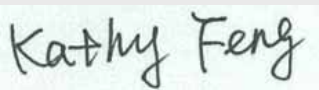
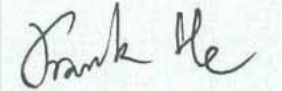
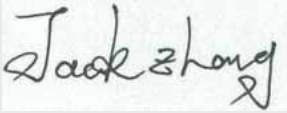




Test report No:
1962179R-RF-US-P06V01

TEST REPORT

FCC Rules&Regulations 47 CFR Chapter I - Part 15

Product Name	WiFi Plug US
Trademark	KylaS
Model and /or type reference	KWFP-220-WF
FCC ID	I38KWFP220WF
Applicant's name / address	Aztech Technologies Pte Ltd 31 Ubi Road 1, Aztech Building Singapore 408694
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10: 2013 KDB558074 D01v05r02
Verdict Summary	IN COMPLIANCE
Documented By	Kathy Feng/Project Assistant 
Tested by (name / position & signature)	Frank He/ Technical Supervisor 
Approved by (name / position & signature)	Jack Zhang/ Supervisor 
Date of issue	2019-07-26
Report template No	1962179R-RF-US-P06V01

INDEX

	page
Competences and Guarantees.....	4
General conditions.....	4
Environmental conditions.....	4
Possible test case verdicts.....	5
Abbreviations.....	5
Document History.....	6
Remarks and Comments.....	6
Used Equipment.....	7
Uncertainty.....	9
1 General Information.....	10
1.1 General Description of the Item(s).....	10
1.2 Antenna Information.....	11
1.3 Test date.....	12
1.4 Data Rate.....	12
1.5 Channel List.....	14
2.1 Operating mode(s) used for tests.....	15
2.2 Support / Auxiliary equipment / unit / Test software for the EUT.....	15
2.3 Test Configuration / Block diagram used for tests.....	16
2.4 Testing process.....	17
3.1 Standards.....	18
3.2 Overview of results.....	18
3.3 Test Facility.....	19
4.1 AC Power Line Conducted Emission.....	20
4.1.1 Limit.....	20
4.1.2 Test Setup.....	20
4.1.3 Test Procedure.....	20
4.1.4 Test Data.....	21
4.2 Emissions in restricted frequency bands.....	24
4.2.1 Limit.....	24
4.2.2 Test Setup.....	26
4.2.3 Test Procedure.....	27
4.2.4 Test Data.....	28
4.3 Emissions in non-restricted frequency band.....	48
4.3.1 Limit.....	48

4.3.2	Test Setup.....	48
4.3.3	Test Procedure.....	48
4.3.4	Test Data.....	49
4.4	Duty cycle.....	50
4.4.1	Limit.....	50
4.4.2	Test Setup.....	50
4.4.3	Test Procedure.....	50
4.4.4	Test Data.....	51
4.5	Radiated Emission Band Edge.....	52
4.5.1	Limit.....	52
4.5.2	Test Setup.....	52
4.5.3	Test Procedure.....	53
4.5.4	Test Data.....	54
4.6	DTS Bandwidth.....	78
4.6.1	Limit.....	78
4.6.2	Test Setup.....	78
4.6.3	Test Procedure.....	78
4.6.4	Test Data.....	79
4.7	Fundamental emission output power.....	80
4.7.1	Limit.....	80
4.7.2	Test Setup.....	80
4.7.3	Test Procedure.....	81
4.7.4	Test Data.....	82
4.8	Power Density.....	83
4.8.1	Limit.....	83
4.8.2	Test Setup.....	83
4.8.3	Test Procedure.....	83
4.8.4	Test Data.....	84
4.9	Antenna Requirement.....	85
4.9.1	Limit.....	85
4.9.2	Antenna Connector Construction.....	85
4.10	Test setup photo and EUT Photo.....	86

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

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
1962179R-RF-US-P06V01		Initial issue of report.	2019-07-26

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.
3. The test results presented in this report relate only to the object tested..
4. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing laboratory.
5. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result, unless the specification, standard or customer have special requirements.
6. This report is not used for social proof in China (or Mainland China) market.

USED EQUIPMENT

AC Power Line Conducted Emission / TR1(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100906	2019.03.04	2020.03.04
Two-Line V-Network	R&S	ENV216	101190	2019.06.09	2020.06.09
Two-Line V-Network	R&S	ENV216	101044	2019.06.15	2020.06.15
Current Probe	R&S	EZ-17	100678	2019.03.07	2020.03.07
50ohm Termination	SHX	TF2	07081402	2018.09.08	2019.09.08
50ohm Termination	SHX	TF2	07081403	2018.09.08	2019.09.08
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2019.01.09	2020.01.09
Coaxial Cable	Suhner	RG 223	TR1-C1	2018.09.11	2019.09.11
Coaxial Cable	Suhner	RG 223	TR1-C2	2018.09.11	2019.09.11
Dekra test software					

RF conducted test / TR8(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2018.10.14	2019.10.13
Power Sensor	Anritsu	MA2411B	0846014	2018.10.14	2019.10.13
Dekra test software					

Radiated Emission(30MHz-1GHz) / AC2(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2019.03.04	2020.03.04
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2019.06.09	2020.06.09
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2019.01.09	2020.01.09
Coaxial Cable	Huber+Suhner	RG 214	AC2-C	2019.02.28	2020.02.28
Dekra test software					

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

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2019.01.04	2020.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2019.05.06	2020.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2019.05.06	2020.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2019.01.22	2020.01.21
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2019.01.04	2020.01.03
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2019.03.02	2020.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2019.03.02	2020.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2019.03.02	2020.03.01
Dekra test software					

UNCERTAINTY

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

Test item	Uncertainty
AC Power Line Conducted Emission	$\pm 2.02\text{dB}$
Peak Power Output	$\pm 1.27\text{ dB}$
Radiated Emission(30MHz~1GHz)	$\pm 3.80\text{ dB}$
Radiated Emission(1GHz~26.5GHz)	$\pm 3.90\text{ dB}$
RF antenna conducted test	$\pm 1.27\text{dB}$
Radiated Emission Band Edge	$\pm 3.9\text{ dB}$
DTS Bandwidth	$\pm 1\text{kHz}$
Occupied Bandwidth	$\pm 1\text{kHz}$
Power Density	$\pm 1.27\text{dB}$

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Model / Type number.....:	KWFP-220-WF
Trademark.....:	KylaS
Manufacturer.....:	Aztech Technologies Pte Ltd
Manufacturer Address.....:	31 Ubi Road 1, Aztech Building Singapore 408694

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

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

1.2 Antenna Information

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

1.3 Test date

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Jun. 28, 2019
Date (start test)	Jun. 28, 2019
Date (finish test)	Jul. 26, 2019

1.4 Data Rate

IEEE 802.11b

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

Table 1 –TX Antenna number = 1

IEEE 802.11g

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

Table 1 – MCS parameters for TX Antenna number = 1

IEEE 802.11n

Spatial streames	MCS Index	Modulation	R	Data Rate(Mb/s)			
				800ns GI		400ns GI	
				20MHz	40MHz	20MHz	40MHz
1	0	BPSK	1/2	6.5	13.5	7.2	15.0
1	1	QPSK	1/2	13.0	27.0	14.4	30.0
1	2	QPSK	3/4	19.5	40.5	21.7	45.0
1	3	16-QAM	1/2	26.0	54.0	28.9	60.0
1	4	16-QAM	3/4	39.0	81.0	43.3	90.0
1	5	64-QAM	2/3	52.0	108.0	57.8	120.0
1	6	64-QAM	3/4	58.5	121.5	65.0	135.0
1	7	64-QAM	5/6	65.0	135.0	72.2	150.0

Note 1: Support of 400ns GI is optional on transmit and receive.

Table 1 – MCS parameters for TX Antenna number = 1

1.5 Channel List

IEEE 802.11b/g & IEEE 802.11n(20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
001	2412 MHz	002	2417 MHz	003	2422 MHz	004	2427 MHz
005	2432 MHz	006	2437 MHz	007	2442 MHz	008	2447 MHz
009	2452 MHz	010	2457 MHz	011	2462 MHz	-	-

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

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

Test Mode	Mode 1: Transmit by 802.11b
	Mode 2: Transmit by 802.11g
	Mode 3: Transmit by 802.11n(20MHz)

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

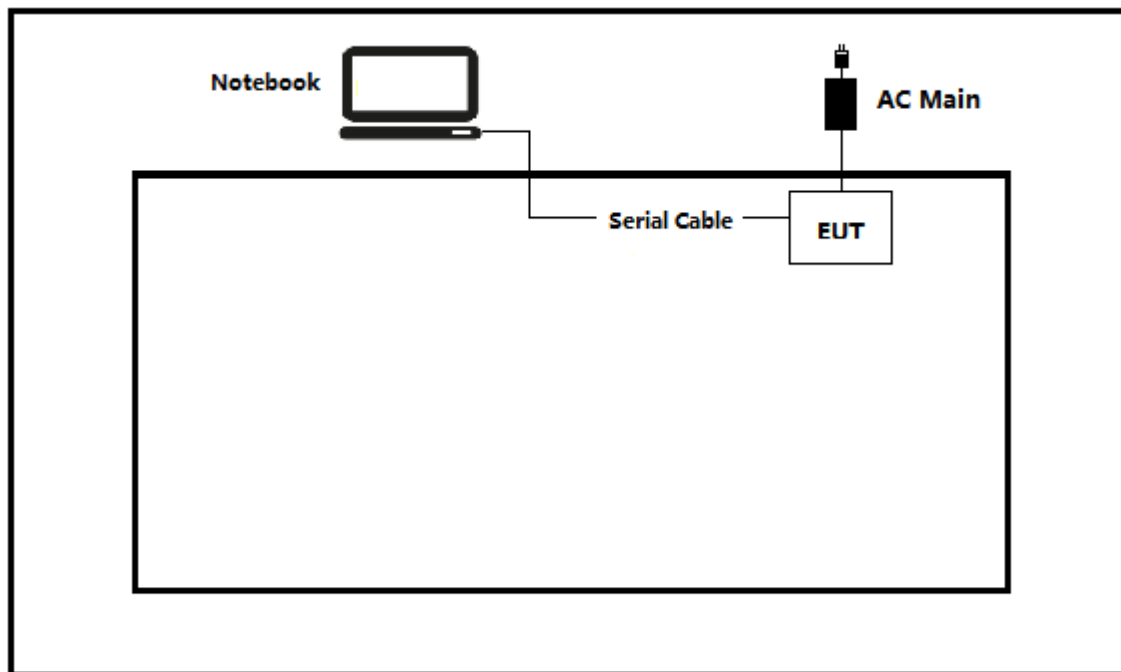
The EUT has been tested with the following auxiliary equipment / unit / software:

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
Notebook	Think pad x220	Lenovo	Adapter
unit / software	Type / Version	Manufacturer	Supplied by
software	Type / Version	Manufacturer	Supplied by
<u>Supplemental information:</u>			

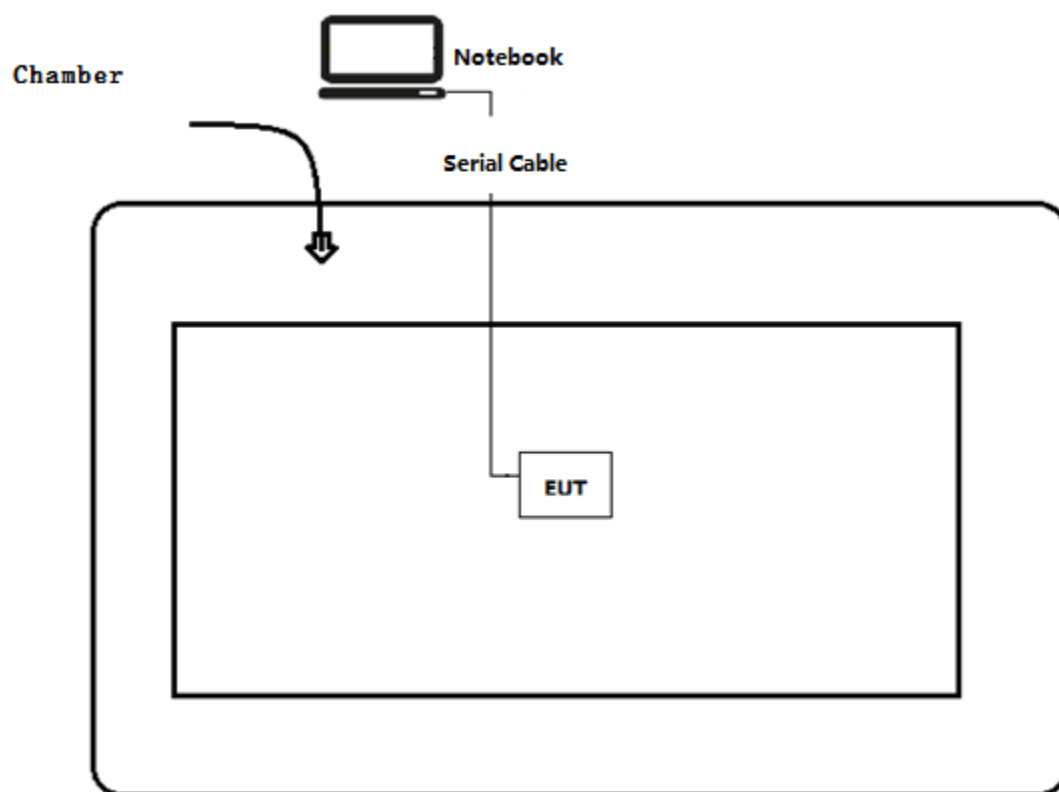
2.3 Test Configuration / Block diagram used for tests

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

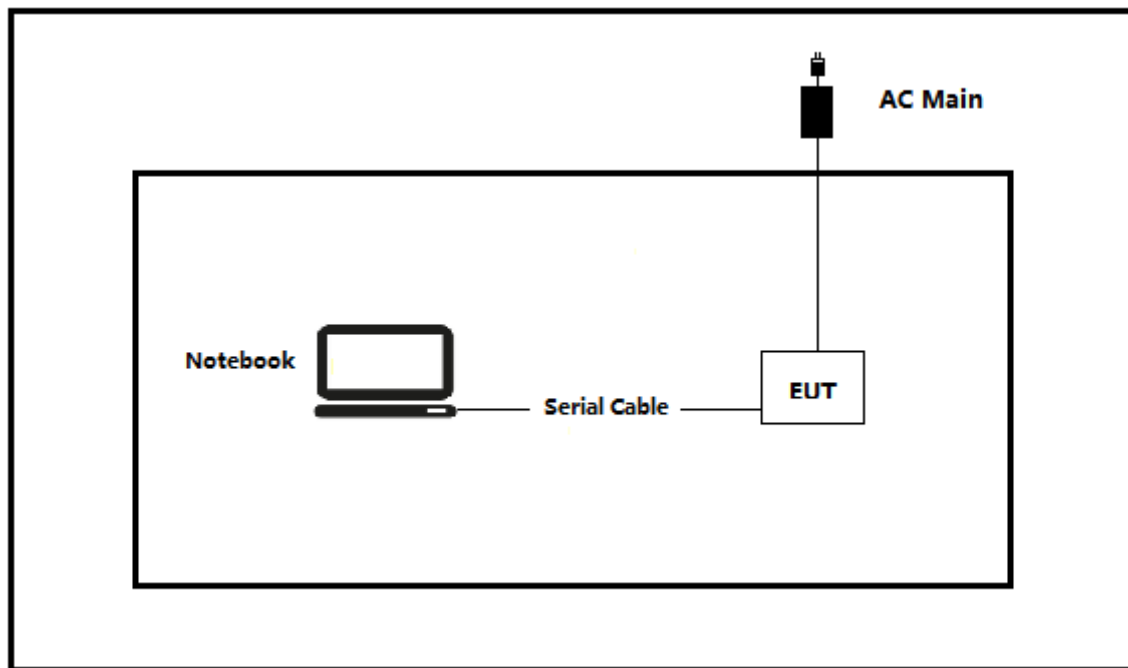
Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Conducted test



2.4 Testing process

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

3 VERDICT SUMMARY SECTION

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

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.247	2019	Operation within the bands 902 – 928 MHz, 2400 – 2483.5 MHz, and 5725 – 5850 MHz.
ANSI C63.10	2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01V05r02	2019	Guidance for performing compliance measurements on Digital Transmission System (DTS) operating under section 15.247

3.2 Overview of results

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

3.3 Test Facility

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

4 TEST RESULTS

4.1 AC Power Line Conducted Emission

VERDICT: PASS

4.1.1 Limit

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

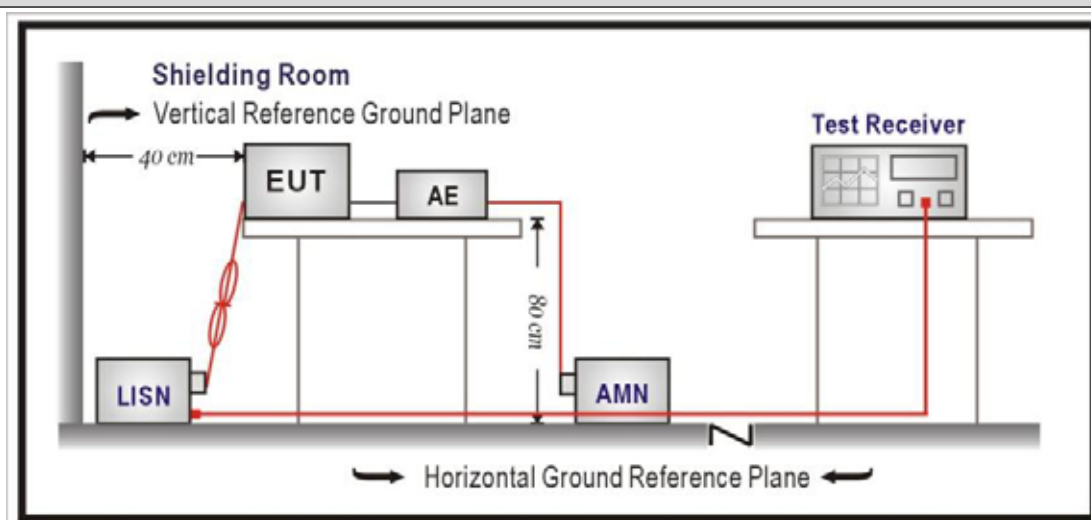
¹⁾ At the transition frequency, the lower limit applies.

