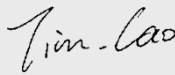
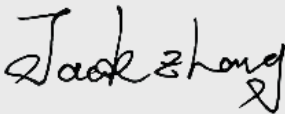


Test report No:
2280049R-RF-US-P06V01

FCC & ISED TEST REPORT

Product Name	Car Aroma Diffuser OlfaPure
Trademark	Philips
Model and /or type reference	OP7300
FCC ID	2A3TQ-OP7300
Applicant's name / address	Lumileds (Shanghai) Management Co., Ltd. 3rd Floor, No.19-20, Lane 299, Wen Shui Road, Jing An District.
Test method requested, standard	CFR 47, FCC Part 15 C ANSI C63.10: 2013
Verdict Summary	IN COMPLIANCE
Tested by (name / position & signature)	Tim Cao/Project Engineer 
Approved by (name / position & signature)	Jack Zhang/Manager 
Date of issue	2023-04-04
Report Version	V1.1
Report template No	Template_FCC 15.247-RF-V1.0

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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.

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)	Aug. 01, 2022
Date (start test)	Aug. 05, 2022
Date (finish test)	Sep. 30, 2022

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
2280049-RF-US-P06V01	V1.0	Initial issue of report.	2023-02-20
2280049-RF-US-P06V01	V1.1	1. Page1/Page10 Modify the address of the applicant, 2. Page 7~8, modify the equipment calibration date. 3. Add test data transmitted in unrestricted bands/DTS bandwidth/power spectral density. V1.0 has expired.	2023-04-04

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, ANSI C63.10.
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	100726	2021.10.30	2022.10.29
Two-Line V-Network	R&S	ENV216	101044	2022.03.12	2023.03.11
Current Probe	R&S	EZ-17	100678	2022.01.14	2023.01.13
50ohm Termination	SHX	TF2	7081403	2022.03.13	2023.03.12
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Coaxial Cable	Suhner	RG 223	TR1-C2	2022.03.30	2023.03.29
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2022.07.07	2023.07.06
Dekra test software	Dekra	-	-	-	-

Conducted Test/ TR8

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Wireless Connectivity Tester	R&S	CMW 270	102593	2022.05.21	2023.05.20
Coaxial Cable	N/A	N/A	2189	2022.06.09	2023.06.08
High and low temperature and fast temperature change test box	ASTUOD	ASTD-FBT-225K	N/A	2022.08.04	2023.08.03
Temperature/Humidity Meter	RTS	RTS-8S	RF08	2022.07.07	2023.07.06
Test system					
4TX MIMO Power Sensor	Keysight	X8750A	MY59400102	2022.03.16	2023.03.15
MAX Signal Analyzer	Keysight	N9020B	MY59050482	2022.07.17	2023.07.16
Switch Box	Keysight	X8749A	N/A	N/A	N/A
High and low temperature and fast temperature change test box	ASTUOD	ASTD-FBT-225K	N/A	2022.07.14	2023.07.13
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY61252529	2022.07.14	2023.07.13
Frequency extender for EXG or MXG	Keysight	N5182BX07	MY59362500	2022.07.14	2023.07.13
EXG-B MW Analog Signal Generator	Keysight	N5173B	MY61252566	2022.06.28	2023.06.27

Radiated Emission(30MHz-1GHz) / AC3

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100176	2022.07.10	2023.07.09
Loop Antenna	R&S	HFH2-Z2	833799/003	2022.04.15	2023.04.14
Bilog Antenna	Teseq GmbH	CBL6112D	27613	2022.08.02	2023.08.01
Coaxial Cable	Huber+Suhner	RG 214	AC3-C	2022.03.30	2023.03.29
Temperature/Humidity Meter	RTS	RTS-8S	AC3-TH	2021.11.23	2022.11.22
Dekra test software	Dekra	-	-	-	-

Radiated Emission(1GHz-40GHz) / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2022.07.14	2023.07.13
Pre-Amplifier	SKET	LNPA_0118G-45	SK2021041201	2022.04.15	2023.04.14
Preamplifier	CHENGYI	EMC184045SE	980263	2022.07.19	2023.07.18
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2022.07.29	2023.07.28
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2022.05.19	2023.05.18
High-Pass Filter	Wainwright	WHKX3.0/18G-12SS	81	2022.06.07	2023.06.06
High-Pass Filter	Wainwright	SHWHPF-09002300S	202204180014	2022.06.11	2023.06.10
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	27	2022.06.07	2023.06.06
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2022.05.22	2023.05.21
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2022.05.22	2023.05.21
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2022.05.22	2023.05.21
High-Pass Filter	Wainwright	WHKX3.0/18G-12SS	AC5&AC6	2022.06.07	2023.06.06
Temperature/Humidity Meter	RTS	RTS-8S	AC5-TH	2022.07.07	2023.07.06
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 Horizontal: 18GHz~26.5GHz: 4.70 dB Vertical: 18GHz~26.5GHz: 4.60 dB
RF antenna conducted test	± 1.27 dB
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	± 150 Hz
Occupied Bandwidth	± 150 Hz
Power Density	± 1.27 dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name..... :	Car Aroma Diffuser OlfaPure
Model No. :	OP7300
FCC ID :	2A3TQ-OP7300
Hardware Version :	1.3
Software Version..... :	V1.1.6
Manufacturer..... :	Lumileds (Shanghai) Management Co., Ltd.
Manufacturer Address..... :	3rd Floor, No.19-20, Lane 299, Wen Shui Road, Jing An District.
Factory :	Arts Electronics Co. Ltd.
Address :	No.1, Shang Xing Road, Shangjiao Community, Chang' an Town, DG

Wireless specification..... :	BLE
Operating frequency range(s)..... :	2400~2483.5MHz
Type of Modulation..... :	GFSK
PHYs :	☒ LE 1M ☒ LE 2M ☐ LE Coded S=2/8
Data Rate :	☒ 1Mbit/s ☒ 2Mbit/s ☐ 500/125 Kbit/s
Number of channel..... :	40
Operating Temperature Range..... :	-20℃~50℃

Rated power supply	Voltage and Frequency	
	☐	AC: 220-240 V, 50/60 Hz, 8.5W/11.5W
	☐	AC: 100 - 240 V, 50/60 Hz
	☒	DC: 5 V
	☐	Battery:
	☐	Adapter: 5Vdc
Brand of adapter	N/A	
Adapter model	N/A	
Mounting position..... :	☐	Table top equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☐	Hand-held/portable equipment
	☒	Other: In-vehicle equipment

1.2 Antenna Information

Antenna Delivery	☒	1TX + 1RX		
	☐	2TX + 2RX		
	☐	Others:.....		
Antenna technology.....	☒	SISO		
	☐	MIMO	☐	CDD
			☐	Beam-forming
Antenna Type.....	☐	External	☐	Dipole
			☐	Sectorized
	☒	Internal	☐	PIFA
			☒	FPC
			☐	Dipole
			☐	Others.....
Antenna Gain	-0.58dBi			

1.3 Channel List

BLE 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 , antenna information and Channel List for the EUT 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 BLE	Mode 1: Transmit by LE_1Mbps
	Mode 2: Transmit by LE_2Mbps

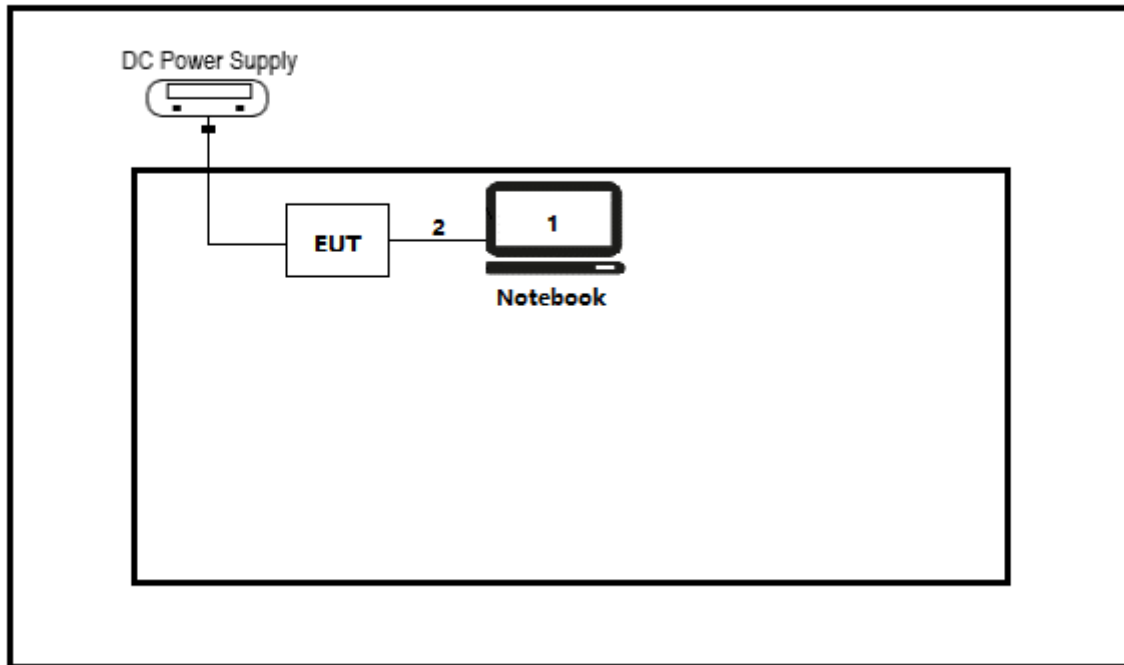
2.2 Accessories Information

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
(1) Notebook	Think pad x220	Lenovo	Adapter
(2) USB Control Cable	N/A	N/A	N/A
(3) USB Control Cable	N/A	N/A	N/A
software	Type / Version	Manufacturer	Supplied by
BK_BLE_ Tester	N/A	N/A	N/A

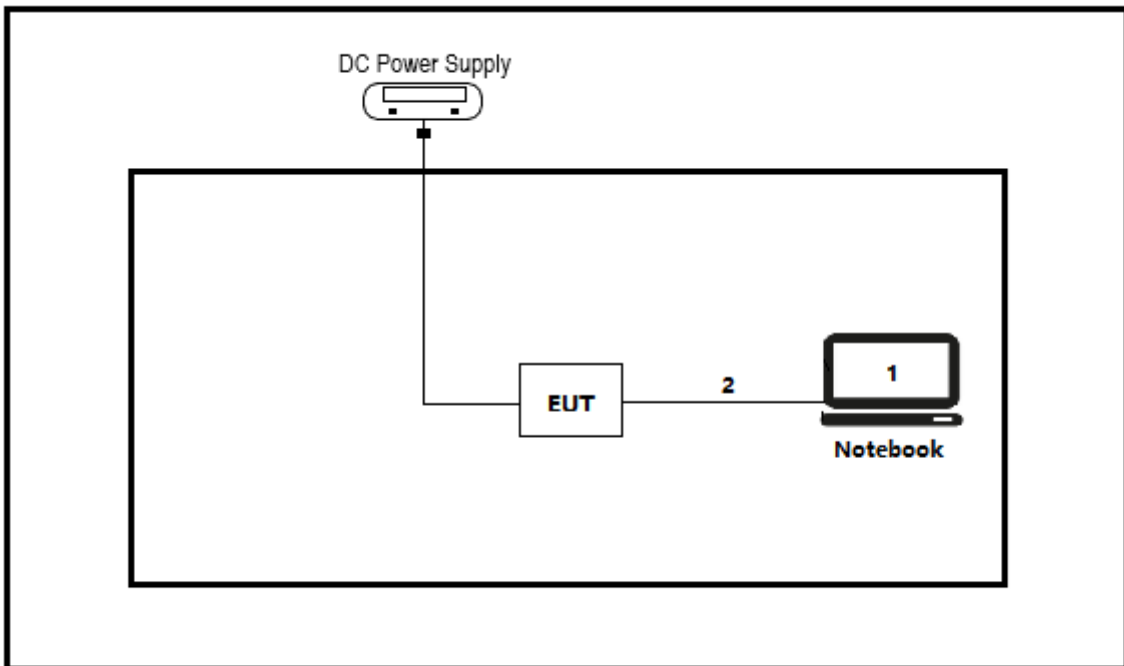
Accessories Information	Cable		
	Length used during test [m]	Attached during test	Shielded
(2)USB Control Cable	1	☒	☒
(3)USB Control Cable	10	☒	☒

2.3 Test Configuration / Block diagram used for tests

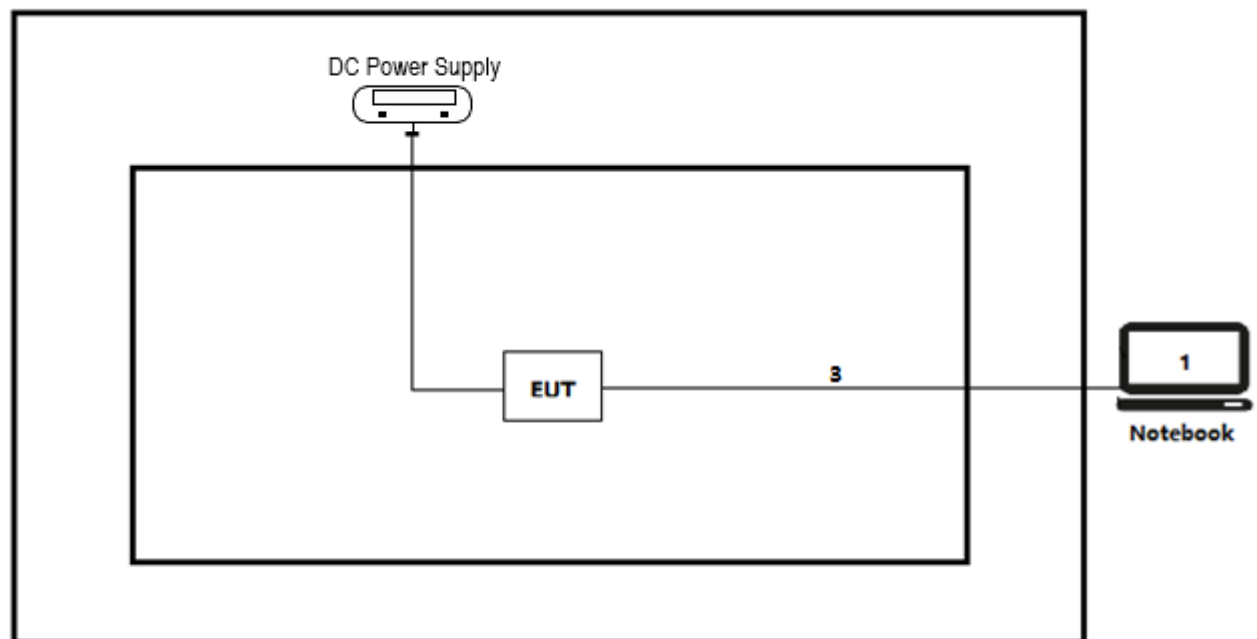
Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Conducted test



Test setup Diagram- Ratiated test



2.4 Testing process

1	Setup the EUT as shown in Section 2.4.
2	Run the software “BK_BLE_ Tester” on the notebook computer.
3	Open the serial port and enter the corresponding commands to configure the test mode, test channel, test power and 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

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	Test data please refer to Appendix A
Emissions in restricted frequency bands	FCC 15.247(b)(3)	PASS	Test data please refer to Appendix B
Emissions in non-restricted frequency bands	FCC 15.247(d), FCC 15.209	PASS	Test data please refer to Appendix C
Duty cycle	ANSI C63.10:2013	PASS	Test data please refer to Appendix D
Band Edge	FCC 15.247(d)	PASS	Test data please refer to Appendix E
Fundamental emission output power	FCC 15.247(d), FCC 15.209	PASS	Test data please refer to Appendix F
DTS Bandwidth	FCC 15.247(a)(2)	PASS	Test data please refer to Appendix G
Power Spectral Density	FCC 15.247(e)	PASS	Test data please refer to Appendix H
Antenna Requirement	FCC 15.203	PASS	---

3.4 Power setting in test

Mode	Channel	Frequency (MHz)	Power setting
LE_1Mbps	00	2402	0
	19	2440	0
	39	2480	0
LE_2Mbps	00	2402	0
	19	2440	0
	39	2480	0

3.5 Test Matrix

Test item	9290036010		
	1(#1)	2(#2)	3(#3)
AC Power Line Conducted Emission	☐	☐	☒
Emissions in restricted frequency bands	☒	☐	☐
Duty cycle	☒	☐	☐
Emissions in non-restricted frequency bands	☐	☒	☐
Band Edge	☐	☒	☐
Fundamental emission output power	☒	☐	☐
DTS Bandwidth	☒	☐	☐
Power Spectral Density	☒	☐	☐
Antenna Requirement	☒	☐	☐

3.6 Test Facility

USA : FCC Designation Number: CN1199

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

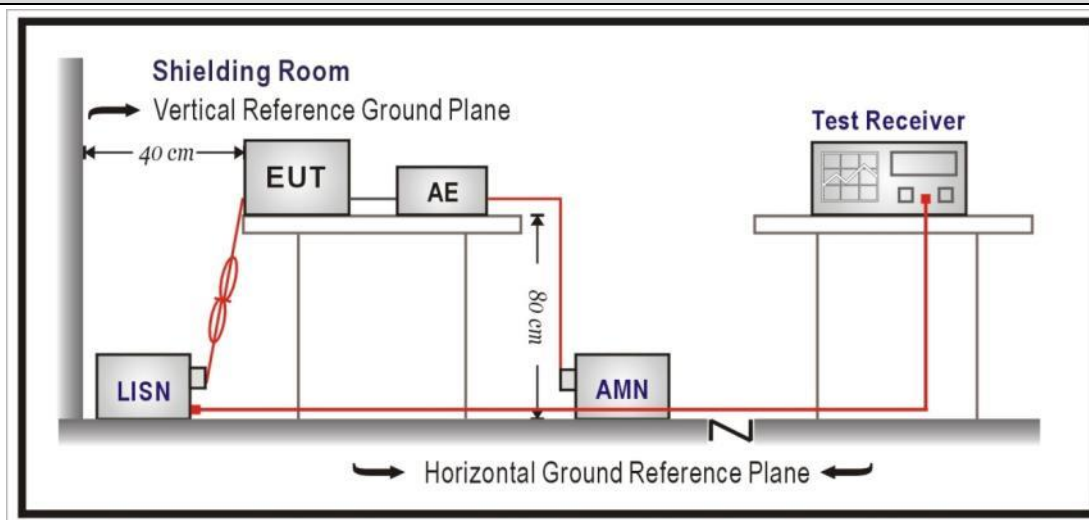
¹⁾ At the transition frequency, the lower limit applies.

