



Test report No:
2110634R-RF-US-P06V02

FCC & ISED TEST REPORT

Product Name	LED lamp
Trademark	PHILIPS
Model and /or type reference	9290024796
FCC ID	2AGBW9290024796X
IC	20812-24796X
Applicant's name / address	Signify (China) Investment Co., Ltd Building no.9, Lane 888, Tianlin Road, Minhang District, Shanghai
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
Tested by (name / position & signature)	Scott Shen/Project Engineer 
Approved by (name / position & signature)	Jack Zhang/Supervisor 
Date of issue	2021-03-22
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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

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

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

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

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GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Jan. 19, 2021
Date (start test)	Jan. 20, 2021
Date (finish test)	Mar. 22, 2021

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
2110634R-RF-US-P06V02	V1.0	Initial issue of report.	2021-03-22

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.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
 - Chapter 1.1 General Description of the Item(s);
 - Chapter 1.2 Antenna Information;
 - Chapter 1.3 Channel List.

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	2020.04.18	2021.04.17
Two-Line V-Network	R&S	ENV216	101044	2020.04.18	2021.04.17
50ohm Termination	SHX	TF2	7081402	2020.09.23	2021.09.22
50ohm Termination	SHX	TF2	7081403	2020.09.23	2021.09.22
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2020.08.23	2021.08.22
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	2020.08.15	2021.08.14
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2020.04.17	2021.04.16
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2020.08.15	2021.08.14
4TX MIMO Power Sensor	Keysight	X8750A	MY59400102	2021.02.11	2022.02.10
Coaxial Cable	Woken	SFL402	F02-150410-044	2021.01.01	2021.12.31
Temperature/Humidity Meter	RTS	RTS-8S	RF08	2020.08.13	2021.08.12

Radiated Emission(30MHz-1GHz) / AC2

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2020.12.06	2021.12.05
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2020.09.22	2021.09.21
Coaxial Cable	Huber+Suhner	RG 214	AC2-C	2020.04.05	2021.04.04
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2020.08.13	2021.08.12
Dekra test software	Dekra	-	-	-	-

Radiated Emission(1GHz-40GHz) / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2020.04.17	2021.04.16
Amplifier	Keleto	LNPA	SK20190225	2020.09.25	2021.09.24
Preamplifier	EMCI	EMC184045SE	980263	2020.05.24	2021.05.23
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2020.08.06	2021.08.05
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2019.03.23	2021.03.22
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2020.04.05	2021.04.04
Coaxial Cable	ROSENBERGER	LA1-C011- 2000/3000	AC5-40G	2020.04.18	2021.04.17
Temperature/Humidity Meter	RTS	RTS-8S	AC5-TH	2020.08.13	2021.08.12
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%. The Uncertainties is comply with standard required as below.

Test item	Uncertainty
AC Power Line Conducted Emission	9kHz~150kHz: 2.80 dB 150kHz~30MHz: 2.40 dB
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	± 1.27 dB
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	± 150 Hz
Occupied Bandwidth	± 1 kHz
Power Density	± 1.27 dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name	LED lamp
Model No.	9290024796
FCC ID	2AGBW9290024796X
IC	20812-24796X
Manufacturer	Signify (China) Investment Co., Ltd
Manufacturer Address	Building no.9, Lane 888, Tianlin Road, Minhang District, Shanghai

Wireless specification.....	Bluetooth 5.0					
Operating frequency range(s)	2400~2483.5MHz					
Type of Modulation.....	GFSK					
PHYs	<input checked="" type="checkbox"/>	LE 1M	<input checked="" type="checkbox"/>	LE 2M	<input checked="" type="checkbox"/>	LE Coded S=2/8
Data Rate	<input checked="" type="checkbox"/>	1Mbit/s	<input checked="" type="checkbox"/>	2Mbit/s	<input checked="" type="checkbox"/>	500/125 Kbit/s
Number of channel	40					

Rated power supply	Voltage and Frequency					
	<input type="checkbox"/>	AC: 220 – 240 V, 50/60 Hz				
	<input checked="" type="checkbox"/>	AC: 110 – 130 Vac, 50/60 Hz				
	<input type="checkbox"/>	DC: 24 Vdc				
	<input type="checkbox"/>	Battery:				
Mounting position	<input type="checkbox"/>	Table top equipment				
	<input type="checkbox"/>	Wall/Ceiling mounted equipment				
	<input type="checkbox"/>	Floor standing equipment				
	<input type="checkbox"/>	Head-mounted equipment				
	<input checked="" type="checkbox"/>	Other:				

1.2 Antenna Information

Antenna model / type number	N/A		
Antenna serial number	N/A		
Antenna Delivery	<input checked="" type="checkbox"/>	1TX + 1RX	
	<input type="checkbox"/>	2TX + 2RX	
Antenna technology	<input checked="" type="checkbox"/>	SISO	
	<input type="checkbox"/>	MIMO	<input type="checkbox"/> CDD <input type="checkbox"/> Beam-forming
Antenna Type	<input type="checkbox"/>	External	<input type="checkbox"/> Dipole
			<input type="checkbox"/> Sectorized
	<input checked="" type="checkbox"/>	Internal	<input type="checkbox"/> PIFA
			<input checked="" type="checkbox"/> PCB
			<input type="checkbox"/> Metal Monopole Antenna
		<input type="checkbox"/> Others.....	
Antenna Gain	-1.5 dBi		

1.3 Channel List

Bluetooth Working Frequency of Each Channel:							
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

Note: The general description of the Item(s), antenna information and channel list in clause 1 are provided and confirmed by the client.

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.

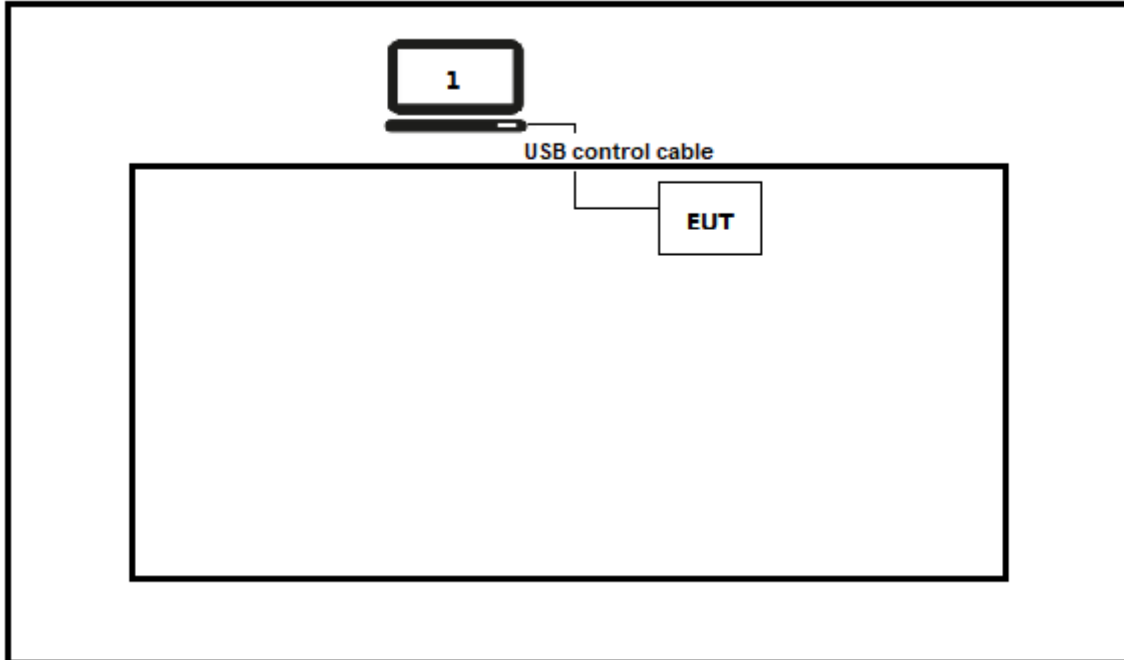
Test Mode For Bluetooth	Mode1: Transmit by LE_1Mbps
	Mode2: Transmit by LE_2Mbps
	Mode3: Transmit by LE_Coded S=2
	Mode4: Transmit by LE_Coded S=8

2.2 Auxiliary equipment / Test software for the EUT

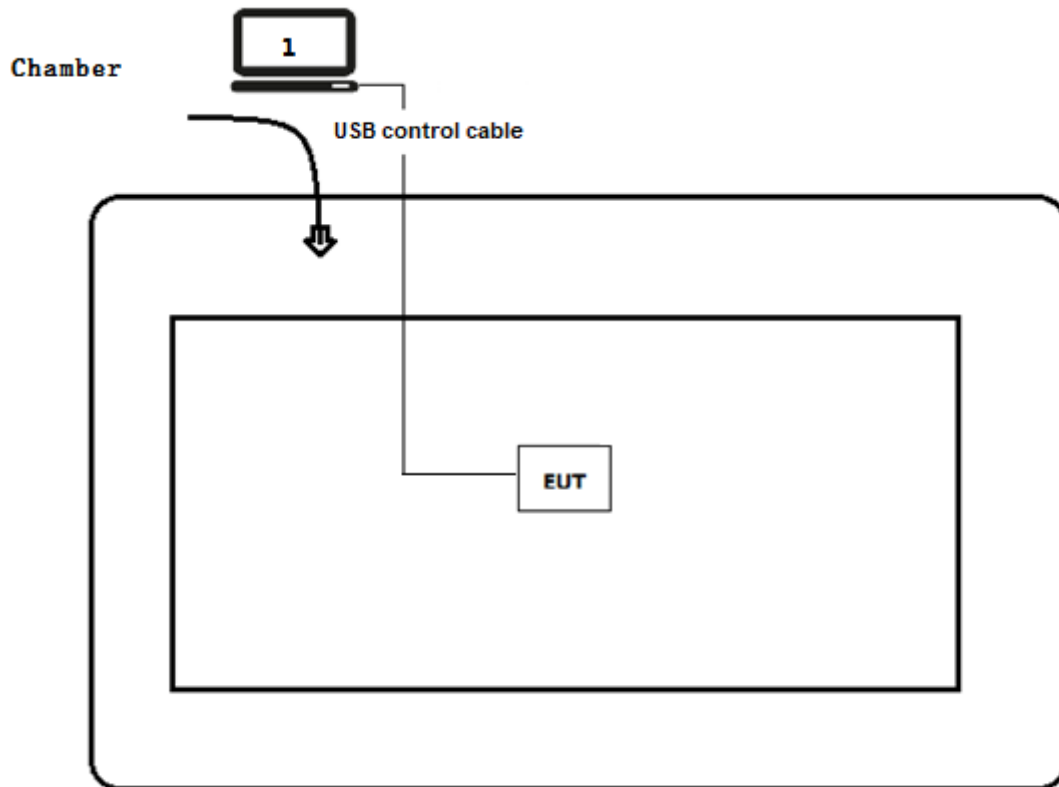
Auxiliary equipment	Type / Version	Manufacturer	Supplied by
Notebook	Think pad x220	Lenovo	Adapter
Software	Type / Version	Manufacturer	Supplied by
UartAssist	N/A	N/A	N/A

2.3 Test Configuration / Block diagram used for tests

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission



2.4 Testing process

1	Setup the EUT as shown in Section 2.3.
2	Execute test software "UartAssist" on the notebook.
3	Configure the test mode, the test channel, and the data rate.
4	Verify that the EUT works properly.

3 VERDICT SUMMARY SECTION

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

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.247	2021	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

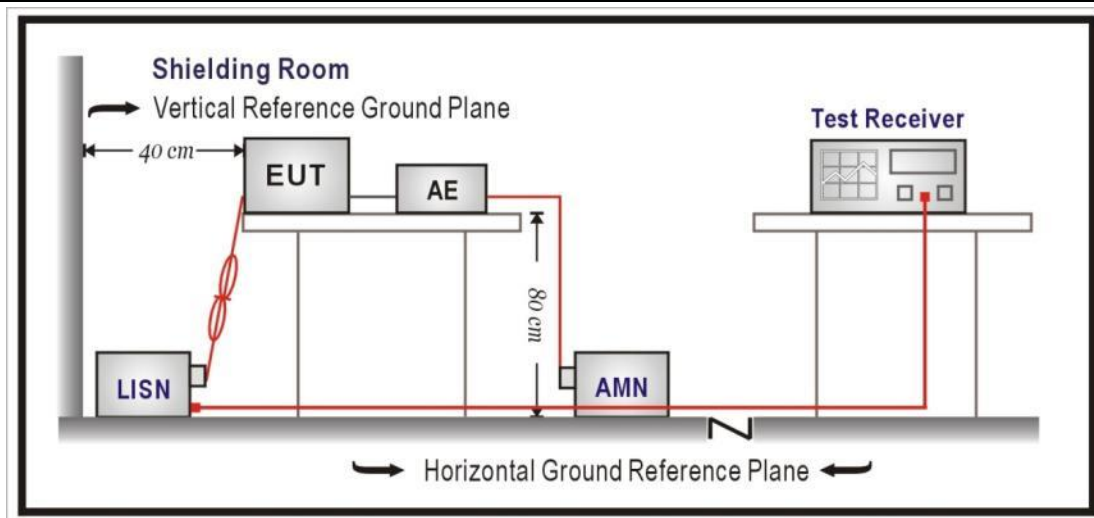
¹⁾ At the transition frequency, the lower limit applies.

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

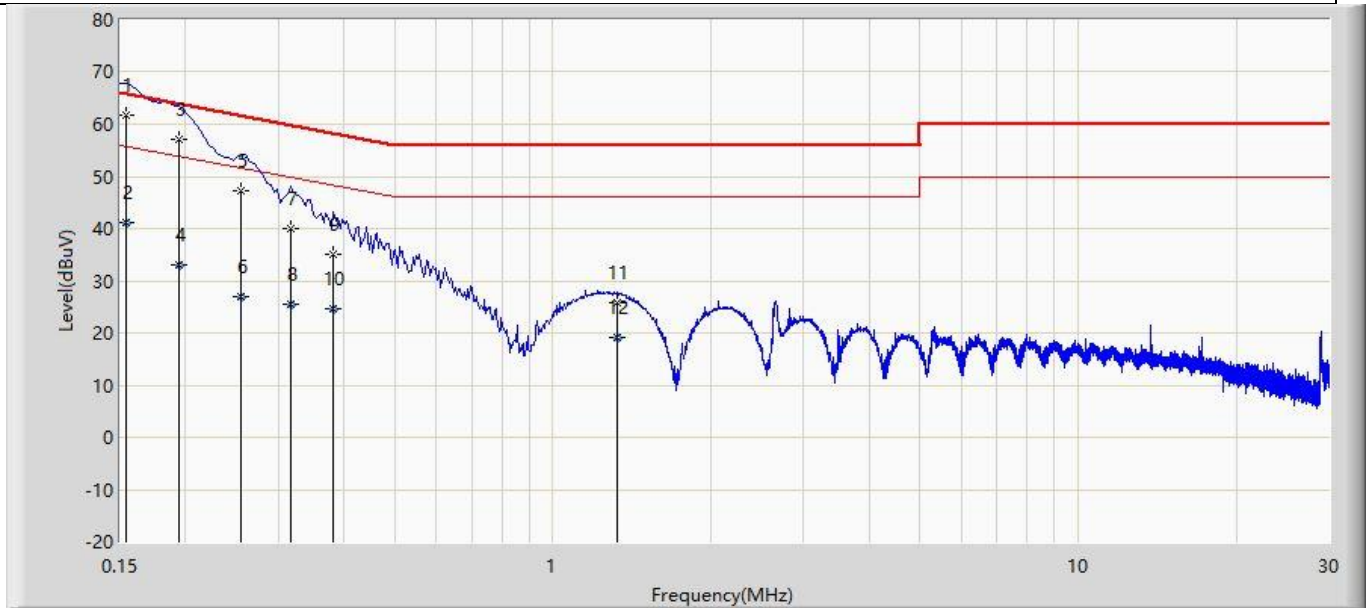


4.1.3 Test Procedure

	References Rule	Chapter	Item
<input checked="" type="checkbox"/>	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

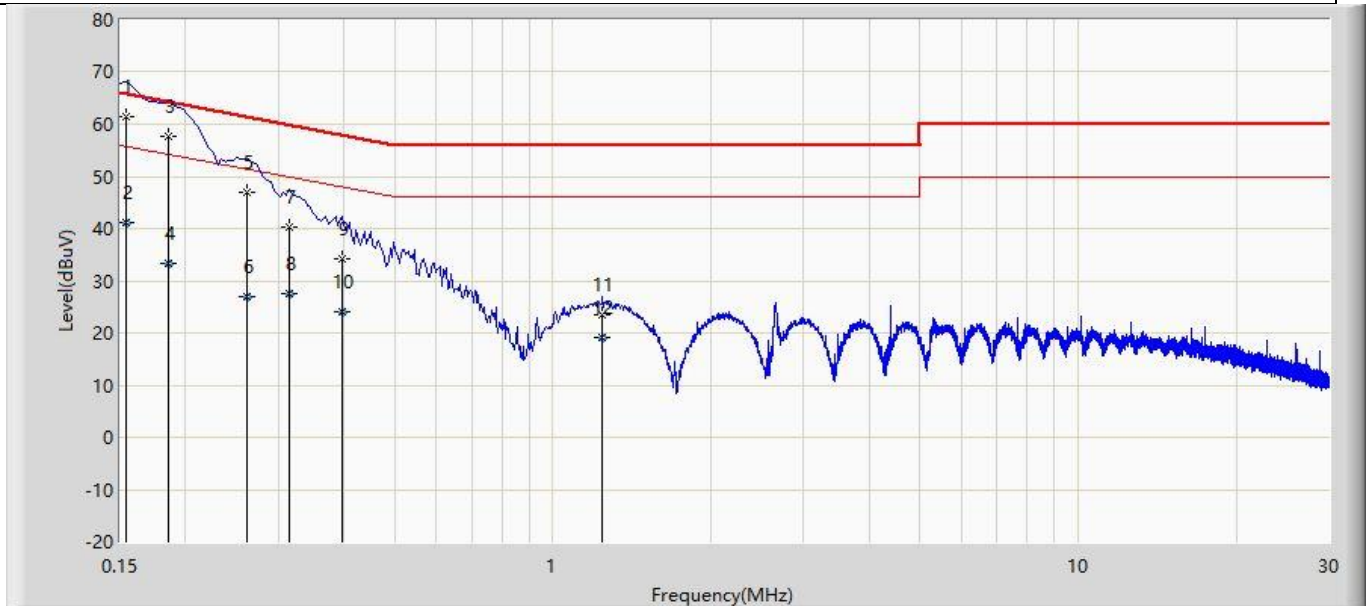
4.1.4 Test Data

Site: TR1	Time: 2021/01/28
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101044_(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	*	0.154	61.605	51.940	-4.176	65.781	9.640	0.025	0.000	QP
2		0.154	41.140	31.476	-14.641	55.781	9.640	0.025	0.000	AV
3		0.194	57.169	47.492	-6.695	63.864	9.649	0.028	0.000	QP
4		0.194	33.020	23.343	-20.844	53.864	9.649	0.028	0.000	AV
5		0.254	47.316	37.627	-14.309	61.625	9.658	0.031	0.000	QP
6		0.254	26.955	17.267	-24.670	51.625	9.658	0.031	0.000	AV
7		0.318	39.953	30.252	-19.806	59.759	9.666	0.035	0.000	QP
8		0.318	25.536	15.835	-24.223	49.759	9.666	0.035	0.000	AV
9		0.382	35.063	25.351	-23.173	58.236	9.675	0.038	0.000	QP
10		0.382	24.760	15.047	-23.476	48.236	9.675	0.038	0.000	AV
11		1.322	25.703	15.936	-30.297	56.000	9.700	0.067	0.000	QP
12		1.322	19.245	9.478	-26.755	46.000	9.700	0.067	0.000	AV

Site: TR1	Time: 2021/01/28
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101044_(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	*	0.154	61.529	51.869	-4.252	65.781	9.635	0.025	0.000	QP
2		0.154	41.082	31.422	-14.699	55.781	9.635	0.025	0.000	AV
3		0.186	57.820	48.127	-6.393	64.213	9.666	0.026	0.000	QP
4		0.186	33.284	23.592	-20.929	54.213	9.666	0.026	0.000	AV
5		0.262	46.987	37.274	-14.381	61.368	9.681	0.032	0.000	QP
6		0.262	27.077	17.364	-24.291	51.368	9.681	0.032	0.000	AV
7		0.314	40.358	30.641	-19.506	59.864	9.682	0.035	0.000	QP
8		0.314	27.444	17.727	-22.420	49.864	9.682	0.035	0.000	AV
9		0.398	34.276	24.553	-23.619	57.895	9.684	0.039	0.000	QP
10		0.398	24.004	14.282	-23.891	47.895	9.684	0.039	0.000	AV
11		1.242	23.605	13.841	-32.395	56.000	9.700	0.064	0.000	QP
12		1.242	19.216	9.452	-26.784	46.000	9.700	0.064	0.000	AV

4.2 Emissions in restricted frequency bands	VERDICT: PASS
--	----------------------

4.2.1 Limit			
Standard		FCC Part 15 Subpart C Paragraph 15.209	
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 Bands of operation for IC			
0.090 - 0.110	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 - 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 - 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	
8.41425 - 8.41475	240 - 285	5350 - 5460	
12.29 - 12.293	322 - 335.4	7250 - 7750	
12.51975 - 12.52025	399.9 - 410	8025 - 8500	
12.57675 - 12.57725	608 - 614	--	

Restricted Band Emissions Limit			
Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Field strength ($\text{dB}\mu\text{V/m}$)	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)

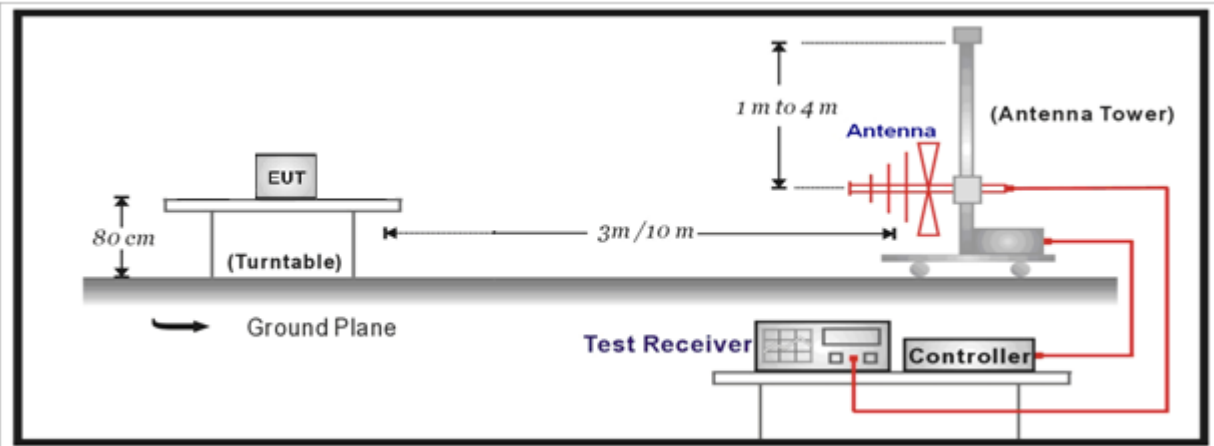
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed 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.

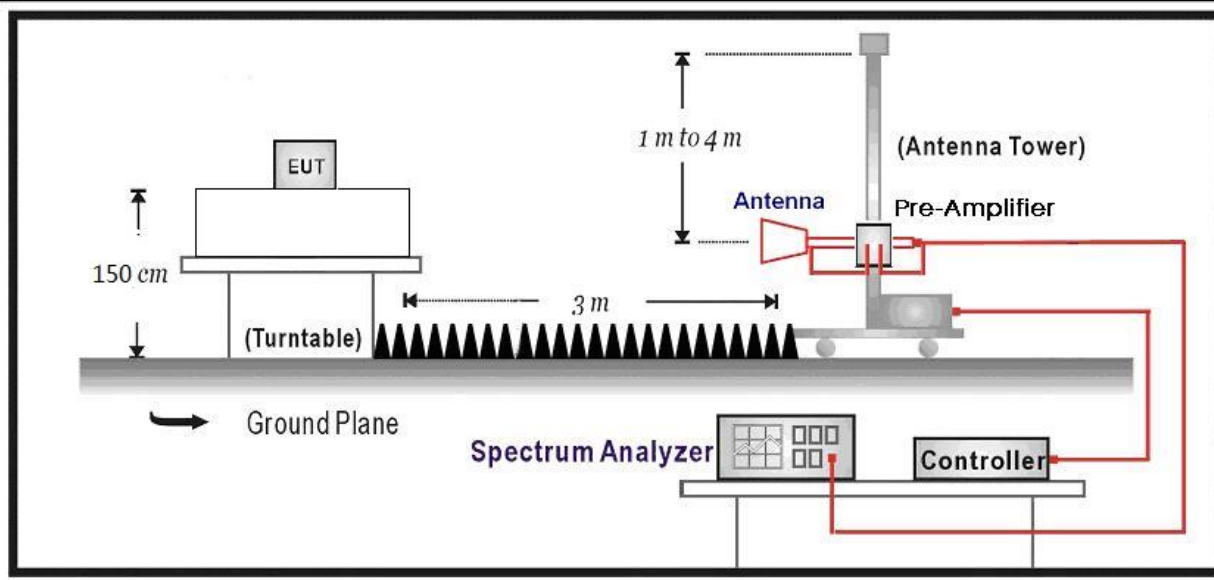
Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified 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

30MHz-1GHz Test Setup:



Above 1GHz Test Setup:

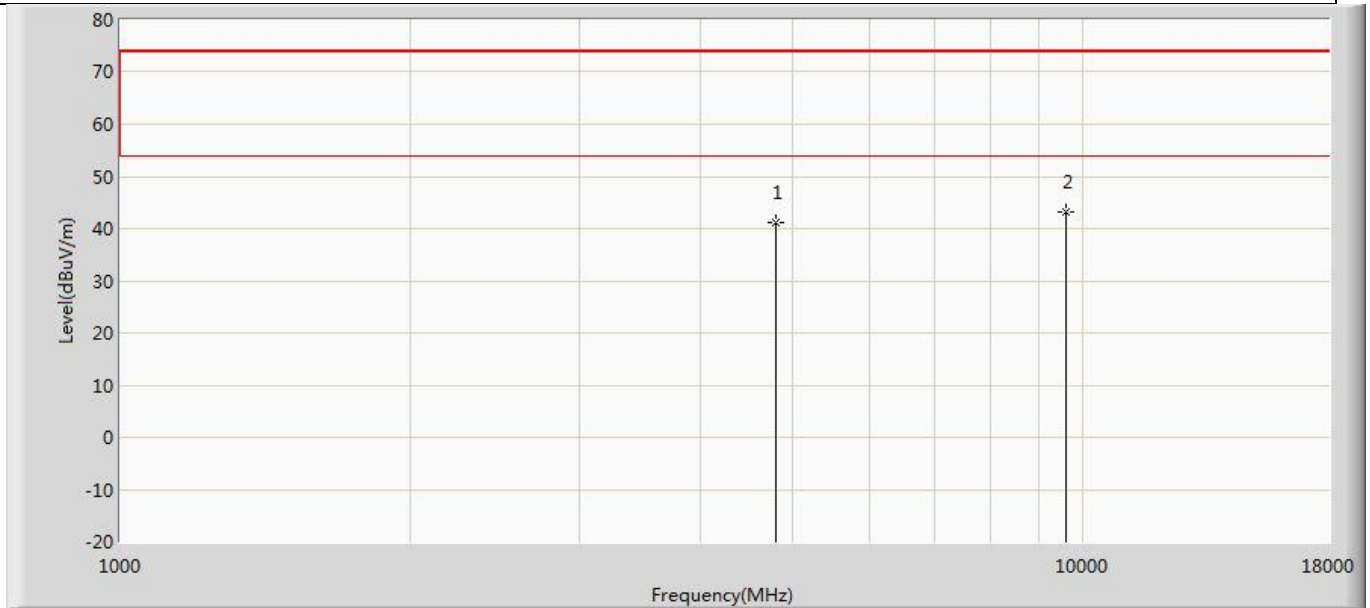


4.2.3 Test Procedure

References Rule	Chapter	Description
<input checked="" type="checkbox"/> ANSI C63.10	11.12	Emissions in restricted frequency bands
<input checked="" type="checkbox"/> ANSI C63.10	11.12.1	Radiated emission measurements
<input checked="" type="checkbox"/> ANSI C63.10	11.12.2.7	Radiated spurious emission test
<input checked="" type="checkbox"/> ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
<input checked="" type="checkbox"/> ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
<input checked="" type="checkbox"/> ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