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

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

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

4.1.2 Test Setup

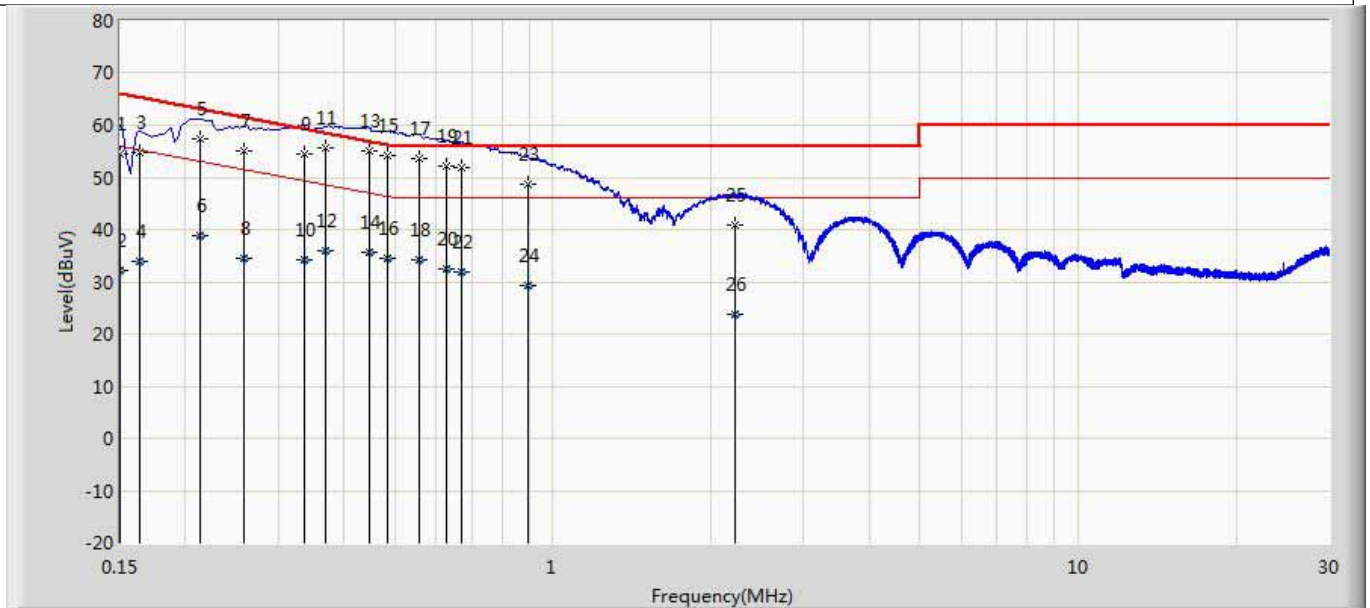


4.1.3 Test Procedure

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

4.1.4 Test Data

Site: TR1	Time: 2019/07/13
Limit: FCC_Part15.107_CE_AC Power_ClassC	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1	

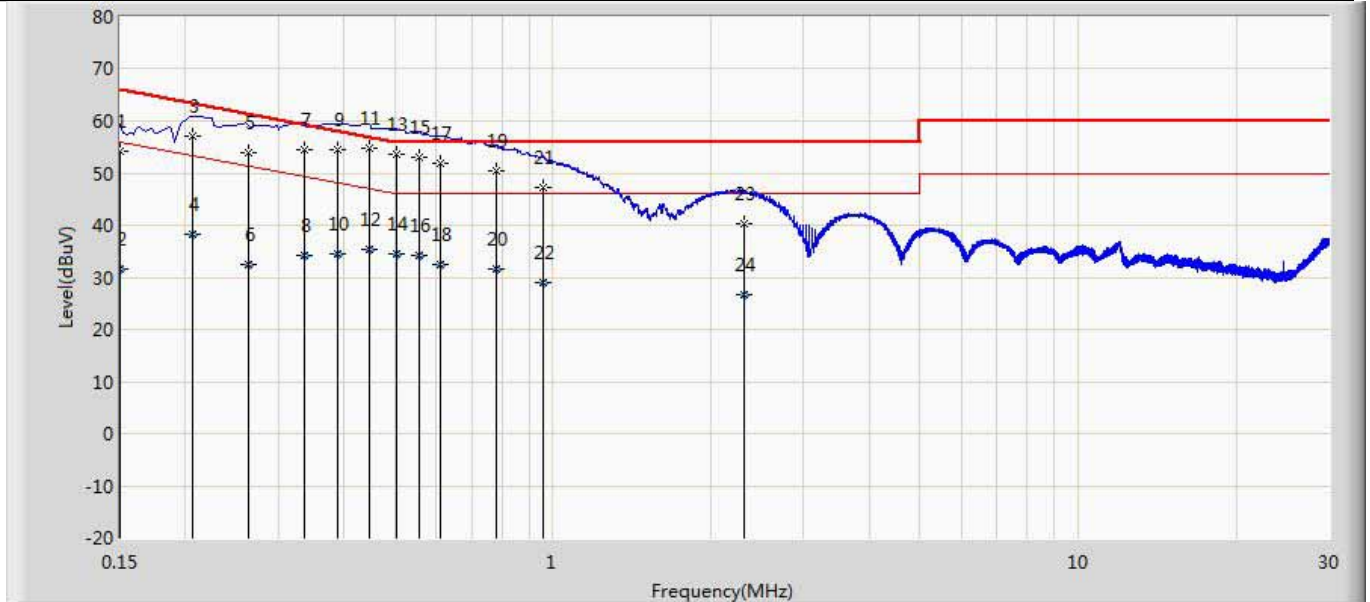


No	Mark	Frequency (MHz)	Measure Level (dBUV)	Reading Level (dBUV)	Over Limit (dB)	Limit (dBUV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	54.589	44.950	-11.411	66.000	9.610	0.029	0.000	QP
2		0.150	32.084	22.445	-23.916	56.000	9.610	0.029	0.000	AV
3		0.164	54.719	45.084	-10.565	65.284	9.607	0.029	0.000	QP
4		0.164	33.884	24.248	-21.401	55.284	9.607	0.029	0.000	AV
5		0.213	57.281	47.651	-5.807	63.088	9.600	0.029	0.000	QP
6		0.213	38.797	29.168	-14.290	53.088	9.600	0.029	0.000	AV
7		0.258	55.180	45.548	-6.316	61.496	9.600	0.032	0.000	QP
8		0.258	34.493	24.861	-17.002	51.496	9.600	0.032	0.000	AV
9		0.337	54.606	44.971	-4.677	59.283	9.600	0.035	0.000	QP
10		0.337	34.283	24.648	-15.000	49.283	9.600	0.035	0.000	AV
11		0.370	55.665	46.029	-2.824	58.490	9.600	0.037	0.000	QP
12		0.370	36.054	26.418	-12.435	48.490	9.600	0.037	0.000	AV
13	*	0.447	55.047	45.406	-1.884	56.931	9.600	0.041	0.000	QP
14		0.447	35.673	26.033	-11.257	46.931	9.600	0.041	0.000	AV
15		0.485	54.251	44.609	-1.998	56.249	9.600	0.042	0.000	QP
16		0.485	34.623	24.981	-11.626	46.249	9.600	0.042	0.000	AV
17		0.555	53.642	43.997	-2.358	56.000	9.600	0.045	0.000	QP
18		0.555	34.165	24.521	-11.835	46.000	9.600	0.045	0.000	AV
19		0.629	52.104	42.456	-3.896	56.000	9.600	0.048	0.000	QP
20		0.629	32.338	22.690	-13.662	46.000	9.600	0.048	0.000	AV
21		0.672	51.858	42.209	-4.142	56.000	9.600	0.049	0.000	QP
22		0.672	31.956	22.307	-14.044	46.000	9.600	0.049	0.000	AV
23		0.897	48.581	38.918	-7.419	56.000	9.607	0.056	0.000	QP
24		0.897	29.317	19.655	-16.683	46.000	9.607	0.056	0.000	AV



25		2.220	40.821	31.115	-15.179	56.000	9.614	0.093	0.000	QP
26		2.220	23.665	13.958	-22.335	46.000	9.614	0.093	0.000	AV

Site: TR1	Time: 2019/07/13
Limit: FCC_Part15.107_CE_AC Power_ClassC	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	54.231	44.608	-11.769	66.000	9.594	0.029	0.000	QP
2		0.150	31.591	21.968	-24.409	56.000	9.594	0.029	0.000	AV
3		0.206	56.996	47.368	-6.359	63.355	9.599	0.029	0.000	QP
4		0.206	38.257	28.630	-15.097	53.355	9.599	0.029	0.000	AV
5		0.263	54.023	44.394	-7.329	61.352	9.598	0.032	0.000	QP
6		0.263	32.430	22.800	-18.922	51.352	9.598	0.032	0.000	AV
7		0.337	54.546	44.916	-4.737	59.283	9.595	0.035	0.000	QP
8		0.337	34.163	24.533	-15.120	49.283	9.595	0.035	0.000	AV
9		0.389	54.499	44.868	-3.597	58.096	9.593	0.038	0.000	QP
10		0.389	34.476	24.844	-13.620	48.096	9.593	0.038	0.000	AV
11	*	0.447	54.778	45.145	-2.153	56.931	9.591	0.041	0.000	QP
12		0.447	35.447	25.815	-11.484	46.931	9.591	0.041	0.000	AV
13		0.503	53.695	44.060	-2.305	56.000	9.590	0.044	0.000	QP
14		0.503	34.499	24.864	-11.501	46.000	9.590	0.044	0.000	AV
15		0.555	52.974	43.340	-3.026	56.000	9.590	0.045	0.000	QP
16		0.555	34.166	24.532	-11.834	46.000	9.590	0.045	0.000	AV
17		0.609	51.983	42.346	-4.017	56.000	9.590	0.047	0.000	QP
18		0.609	32.586	22.949	-13.414	46.000	9.590	0.047	0.000	AV
19		0.782	50.488	40.846	-5.512	56.000	9.590	0.052	0.000	QP
20		0.782	31.515	21.873	-14.485	46.000	9.590	0.052	0.000	AV
21		0.958	47.154	37.505	-8.846	56.000	9.590	0.059	0.000	QP
22		0.958	28.967	19.318	-17.033	46.000	9.590	0.059	0.000	AV
23		2.317	40.362	30.653	-15.638	56.000	9.614	0.095	0.000	QP
24		2.317	26.628	16.919	-19.372	46.000	9.614	0.095	0.000	AV

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

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

4.2.1 Limit			
Standard		FCC Part 15 Subpart C Paragraph 15.207	
Restricted Bands of operation			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

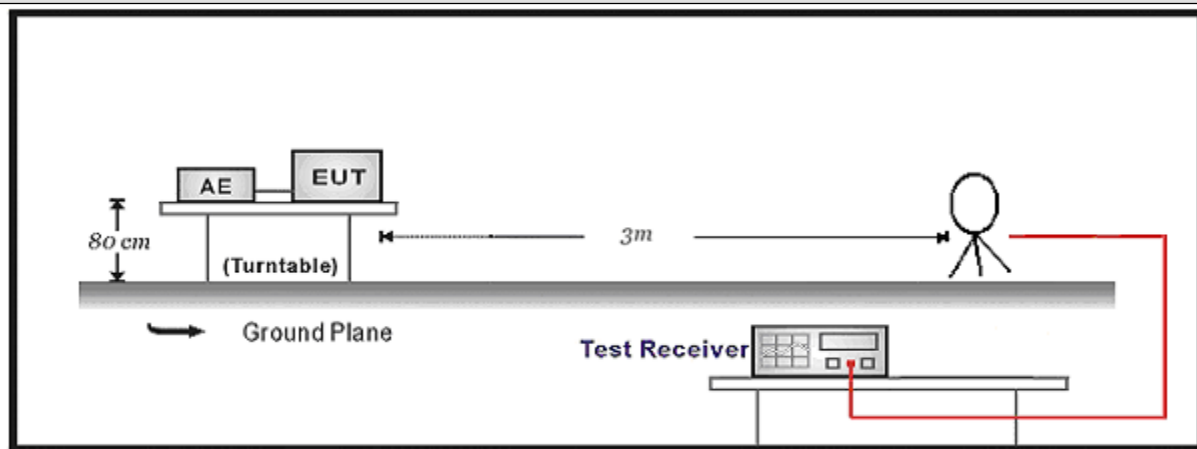
Restricted Band Emissions Limit			
Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5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

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

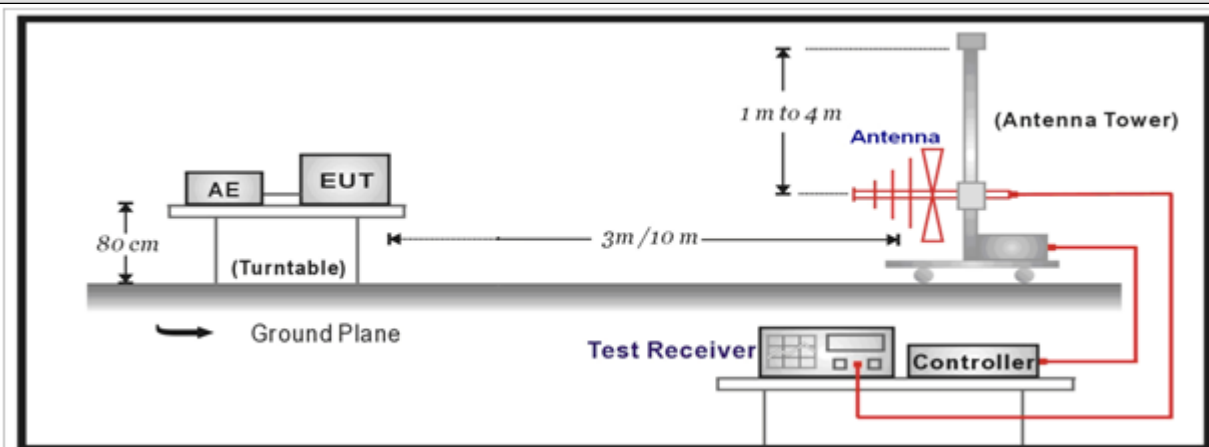
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated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

4.2.2 Test Setup

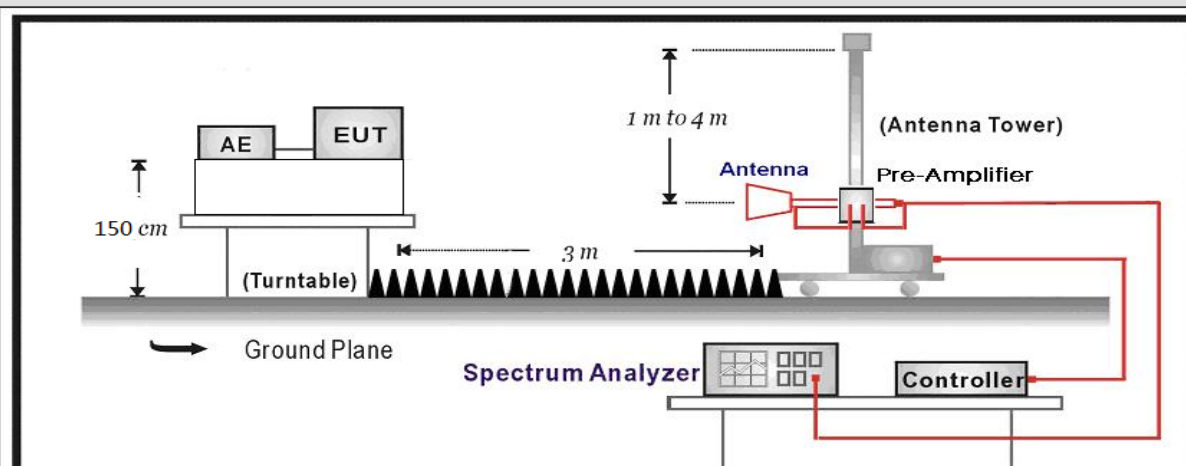
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:

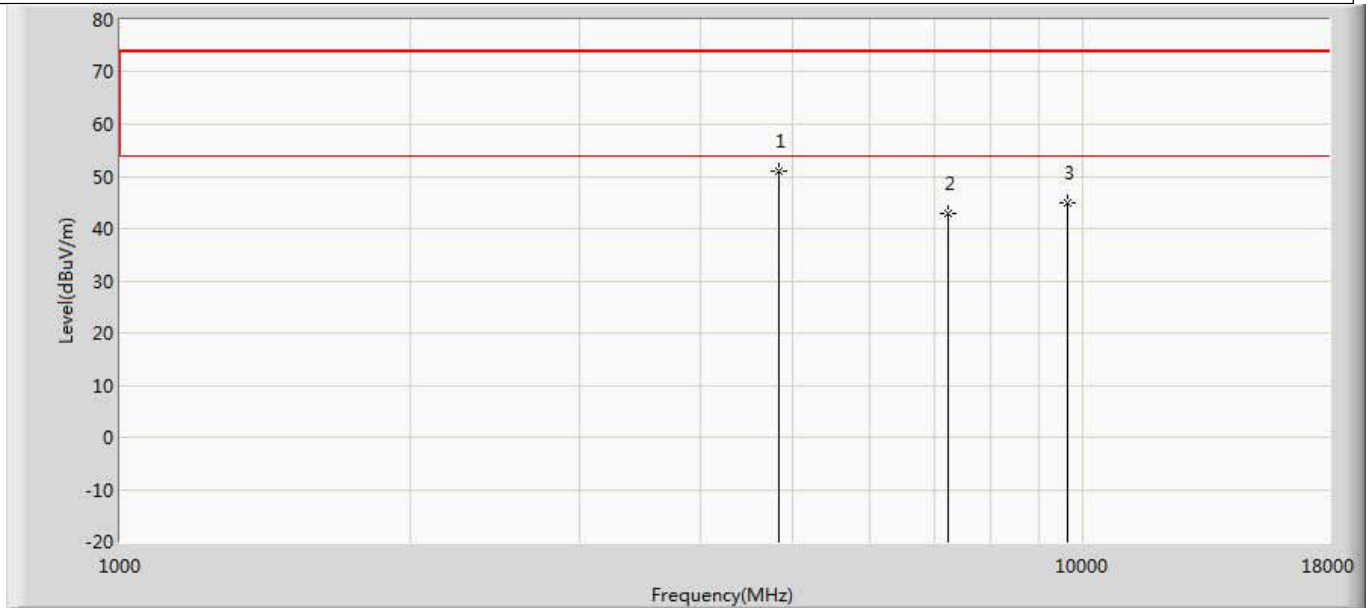


4.2.3 Test Procedure

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

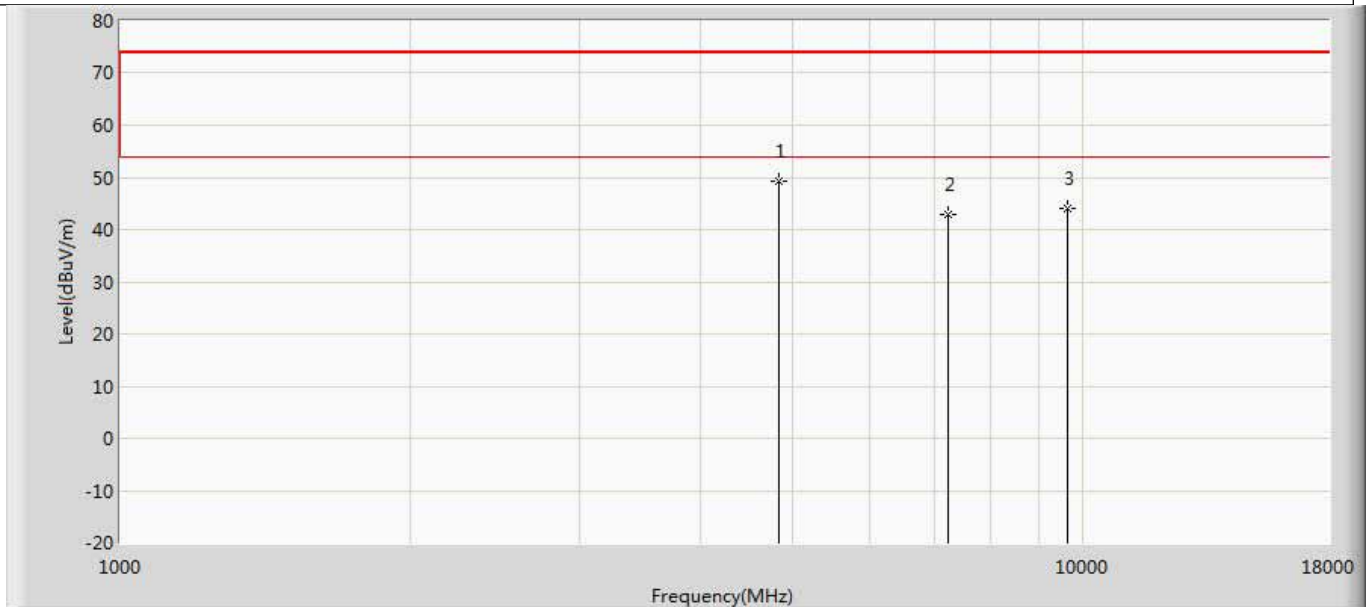
4.2.4 Test Data

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



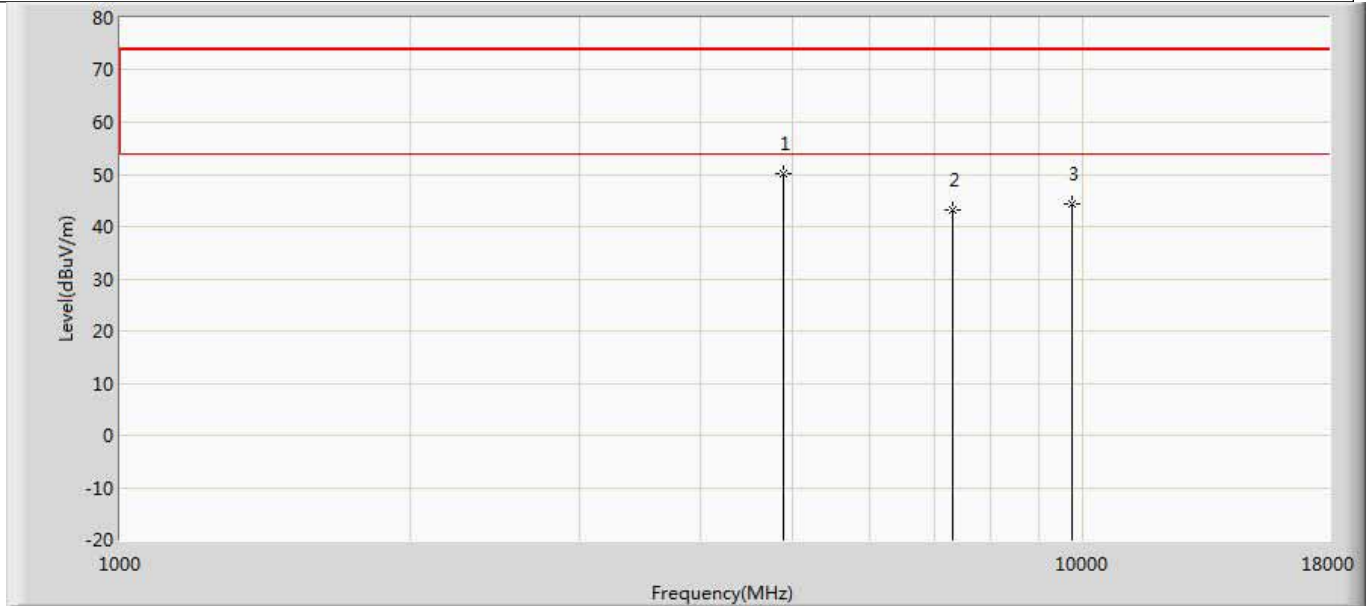
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4825.000	50.925	46.445	-23.075	74.000	4.480	PK
2		7236.000	42.832	35.142	-31.168	74.000	7.689	PK
3		9648.000	44.828	35.268	-29.172	74.000	9.560	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