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

4.2 Emissions in restricted frequency bands**VERDICT: PASS****4.2.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.209
-----------------	--

Restricted Bands of operation for FCC

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

Restricted 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)

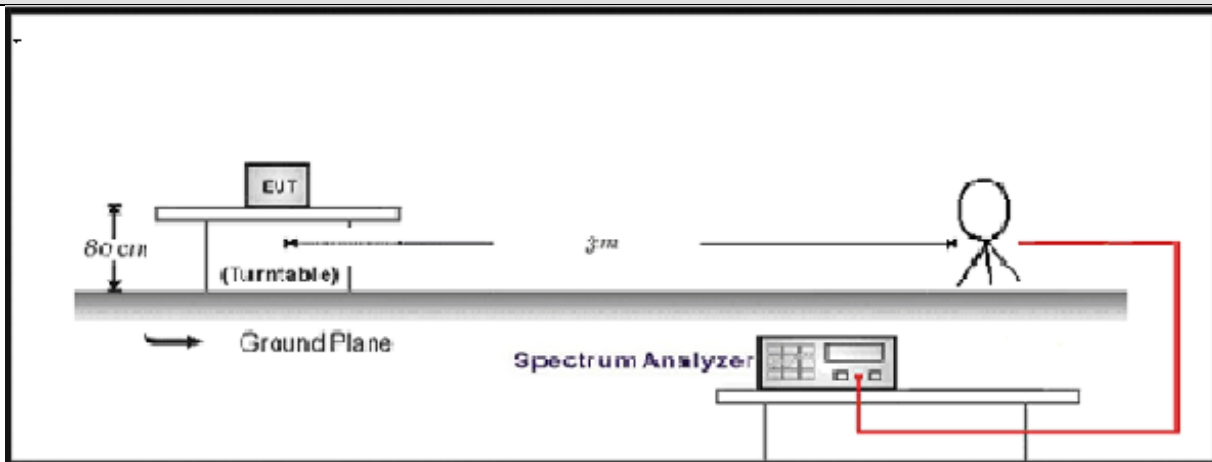
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed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

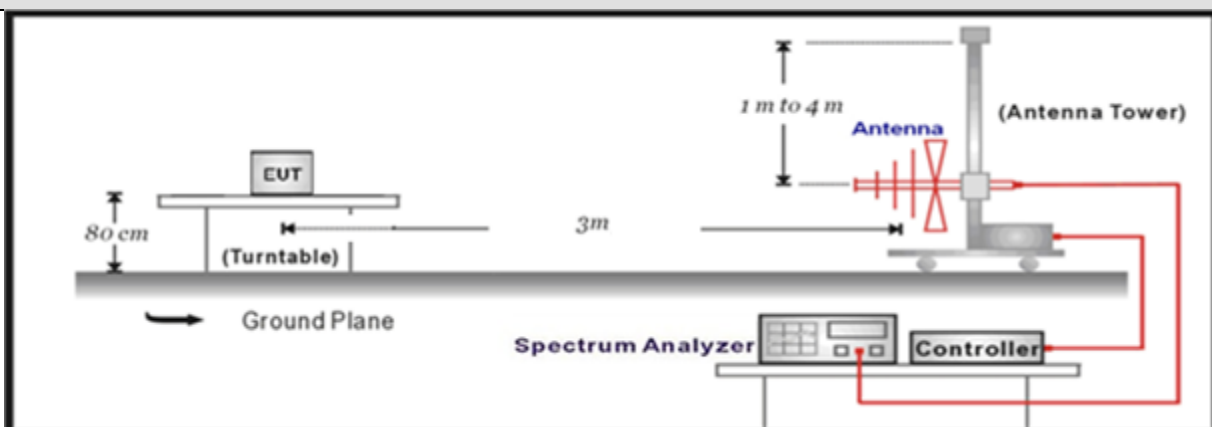
Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified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

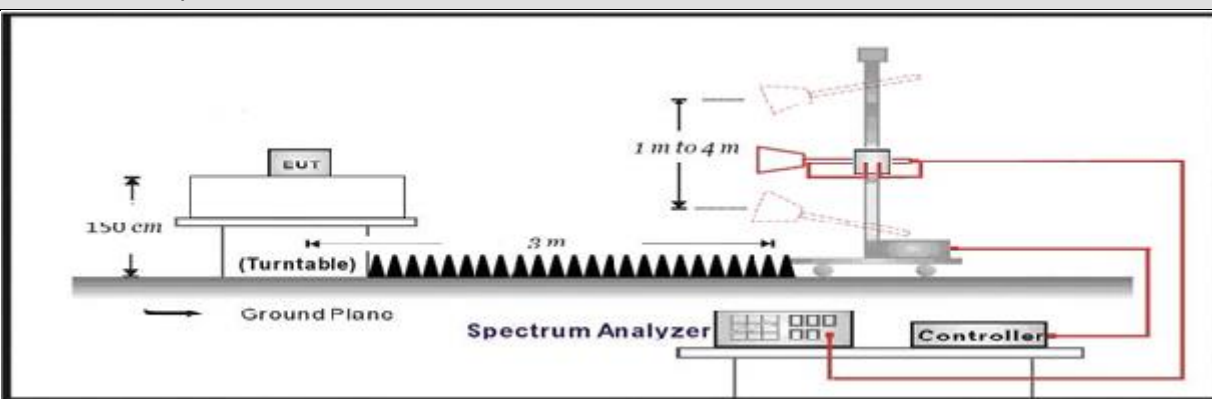
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.2.3 Test Procedure

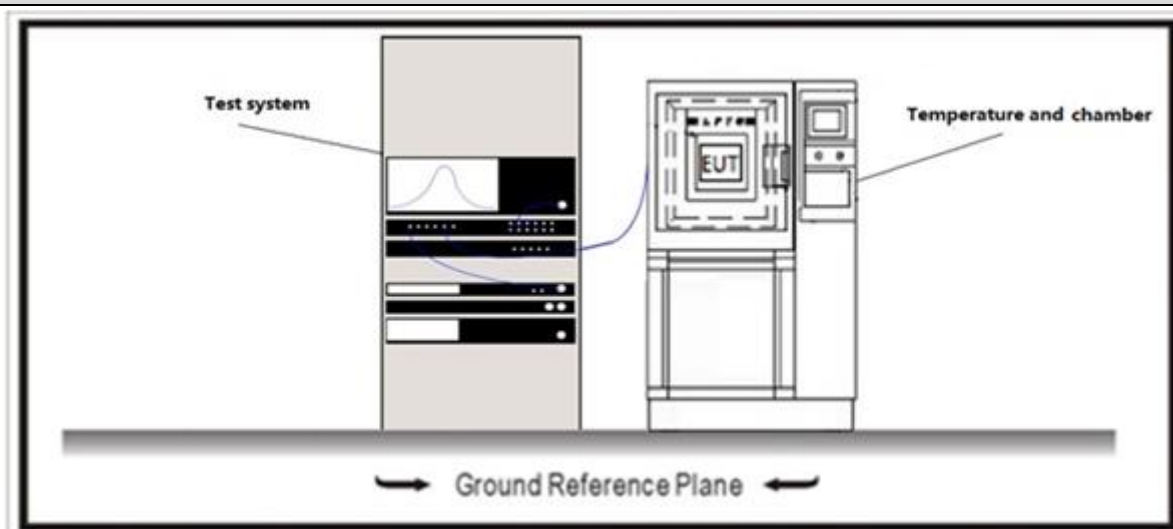
	References Rule		Chapter	Description
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10	11.12.1	Radiated emission measurements
	☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test
	☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒	ANSI 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

4.3 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).

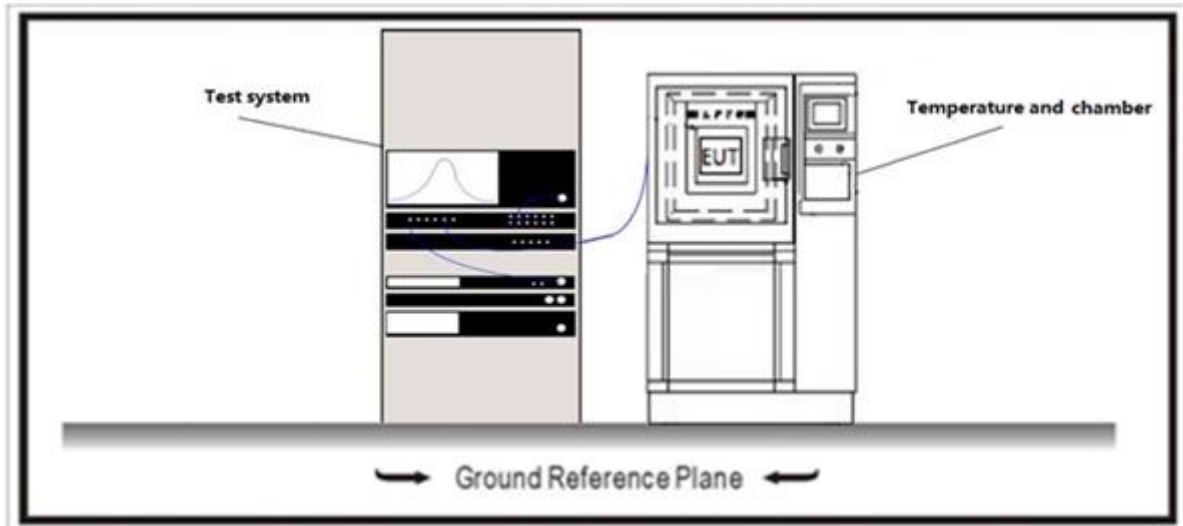
Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).

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

4.4 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

4.5 Band Edge

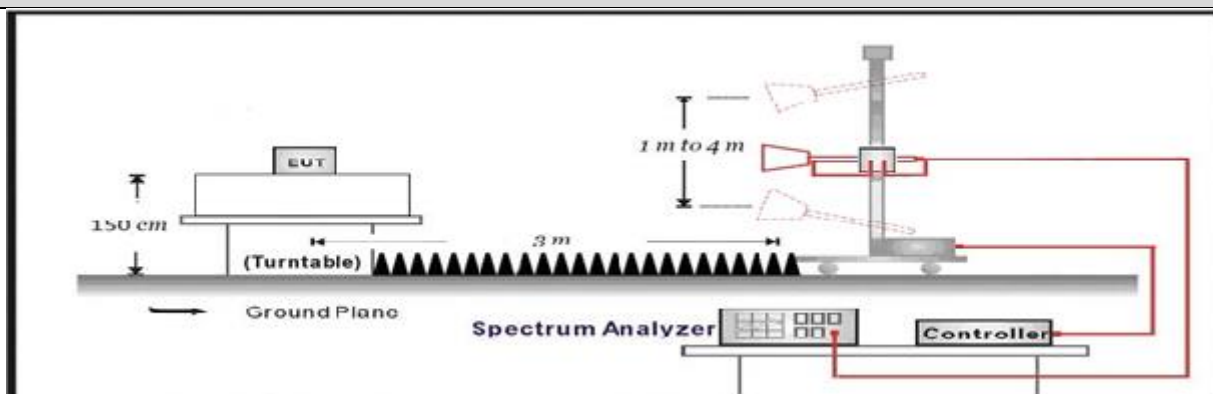
VERDICT: PASS

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	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



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	11.12.2	Antenna-port conducted measurements
	☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
	☒	ANSI C63.10	11.12.2.4	Peak power measurement procedure
	☒	ANSI C63.10	11.12.2.5	Average power measurement procedures

4.6 DTS Bandwidth

VERDICT: PASS

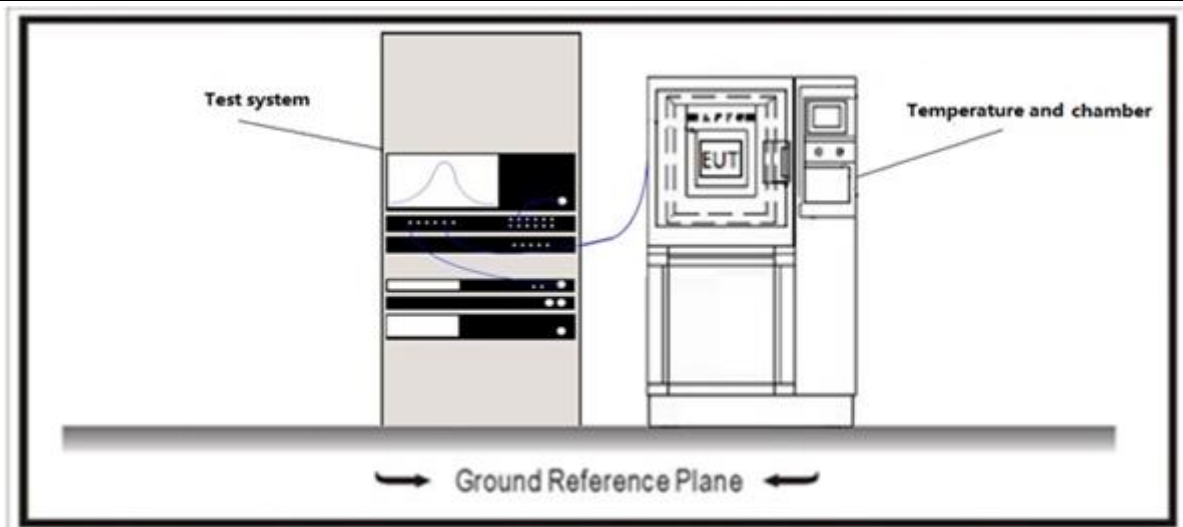
4.6.1 Limit

Standard

FCC Part 15 Subpart C Paragraph 15.247 (a)(2)

Systems using digital modulation techniques operate in the 2400-2483.5 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

4.7 Fundamental emission output power

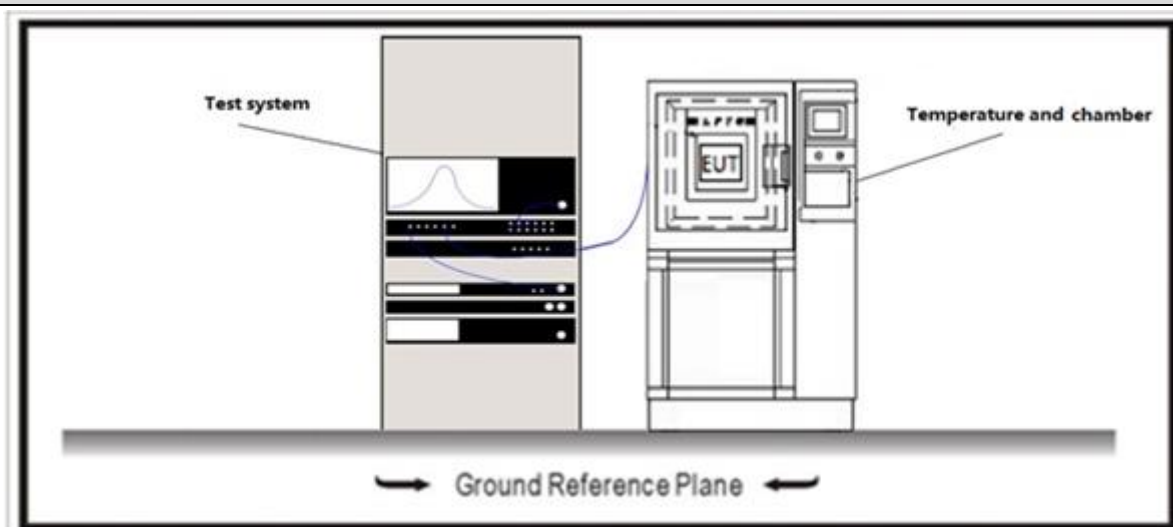
VERDICT: PASS

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 $\geq$ 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 $\geq 98\%$)
		☐	ANSI C63.10	11.9.2.2.3 Method AVGSA-1A(Duty cycle $\geq 98\%$)
		☐	ANSI C63.10	11.9.2.2.4 Method AVGSA-2(Duty cycle $\leq 98\%$)
		☐	ANSI C63.10	11.9.2.2.5 Method AVGSA-2A(Duty cycle $\leq 98\%$)
		☐	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

4.8 Power Spectral Density

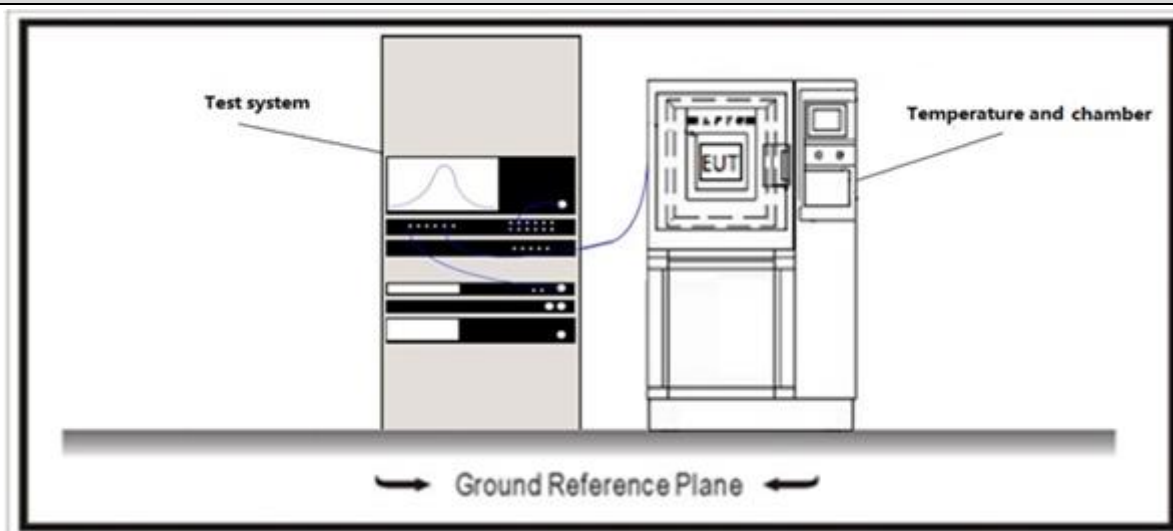
VERDICT: PASS

4.8.1 Limit:

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

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 $\geq 98\%$)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle $\geq 98\%$)
	☒	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

4.9 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 |

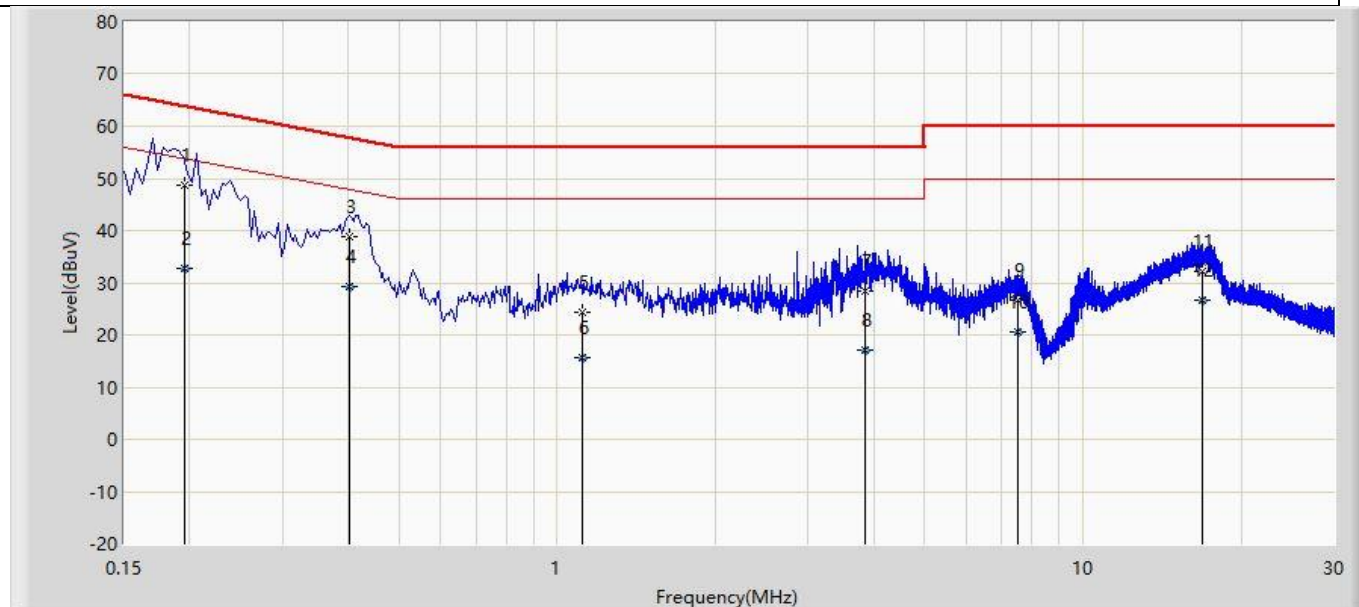
Please refer to the attached document "Internal Photograph" to show the antenna connector.

