41.270	36.485	-32.730	74.000	4.784	PK
2	*	7315.500	52.241	44.211	-21.759	74.000	8.031	PK
3		9920.000	45.258	35.363	-28.742	74.000	9.894	PK

Profile: 19A2159R	Page No.: 55
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402 by code8	



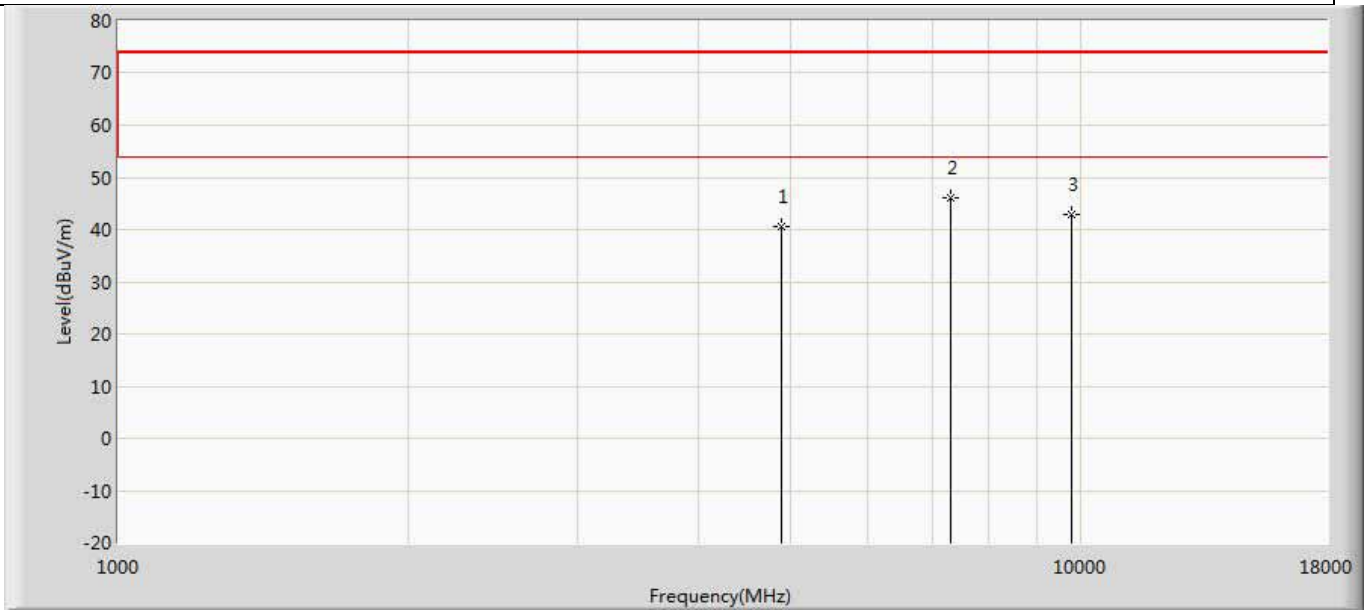
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.937	36.306	-33.063	74.000	4.631	PK
2	*	7324.000	50.519	42.414	-23.481	74.000	8.105	PK
3		9608.000	44.136	34.819	-29.864	74.000	9.318	PK

Profile: 19A2159R	Page No.: 56
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402 by code8	



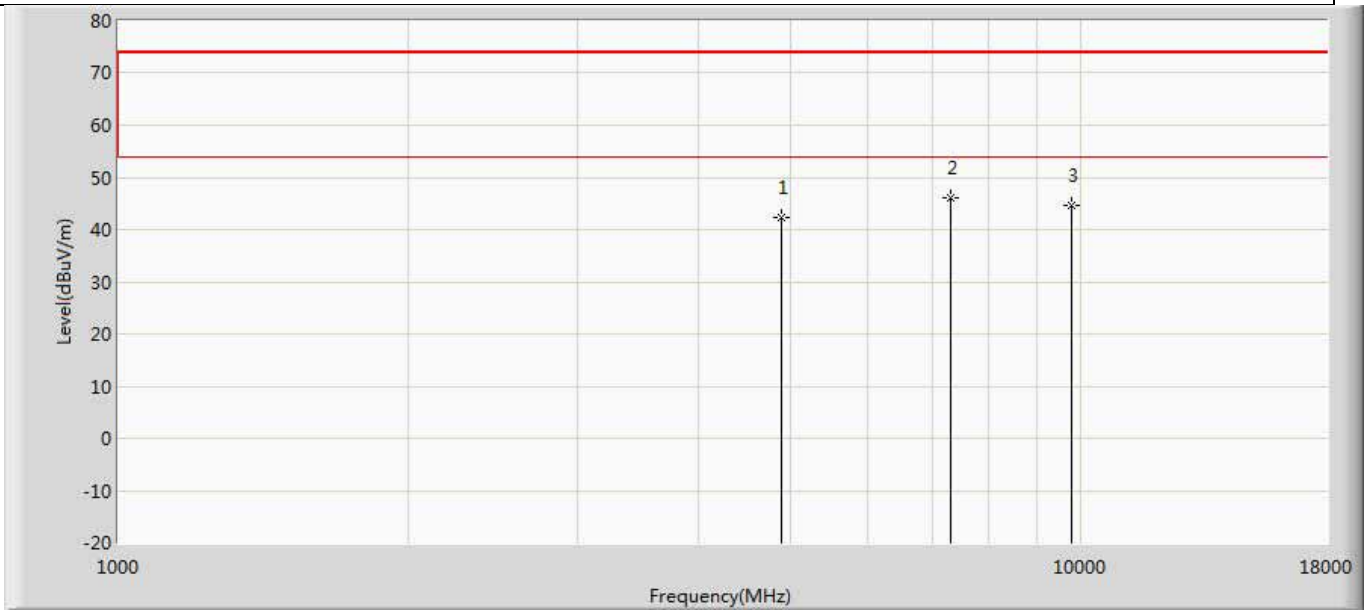
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.004	35.373	-33.996	74.000	4.631	PK
2	*	7206.000	43.796	35.772	-30.204	74.000	8.024	PK
3		9608.000	42.450	33.133	-31.550	74.000	9.318	PK

Profile: 19A2159R	Page No.: 57
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2440 by code8	



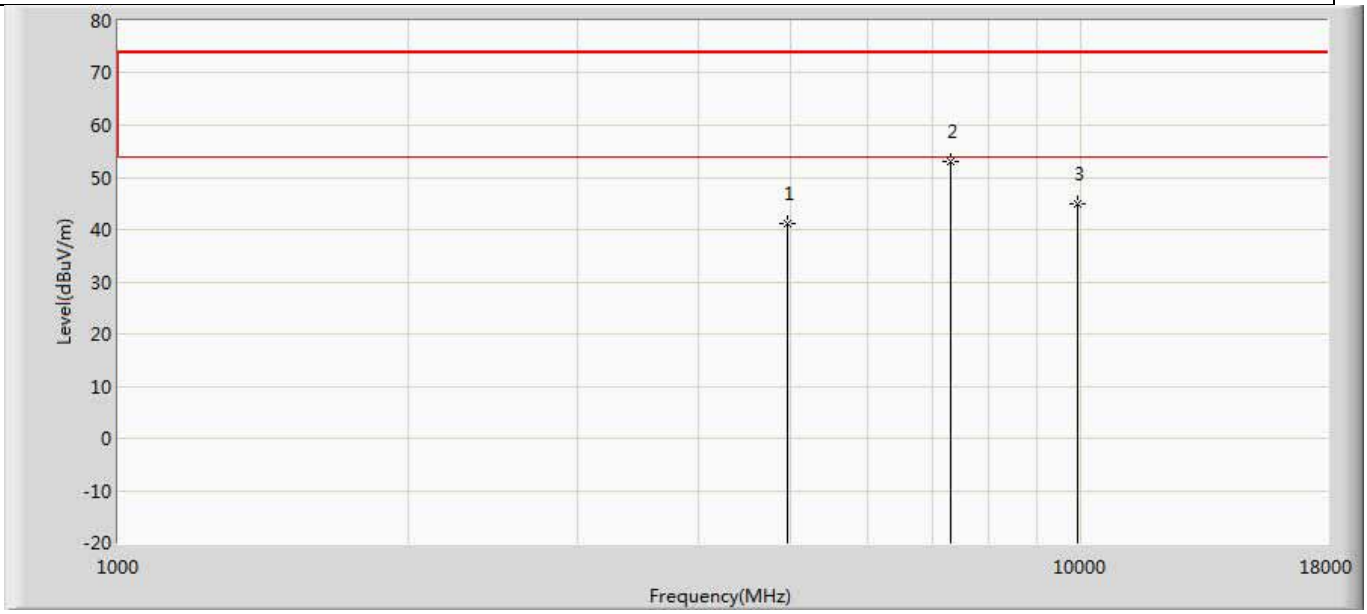
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.489	35.710	-33.511	74.000	4.778	PK
2	*	7320.000	46.117	38.047	-27.883	74.000	8.071	PK
3		9760.000	42.926	33.022	-31.074	74.000	9.904	PK

Profile: 19A2159R	Page No.: 58
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2440 by code8	



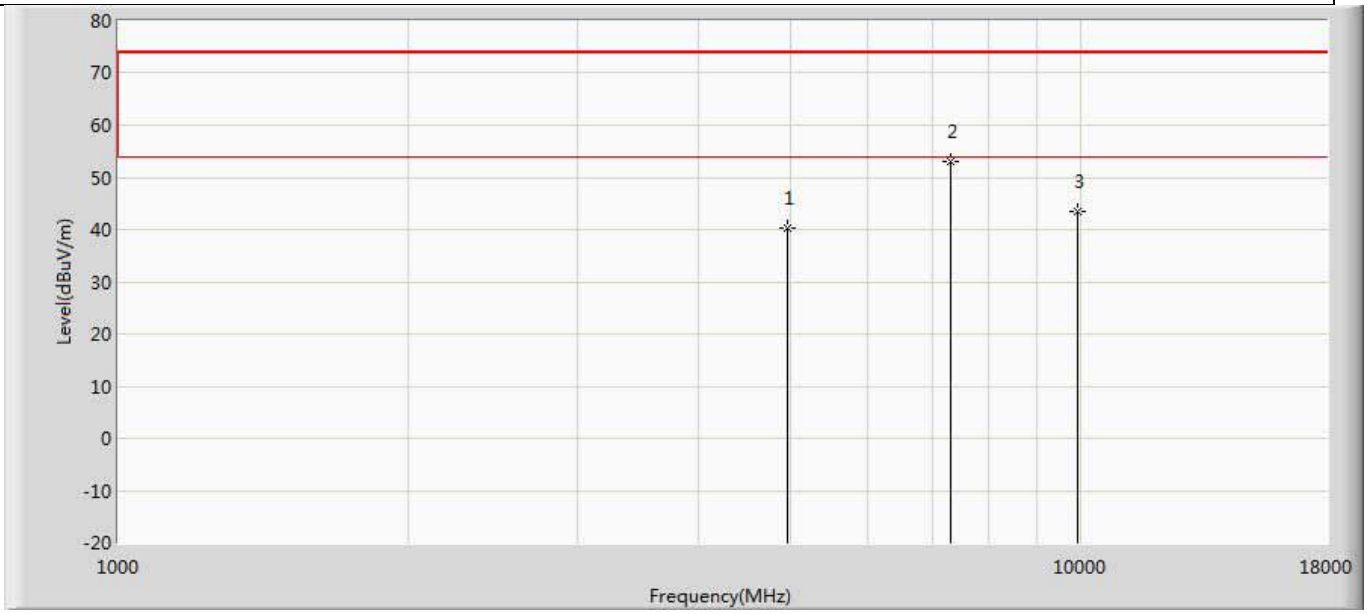
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	42.316	37.537	-31.684	74.000	4.778	PK
2	*	7320.000	46.118	38.048	-27.882	74.000	8.071	PK
3		9760.000	44.545	34.641	-29.455	74.000	9.904	PK

Profile: 19A2159R	Page No.: 59
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480 by code8	



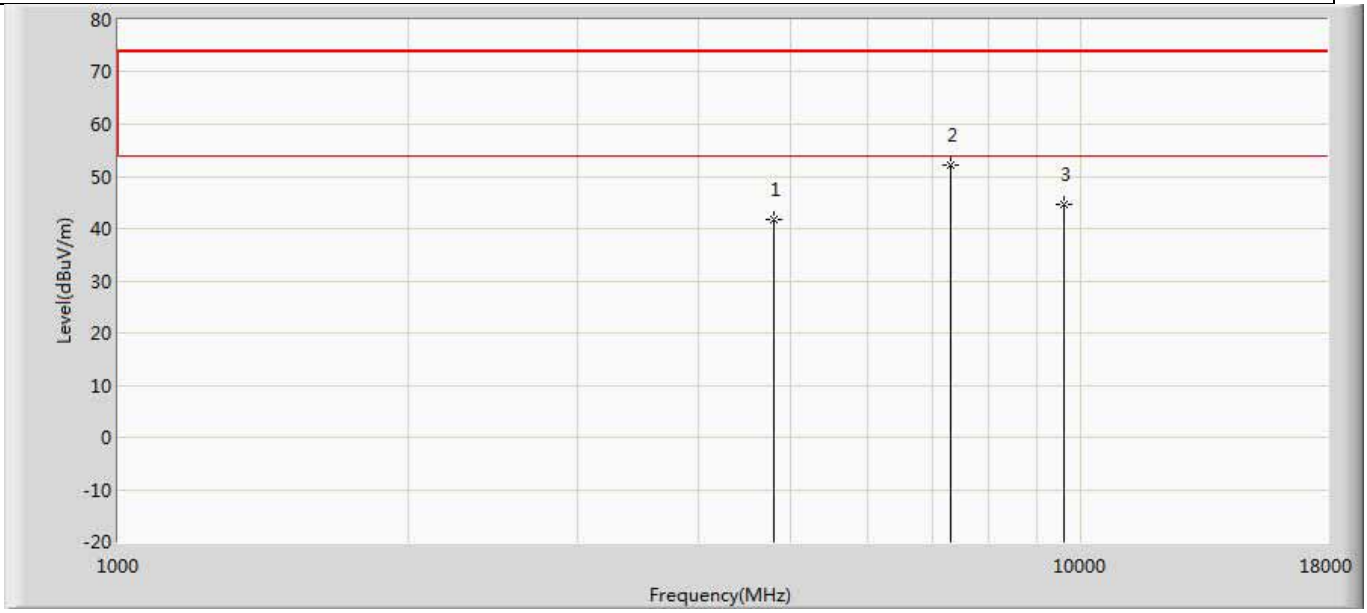
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	41.196	36.411	-32.804	74.000	4.784	PK
2	*	7315.500	52.948	44.918	-21.052	74.000	8.031	PK
3		9920.000	44.960	35.065	-29.040	74.000	9.894	PK

Profile: 19A2159R	Page No.: 60
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480 by code8	



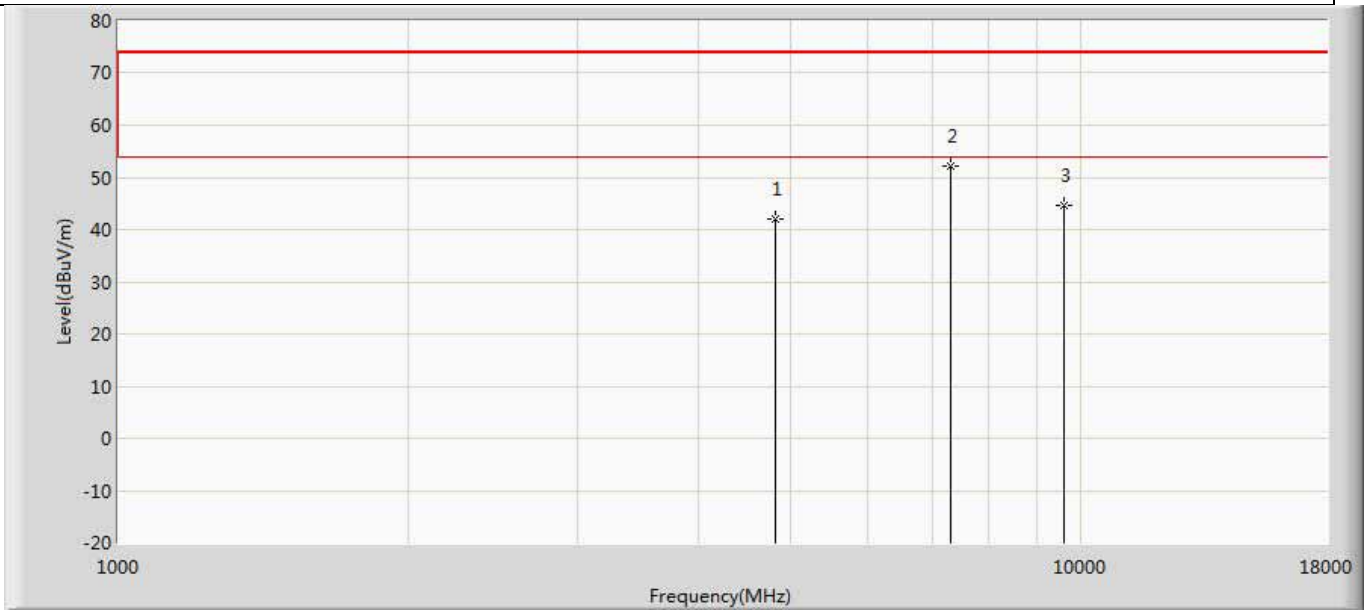
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.194	35.409	-33.806	74.000	4.784	PK
2	*	7315.500	52.948	44.918	-21.052	74.000	8.031	PK
3		9920.000	43.390	33.495	-30.610	74.000	9.894	PK

Profile: 19A2159R	Page No.: 49
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402 by code2	



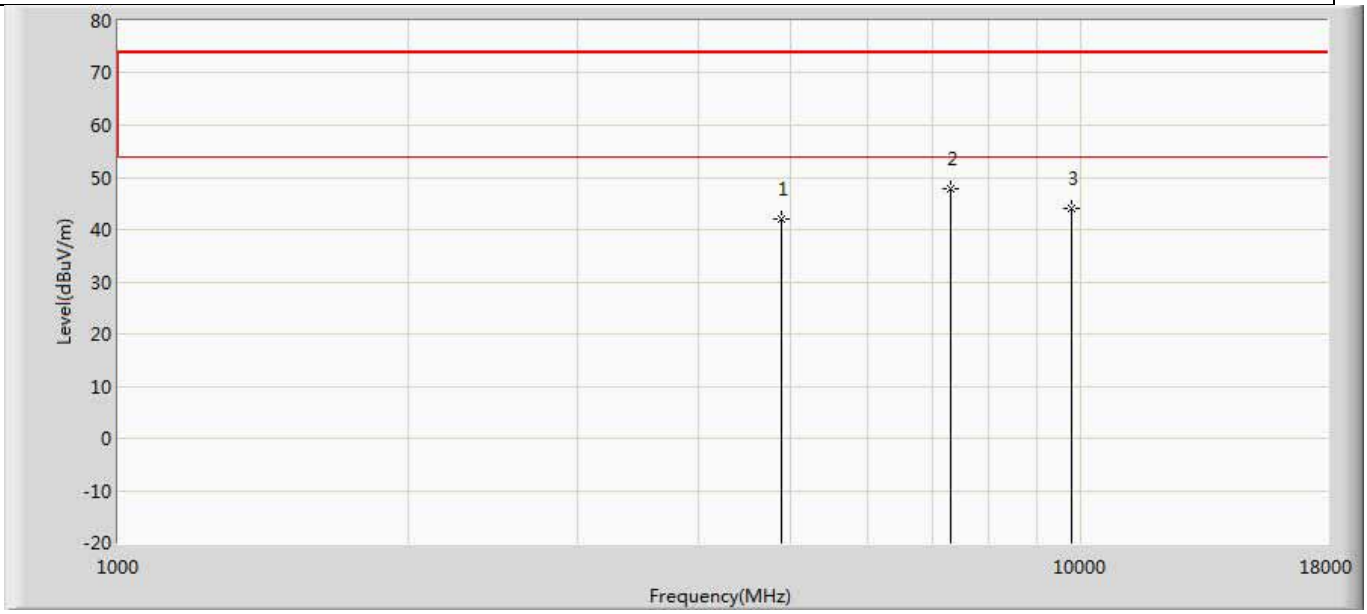
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	41.765	37.134	-32.235	74.000	4.631	PK
2	*	7315.500	52.241	44.211	-21.759	74.000	8.031	PK
3		9608.000	44.575	35.258	-29.425	74.000	9.318	PK

Profile: 19A2159R	Page No.: 50
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402 by code2	



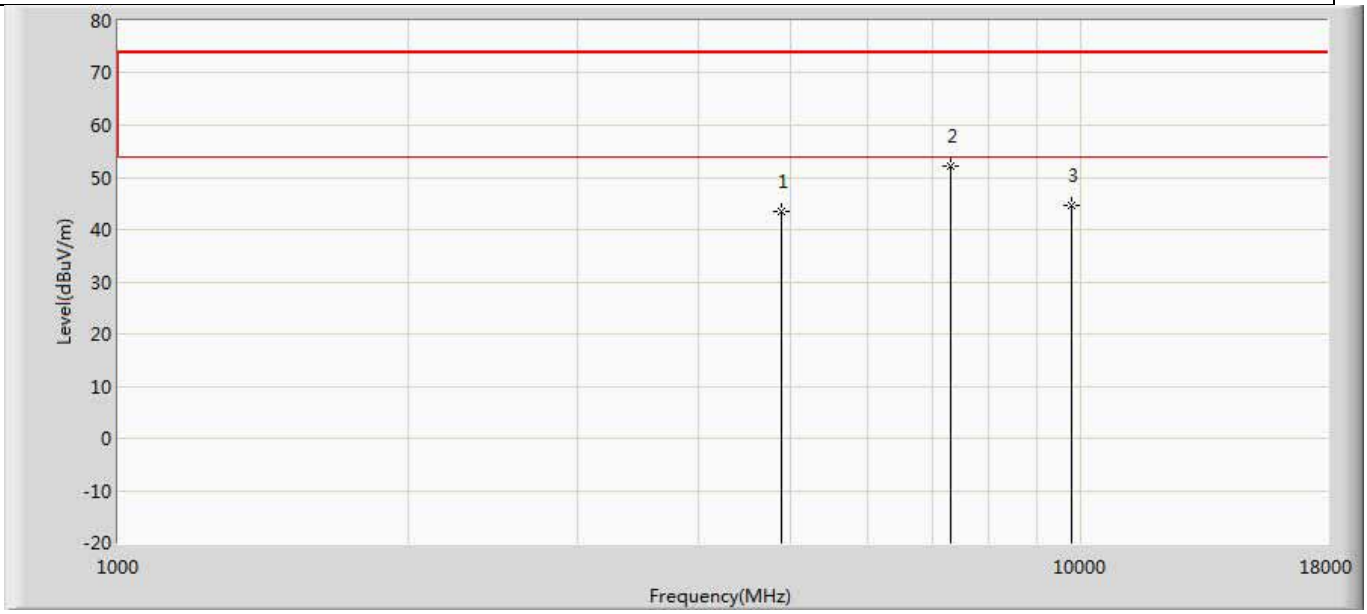
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4807.000	42.092	37.472	-31.908	74.000	4.619	PK
2	*	7315.500	52.241	44.211	-21.759	74.000	8.031	PK
3		9608.000	44.692	35.375	-29.308	74.000	9.318	PK

Profile: 19A2159R	Page No.: 51
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2440 by code2	



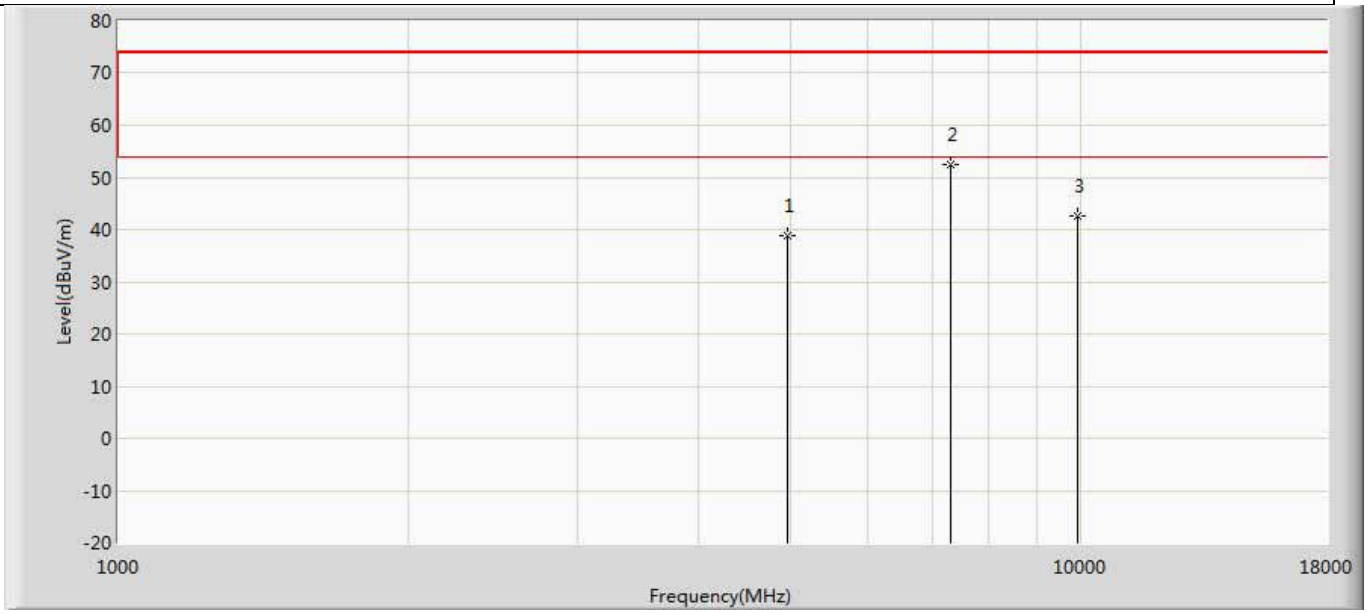
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	41.915	37.136	-32.085	74.000	4.778	PK
2	*	7320.000	47.879	39.809	-26.121	74.000	8.071	PK
3		9760.000	43.934	34.030	-30.066	74.000	9.904	PK

Profile: 19A2159R	Page No.: 52
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2440 by code2	



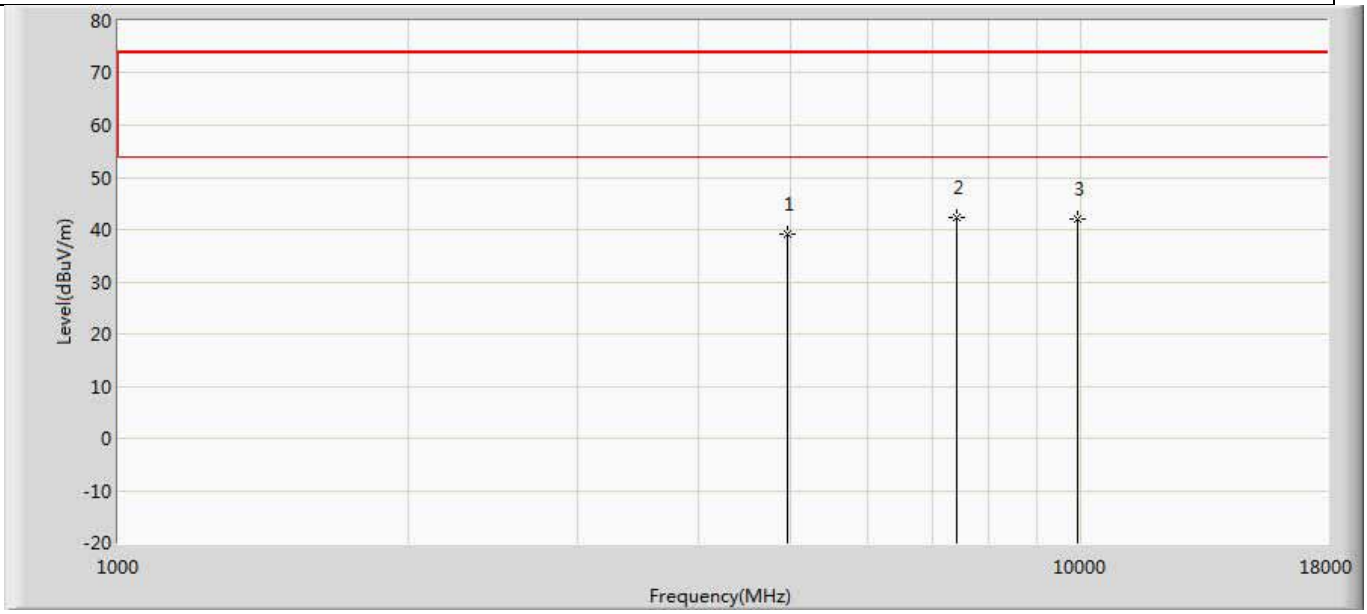
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	43.514	38.735	-30.486	74.000	4.778	PK
2	*	7324.000	52.312	44.207	-21.688	74.000	8.105	PK
3		9760.000	44.671	34.767	-29.329	74.000	9.904	PK