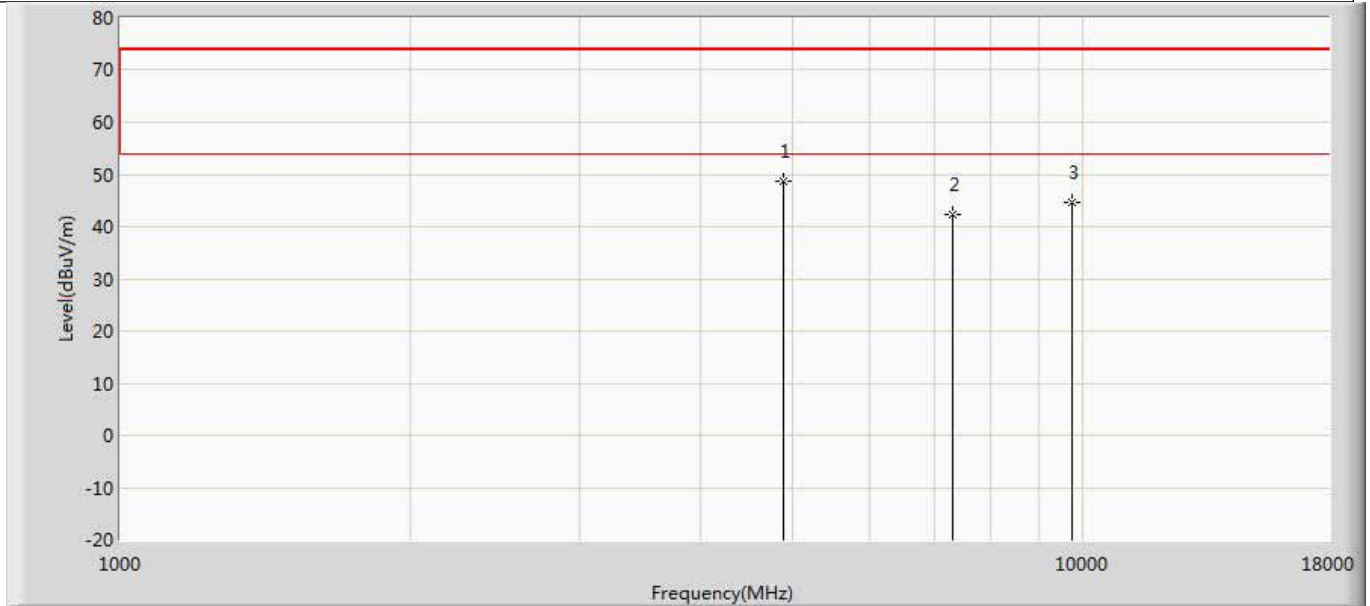
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4825.000	49.195	44.715	-24.805	74.000	4.480	PK
2		7236.000	42.968	35.278	-31.032	74.000	7.689	PK
3		9648.000	43.998	34.438	-30.002	74.000	9.560	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11b	



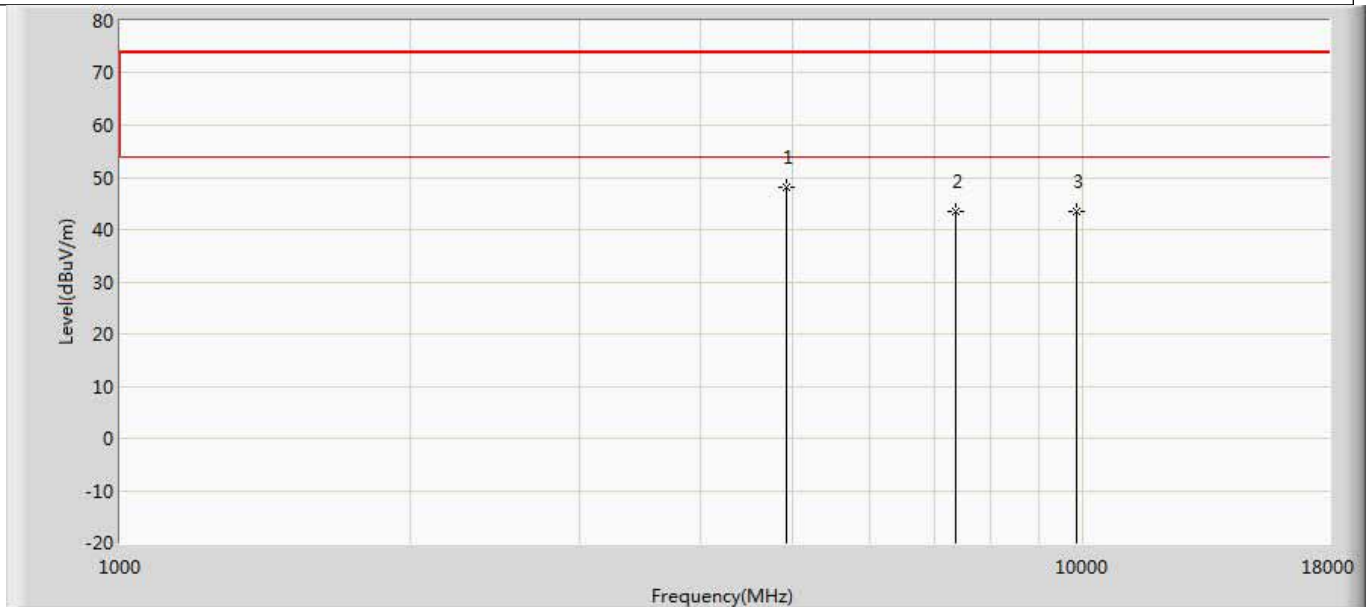
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4876.000	50.028	45.161	-23.972	74.000	4.867	PK
2		7311.000	43.063	35.485	-30.937	74.000	7.578	PK
3		9748.000	44.262	34.608	-29.738	74.000	9.654	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11b	



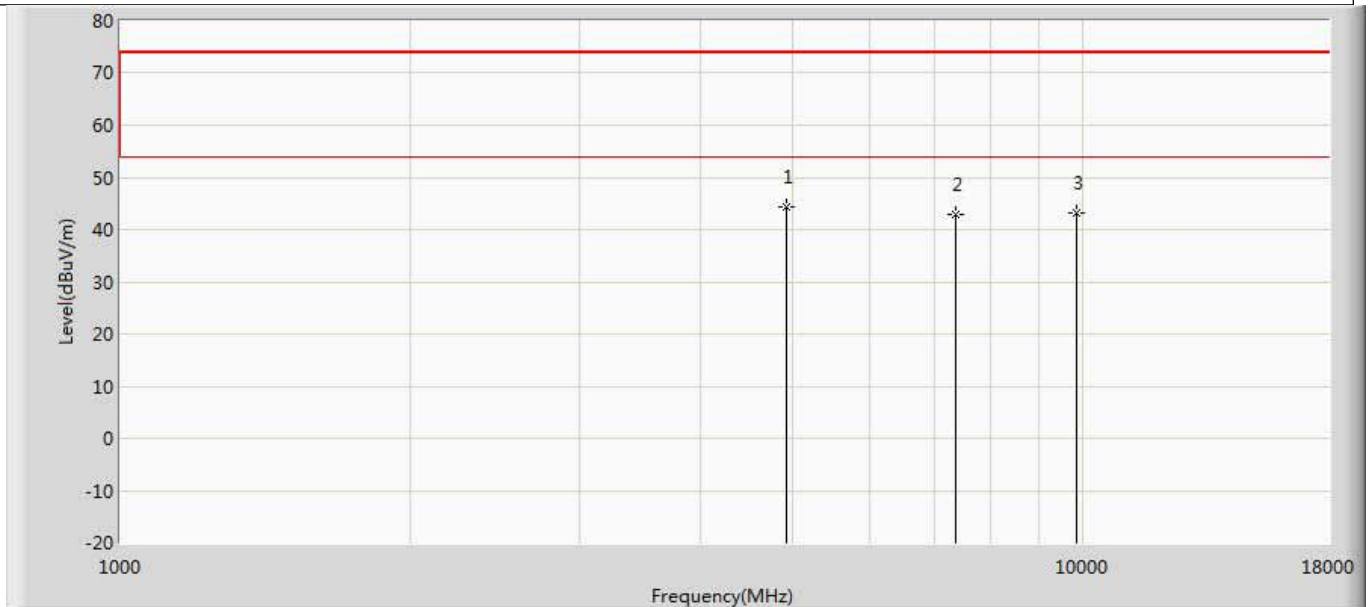
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4876.000	48.697	43.830	-25.303	74.000	4.867	PK
2		7311.000	42.321	34.743	-31.679	74.000	7.578	PK
3		9748.000	44.604	34.950	-29.396	74.000	9.654	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



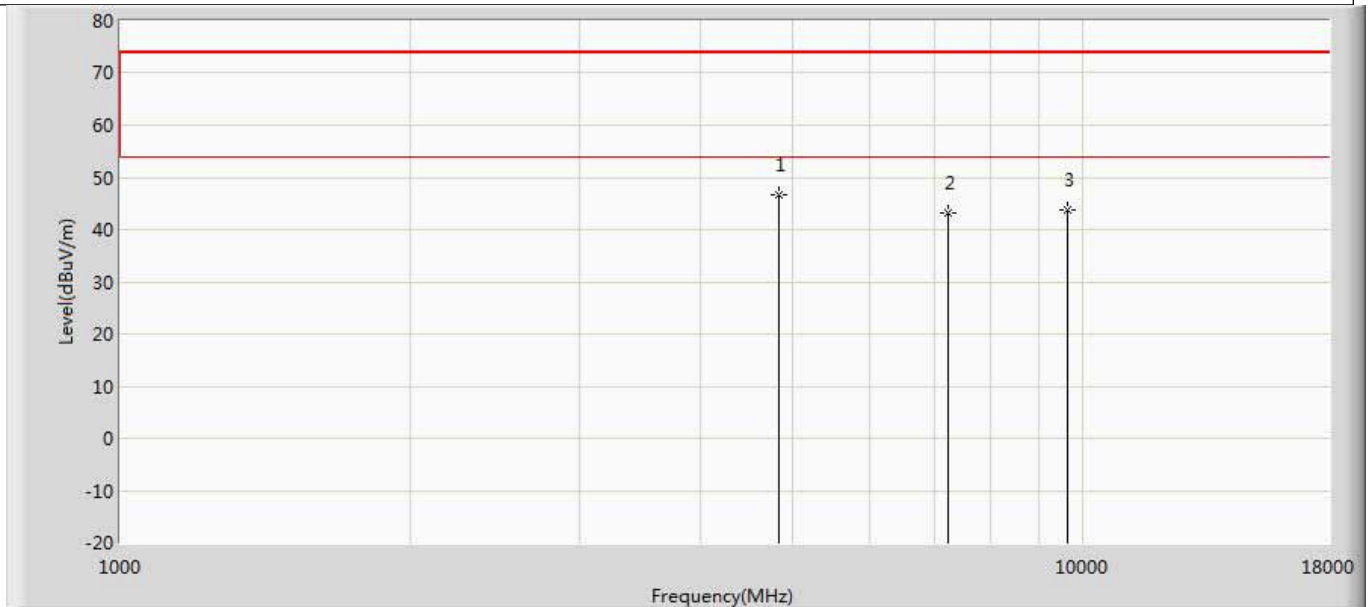
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4927.000	48.031	43.330	-25.969	74.000	4.701	PK
2		7386.000	43.609	35.828	-30.391	74.000	7.781	PK
3		9848.000	43.450	33.782	-30.550	74.000	9.668	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



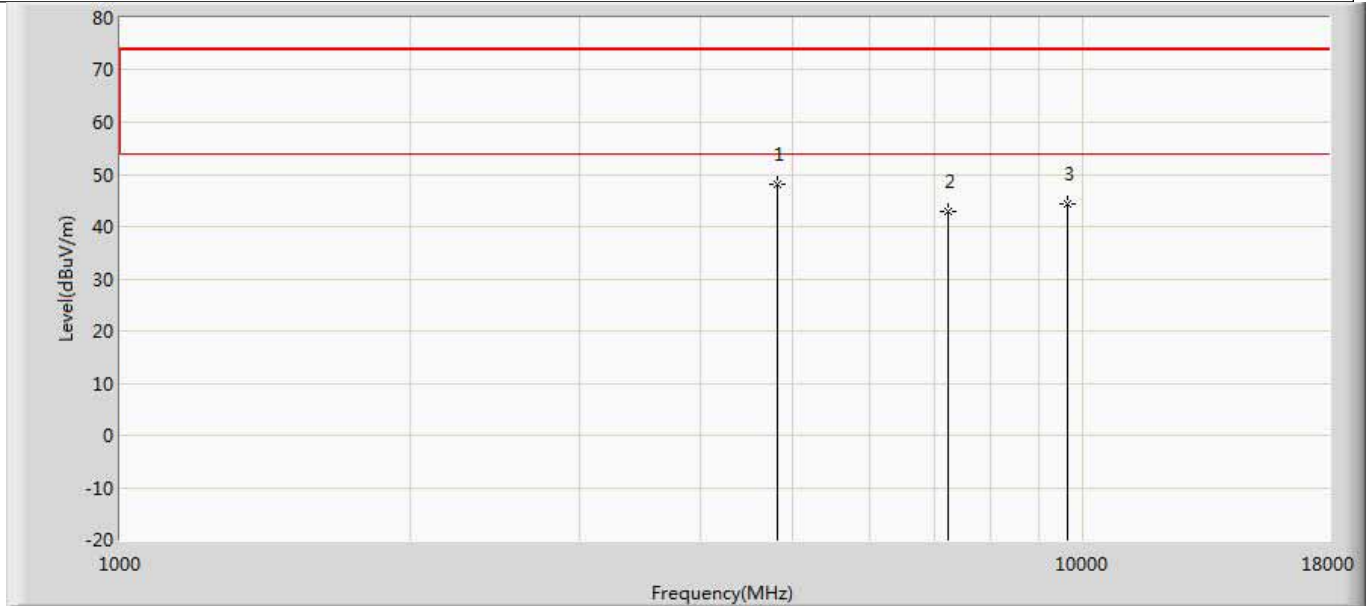
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4927.000	44.463	39.762	-29.537	74.000	4.701	PK
2		7386.000	43.028	35.247	-30.972	74.000	7.781	PK
3		9848.000	43.239	33.571	-30.761	74.000	9.668	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



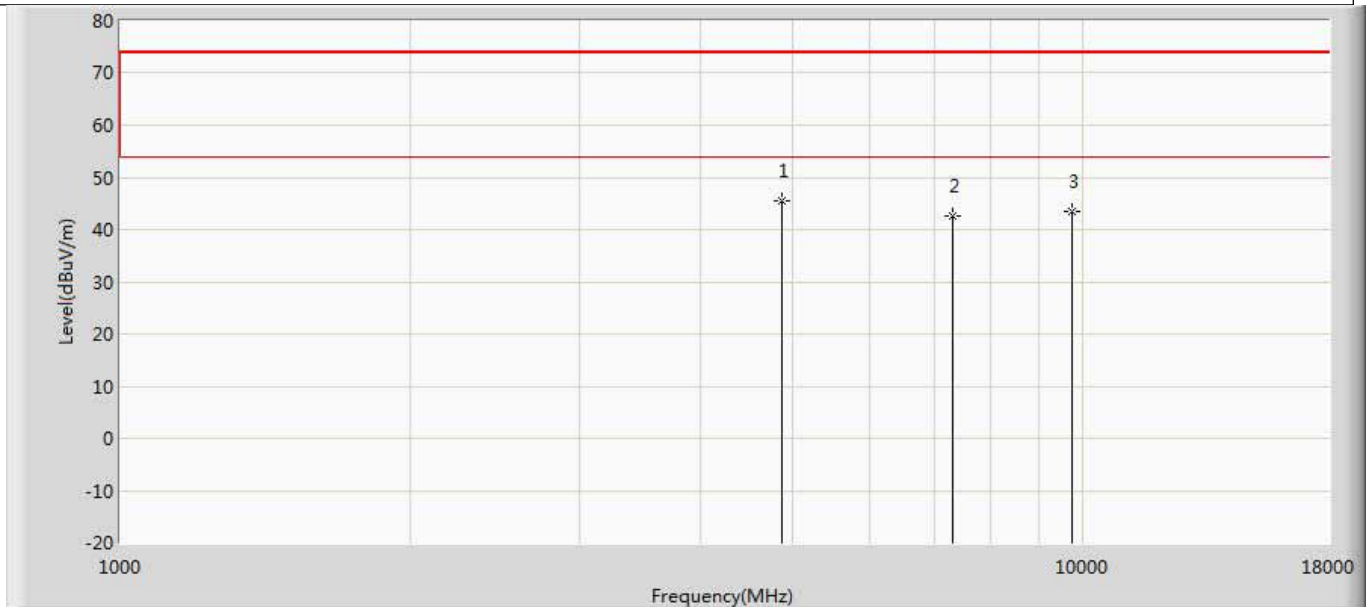
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4825.000	46.678	42.198	-27.322	74.000	4.480	PK
2		7236.000	43.269	35.579	-30.731	74.000	7.689	PK
3		9648.000	43.879	34.319	-30.121	74.000	9.560	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