5 TEST SETUP PHOTO AND EUT PHOTO

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

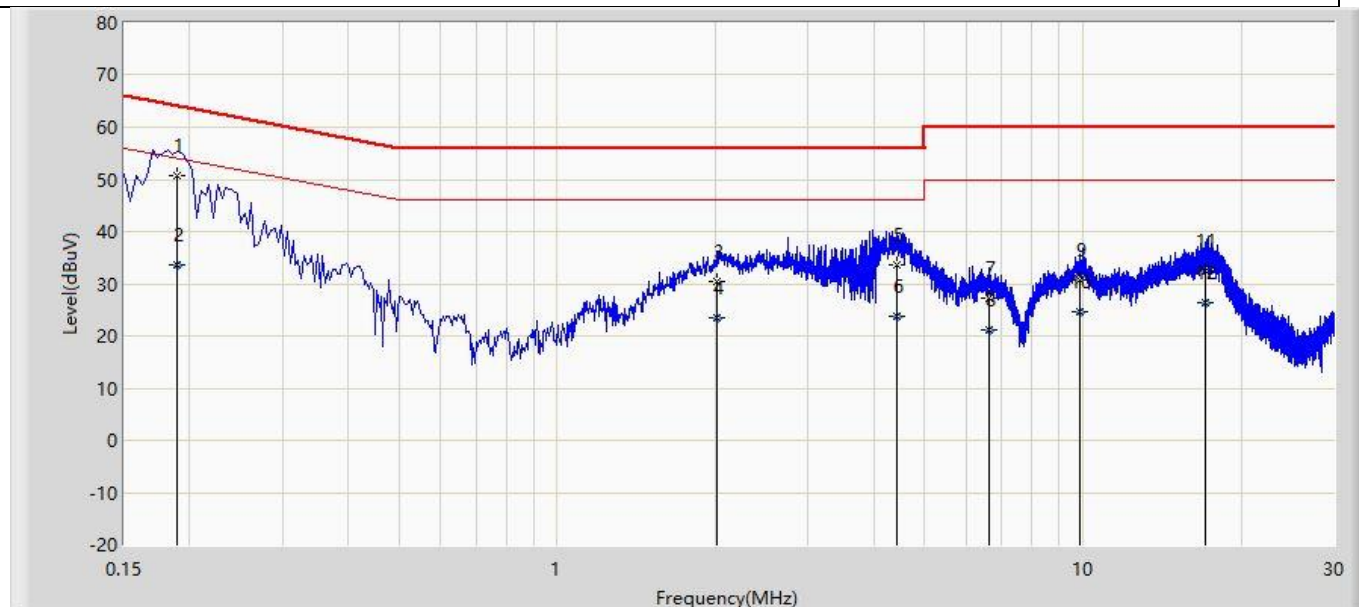
6 TEST RESULT-APPENDIX A: AC POWER LINE CONDUCTED EMISSION

Profile: 2280049R	Page No.: 89
Engineer: Noah	
Site: TR1	Time: 2022/09/15
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2402MHz by LE_1Mbps	



N o	Mar k	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.196	48.837	39.260	-14.959	63.796	9.577	QP
2		0.196	32.834	23.257	-20.962	53.796	9.577	AV
3		0.402	38.869	29.255	-18.943	57.812	9.613	QP
4		0.402	29.178	19.565	-18.634	47.812	9.613	AV
5		1.114	24.225	14.577	-31.775	56.000	9.648	QP
6		1.114	15.632	5.985	-30.368	46.000	9.648	AV
7		3.846	28.505	18.740	-27.495	56.000	9.766	QP
8		3.846	16.962	7.197	-29.038	46.000	9.766	AV
9		7.502	26.540	16.617	-33.460	60.000	9.923	QP
10		7.502	20.543	10.620	-29.457	50.000	9.923	AV
11		16.886	32.246	22.051	-27.754	60.000	10.194	QP
12		16.886	26.544	16.350	-23.456	50.000	10.194	AV

Profile: 2280049R	Page No.: 90
Engineer: Noah	
Site: TR1	Time: 2022/09/15
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2402MHz by LE_1Mbps	



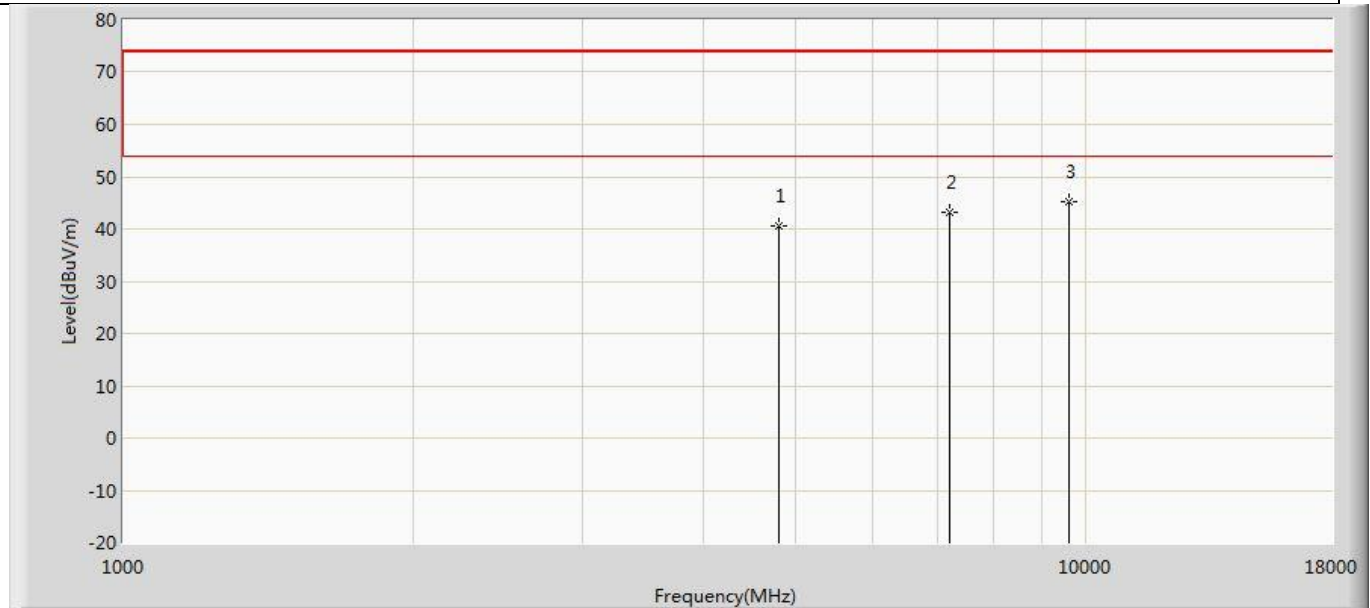
N o	Mar k	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.189	50.592	41.005	-13.480	64.072	9.587	QP
2		0.189	33.575	23.988	-20.497	54.072	9.587	AV
3		2.010	30.527	20.853	-25.473	56.000	9.674	QP
4		2.010	23.416	13.742	-22.584	46.000	9.674	AV
5		4.418	33.592	23.801	-22.408	56.000	9.791	QP
6		4.418	23.810	14.019	-22.190	46.000	9.791	AV
7		6.614	27.104	17.214	-32.896	60.000	9.890	QP
8		6.614	21.143	11.253	-28.857	50.000	9.890	AV
9		9.842	30.644	20.634	-29.356	60.000	10.010	QP
10		9.842	24.608	14.598	-25.392	50.000	10.010	AV
11		17.086	32.416	22.242	-27.584	60.000	10.174	QP
12		17.086	26.475	16.302	-23.525	50.000	10.174	AV

Note:

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

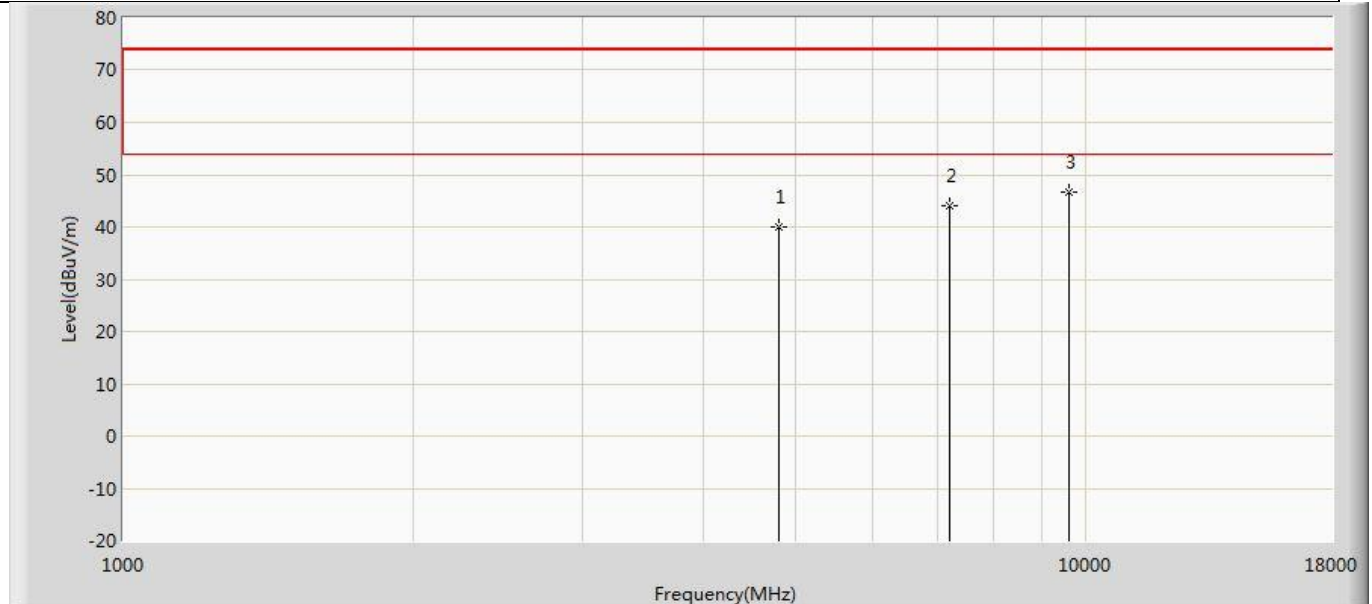
7 TEST RESULT-APPENDIX B: EMISSIONS IN RESTRICTED FREQUENCY BANDS

Profile: 2280049R	Page No.: 13
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2402MHz by LE_1Mbps	



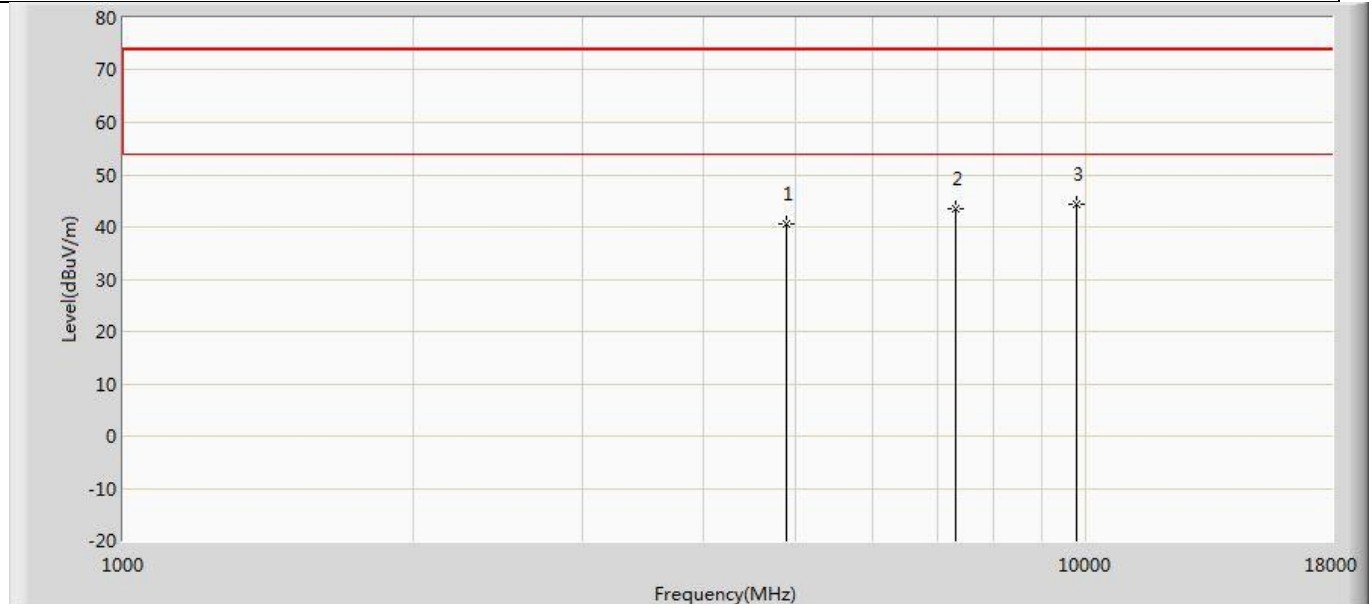
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.632	41.867	-33.368	74.000	-1.235	PK
2		7206.000	43.309	40.835	-30.691	74.000	2.474	PK
3	*	9608.000	45.298	41.656	-28.702	74.000	3.643	PK

Profile: 2280049R	Page No.: 14
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2402MHz by LE_1Mbps	



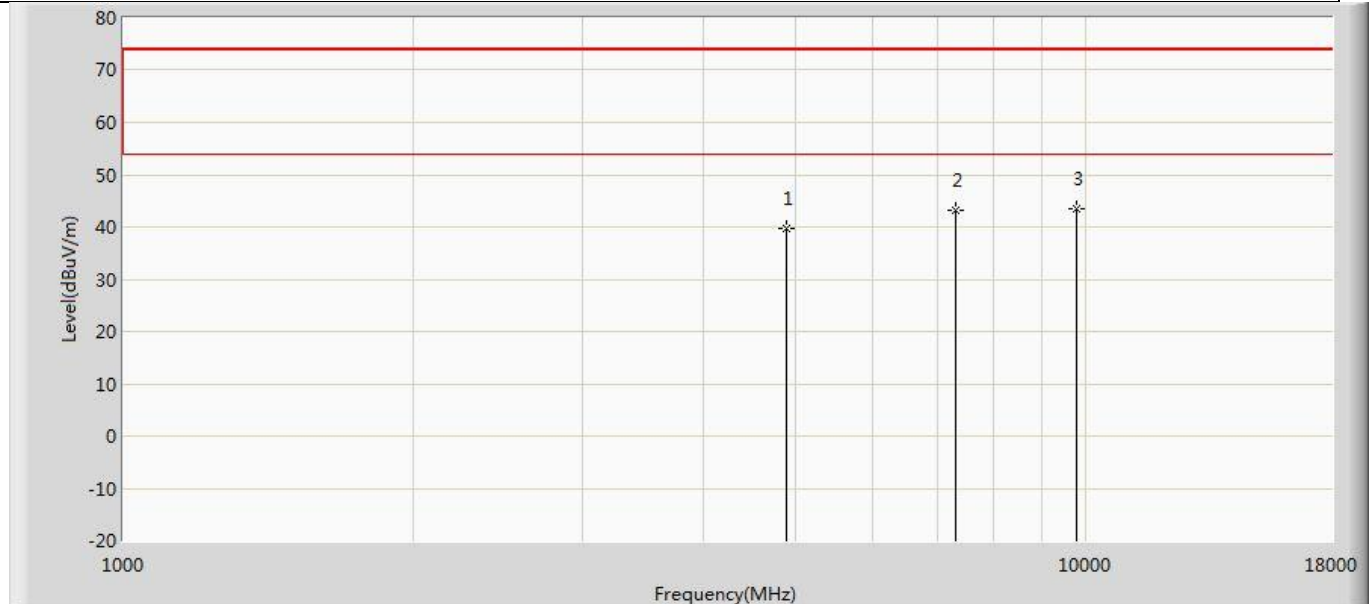
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.970	41.205	-34.030	74.000	-1.235	PK
2		7206.000	43.916	41.442	-30.084	74.000	2.474	PK
3	*	9608.000	46.640	42.998	-27.360	74.000	3.643	PK

Profile: 2280049R	Page No.: 15
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2440MHz by LE_1Mbps	



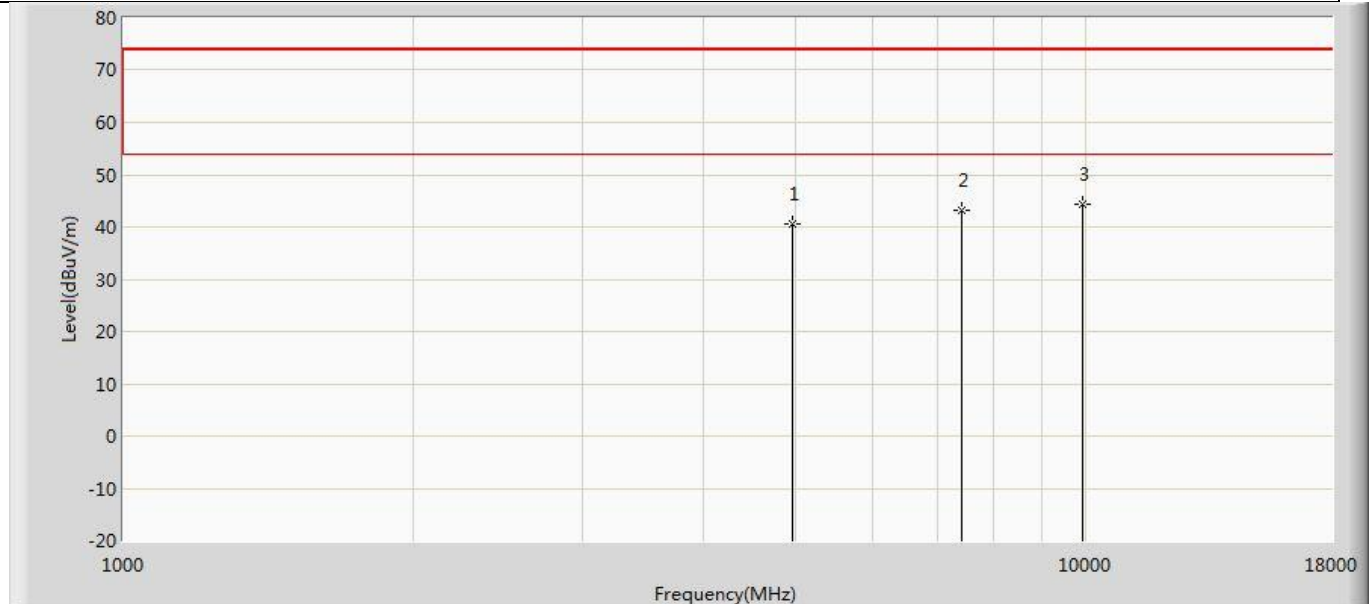
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.511	41.402	-33.489	74.000	-0.892	PK
2		7320.000	43.559	41.062	-30.441	74.000	2.498	PK
3	*	9760.000	44.347	39.993	-29.653	74.000	4.354	PK

Profile: 2280049R	Page No.: 16
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2440MHz by LE_1Mbps	