Profile: 19A2159R	Page No.: 53
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480 by code2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.864	34.079	-35.136	74.000	4.784	PK
2	*	7324.000	52.568	44.463	-21.432	74.000	8.105	PK
3		9920.000	42.635	32.740	-31.365	74.000	9.894	PK

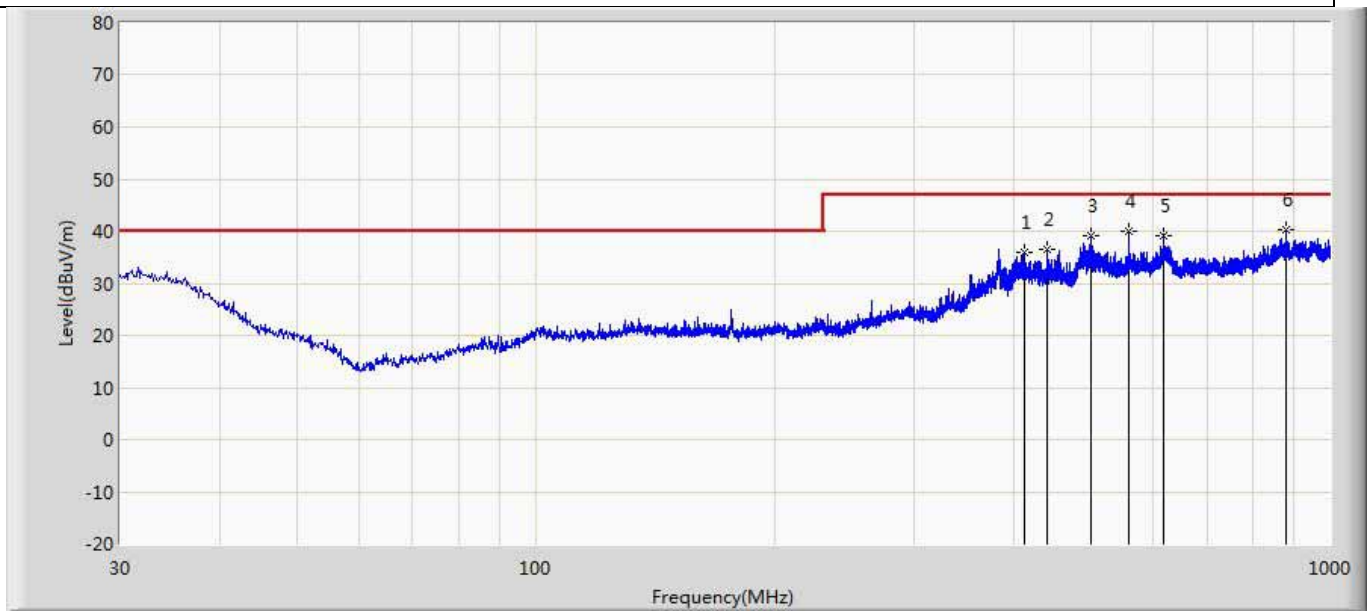
Profile: 19A2159R	Page No.: 54
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 20:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480 by code2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	39.187	34.402	-34.813	74.000	4.784	PK
2	*	7440.000	42.435	34.384	-31.565	74.000	8.051	PK
3		9920.000	42.034	32.139	-31.966	74.000	9.894	PK

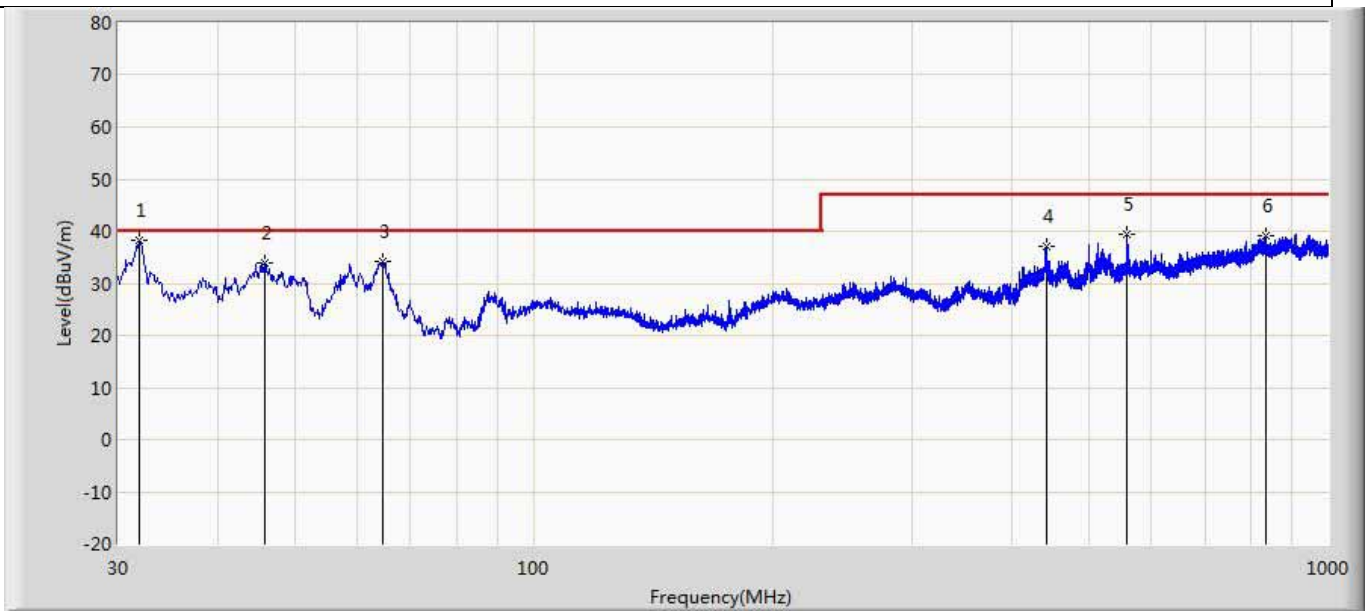
The worst case of Radiated Emission below 1GHz:

Engineer: Kang	
Site: AC2	Time: 2019/11/06
Limit: CISPR15_RE(3m) 1G	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: LED lamp	Power: AC 230V/50Hz
Note: Mode 1:Transmit at 2402 by BLE	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Type
1		412.180	35.848	9.897	-11.152	47.000	18.038	7.913	PK
2		441.401	36.406	10.135	-10.594	47.000	18.272	7.999	PK
3		500.207	39.184	11.544	-7.816	47.000	19.466	8.173	PK
4		559.014	40.074	11.604	-6.926	47.000	20.140	8.330	PK
5		617.820	39.225	8.834	-7.775	47.000	21.906	8.485	PK
6	*	881.417	40.190	7.653	-6.810	47.000	23.409	9.127	PK

Profile: 19A2159E	Page No.: 23
Engineer: Kang	
Site: AC2	Time: 2019/11/06 - 09:44
Limit: CISPR15_RE(3m) 1G	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: LED lamp	Power: AC 230V/50Hz
Note: Mode 1:Transmit at 2402 by BLE	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Type
1	*	31.940	38.200	14.855	-1.800	40.000	17.006	6.339	PK
2		45.884	34.056	15.981	-5.944	40.000	11.612	6.463	PK
3		64.556	34.310	18.355	-5.690	40.000	9.375	6.580	PK
4		441.765	37.115	11.033	-9.885	47.000	18.082	8.000	PK
5		559.014	39.412	12.605	-7.588	47.000	18.477	8.330	PK
6		833.766	39.050	6.117	-7.950	47.000	23.911	9.022	PK

Note:

1. Measured Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~26GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.
4. As the radiated emission was performed, so conducted emission was not tested.

4.3 Emissions in non-restricted frequency band — VERDICT: PASS

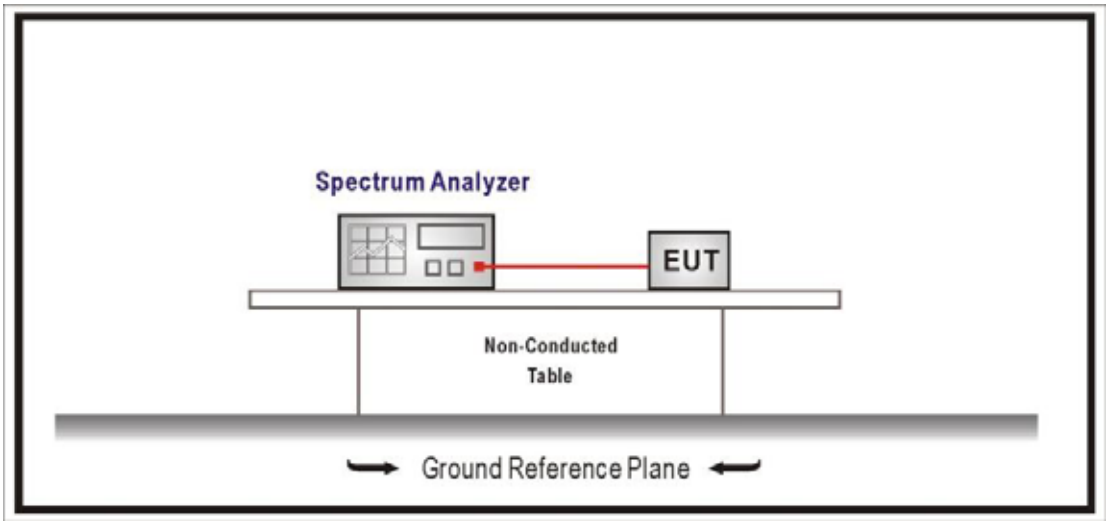
4.3.1 Limit

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	00	2402	9.347	2400	-41.568	50.915	>20	Pass
	39	2480	9.194	2500	-61.136	70.330	>20	Pass
2	00	2402	7.378	2400	-23.202	30.580	>20	Pass
	39	2480	7.182	2500	-60.827	68.009	>20	Pass
3	00	2402	9.348	2400	-40.492	49.840	>20	Pass
	39	2480	9.117	2500	-61.812	70.929	>20	Pass
4	00	2402	6.645	2400	-42.198	48.843	>20	Pass
	39	2480	6.402	2500	-62.018	68.420	>20	Pass

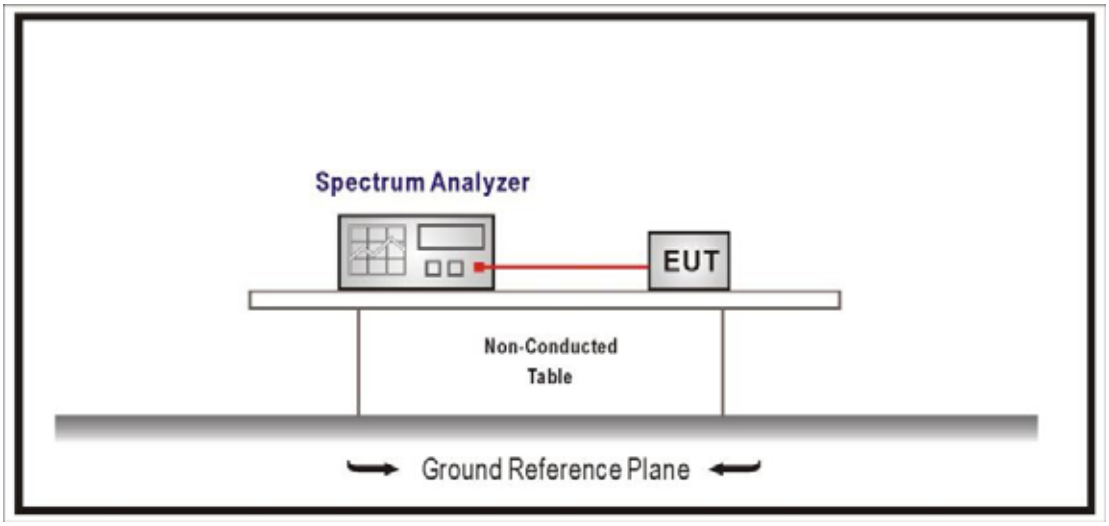
Mode 2 CH00(2402MHz)

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
Mode 1	N/A	N/A	10	N/A	100%
Mode 2	N/A	N/A	10	N/A	100%
Mode 3	N/A	N/A	10	N/A	100%
Mode 4	N/A	N/A	10	N/A	100%

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.

Mode 1

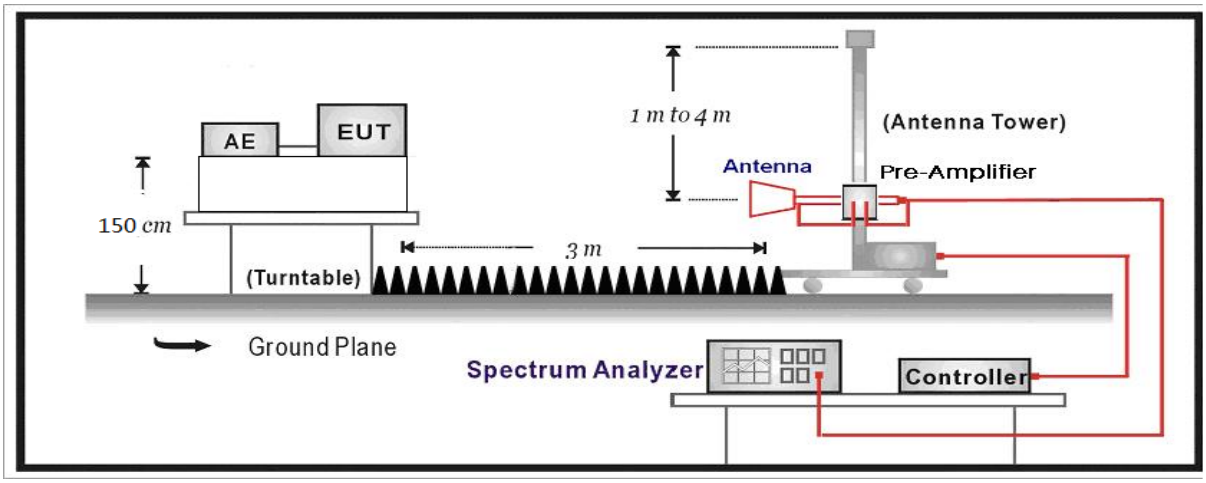
4.5 Radiated Emission Band Edge — VERDICT: PASS

4.5.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209			
Frequency bands (MHz)	Detector	Limit (dB μ V/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:



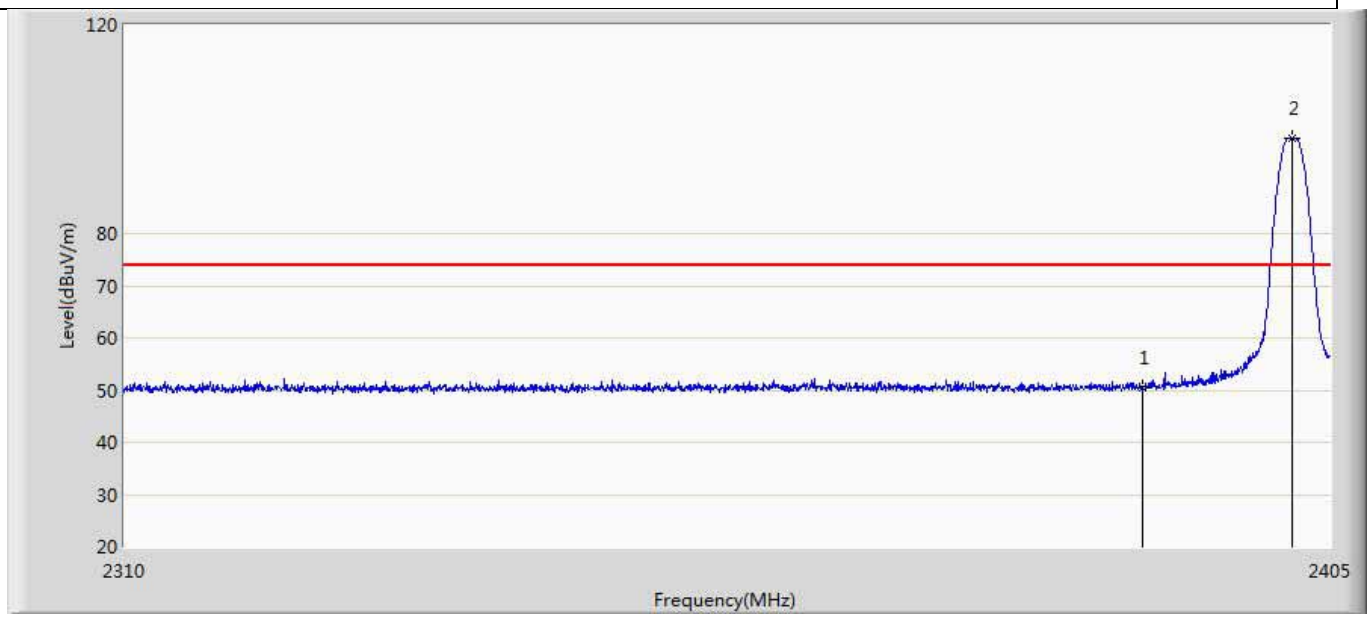
4.5.3 Test Procedure

	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

4.5.4 Test Data

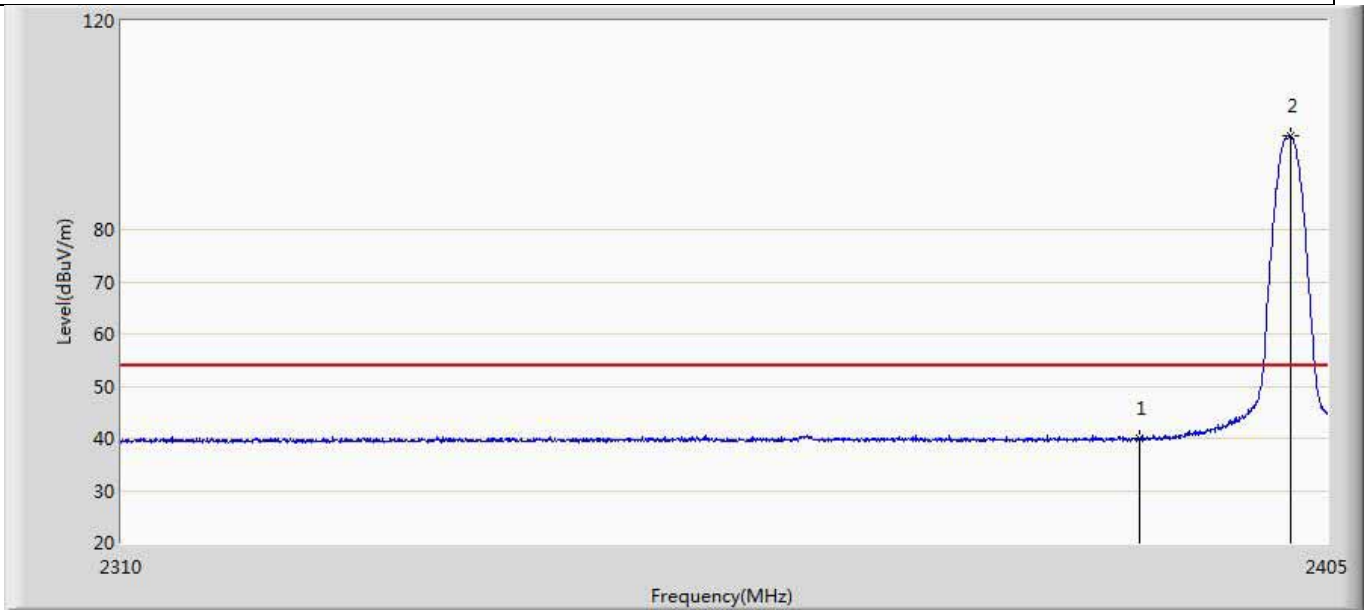
Murata:

Profile: 19A2159R	Page No.: 23
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



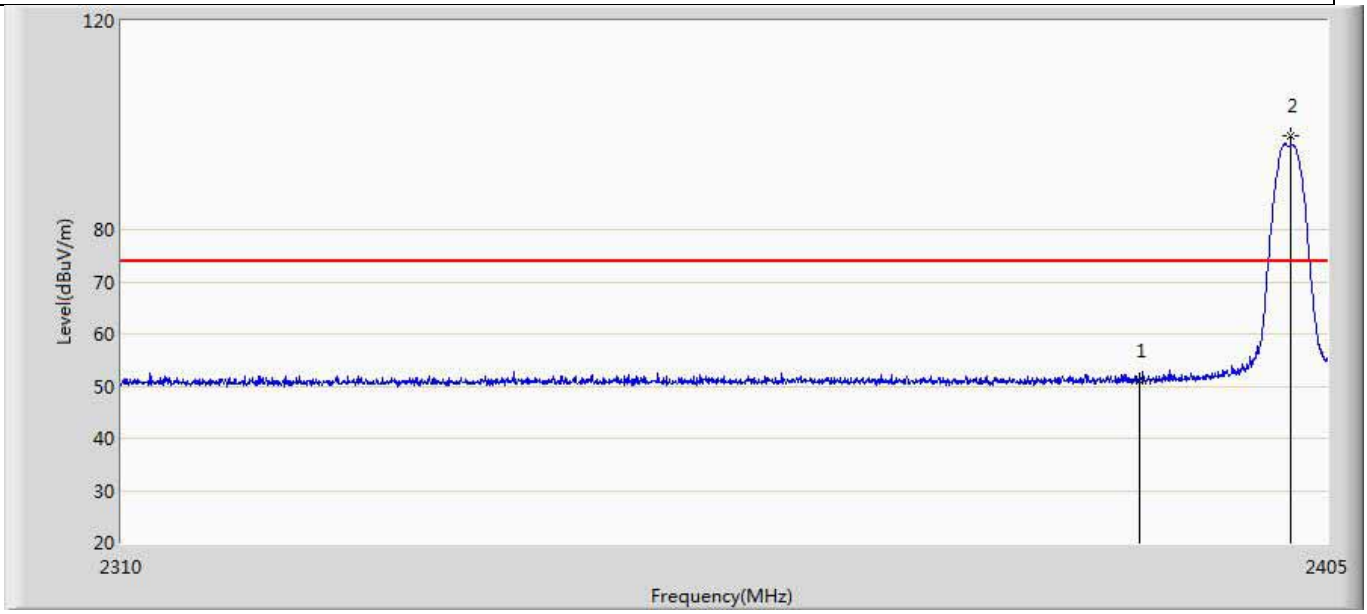
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.376	14.919	-23.624	74.000	35.458	PK
2	*	2401.955	98.200	62.731	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 24
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



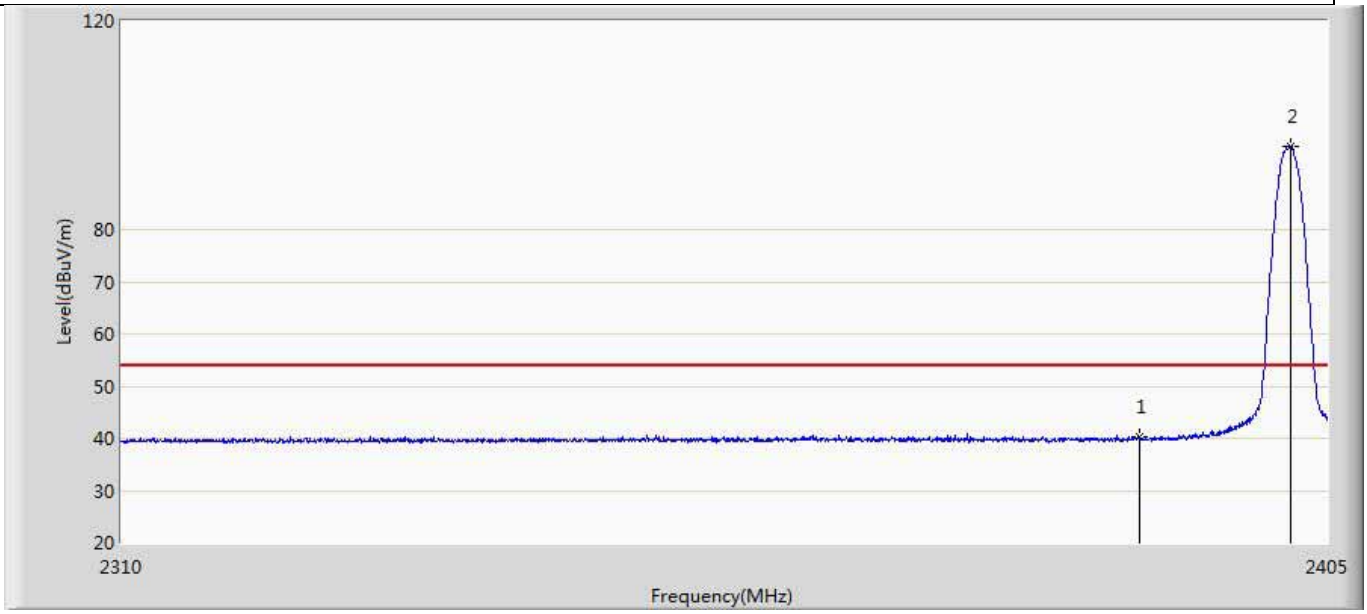
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.943	4.486	-14.057	54.000	35.458	AV
2	*	2402.055	97.965	62.495	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 25
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



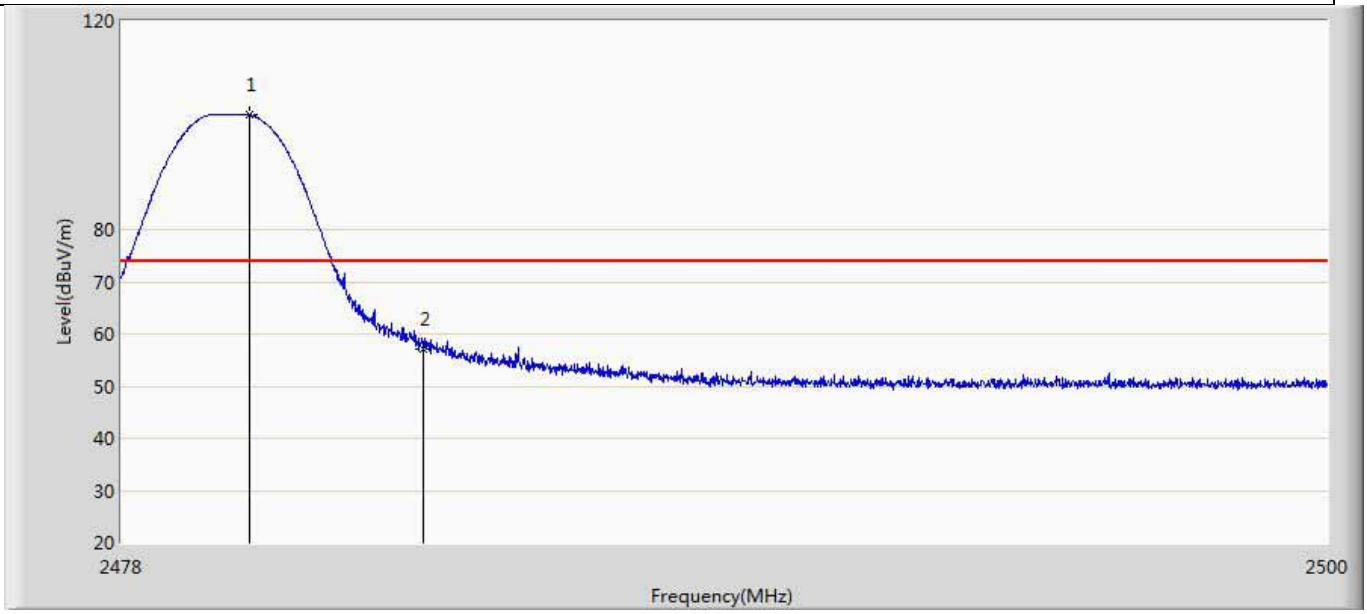
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.973	15.516	-23.027	74.000	35.458	PK
2	*	2402.055	97.965	62.495	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 26
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