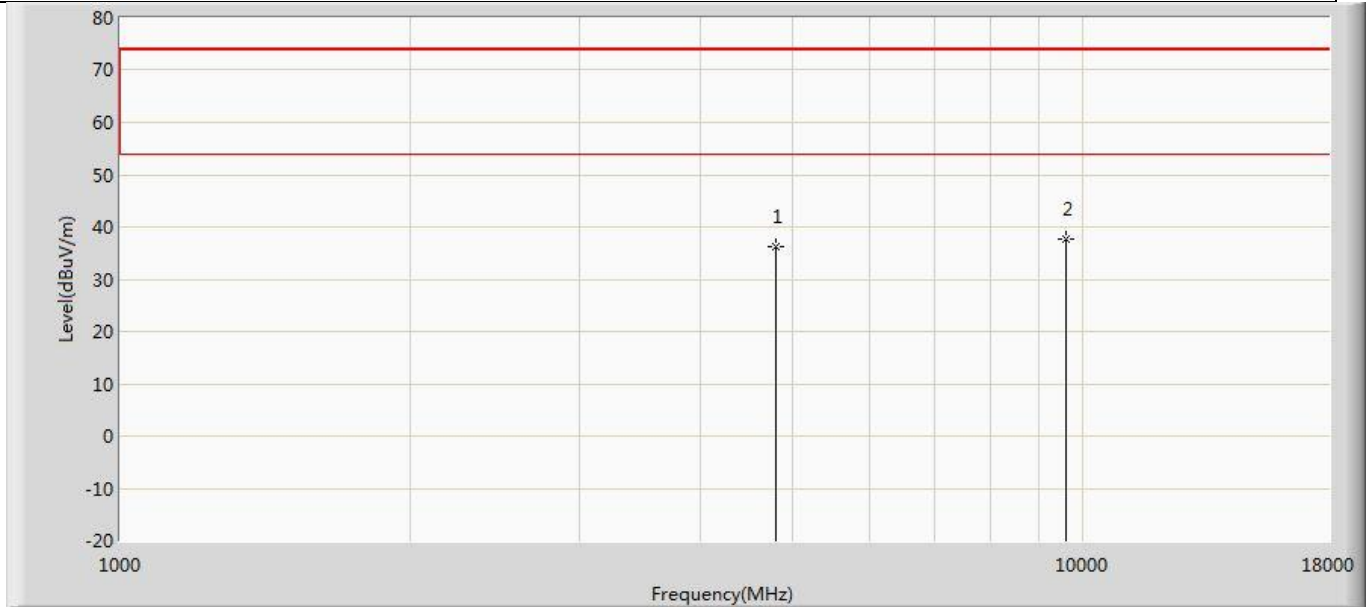
4.2.4 Test Data

Profile: 2110634R	Page No.: 25
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz	



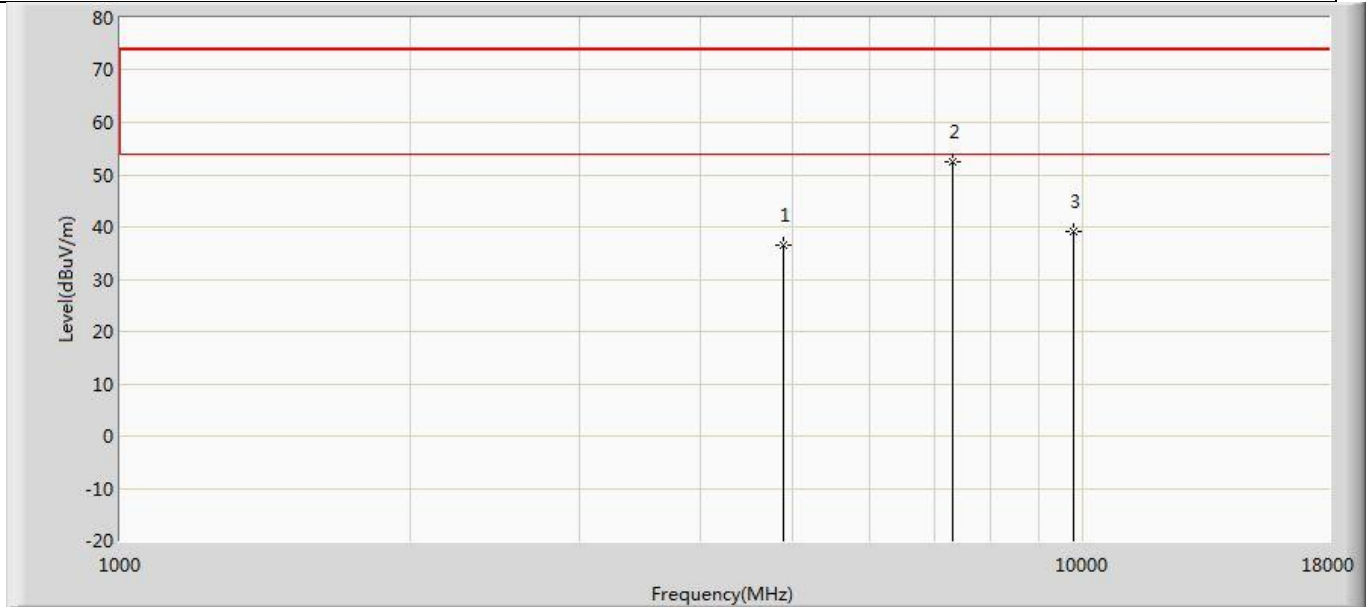
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	41.114	48.241	-32.886	74.000	-7.127	PK
2	*	9608.000	43.294	43.384	-30.706	74.000	-0.089	PK

Profile: 2110634R	Page No.: 26
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz	



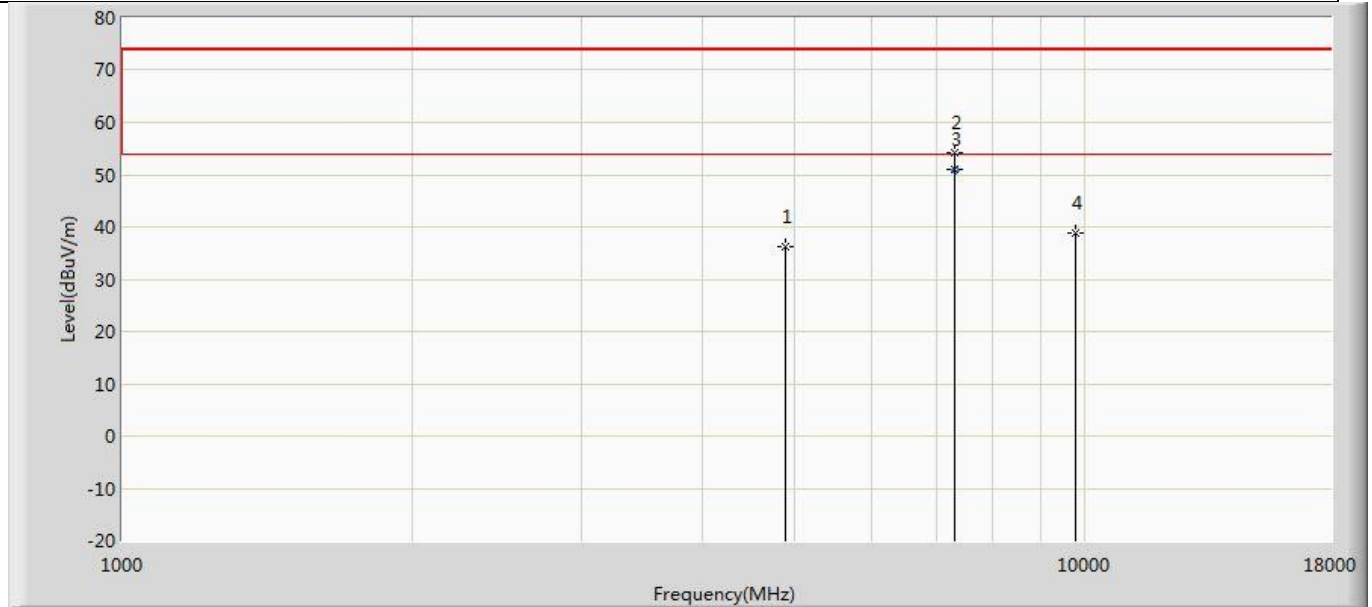
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	36.227	43.354	-37.773	74.000	-7.127	PK
2	*	9608.000	37.655	37.745	-36.345	74.000	-0.089	PK

Profile: 2110634R	Page No.: 27
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2440MHz	



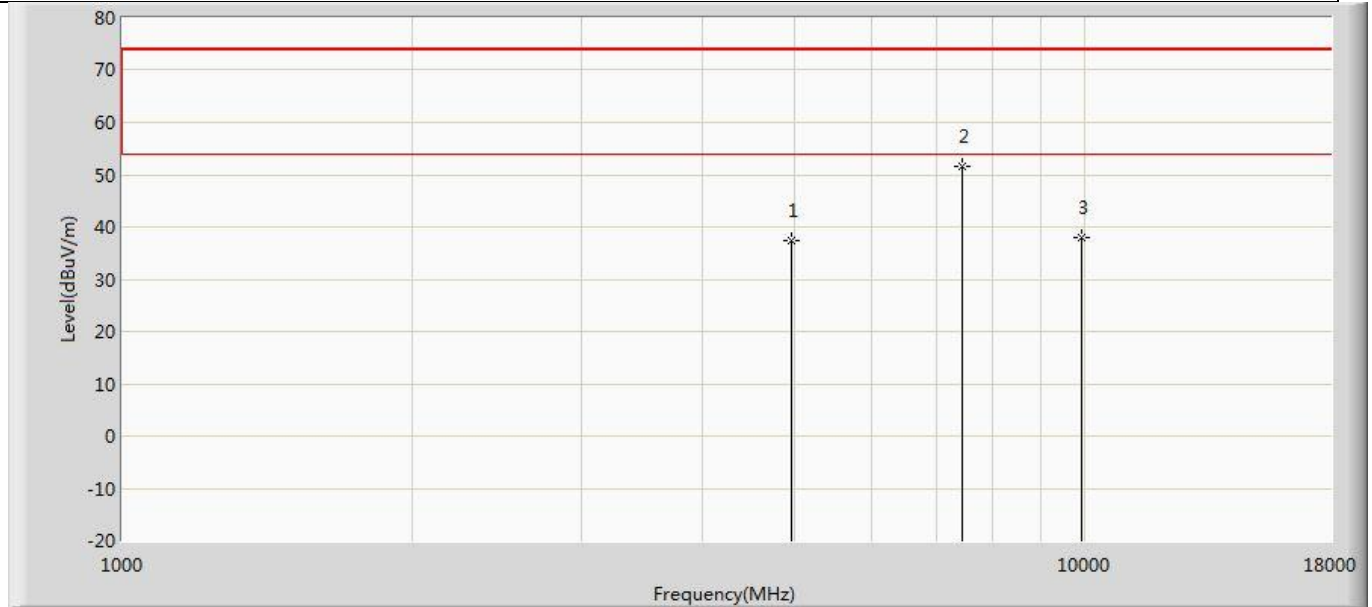
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	36.610	43.541	-37.390	74.000	-6.931	PK
2	*	7324.000	52.430	55.080	-21.570	74.000	-2.650	PK
3		9760.000	39.210	38.801	-34.790	74.000	0.409	PK

Profile: 2110634R	Page No.: 28
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2440MHz	



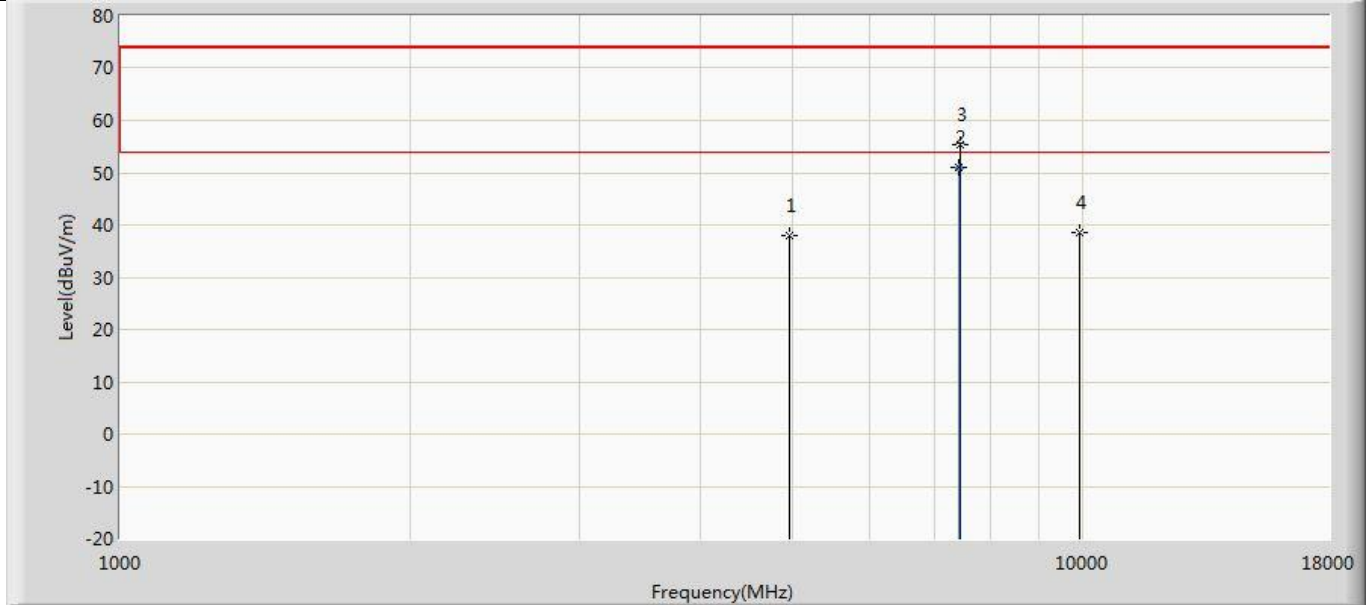
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	36.095	43.026	-37.905	74.000	-6.931	PK
2		7324.000	54.104	56.754	-19.896	74.000	-2.650	PK
3	*	7326.090	51.027	53.725	-2.973	54.000	-2.699	AV
4		9760.000	38.912	38.503	-35.088	74.000	0.409	PK

Profile: 2110634R	Page No.: 29
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz	



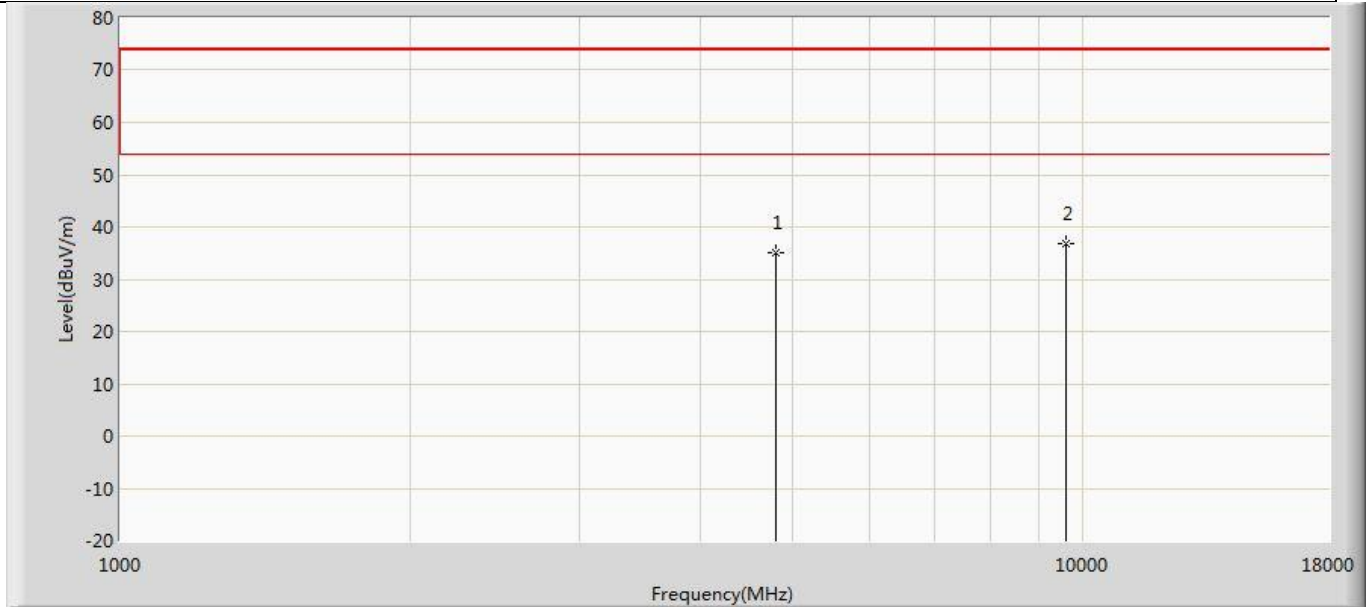
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	37.399	44.003	-36.601	74.000	-6.605	PK
2	*	7443.000	51.467	54.073	-22.533	74.000	-2.606	PK
3		9920.000	38.015	38.561	-35.985	74.000	-0.546	PK

Profile: 2110634R	Page No.: 30
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz	



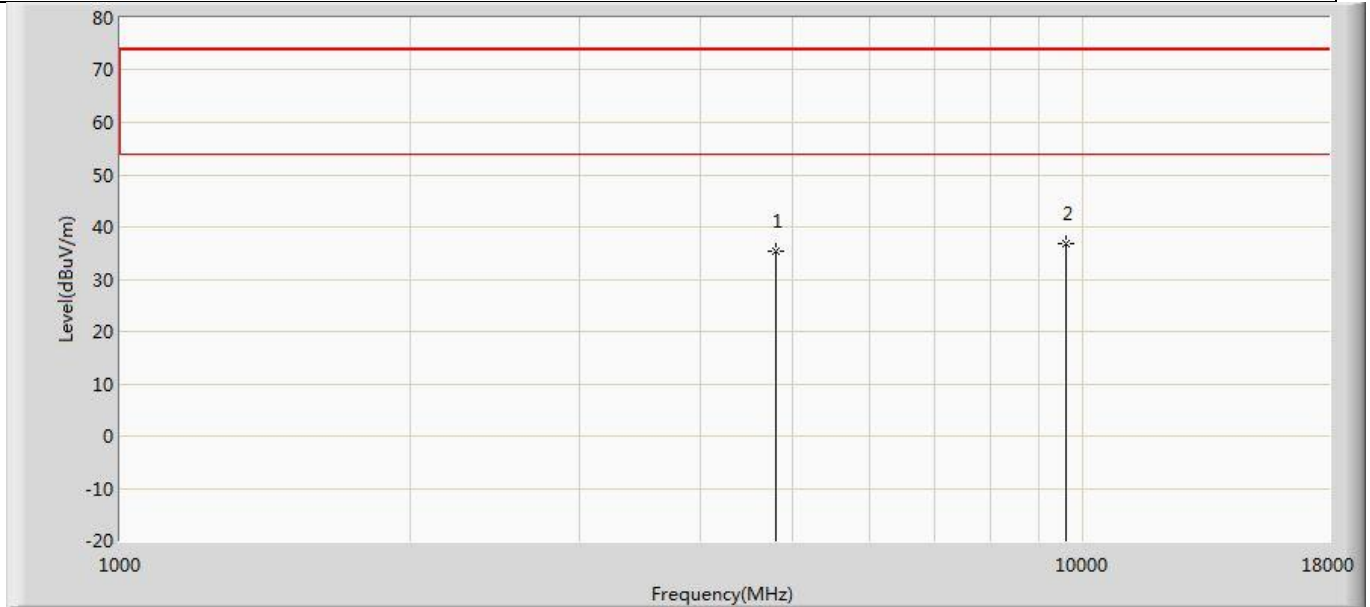
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.015	44.619	-35.985	74.000	-6.605	PK
2	*	7439.420	51.019	53.664	-2.981	54.000	-2.646	AV
3		7443.000	55.383	57.989	-18.617	74.000	-2.606	PK
4		9920.000	38.639	39.185	-35.361	74.000	-0.546	PK

Profile: 2110634R	Page No.: 31
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz	



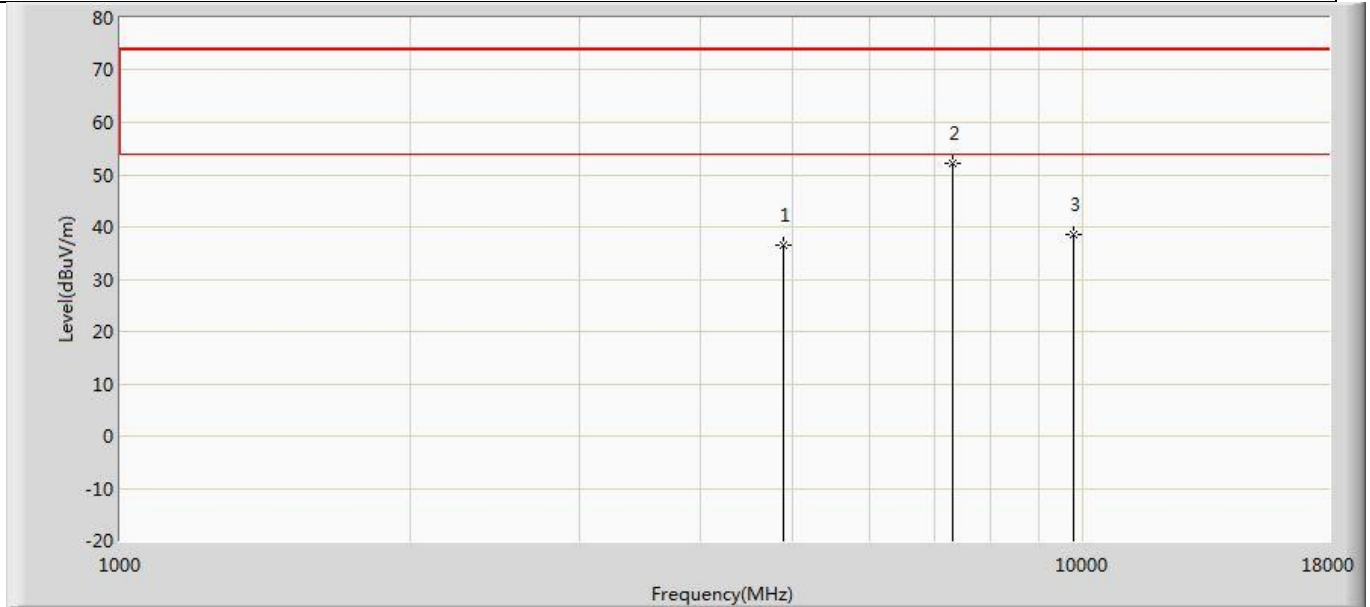
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	35.214	42.341	-38.786	74.000	-7.127	PK
2	*	9608.000	36.702	36.792	-37.298	74.000	-0.089	PK

Profile: 2110634R	Page No.: 32
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz	



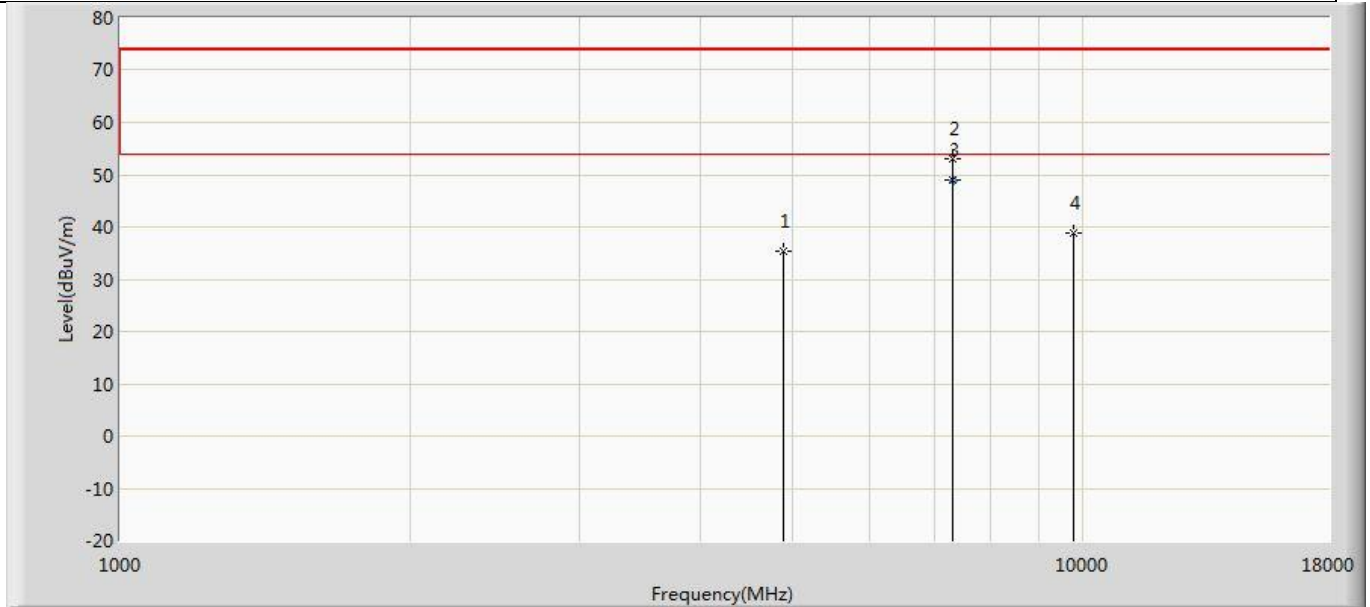
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	35.428	42.555	-38.572	74.000	-7.127	PK
2	*	9608.000	36.897	36.987	-37.103	74.000	-0.089	PK

Profile: 2110634R	Page No.: 33
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2440MHz	



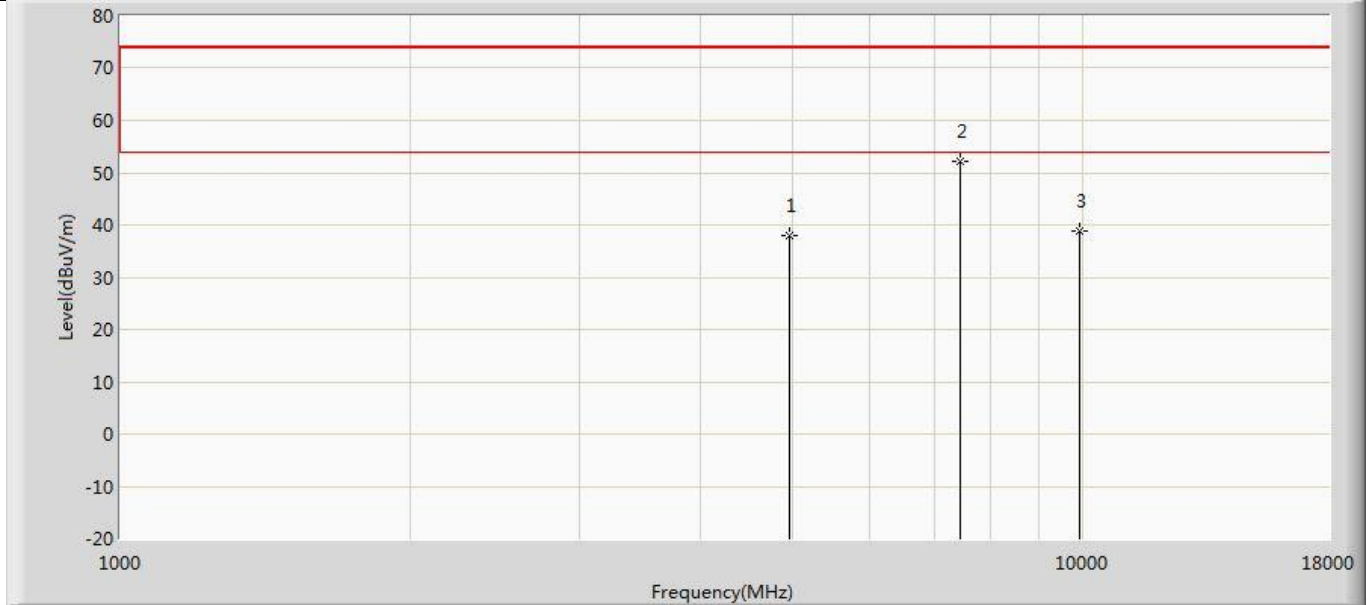
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	36.610	43.541	-37.390	74.000	-6.931	PK
2	*	7324.000	52.056	54.706	-21.944	74.000	-2.650	PK
3		9760.000	38.488	38.079	-35.512	74.000	0.409	PK

Profile: 2110634R	Page No.: 34
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2440MHz	



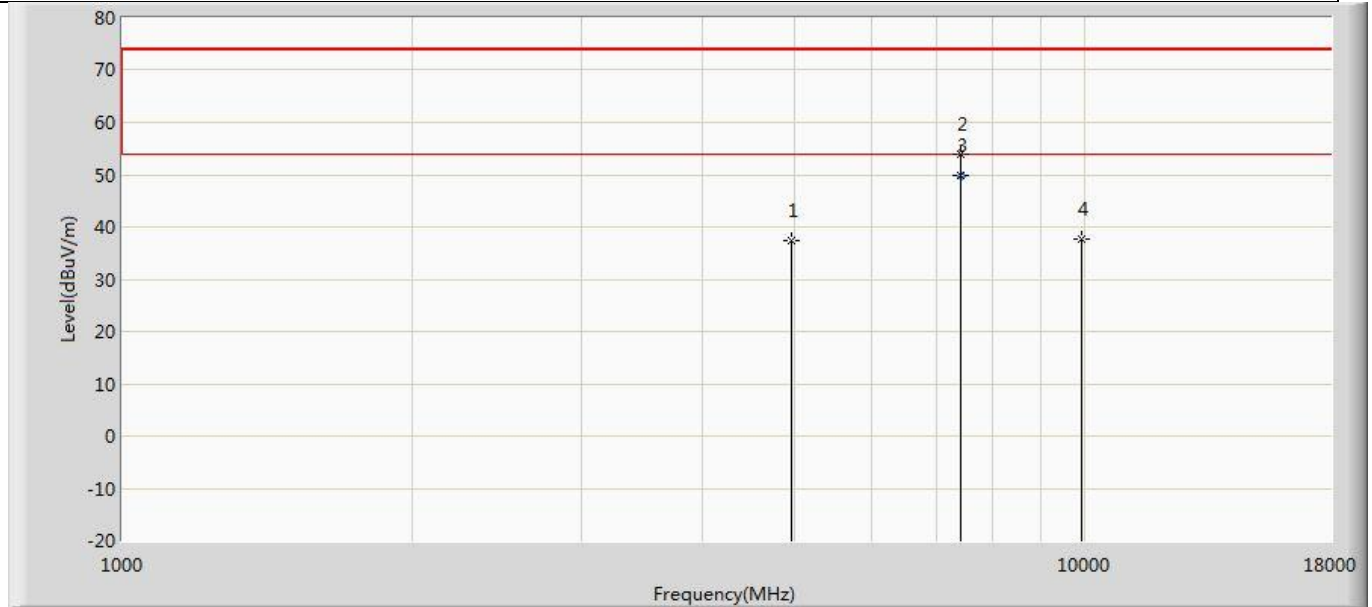
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	35.365	42.296	-38.635	74.000	-6.931	PK
2		7324.000	53.164	55.814	-20.836	74.000	-2.650	PK
3	*	7324.780	48.935	51.603	-5.065	54.000	-2.668	AV
4		9760.000	38.736	38.327	-35.264	74.000	0.409	PK