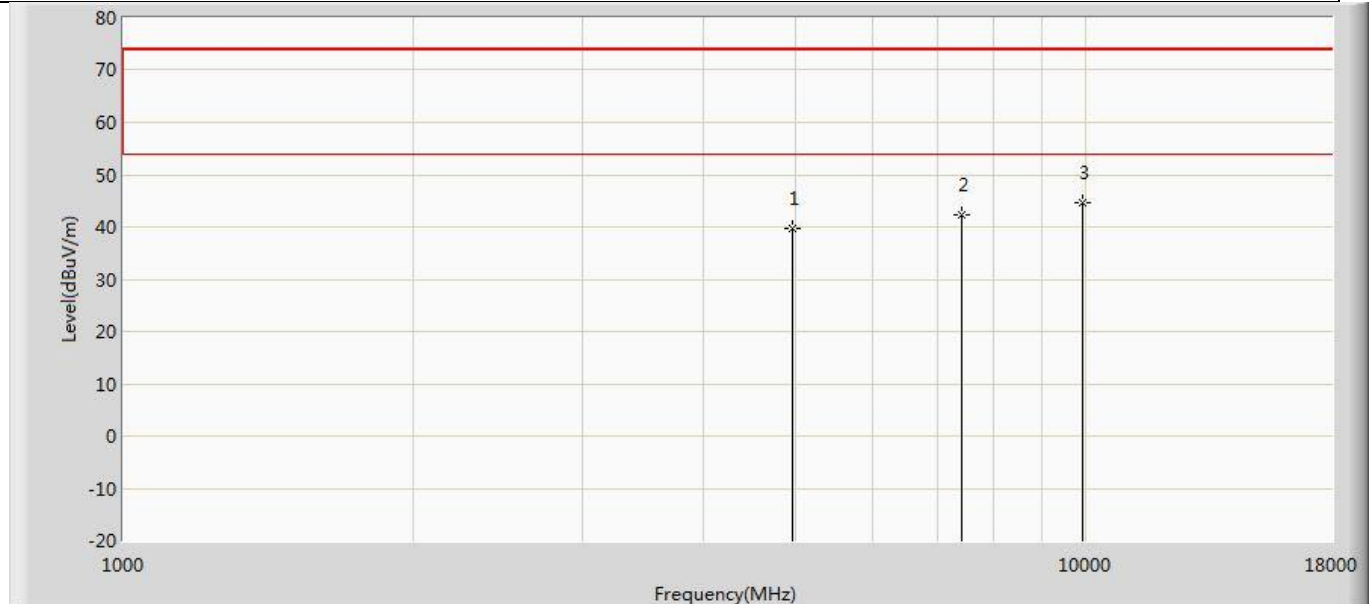
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	39.697	40.588	-34.303	74.000	-0.892	PK
2		7320.000	43.230	40.733	-30.770	74.000	2.498	PK
3	*	9760.000	43.450	39.096	-30.550	74.000	4.354	PK

Profile: 2280049R	Page No.: 17
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2480MHz by LE_1Mbps	



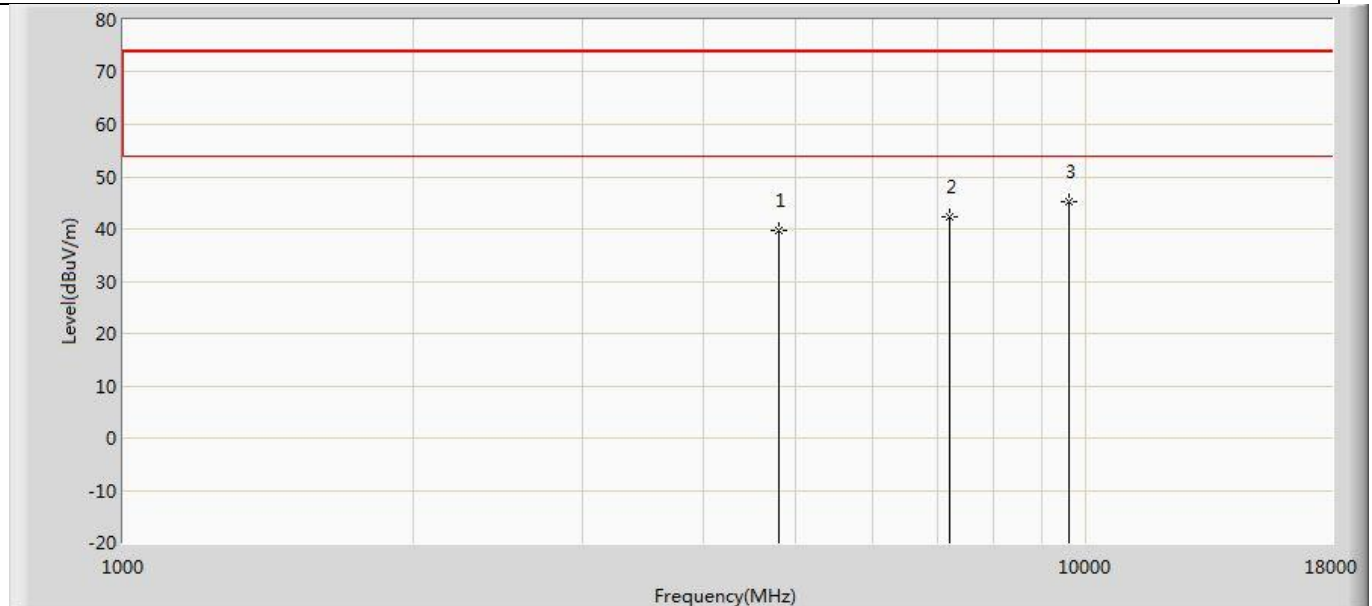
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.557	41.614	-33.443	74.000	-1.057	PK
2		7440.000	43.215	40.873	-30.785	74.000	2.343	PK
3	*	9920.000	44.397	40.238	-29.603	74.000	4.160	PK

Profile: 2280049R	Page No.: 18
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2480MHz by LE_1Mbps	



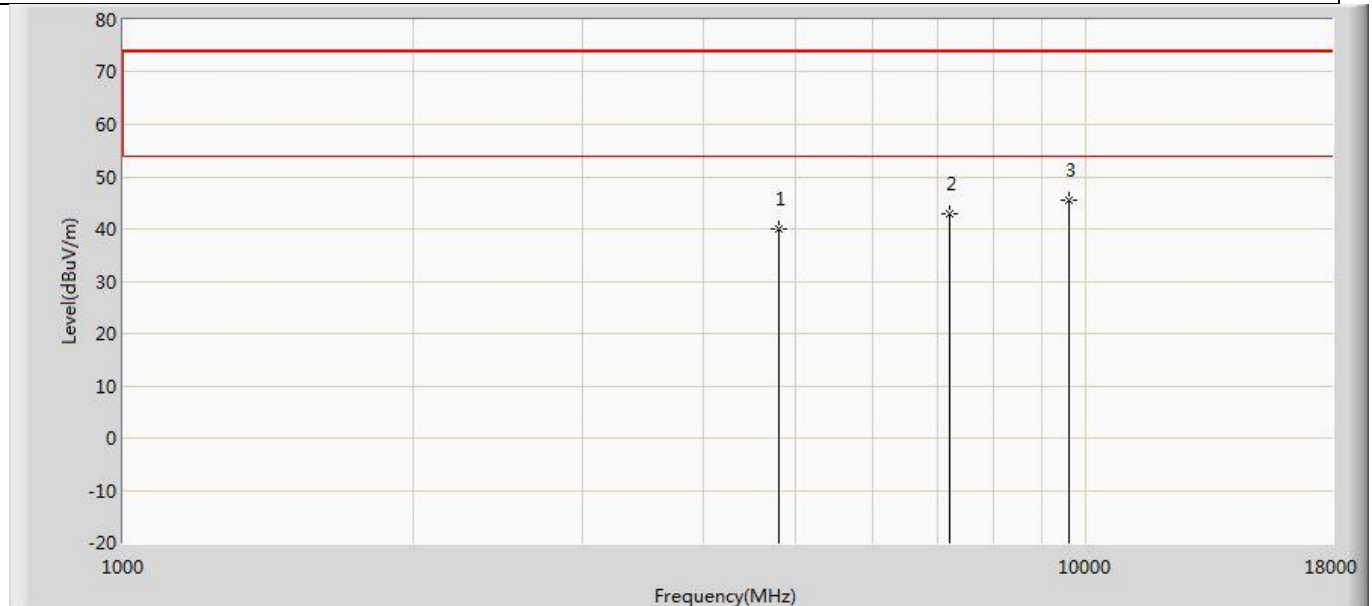
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	39.813	40.870	-34.187	74.000	-1.057	PK
2		7440.000	42.419	40.077	-31.581	74.000	2.343	PK
3	*	9920.000	44.501	40.342	-29.499	74.000	4.160	PK

Profile: 2280049R	Page No.: 19
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2402MHz by LE_2Mbps	



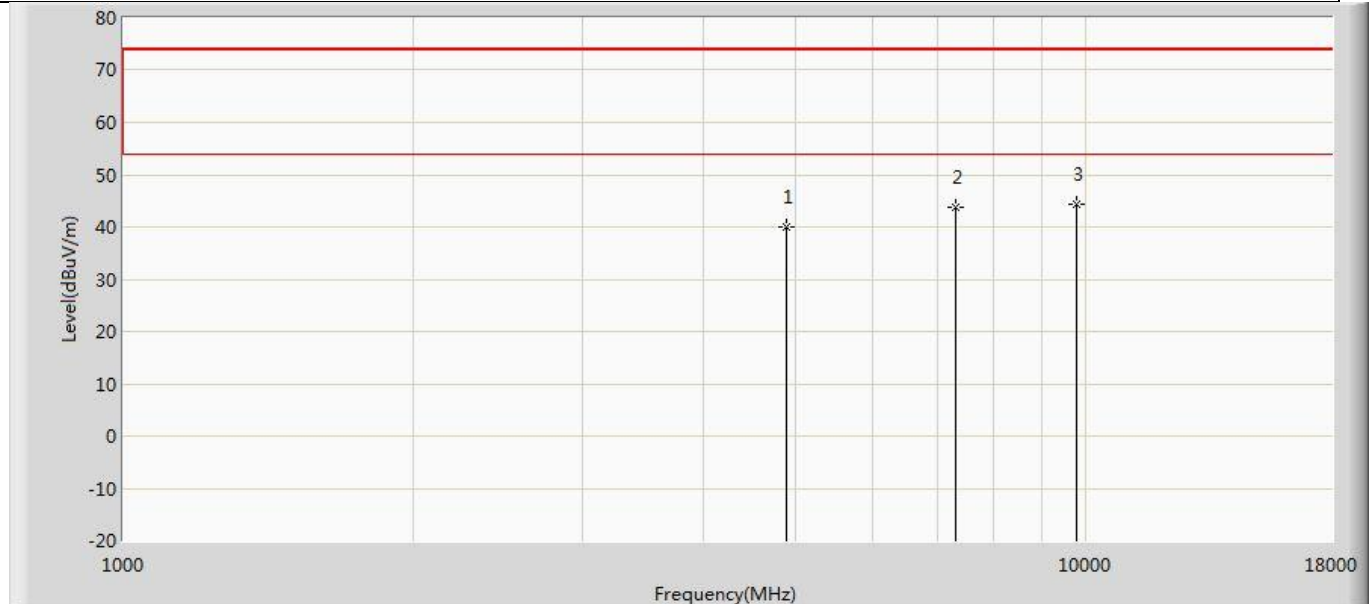
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.704	40.939	-34.296	74.000	-1.235	PK
2		7206.000	42.450	39.976	-31.550	74.000	2.474	PK
3	*	9608.000	45.119	41.477	-28.881	74.000	3.643	PK

Profile: 2280049R	Page No.: 20
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2402MHz by LE_2Mbps	



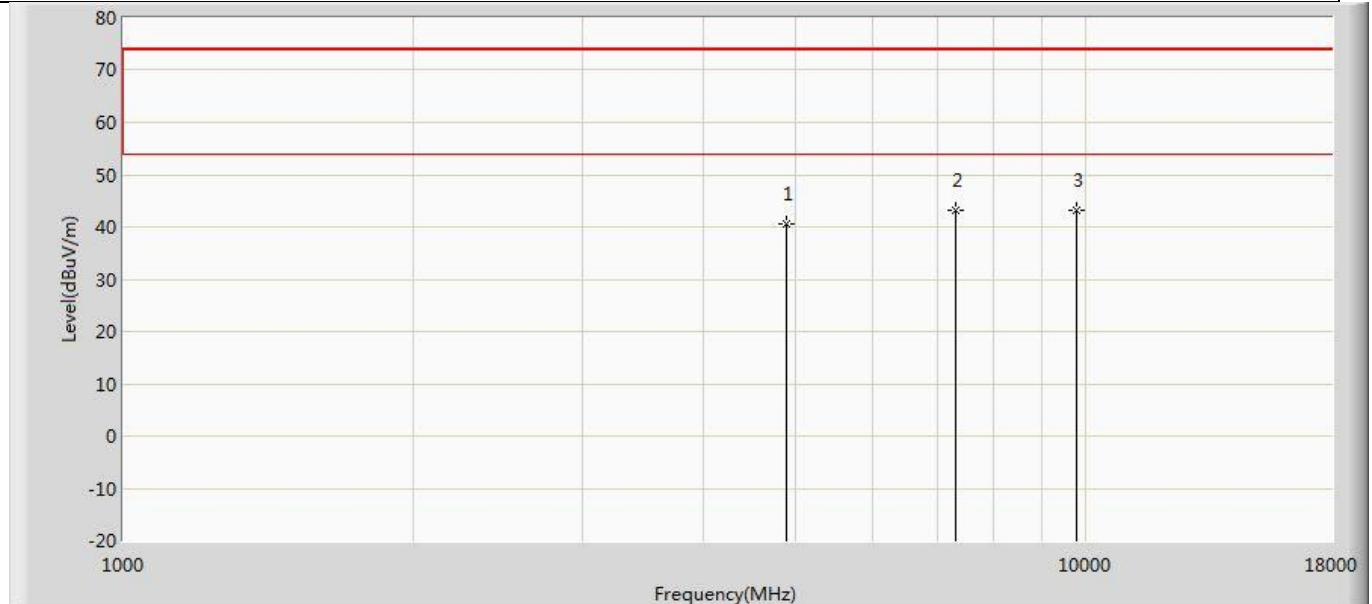
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	40.105	41.340	-33.895	74.000	-1.235	PK
2		7206.000	42.910	40.436	-31.090	74.000	2.474	PK
3	*	9608.000	45.495	41.853	-28.505	74.000	3.643	PK

Profile: 2280049R	Page No.: 21
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2440MHz by LE_2Mbps	



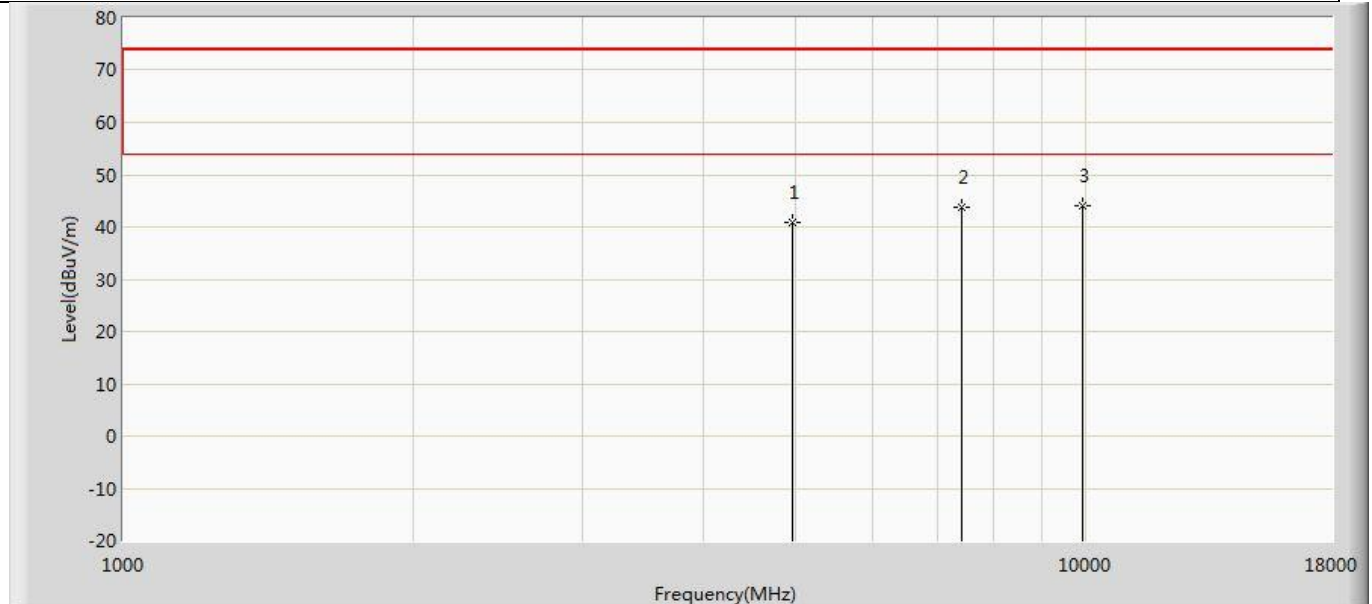
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	39.962	40.853	-34.038	74.000	-0.892	PK
2		7320.000	43.761	41.264	-30.239	74.000	2.498	PK
3	*	9760.000	44.439	40.085	-29.561	74.000	4.354	PK

Profile: 2280049R	Page No.: 22
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2440MHz by LE_2Mbps	



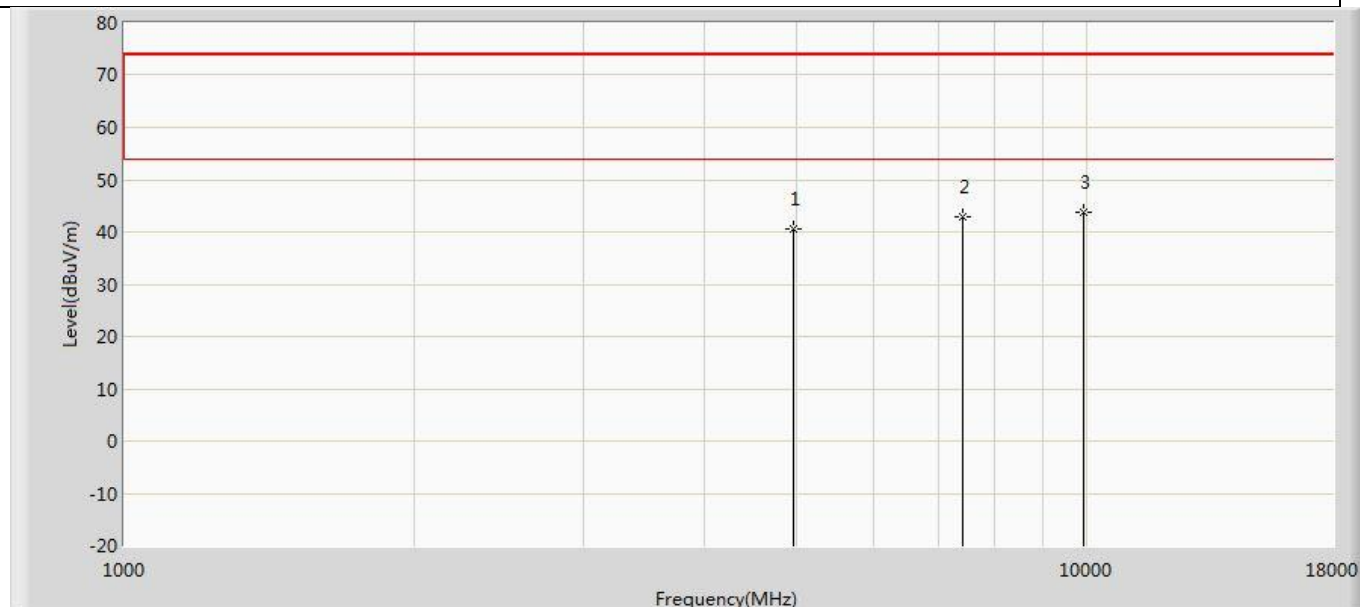
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	40.438	41.329	-33.562	74.000	-0.892	PK
2		7320.000	43.300	40.803	-30.700	74.000	2.498	PK
3	*	9760.000	43.315	38.961	-30.685	74.000	4.354	PK

Profile: 2280049R	Page No.: 23
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2480MHz by LE_2Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.753	41.810	-33.247	74.000	-1.057	PK
2		7440.000	43.726	41.384	-30.274	74.000	2.343	PK
3	*	9920.000	44.100	39.941	-29.900	74.000	4.160	PK

Profile: 2280049R	Page No.: 24
Engineer: RenZhang	
Site: AC5	Time: 2022/09/17 - 00:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2480MHz by LE_2Mbps	