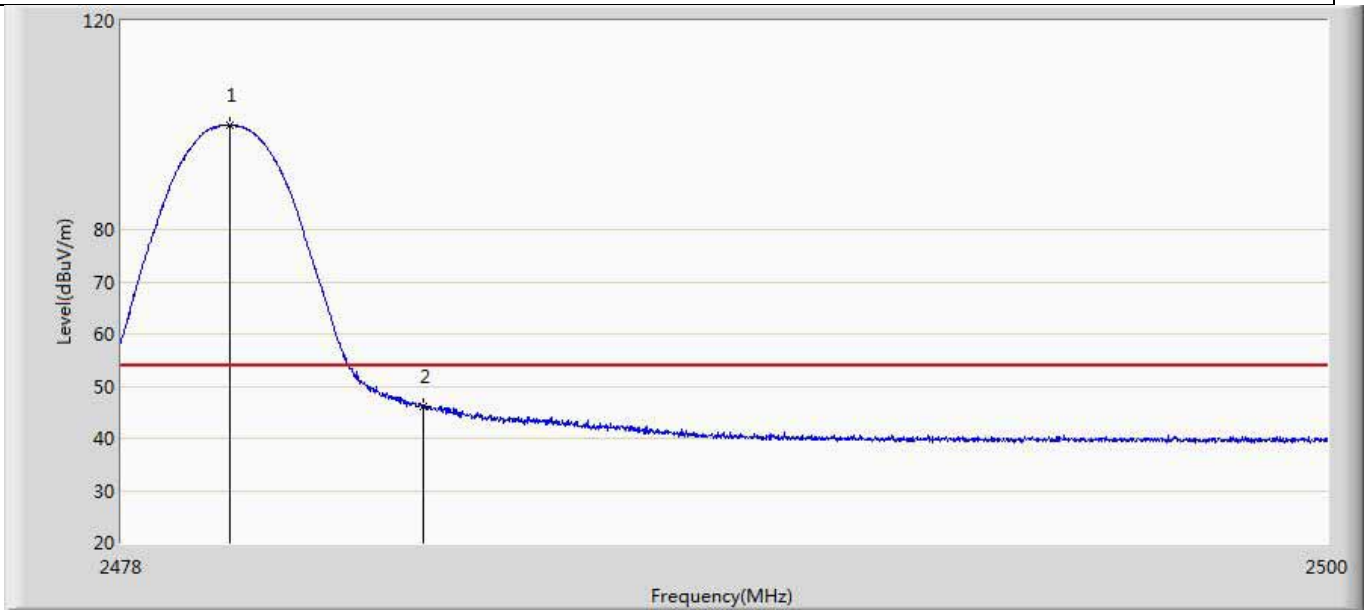
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.245	4.788	-13.755	54.000	35.458	AV
2	*	2402.055	95.963	60.493	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 35
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



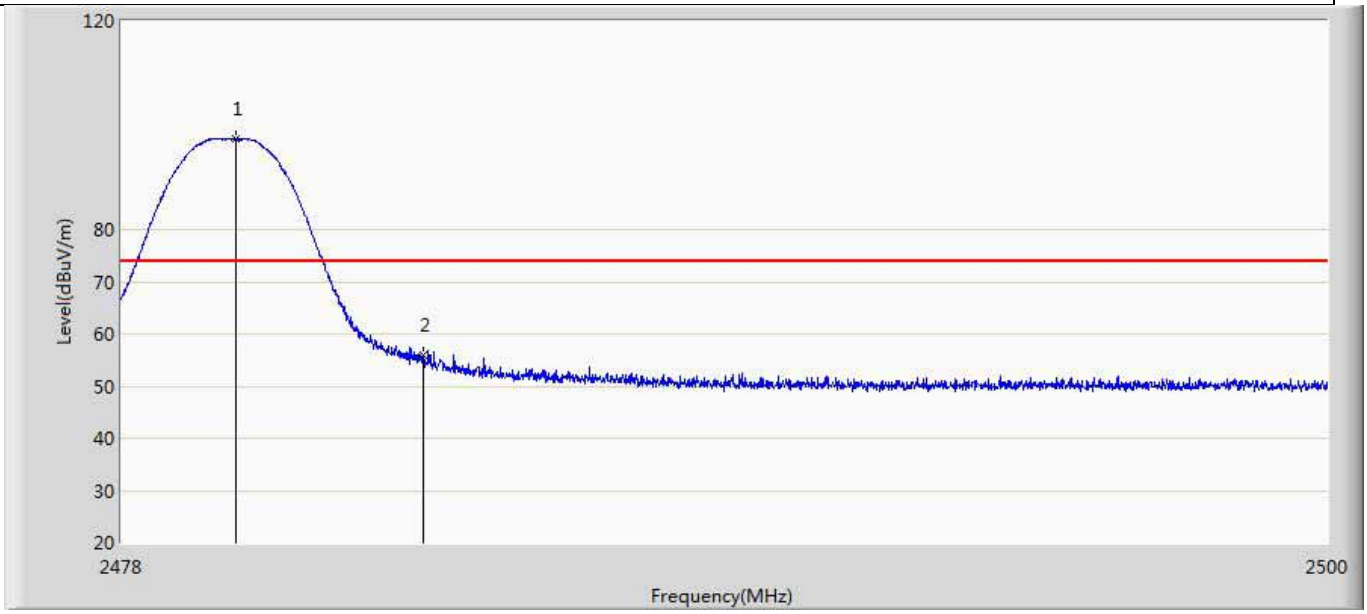
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.321	101.982	66.482	N/A	N/A	35.500	PK
2		2483.500	57.045	21.527	-16.955	74.000	35.517	PK

Profile: 19A2159R	Page No.: 36
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



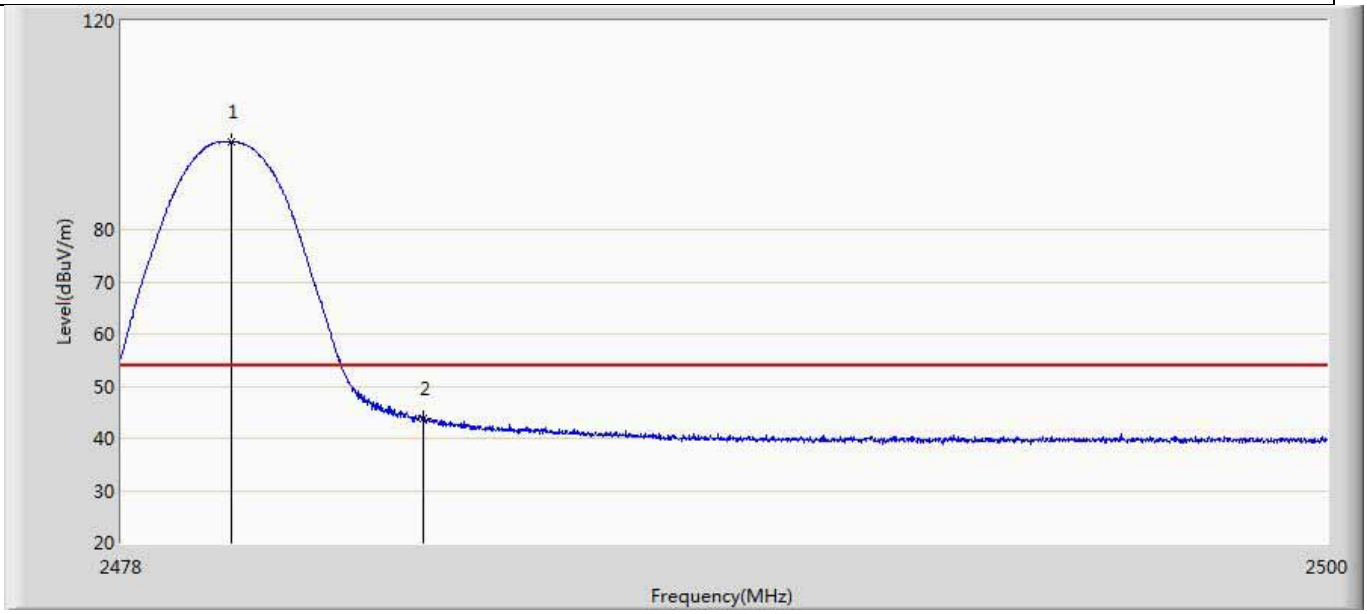
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	99.917	64.419	N/A	N/A	35.498	AV
2		2483.500	46.007	10.489	-7.993	54.000	35.517	AV

Profile: 19A2159R	Page No.: 37
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



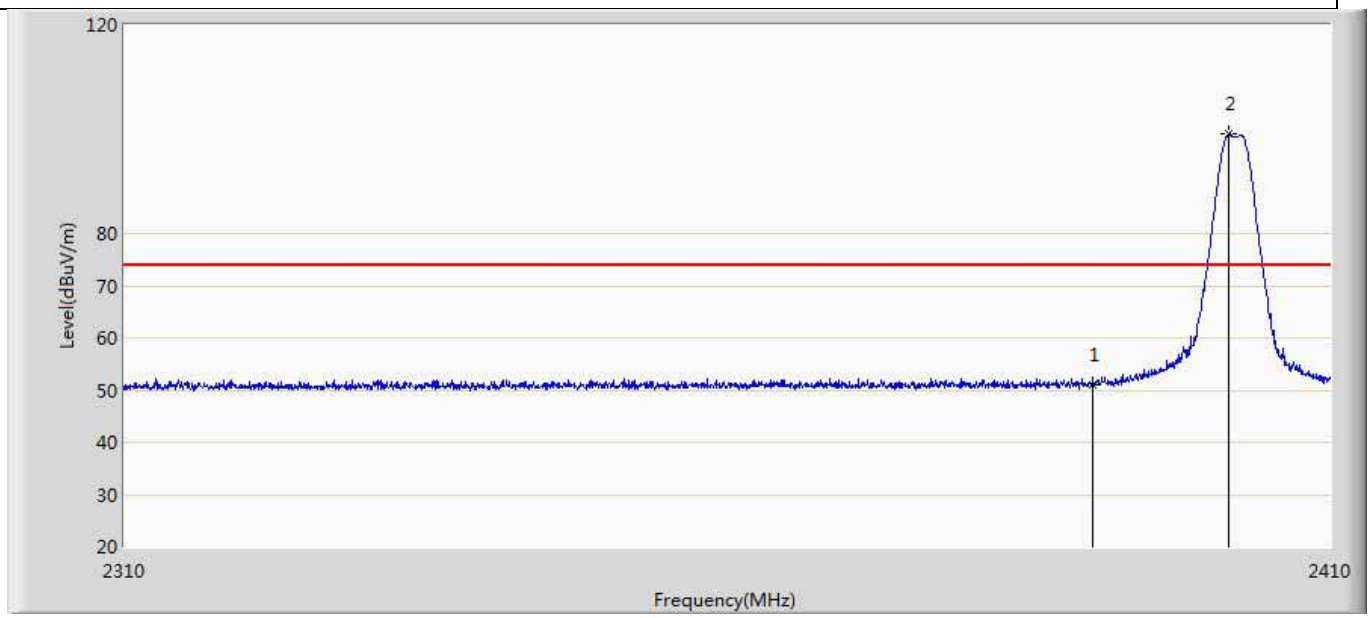
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.079	97.327	61.829	N/A	N/A	35.499	PK
2		2483.500	56.038	20.520	-17.962	74.000	35.517	PK

Profile: 19A2159R	Page No.: 38
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



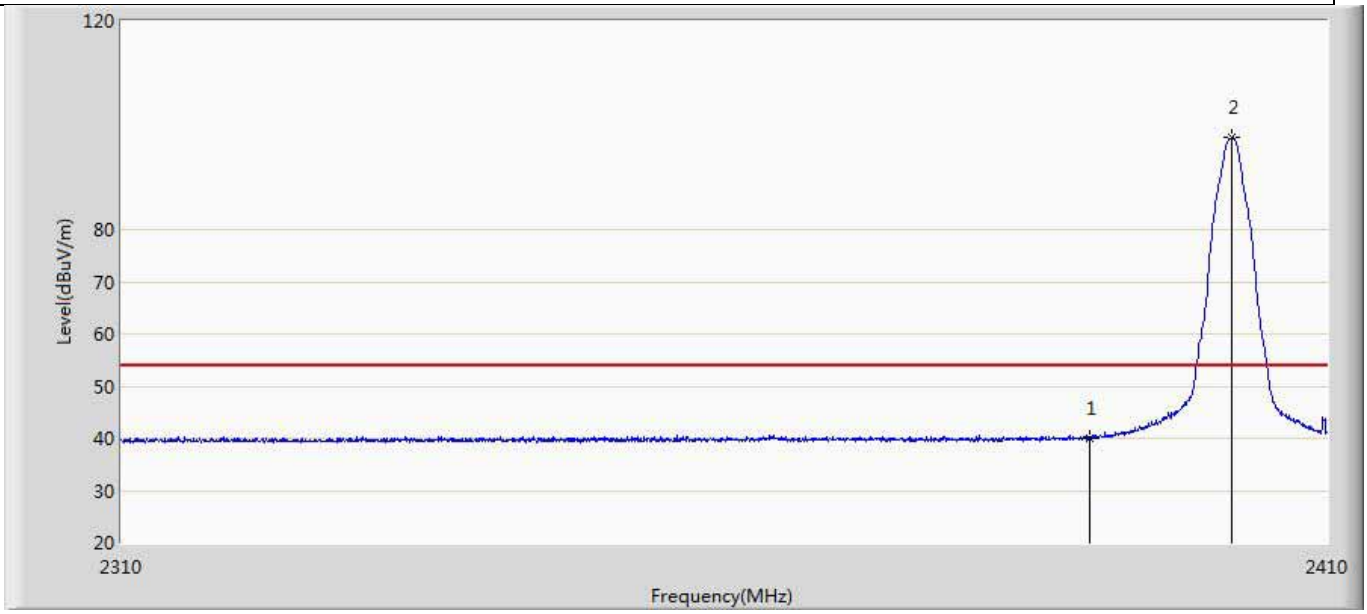
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	96.866	61.368	N/A	N/A	35.498	AV
2		2483.500	43.715	8.197	-10.285	54.000	35.517	AV

Profile: 19A2159R	Page No.: 15
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 19:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



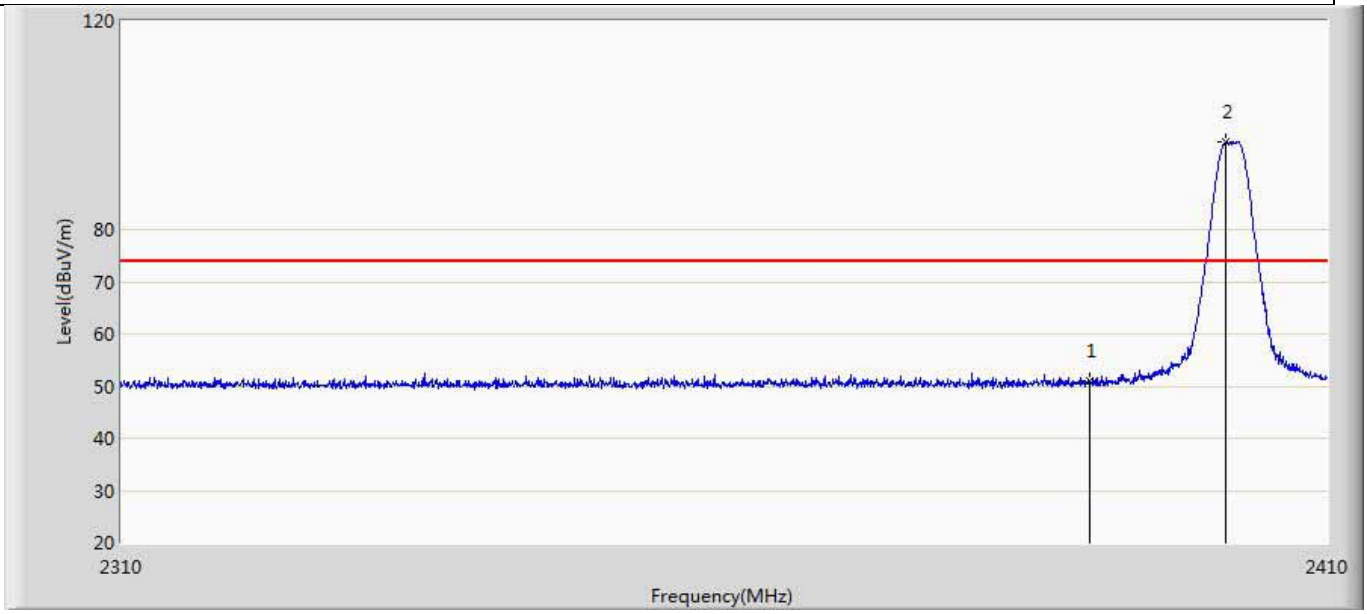
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.041	15.584	-22.959	74.000	35.458	PK
2	*	2401.500	99.049	63.580	N/A	N/A	35.468	PK

Profile: 19A2159R	Page No.: 16
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



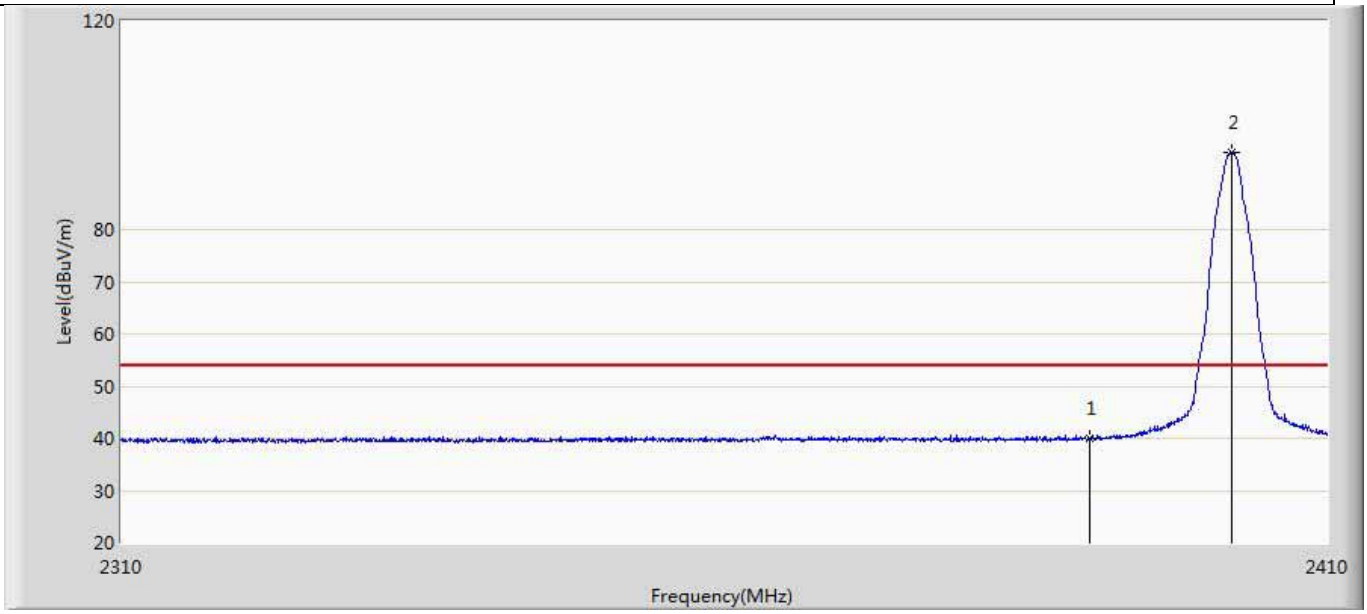
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.943	4.486	-14.057	54.000	35.458	AV
2	*	2401.950	97.600	62.131	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 17
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



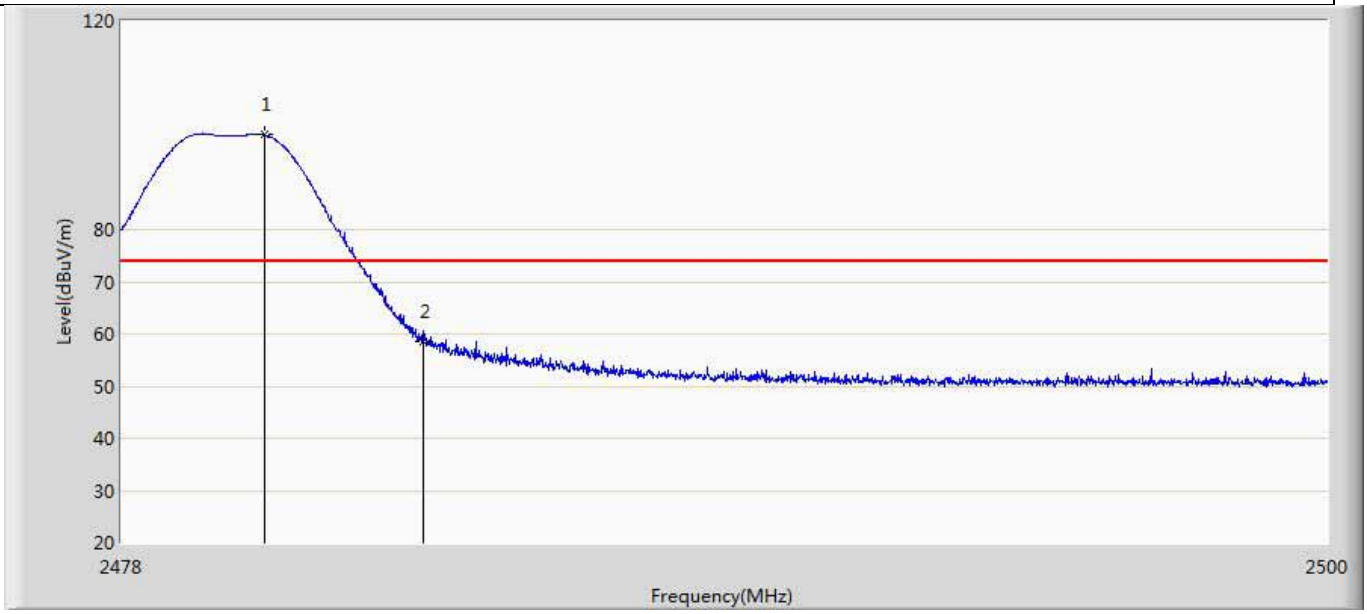
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.877	15.420	-23.123	74.000	35.458	PK
2	*	2401.500	96.695	61.226	N/A	N/A	35.468	PK

Profile: 19A2159R	Page No.: 18
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



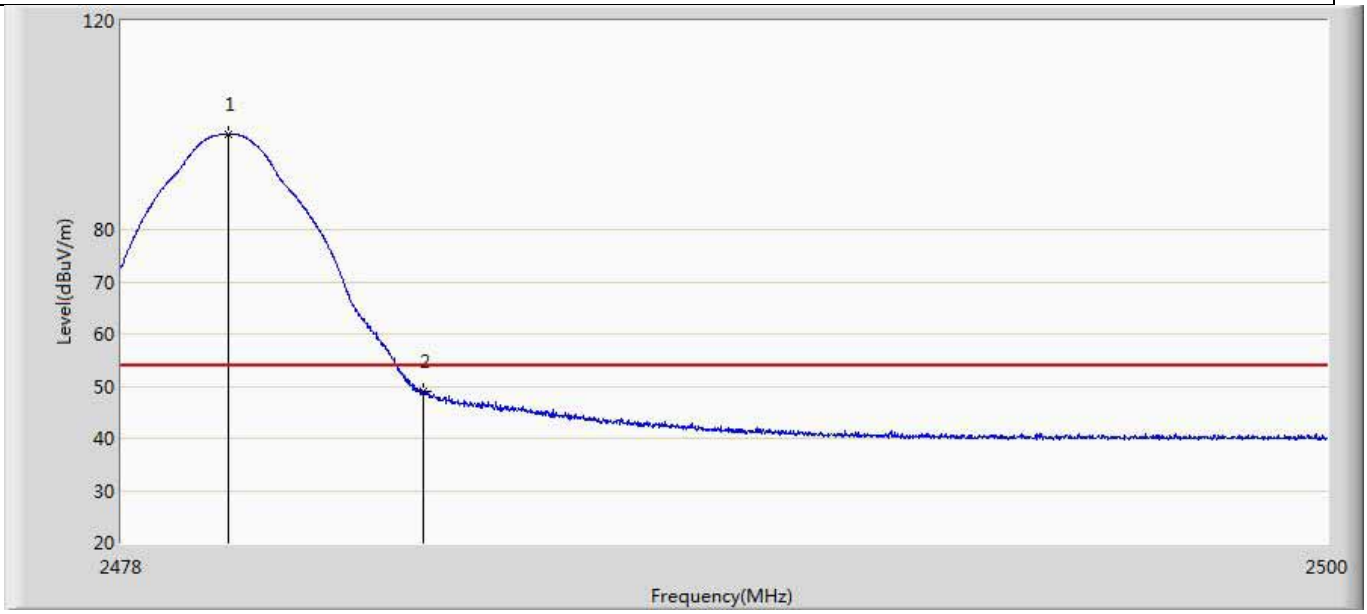
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.136	4.679	-13.864	54.000	35.458	AV
2	*	2401.950	94.866	59.397	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 19
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



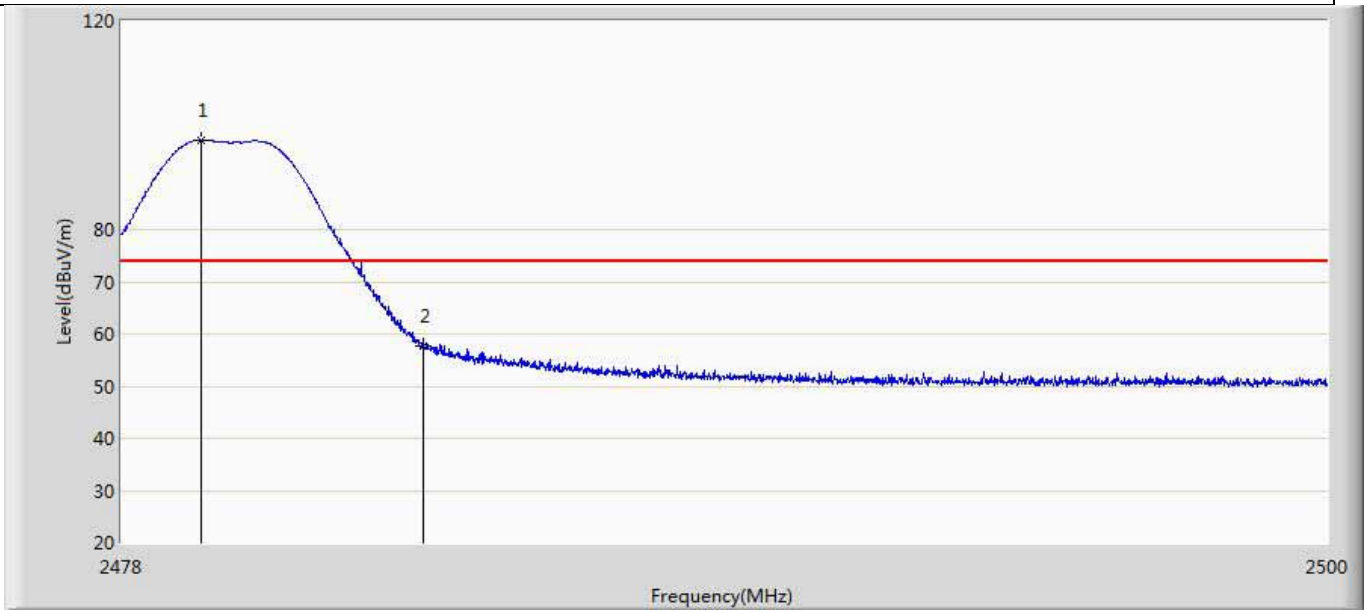
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.596	98.198	62.697	N/A	N/A	35.501	PK
2		2483.500	58.610	23.092	-15.390	74.000	35.517	PK

Profile: 19A2159R	Page No.: 20
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



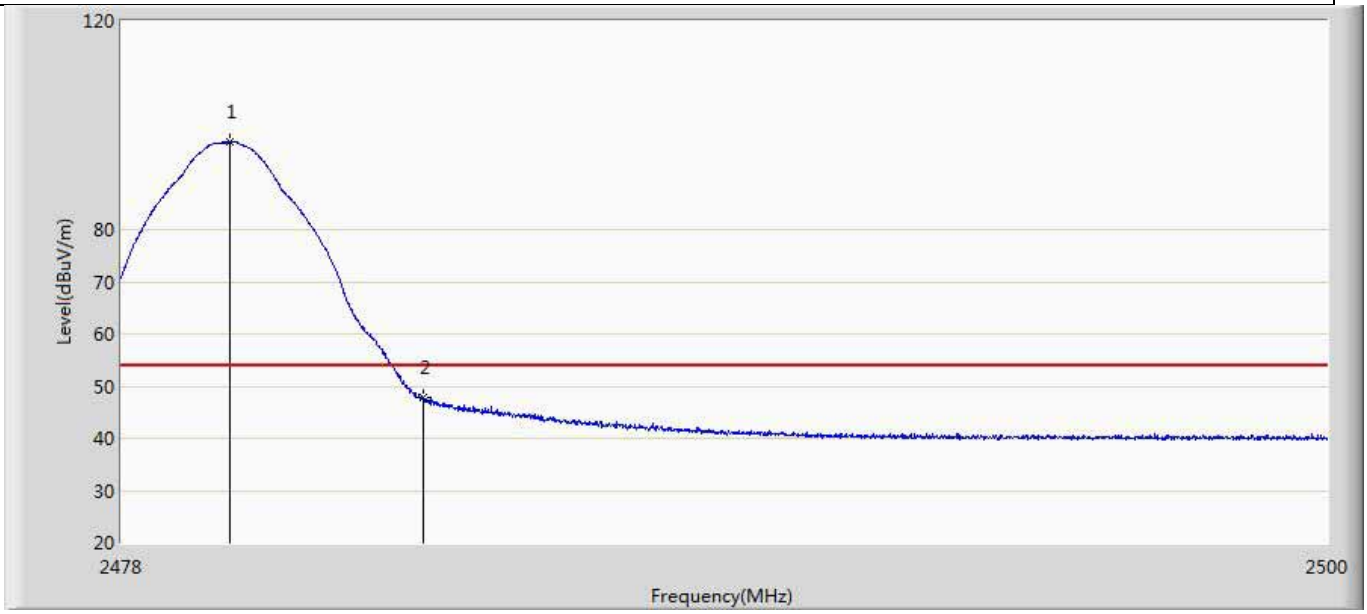
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.947	98.246	62.748	N/A	N/A	35.498	AV
2		2483.500	48.912	13.394	-5.088	54.000	35.517	AV