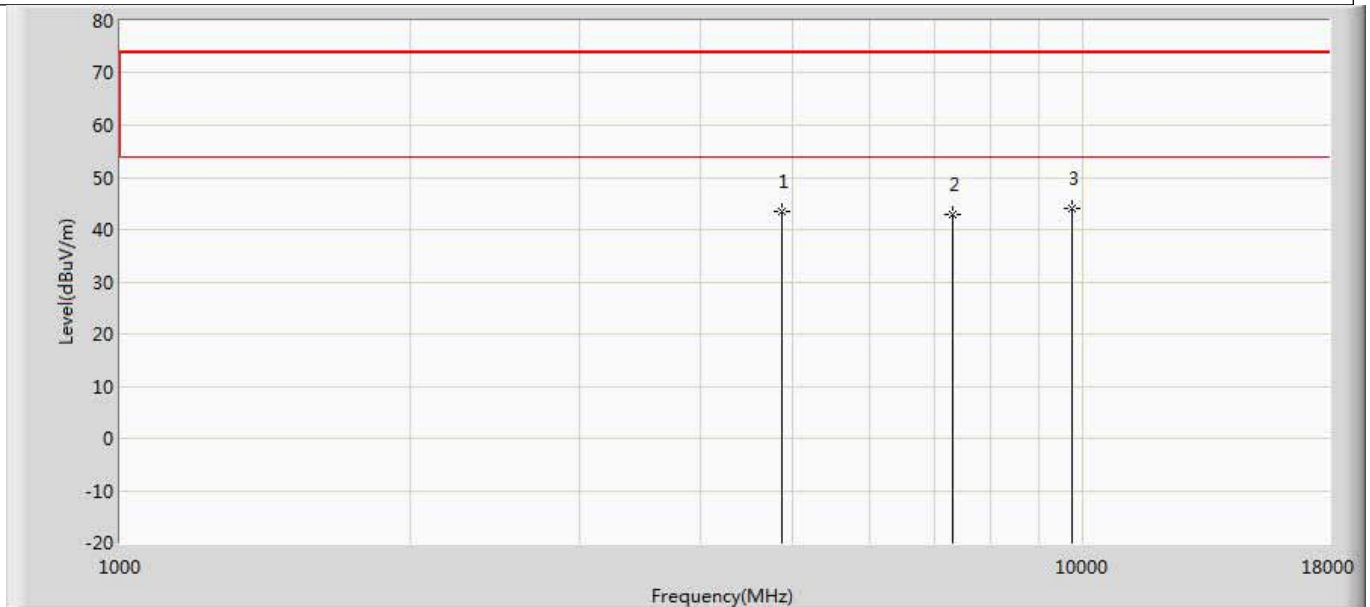
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4816.500	47.996	43.502	-26.004	74.000	4.495	PK
2		7236.000	42.841	35.151	-31.159	74.000	7.689	PK
3		9648.000	44.216	34.656	-29.784	74.000	9.560	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11g	



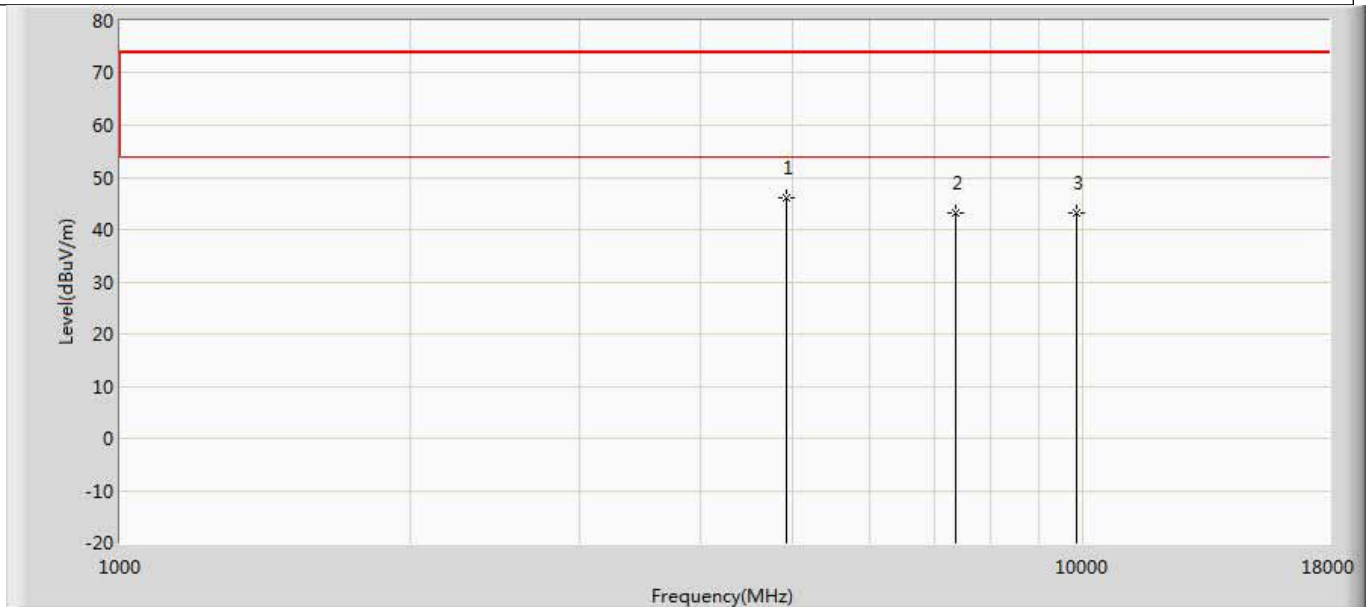
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4867.500	45.545	40.773	-28.455	74.000	4.772	PK
2		7311.000	42.584	35.006	-31.416	74.000	7.578	PK
3		9748.000	43.547	33.893	-30.453	74.000	9.654	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11g	



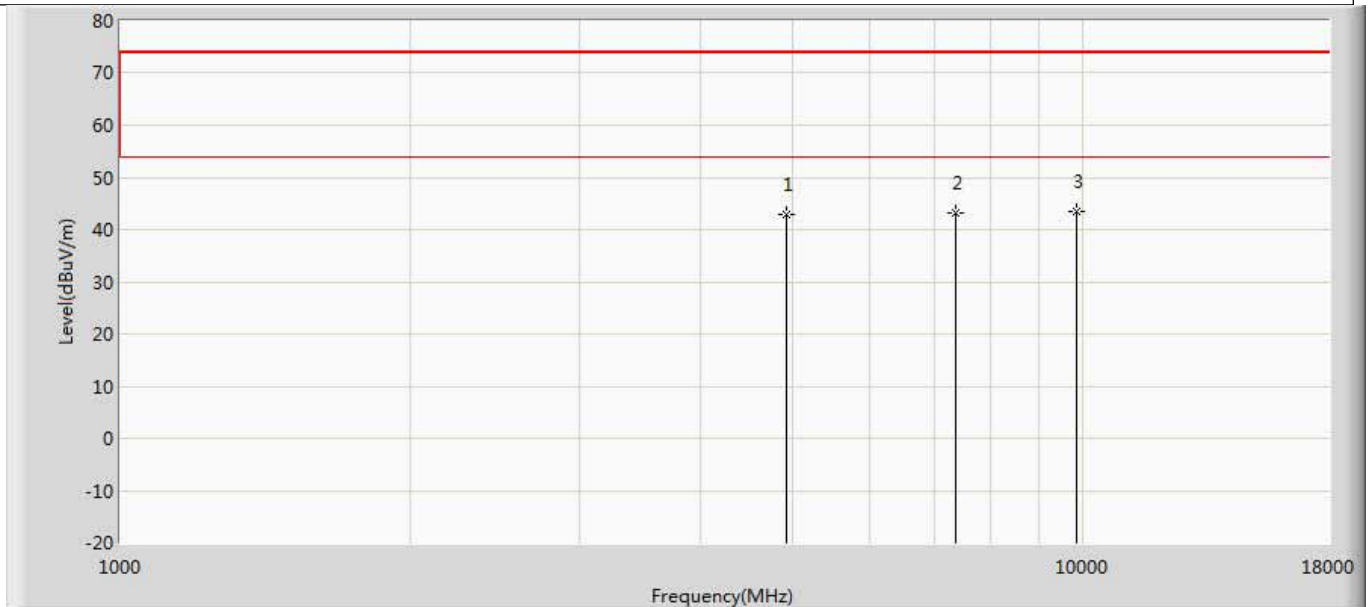
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	43.434	38.589	-30.566	74.000	4.844	PK
2		7311.000	42.952	35.374	-31.048	74.000	7.578	PK
3	*	9748.000	43.946	34.292	-30.054	74.000	9.654	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



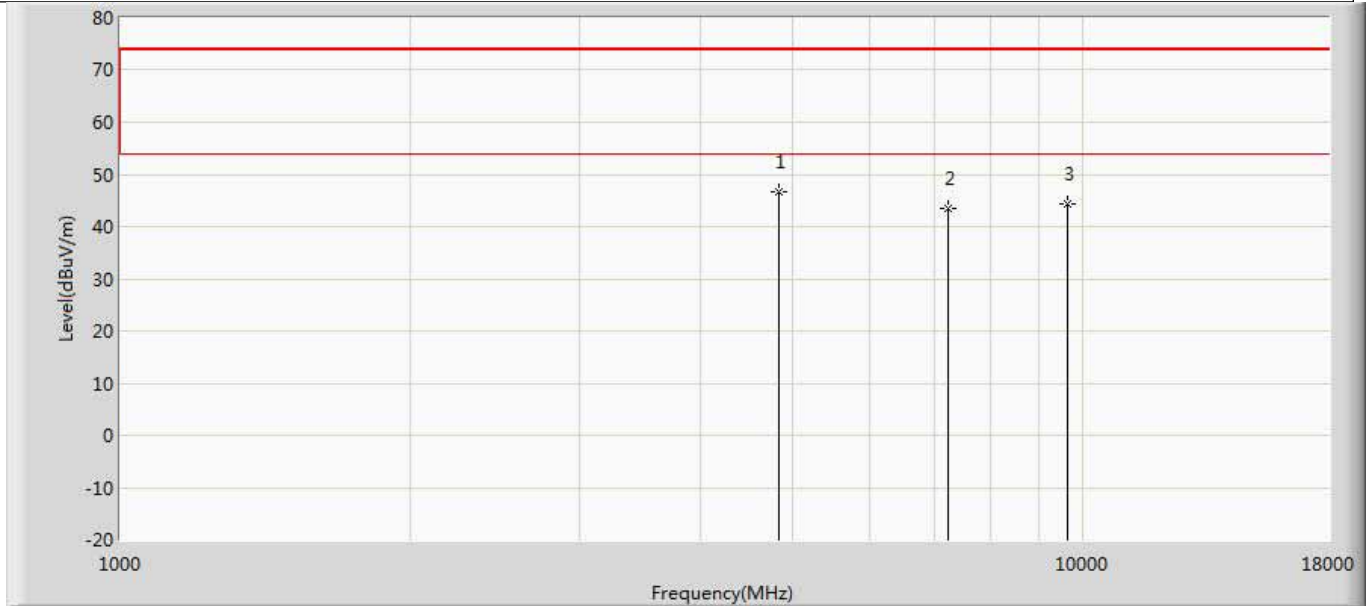
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4918.500	46.217	41.463	-27.783	74.000	4.754	PK
2		7386.000	43.325	35.544	-30.675	74.000	7.781	PK
3		9848.000	43.157	33.489	-30.843	74.000	9.668	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



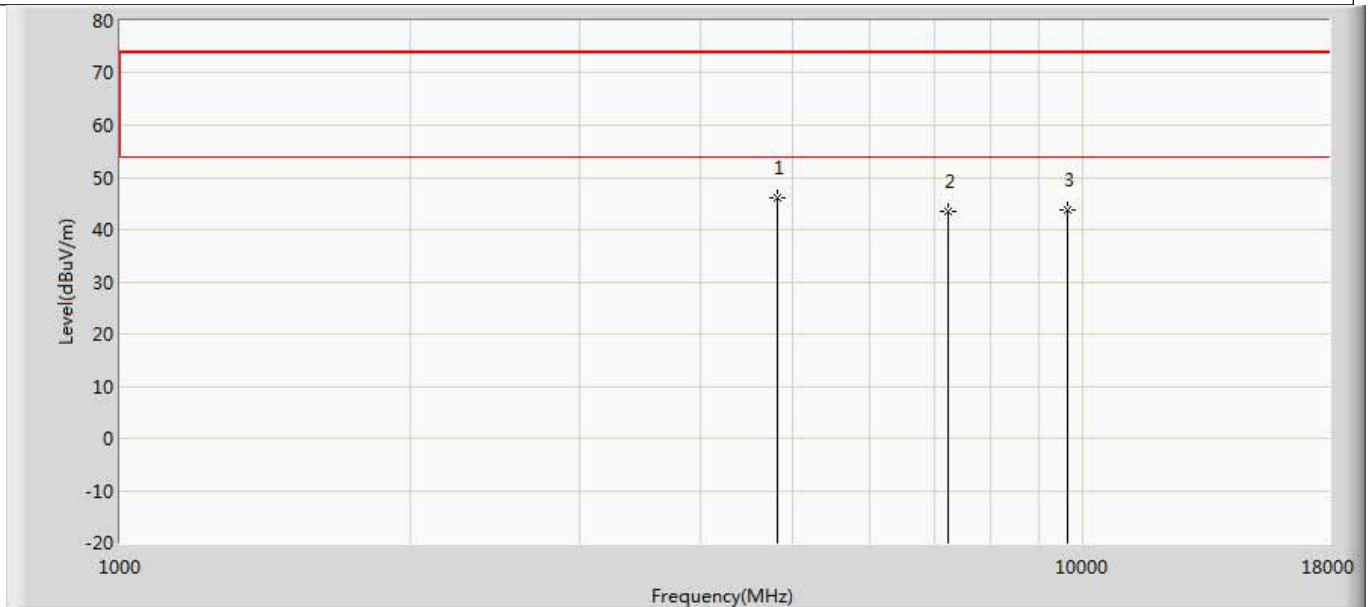
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	42.774	38.054	-31.226	74.000	4.719	PK
2		7386.000	43.255	35.474	-30.745	74.000	7.781	PK
3	*	9848.000	43.354	33.686	-30.646	74.000	9.668	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n20	



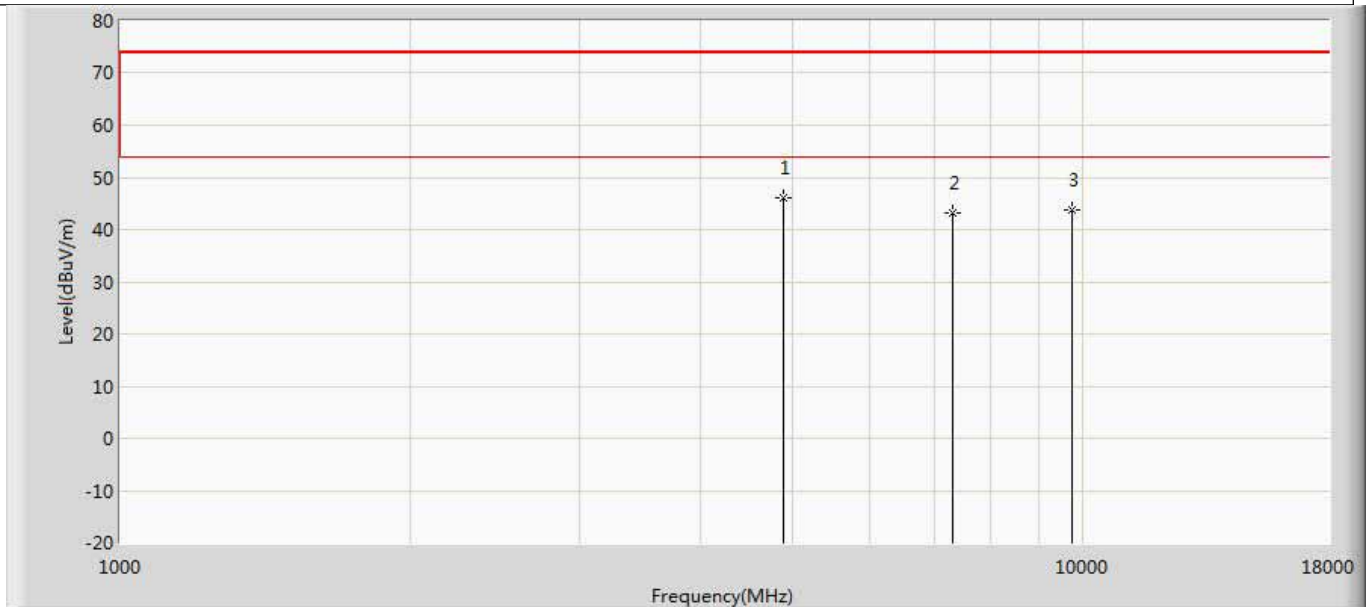
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4825.000	46.768	42.288	-27.232	74.000	4.480	PK
2		7236.000	43.473	35.783	-30.527	74.000	7.689	PK
3		9648.000	44.274	34.714	-29.726	74.000	9.560	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n20	



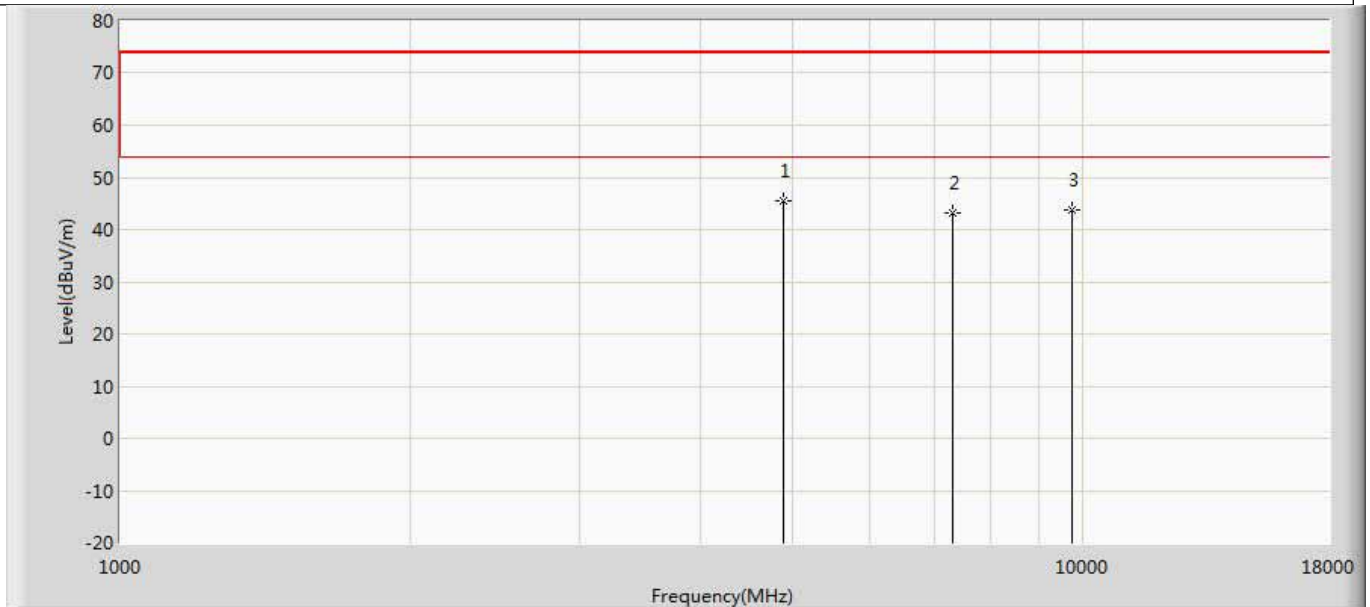
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4816.500	46.163	41.669	-27.837	74.000	4.495	PK
2		7236.000	43.399	35.709	-30.601	74.000	7.689	PK
3		9648.000	43.787	34.227	-30.213	74.000	9.560	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11n20	