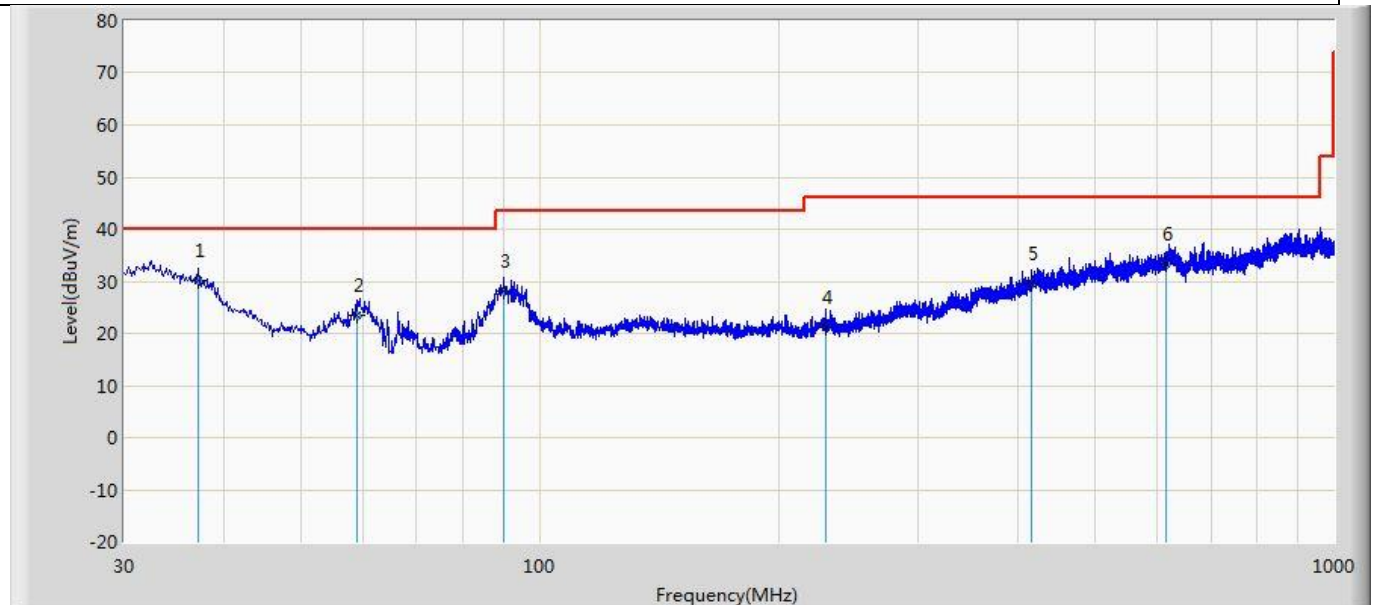
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	40.643	41.700	-33.357	74.000	-1.057	PK
2		7440.000	42.880	40.538	-31.120	74.000	2.343	PK
3	*	9920.000	43.680	39.521	-30.320	74.000	4.160	PK

Note:

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

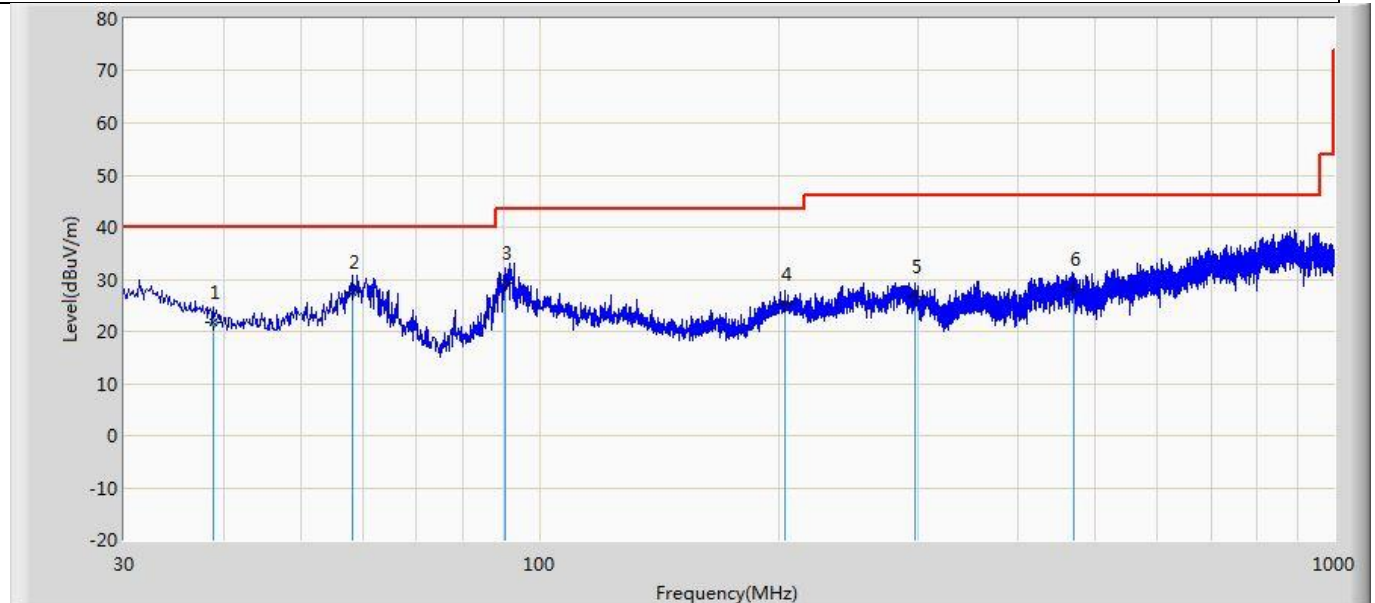
The worst case of Radiated Emission below 1GHz:

Profile: 2280049R	Page No.: 1
Engineer: RenZhang	
Site: AC3	Time: 2022/09/20 - 23:08
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC3_3M(30-1000M)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure 7000 series	Power: DC 5V
Note: Model1:Transmit at 2402MHz by BLE_1M	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	37.154	30.112	5.140	-9.888	40.000	24.973	QP
2		58.857	23.541	13.532	-16.459	40.000	10.010	QP
3		90.140	28.112	14.542	-15.388	43.500	13.570	QP
4		229.456	21.215	3.111	-24.785	46.000	18.104	QP
5		417.030	29.458	2.789	-16.542	46.000	26.669	QP
6		614.546	33.228	3.393	-12.772	46.000	29.835	QP

Profile: 2280049R	Page No.: 2
Engineer: RenZhang	
Site: AC3	Time: 2022/09/20 - 23:14
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC3_3M(30-1000M)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure 7000 series	Power: DC 5V
Note: Mode1:Transmit at 2402MHz by BLE_1M	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		38.851	21.856	2.040	-18.144	40.000	19.816	QP
2	*	58.130	27.489	10.896	-12.511	40.000	16.593	QP
3		90.382	29.352	12.278	-14.148	43.500	17.074	QP
4		203.872	25.113	1.632	-18.387	43.500	23.480	QP
5		296.992	26.558	2.724	-19.442	46.000	23.834	QP
6		471.471	28.143	1.543	-17.857	46.000	26.600	QP

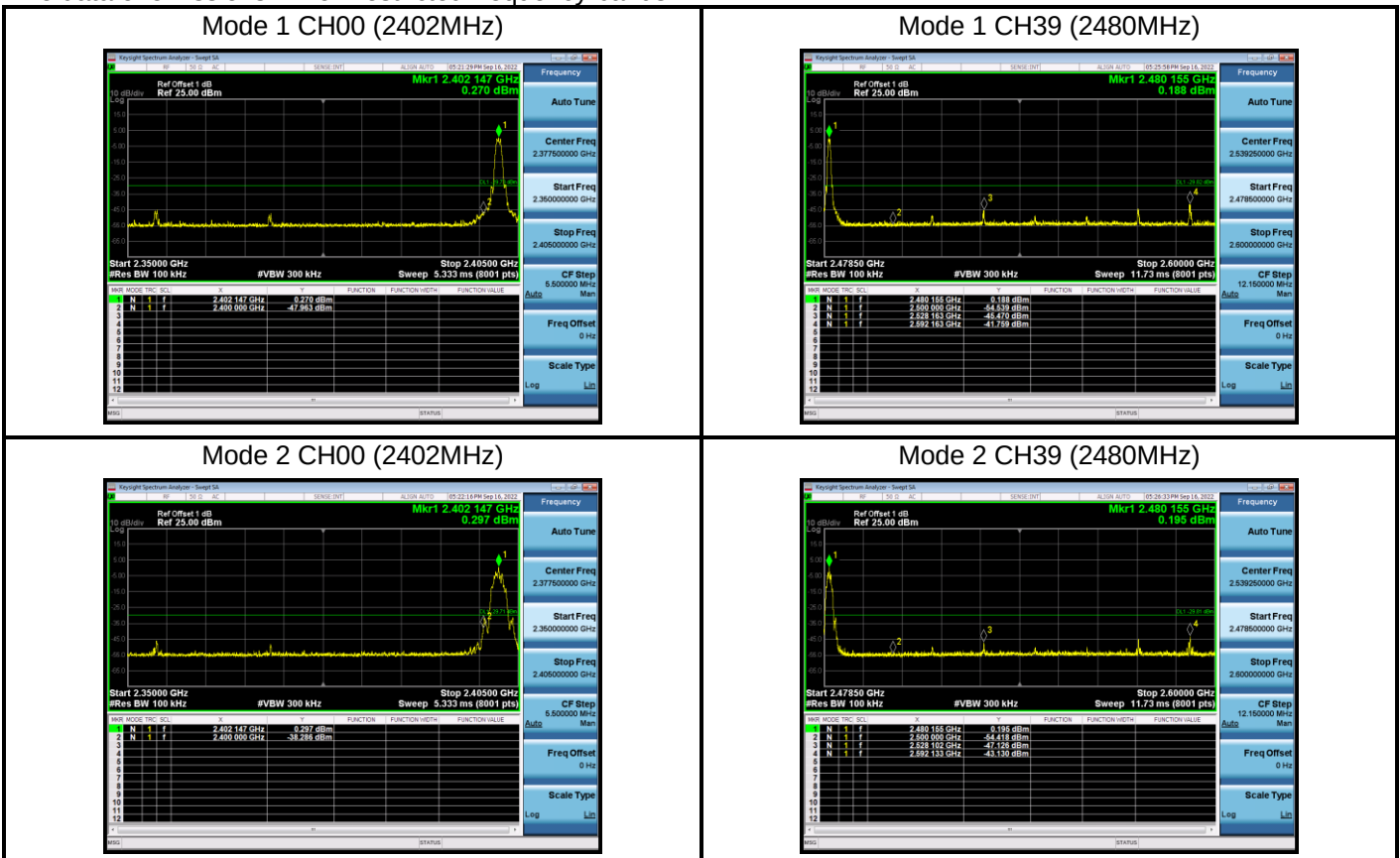
Note:

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)

8 TEST RESULT-APPENDIX C: EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

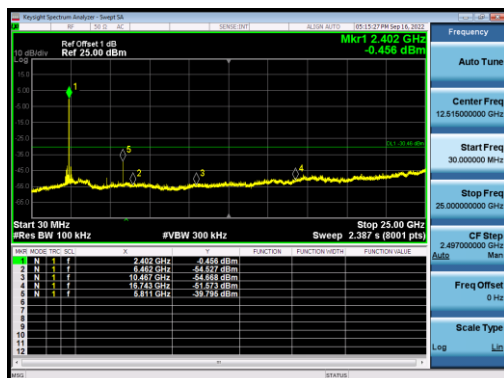
Mode	Channel	Test Frequency (MHz)	Maximum In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	00	2402	0.270	2400	-47.963	48.233	≥30	Pass
	39	2480	0.188	2500	-54.539	54.727	≥30	Pass
2	00	2402	0.297	2400	-38.286	38.583	≥30	Pass
	39	2480	0.195	2500	-54.418	54.613	≥30	Pass

The data of emissions in non-restricted frequency bands:

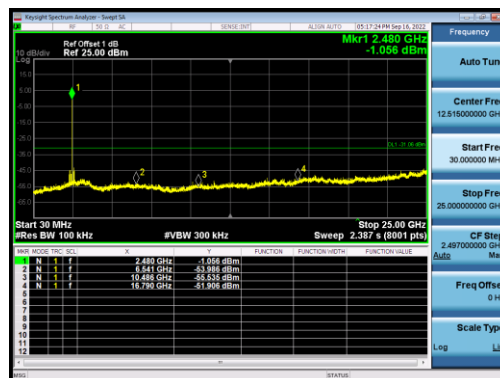


The data of entire corresponding spectrum:

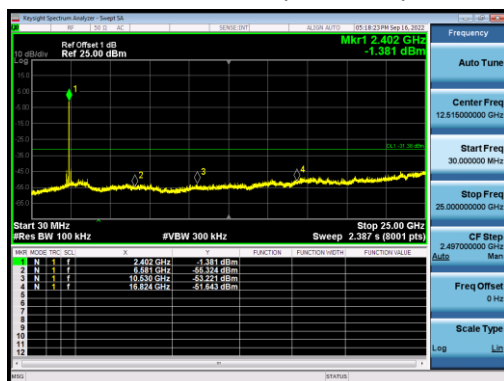
Mode 1 CH00 (2402MHz)



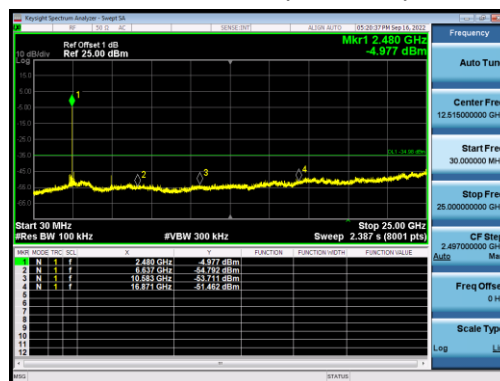
Mode 1 CH39 (2480MHz)



Mode 2 CH00 (2402MHz)



Mode 2 CH39 (2480MHz)



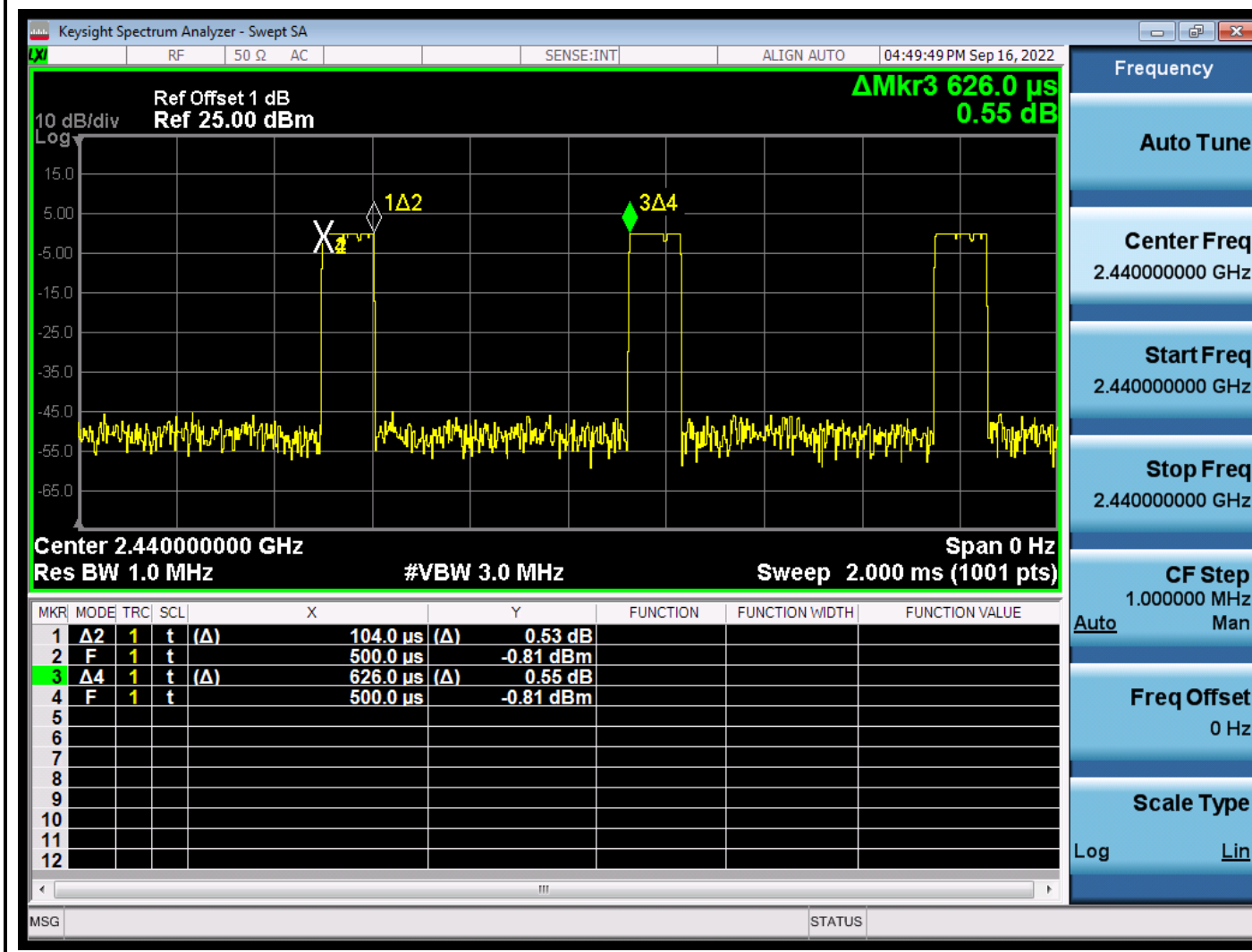
9 TEST RESULT-APPENDIX D: DUTY CYCLE

Test Mode	Tx On (us)	Tx Off (us)	VBW (kHz)	Tx On + Tx Off (us)	Duty Cycle (%)
Mode 1	104	522	5	626	16.61
Mode 2	62	564	5	626	9.90

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.