Profile: 19A2159R	Page No.: 21
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



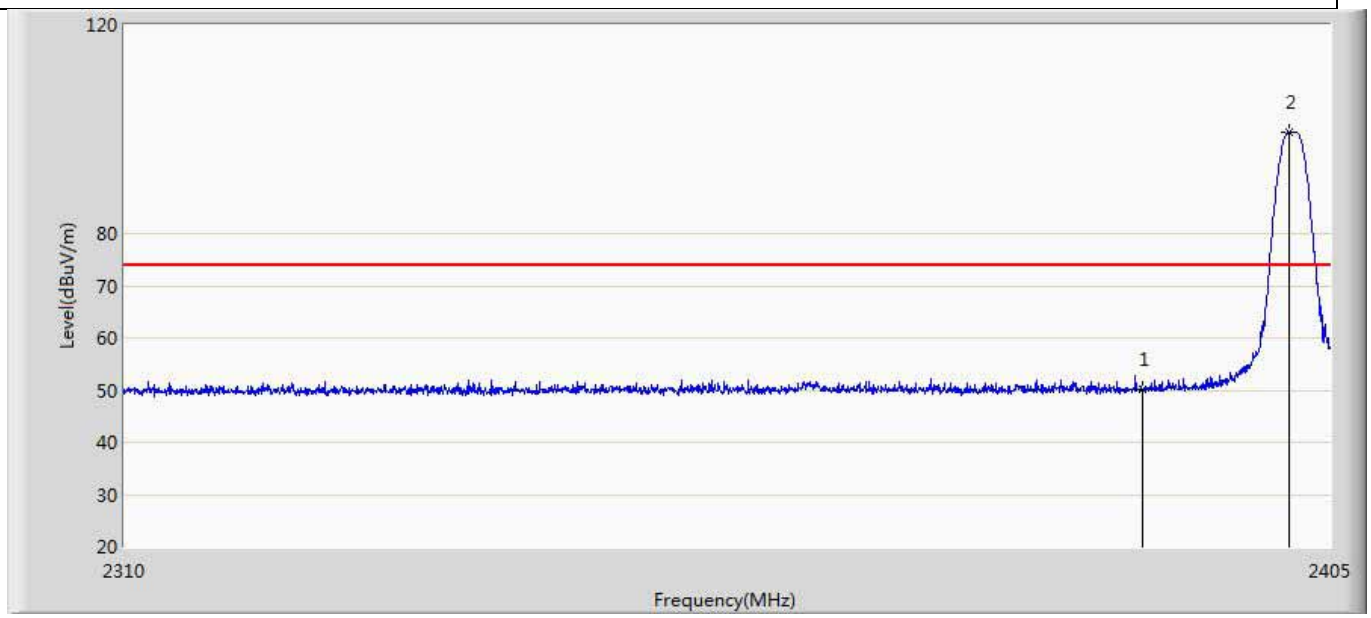
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.463	97.241	61.746	N/A	N/A	35.495	PK
2		2483.500	57.647	22.129	-16.353	74.000	35.517	PK

Profile: 19A2159R	Page No.: 22
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



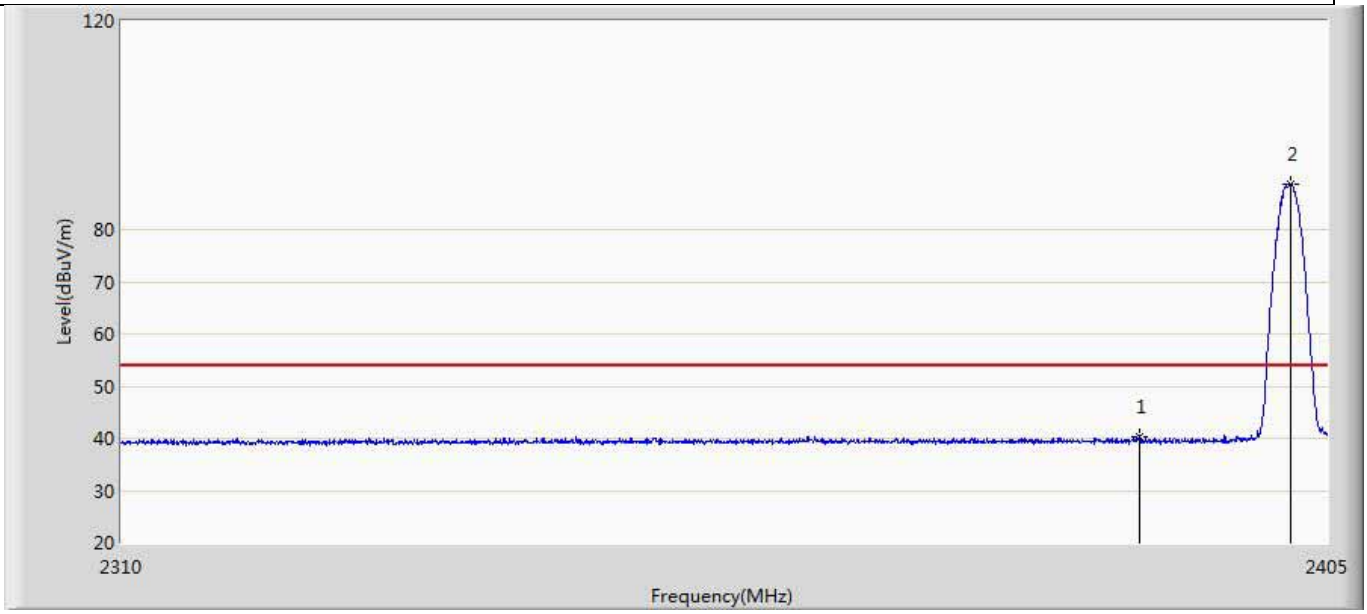
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	96.707	61.209	N/A	N/A	35.498	AV
2		2483.500	47.863	12.345	-6.137	54.000	35.517	AV

Profile: 19A2159R	Page No.: 31
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by code8	



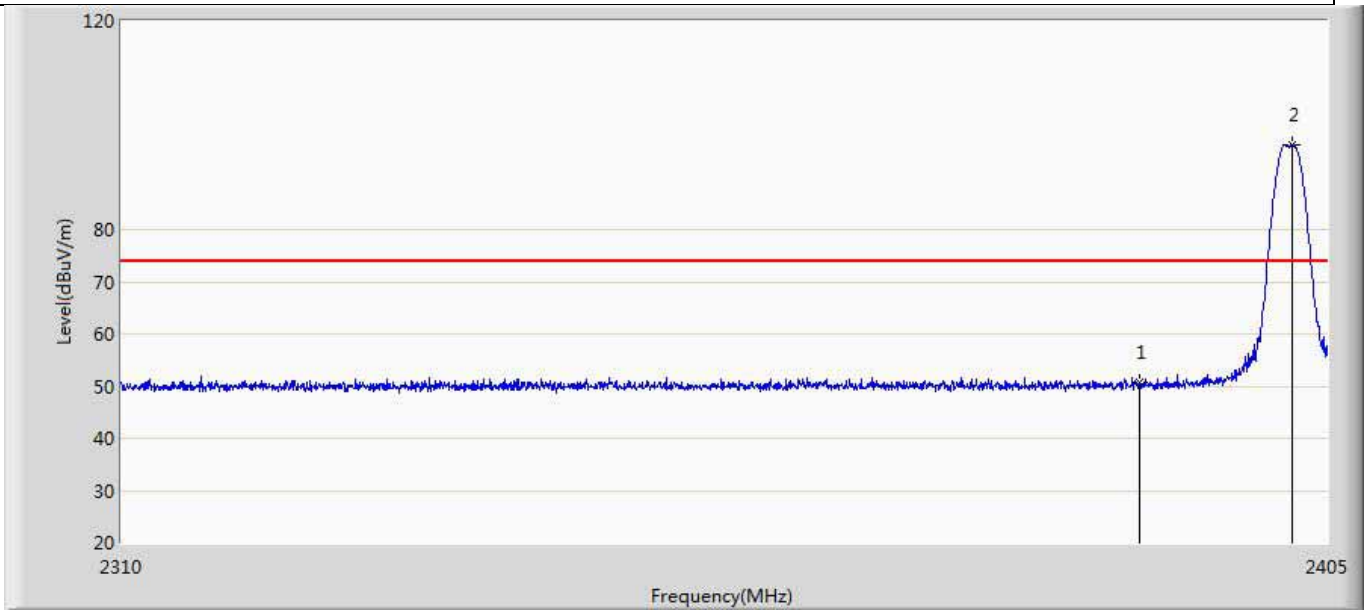
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.118	14.661	-23.882	74.000	35.458	PK
2	*	2401.770	99.458	63.989	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 32
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by code8	



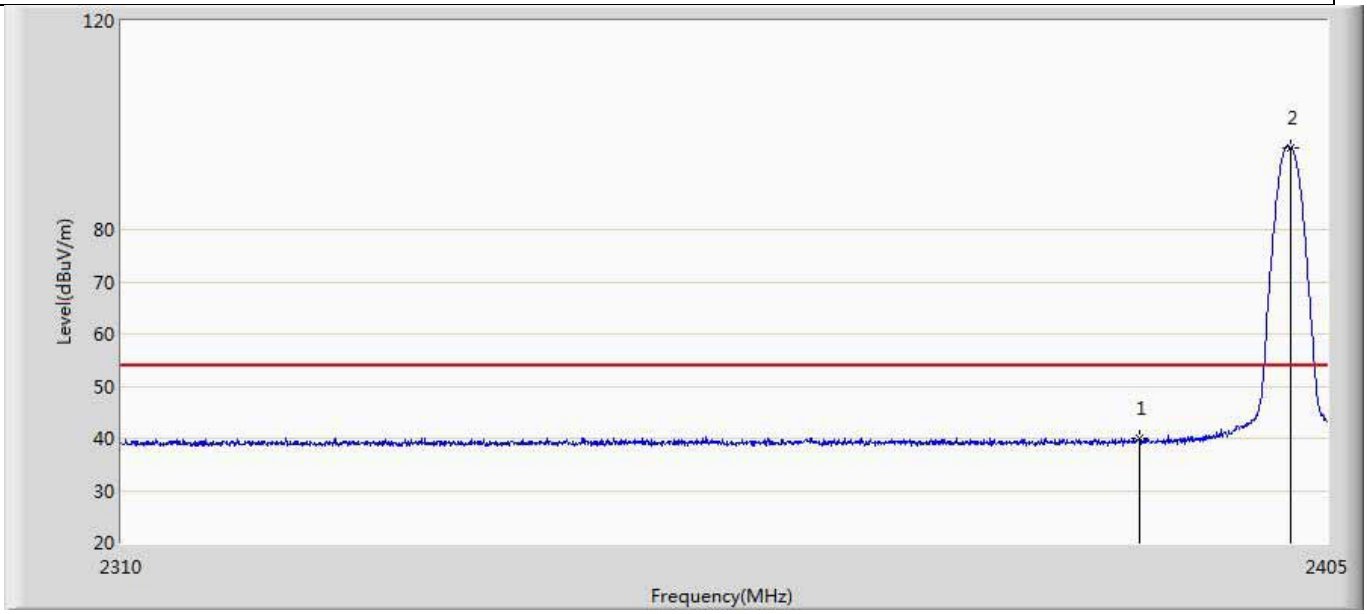
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.245	4.788	-13.755	54.000	35.458	AV
2	*	2402.055	88.756	53.286	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 33
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by code8	



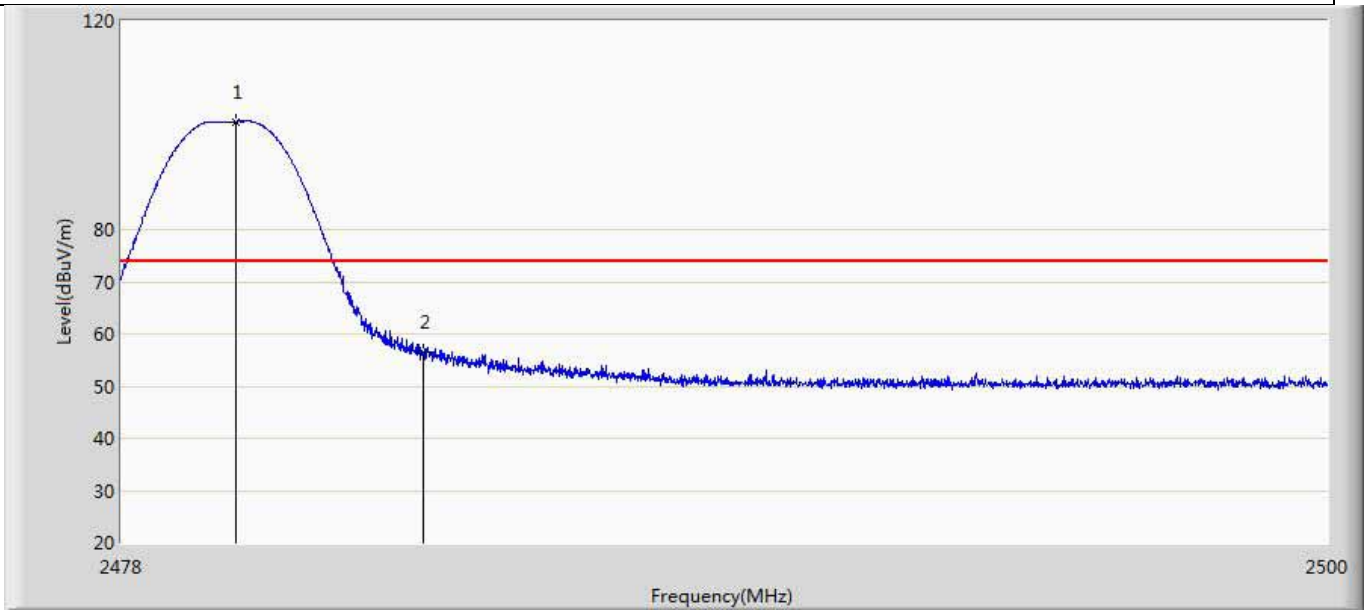
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.585	15.128	-23.415	74.000	35.458	PK
2	*	2402.150	96.250	60.780	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 34
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by code8	



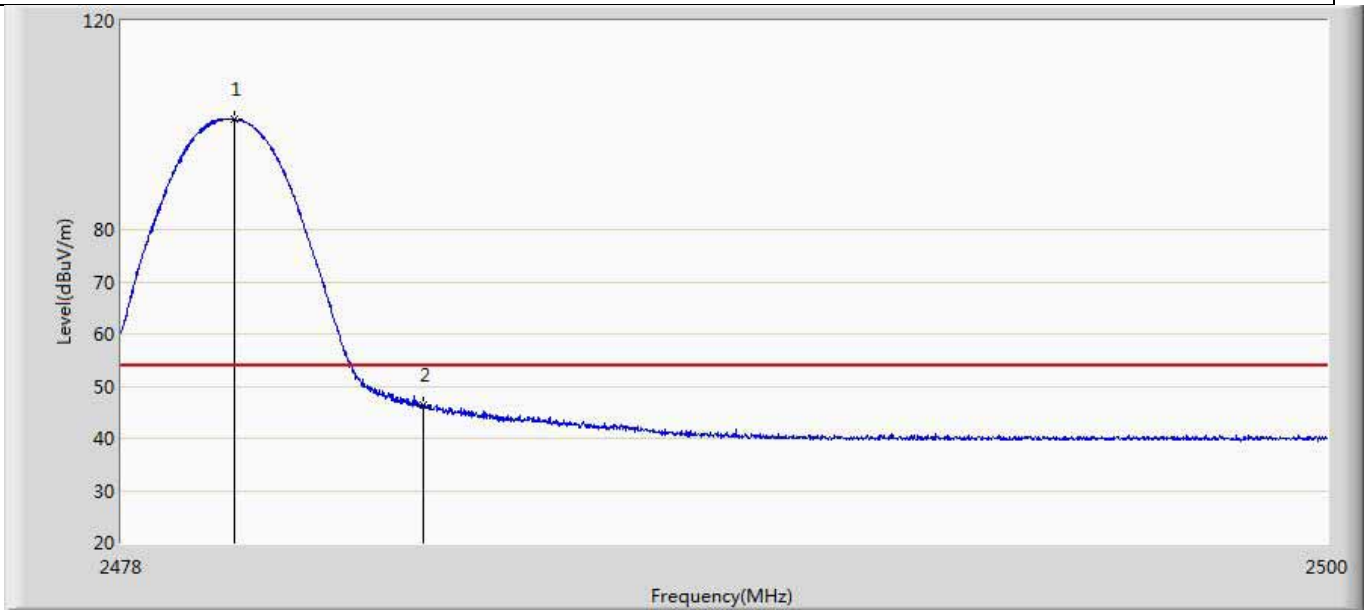
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.865	4.408	-14.135	54.000	35.458	AV
2	*	2402.055	95.745	60.275	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 43
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by code8	



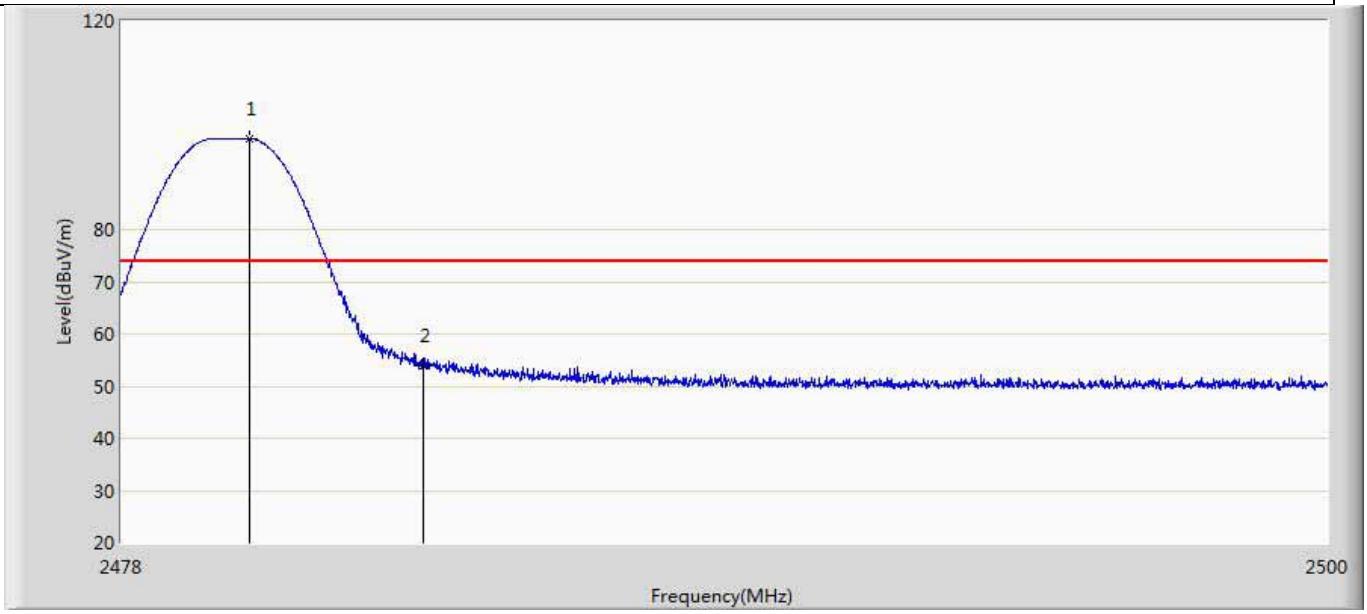
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.079	100.668	65.170	N/A	N/A	35.499	PK
2		2483.500	56.481	20.963	-17.519	74.000	35.517	PK

Profile: 19A2159R	Page No.: 44
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by code8	



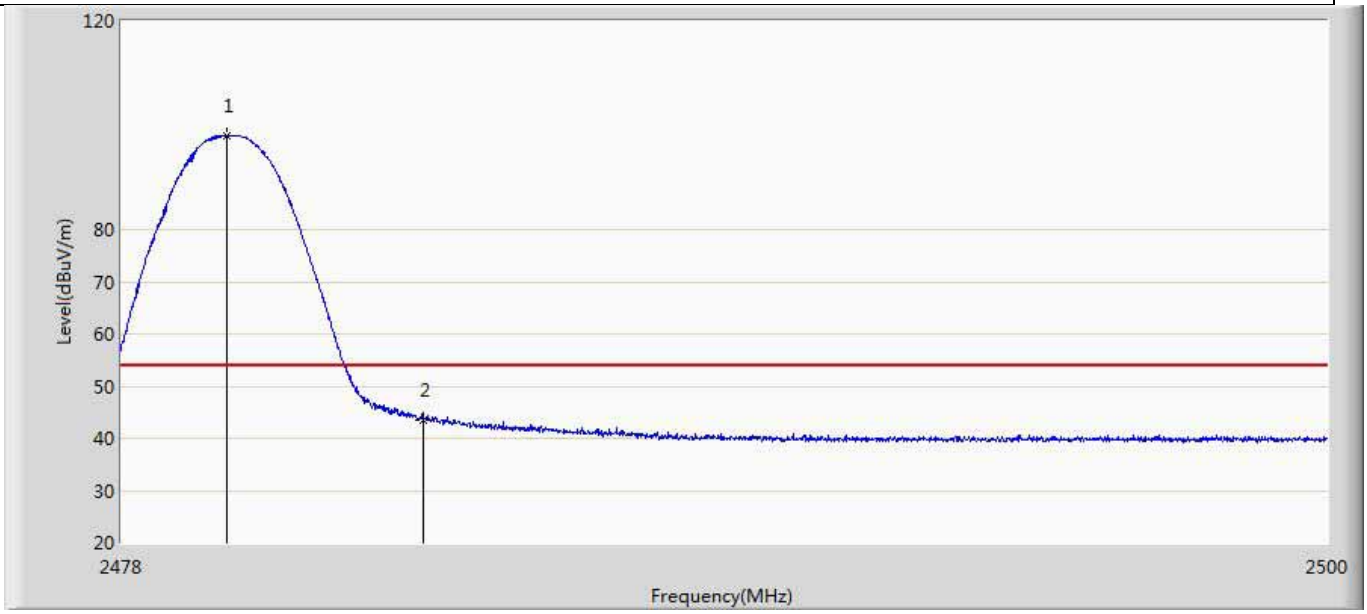
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.046	101.048	65.550	N/A	N/A	35.498	AV
2		2483.500	46.464	10.946	-7.536	54.000	35.517	AV

Profile: 19A2159R	Page No.: 45
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by code8	



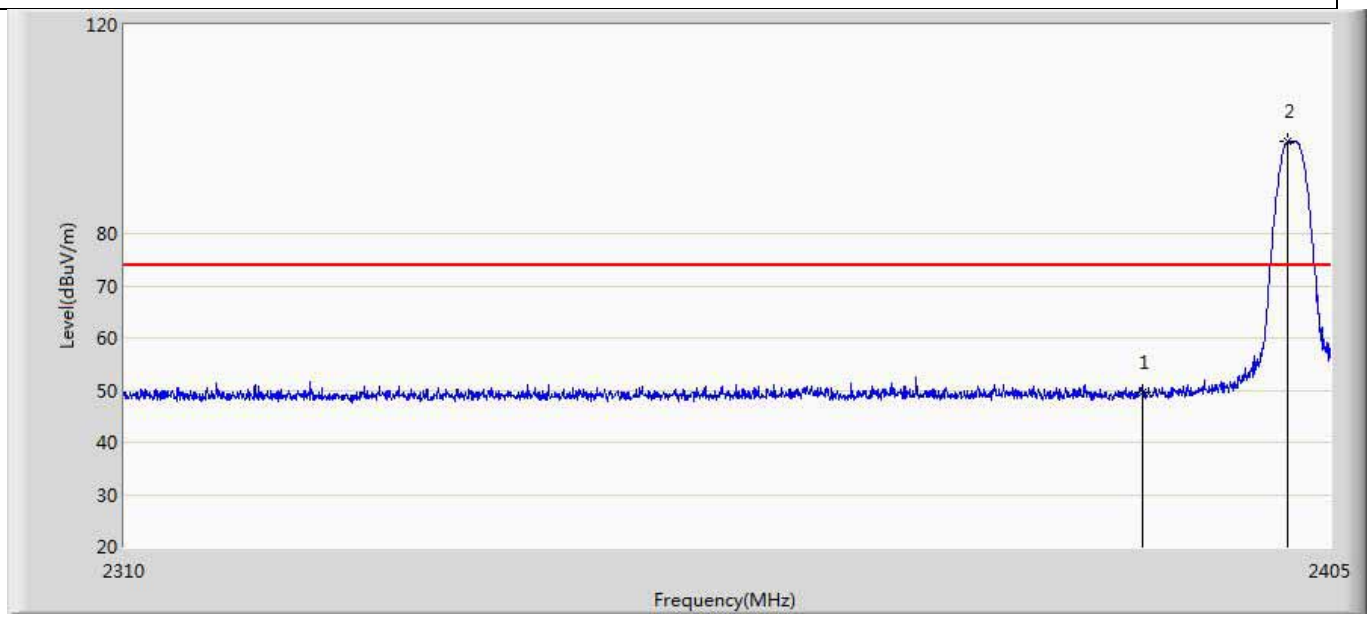
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.321	97.496	61.996	N/A	N/A	35.500	PK
2		2483.500	54.030	18.512	-19.970	74.000	35.517	PK

Profile: 19A2159R	Page No.: 46
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by code8	



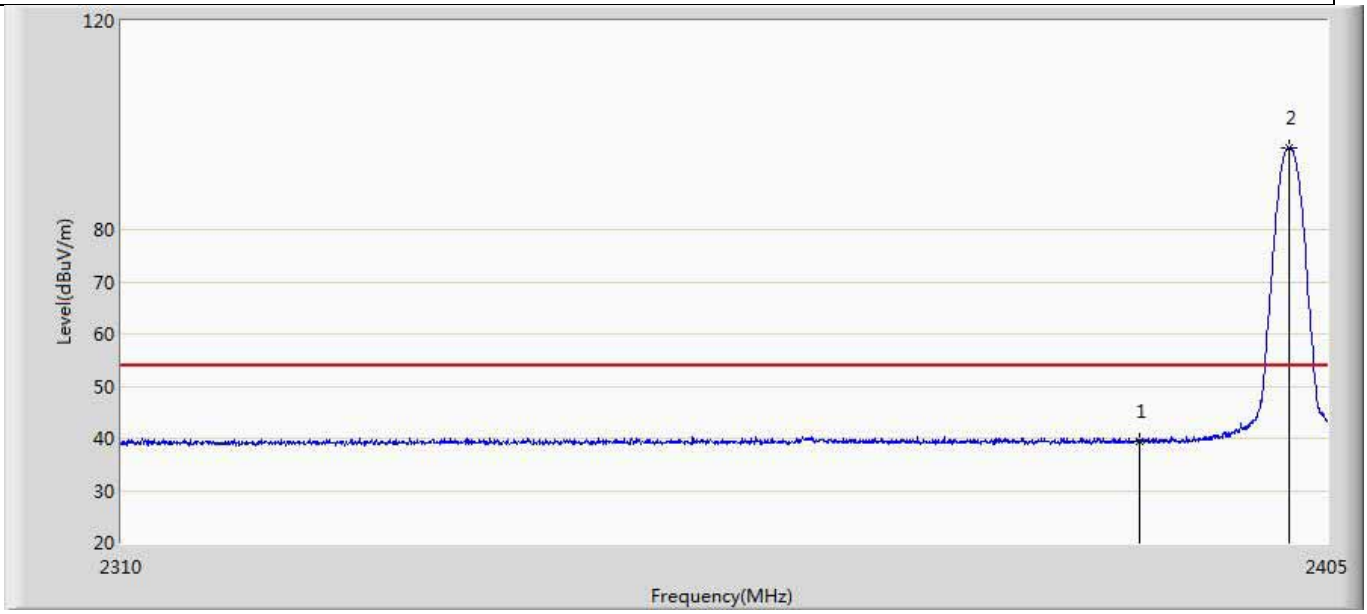
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.914	98.049	62.552	N/A	N/A	35.498	AV
2		2483.500	43.501	7.983	-10.499	54.000	35.517	AV