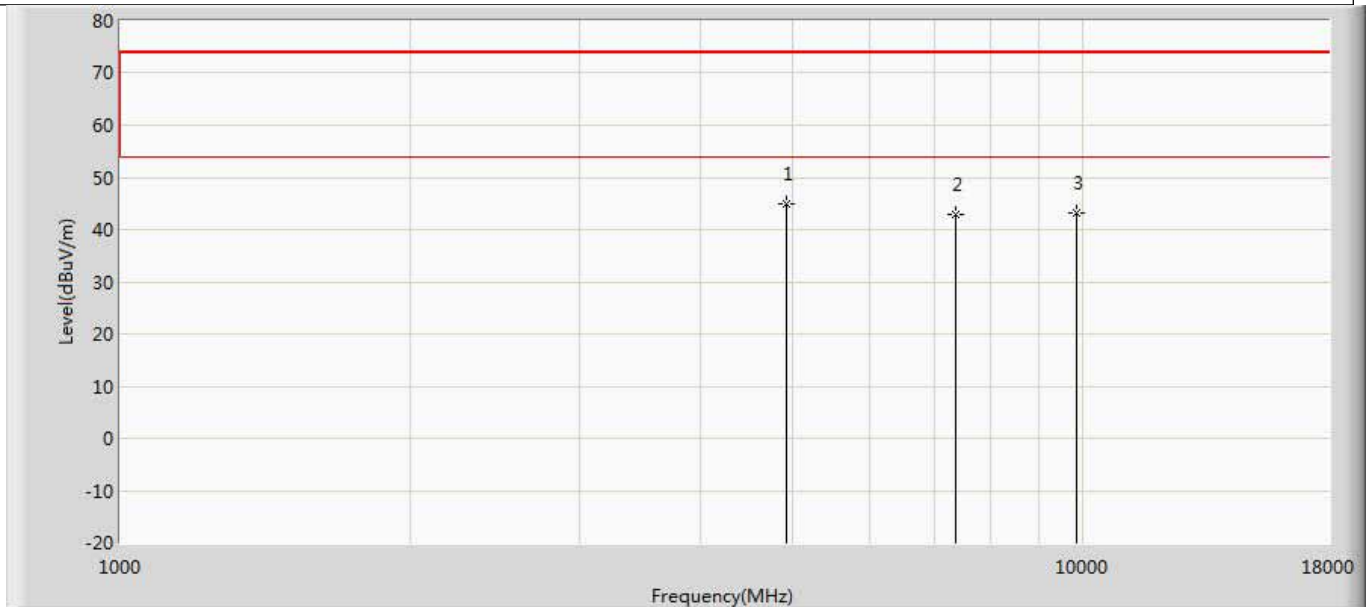
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4884.500	46.220	41.525	-27.780	74.000	4.696	PK
2		7311.000	43.310	35.732	-30.690	74.000	7.578	PK
3		9748.000	43.722	34.068	-30.278	74.000	9.654	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11n20	



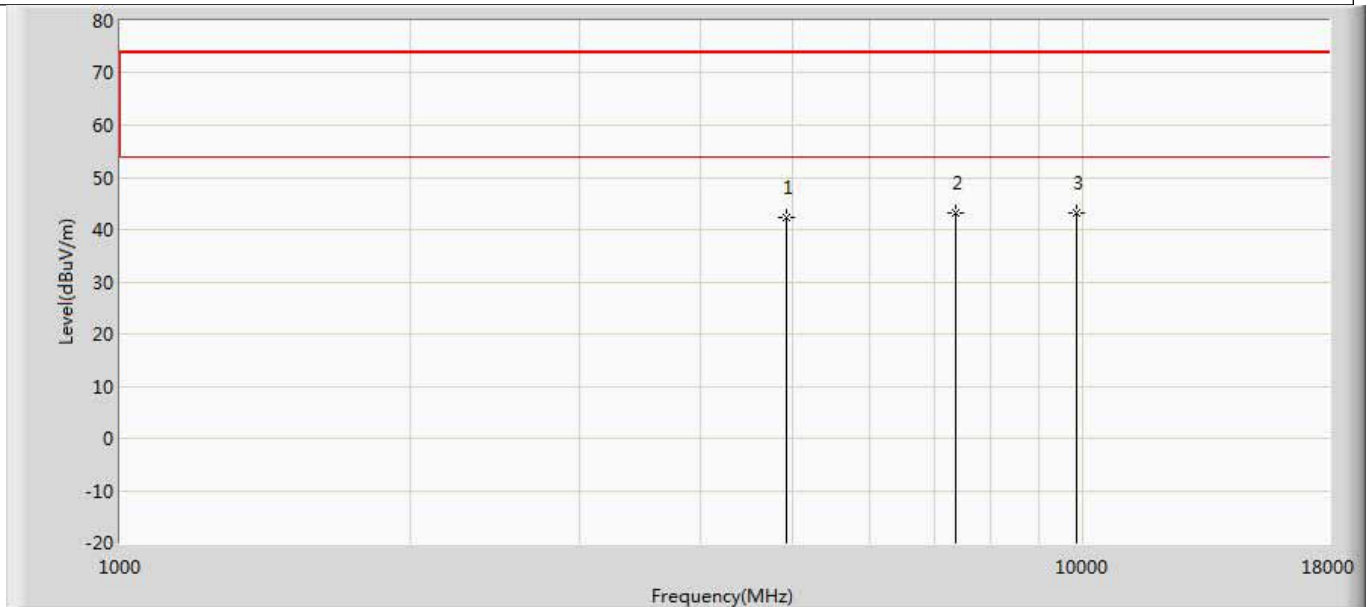
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4876.000	45.457	40.590	-28.543	74.000	4.867	PK
2		7311.000	43.097	35.519	-30.903	74.000	7.578	PK
3		9748.000	43.797	34.143	-30.203	74.000	9.654	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n20	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4918.500	45.010	40.256	-28.990	74.000	4.754	PK
2		7386.000	43.024	35.243	-30.976	74.000	7.781	PK
3		9848.000	43.151	33.483	-30.849	74.000	9.668	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/18 - 11:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n20	

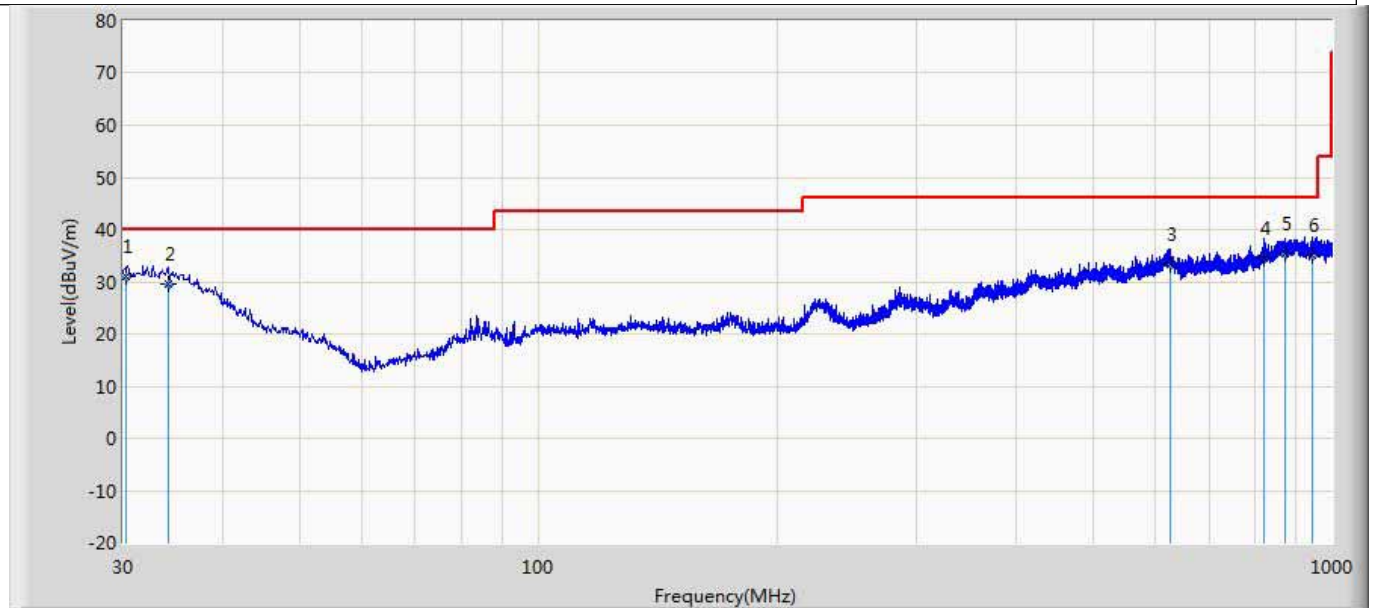


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	42.232	37.512	-31.768	74.000	4.719	PK
2	*	7386.000	43.285	35.504	-30.715	74.000	7.781	PK
3		9848.000	43.140	33.472	-30.860	74.000	9.668	PK

Remark	1. " * ", means this data is the worst emission level. 2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp). 3. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report. 4. 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. 5. The complete raw data please refer to Appendix RSE, Shown in the report is the worst data.
--------	--

The worst case of Radiated Emission below 1GHz:

Engineer: Glory	
Site: AC2	Time: 2019/07/10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1	

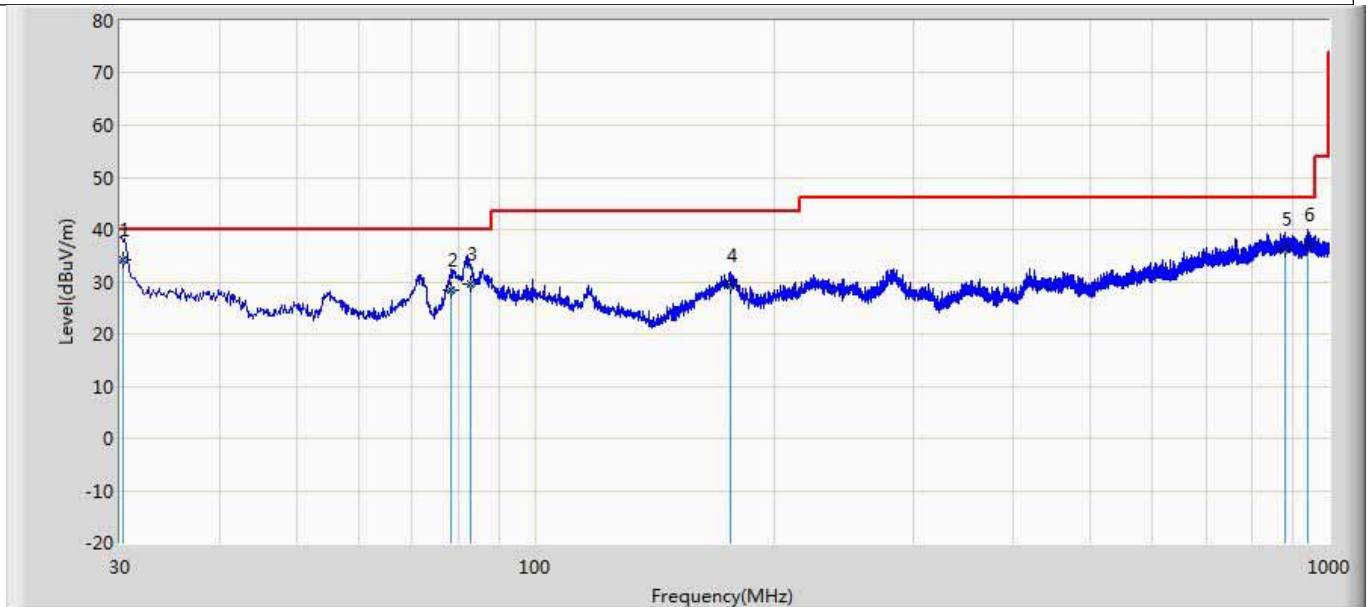


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1	*	30.286	30.909	3.254	-9.091	40.000	21.032	6.623	0.000	300	316	QP
2		34.215	29.469	2.114	-10.531	40.000	20.692	6.663	0.000	400	58	QP
3		625.335	33.456	2.774	-12.544	46.000	22.111	8.570	0.000	100	348	QP
4		821.596	34.439	3.020	-11.561	46.000	22.358	9.061	0.000	300	182	QP
5		871.862	35.414	2.581	-10.586	46.000	23.651	9.182	0.000	400	306	QP
6		946.558	35.015	2.152	-10.985	46.000	23.521	9.343	0.000	200	240	QP

Note:

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

Engineer: Glory	
Site: AC2	Time: 2019/07/10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: WiFi Plug US	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	*	30.218	34.307	10.000	-5.693	40.000	17.685	6.622	0.000	100	345	QP
2		78.457	28.363	13.684	-11.637	40.000	8.024	6.655	0.000	100	342	QP
3		82.870	29.448	13.700	-10.552	40.000	9.073	6.675	0.000	100	317	QP
4		176.054	29.212	10.857	-14.288	43.500	11.066	7.289	0.000	200	178	QP
5		879.047	36.274	2.845	-9.726	46.000	24.230	9.200	0.000	100	105	QP
6		942.521	37.072	3.257	-8.928	46.000	24.481	9.334	0.000	100	360	QP

Note:

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

4.3 Emissions in non-restricted frequency band

VERDICT: PASS

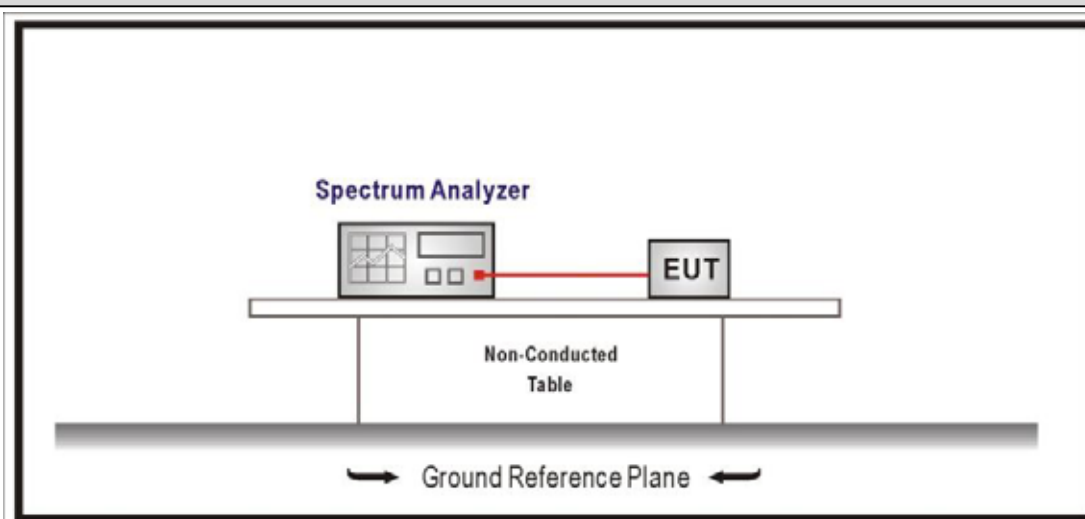
4.3.1 Limit

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

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

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

4.3.2 Test Setup



4.3.3 Test Procedure

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

4.3.4 Test Data

Mode	Channel	Test Frequency (MHz)	Maximum In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	1	2412	5.379	2398.51	-50.437	55.816	≥ 20	Pass
	11	2462	9.409	2500	-52.745	62.154	≥ 20	Pass
2	1	2412	1.858	2400	-42.006	43.864	≥ 20	Pass
	11	2462	6.441	2500	-50.493	56.934	≥ 20	Pass
3	1	2412	2.231	2400	-37.528	39.759	≥ 20	Pass
	11	2462	6.820	2500	-50.492	57.312	≥ 20	Pass

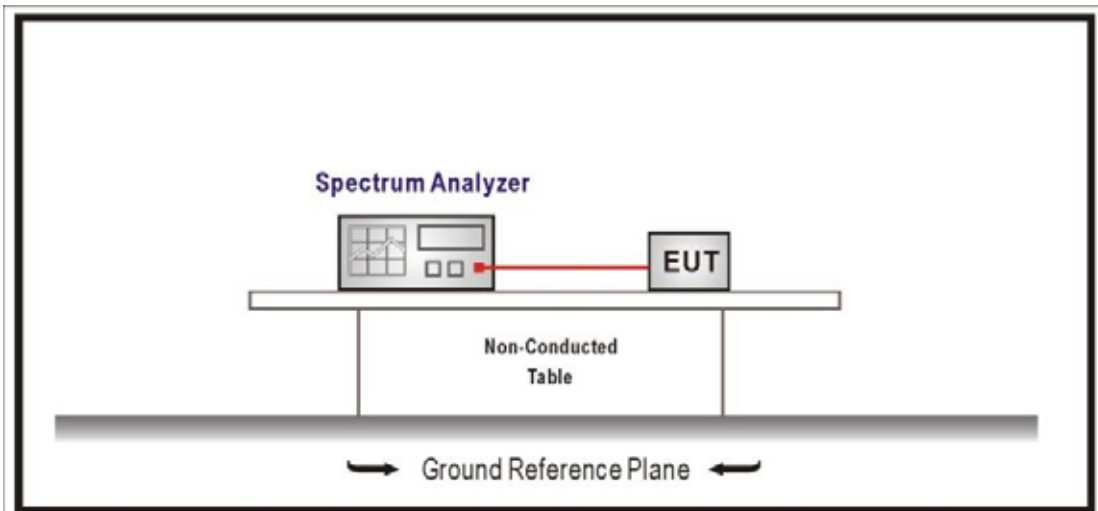
Note: The worst case of emissions in non-restricted frequency bands as below:

Mode 3 CH01(2412MHz)



4.4 Duty cycle	VERDICT: PASS
-----------------------	----------------------

4.4.1 Limit
N/A

4.4.2 Test Setup
 The diagram illustrates the test setup. A Spectrum Analyzer and an EUT (Equipment Under Test) are placed on a Non-Conducted Table. They are connected by a red line, representing a signal path. Below the table is a Ground Reference Plane, indicated by a horizontal line with arrows pointing outwards.

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

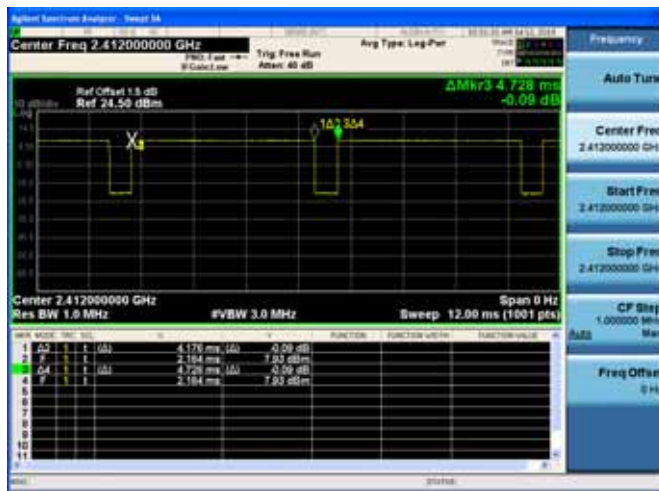
4.4.4 Test Data

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
1	4.176	0.552	240k	4.728	88.32%
2	0.680	0.114	1.5k	0.794	85.64%
3	0.638	0.118	1.6k	0.756	84.39%

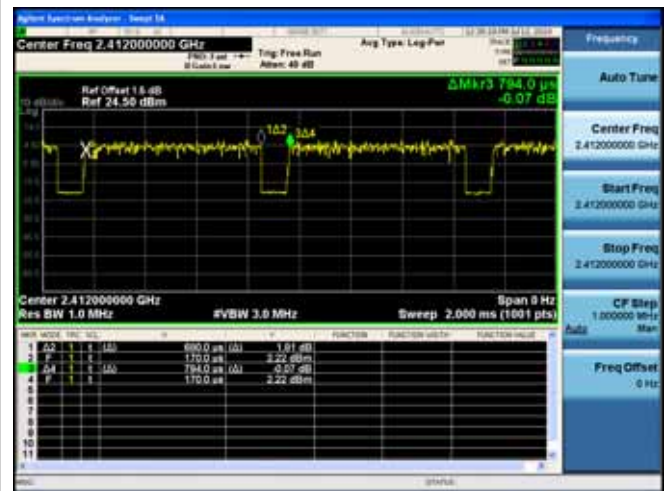
Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

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.