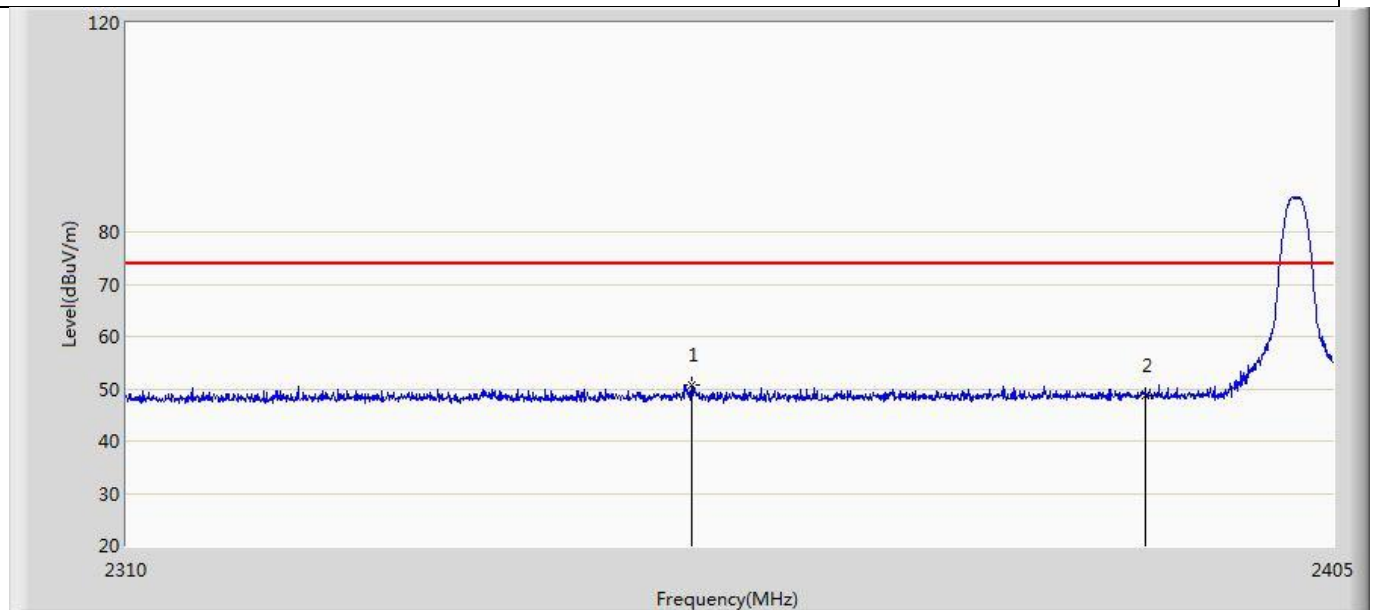
Note: The worst case of Duty Cycle as below:

Mode 1 CH00 2402MHz



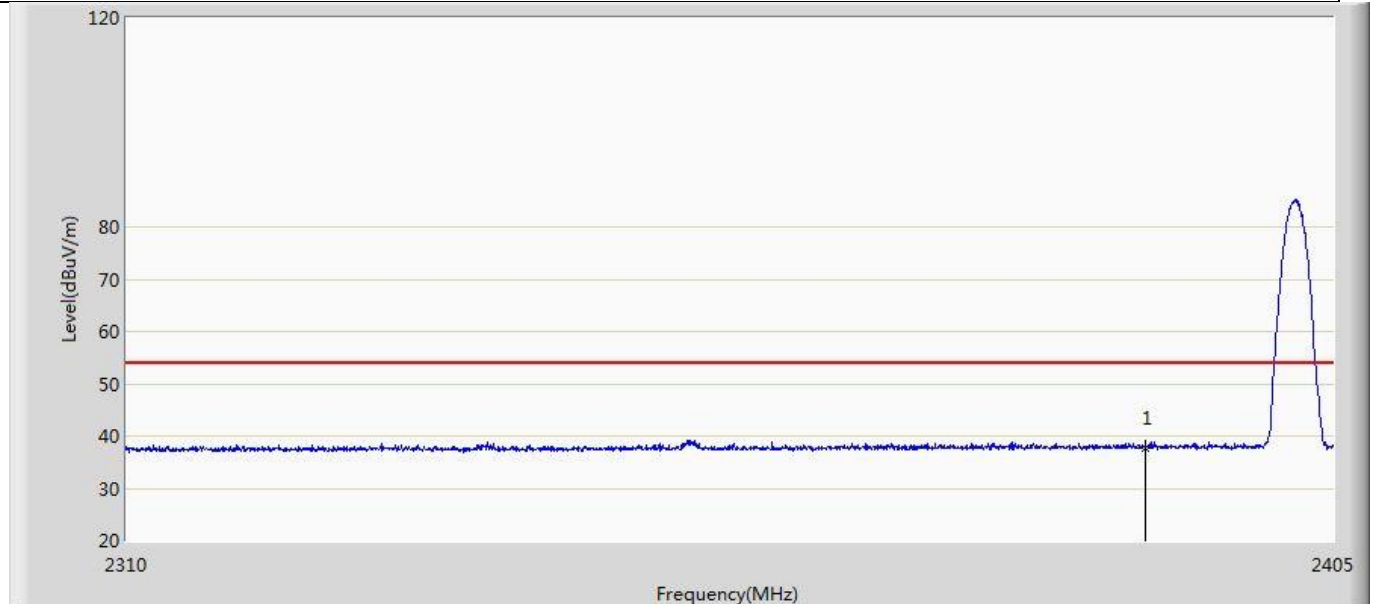
10 TEST RESULT-APPENDIX E: BAND EDGE

Profile: 2280049R	Page No.: 1
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 20:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2402MHz by LE_1Mbps	



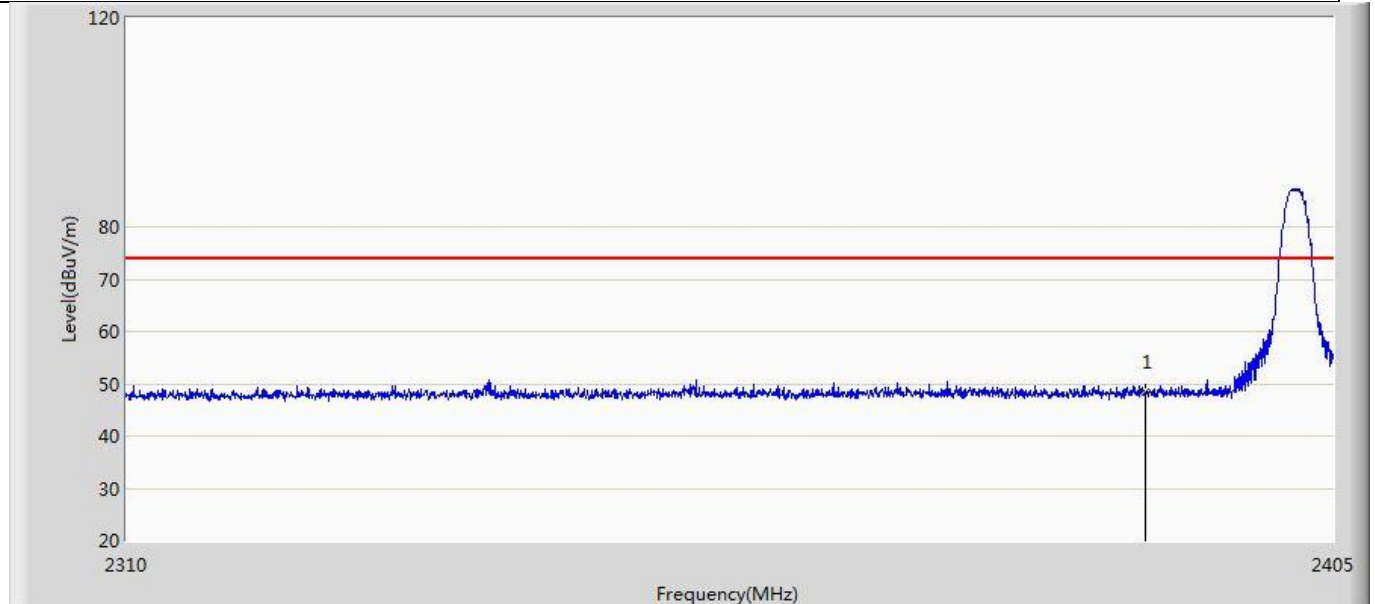
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2354.032	50.714	13.401	-23.286	74.000	37.313	PK
2		2390.000	48.766	11.170	-25.234	74.000	37.596	PK

Profile: 2280049R	Page No.: 2
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 20:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2402MHz by LE_1Mbps	



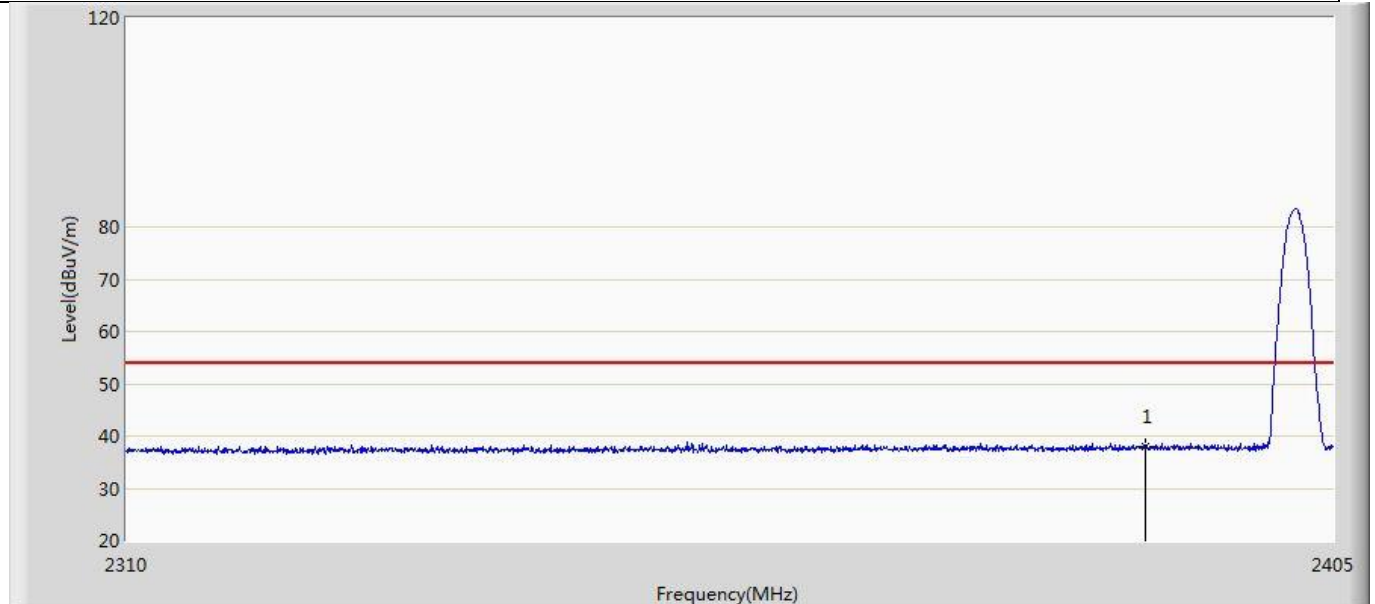
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	37.697	0.101	-16.303	54.000	37.596	AV

Profile: 2280049R	Page No.: 3
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 20:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2402MHz by LE_1Mbps	



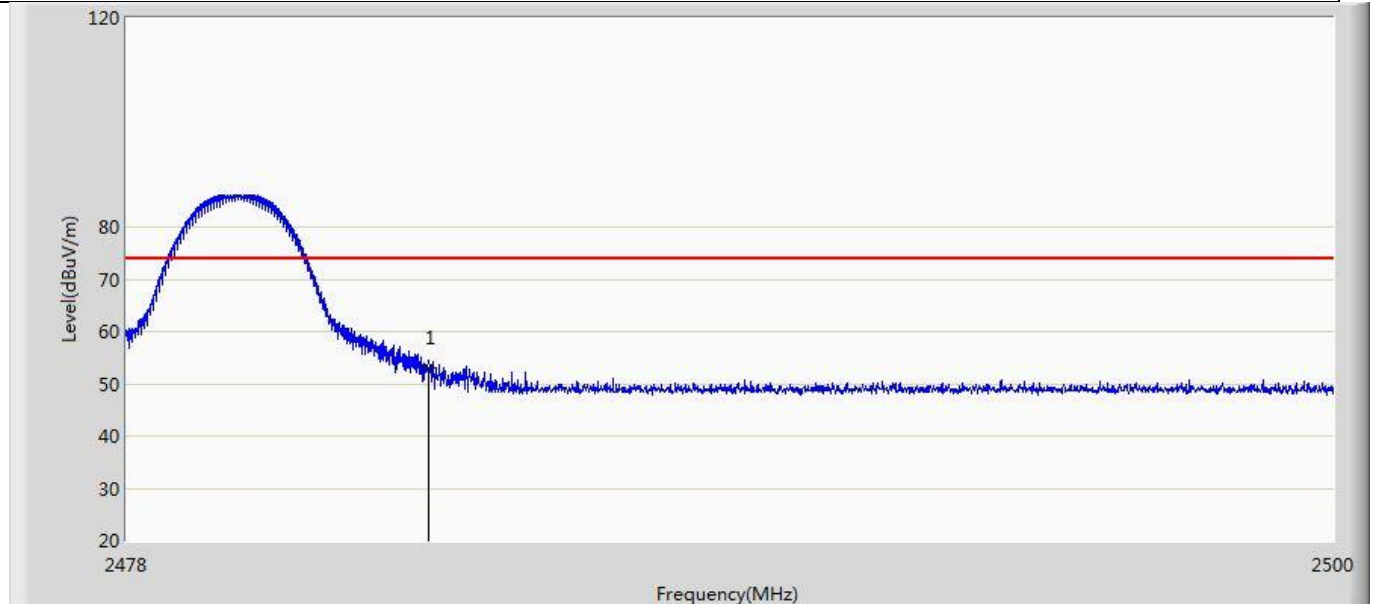
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	48.436	10.840	-25.564	74.000	37.596	PK

Profile: 2280049R	Page No.: 4
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 20:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2402MHz by LE_1Mbps	



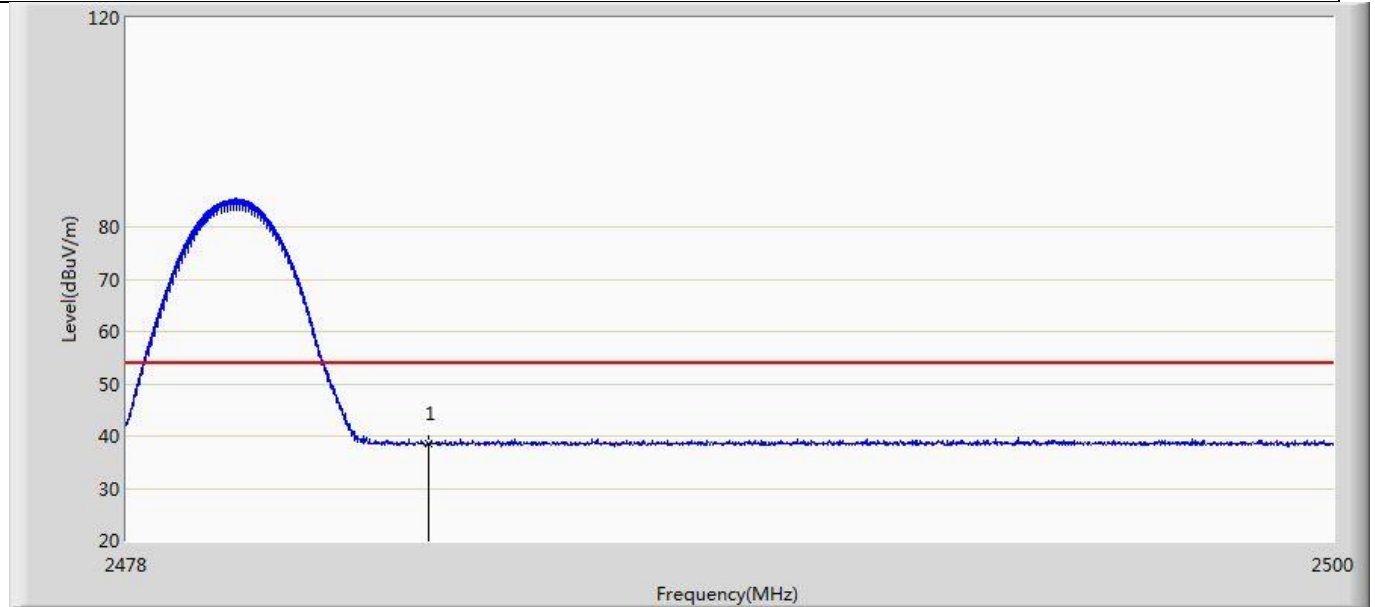
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	38.075	0.479	-15.925	54.000	37.596	AV

Profile: 2280049R	Page No.: 5
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 20:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2480MHz by LE_1Mbps	



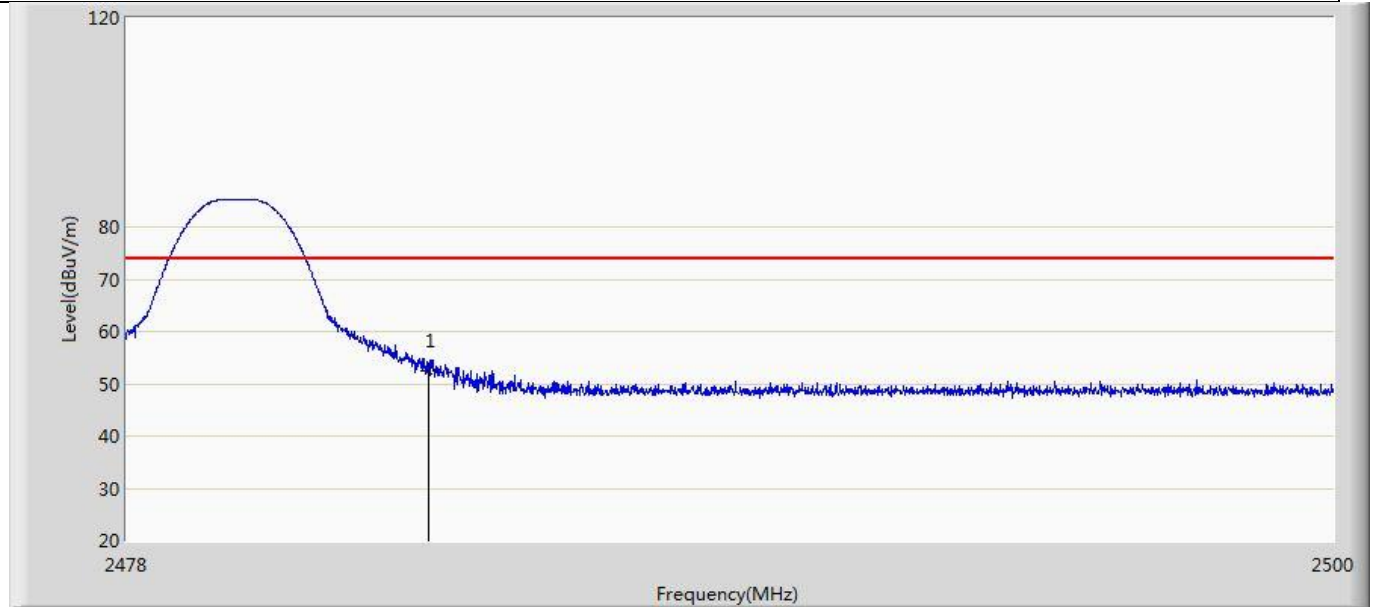
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	53.082	15.097	-20.918	74.000	37.985	PK

Profile: 2280049R	Page No.: 6
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 20:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2480MHz by LE_1Mbps	



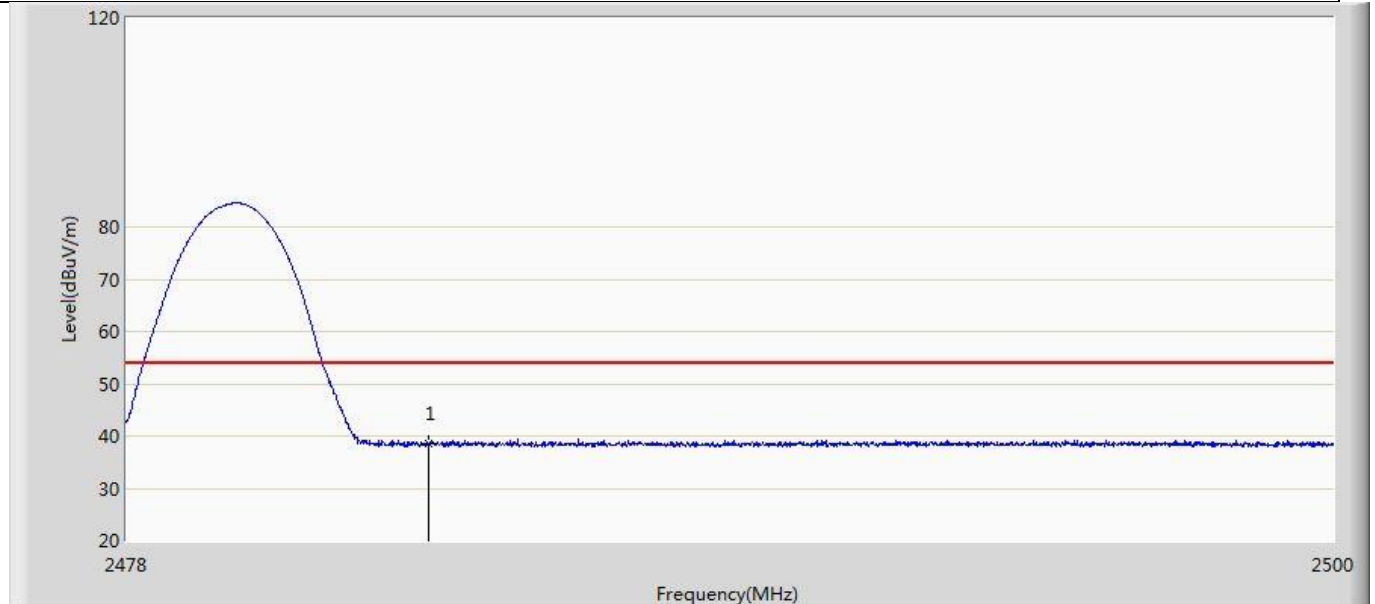
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.636	0.651	-15.364	54.000	37.985	AV