Profile: 19A2159R	Page No.: 27
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz by code2	



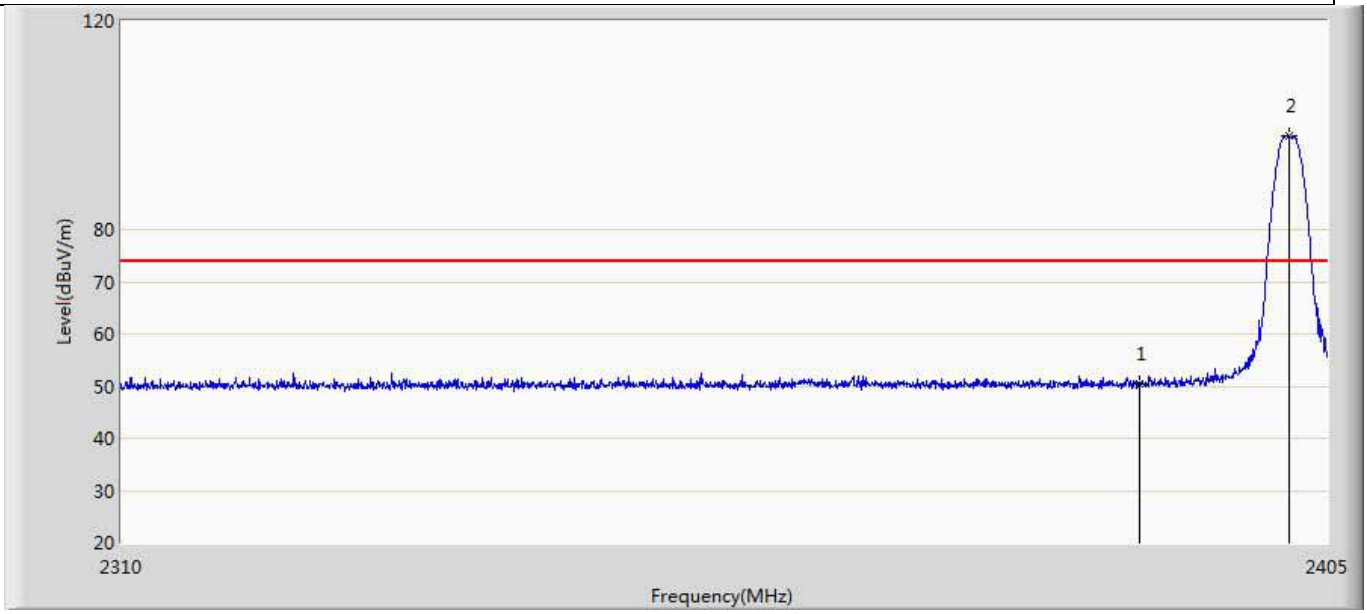
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	49.605	14.148	-24.395	74.000	35.458	PK
2	*	2401.627	97.563	62.094	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 28
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz by code2	



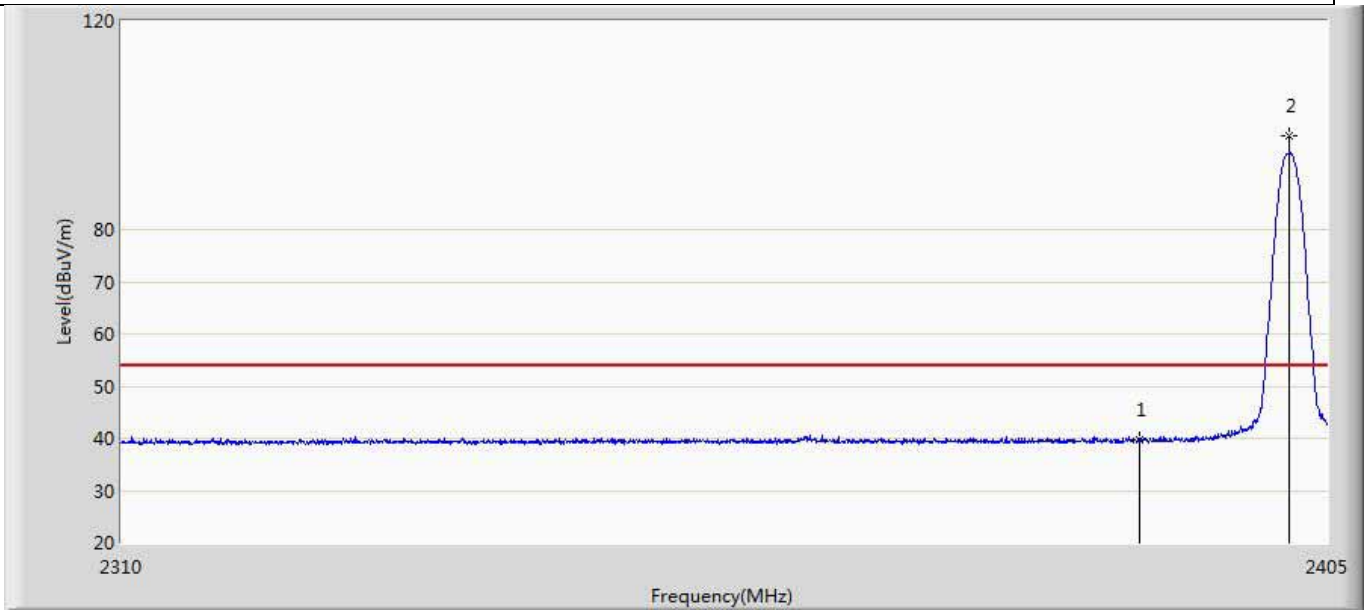
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.423	3.966	-14.577	54.000	35.458	AV
2	*	2401.913	95.748	60.279	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 29
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz by code2	



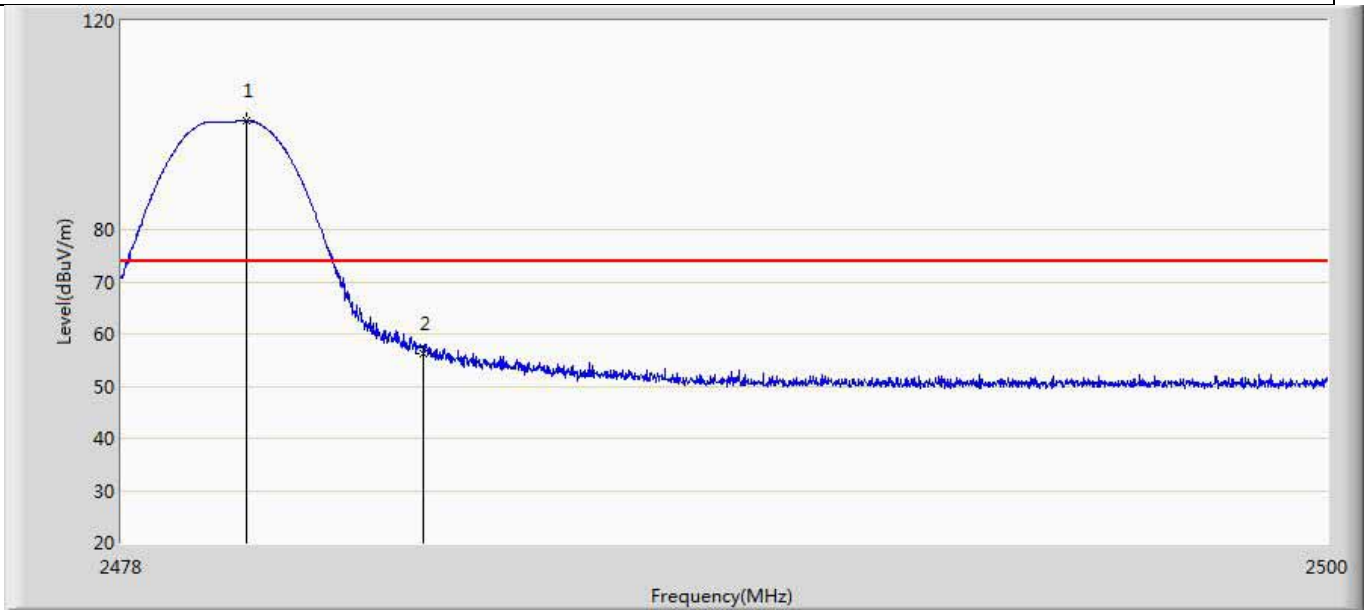
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.368	14.911	-23.632	74.000	35.458	PK
2	*	2402.008	97.827	62.358	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 30
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 20:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz by code2	



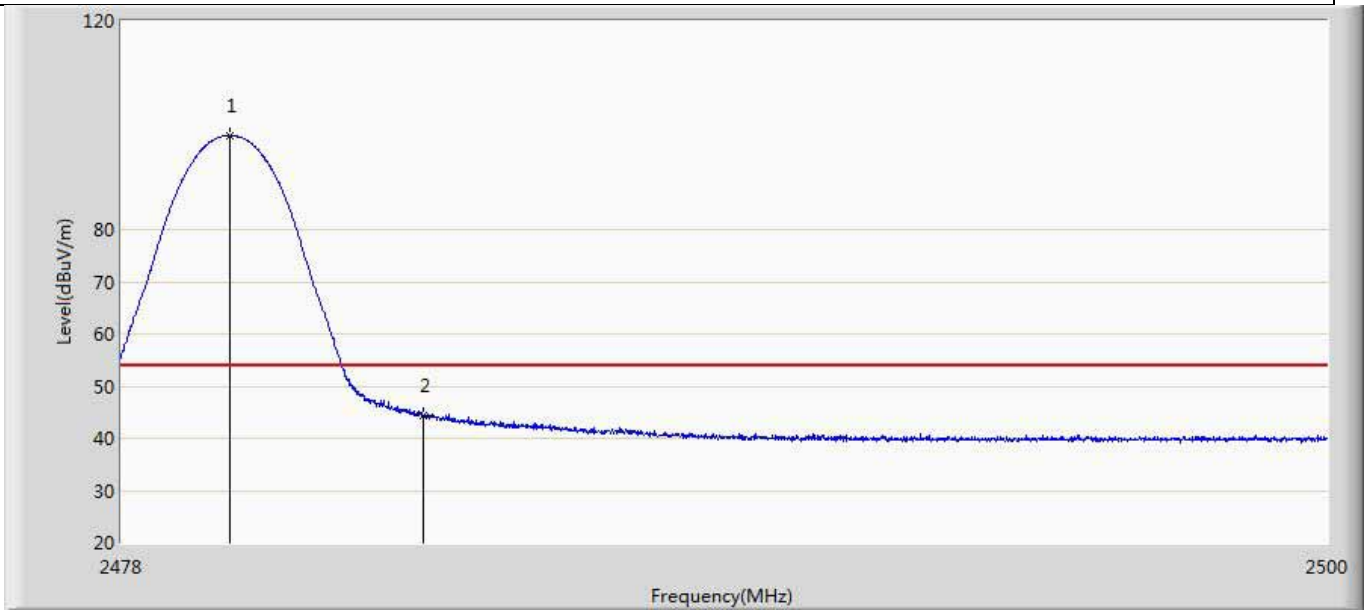
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.736	4.279	-14.264	54.000	35.458	AV
2	*	2402.008	97.827	62.358	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 39
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz by code2	



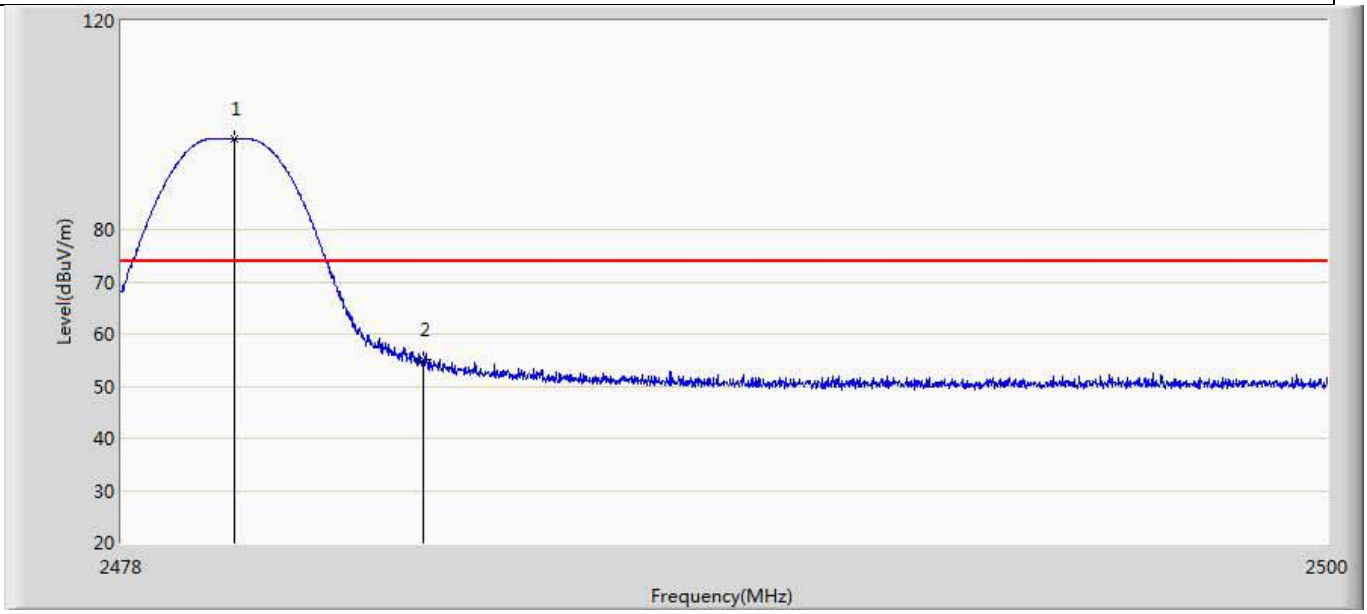
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.288	100.806	65.307	N/A	N/A	35.500	PK
2		2483.500	56.197	20.679	-17.803	74.000	35.517	PK

Profile: 19A2159R	Page No.: 40
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz by code2	



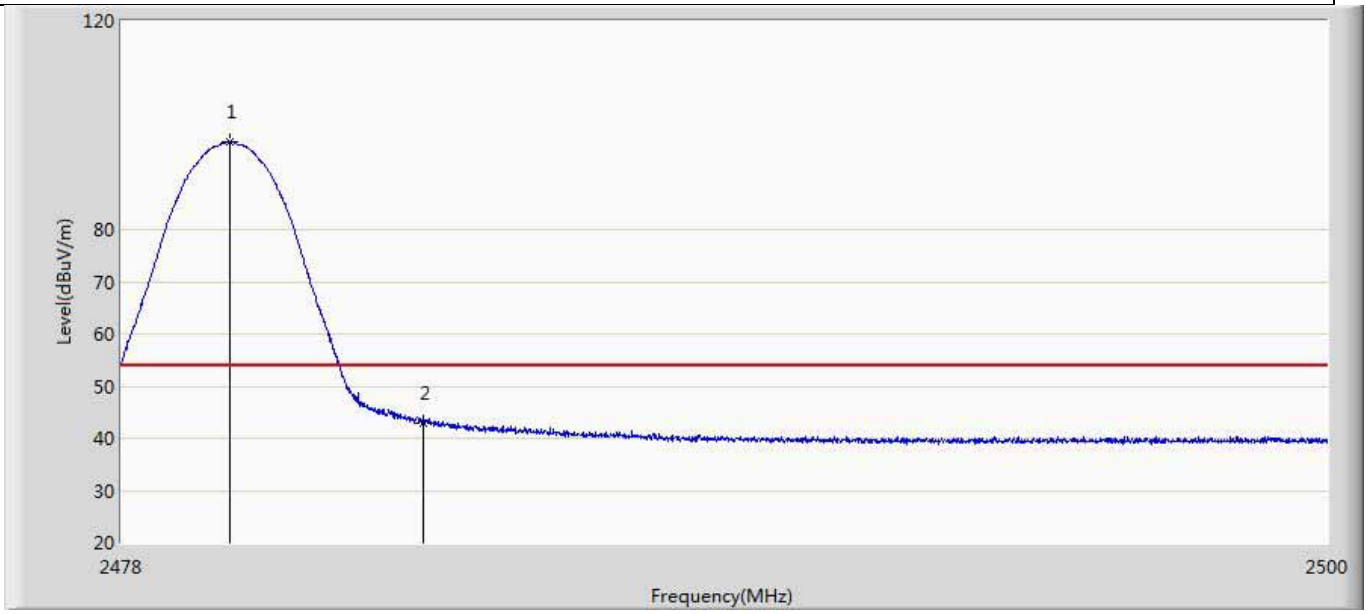
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	98.008	62.510	N/A	N/A	35.498	AV
2		2483.500	44.279	8.761	-9.721	54.000	35.517	AV

Profile: 19A2159R	Page No.: 41
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz by code2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.046	97.293	61.795	N/A	N/A	35.498	PK
2		2483.500	55.086	19.568	-18.914	74.000	35.517	PK

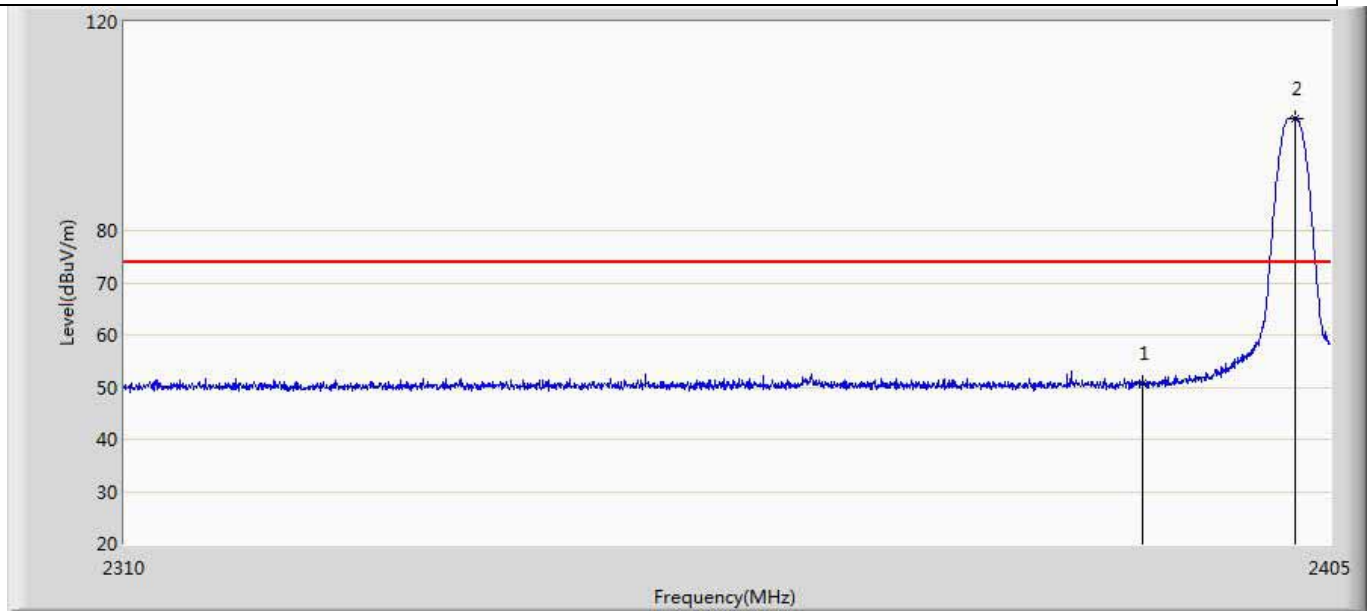
Profile: 19A2159R	Page No.: 42
Engineer: Neil	
Site: AC5	Time: 2019/11/12 - 21:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz by code2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	96.726	61.228	N/A	N/A	35.498	AV
2		2483.500	42.887	7.369	-11.113	54.000	35.517	AV

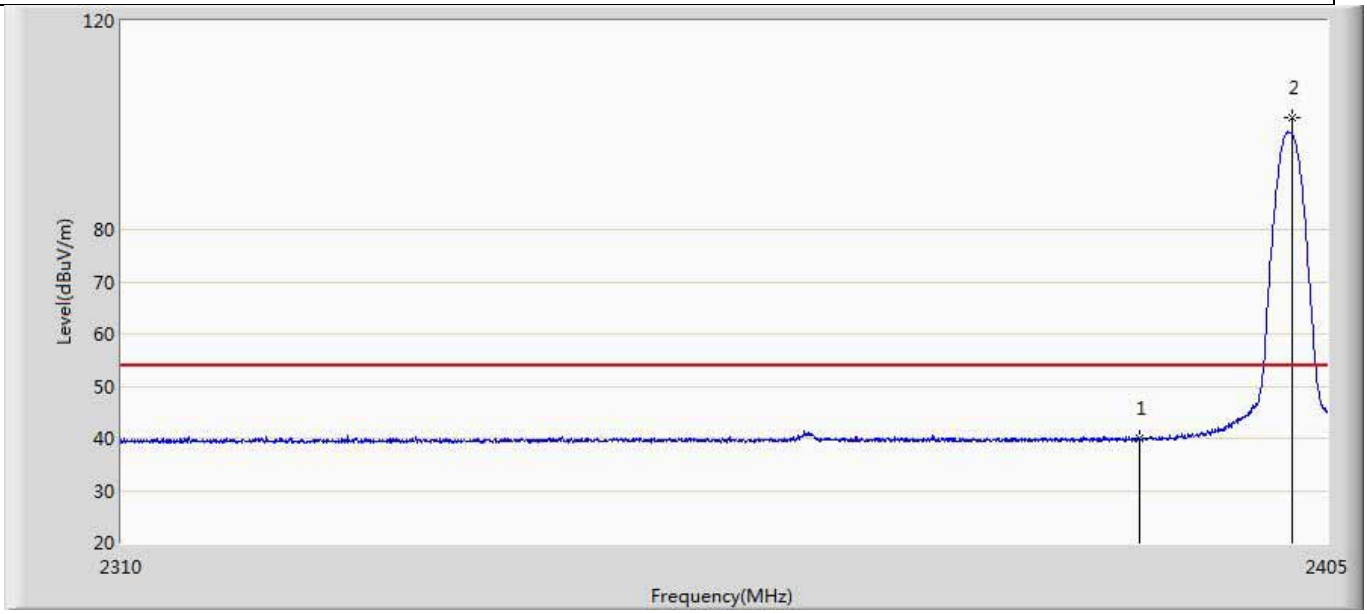
KDS:

Profile: 19A2159R	Page No.: 17
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



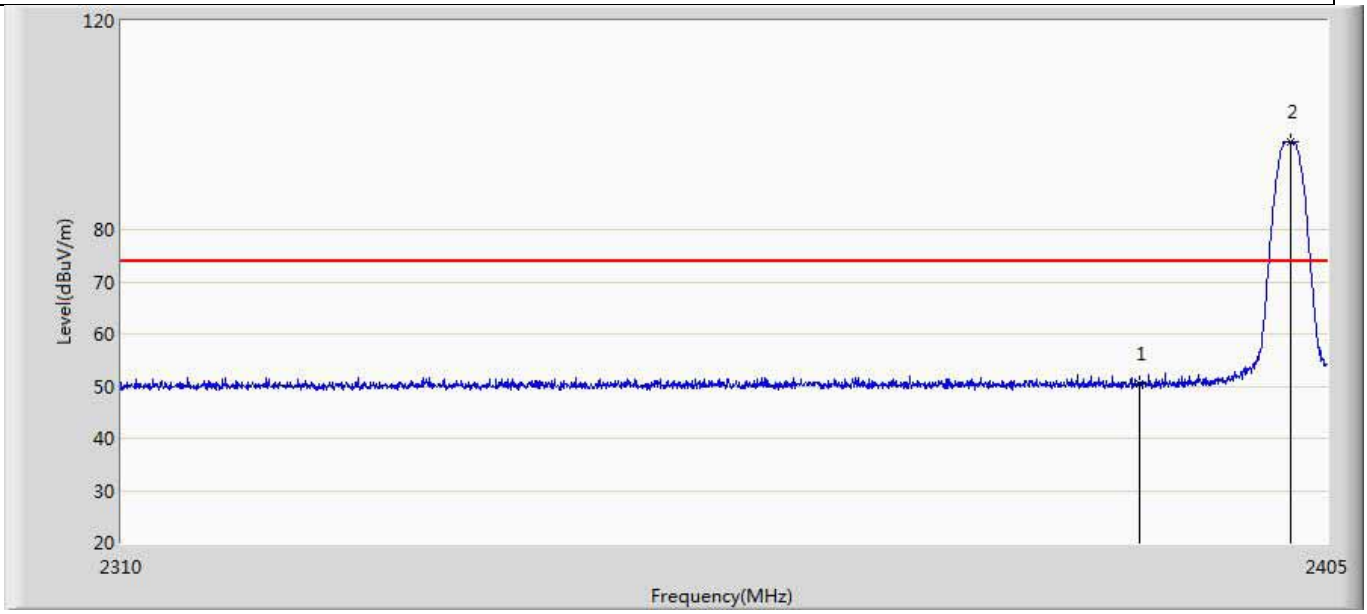
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.816	15.359	-23.184	74.000	35.458	PK
2	*	2402.150	101.545	66.075	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 18
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



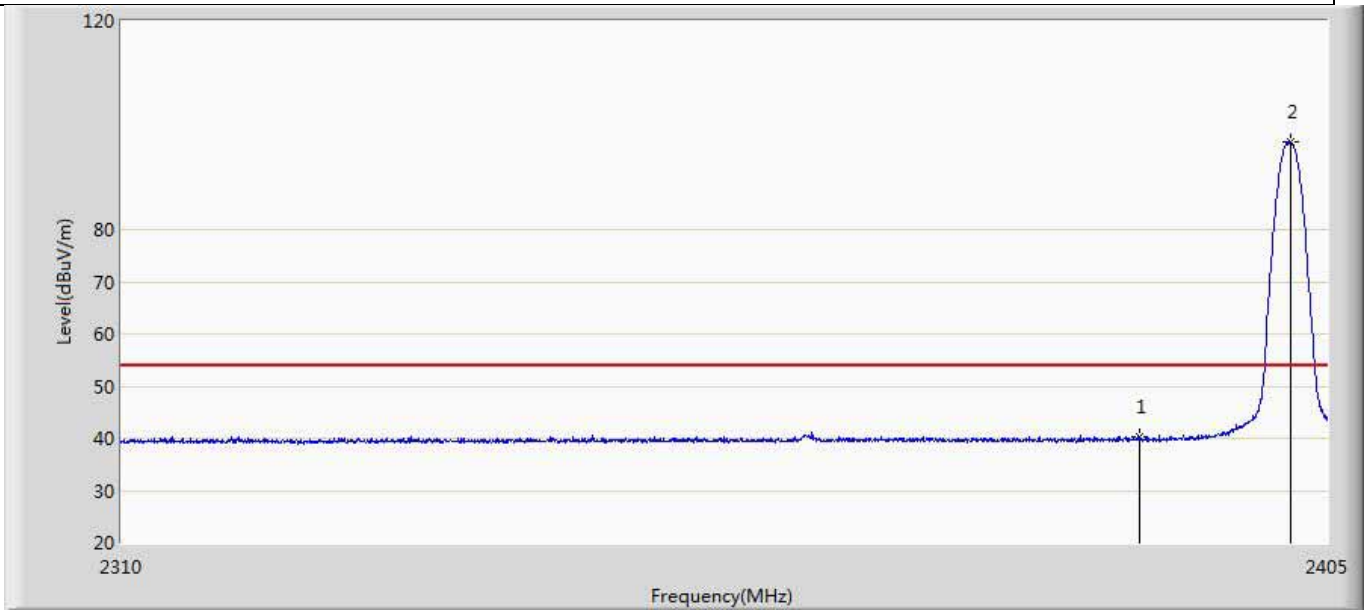
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.927	4.470	-14.073	54.000	35.458	AV
2	*	2402.150	101.545	66.075	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 19
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