Profile: 2110634R	Page No.: 35
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz	



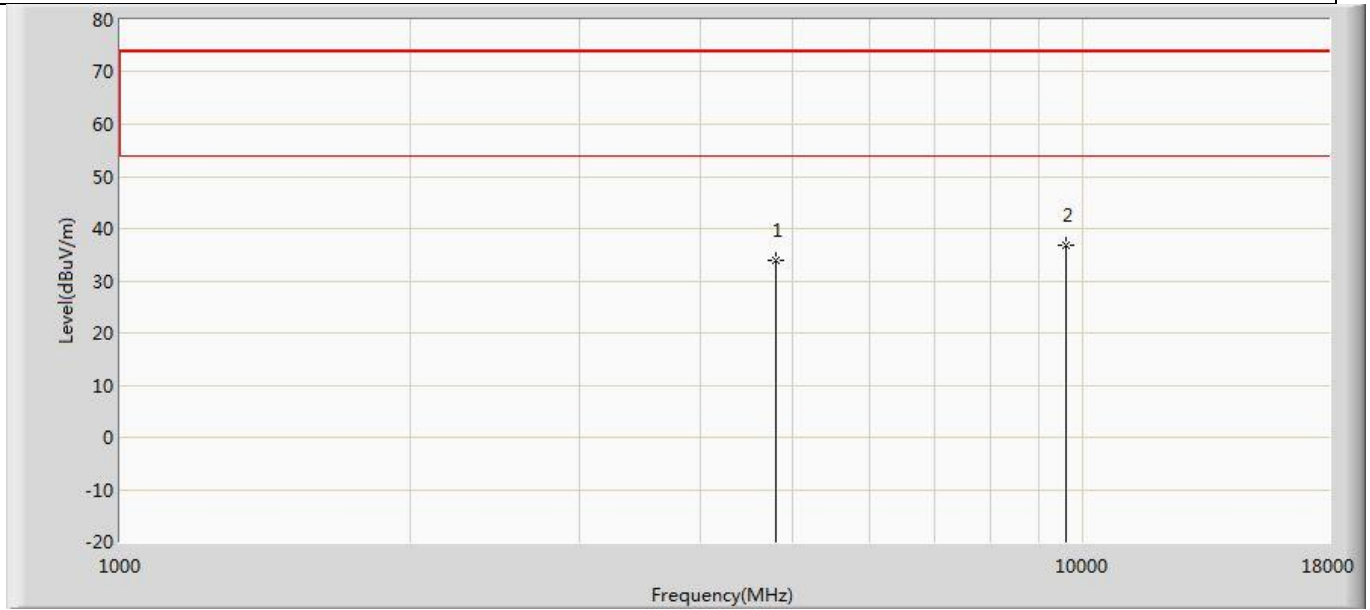
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.013	44.617	-35.987	74.000	-6.605	PK
2	*	7443.000	52.093	54.699	-21.907	74.000	-2.606	PK
3		9920.000	38.808	39.354	-35.192	74.000	-0.546	PK

Profile: 2110634R	Page No.: 36
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz	



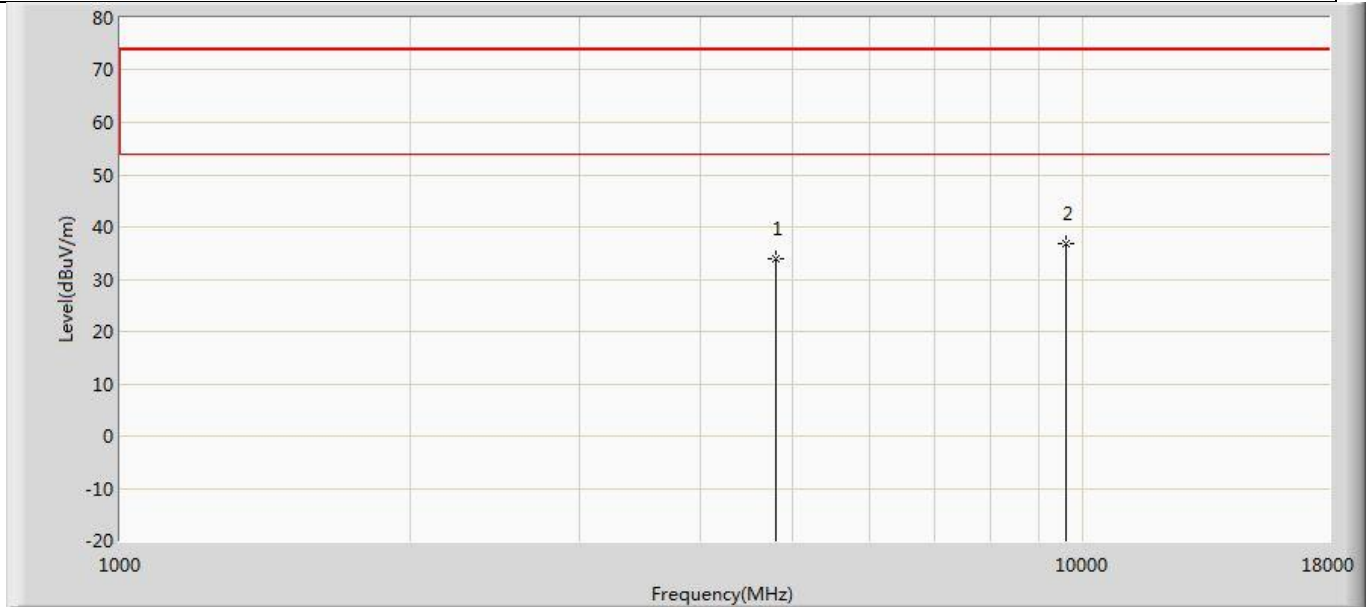
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	37.267	43.871	-36.733	74.000	-6.605	PK
2		7434.500	53.991	56.691	-20.009	74.000	-2.700	PK
3	*	7438.850	49.767	52.419	-4.233	54.000	-2.651	AV
4		9920.000	37.703	38.249	-36.297	74.000	-0.546	PK

Profile: 2110634R	Page No.: 43
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz	



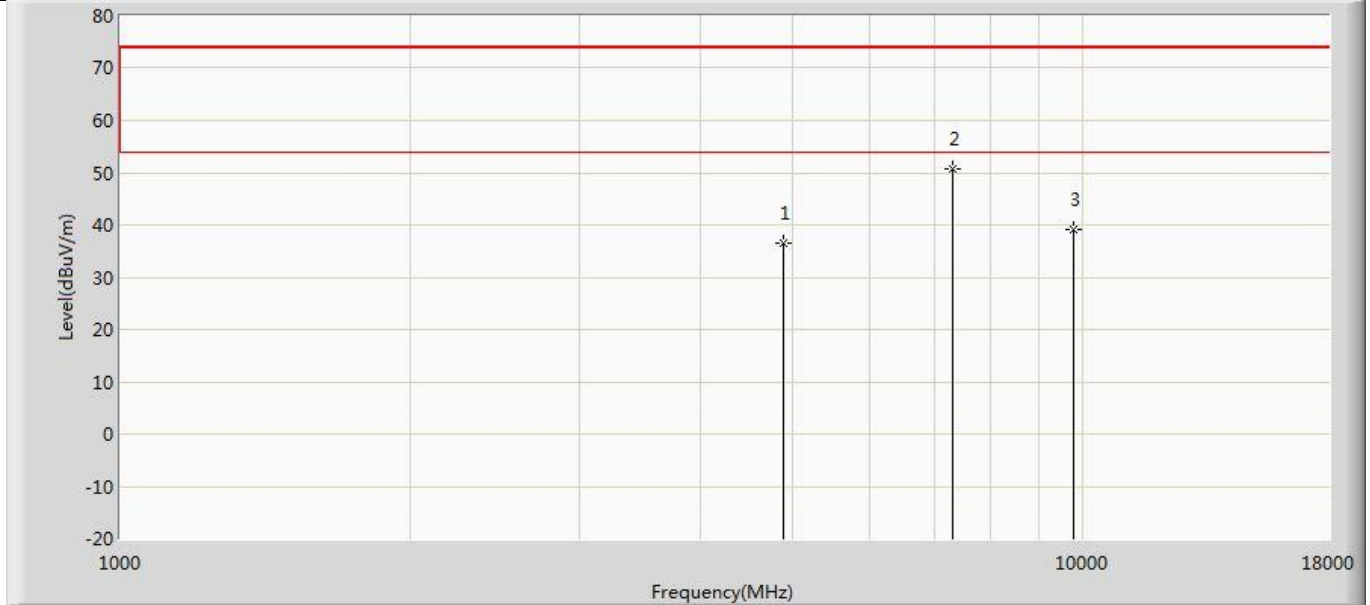
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	34.014	41.141	-39.986	74.000	-7.127	PK
2	*	9608.000	36.815	36.905	-37.185	74.000	-0.089	PK

Profile: 2110634R	Page No.: 44
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz	



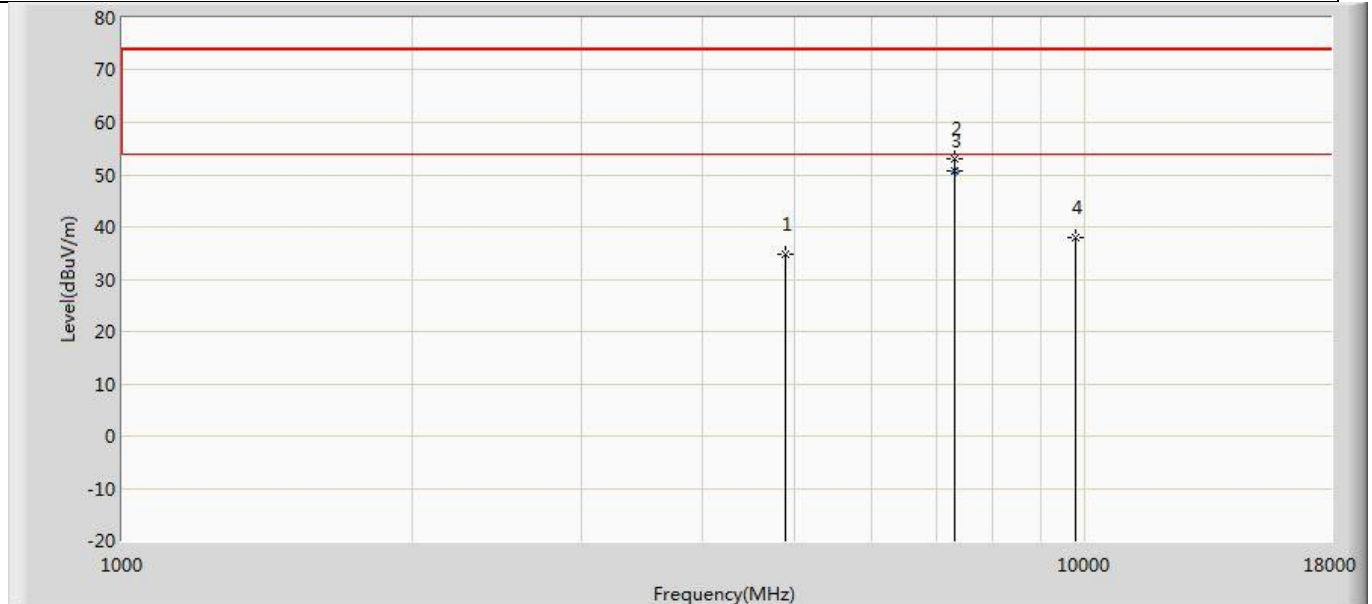
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	33.916	41.043	-40.084	74.000	-7.127	PK
2	*	9608.000	36.876	36.966	-37.124	74.000	-0.089	PK

Profile: 2110634R	Page No.: 45
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2440MHz	



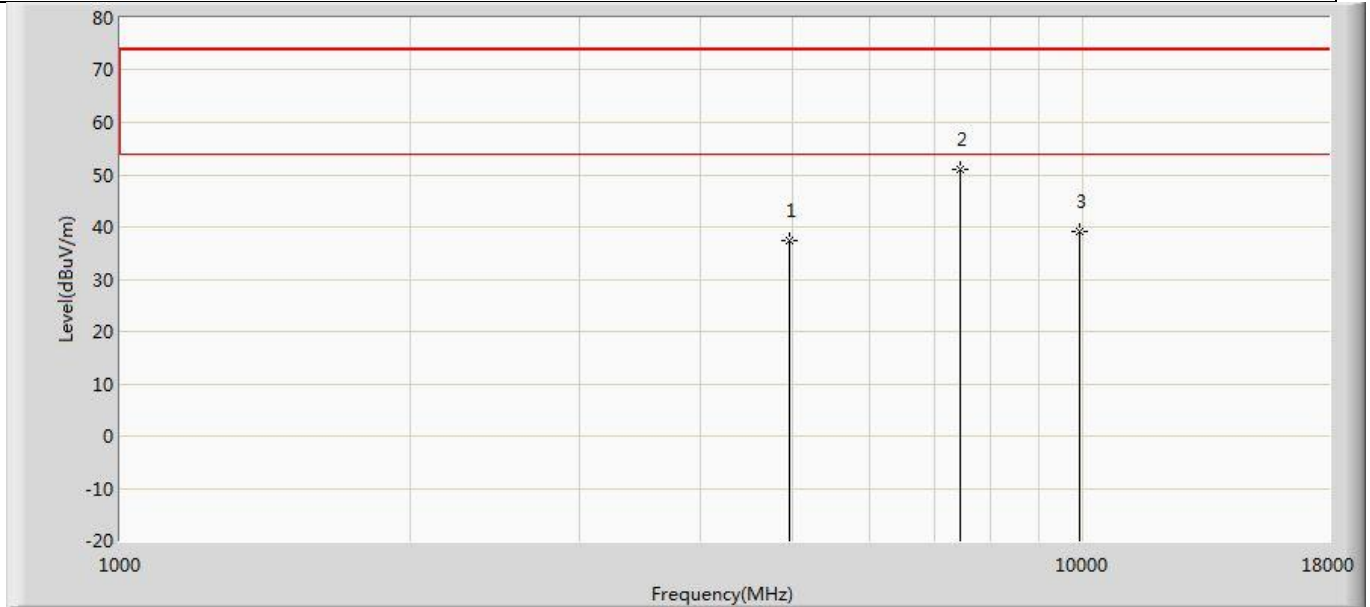
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	36.418	43.349	-37.582	74.000	-6.931	PK
2	*	7324.000	50.796	53.446	-23.204	74.000	-2.650	PK
3		9760.000	39.219	38.810	-34.781	74.000	0.409	PK

Profile: 2110634R	Page No.: 46
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2440MHz	



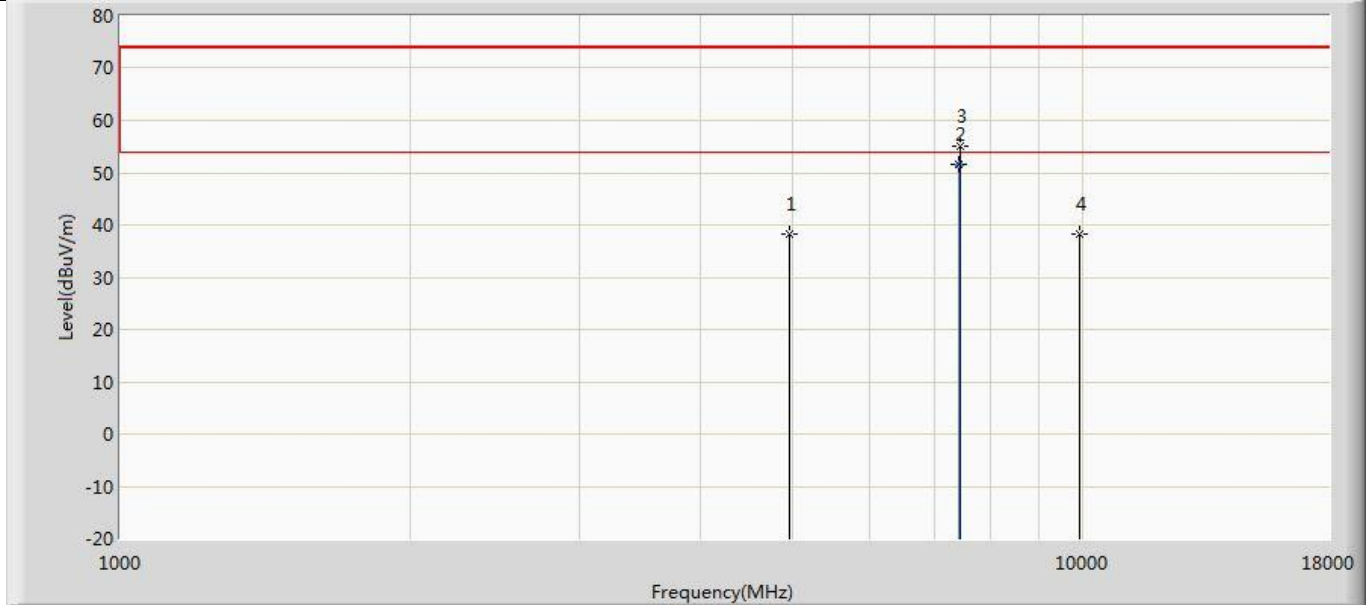
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	34.854	41.785	-39.146	74.000	-6.931	PK
2		7324.000	53.002	55.652	-20.998	74.000	-2.650	PK
3	*	7325.300	50.846	53.526	-3.154	54.000	-2.679	AV
4		9760.000	38.072	37.663	-35.928	74.000	0.409	PK

Profile: 2110634R	Page No.: 47
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz	



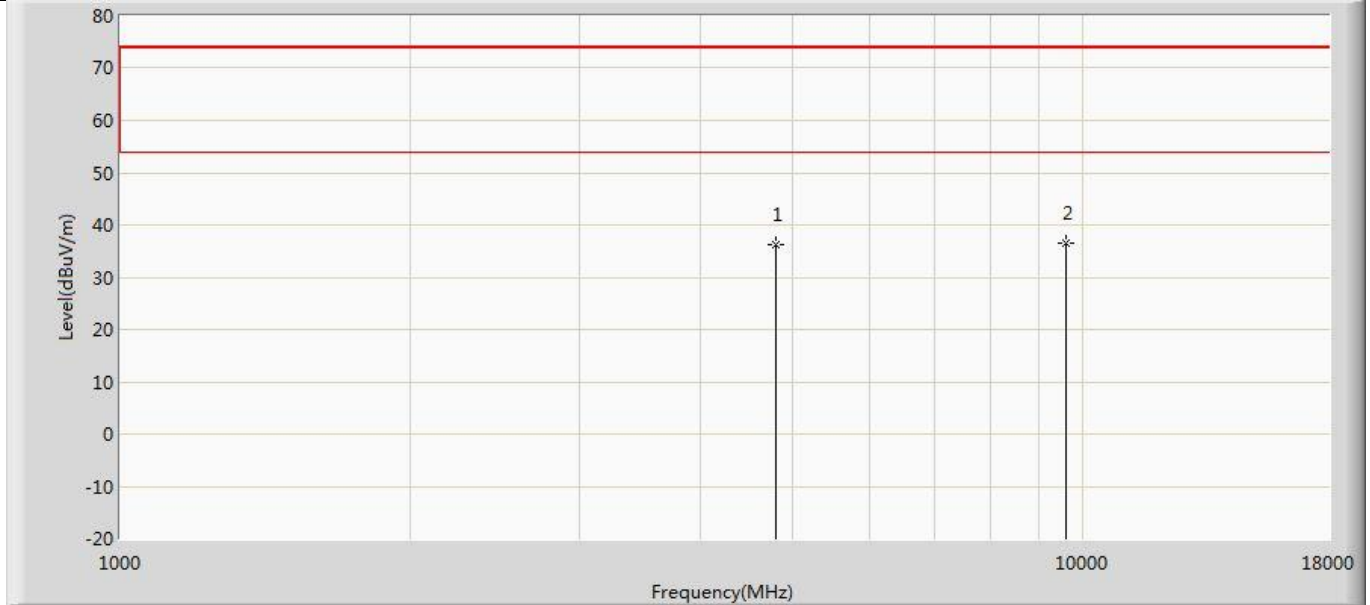
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	37.329	43.933	-36.671	74.000	-6.605	PK
2	*	7443.000	51.102	53.708	-22.898	74.000	-2.606	PK
3		9920.000	39.100	39.646	-34.900	74.000	-0.546	PK

Profile: 2110634R	Page No.: 48
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz	



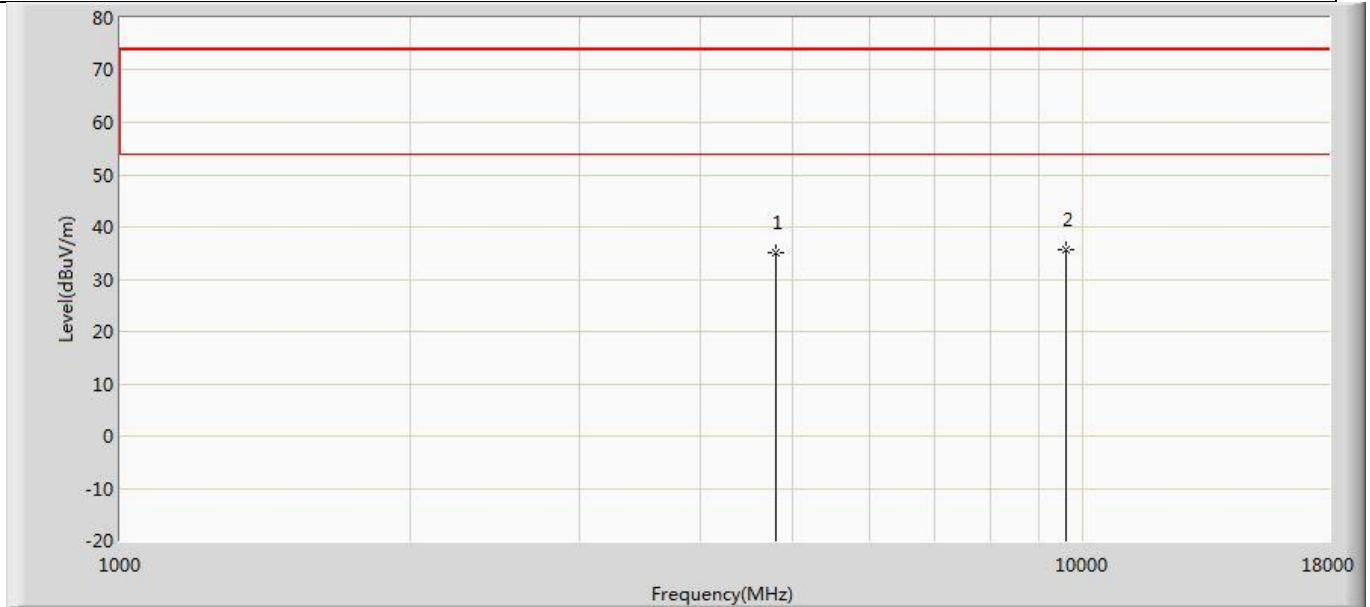
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	38.274	44.878	-35.726	74.000	-6.605	PK
2	*	7439.370	51.562	54.208	-2.438	54.000	-2.646	AV
3		7443.000	54.953	57.559	-19.047	74.000	-2.606	PK
4		9920.000	38.386	38.932	-35.614	74.000	-0.546	PK

Profile: 2110634R	Page No.: 37
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz	



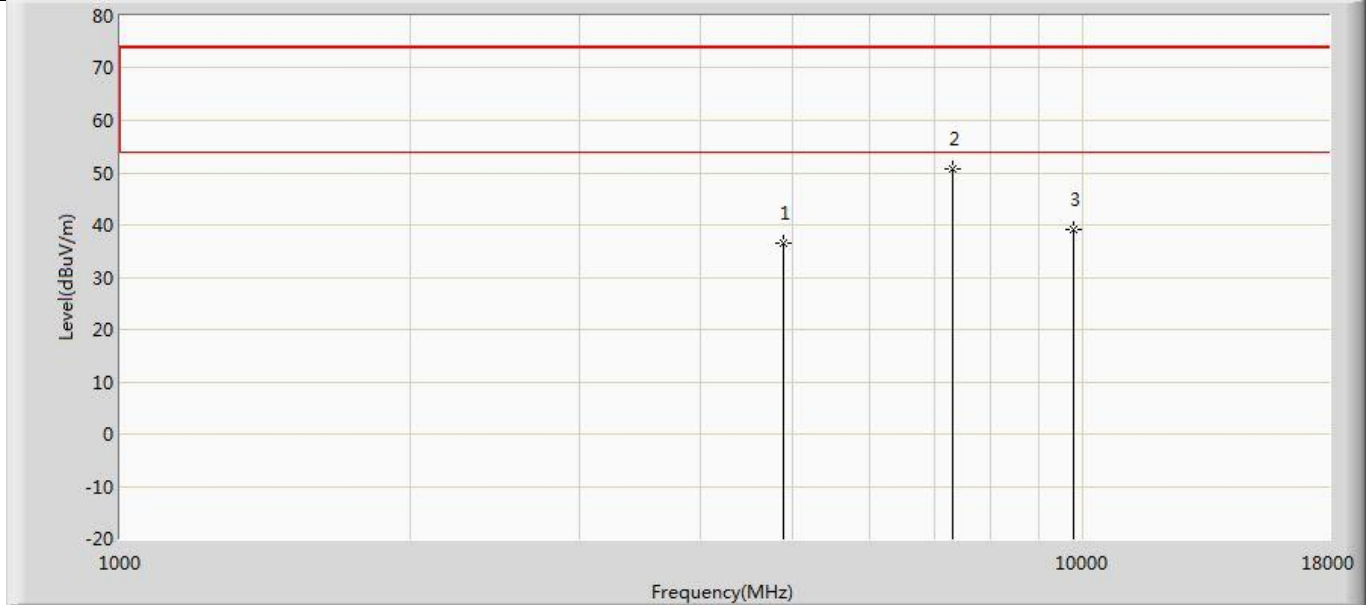
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	36.321	43.448	-37.679	74.000	-7.127	PK
2	*	9608.000	36.475	36.565	-37.525	74.000	-0.089	PK

Profile: 2110634R	Page No.: 38
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz	



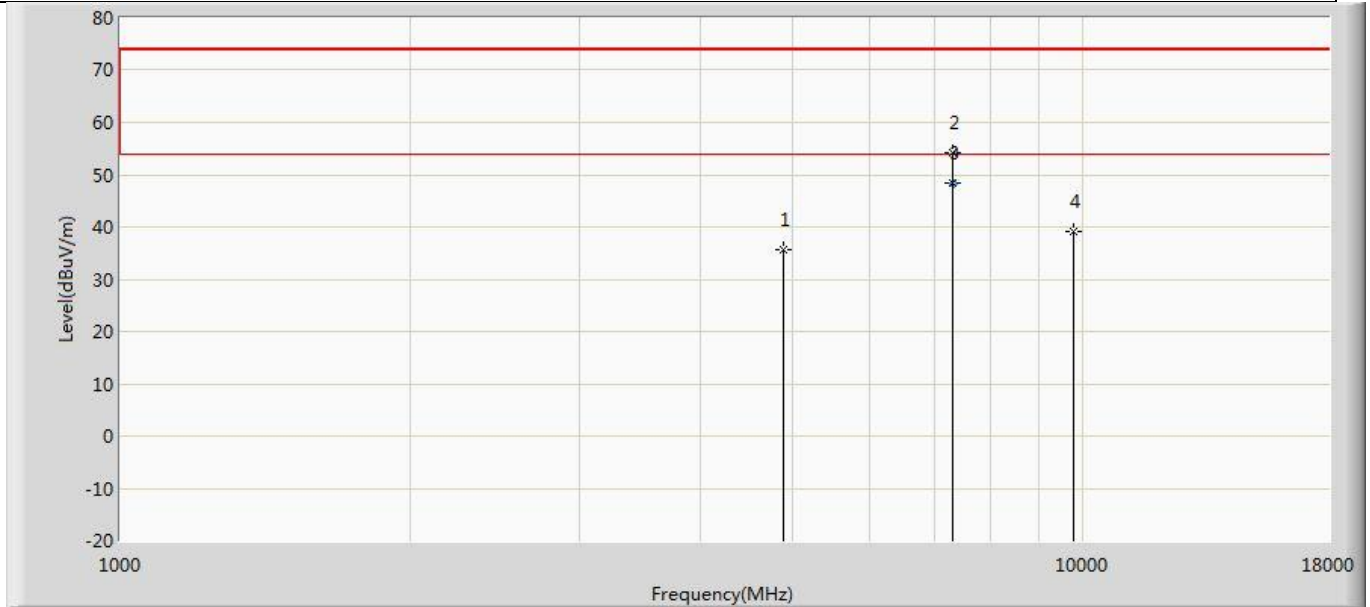
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	35.198	42.325	-38.802	74.000	-7.127	PK
2	*	9608.000	35.666	35.756	-38.334	74.000	-0.089	PK