Profile: 2280049R	Page No.: 7
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 21:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2480MHz by LE_1Mbps	



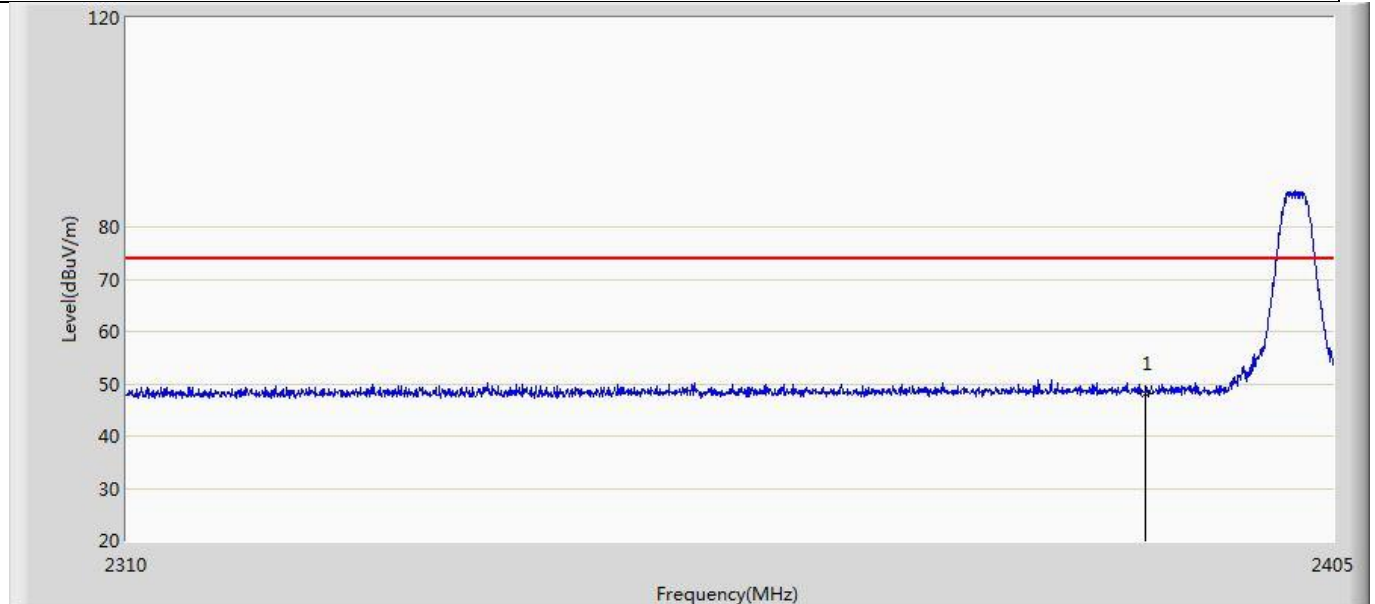
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	52.540	14.555	-21.460	74.000	37.985	PK

Profile: 2280049R	Page No.: 8
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 1: Transmit at 2480MHz by LE_1Mbps	



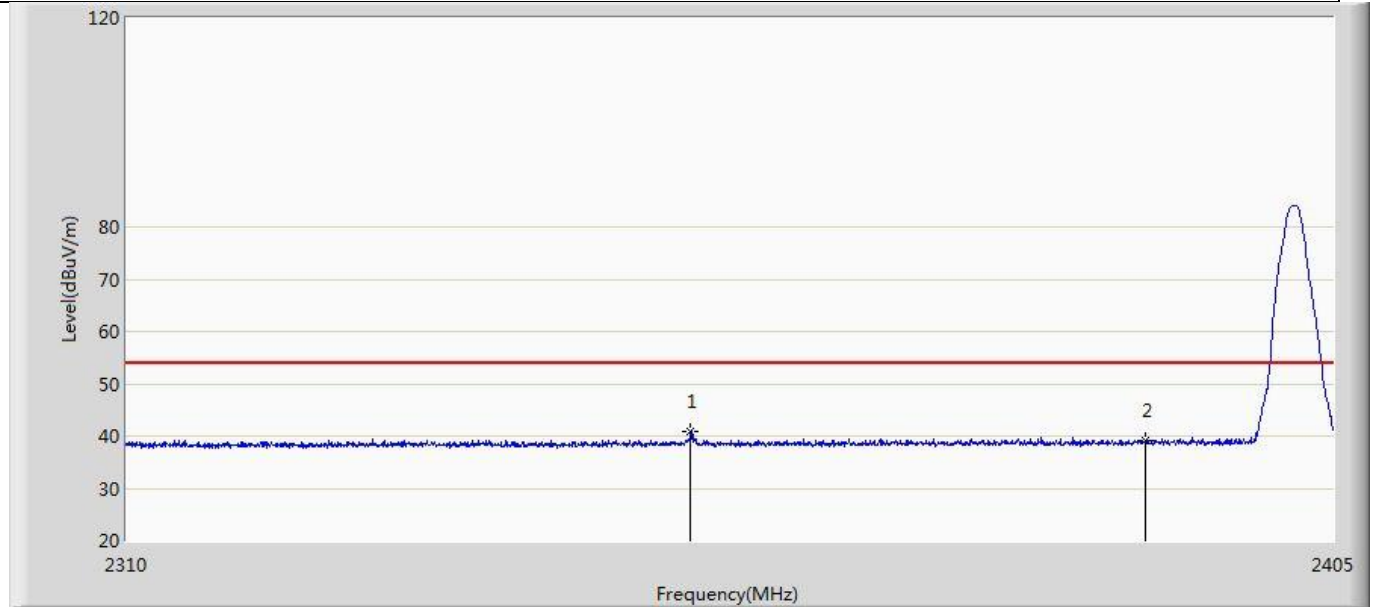
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.479	0.494	-15.521	54.000	37.985	AV

Profile: 2280049R	Page No.: 9
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 -21:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 2: Transmit at 2402MHz by LE_2Mbps	



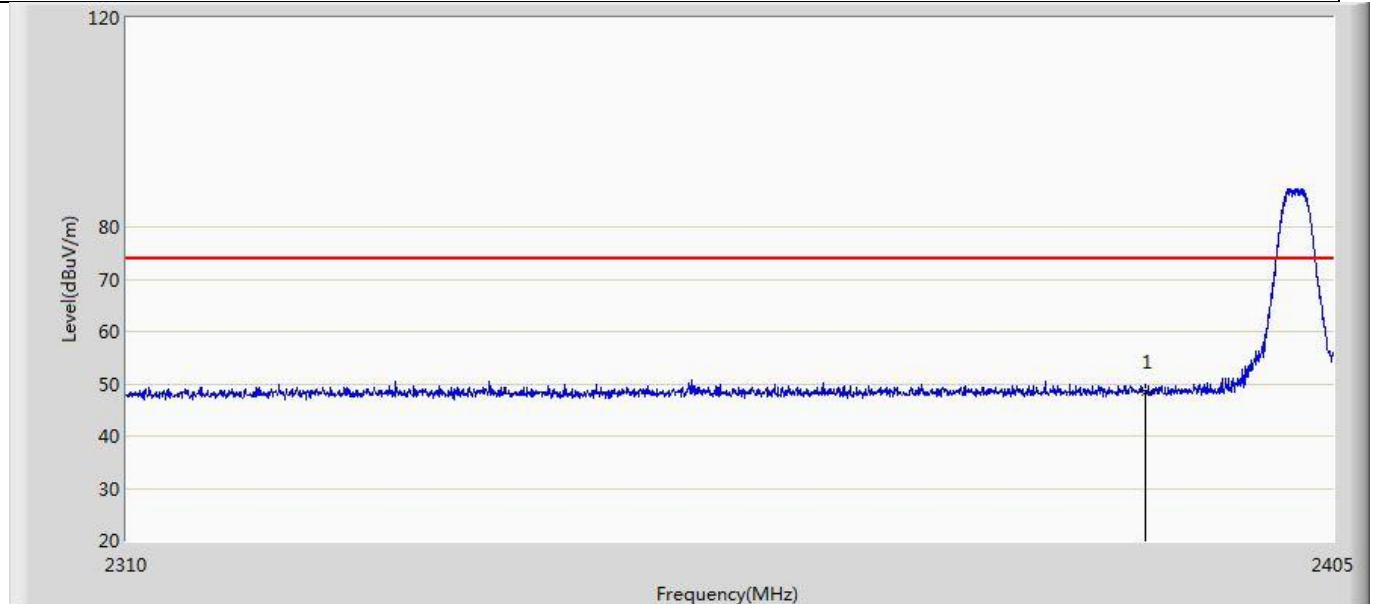
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	48.117	10.521	-25.883	74.000	37.596	PK

Profile: 2280049R	Page No.: 10
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 21:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 2: Transmit at 2402MHz by LE_2Mbps	



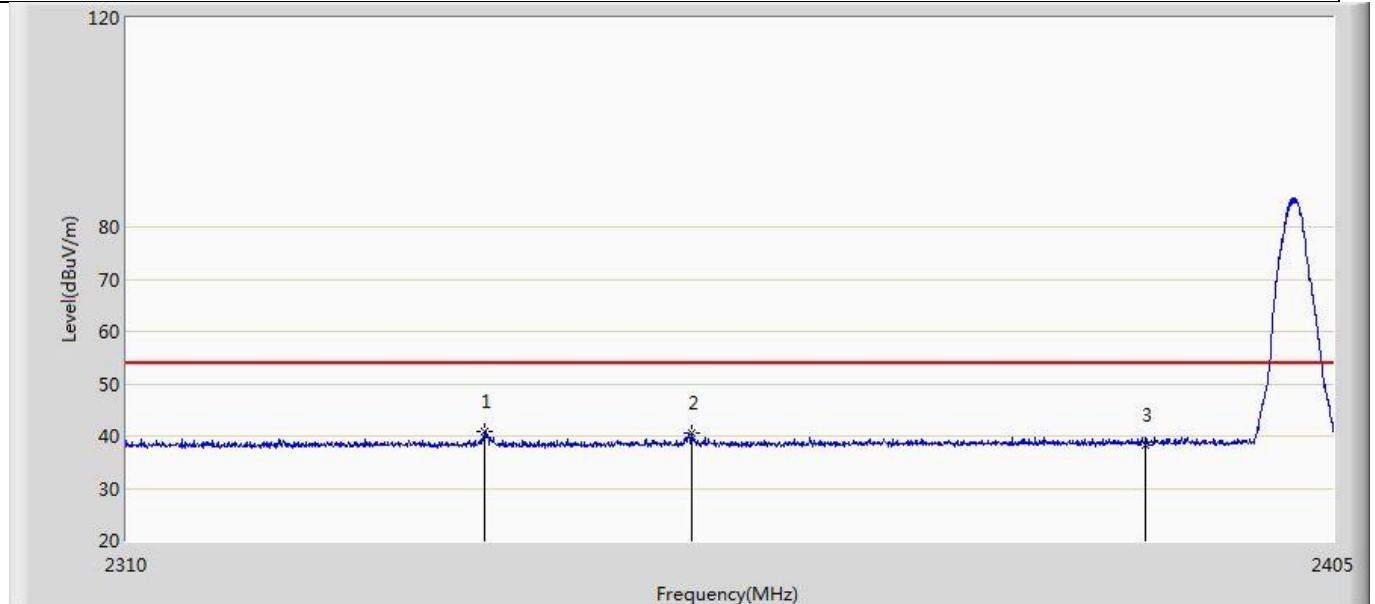
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2353.937	40.927	3.614	-13.073	54.000	37.313	AV
2		2390.000	39.063	1.467	-14.937	54.000	37.596	AV

Profile: 2280049R	Page No.: 11
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 -21:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 2: Transmit at 2402MHz by LE_2Mbps	



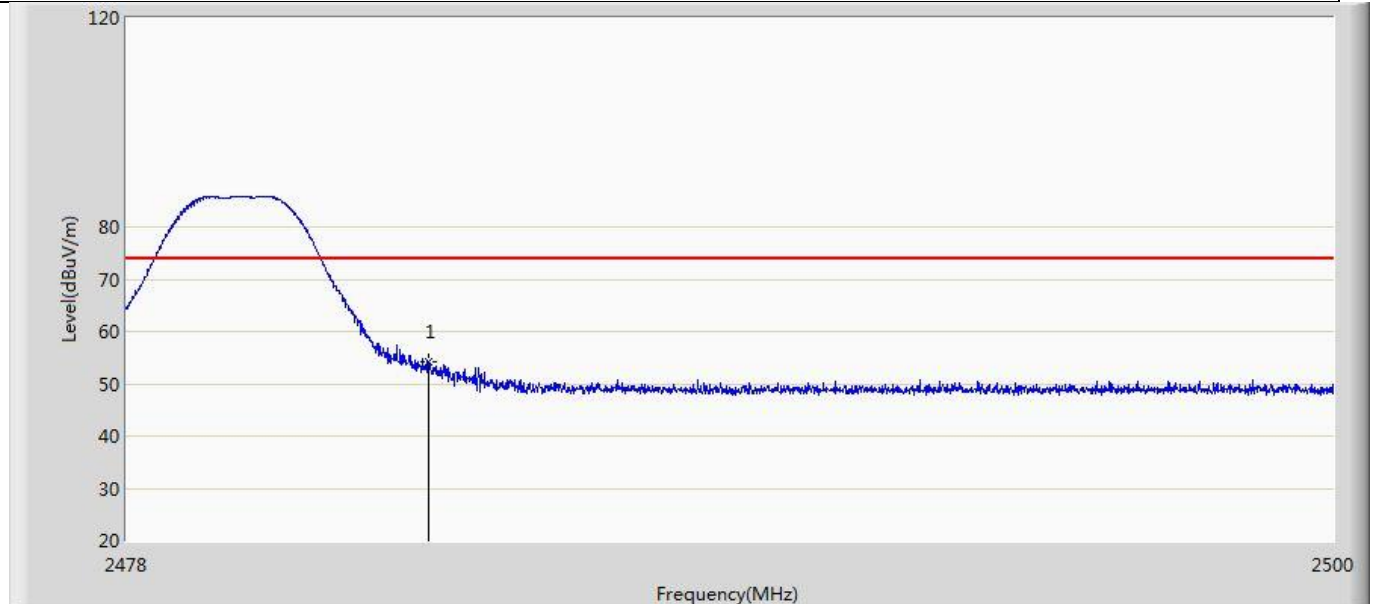
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	48.538	10.942	-25.462	74.000	37.596	PK

Profile: 2280049R	Page No.: 12
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 21:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 2: Transmit at 2402MHz by LE_2Mbps	



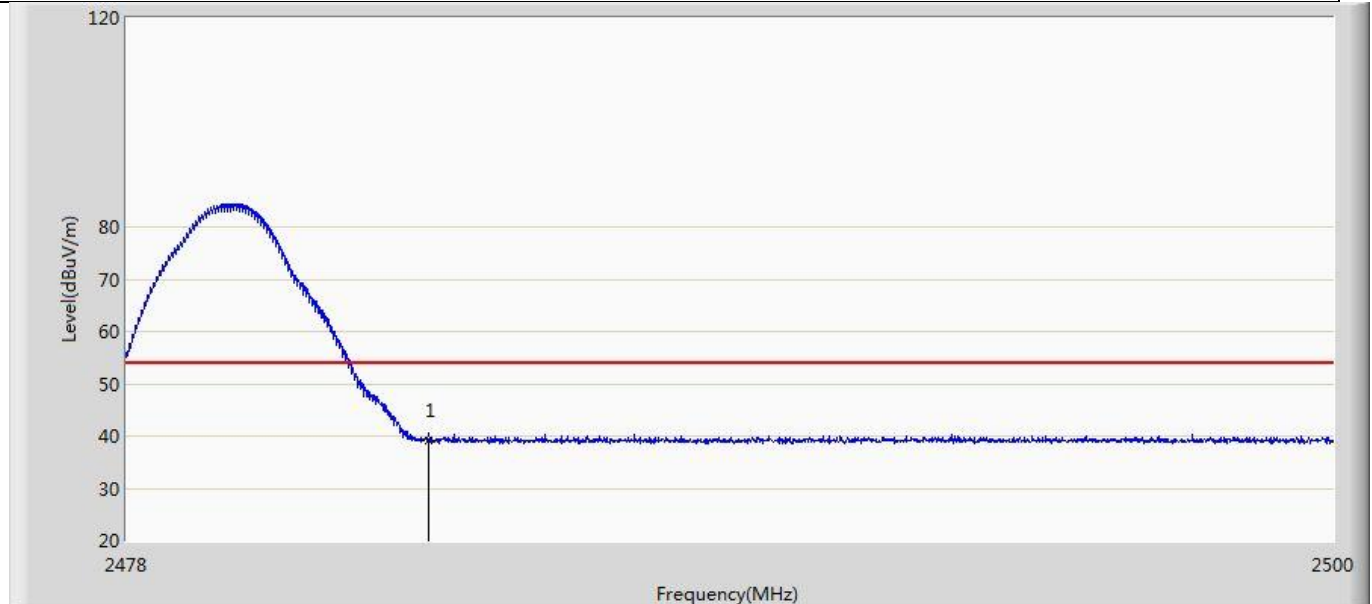
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2337.835	40.781	3.503	-13.219	54.000	37.279	AV
2		2354.032	40.672	3.359	-13.328	54.000	37.313	AV
3		2390.000	38.232	0.636	-15.768	54.000	37.596	AV

Profile: 2280049R	Page No.: 13
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 21:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 2: Transmit at 2480MHz by LE_2Mbps	



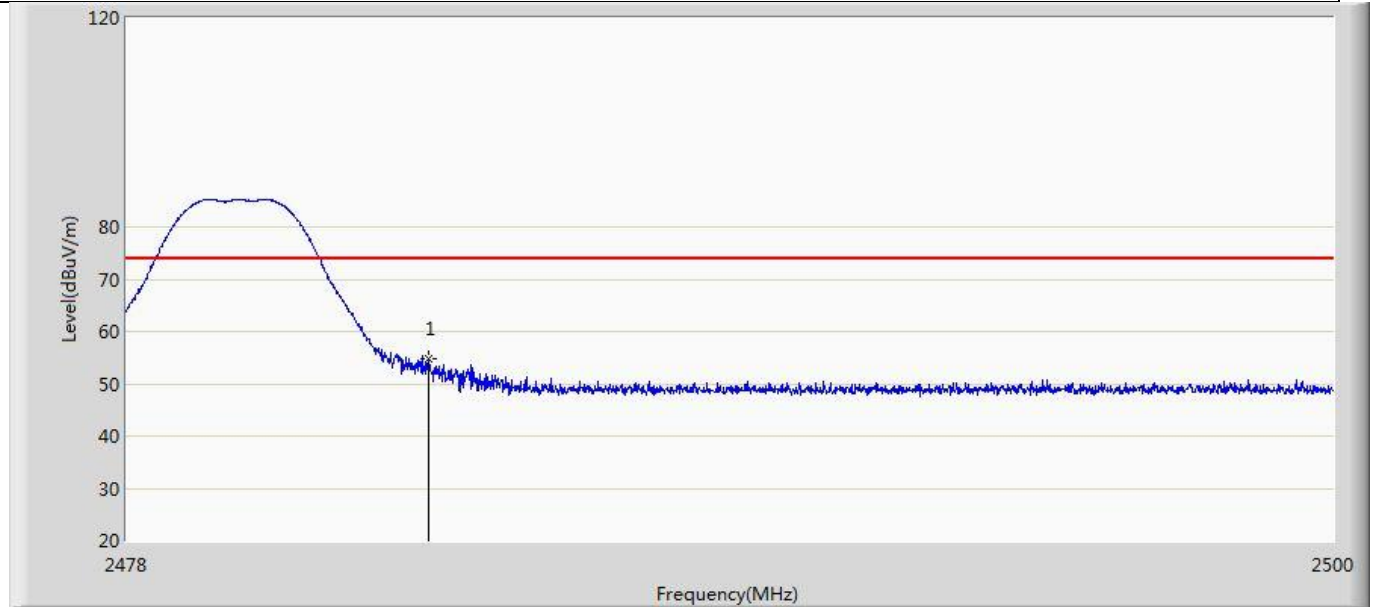
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	54.237	16.252	-19.763	74.000	37.985	PK