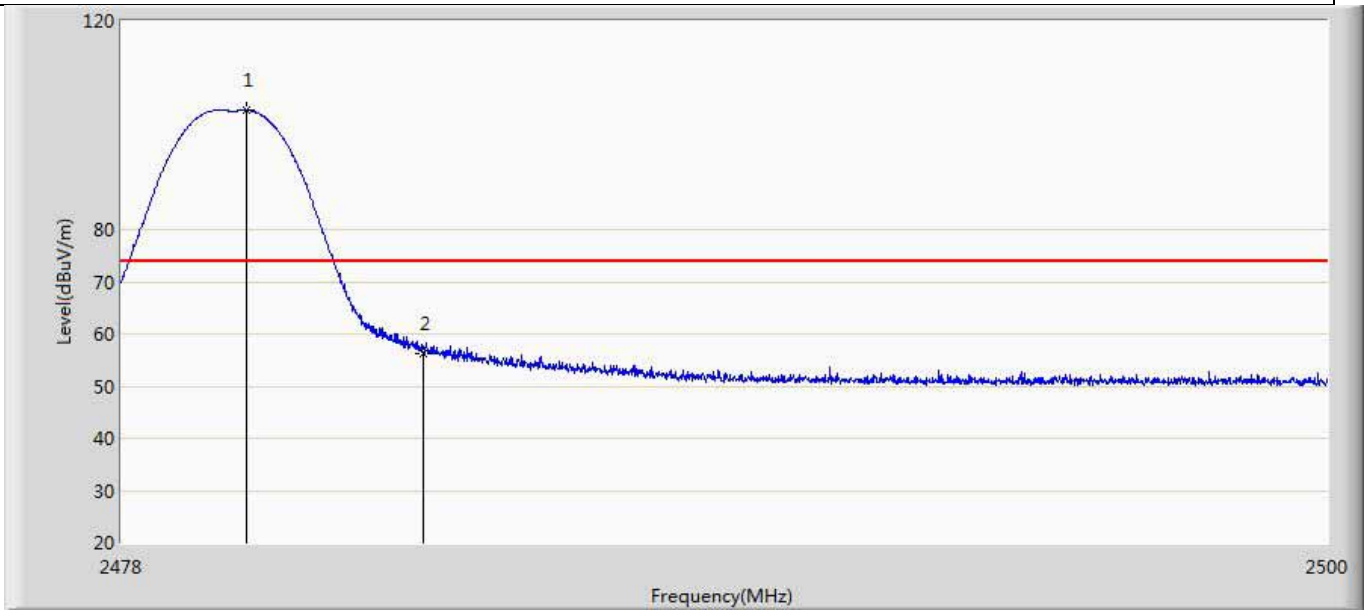
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.334	14.877	-23.666	74.000	35.458	PK
2	*	2402.055	96.698	61.228	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 20
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz by BLE	



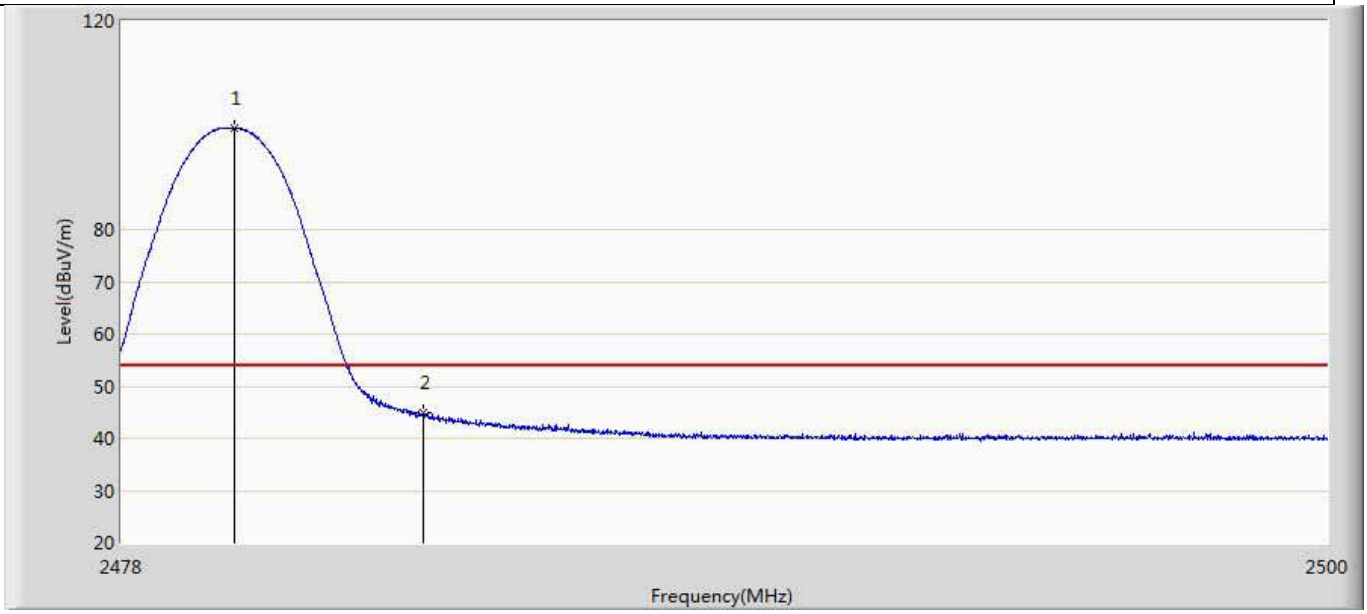
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.178	4.721	-13.822	54.000	35.458	AV
2	*	2402.055	96.698	61.228	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 1
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



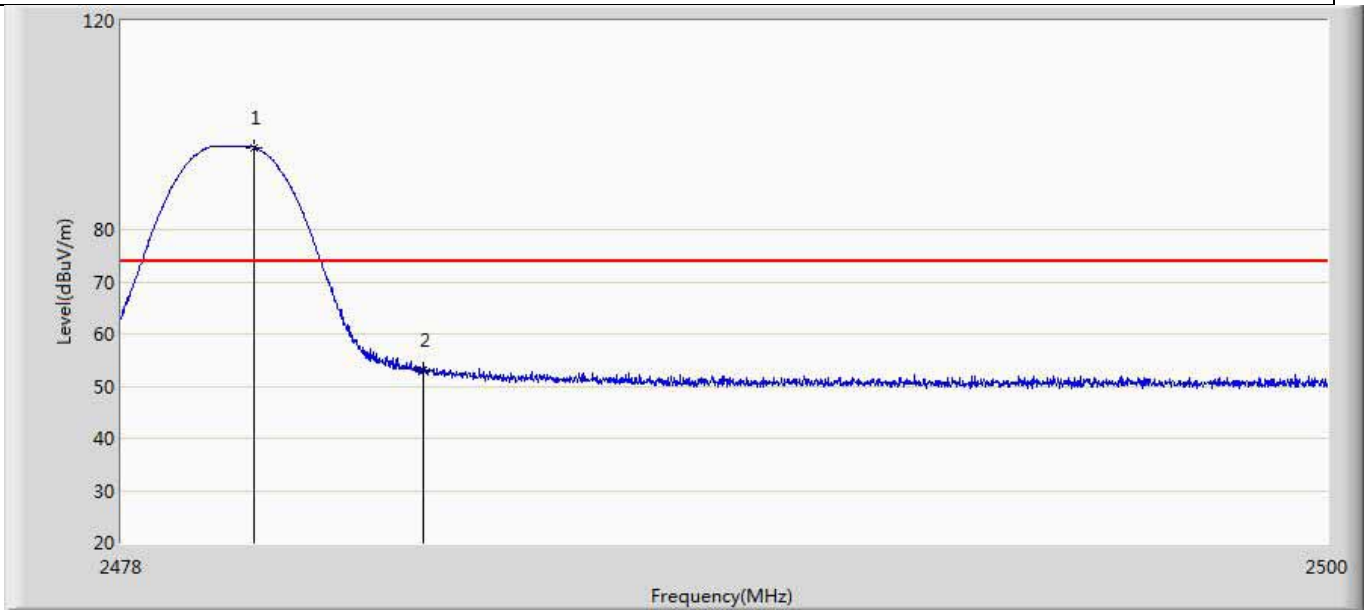
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.288	102.827	67.328	N/A	N/A	35.500	PK
2		2483.500	56.292	20.774	-17.708	74.000	35.517	PK

Profile: 19A2159R	Page No.: 2
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



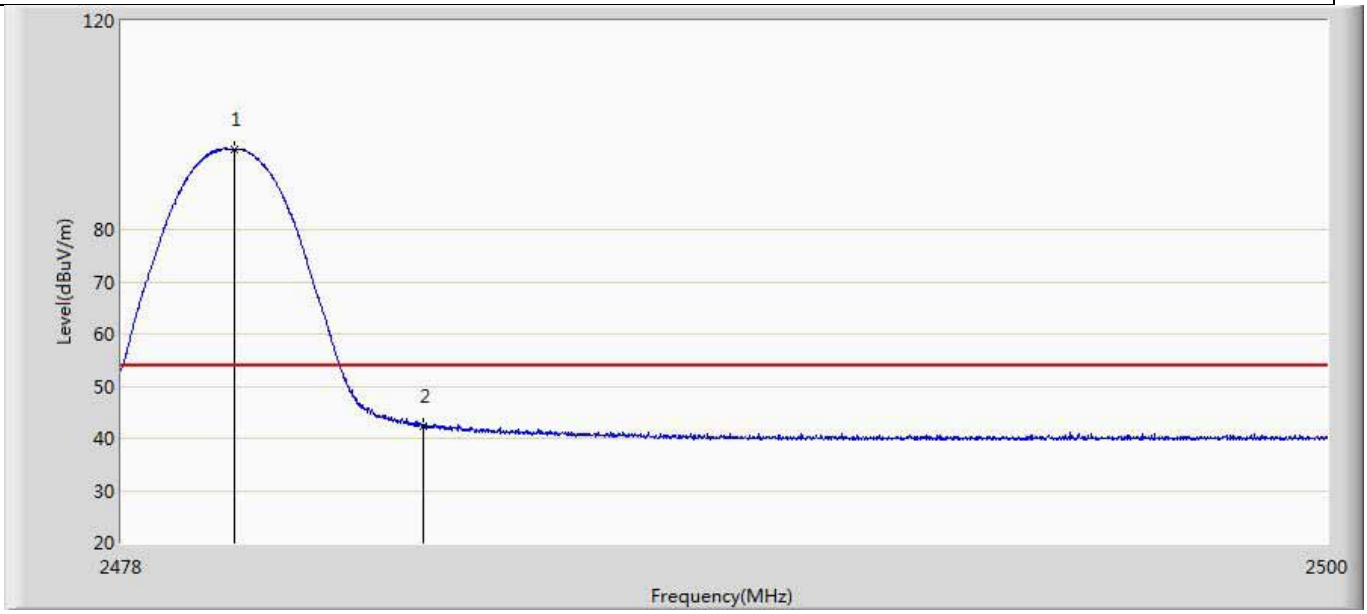
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.046	99.414	63.916	N/A	N/A	35.498	AV
2		2483.500	45.035	9.517	-8.965	54.000	35.517	AV

Profile: 19A2159R	Page No.: 3
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



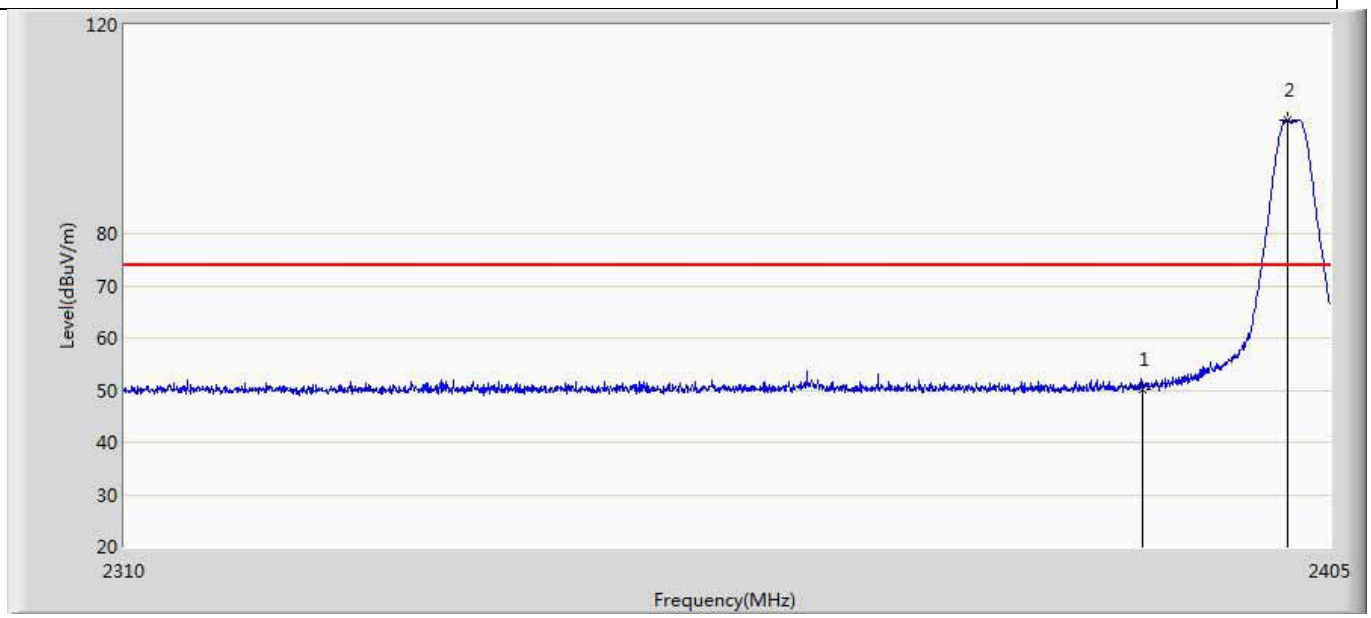
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.420	95.748	60.248	N/A	N/A	35.500	PK
2		2483.500	52.935	17.417	-21.065	74.000	35.517	PK

Profile: 19A2159R	Page No.: 4
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz by BLE	



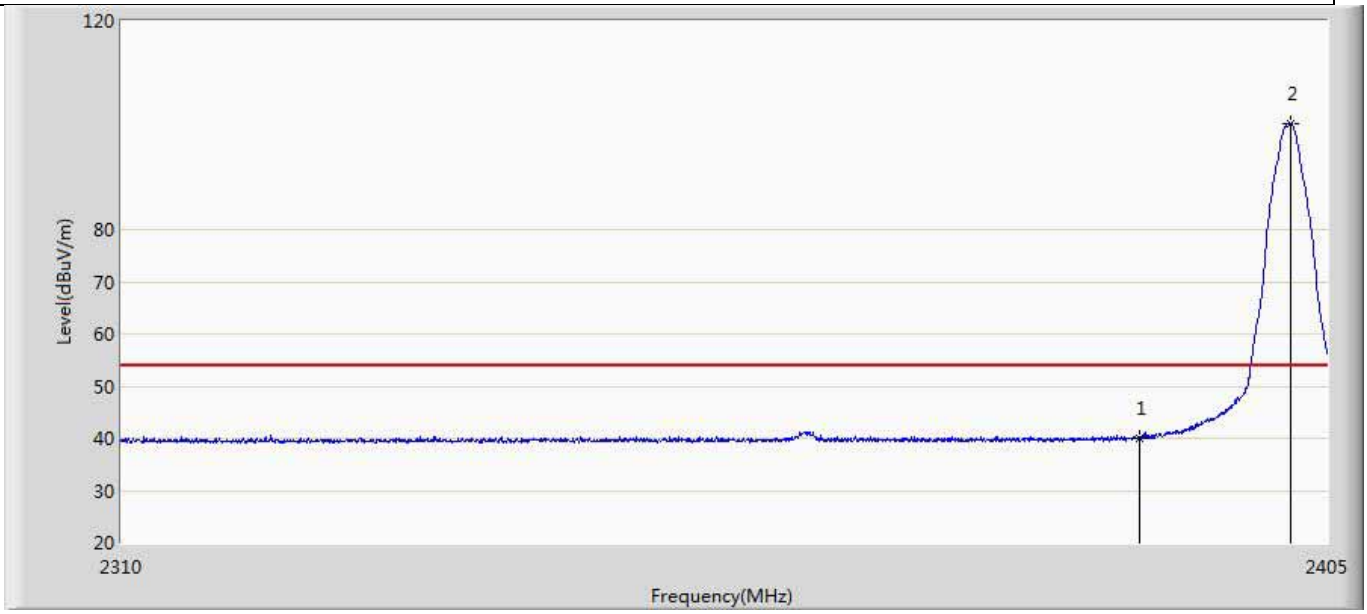
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.046	95.349	59.851	N/A	N/A	35.498	AV
2		2483.500	42.342	6.824	-11.658	54.000	35.517	AV

Profile: 19A2159R	Page No.: 21
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



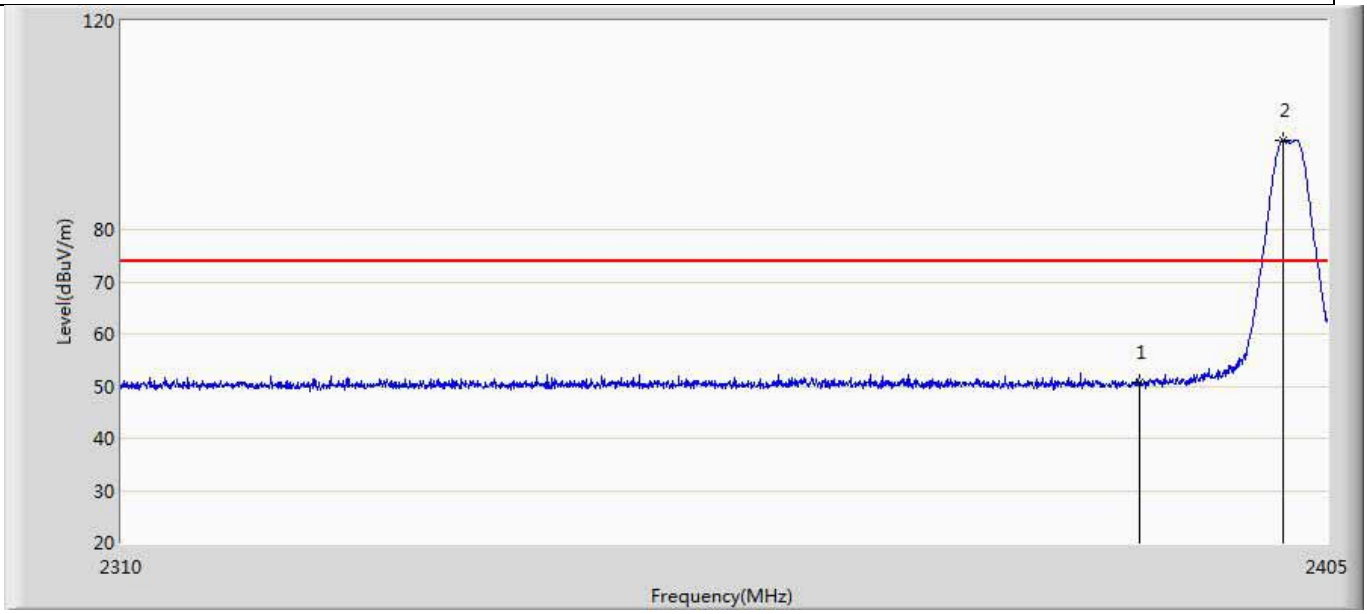
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.065	14.608	-23.935	74.000	35.458	PK
2	*	2401.627	101.734	66.265	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 22
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



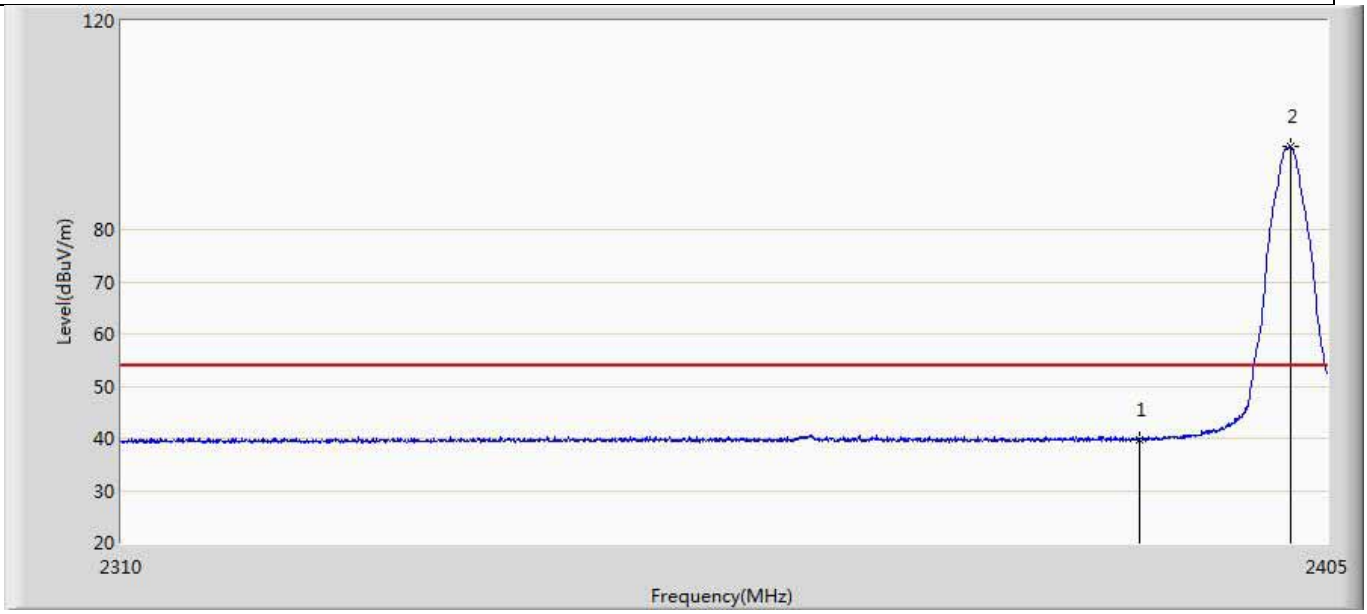
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.049	4.592	-13.951	54.000	35.458	AV
2	*	2402.055	100.326	64.856	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 23
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



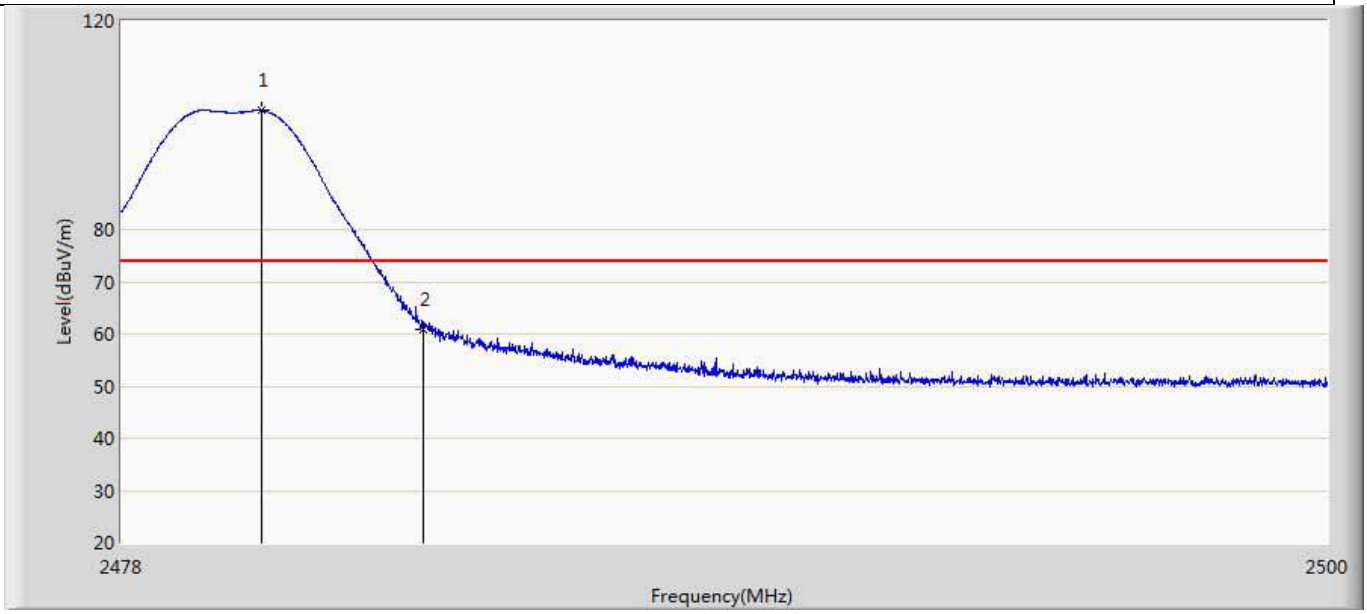
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.786	15.329	-23.214	74.000	35.458	PK
2	*	2401.485	97.147	61.678	N/A	N/A	35.468	PK

Profile: 19A2159R	Page No.: 24
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz by 2LE	



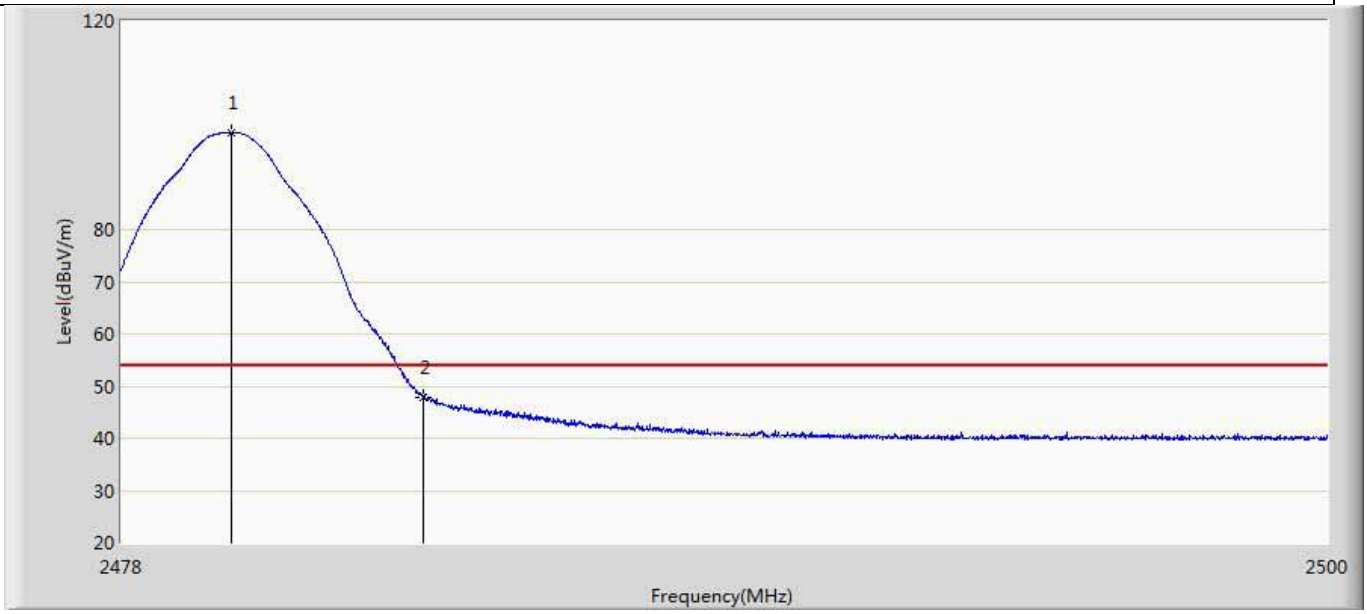
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.851	4.394	-14.149	54.000	35.458	AV
2	*	2402.055	95.868	60.398	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 5
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



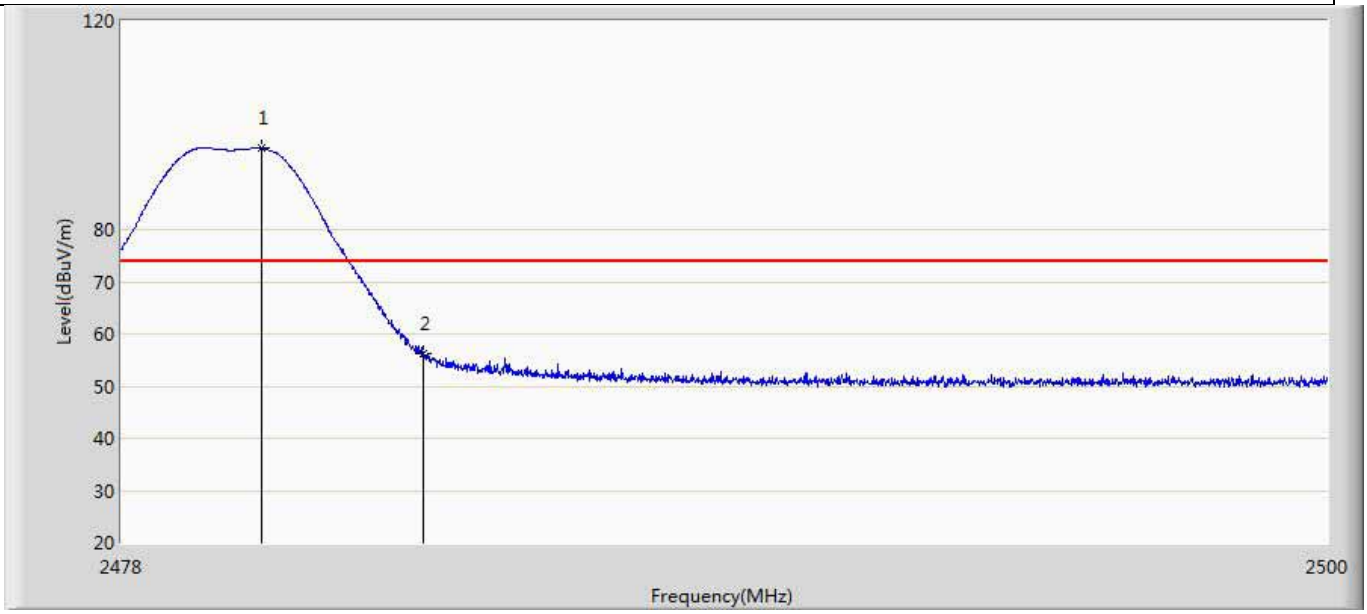
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.563	102.840	67.339	N/A	N/A	35.501	PK
2		2483.500	61.003	25.485	-12.997	74.000	35.517	PK