Profile: 2110634R	Page No.: 39
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2440MHz	



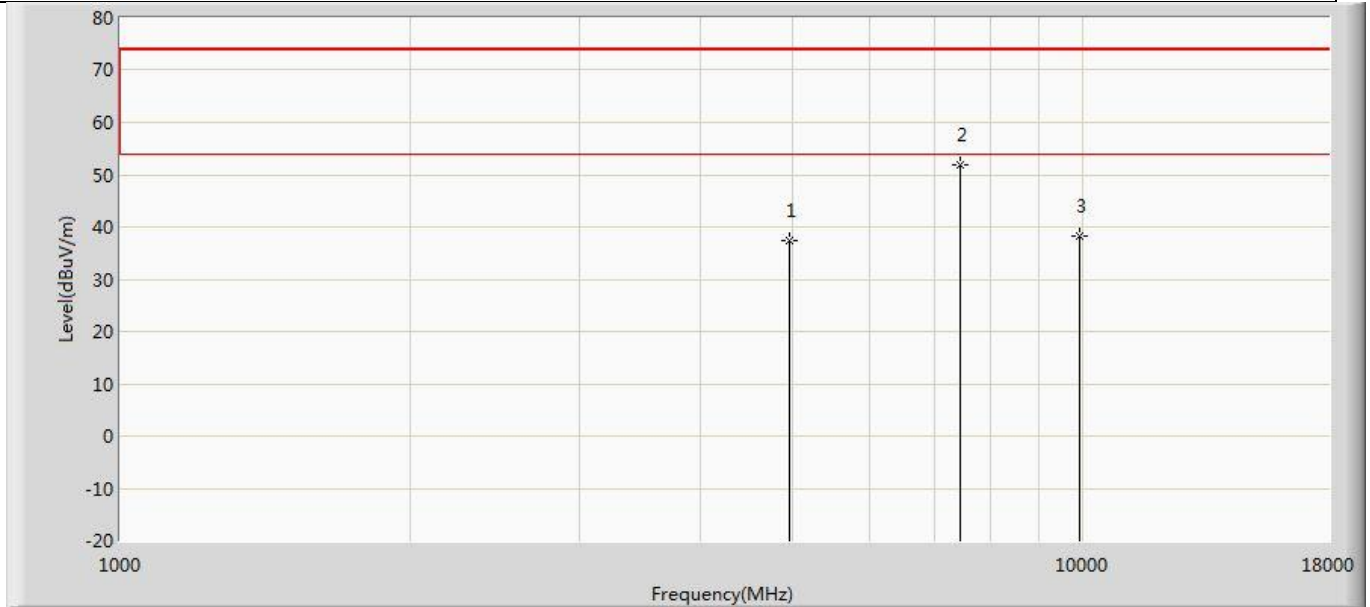
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	36.481	43.412	-37.519	74.000	-6.931	PK
2	*	7324.000	50.592	53.242	-23.408	74.000	-2.650	PK
3		9760.000	39.233	38.824	-34.767	74.000	0.409	PK

Profile: 2110634R	Page No.: 40
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2440MHz	



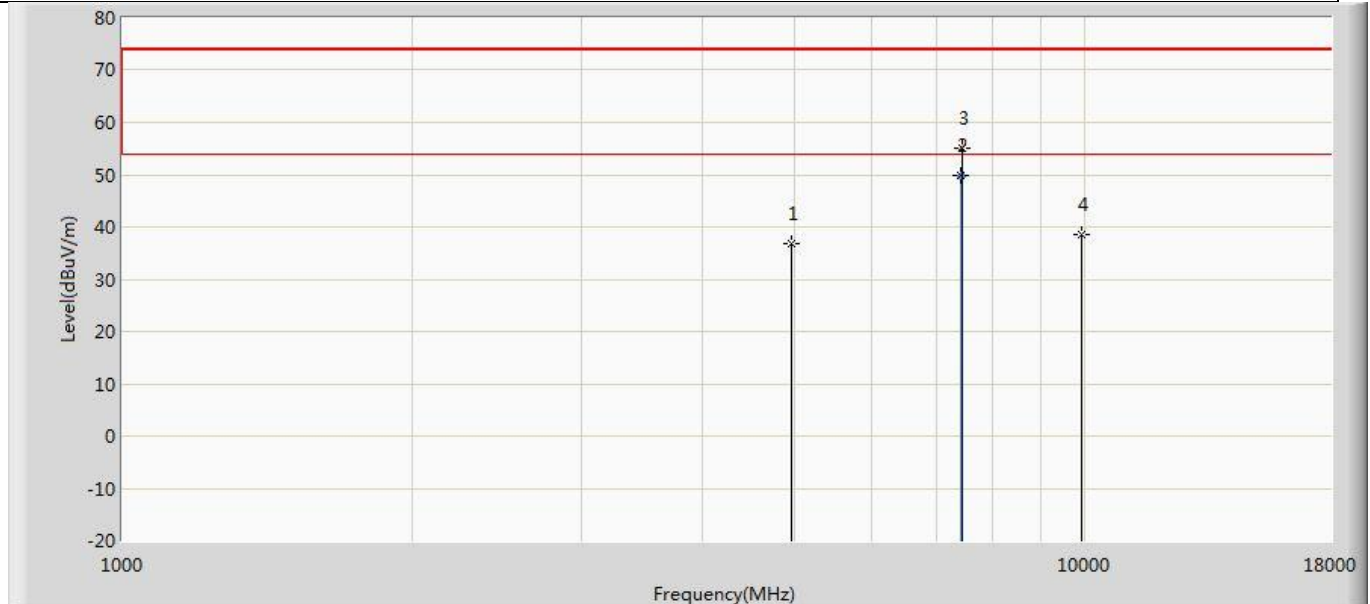
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	35.601	42.532	-38.399	74.000	-6.931	PK
2		7324.000	54.167	56.817	-19.833	74.000	-2.650	PK
3	*	7325.340	48.468	51.149	-5.532	54.000	-2.681	AV
4		9760.000	39.039	38.630	-34.961	74.000	0.409	PK

Profile: 2110634R	Page No.: 41
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	37.367	43.971	-36.633	74.000	-6.605	PK
2	*	7443.000	52.021	54.627	-21.979	74.000	-2.606	PK
3		9920.000	38.261	38.807	-35.739	74.000	-0.546	PK

Profile: 2110634R	Page No.: 42
Engineer: YingFei Wang	
Site: AC5	Time: 2021/03/18 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz	



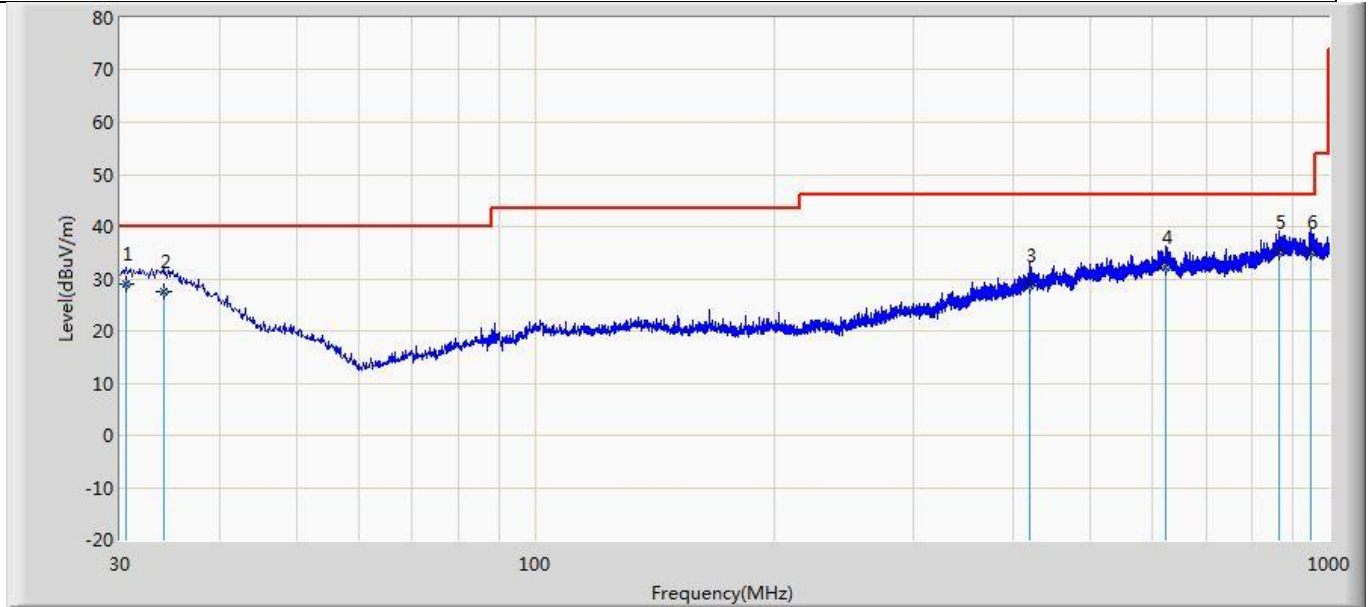
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	36.749	43.353	-37.251	74.000	-6.605	PK
2	*	7439.360	49.735	52.381	-4.265	54.000	-2.646	AV
3		7443.000	55.040	57.646	-18.960	74.000	-2.606	PK
4		9920.000	38.491	39.037	-35.509	74.000	-0.546	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.

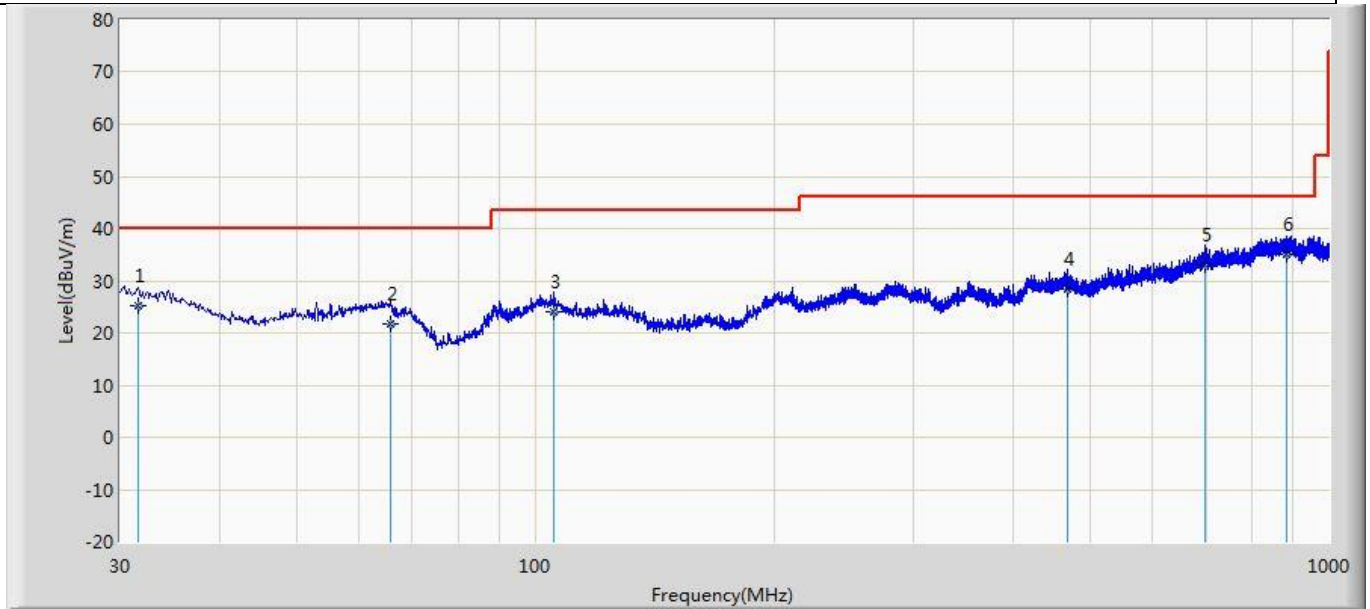
The worst case of Radiated Emission below 1GHz:

Site: AC2	Time: 2021/01/29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		30.485	29.003	1.700	-10.997	40.000	20.998	6.305	0.000	100	298	QP
2		34.123	27.527	0.500	-12.473	40.000	20.694	6.333	0.000	100	209	QP
3		419.819	28.822	1.800	-17.178	46.000	19.142	7.880	0.000	100	2	QP
4		623.761	32.289	1.700	-13.711	46.000	22.178	8.411	0.000	100	108	QP
5		864.200	35.001	2.300	-10.999	46.000	23.741	8.960	0.000	100	247	QP
6	*	948.954	35.215	2.200	-10.785	46.000	23.875	9.140	0.000	200	357	QP

Site: AC2	Time: 2021/01/29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		31.576	25.266	1.800	-14.734	40.000	17.149	6.316	0.000	100	148	QP
2		65.647	21.602	5.800	-18.398	40.000	9.254	6.547	0.000	100	306	QP
3		105.660	24.007	1.900	-19.493	43.500	15.337	6.770	0.000	100	38	QP
4		468.561	28.399	1.700	-17.601	46.000	18.688	8.011	0.000	100	336	QP
5		699.542	33.037	2.300	-12.963	46.000	22.137	8.600	0.000	100	159	QP
6	*	882.872	35.035	1.500	-10.965	46.000	24.532	9.002	0.000	100	326	QP

4.3 Emissions in non-restricted frequency band	VERDICT: PASS
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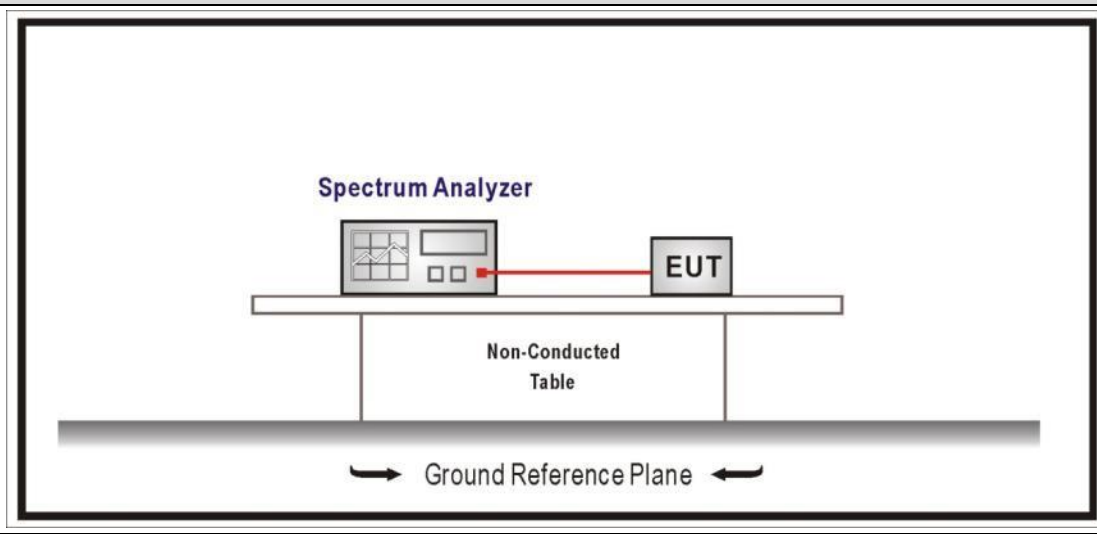
4.3.1 Limit

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



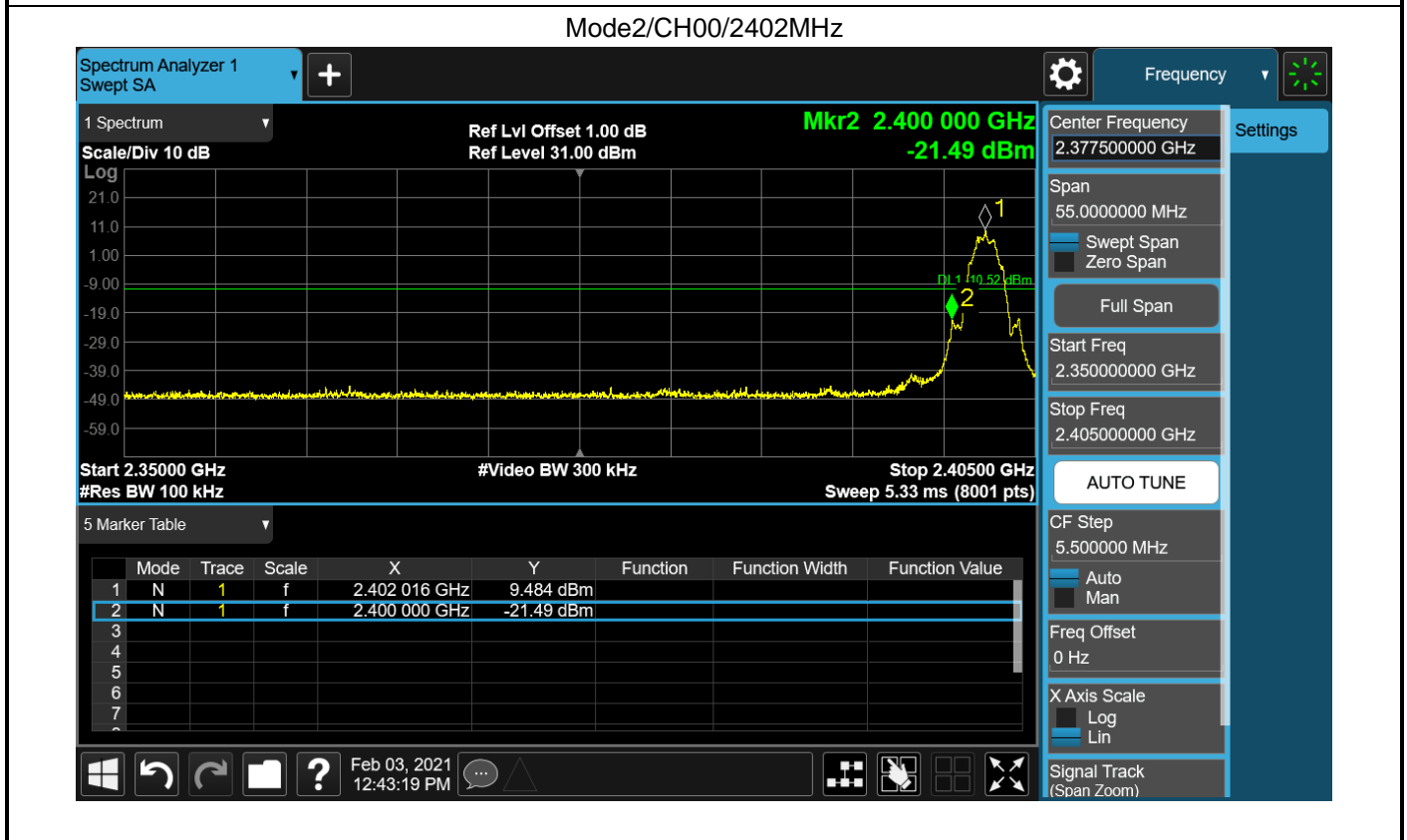
4.3.3 Test Procedure

References Rule	Chapter	Description
<input checked="" type="checkbox"/> ANSI C63.10	11.11	Emissions in non-restricted frequency bands
<input checked="" type="checkbox"/> ANSI C63.10	11.11.1	General
<input checked="" type="checkbox"/> ANSI C63.10	11.11.2	Reference level measurement
<input checked="" type="checkbox"/> ANSI C63.10	11.11.3	Emission level measurement

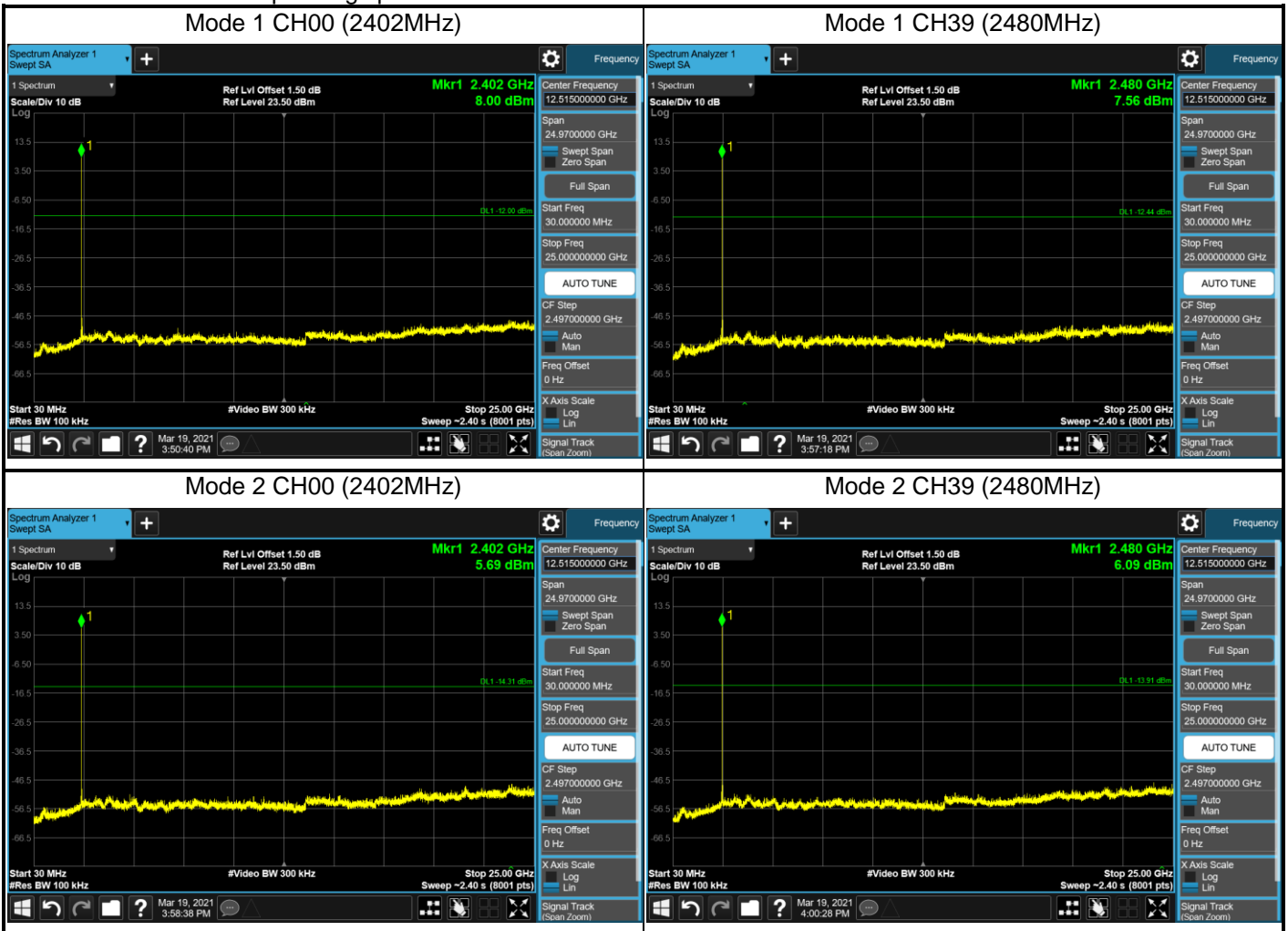
4.3.4 Test Data

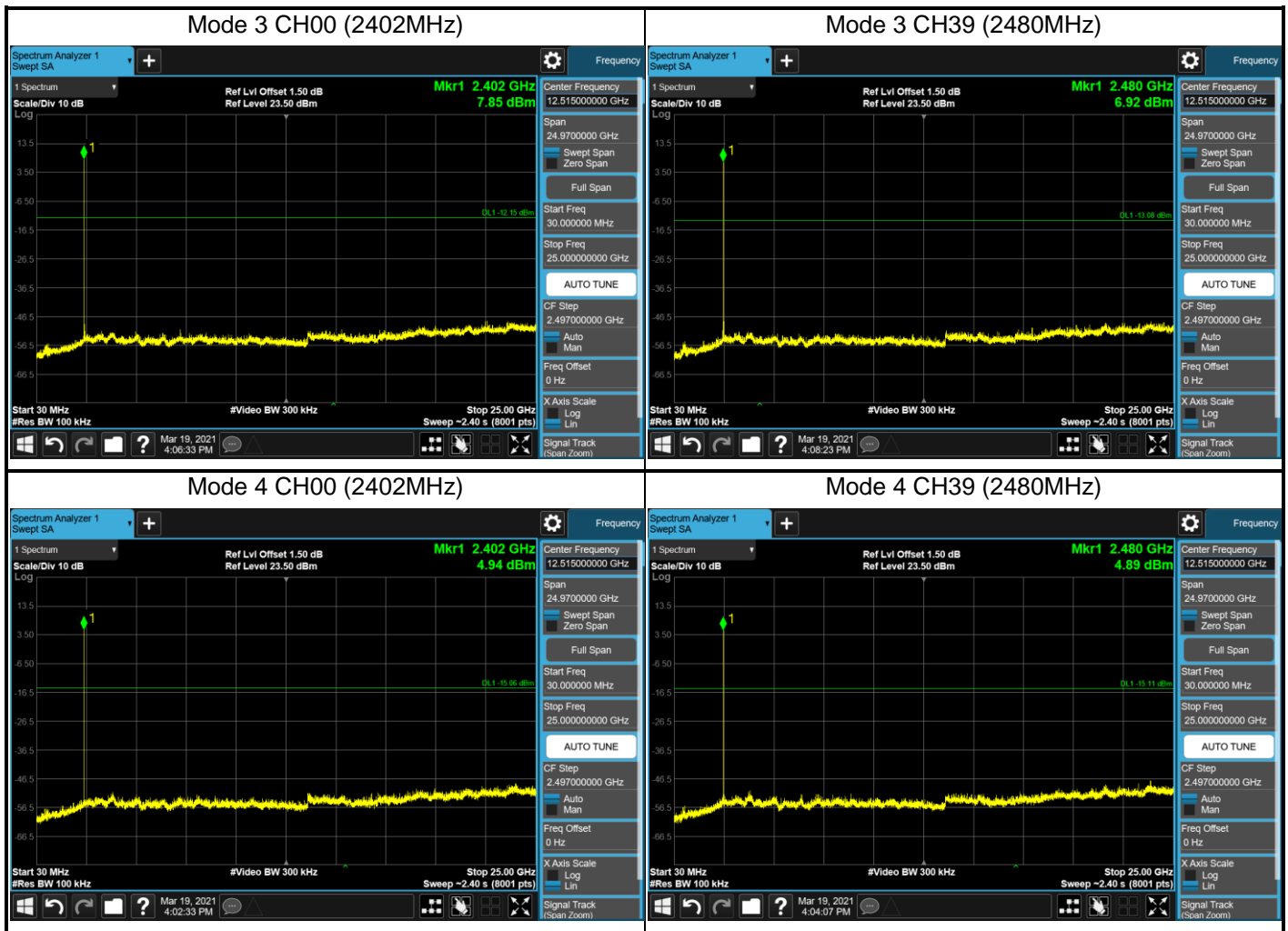
Mode	Channel	Test Frequency (MHz)	Maximum In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	00	2402	10.13	2400	-39.47	49.6	>20	Pass
	39	2480	10.2	2500	-48.36	58.56	>20	Pass
2	00	2402	9.484	2400	-21.49	30.974	>20	Pass
	39	2480	9.587	2500	-46.44	56.027	>20	Pass
3	00	2402	10.50	2400	-39.16	49.66	>20	Pass
	39	2480	10.60	2500	-47.06	57.66	>20	Pass
4	00	2402	5.108	2400	-43.59	48.698	>20	Pass
	39	2480	4.765	2500	-49.05	53.815	>20	Pass

Note 1: The worst data plot as below:



The data of entire corresponding spectrum:

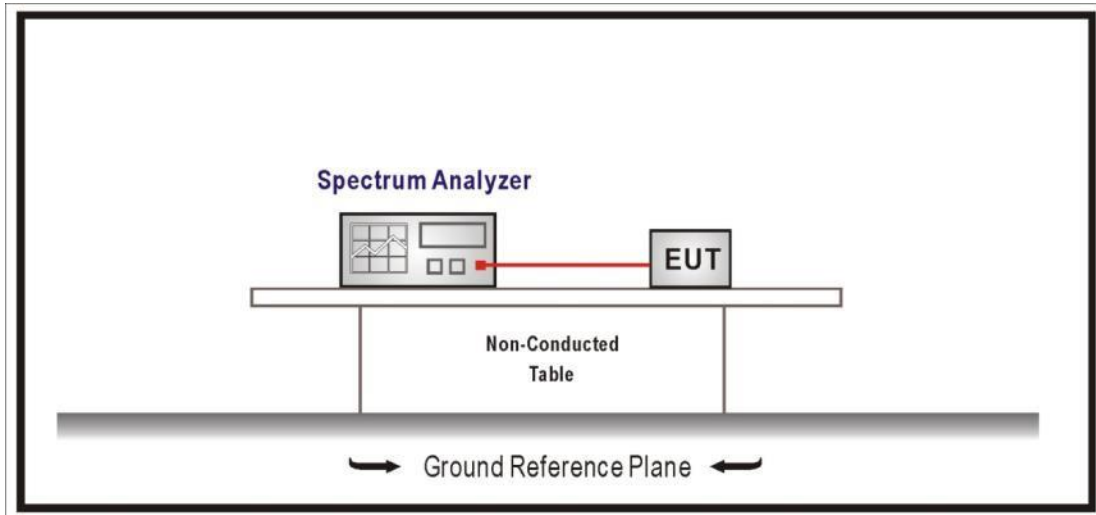




4.4 Duty cycle	VERDICT: PASS
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4.4.1 Limit
N/A

4.4.2 Test Setup



4.4.3 Test Procedure

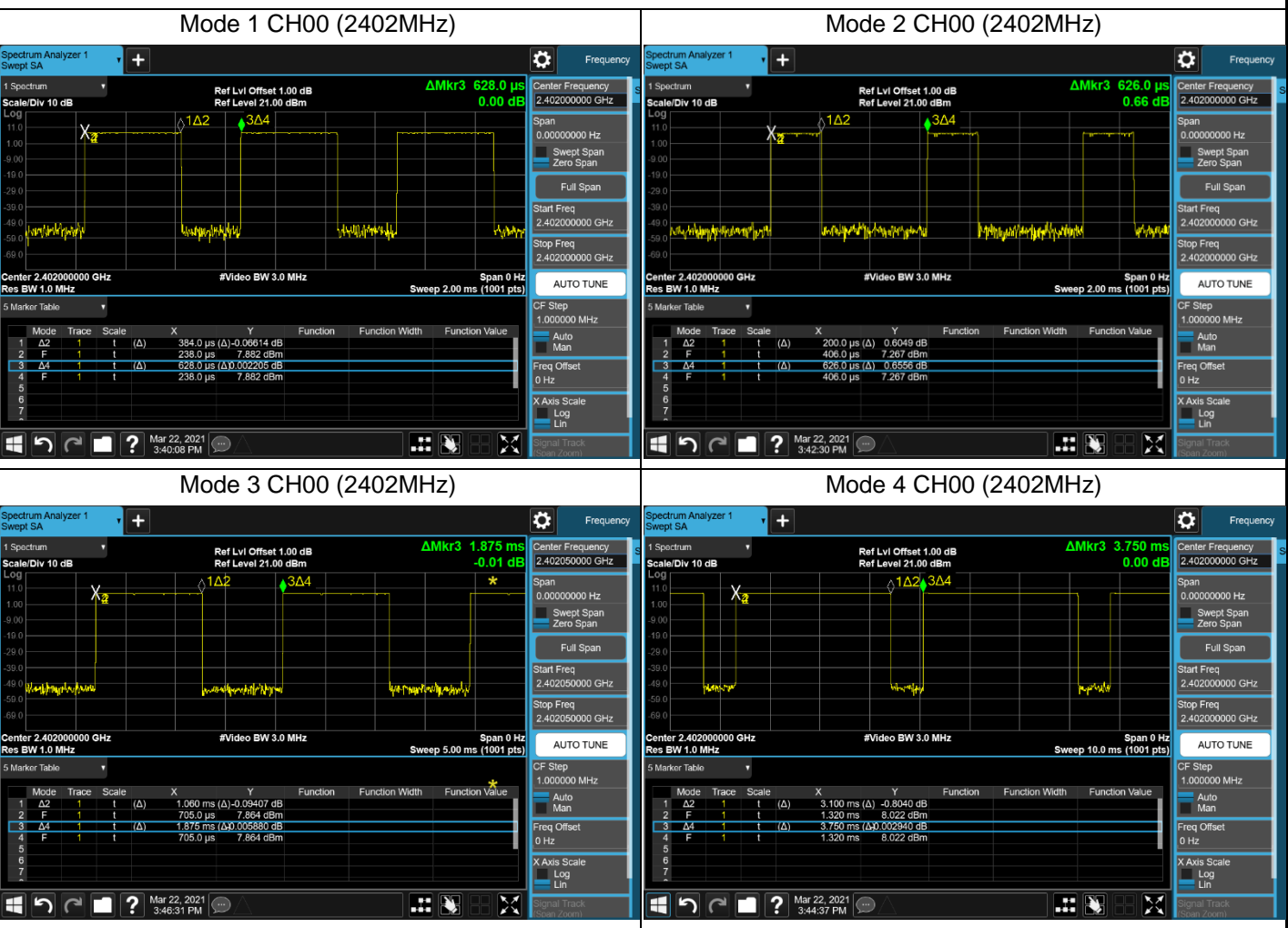
References Rule	Chapter	Description
<input checked="" type="checkbox"/> ANSI C63.10	11.6	Duty cycle (D), transmission duration (T), and maximum power control level

4.4.4 Test Data

Test Mode	Tx On (us)	Tx Off (us)	VBW (kHz)	Tx On + Tx Off (us)	Duty Cycle (%)
Mode 1	384	244	2.7	628	61.15
Mode 2	200	426	5.1	626	31.95
Mode 3	1060	815	0.91	1875	56.53
Mode 4	3100	650	0.33	3750	82.67

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: $VBW \geq 1/T$ will be used.



4.5 Radiated Emission Band Edge	VERDICT:	PASS
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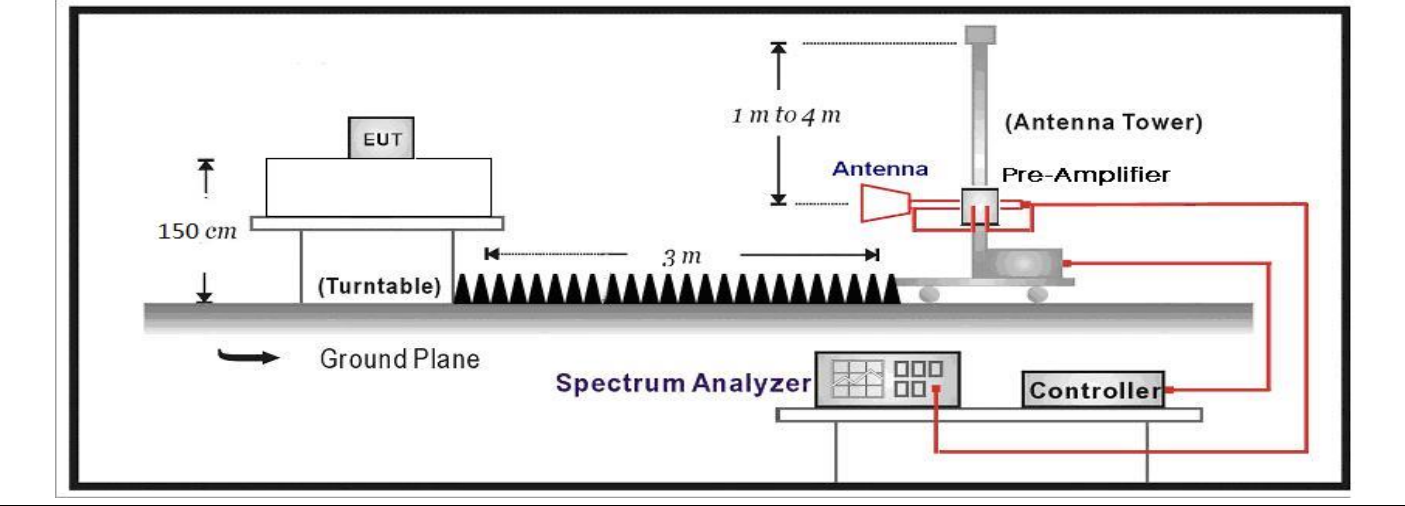
4.5.1 Limit

Standard		FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209		
Frequency bands (MHz)	Detector	Limit (dBμV/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	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:

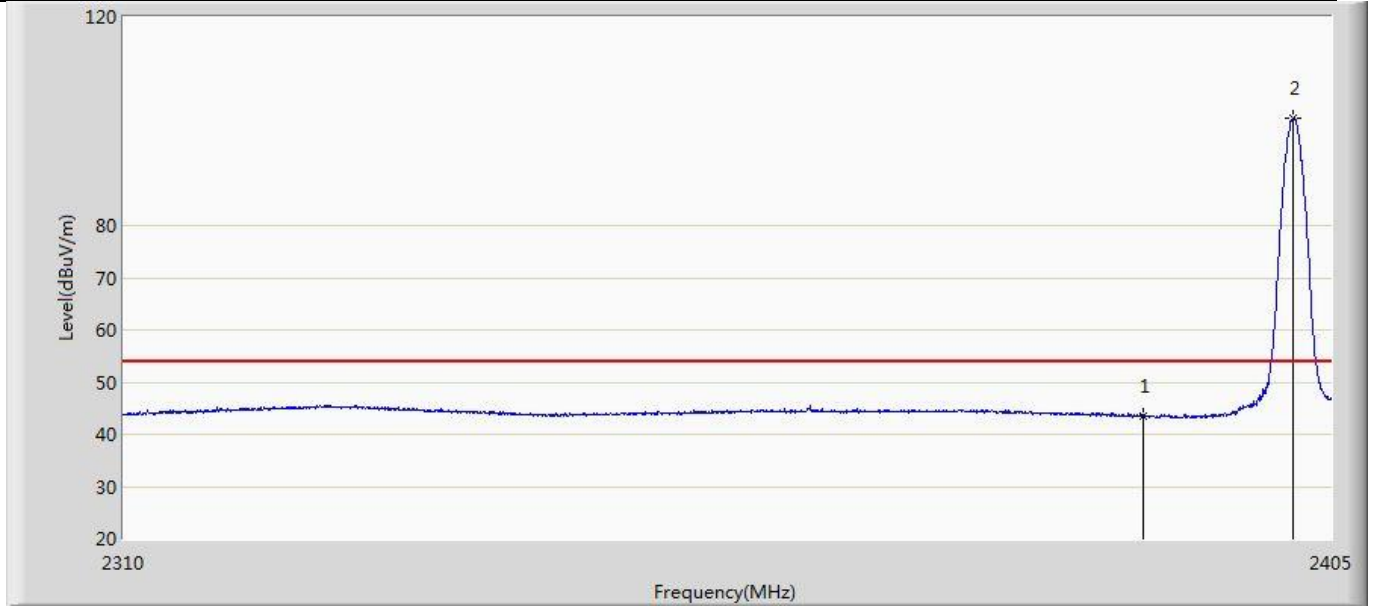


4.5.3 Test Procedure

	References Rule	Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10	6.10	Band-edge testing
	<input checked="" type="checkbox"/> ANSI C63.10	6.10.5	Restricted-band band-edge measurements
	<input type="checkbox"/> ANSI C63.10	6.10.6	Marker-delta method
<input checked="" type="checkbox"/>	ANSI C63.10	11.12	Emissions in restricted frequency bands
	<input checked="" type="checkbox"/> ANSI C63.10	11.12.1	Radiated emission measurements
	<input checked="" type="checkbox"/> ANSI C63.10	11.12.2.7	Radiated spurious emission test
<input type="checkbox"/>	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
<input type="checkbox"/>	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
<input checked="" type="checkbox"/>	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

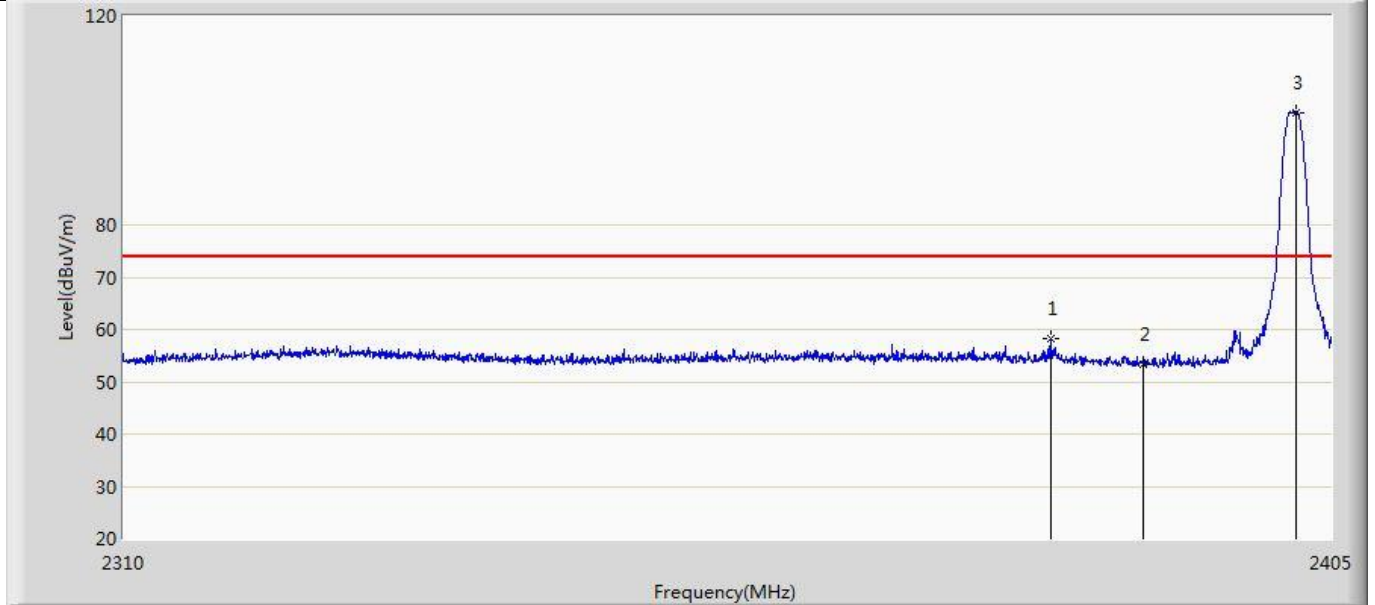
4.5.4 Test Data

Profile: 2110634R	Page No.: 1
Engineer: Tongben	
Site: AC5	Time: 2020/03/12 - 00:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz	



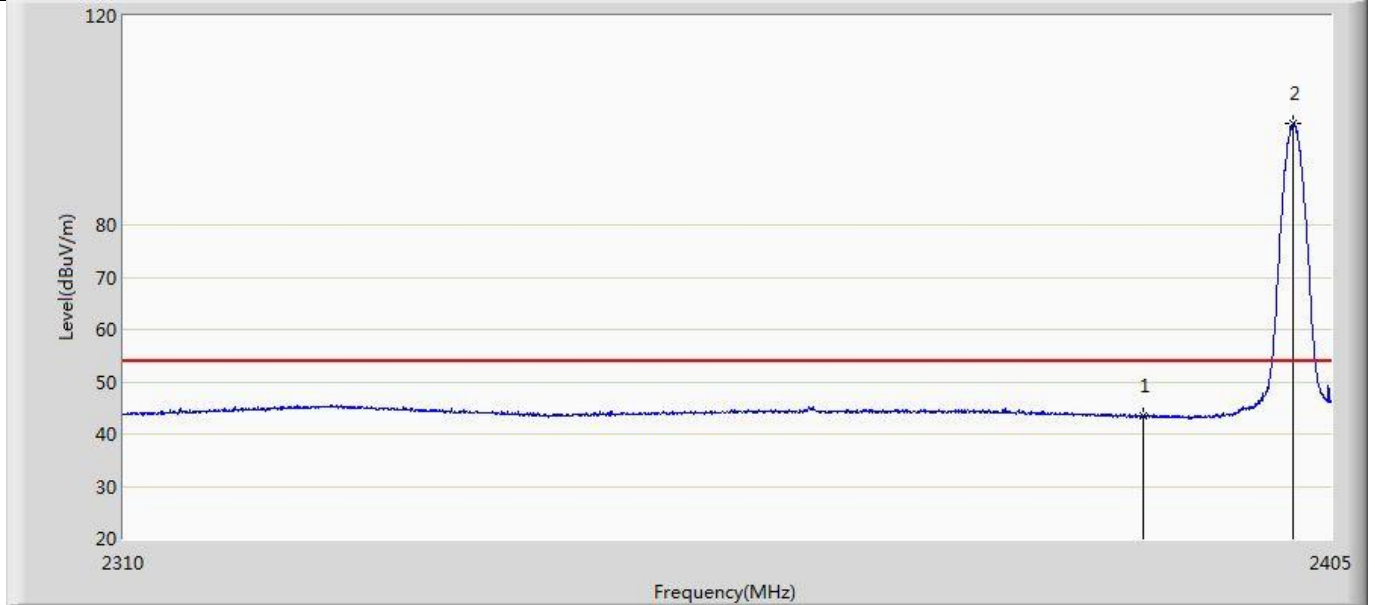
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	43.474	7.730	-10.526	54.000	35.745	AV
2	*	2401.913	100.635	64.574	46.635	54.000	36.061	AV

Profile: 2110634R	Page No.: 2
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz	



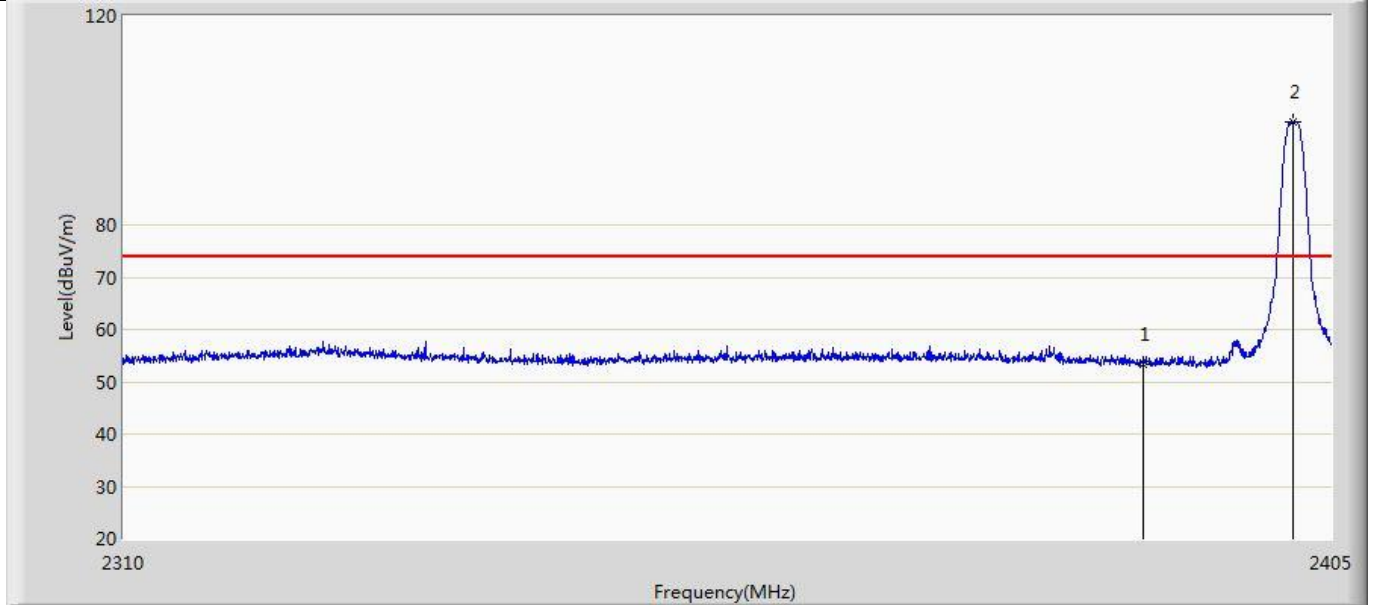
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2382.580	58.126	21.886	-15.874	74.000	36.241	PK
2		2390.000	53.334	17.590	-20.666	74.000	35.745	PK
3	*	2402.198	101.528	65.446	27.528	74.000	36.082	PK

Profile: 2110634R	Page No.: 3
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz	



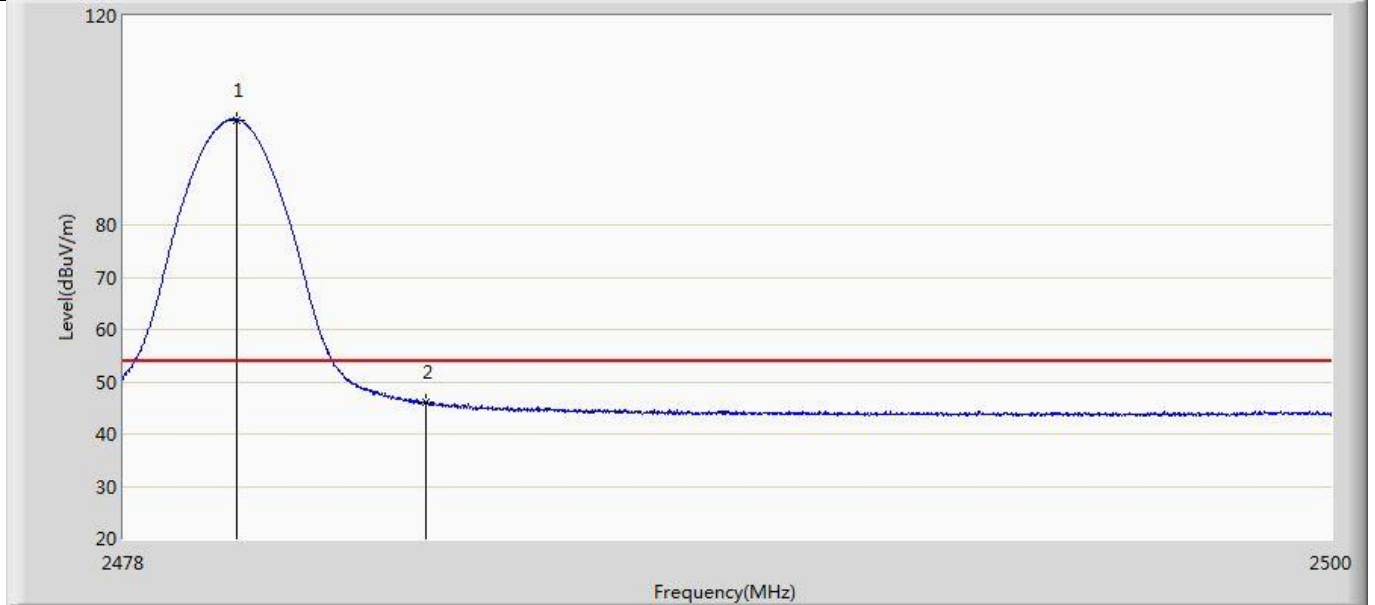
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	43.398	7.654	-10.602	54.000	35.745	AV
2	*	2401.960	99.349	63.284	45.349	54.000	36.064	AV

Profile: 2110634R	Page No.: 4
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2402MHz	



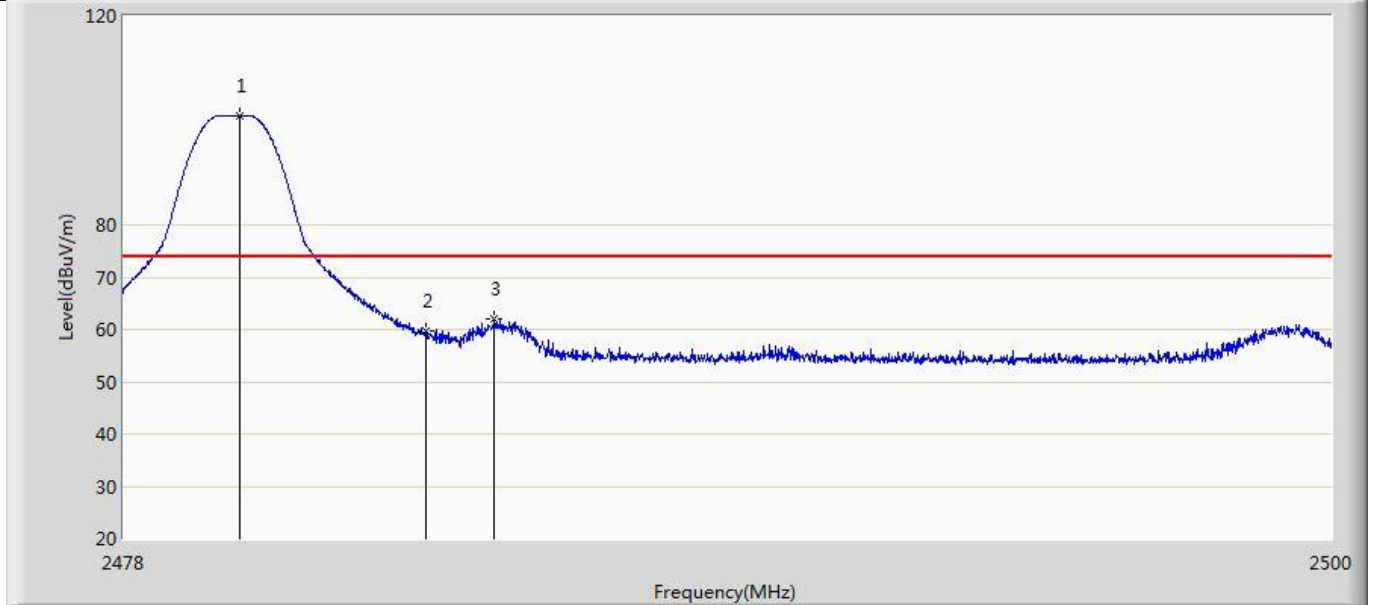
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.403	17.659	-20.597	74.000	35.745	PK
2	*	2401.960	99.708	63.643	25.708	74.000	36.064	PK

Profile: 2110634R	Page No.: 5
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz	



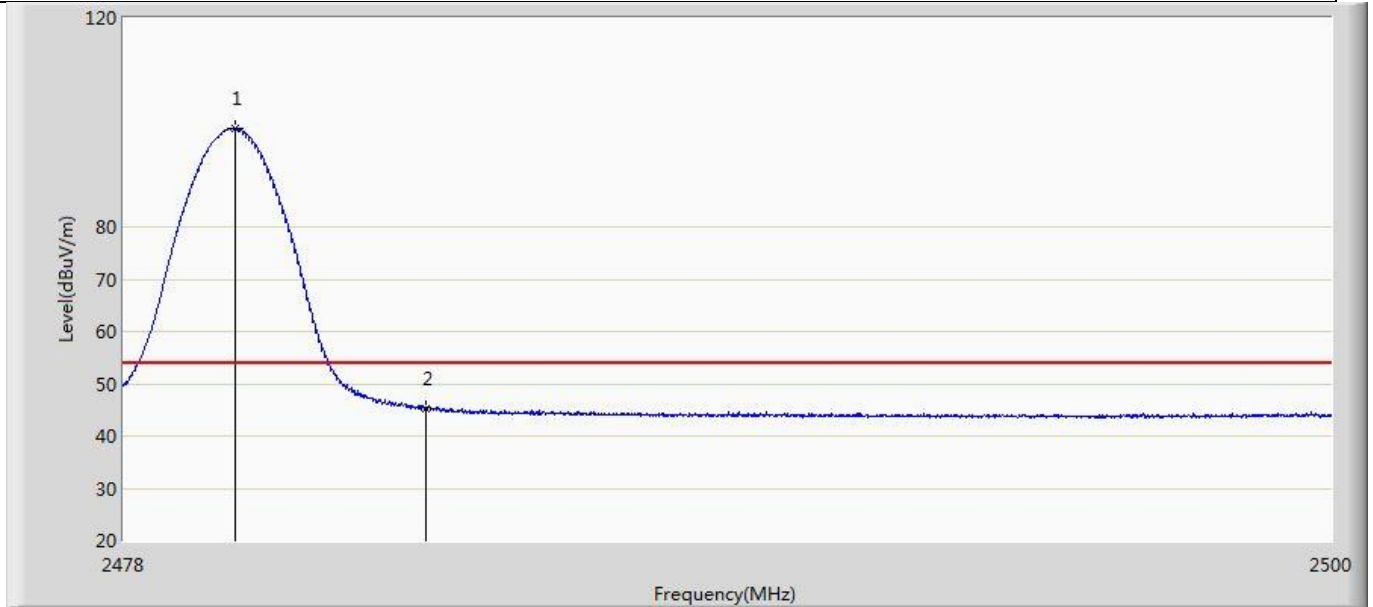
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.046	100.098	63.270	46.098	54.000	36.828	AV
2		2483.500	45.952	9.253	-8.048	54.000	36.699	AV

Profile: 2110634R	Page No.: 6
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz	



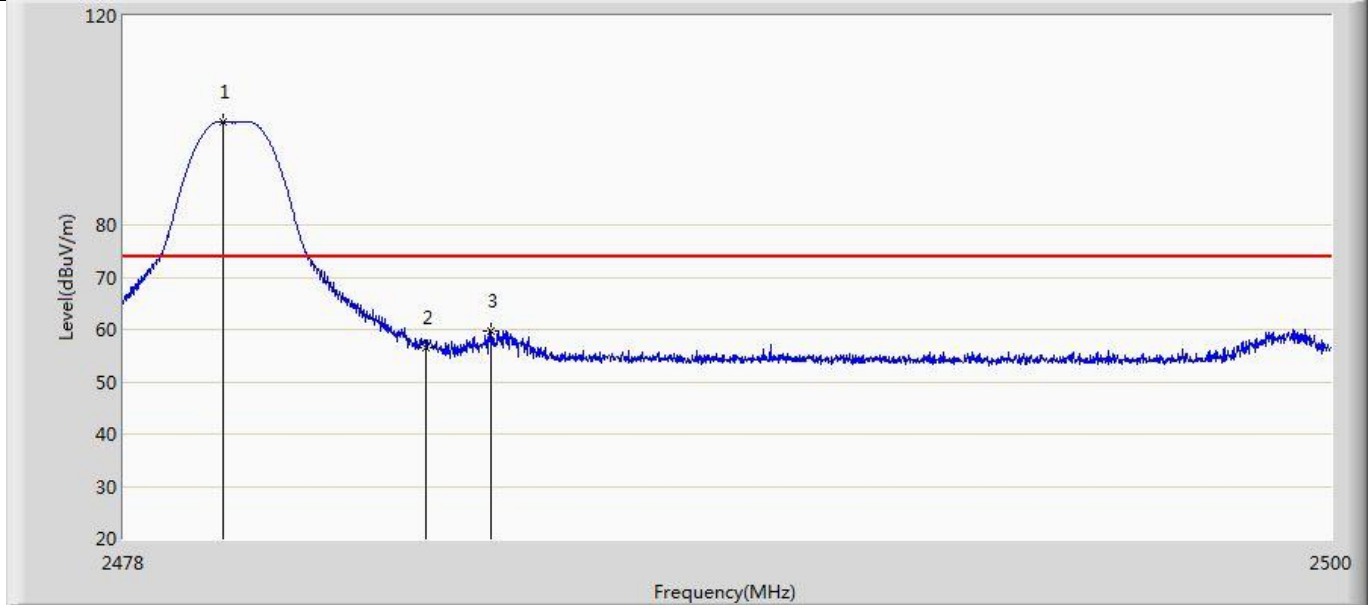
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.123	100.904	64.079	26.904	74.000	36.826	PK
2		2483.500	59.567	22.868	-14.433	74.000	36.699	PK
3		2484.743	61.916	25.263	-12.084	74.000	36.653	PK