Profile: 2280049R	Page No.: 14
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 21:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 2: Transmit at 2480MHz by LE_2Mbps	



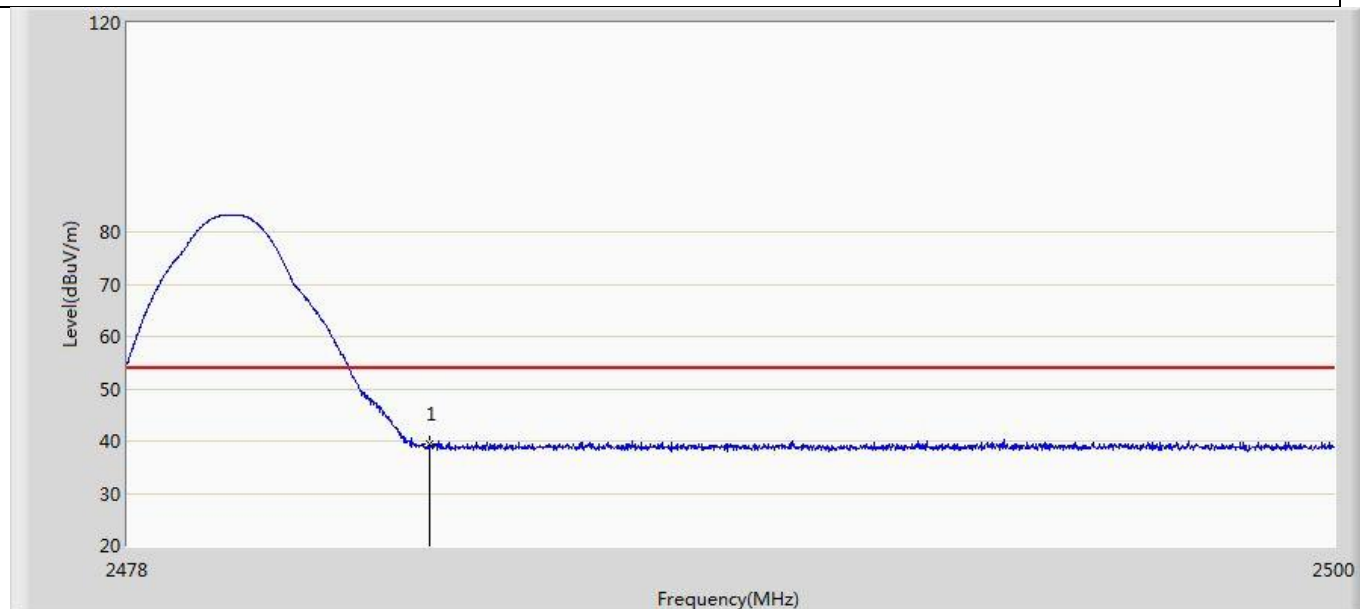
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	39.266	1.281	-14.734	54.000	37.985	AV

Profile: 2280049R	Page No.: 15
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 21:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 2: Transmit at 2480MHz by LE_2Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	54.643	16.658	-19.357	74.000	37.985	PK

Profile: 2280049R	Page No.: 16
Engineer: RenZhang	
Site: AC5	Time: 2022/09/19 - 21:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Car Aroma Diffuser OlfaPure	Power: DC 5V
Note: Mode 2: Transmit at 2480MHz by LE_2Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	39.442	1.457	-14.558	54.000	37.985	AV

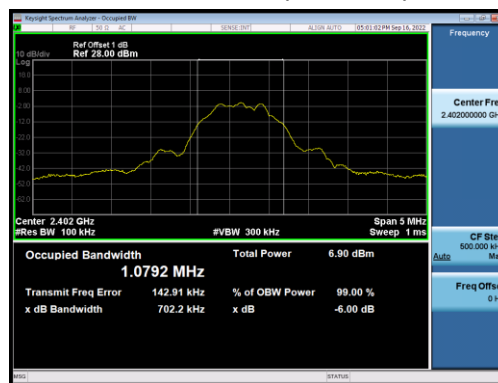
Note:

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

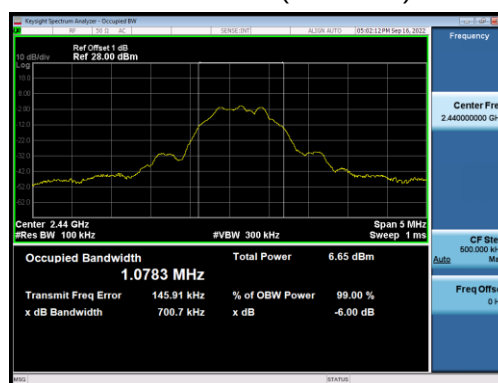
11 TEST RESULT-APPENDIX G: DTS BANDWIDTH

Mode	CH.	Test Freq. (MHz)	6dB Occupied Bandwidth (KHz)	Limit (kHz)	Result
1	00	2402	702.2	>500	Pass
	19	2440	700.7	>500	Pass
	39	2480	701.0	>500	Pass
2	00	2402	1185	>500	Pass
	19	2440	1181	>500	Pass
	39	2480	1177	>500	Pass

6dB Occupied Bandwidth
Mode 1 CH00 (2402MHz)

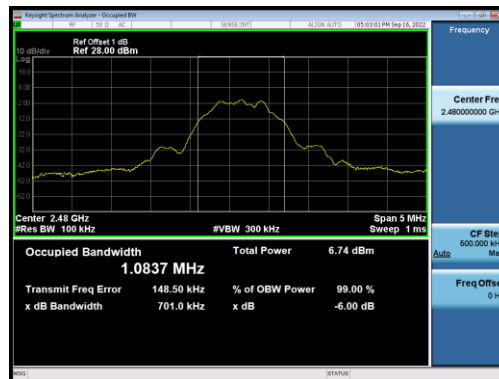


6dB Occupied Bandwidth
Mode 1 CH19 (2440MHz)



6dB Occupied Bandwidth

Mode 1 CH39 (2480MHz)



6dB Occupied Bandwidth

Mode 2 CH00 (2402MHz)



6dB Occupied Bandwidth

Mode 2 CH19 (2440MHz)



6dB Occupied Bandwidth

Mode 2 CH39 (2480MHz)



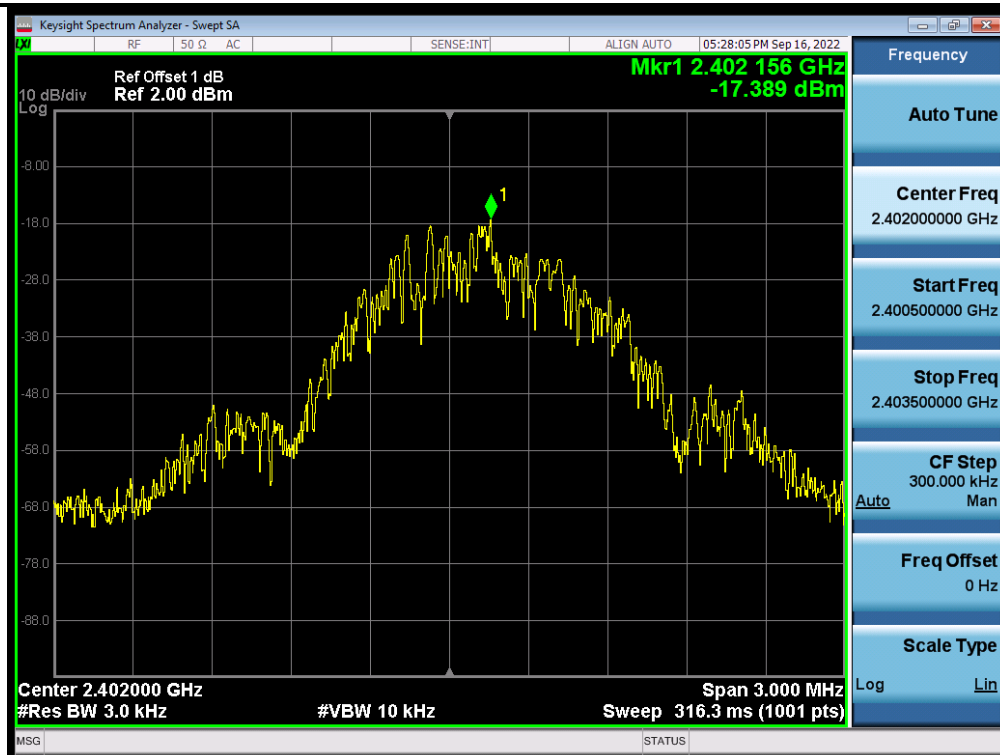
12 TEST RESULT-APPENDIX F: FUNDAMENTAL EMISSION OUTPUT POWER

Mode	Channel	Test Frequency (MHz)	Conducted Power (dBm)	EIRP (dBm)	Conducted Power Limit (dBm)	EIRP Limit (dBm)	Result
Mode 1	00	2402	0.13	-0.45	≤30	≤36	Pass
	19	2440	-0.05	-0.63	≤30	≤36	Pass
	39	2480	-0.01	-0.59	≤30	≤36	Pass
Mode 2	00	2402	0.13	-0.45	≤30	≤36	Pass
	19	2440	-0.06	-0.64	≤30	≤36	Pass
	39	2480	-0.02	-0.60	≤30	≤36	Pass

13 TEST RESULT-APPENDIX H: POWER SPECTRAL DENSITY

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Mode 1	00	2402	-17.389	≤8	Pass
	19	2440	-17.587	≤8	Pass
	39	2480	-17.415	≤8	Pass
Mode 2	00	2402	-19.447	≤8	Pass
	19	2440	-19.590	≤8	Pass
	39	2480	-19.558	≤8	Pass

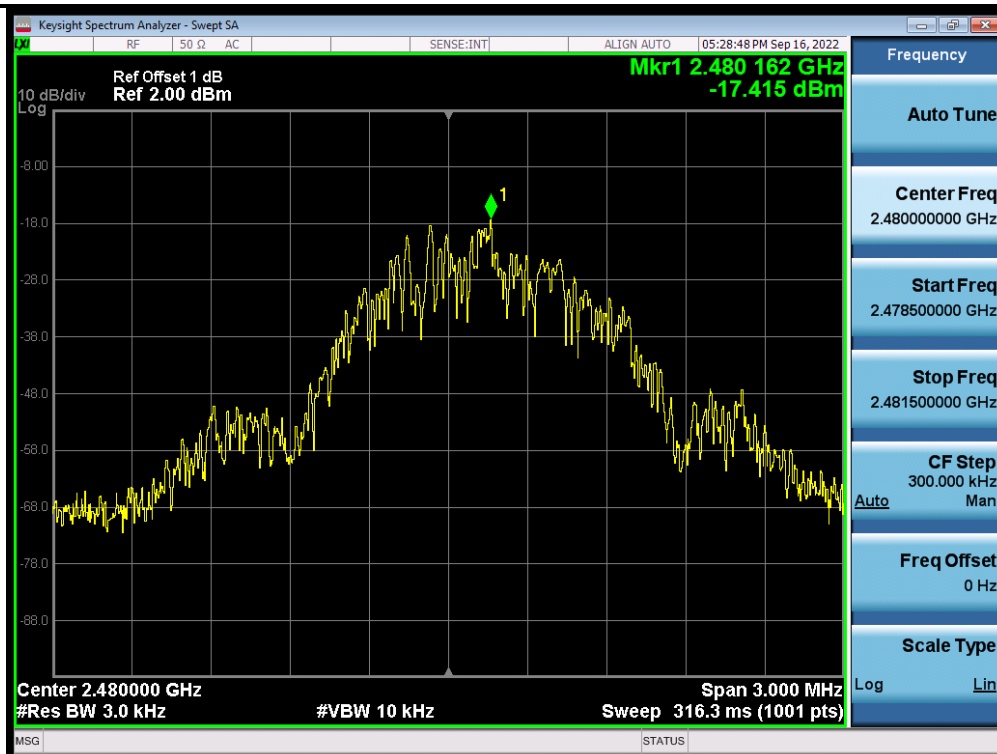
Mode 1 CH00(2402MHz)



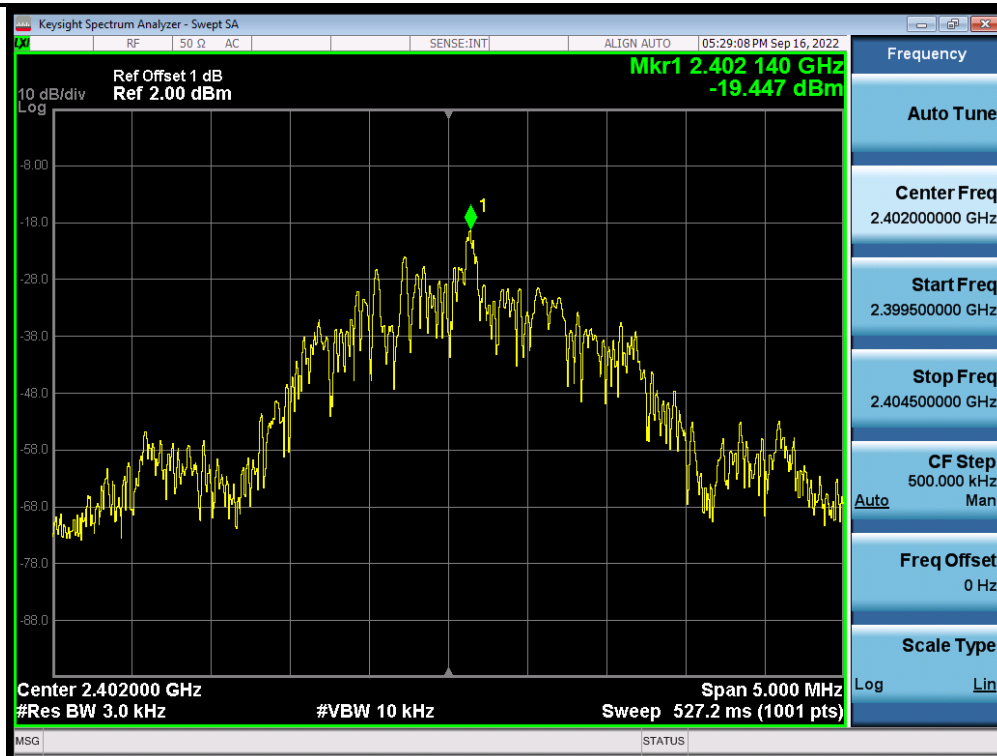
Mode 1 CH19(2440MHz)



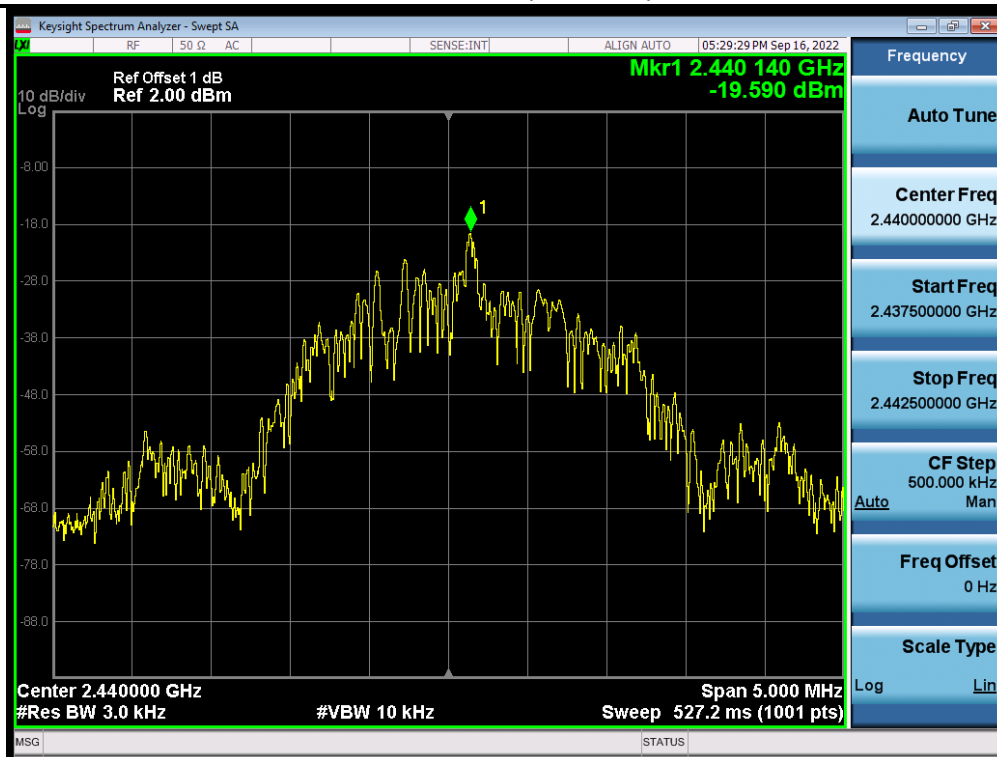
Mode 1 CH39(2480MHz)



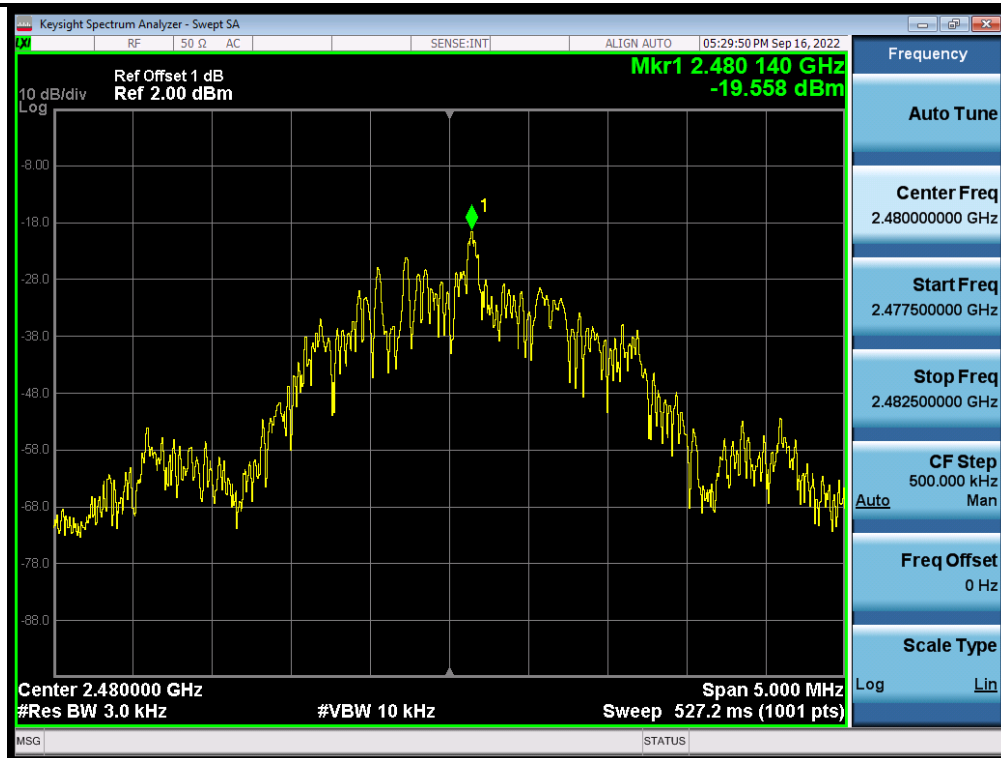
Mode 2 CH00(2402MHz)



Mode 2 CH19(2440MHz)



Mode 2 CH39(2480MHz)



Note: The peak detector test results we used were below the limit, so there was no need to use an RMS detector.

The End