Profile: 19A2159R	Page No.: 6
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



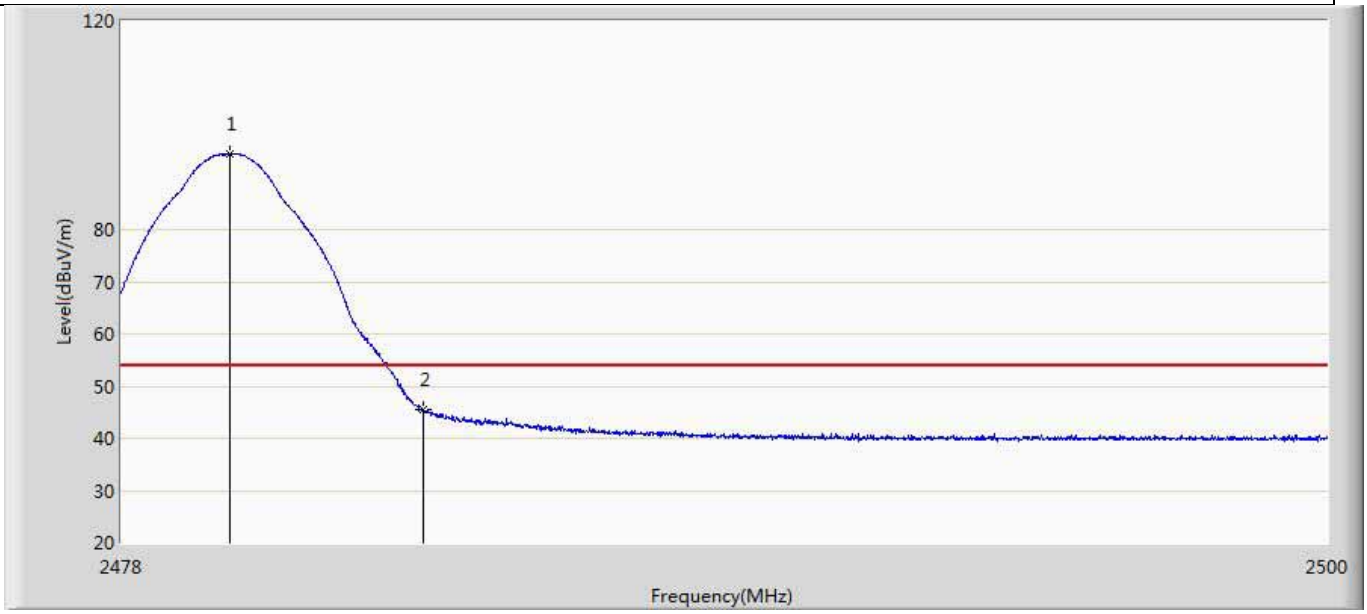
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	98.572	63.074	N/A	N/A	35.498	AV
2		2483.500	47.848	12.330	-6.152	54.000	35.517	AV

Profile: 19A2159R	Page No.: 7
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



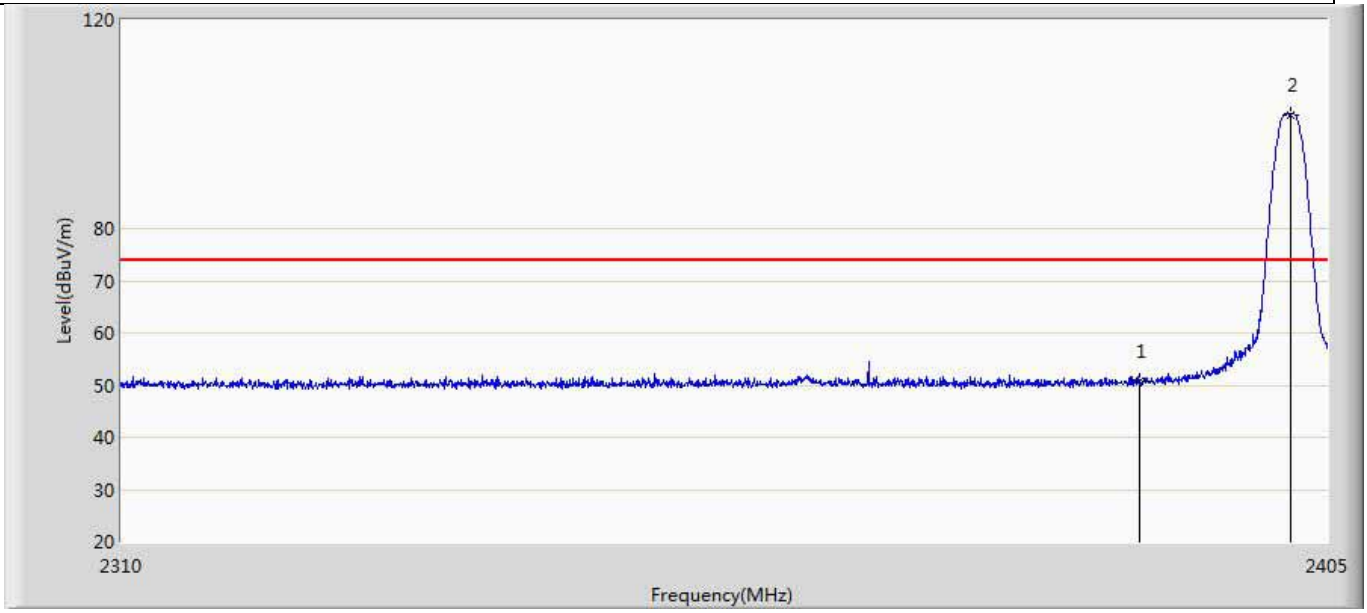
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.563	95.592	60.091	N/A	N/A	35.501	PK
2		2483.500	56.304	20.786	-17.696	74.000	35.517	PK

Profile: 19A2159R	Page No.: 8
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz by 2LE	



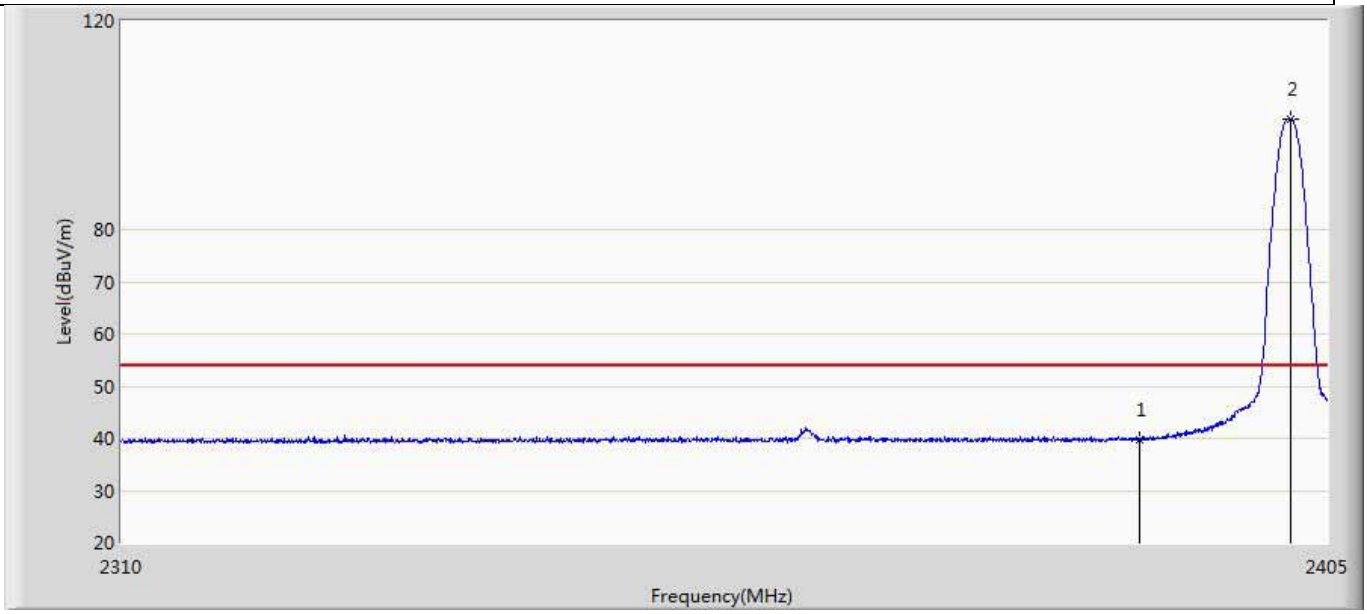
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	94.529	59.031	N/A	N/A	35.498	AV
2		2483.500	45.413	9.895	-8.587	54.000	35.517	AV

Profile: 19A2159R	Page No.: 29
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 19:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by code2	



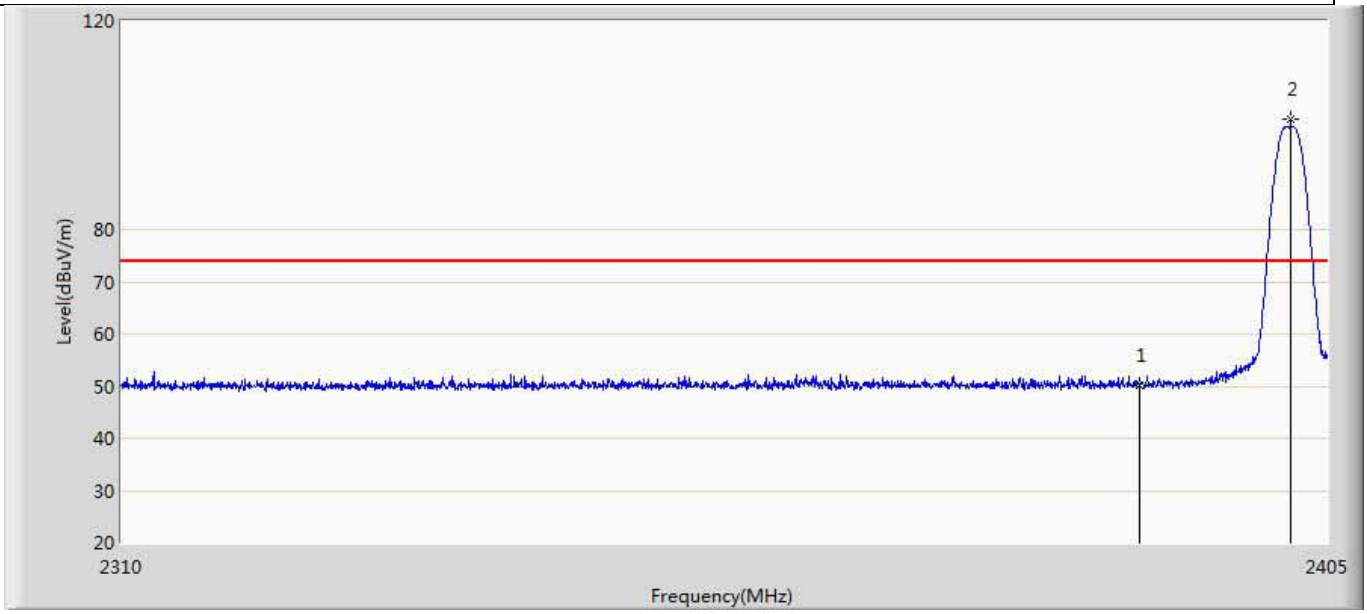
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.688	15.231	-23.312	74.000	35.458	PK
2	*	2402.055	101.869	66.399	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 30
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 19:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by code2	



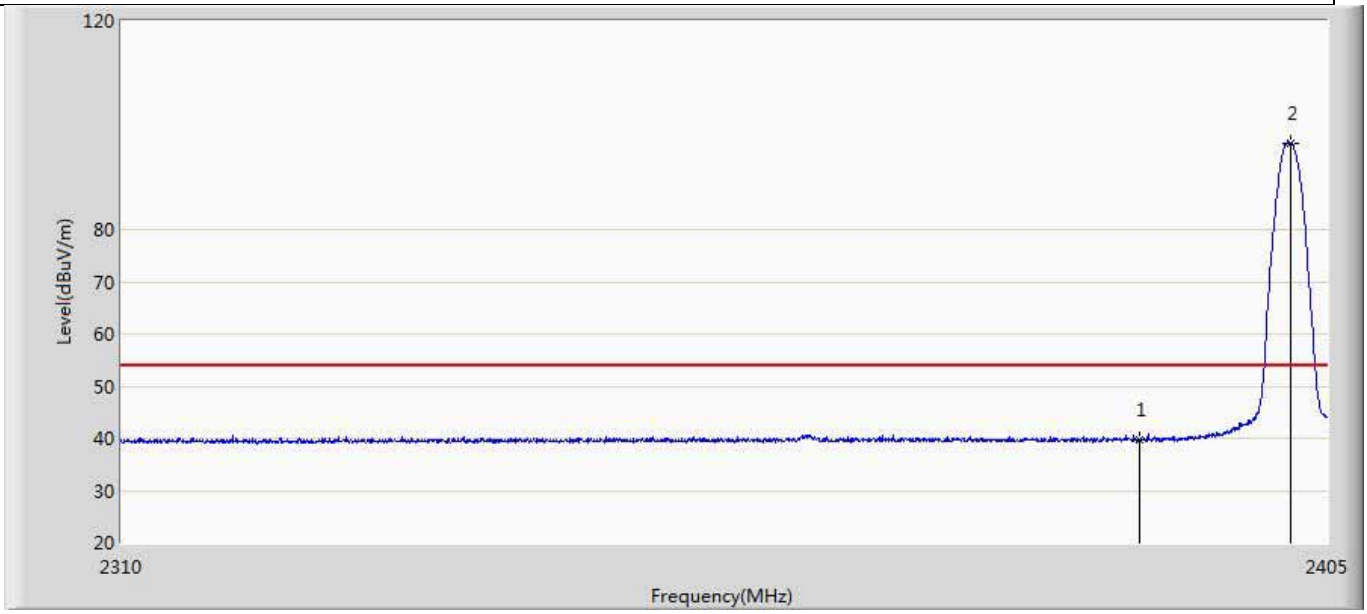
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.822	4.365	-14.178	54.000	35.458	AV
2	*	2402.055	101.266	65.796	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 31
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 19:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by code2	



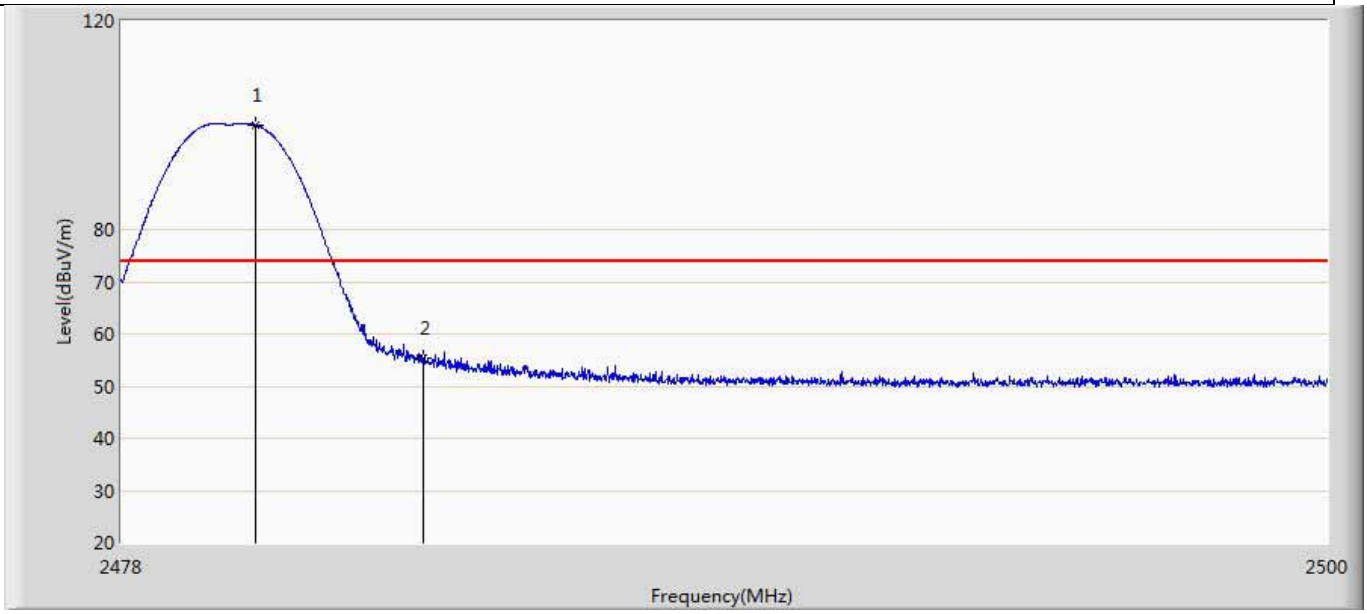
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.236	14.779	-23.764	74.000	35.458	PK
2	*	2402.055	101.266	65.796	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 32
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 19:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz by code2	



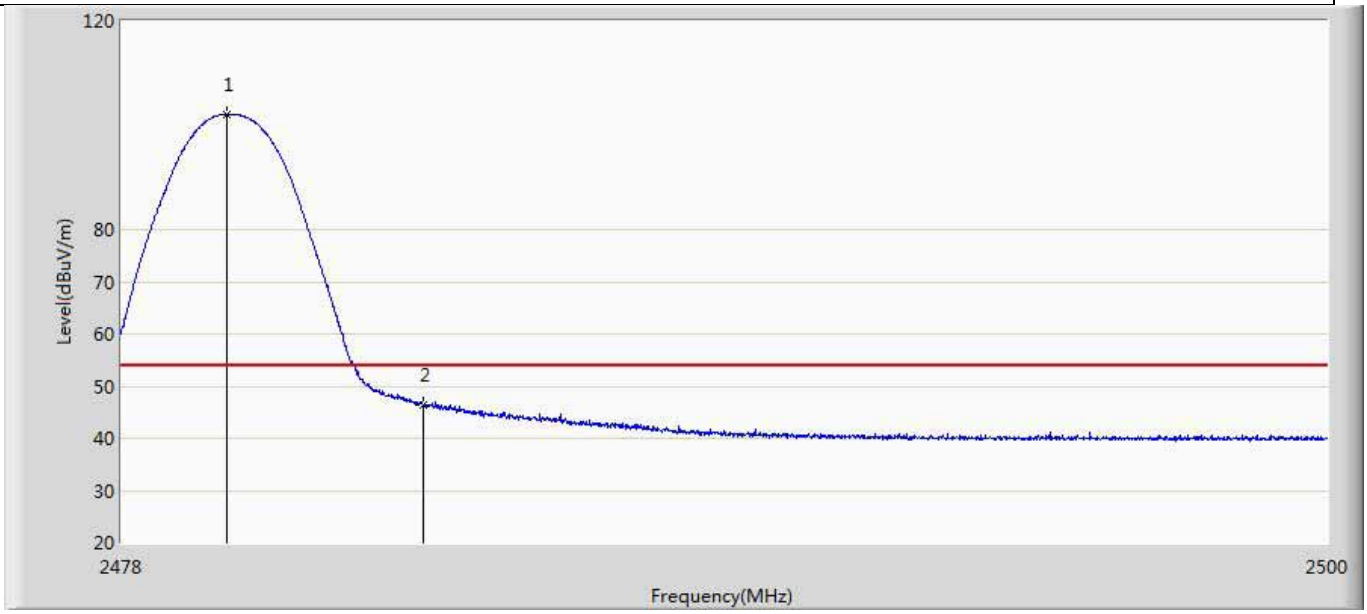
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.615	4.158	-14.385	54.000	35.458	AV
2	*	2402.055	96.617	61.147	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 13
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by code2	



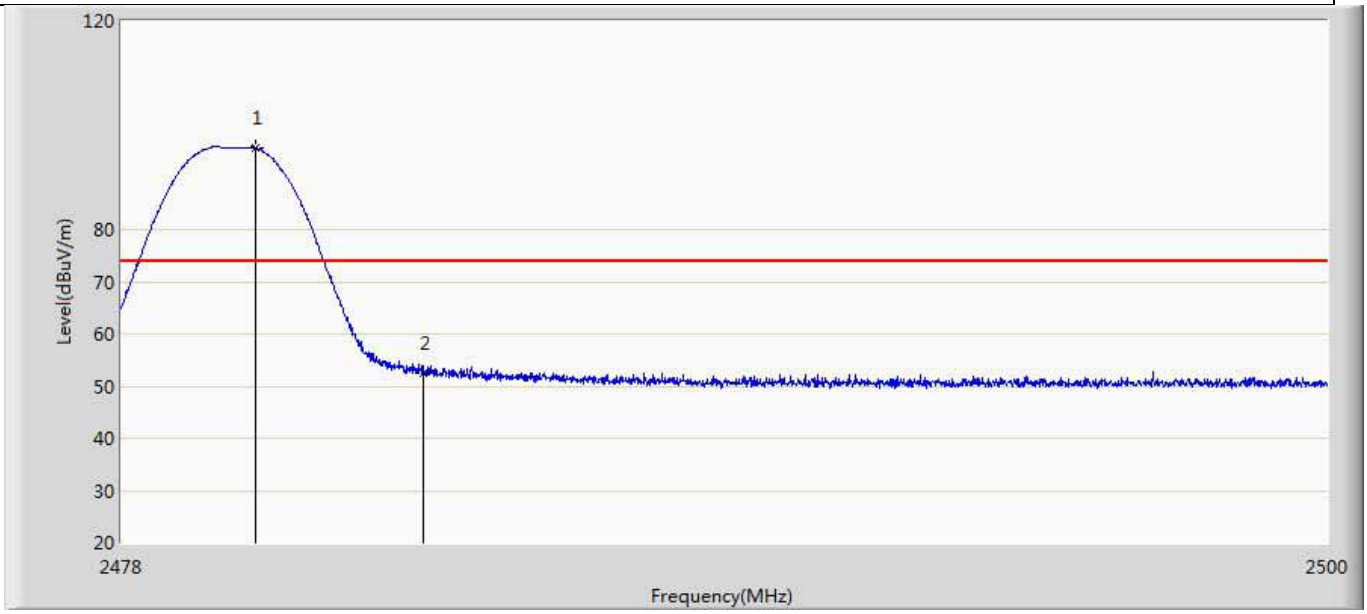
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.453	99.984	64.484	N/A	N/A	35.500	PK
2		2483.500	55.438	19.920	-18.562	74.000	35.517	PK

Profile: 19A2159R	Page No.: 14
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by code2	



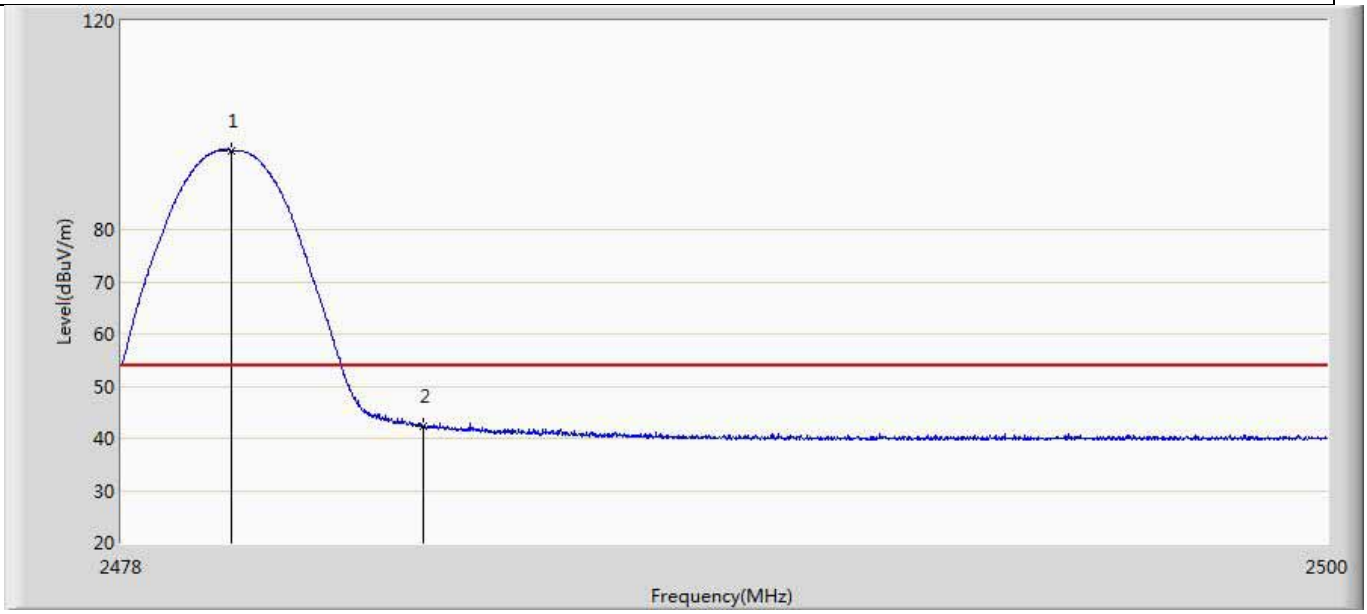
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.914	102.001	66.504	N/A	N/A	35.498	AV
2		2483.500	46.462	10.944	-7.538	54.000	35.517	AV

Profile: 19A2159R	Page No.: 15
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by code2	



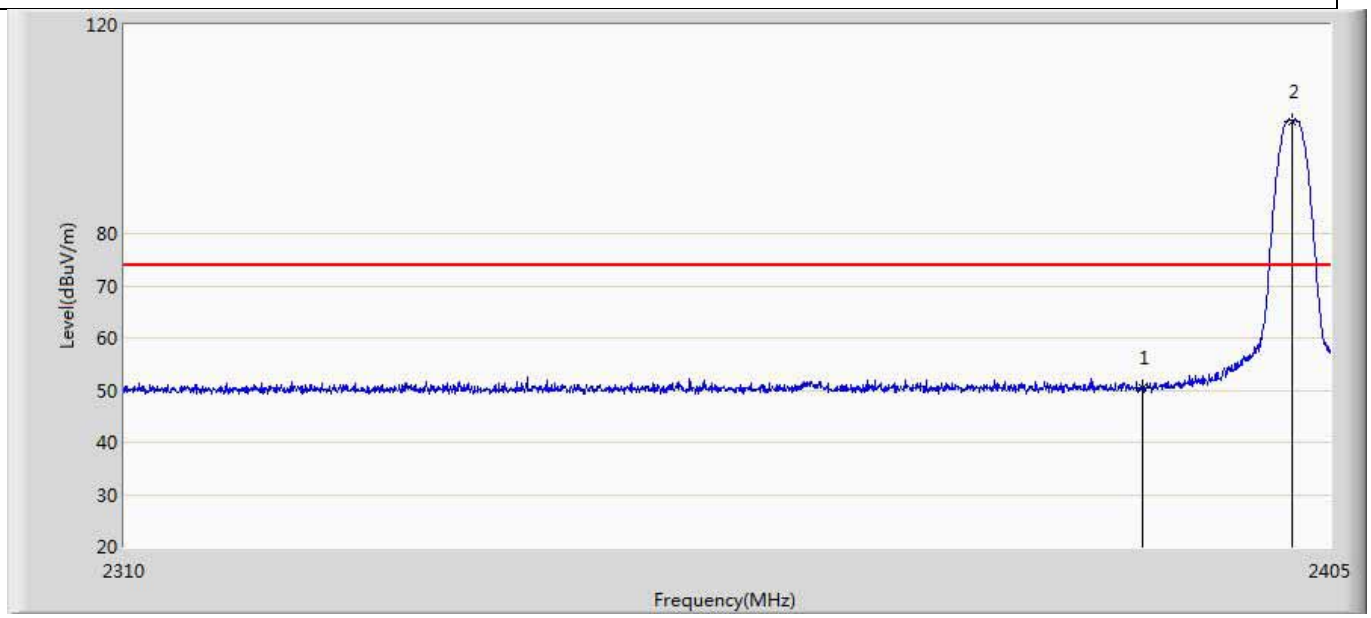
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.453	95.659	60.159	N/A	N/A	35.500	PK
2		2483.500	52.525	17.007	-21.475	74.000	35.517	PK