Profile: 2110634R	Page No.: 7
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz	



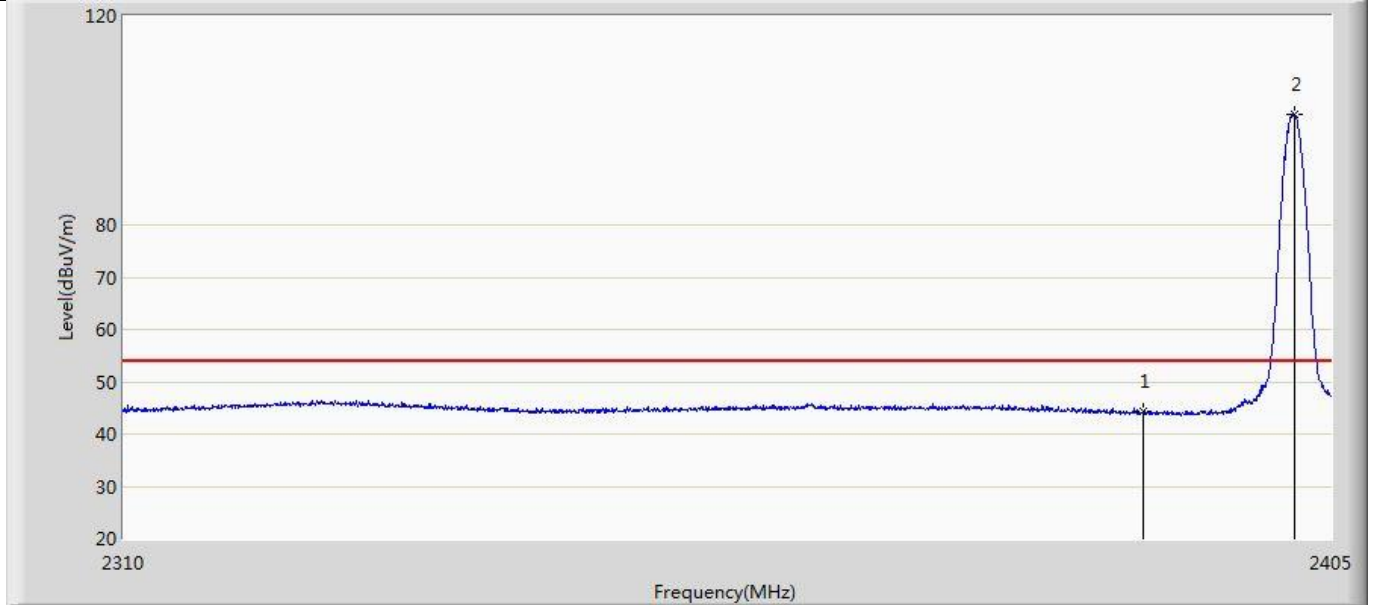
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.024	98.824	61.995	44.824	54.000	36.829	AV
2		2483.500	45.120	8.421	-8.880	54.000	36.699	AV

Profile: 2110634R	Page No.: 8
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2480MHz	



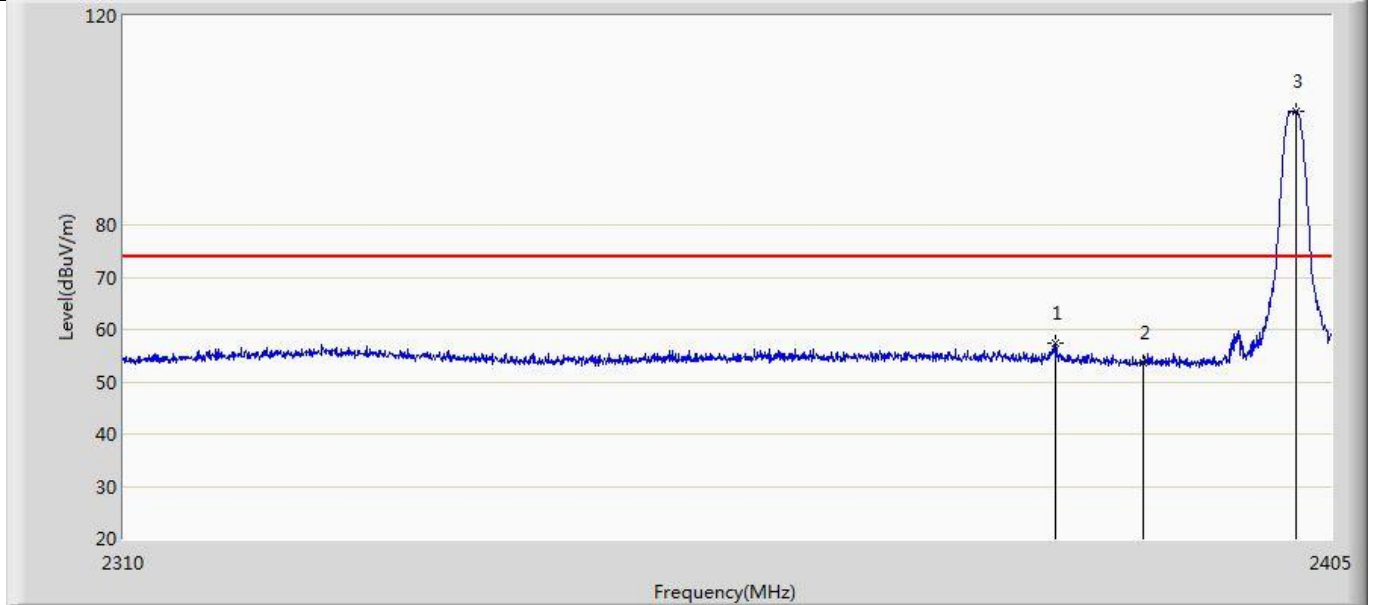
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.804	99.779	62.942	25.779	74.000	36.837	PK
2		2483.500	56.495	19.796	-17.505	74.000	36.699	PK
3		2484.677	59.699	23.043	-14.301	74.000	36.656	PK

Profile: 2110634R	Page No.: 9
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz	



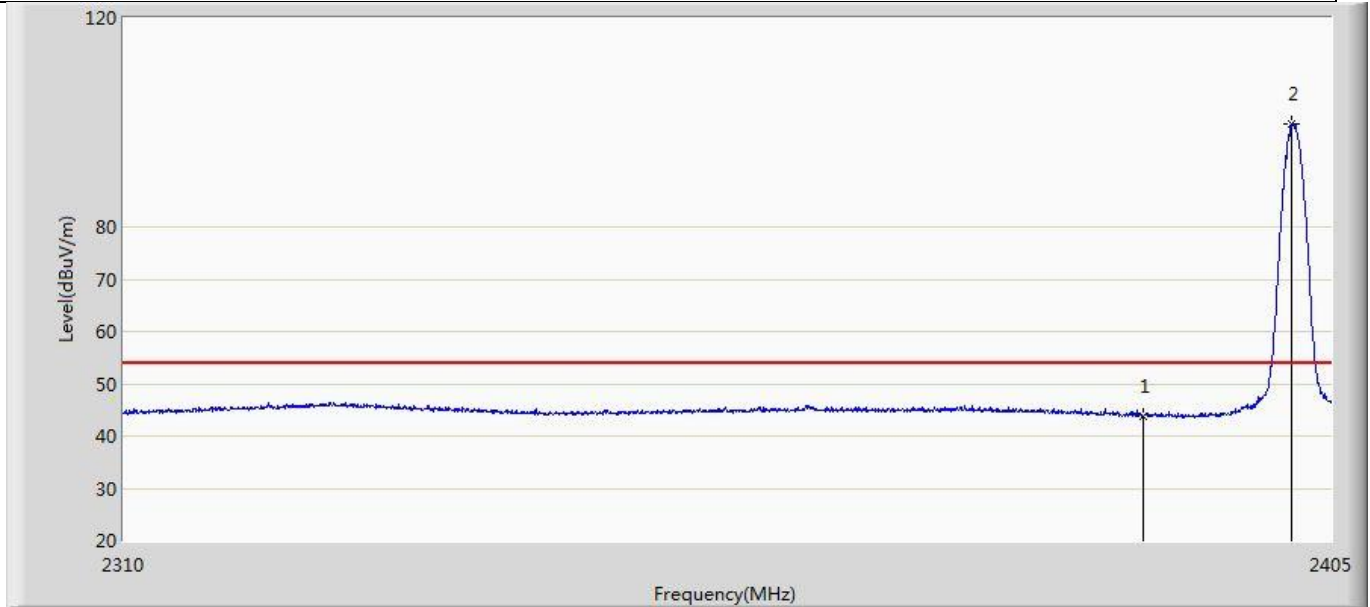
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	44.308	8.564	-9.692	54.000	35.745	AV
2	*	2402.055	101.067	64.995	47.067	54.000	36.071	AV

Profile: 2110634R	Page No.: 10
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz	



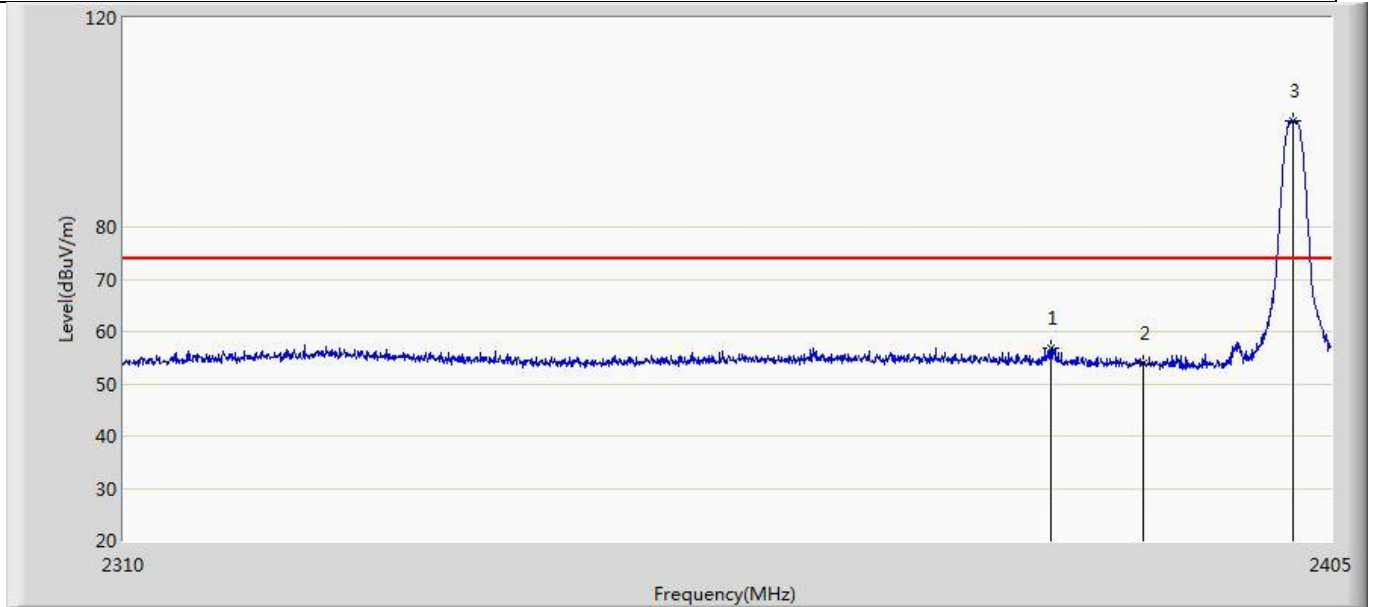
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2382.960	57.488	21.273	-16.512	74.000	36.215	PK
2		2390.000	53.575	17.831	-20.425	74.000	35.745	PK
3	*	2402.198	101.632	65.550	27.632	74.000	36.082	PK

Profile: 2110634R	Page No.: 11
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz	



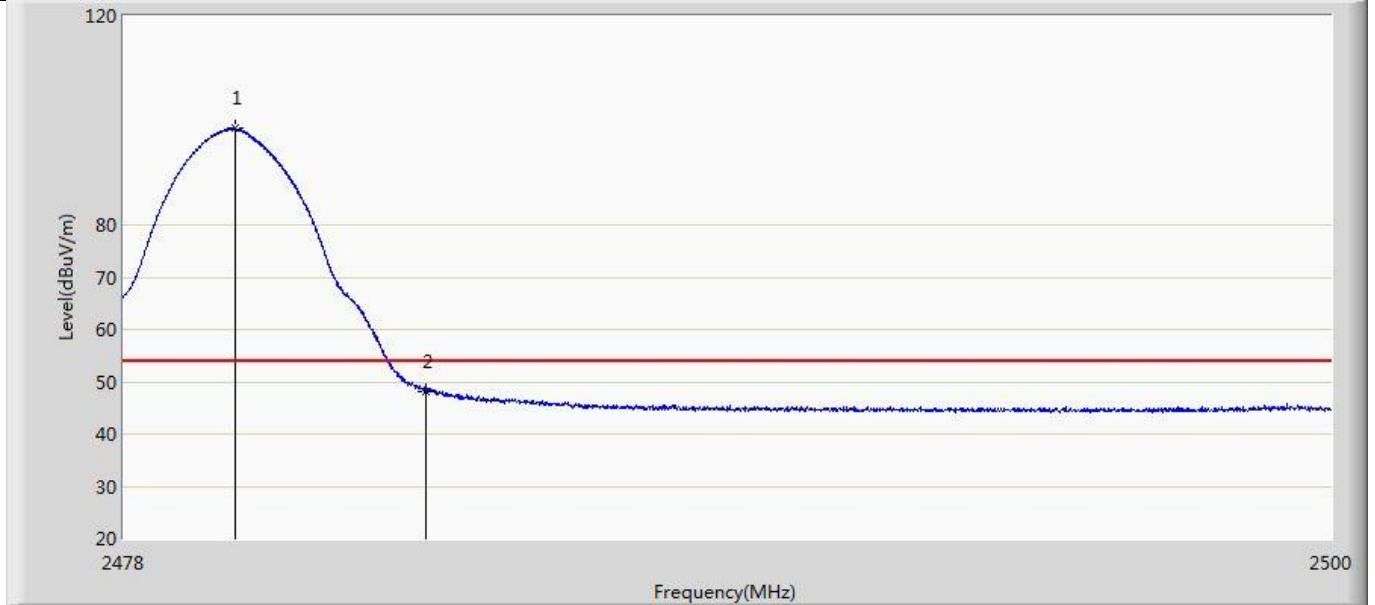
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	43.796	8.052	-10.204	54.000	35.745	AV
2	*	2401.865	99.690	63.632	45.690	54.000	36.057	AV

Profile: 2110634R	Page No.: 12
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2402MHz	



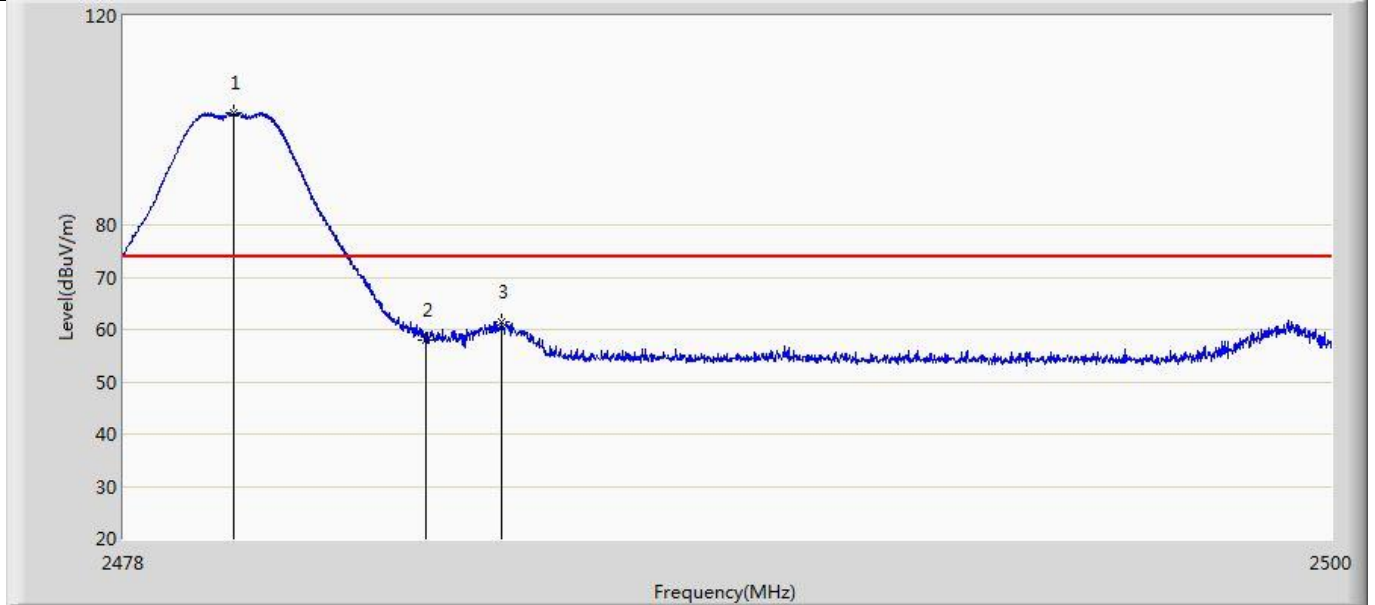
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2382.675	56.903	20.669	-17.097	74.000	36.234	PK
2		2390.000	53.796	18.052	-20.204	74.000	35.745	PK
3	*	2401.960	100.282	64.217	26.282	74.000	36.064	PK

Profile: 2110634R	Page No.: 13
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz	



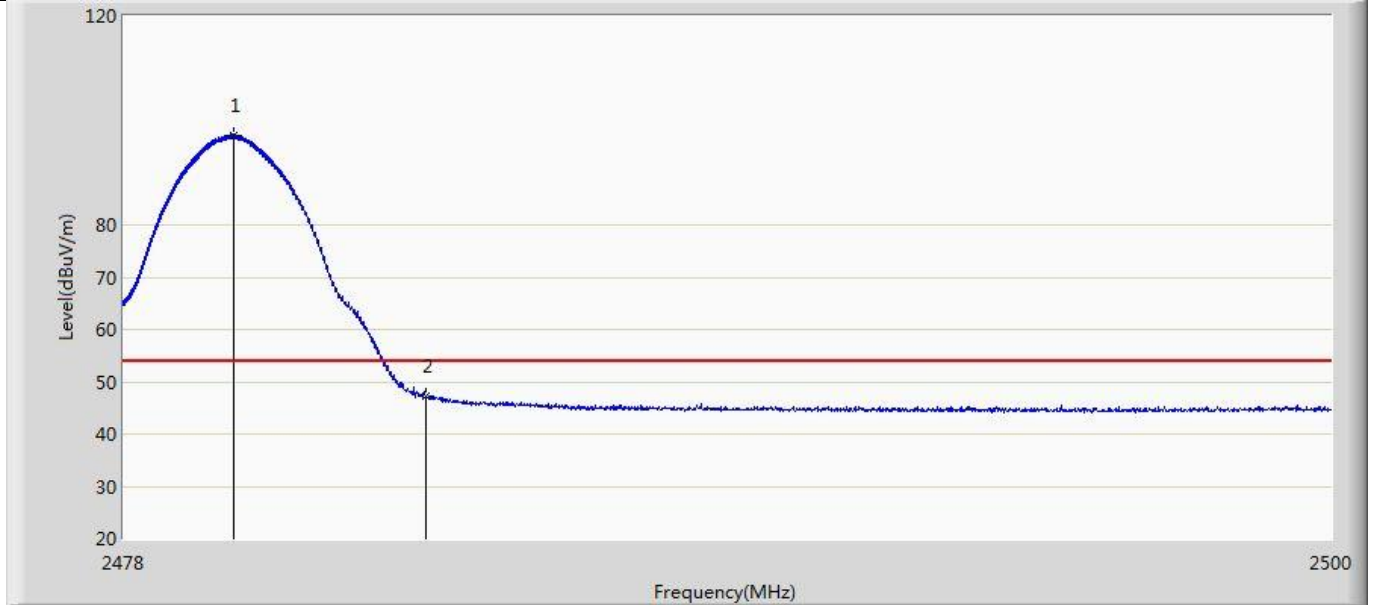
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.024	98.433	61.604	44.433	54.000	36.829	AV
2		2483.500	48.182	11.483	-5.818	54.000	36.699	AV

Profile: 2110634R	Page No.: 14
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz	



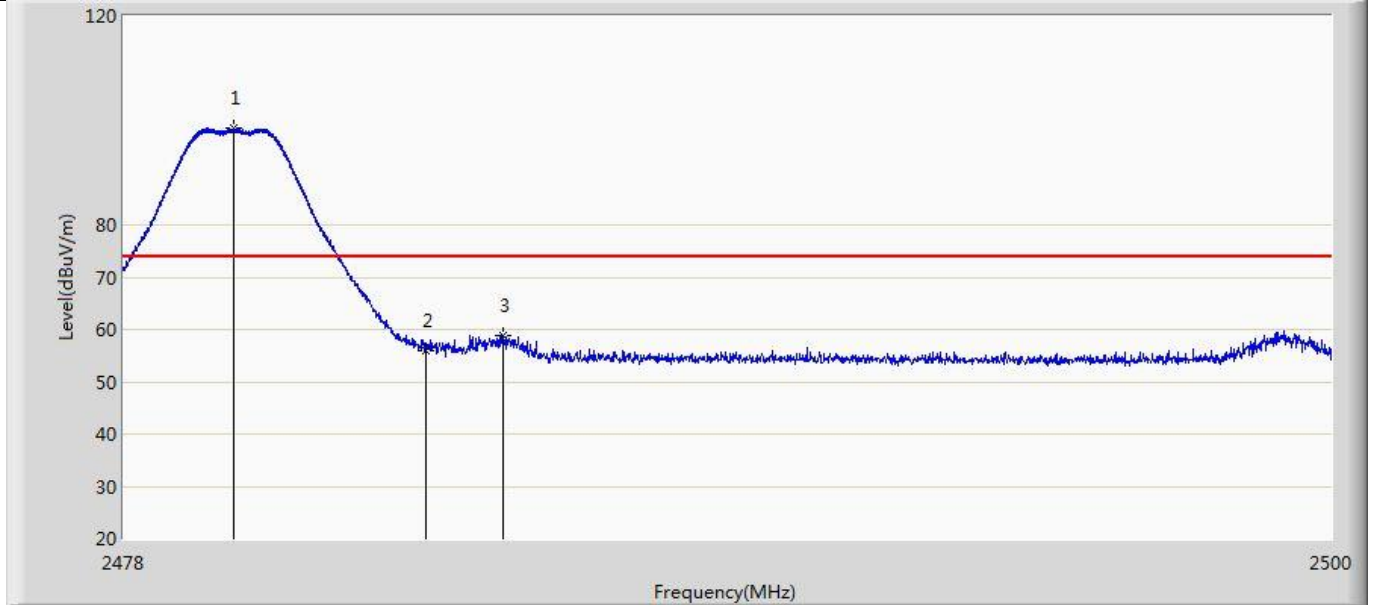
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	101.347	64.518	27.347	74.000	36.830	PK
2		2483.500	57.966	21.267	-16.034	74.000	36.699	PK
3		2484.864	61.493	24.844	-12.507	74.000	36.649	PK

Profile: 2110634R	Page No.: 15
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz	



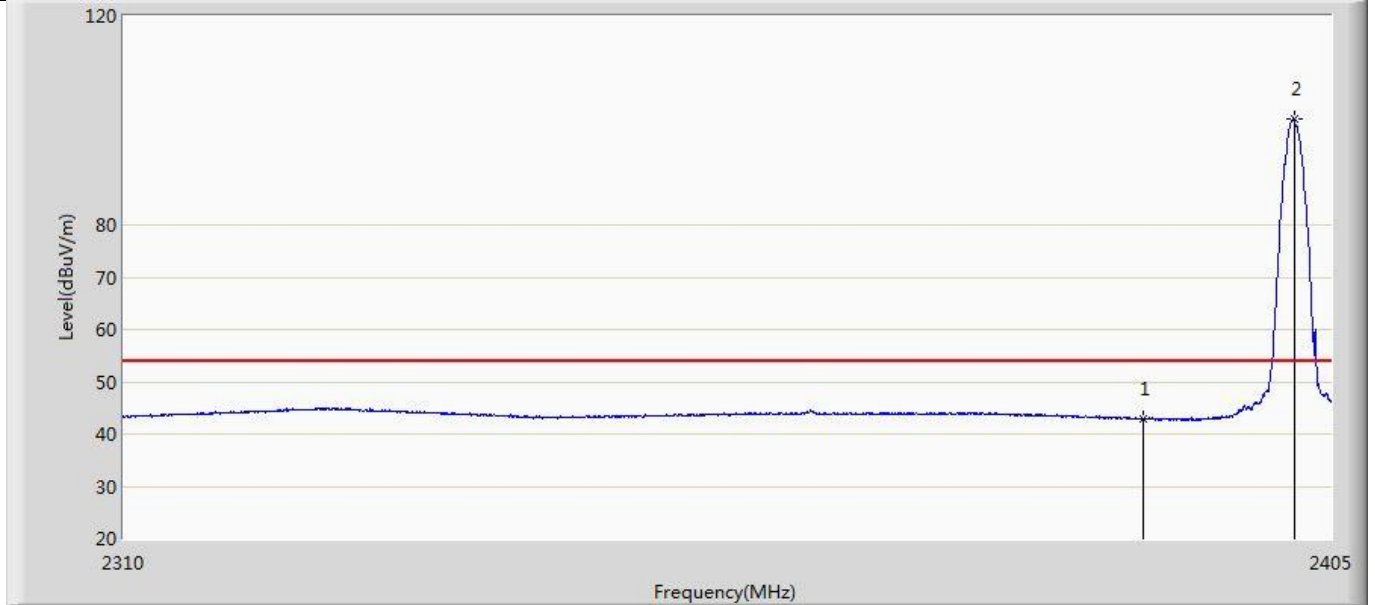
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	97.196	60.367	43.196	54.000	36.830	AV
2		2483.500	47.105	10.406	-6.895	54.000	36.699	AV

Profile: 2110634R	Page No.: 16
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2480MHz	



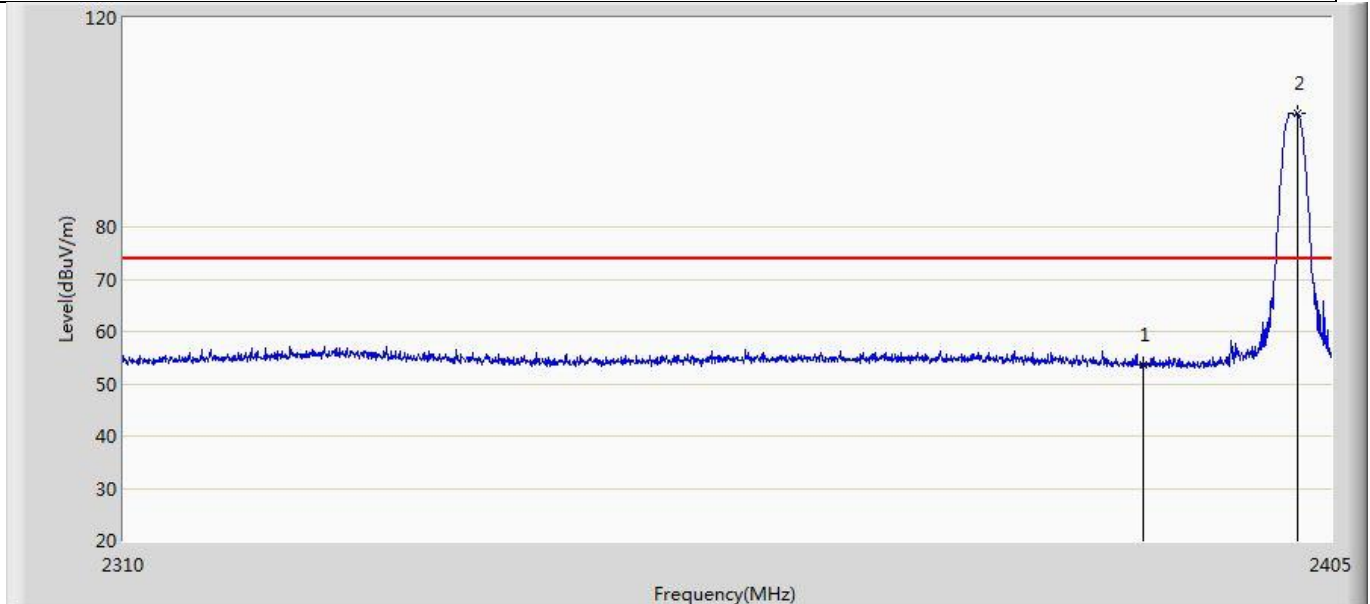
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.013	98.446	61.617	24.446	74.000	36.830	PK
2		2483.500	56.039	19.340	-17.961	74.000	36.699	PK
3		2484.886	58.830	22.182	-15.170	74.000	36.648	PK