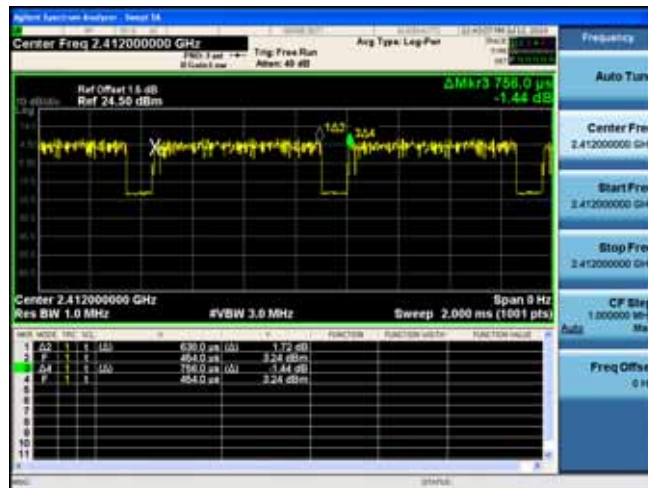
802.11b



802.11g



802.11n(20MHz)



4.5 Radiated Emission Band Edge	VERDICT: PASS
--	----------------------

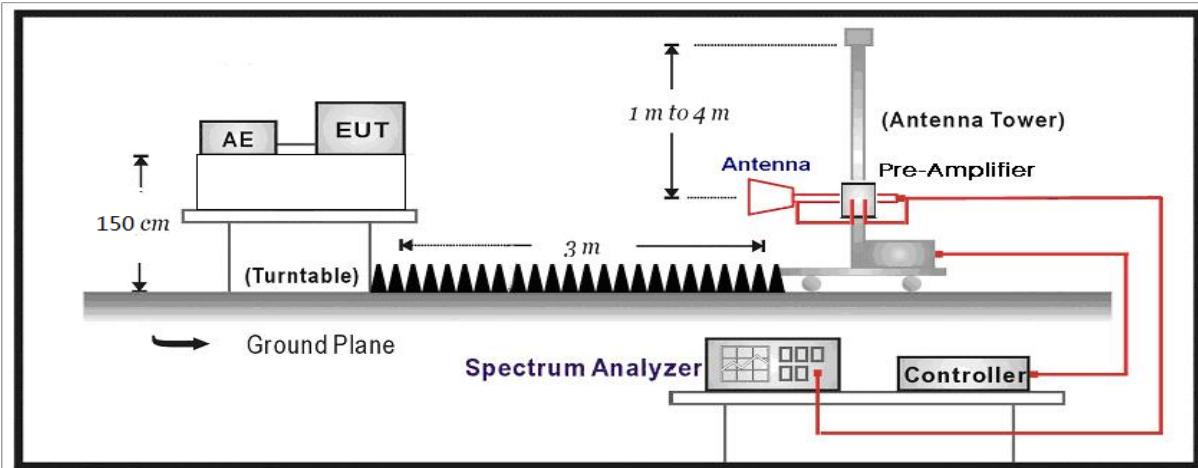
4.5.1 Limit

Standard		FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209		
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	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

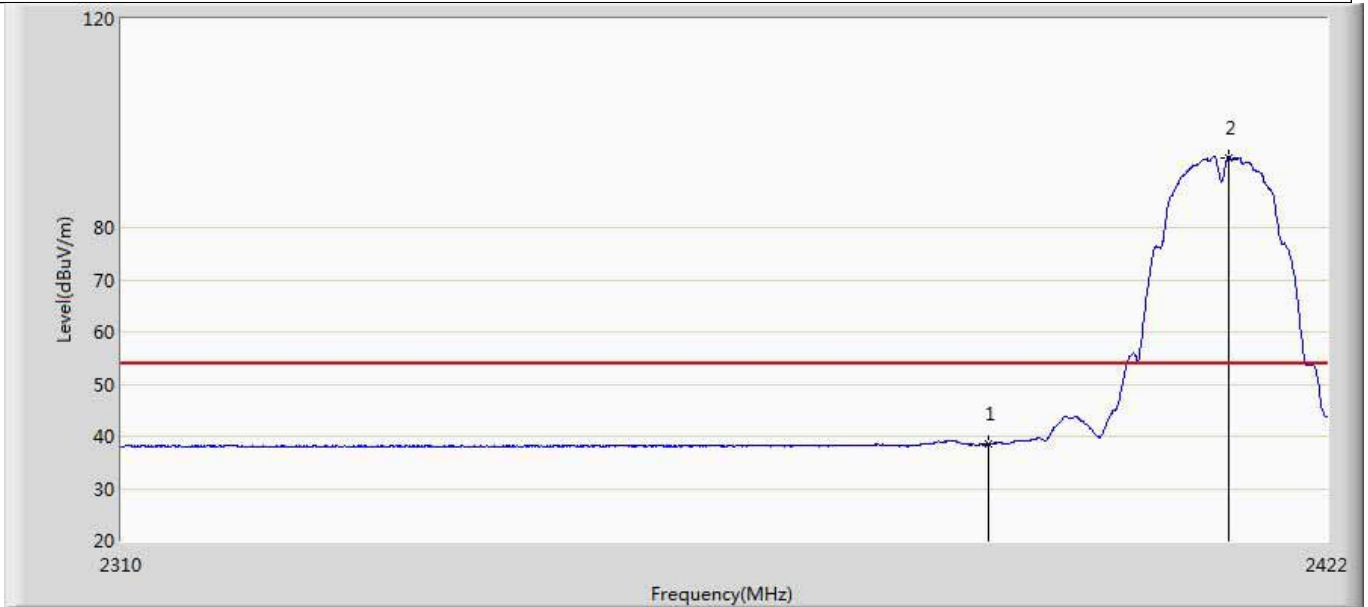
Above 1GHz Test Setup:



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

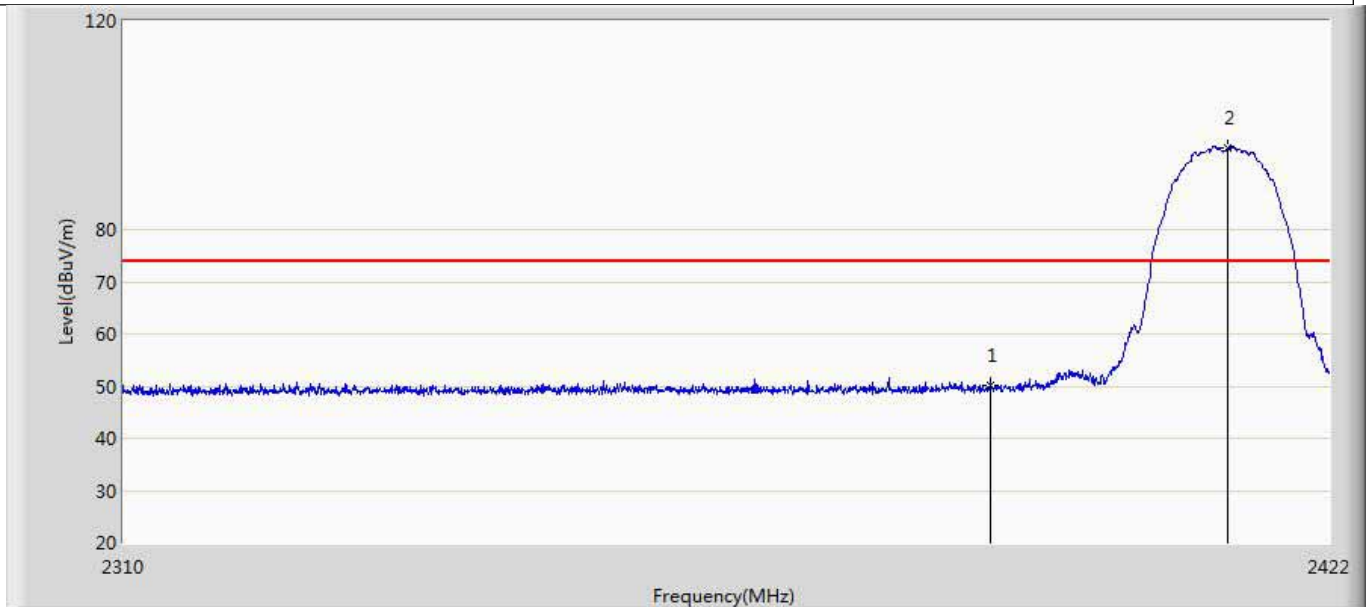
4.5.4 Test Data

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 14:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



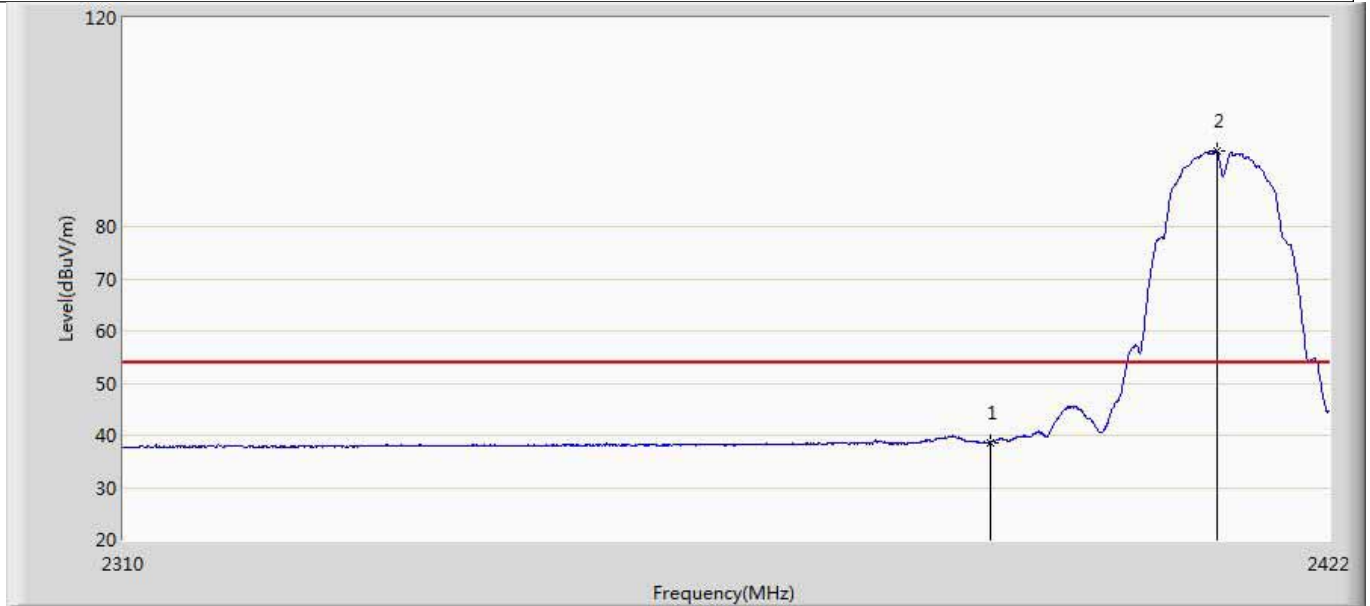
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.473	2.791	-15.527	54.000	35.682	AV
2	*	2412.648	93.450	57.706	N/A	N/A	35.744	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 14:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



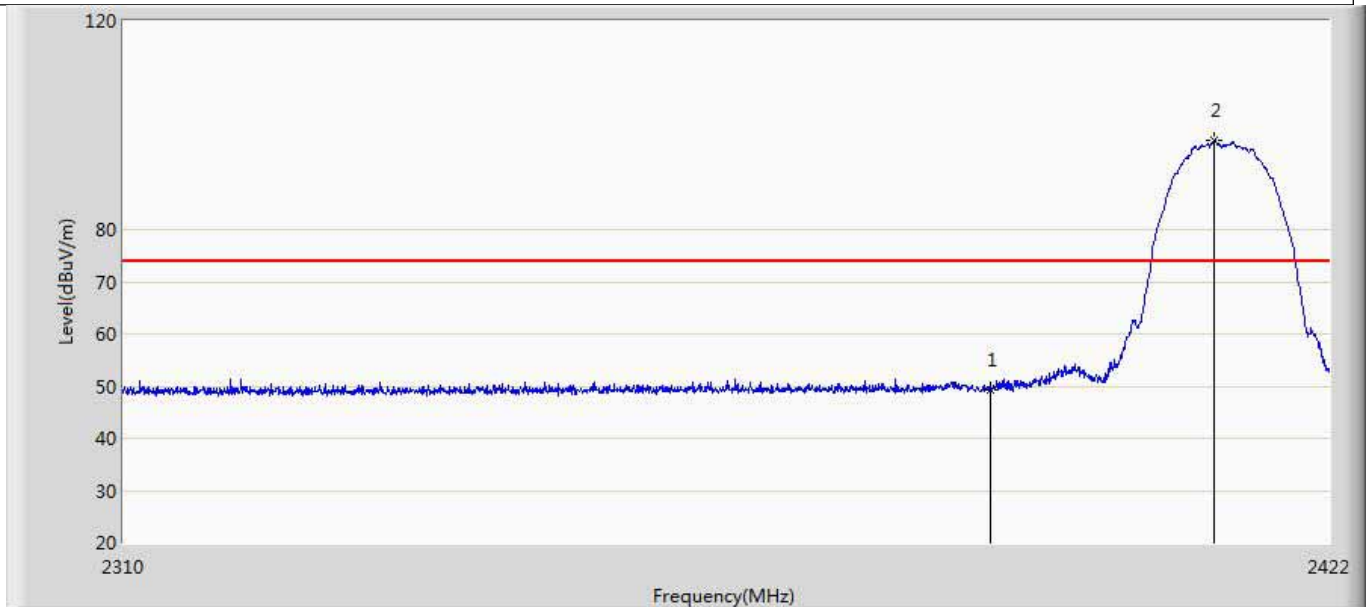
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.137	14.455	-23.863	74.000	35.682	PK
2	*	2412.424	95.608	59.865	N/A	N/A	35.743	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 14:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



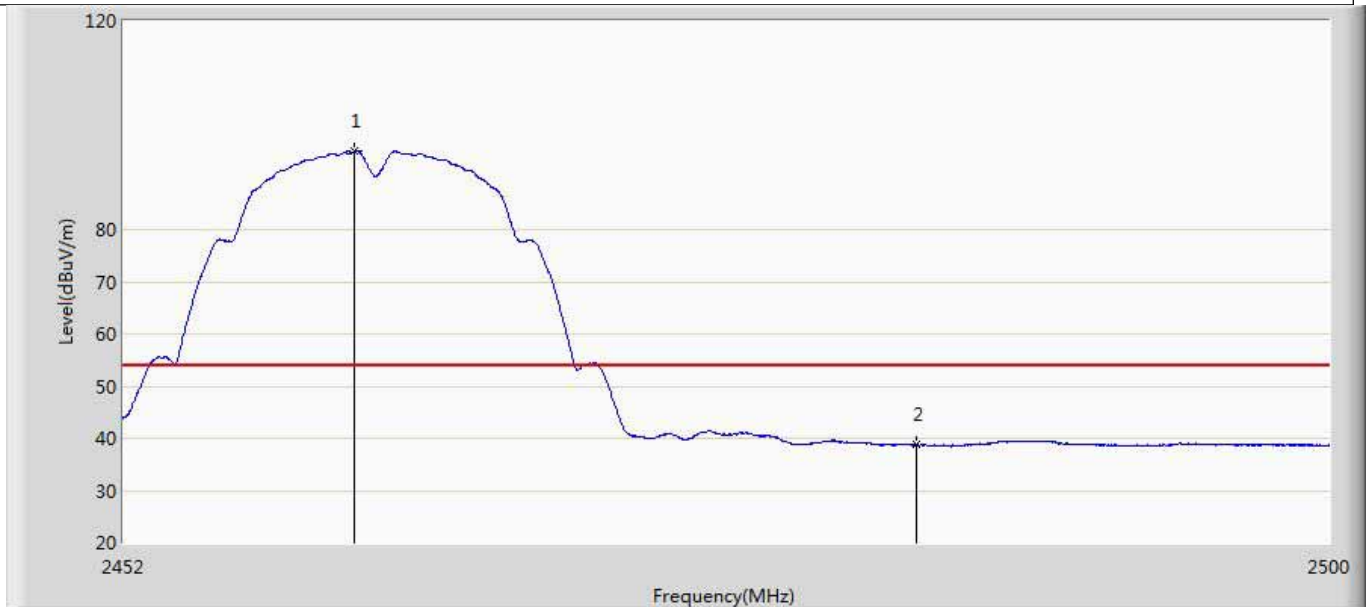
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.613	2.931	-15.387	54.000	35.682	AV
2	*	2411.360	94.419	58.680	N/A	N/A	35.738	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 14:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



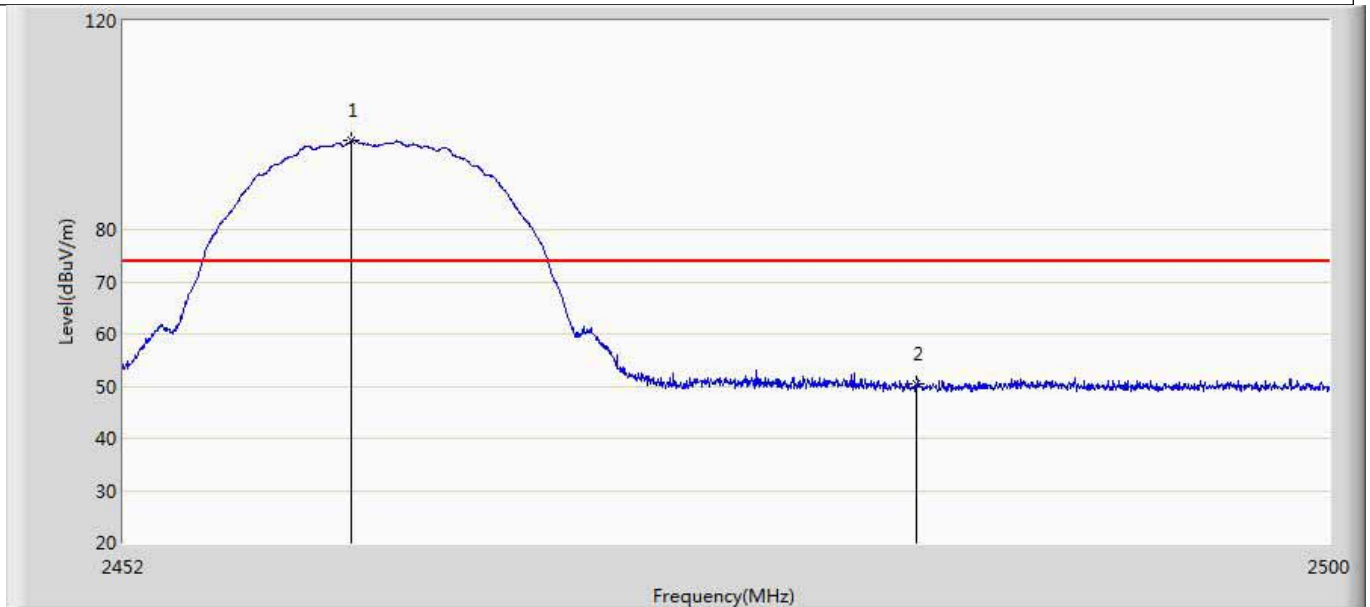
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	49.296	13.614	-24.704	74.000	35.682	PK
2	*	2411.080	96.986	61.248	N/A	N/A	35.737	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 15:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