Profile: 19A2159R	Page No.: 16
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz by code2	



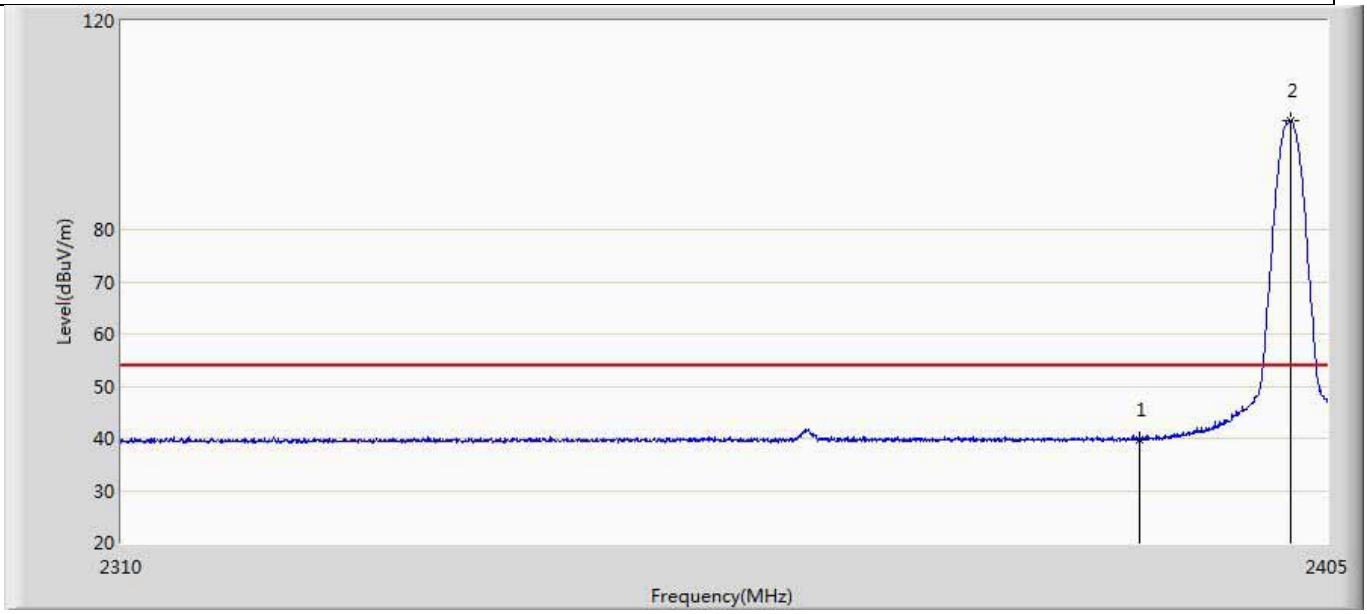
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	95.154	59.656	N/A	N/A	35.498	AV
2		2483.500	42.179	6.661	-11.821	54.000	35.517	AV

Profile: 19A2159R	Page No.: 25
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz by code8	



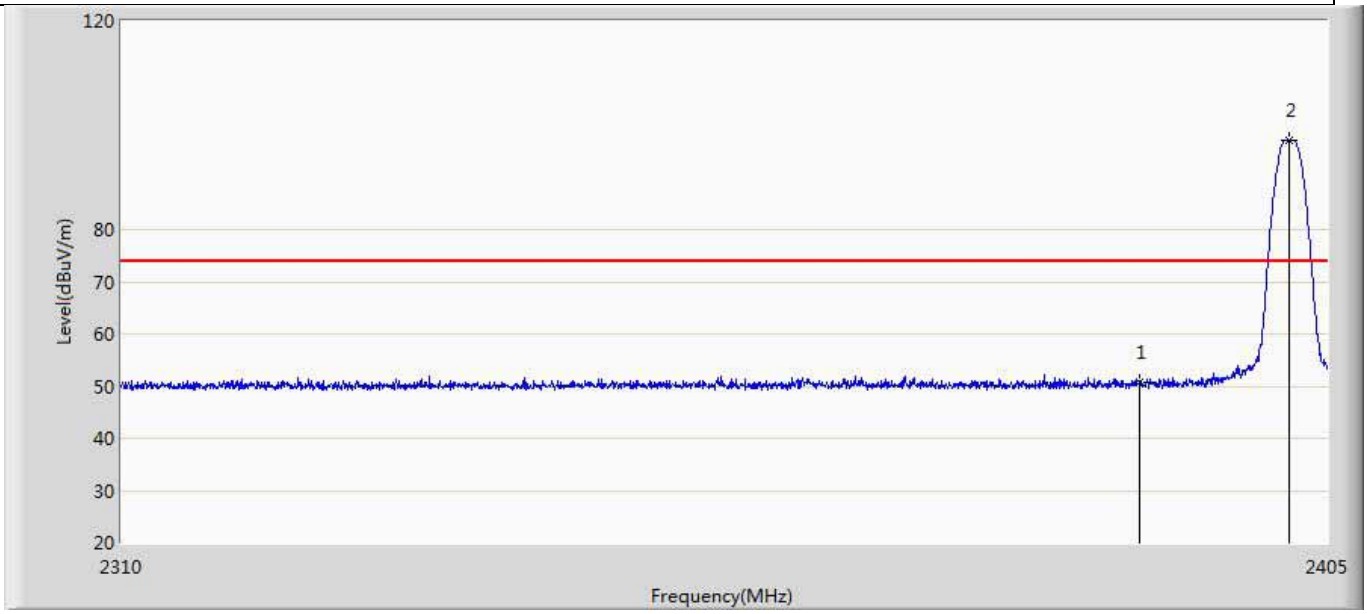
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.407	14.950	-23.593	74.000	35.458	PK
2	*	2401.913	101.582	66.113	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 26
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz by code8	



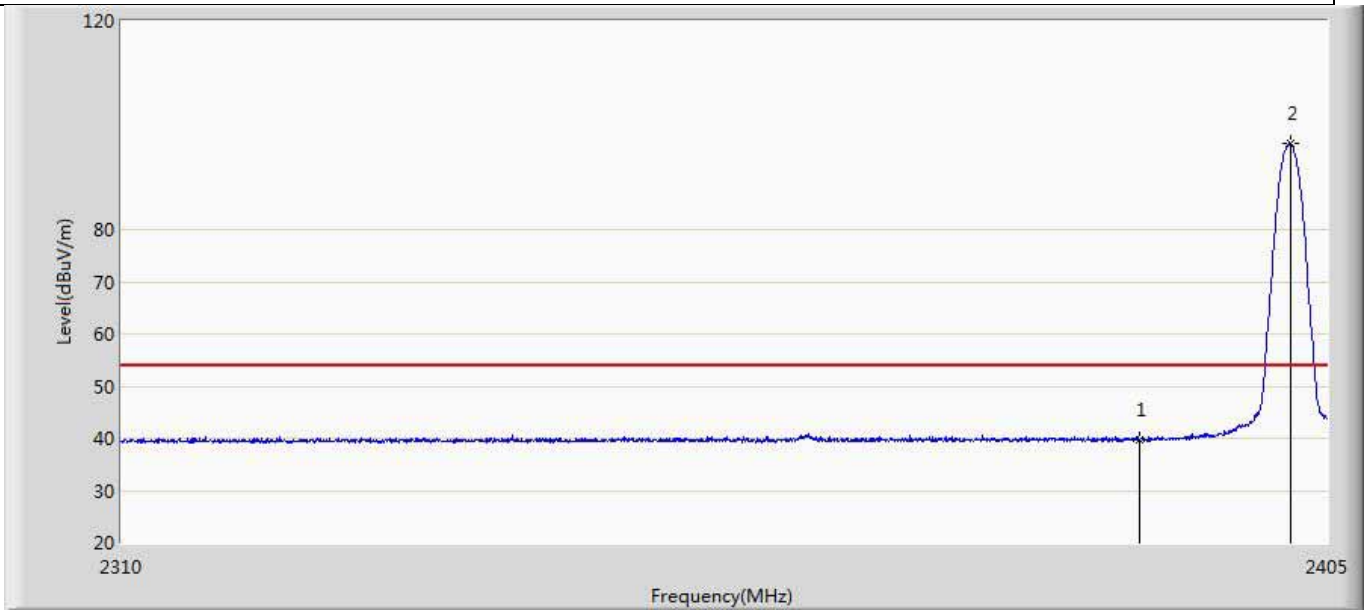
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.737	4.280	-14.263	54.000	35.458	AV
2	*	2402.055	100.986	65.516	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 27
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 19:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz by code8	



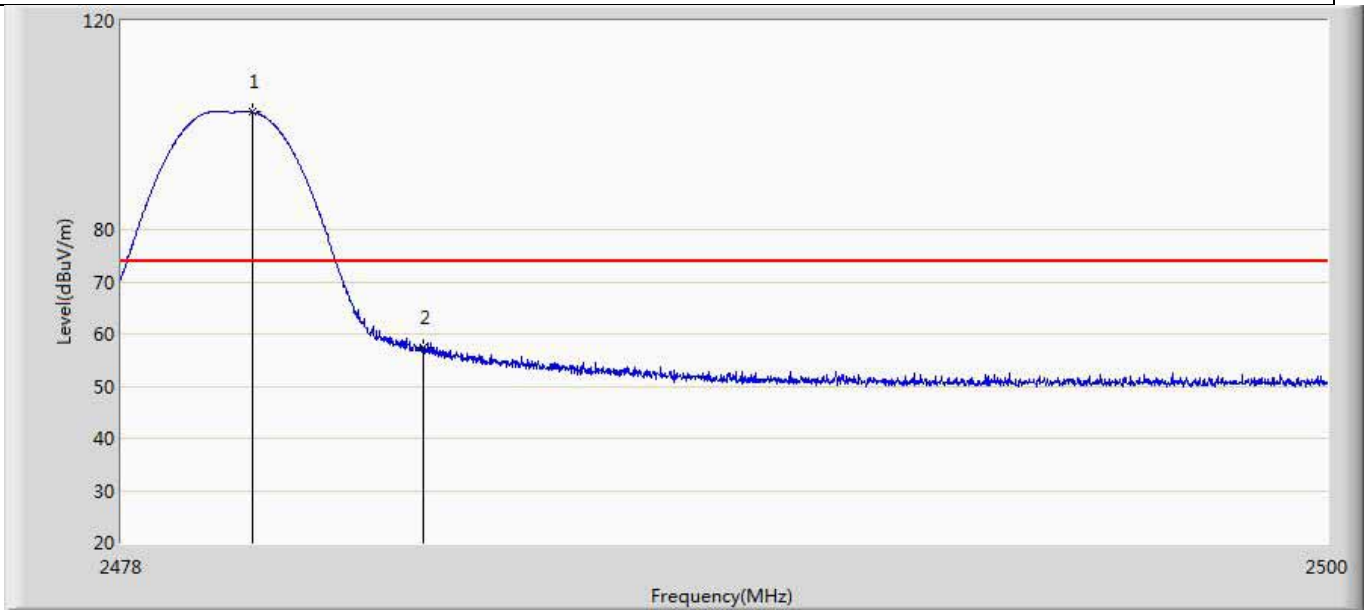
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.692	15.235	-23.308	74.000	35.458	PK
2	*	2401.913	97.057	61.588	N/A	N/A	35.469	PK

Profile: 19A2159R	Page No.: 28
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 19:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz by code8	



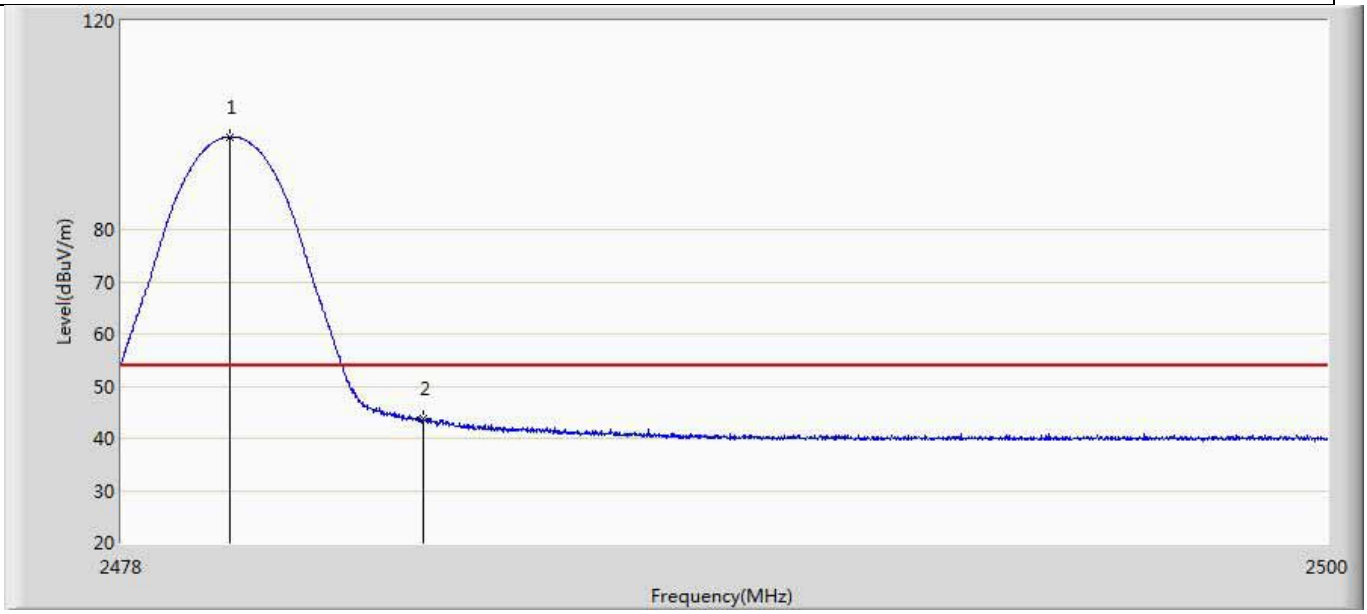
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.790	4.333	-14.210	54.000	35.458	AV
2	*	2402.055	96.396	60.926	N/A	N/A	35.469	AV

Profile: 19A2159R	Page No.: 9
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz by code8	



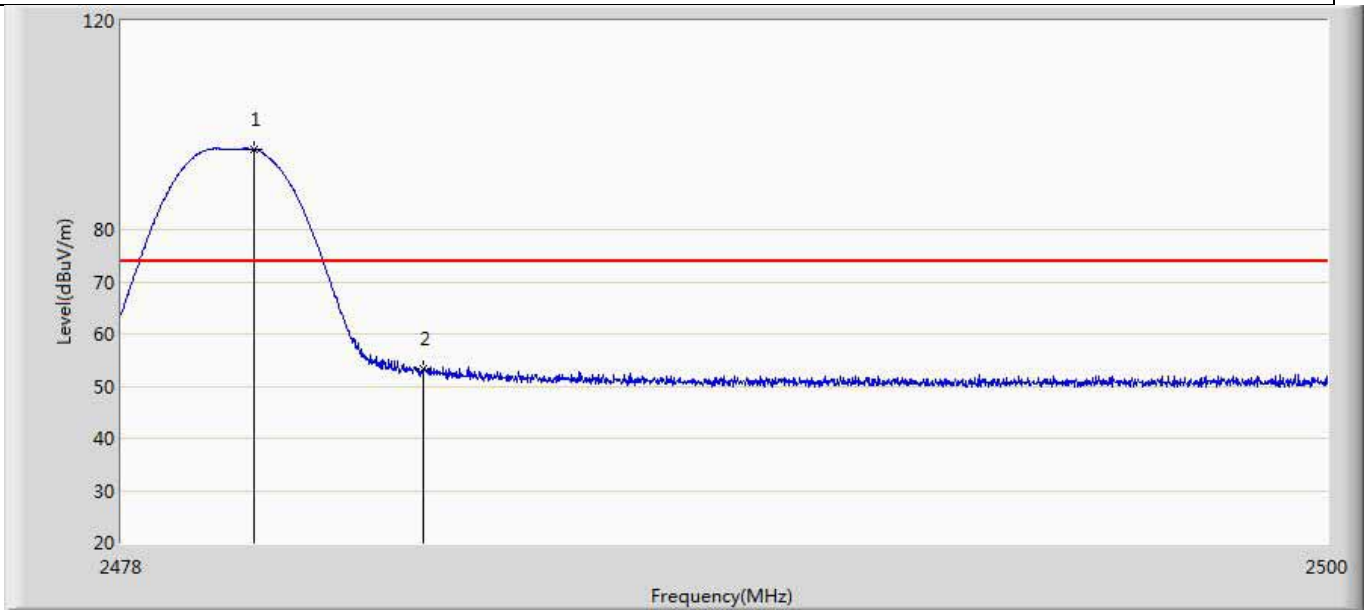
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.387	102.478	66.978	N/A	N/A	35.501	PK
2		2483.500	57.331	21.813	-16.669	74.000	35.517	PK

Profile: 19A2159R	Page No.: 10
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz by code8	



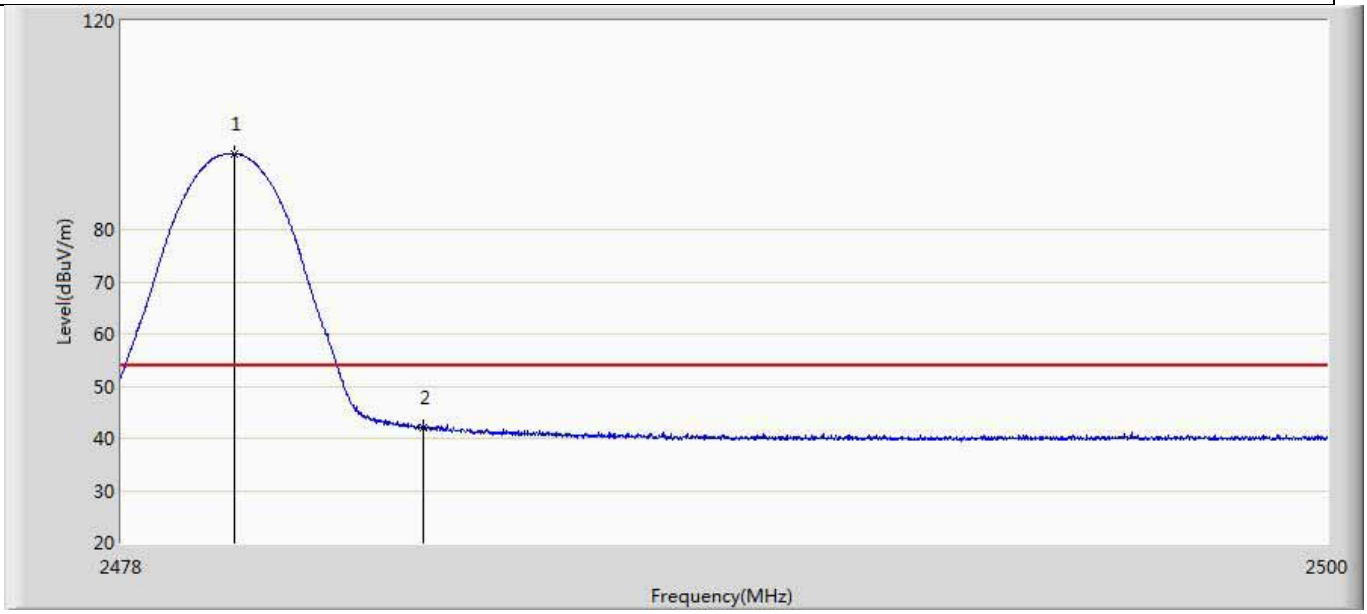
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	97.695	62.197	N/A	N/A	35.498	AV
2		2483.500	43.785	8.267	-10.215	54.000	35.517	AV

Profile: 19A2159R	Page No.: 11
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz by code8	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.420	95.404	59.904	N/A	N/A	35.500	PK
2		2483.500	53.357	17.839	-20.643	74.000	35.517	PK

Profile: 19A2159R	Page No.: 12
Engineer: Neil	
Site: AC5	Time: 2019/11/14 - 18:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp 9290022941	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz by code8	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.046	94.559	59.061	N/A	N/A	35.498	AV
2		2483.500	42.038	6.520	-11.962	54.000	35.517	AV

Note:
1. Measured Level = Reading Level + Factor.
2. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.
3. As the radiated emission was performed, so conducted emission was not tested.

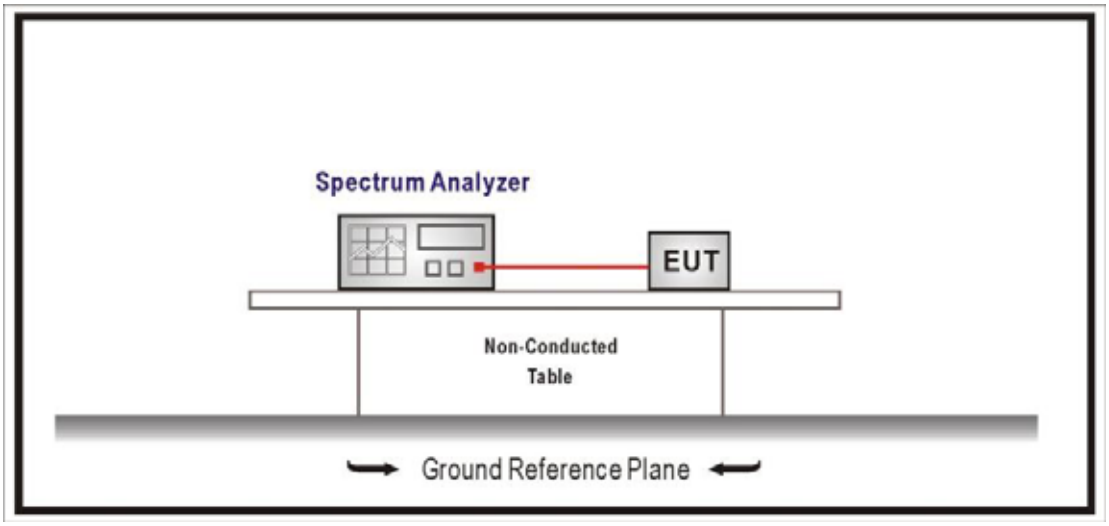
4.6 DTS Bandwidth — VERDICT: PASS

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	00	2402	1.0716	0.8000	>500	Pass
	19	2440	1.0599	0.7977	>500	Pass
	39	2480	1.0615	0.7724	>500	Pass
2	00	2402	2.1635	1.379	>500	Pass
	19	2440	2.1702	1.534	>500	Pass
	39	2480	2.1719	1.420	>500	Pass
3	00	2402	1.1349	0.7670	>500	Pass
	19	2440	1.1288	0.7655	>500	Pass
	39	2480	1.1273	0.7630	>500	Pass
4	00	2402	1.1463	0.5809	>500	Pass
	19	2440	1.1438	0.5805	>500	Pass
	39	2480	1.1397	0.5804	>500	Pass

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

Mode 4 CH39 (2480MHz)

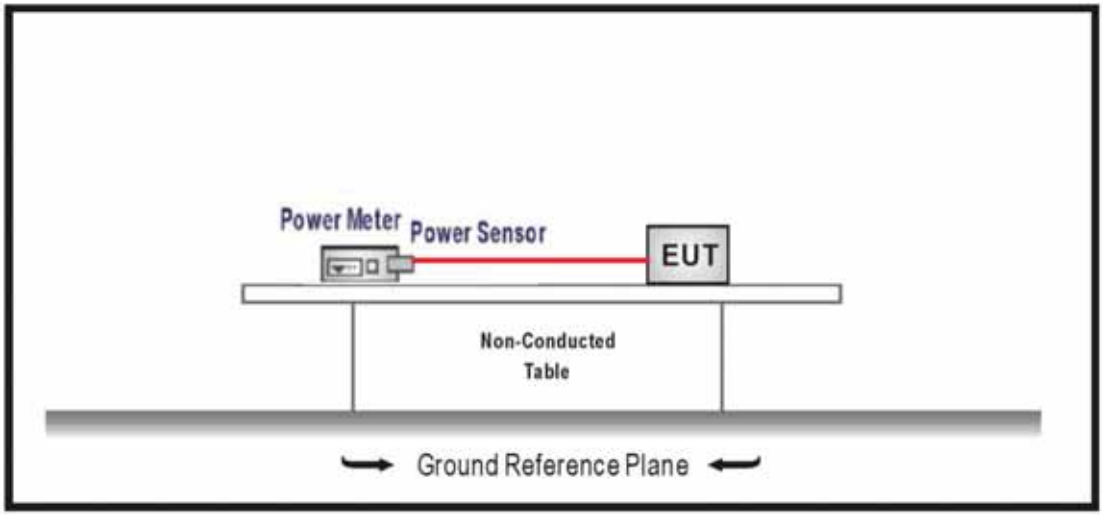
4.7 Fundamental emission output power — VERDICT: PASS

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

Murata:

Mode	Channel	Test Frequency (MHz)	Power Output (dBm)	Limit (dBm)	Result
Mode 1	00	2402	10.81	≤30	Pass
	19	2440	10.66	≤30	Pass
	39	2480	10.57	≤30	Pass
Mode 2	00	2402	11.71	≤30	Pass
	19	2440	11.61	≤30	Pass
	39	2480	11.44	≤30	Pass
Mode 3	00	2402	10.91	≤30	Pass
	19	2440	10.81	≤30	Pass
	39	2480	10.72	≤30	Pass
Mode 4	00	2402	10.79	≤30	Pass
	19	2440	10.71	≤30	Pass
	39	2480	10.56	≤30	Pass

KDS:

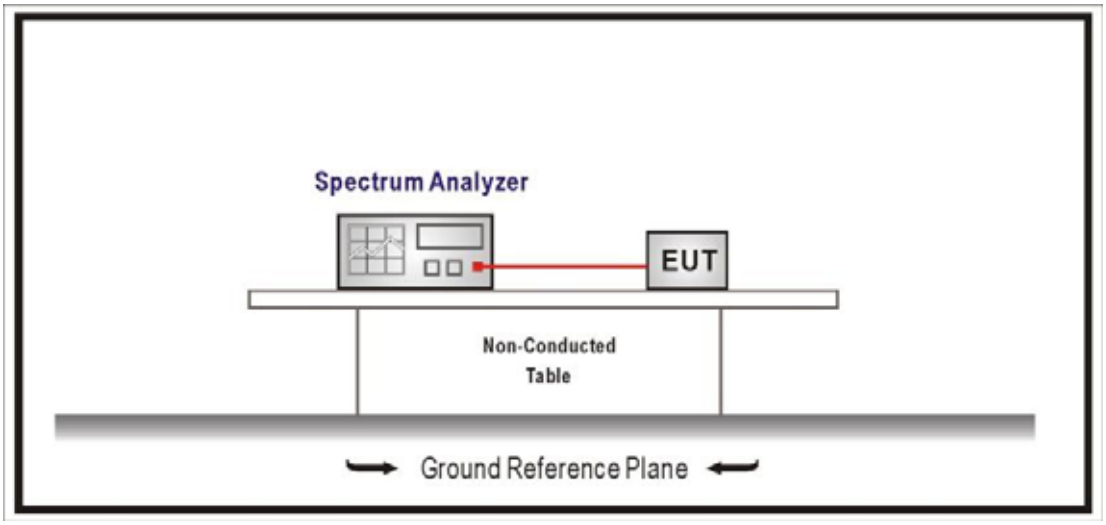
Mode	Channel	Test Frequency (MHz)	Power Output (dBm)	Limit (dBm)	Result
Mode 1	00	2402	10.61	≤30	Pass
	19	2440	10.53	≤30	Pass
	39	2480	10.51	≤30	Pass
Mode 2	00	2402	11.51	≤30	Pass
	19	2440	11.42	≤30	Pass
	39	2480	11.39	≤30	Pass
Mode 3	00	2402	10.72	≤30	Pass
	19	2440	10.76	≤30	Pass
	39	2480	10.78	≤30	Pass
Mode 4	00	2402	10.63	≤30	Pass
	19	2440	10.57	≤30	Pass
	39	2480	10.51	≤30	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)	Total Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Mode 1	00	2402	-6.740	-6.740	≤8	Pass
	19	2440	-6.803	-6.803	≤8	Pass
	39	2480	-6.979	-6.979	≤8	Pass
Mode 2	00	2402	-9.525	-9.525	≤8	Pass
	19	2440	-9.627	-9.627	≤8	Pass
	39	2480	-9.627	-9.627	≤8	Pass
Mode 3	00	2402	-9.118	-9.118	≤8	Pass
	19	2440	-9.250	-9.250	≤8	Pass
	39	2480	-9.282	-9.282	≤8	Pass
Mode 4	00	2402	2.919	2.919	≤8	Pass
	19	2440	2.805	2.805	≤8	Pass
	39	2480	2.664	2.664	≤8	Pass

Remark: The worst data as below:

Mode 4 CH00(2402MHz)

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