Profile: 2110634R	Page No.: 25
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz	



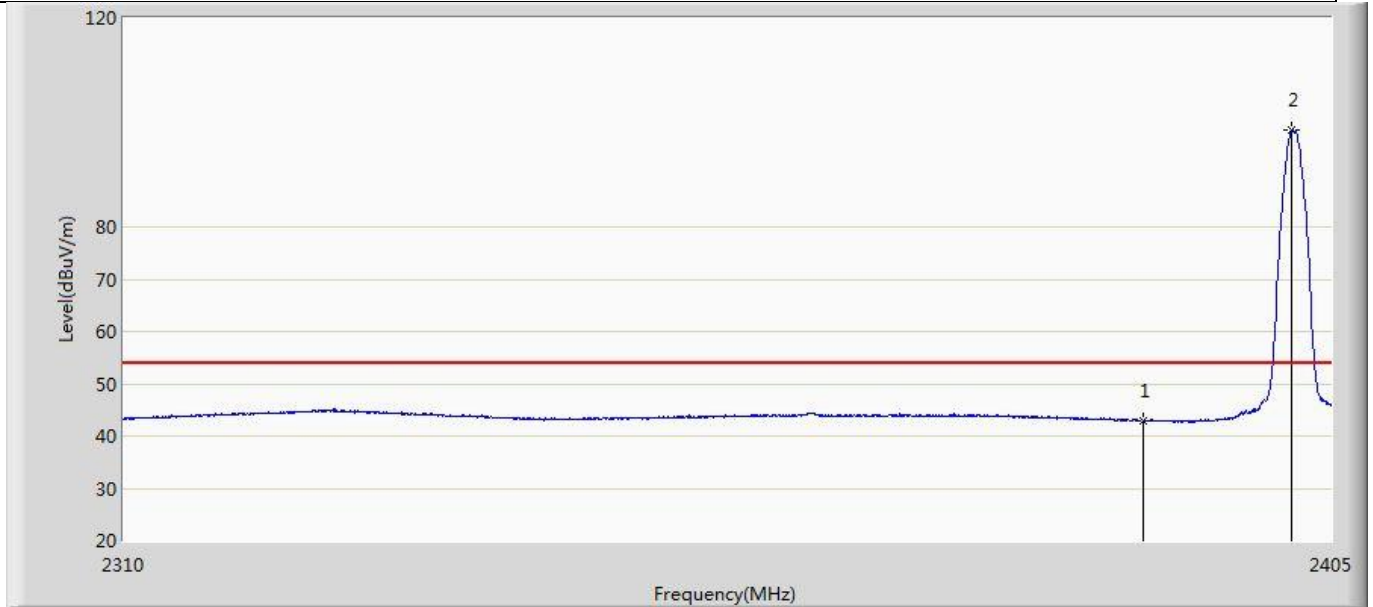
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.886	7.142	-11.114	54.000	35.745	AV
2	*	2402.055	100.354	64.282	46.354	54.000	36.071	AV

Profile: 2110634R	Page No.: 26
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz	



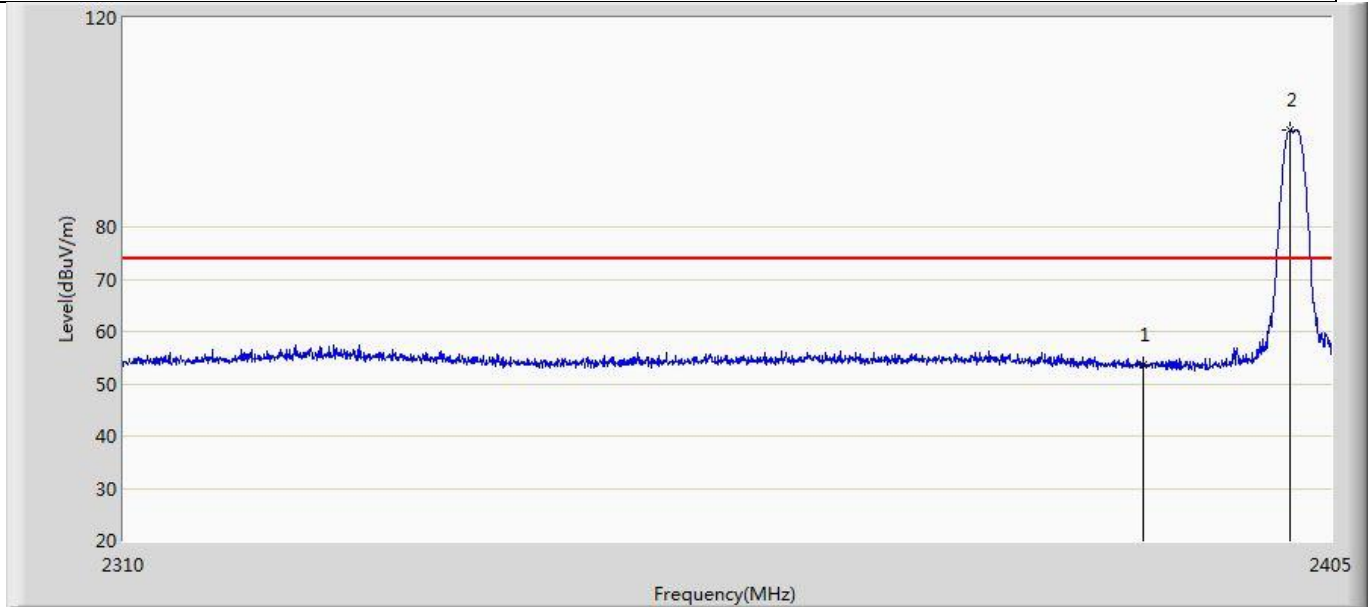
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.601	17.857	-20.399	74.000	35.745	PK
2	*	2402.340	101.840	65.747	27.840	74.000	36.093	PK

Profile: 2110634R	Page No.: 27
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz	



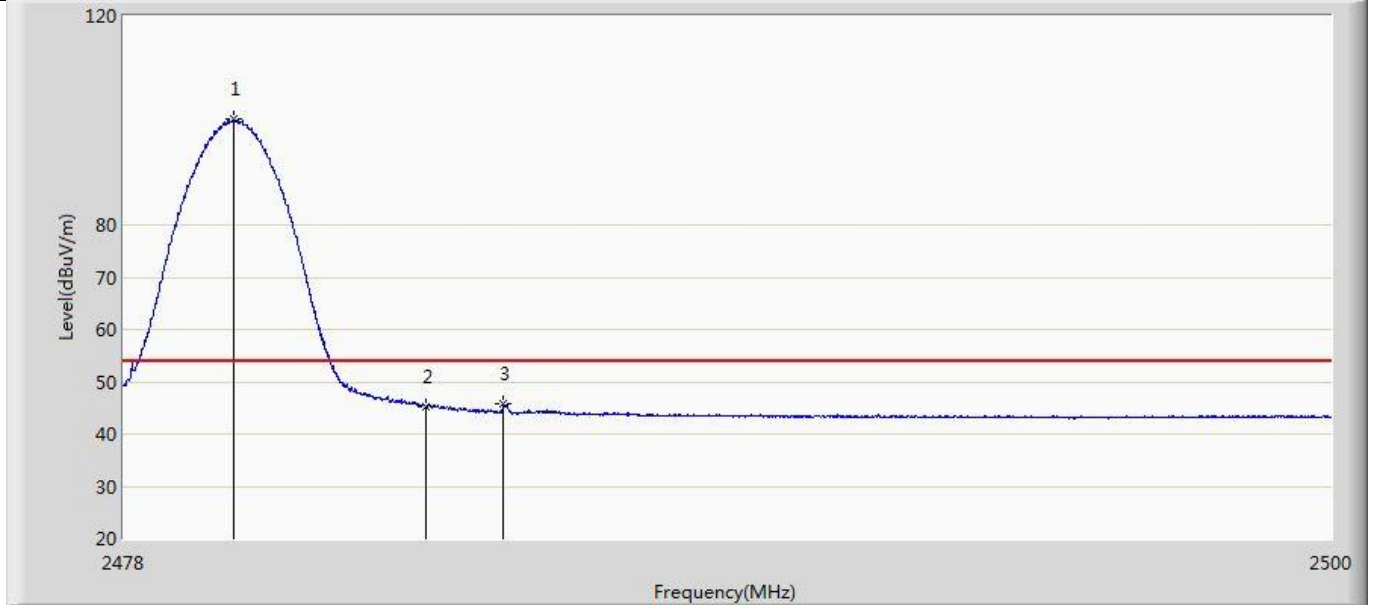
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	43.004	7.260	-10.996	54.000	35.745	AV
2	*	2401.865	98.536	62.478	44.536	54.000	36.057	AV

Profile: 2110634R	Page No.: 28
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2402MHz	



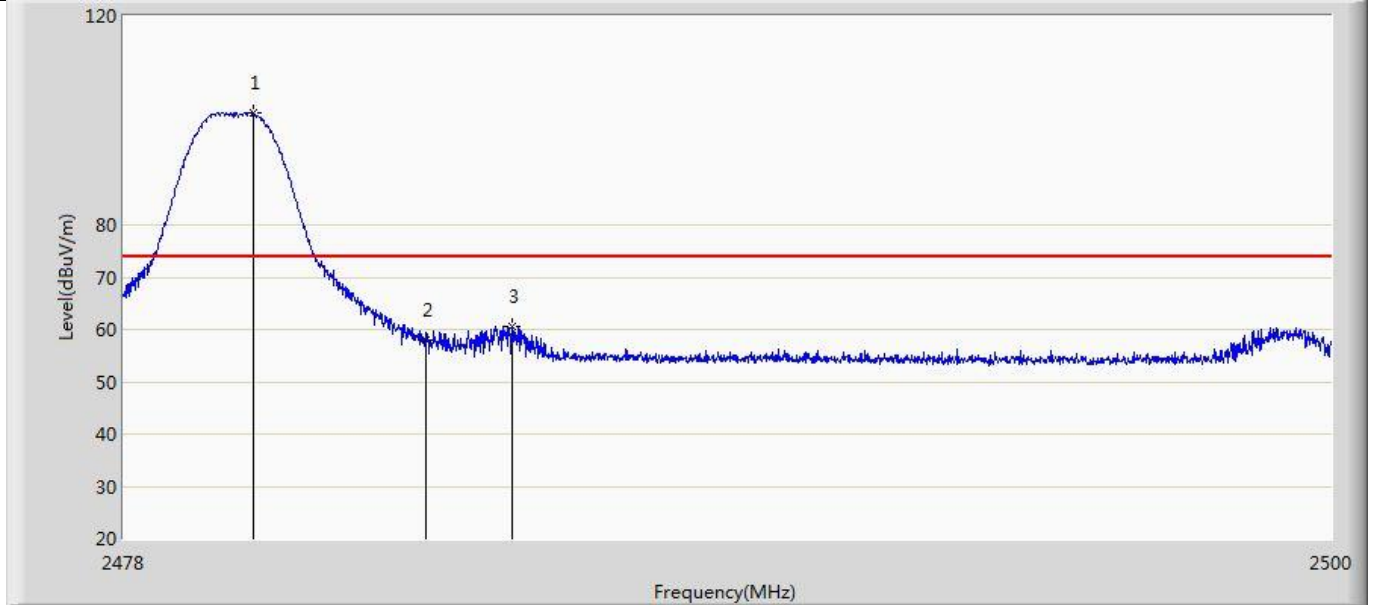
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.515	17.771	-20.485	74.000	35.745	PK
2	*	2401.675	98.457	62.413	24.457	74.000	36.043	PK

Profile: 2110634R	Page No.: 29
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz	



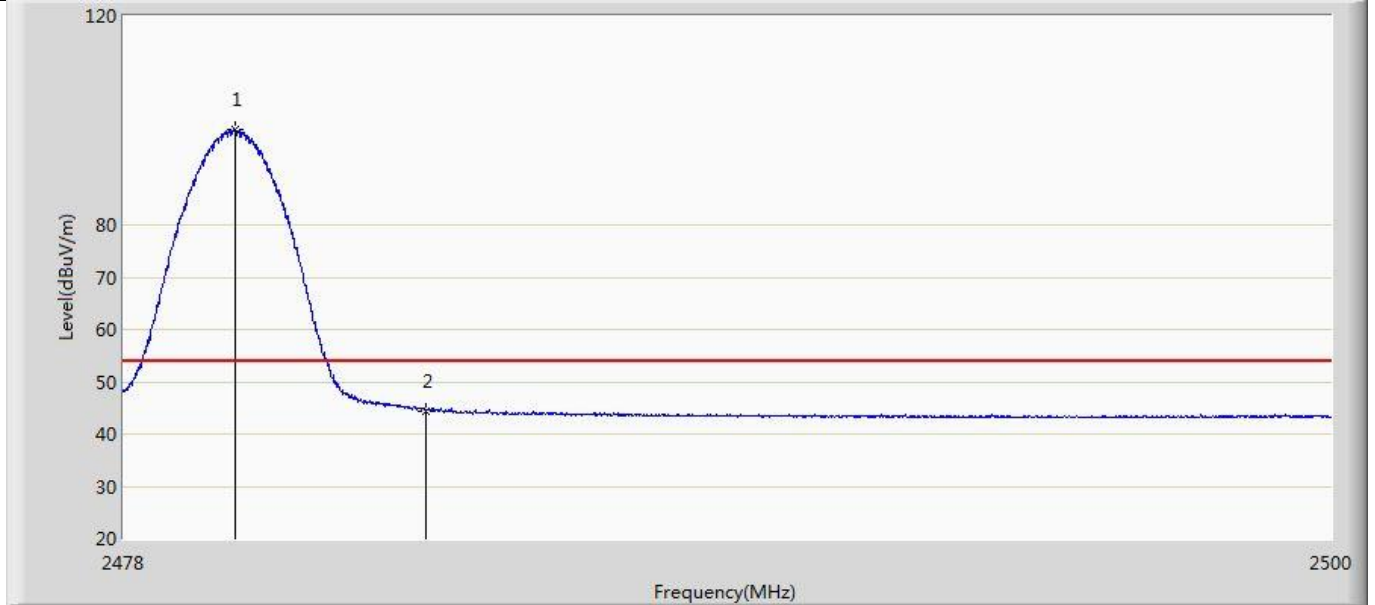
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.991	100.165	63.335	46.165	54.000	36.831	AV
2		2483.500	45.189	8.490	-8.811	54.000	36.699	AV
3		2484.908	45.653	9.006	-8.347	54.000	36.647	AV

Profile: 2110634R	Page No.: 30
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz	



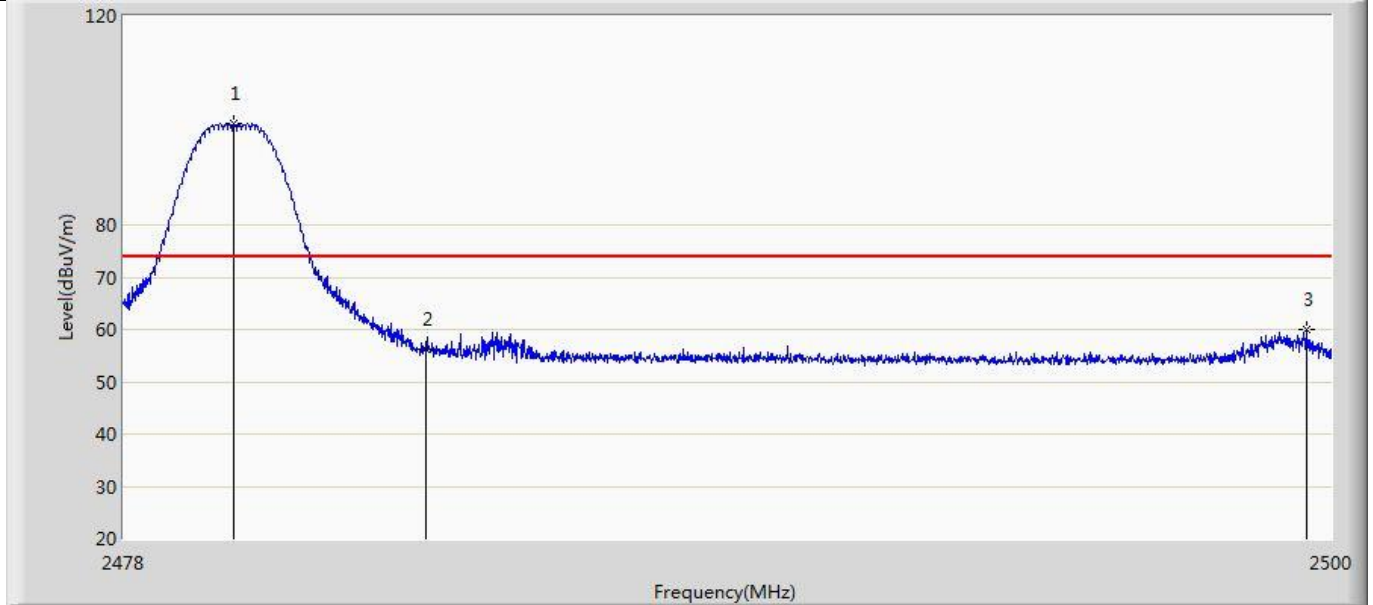
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.354	101.372	64.555	27.372	74.000	36.817	PK
2		2483.500	57.839	21.140	-16.161	74.000	36.699	PK
3		2485.062	60.709	24.068	-13.291	74.000	36.641	PK

Profile: 2110634R	Page No.: 31
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz	



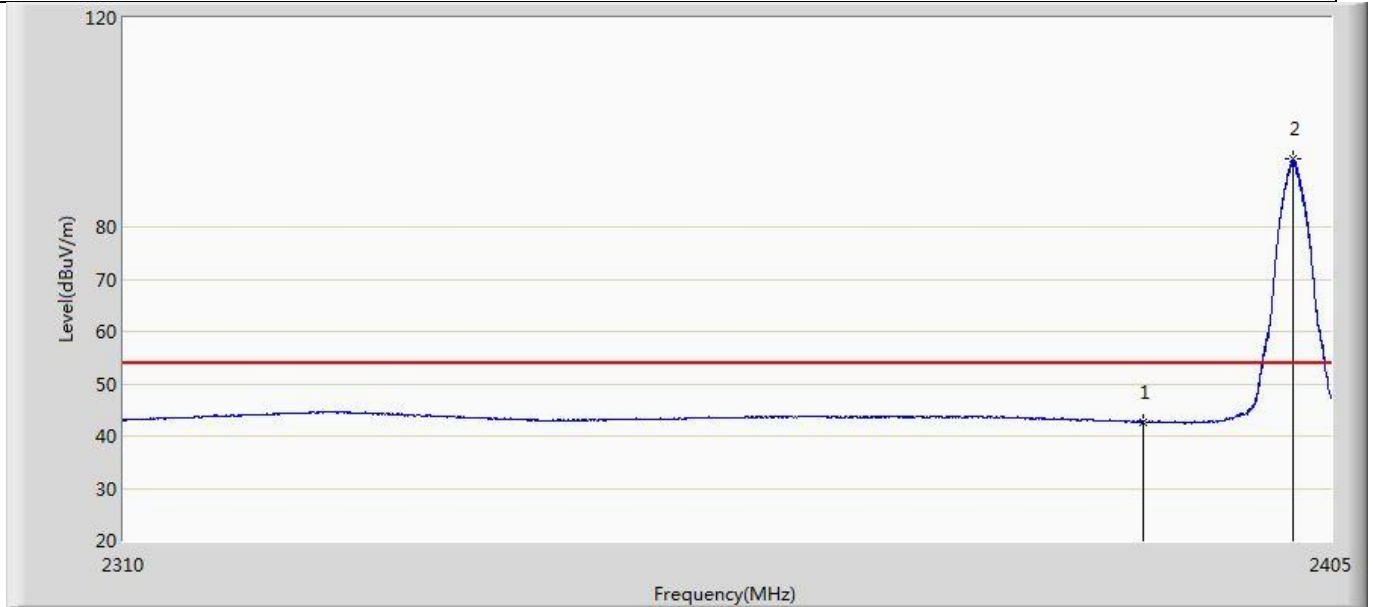
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.024	98.142	61.313	44.142	54.000	36.829	AV
2		2483.500	44.454	7.755	-9.546	54.000	36.699	AV

Profile: 2110634R	Page No.: 32
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical I
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2480MHz	



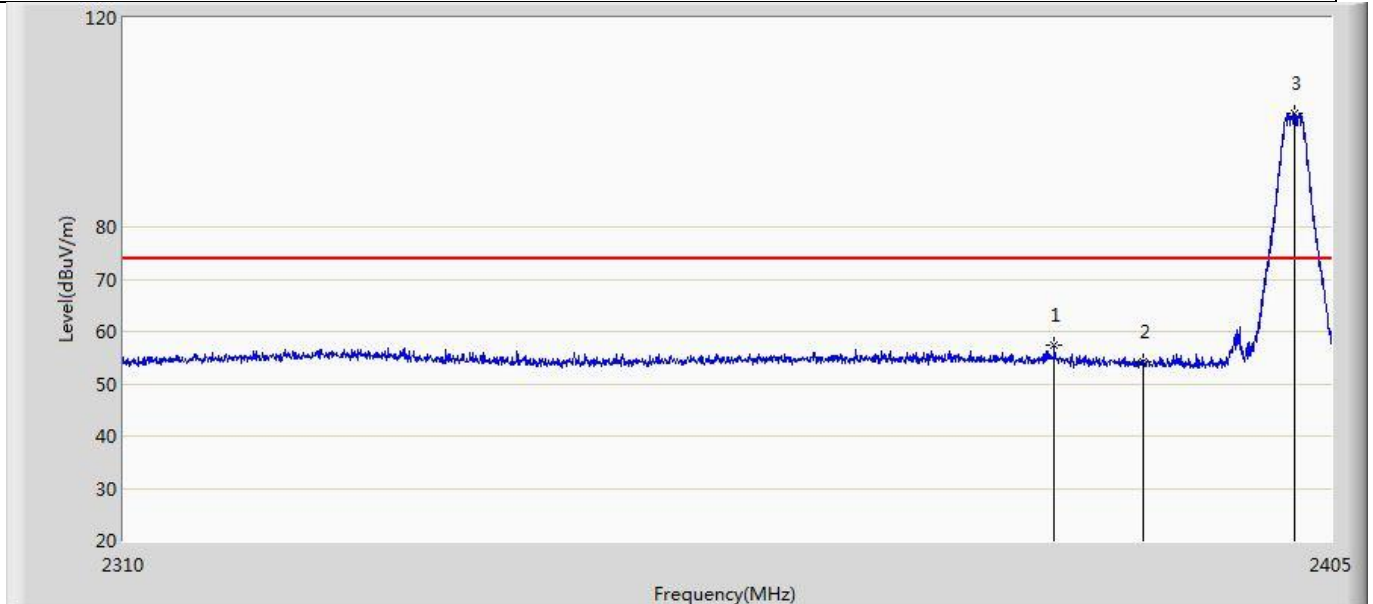
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.002	99.355	62.525	25.355	74.000	36.830	PK
2		2483.500	56.365	19.666	-17.635	74.000	36.699	PK
3		2499.560	59.956	23.633	-14.044	74.000	36.323	PK

Profile: 2110634R	Page No.: 17
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 11:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz	



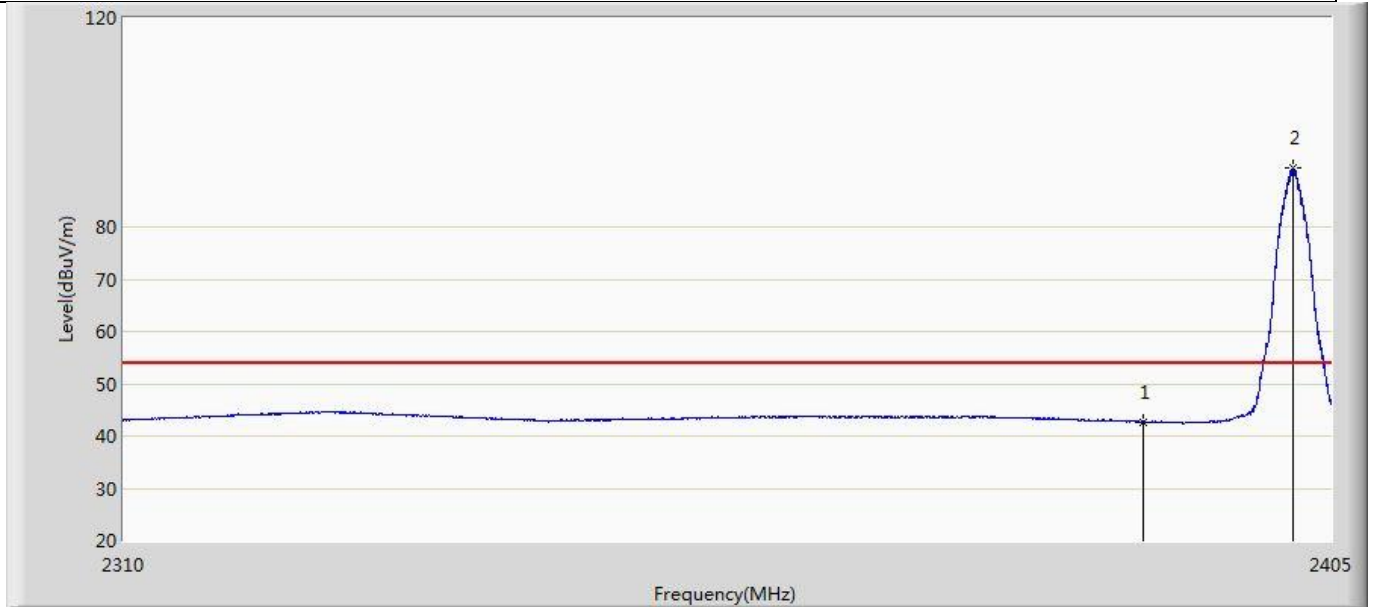
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.684	6.940	-11.316	54.000	35.745	AV
2	*	2401.960	92.978	56.913	38.978	54.000	36.064	AV

Profile: 2110634R	Page No.: 18
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz	



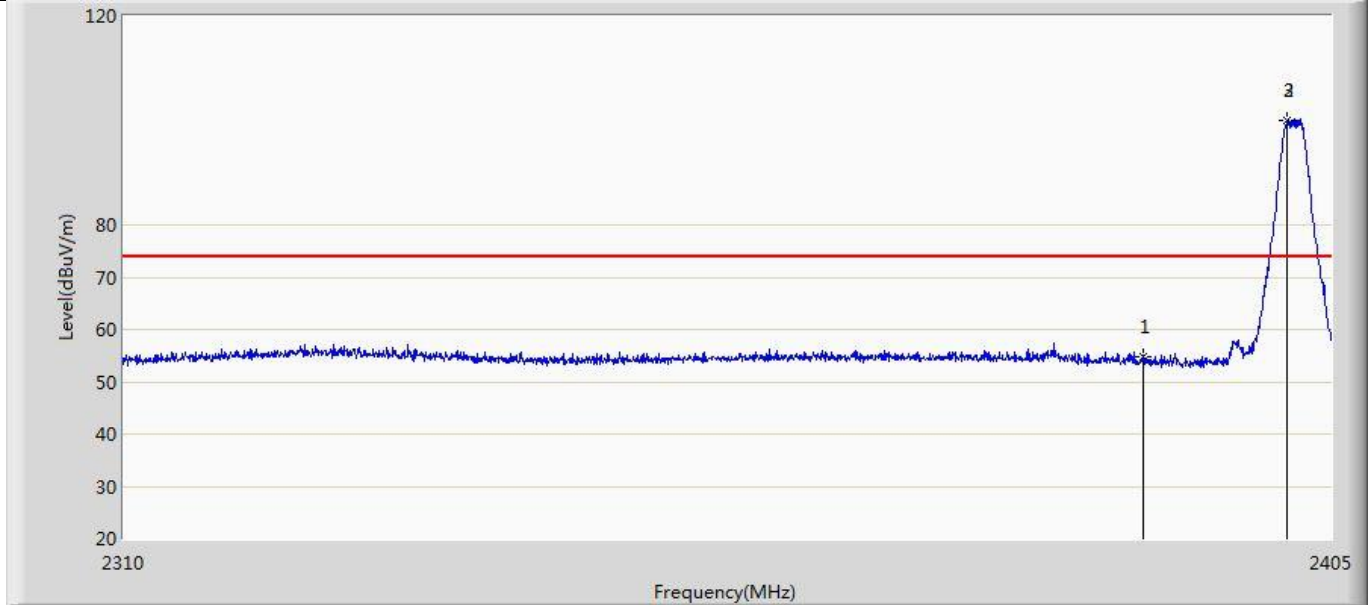
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2382.913	57.465	21.247	-16.535	74.000	36.219	PK
2		2390.000	54.105	18.361	-19.895	74.000	35.745	PK
3	*	2402.055	101.682	65.610	27.682	74.000	36.071	PK

Profile: 2110634R	Page No.: 19
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz	