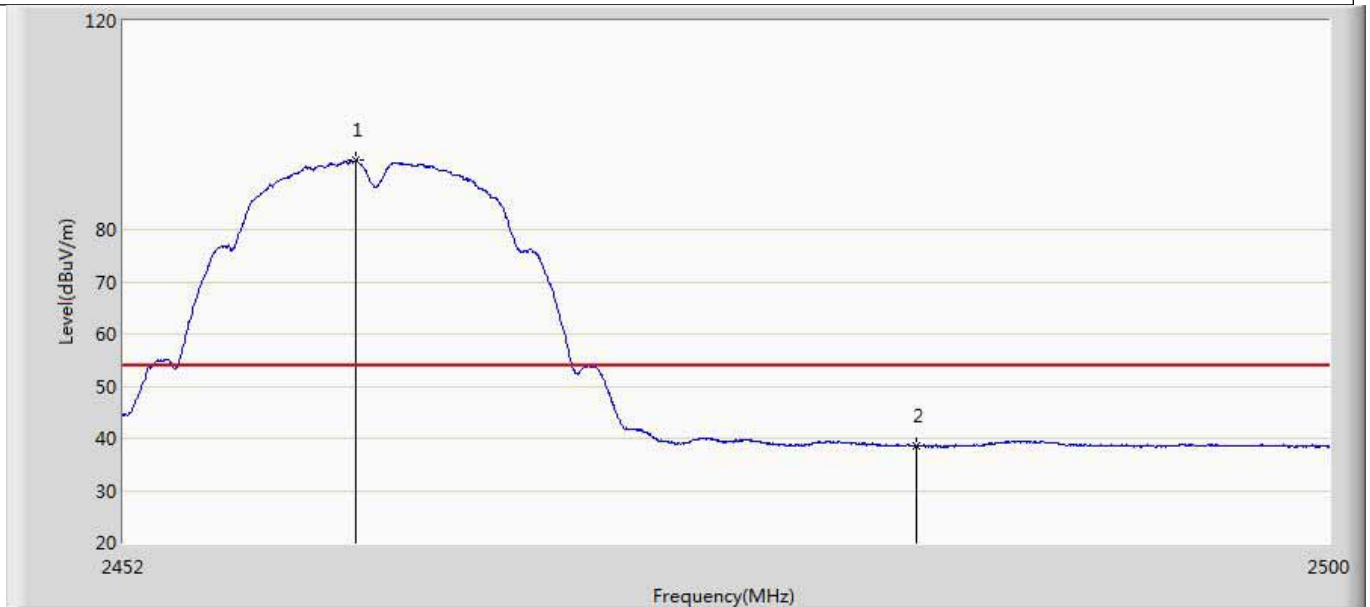
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.144	94.955	59.080	N/A	N/A	35.875	AV
2		2483.500	38.770	2.878	-15.230	54.000	35.891	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 15:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



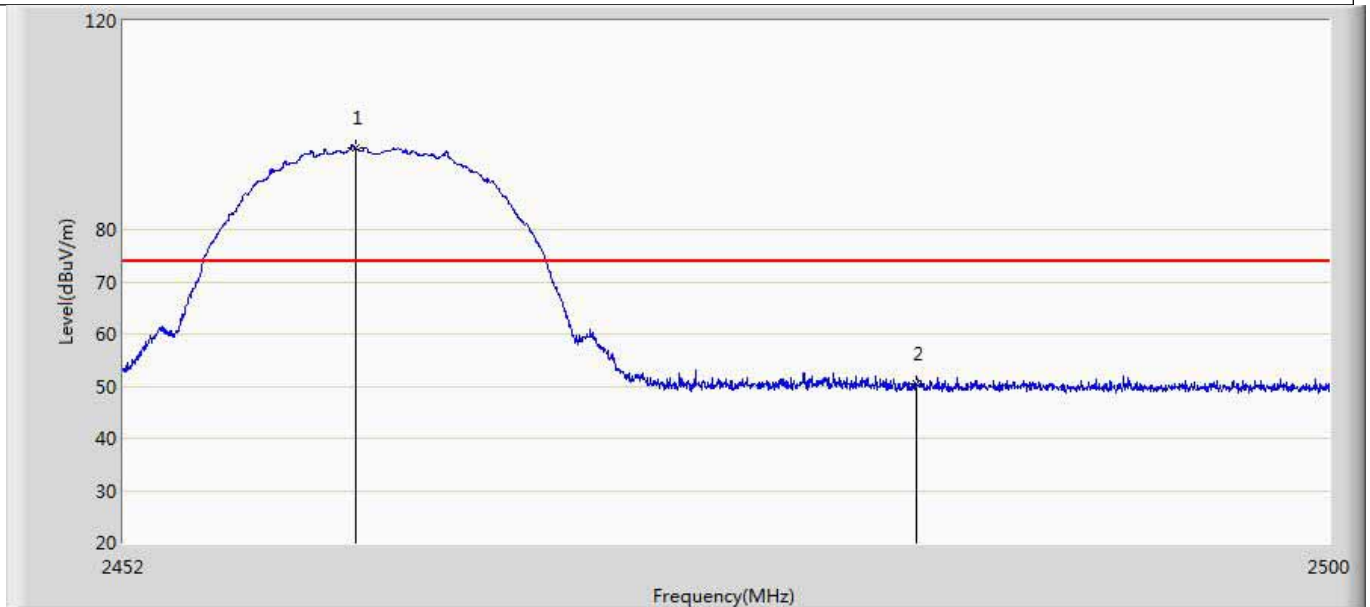
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.000	96.957	61.083	N/A	N/A	35.874	PK
2		2483.500	50.308	14.416	-23.692	74.000	35.891	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



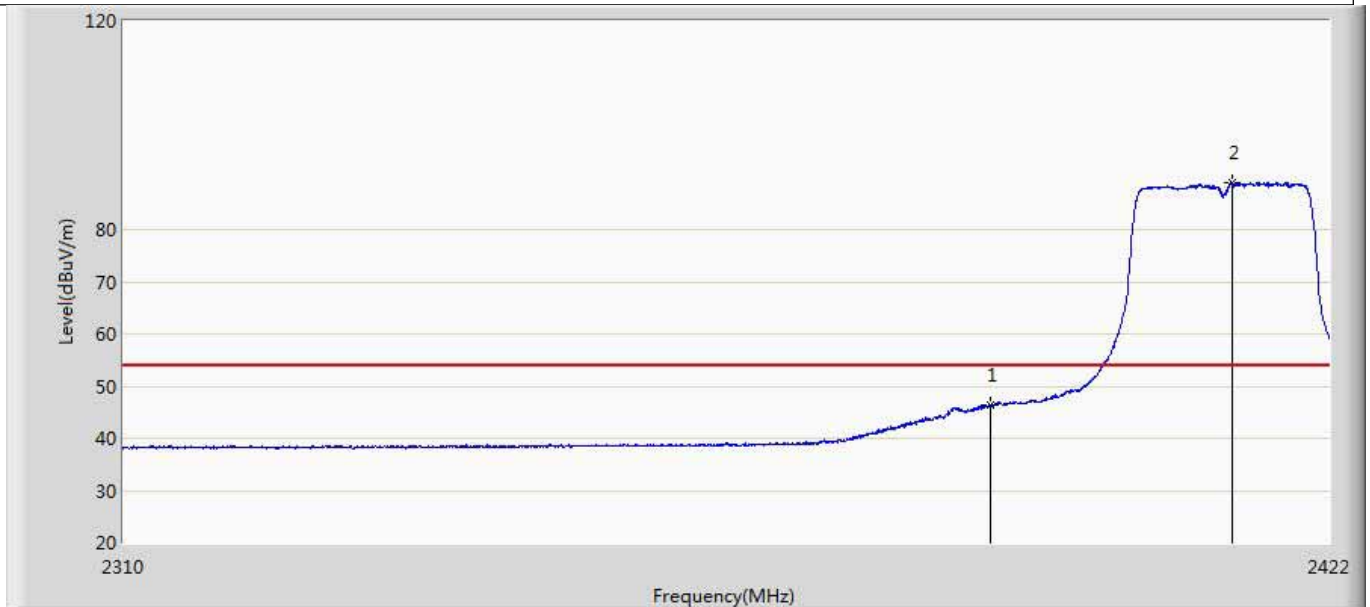
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.216	93.192	57.317	N/A	N/A	35.875	AV
2		2483.500	38.601	2.709	-15.399	54.000	35.891	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



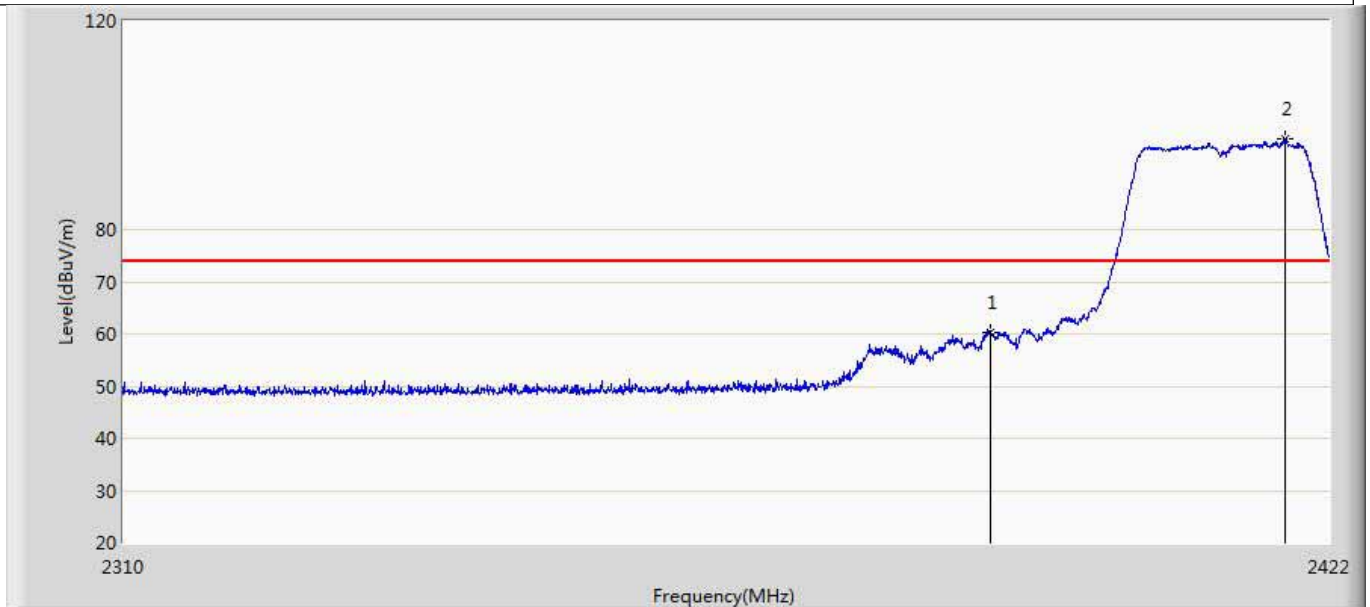
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.168	95.606	59.731	N/A	N/A	35.875	PK
2		2483.500	50.544	14.652	-23.456	74.000	35.891	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



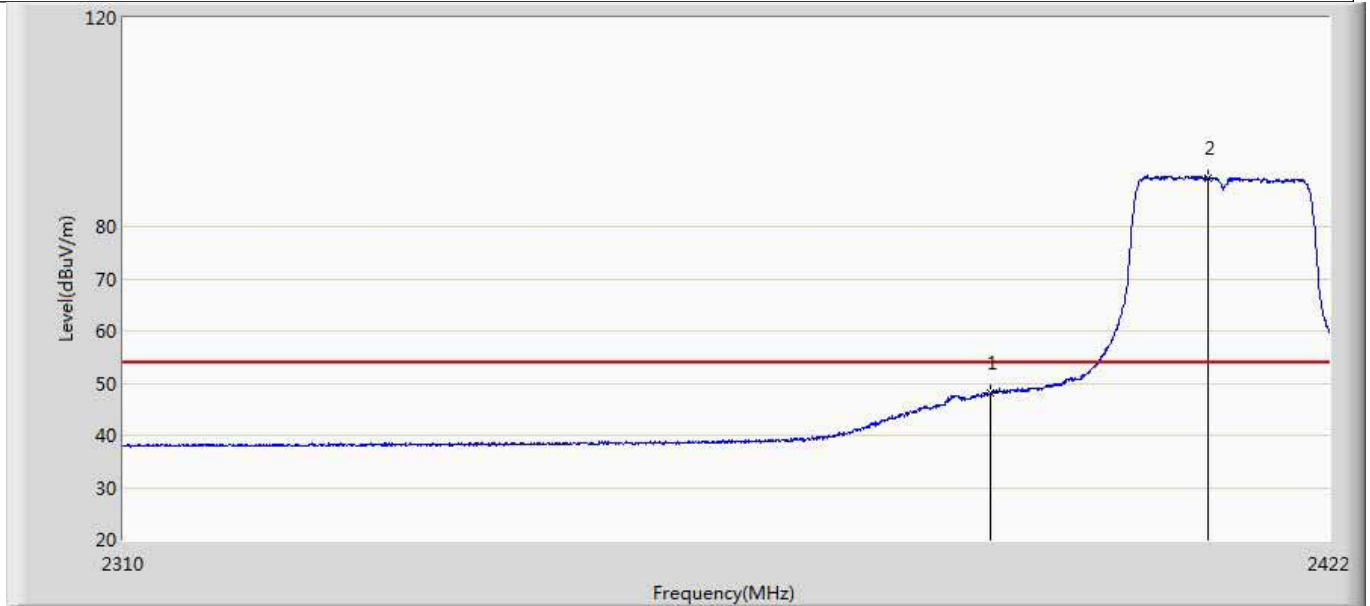
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	46.420	10.738	-7.580	54.000	35.682	AV
2	*	2412.816	88.929	53.184	N/A	N/A	35.745	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



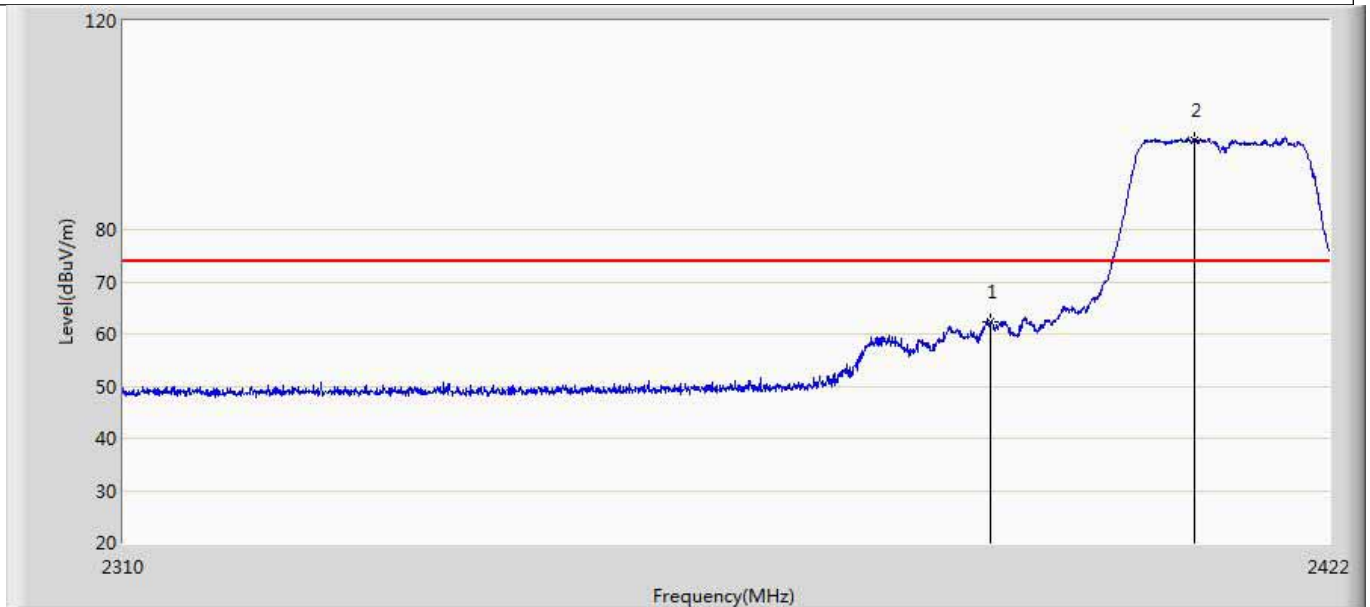
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.354	24.672	-13.646	74.000	35.682	PK
2	*	2417.800	97.465	61.699	N/A	N/A	35.765	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



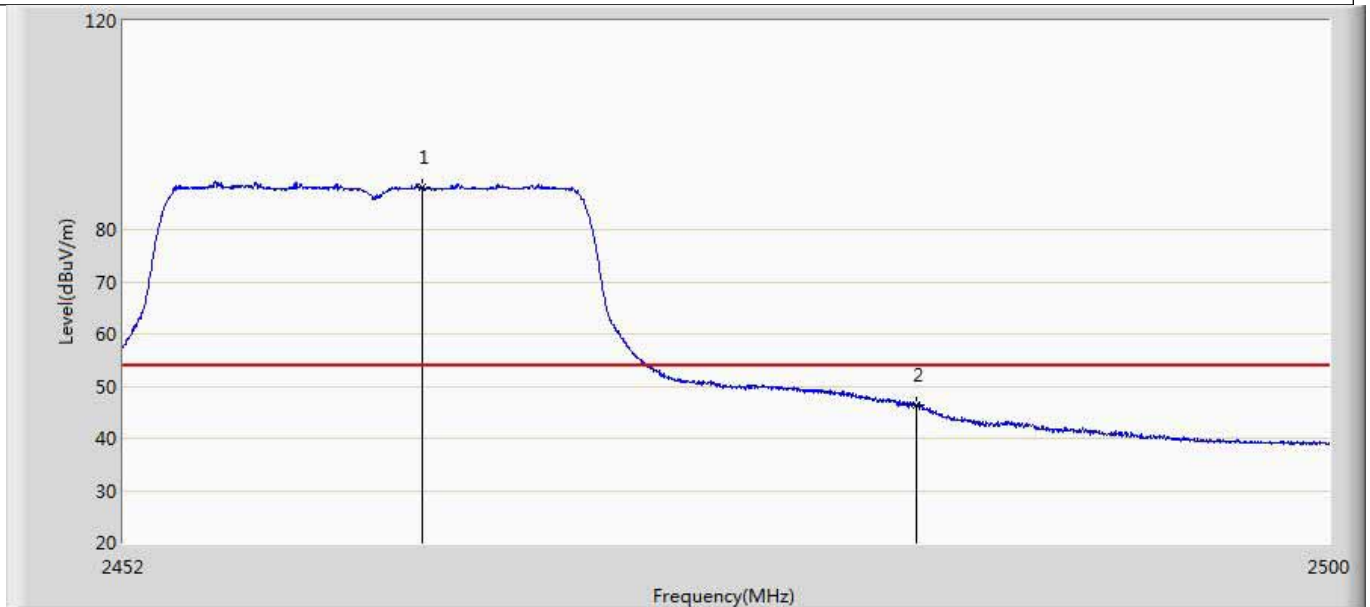
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.058	12.376	-5.942	54.000	35.682	AV
2	*	2410.520	89.411	53.675	N/A	N/A	35.735	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



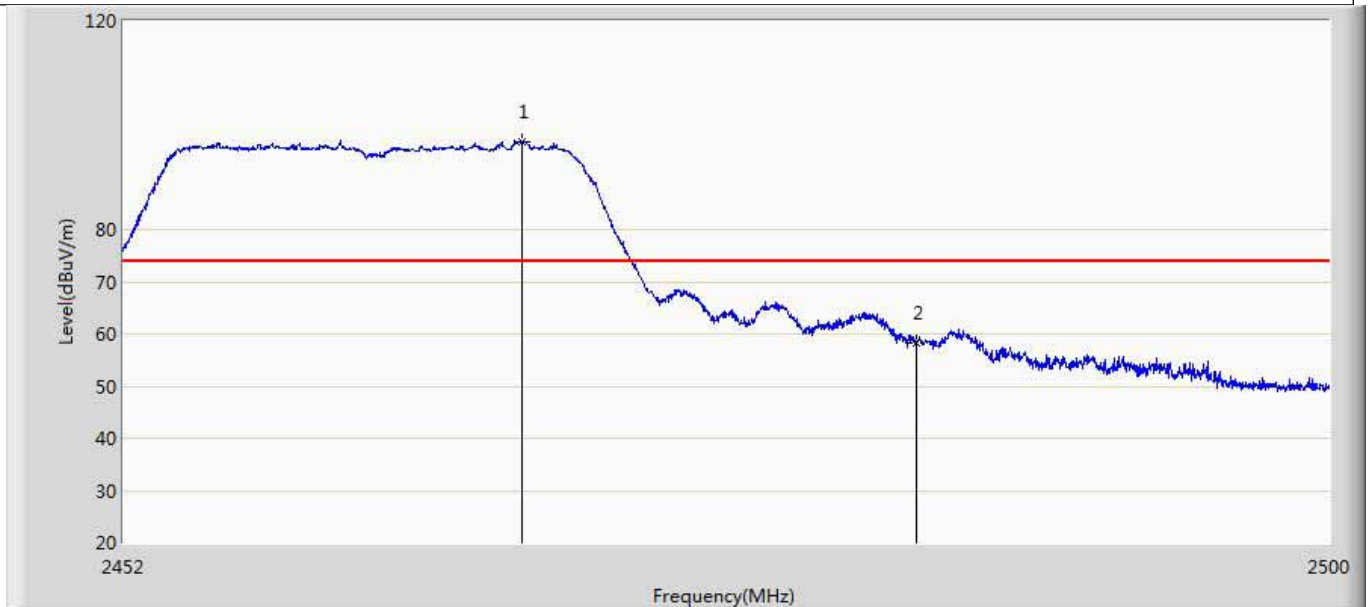
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	62.240	26.558	-11.760	74.000	35.682	PK
2	*	2409.232	97.143	61.411	N/A	N/A	35.732	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