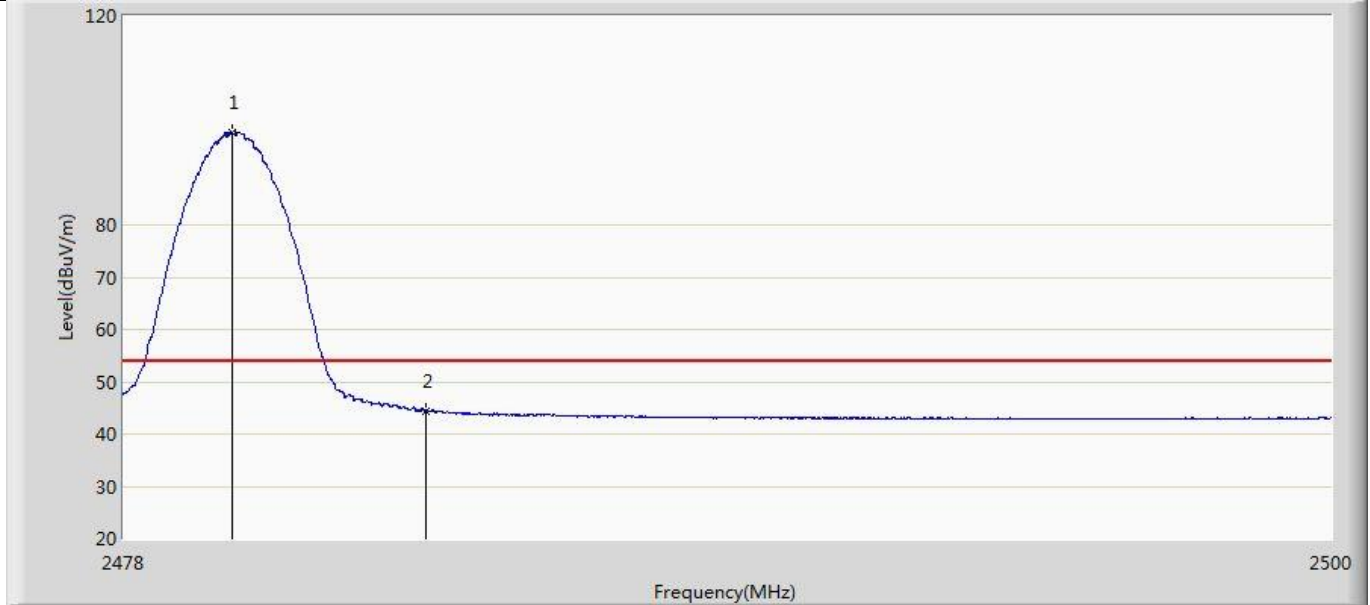
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.728	6.984	-11.272	54.000	35.745	AV
2	*	2401.960	91.278	55.213	37.278	54.000	36.064	AV

Profile: 2110634R	Page No.: 20
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2402MHz	



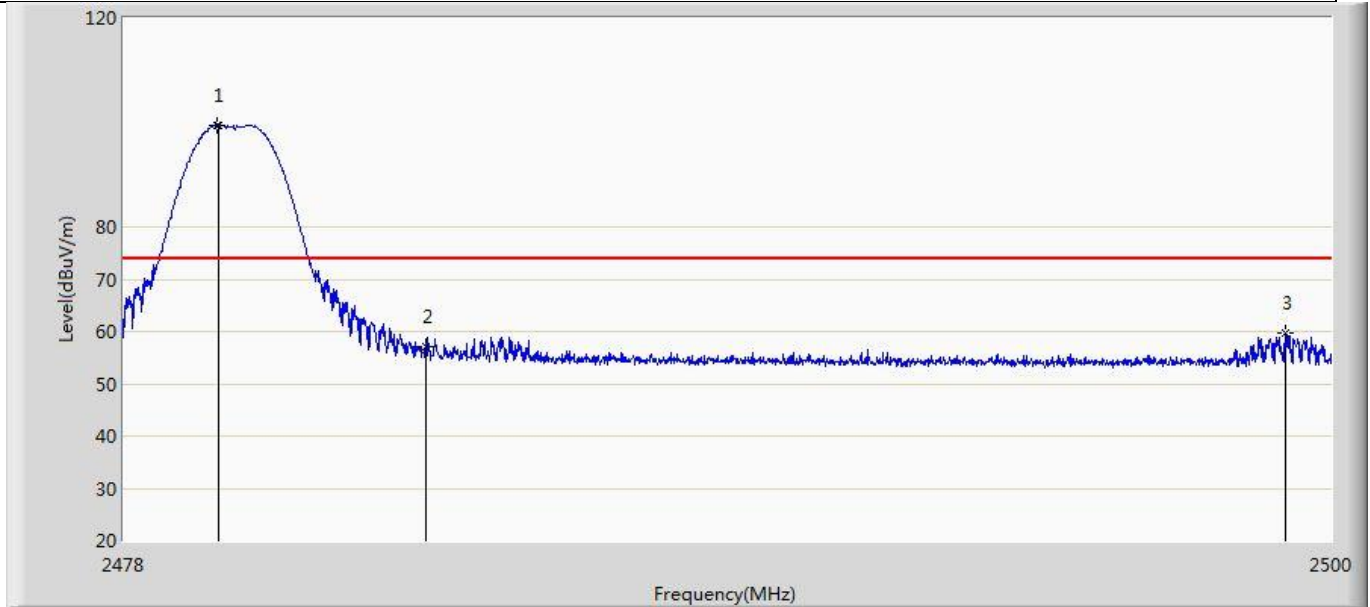
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	54.742	18.998	-19.258	74.000	35.745	PK
2	*	2401.437	100.024	63.998	26.024	74.000	36.026	PK
3		2401.437	100.024	63.998	26.024	74.000	36.026	PK

Profile: 2110634R	Page No.: 21
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz	



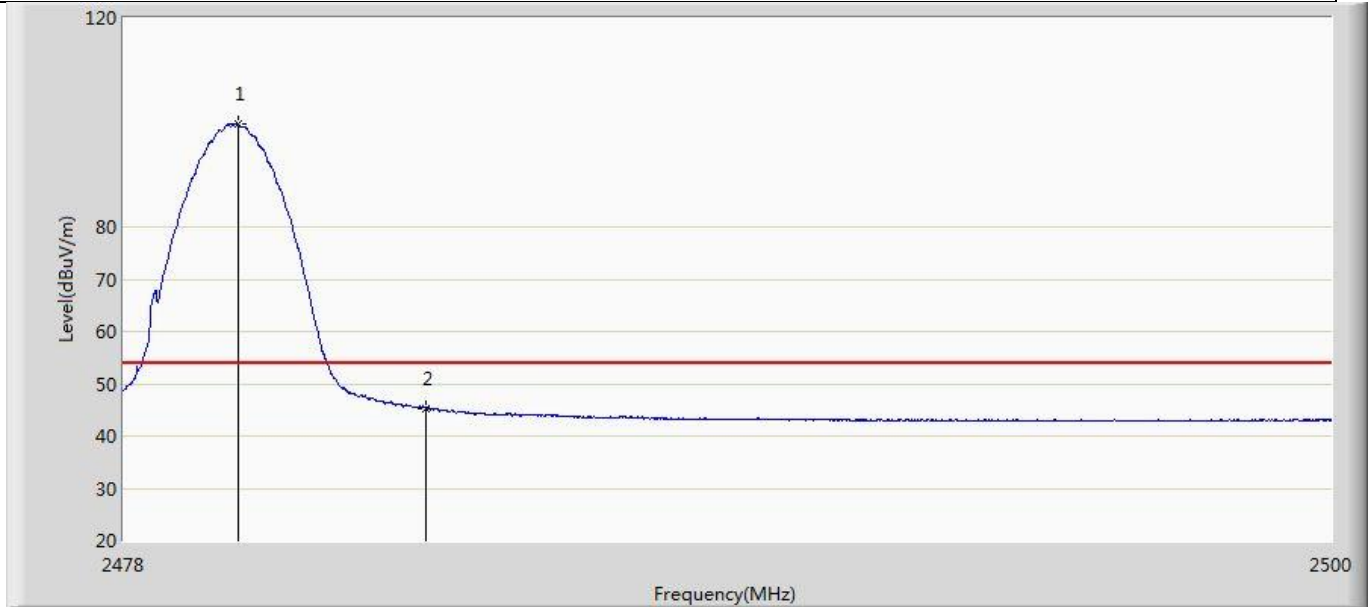
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.980	97.819	60.988	43.819	54.000	36.831	AV
2		2483.500	44.316	7.617	-9.684	54.000	36.699	AV

Profile: 2110634R	Page No.: 22
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz	



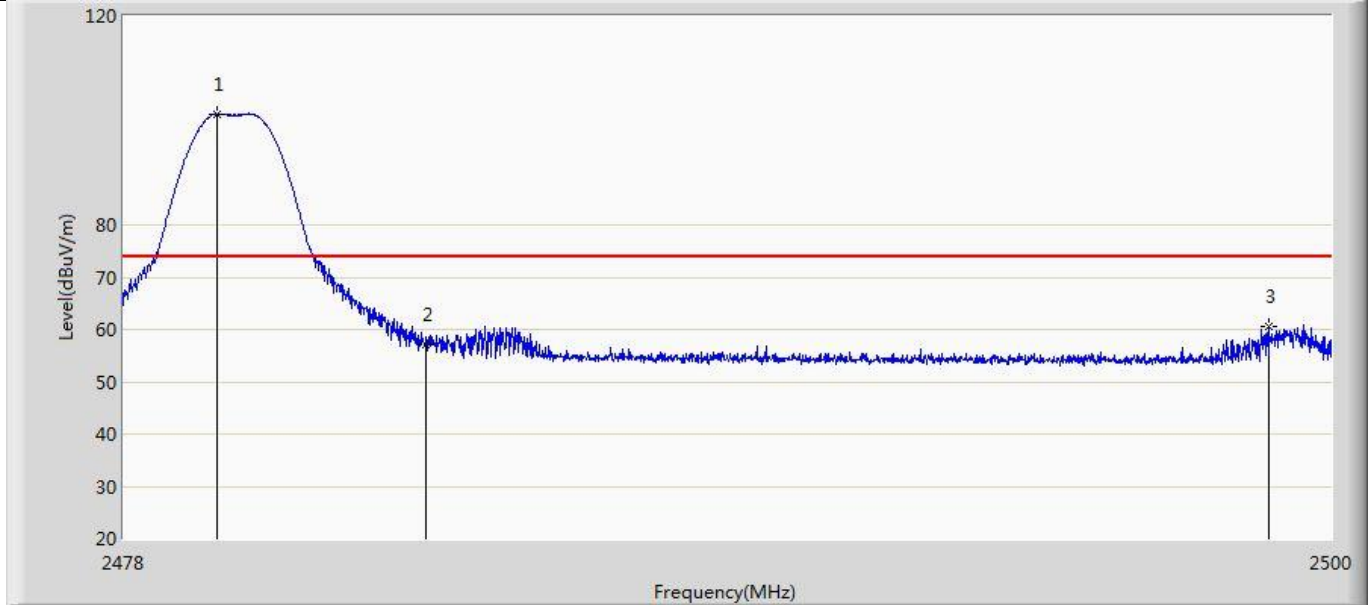
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.716	99.525	62.685	25.525	74.000	36.841	PK
2		2483.500	57.144	20.445	-16.856	74.000	36.699	PK
3		2499.175	59.688	23.374	-14.312	74.000	36.314	PK

Profile: 2110634R	Page No.: 23
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2480.079	99.833	63.006	45.833	54.000	36.827	AV
2		2483.500	45.257	8.558	-8.743	54.000	36.699	AV

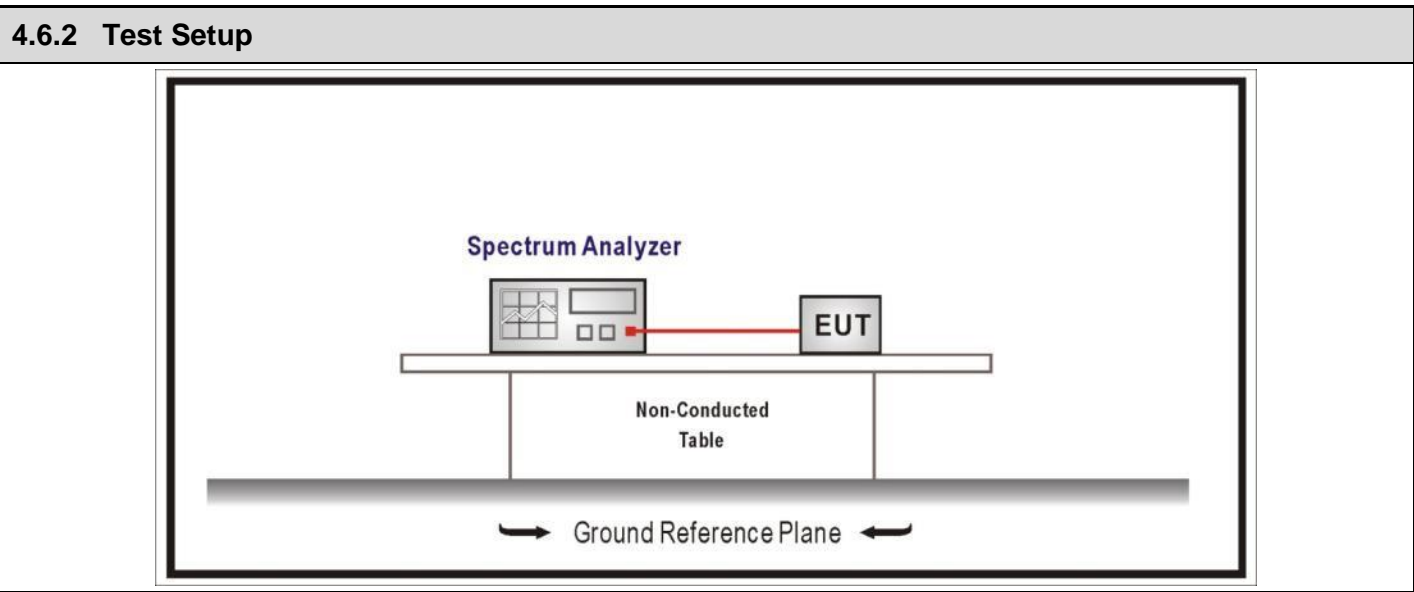
Profile: 2110634R	Page No.: 24
Engineer: Tongben	
Site: AC5	Time: 2021/02/28 - 12:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: LED lamp	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2480MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2479.705	101.281	64.440	27.281	74.000	36.841	PK
2		2483.500	57.233	20.534	-16.767	74.000	36.699	PK
3		2498.856	60.633	24.327	-13.367	74.000	36.305	PK

4.6 DTS Bandwidth	VERDICT: PASS
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4.6.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(2)
Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz	

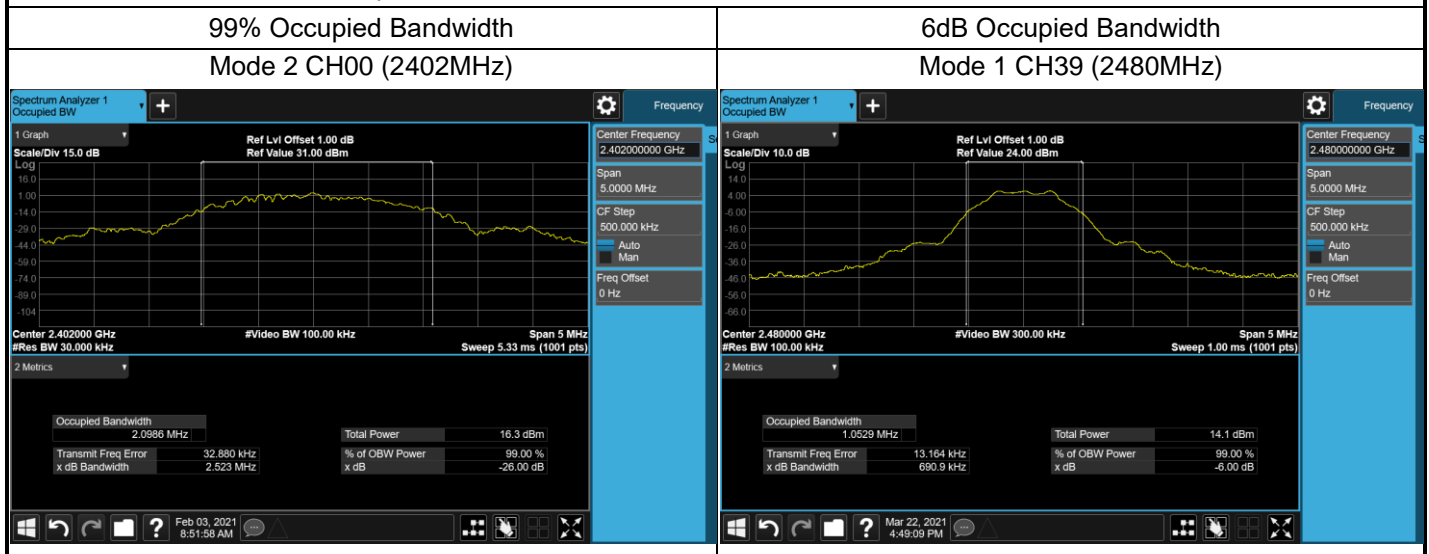


4.6.3 Test Procedure			
	Reference Rule	Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10	11.8	DTS bandwidth
<input type="checkbox"/>	ANSI C63.10	11.8.1	Option 1
<input checked="" type="checkbox"/>	ANSI C63.10	11.8.2	Option 2

4.6.4 Test Data

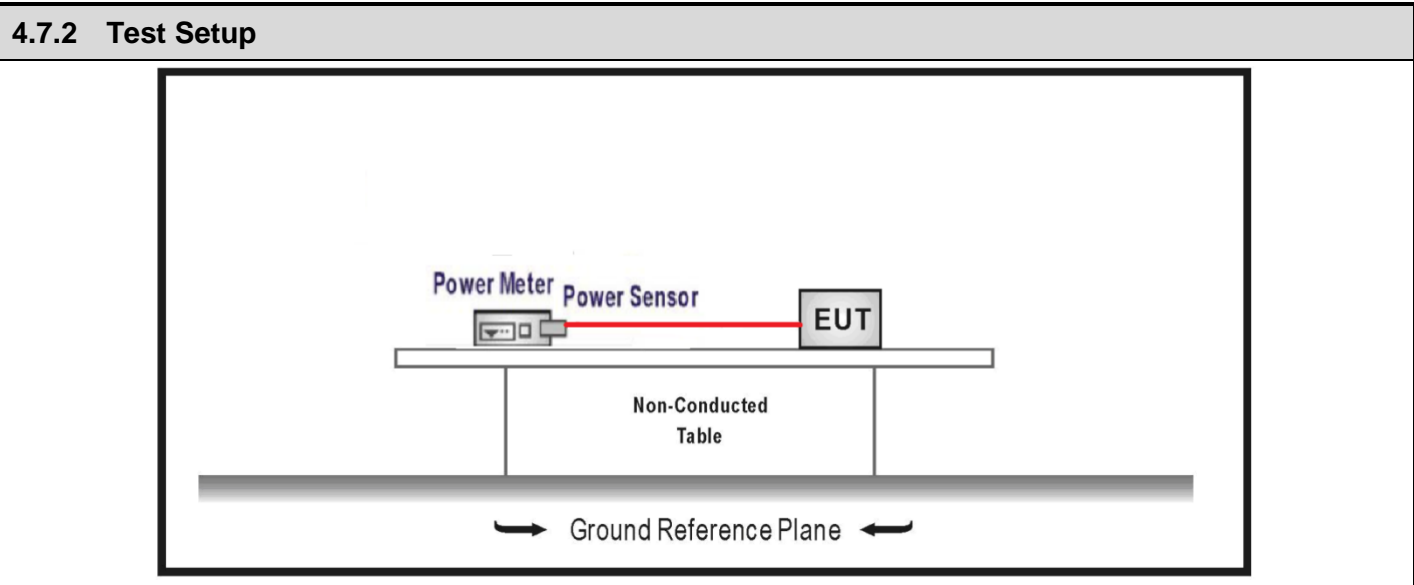
Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (kHz)	Limit	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
1	00	2402	1046.1	Within frequency band	696.9	>500	Pass
	19	2440	1046.6	Within frequency band	696.6	>500	Pass
	39	2480	1043.8	Within frequency band	690.9	>500	Pass
2	00	2402	2098.6	Within frequency band	1149	>500	Pass
	19	2440	2109.6	Within frequency band	1144	>500	Pass
	39	2480	2112.5	Within frequency band	1146	>500	Pass
3	00	2402	1076.3	Within frequency band	730	>500	Pass
	19	2440	1074.7	Within frequency band	726.3	>500	Pass
	39	2480	1073.5	Within frequency band	727.4	>500	Pass
4	00	2402	1126.8	Within frequency band	717.5	>500	Pass
	19	2440	1126.4	Within frequency band	736.2	>500	Pass
	39	2480	1123.6	Within frequency band	712.1	>500	Pass

Note : The worst case of Occupied Bandwidth as below:



4.7 Fundamental emission output power	VERDICT: PASS
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4.7.1 Limit			
Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)		
<input checked="" type="checkbox"/>	GTX < 6dBi	Pout ≤ 30dBm	
<input type="checkbox"/>	GTX > 6dBi		
<input type="checkbox"/>	Non-Fix point-point	Pout ≤ 30 - (GTX - 6)	
<input type="checkbox"/>	Fix point-point	Pout ≤ 30 - [(GTX - 6)]/3	
<input type="checkbox"/>	Point-to-multipoint	Pout ≤ 30 - (GTX - 6)	
<input type="checkbox"/>	Overlap Beams	Pout ≤ 30 - [(GTX - 6)]/3	
<input type="checkbox"/>	Aggregate power transmitted simultaneously on all beams	Pout ≤ 30 - [(GTX - 6)]/3	
<input type="checkbox"/>	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 .			



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

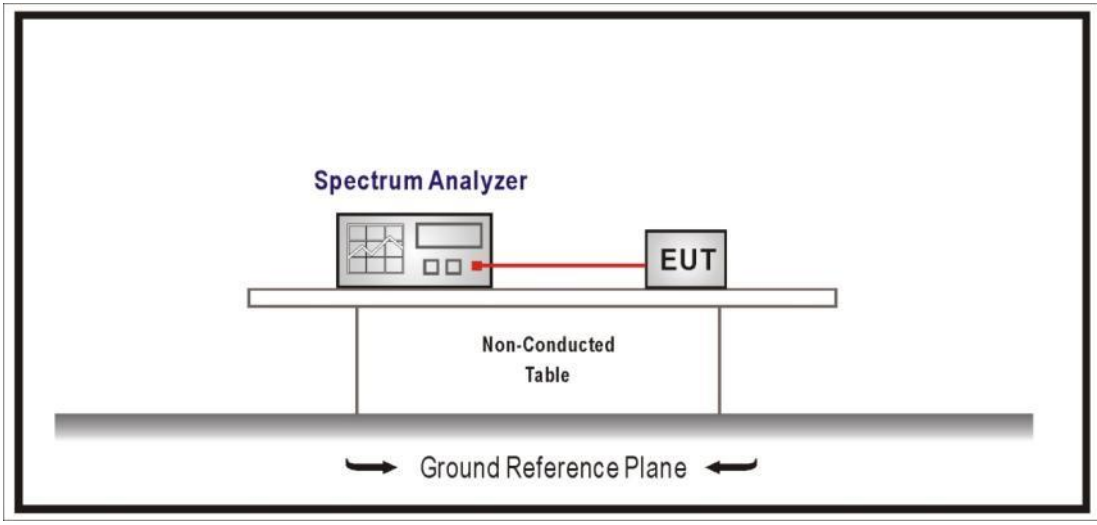
4.7.4 Test Data

Mode	Channel	Test Frequency (MHz)	Conducted Power (dBm)	EIRP (dBm)	Conducted Power Limit (dBm)	EIRP Limit (dBm)	Result
Mode 1	00	2402	8.63	7.13	≤30	≤36	Pass
	19	2440	8.83	7.33	≤30	≤36	Pass
	39	2480	8.70	7.2	≤30	≤36	Pass
Mode 2	00	2402	10.37	8.87	≤30	≤36	Pass
	19	2440	10.22	8.72	≤30	≤36	Pass
	39	2480	10.28	8.78	≤30	≤36	Pass
Mode 3	00	2402	8.97	7.47	≤30	≤36	Pass
	19	2440	9.13	7.63	≤30	≤36	Pass
	39	2480	9.05	7.55	≤30	≤36	Pass
Mode 4	00	2402	8.86	7.36	≤30	≤36	Pass
	19	2440	8.99	7.49	≤30	≤36	Pass
	39	2480	8.93	7.43	≤30	≤36	Pass

4.8 Power Density	VERDICT: PASS
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4.8.1 Limit:	
Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$	

4.8.2 Test Setup

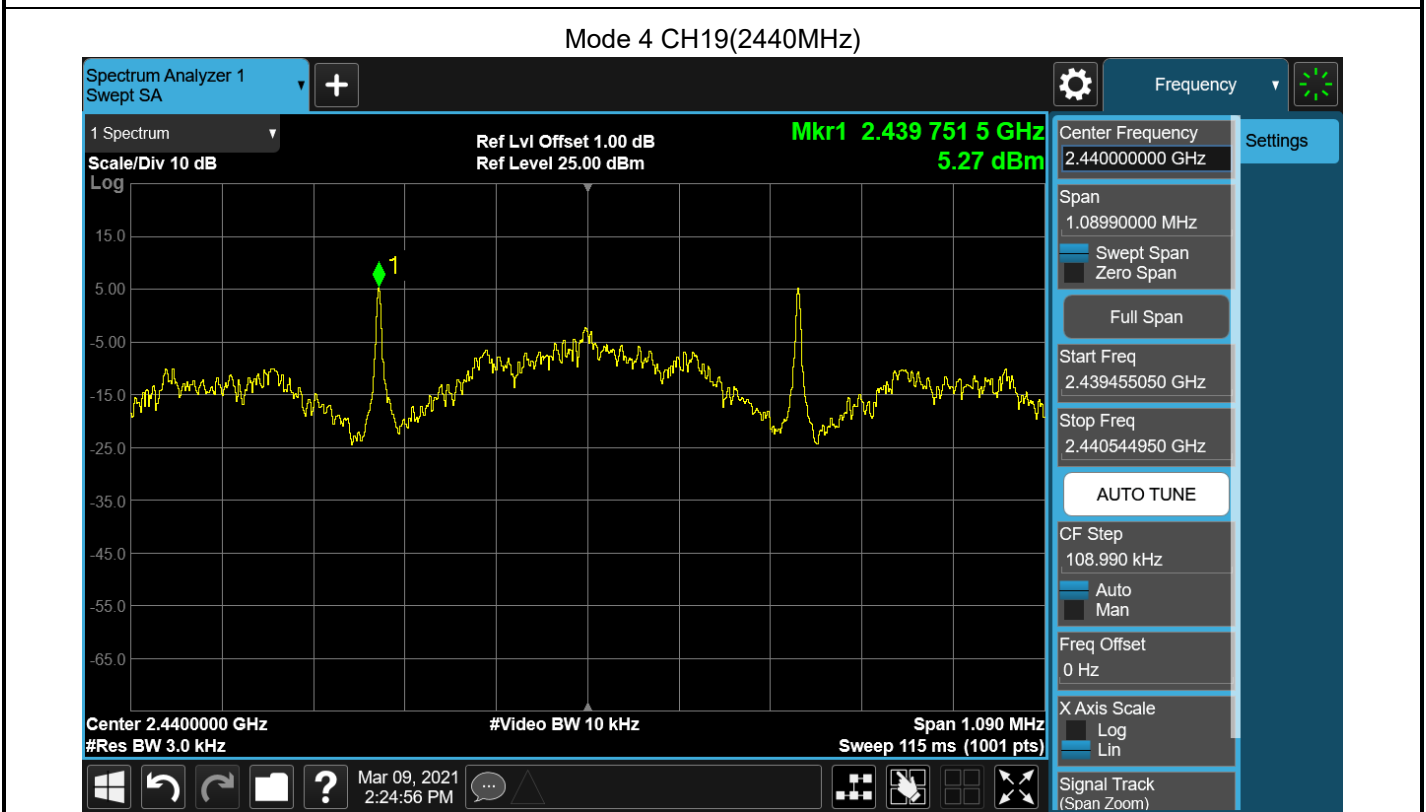


4.8.3 Test Procedure

	References Rule	Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10	11.10	Maximum power spectral density level in the fundamental emission
<input checked="" type="checkbox"/>	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
<input type="checkbox"/>	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle $\geq 98\%$)
<input type="checkbox"/>	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle $\geq 98\%$)
<input type="checkbox"/>	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle $< 98\%$)
<input type="checkbox"/>	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle $< 98\%$)
<input type="checkbox"/>	ANSI C63.10	11.10.7	Method AVGPSD-3
<input type="checkbox"/>	ANSI C63.10	11.10.8	Method AVGPSD-3A

4.8.4 Test Data					
Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Mode 1	00	2402	-4.26	≤8	Pass
	19	2440	-4.01	≤8	Pass
	39	2480	-4.13	≤8	Pass
Mode 2	00	2402	-5.68	≤8	Pass
	19	2440	-5.40	≤8	Pass
	39	2480	-5.59	≤8	Pass
Mode 3	00	2402	4.92	≤8	Pass
	19	2440	5.18	≤8	Pass
	39	2480	5.00	≤8	Pass
Mode 4	00	2402	5.14	≤8	Pass
	19	2440	5.27	≤8	Pass
	39	2480	5.12	≤8	Pass

Note : The worst case of PSD as below:



4.9 Antenna Requirement	VERDICT: PASS
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4.9.1 Limit:	
Standard	FCC Part 15 Subpart C Paragraph 15.203
<p>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.</p>	

4.9.2 Antenna Connector Construction:	
<input checked="" type="checkbox"/>	The use of a permanently attached antenna
<input type="checkbox"/>	The antenna use of a unique coupling to the intentional radiator
<input type="checkbox"/>	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document "Internal Photograph" to show the antenna connector.	

5 TEST SETUP PHOTO AND EUT PHOTO

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

_____ The End _____