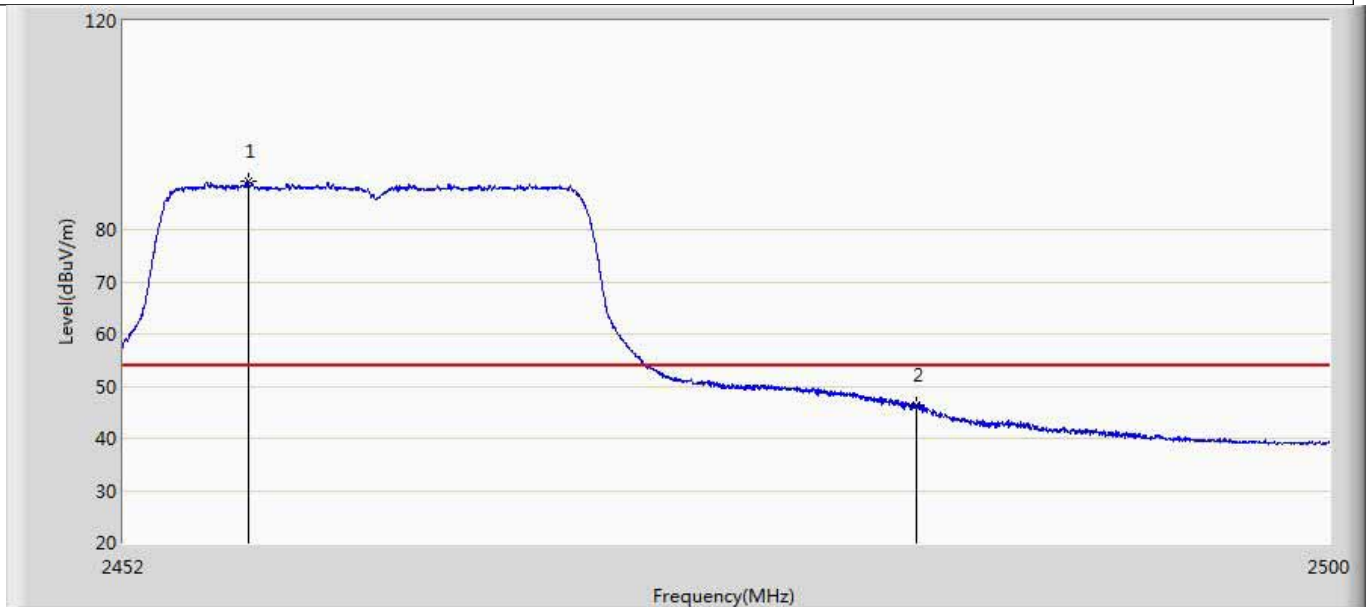
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.832	88.017	52.141	N/A	N/A	35.876	AV
2		2483.500	46.262	10.370	-7.738	54.000	35.891	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



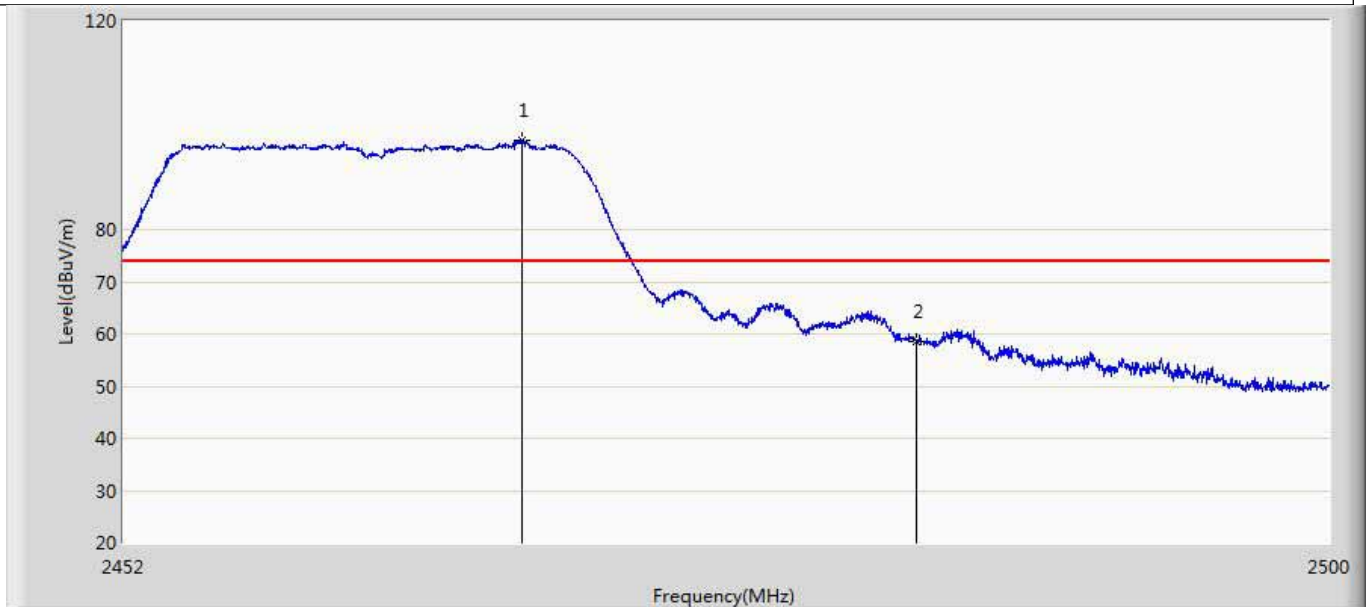
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2467.792	96.923	61.051	N/A	N/A	35.872	PK
2		2483.500	58.403	22.511	-15.597	74.000	35.891	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



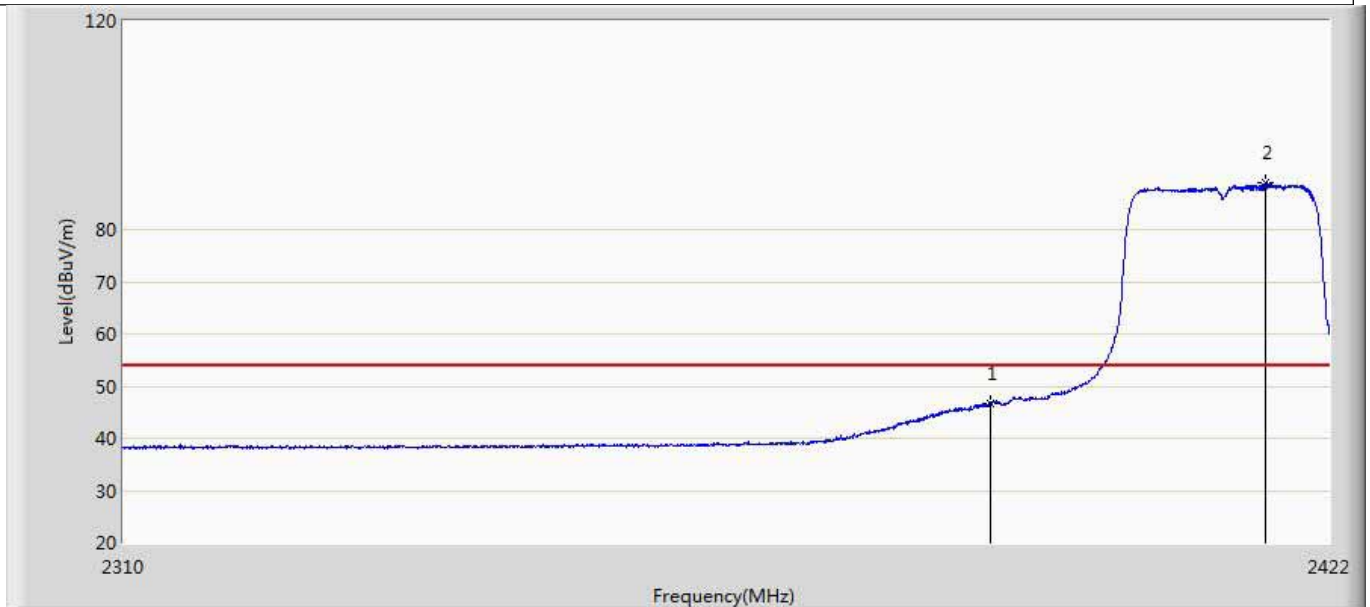
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2456.920	89.135	53.279	N/A	N/A	35.856	AV
2		2483.500	46.313	10.421	-7.687	54.000	35.891	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



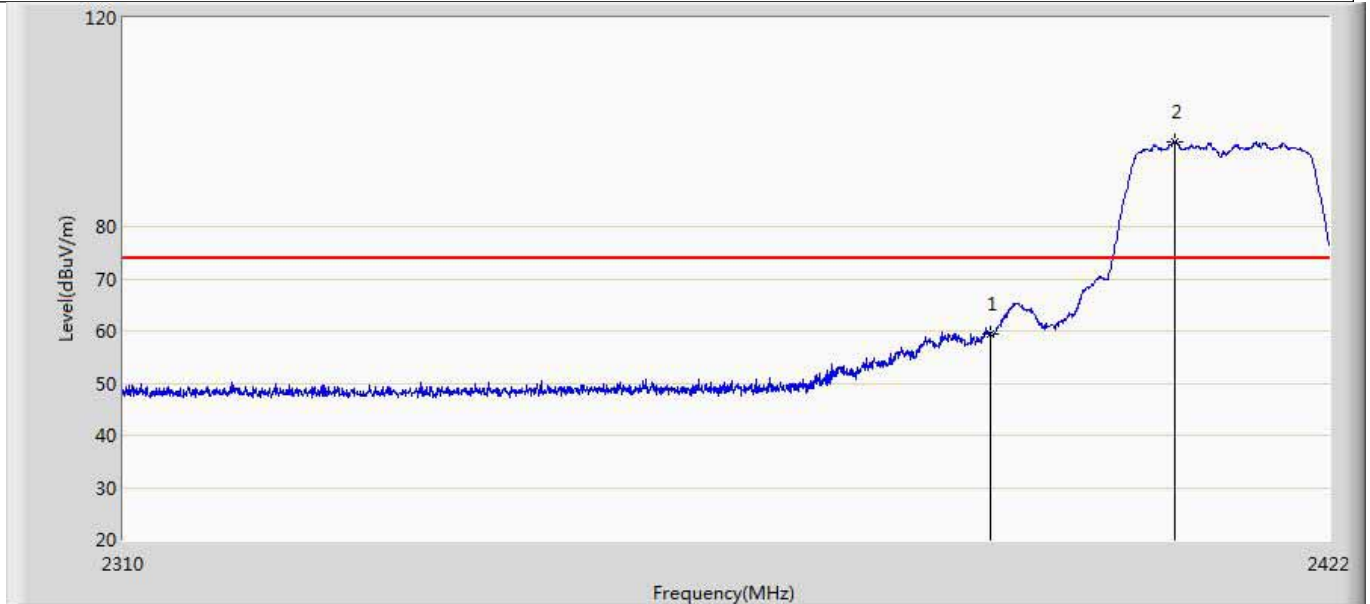
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2467.792	97.245	61.373	N/A	N/A	35.872	PK
2		2483.500	58.610	22.718	-15.390	74.000	35.891	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n20	



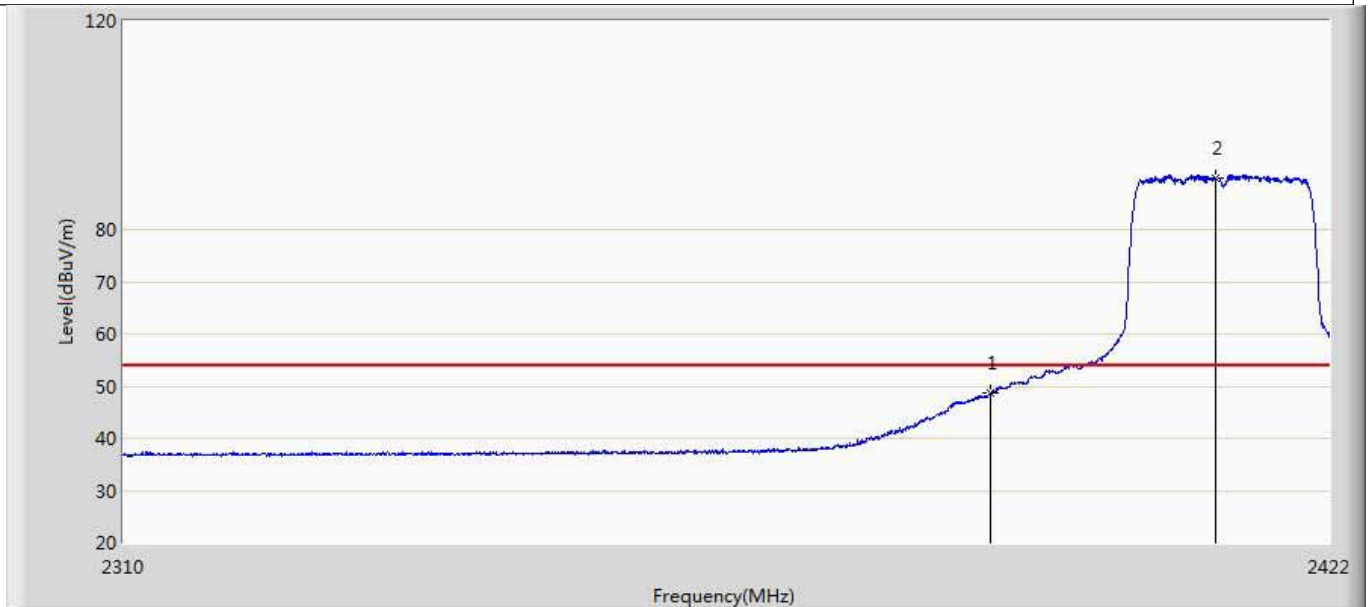
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	46.680	10.998	-7.320	54.000	35.682	AV
2	*	2416.008	88.848	53.090	N/A	N/A	35.758	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 16:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n20	



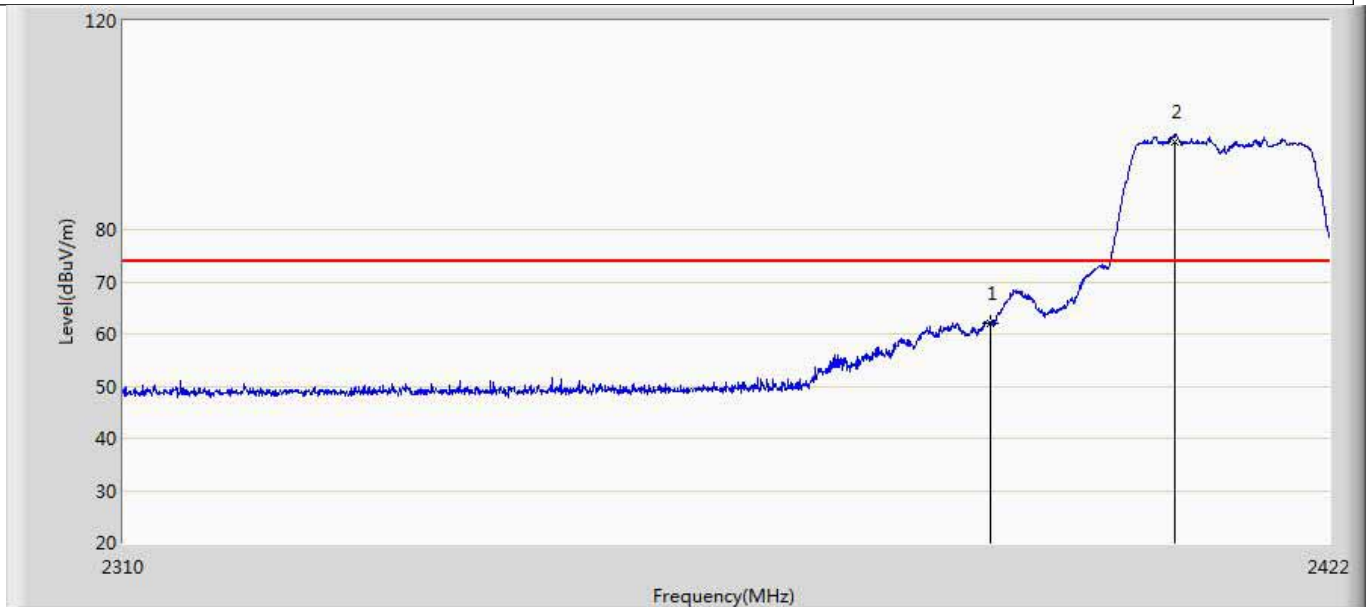
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	59.370	23.688	-14.630	74.000	35.682	PK
2	*	2407.328	96.288	60.561	N/A	N/A	35.728	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 17:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n20	



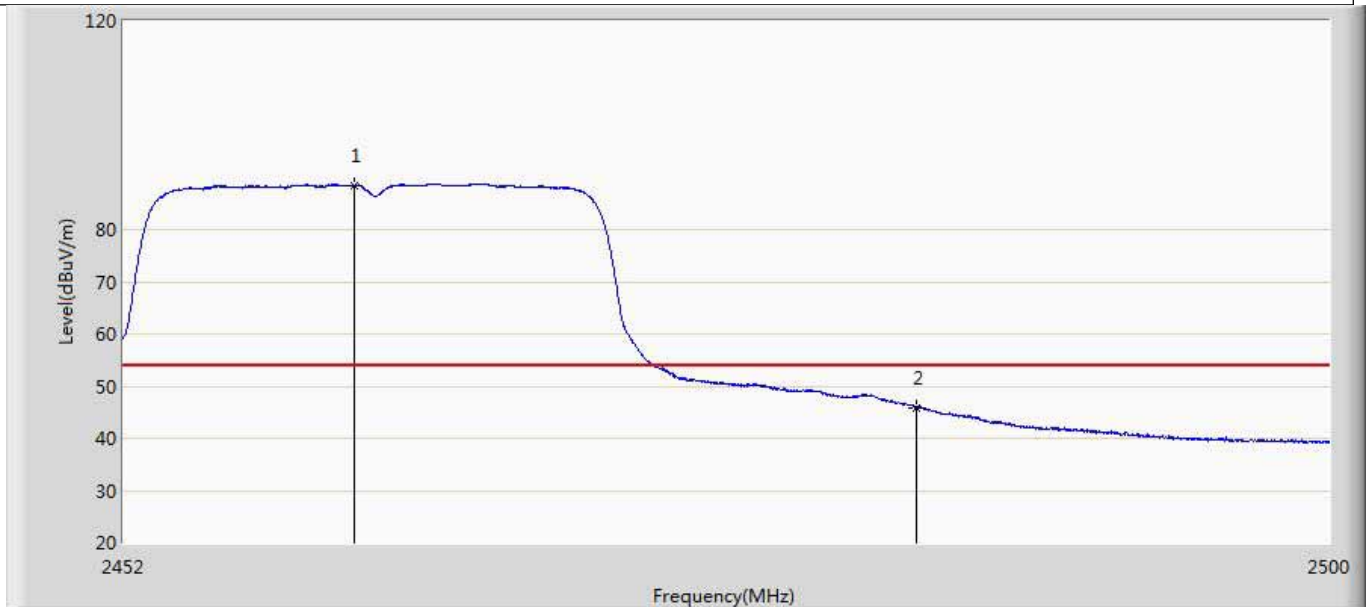
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.649	12.967	-5.351	54.000	35.682	AV
2	*	2411.192	89.919	54.181	N/A	N/A	35.738	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 17:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n20	



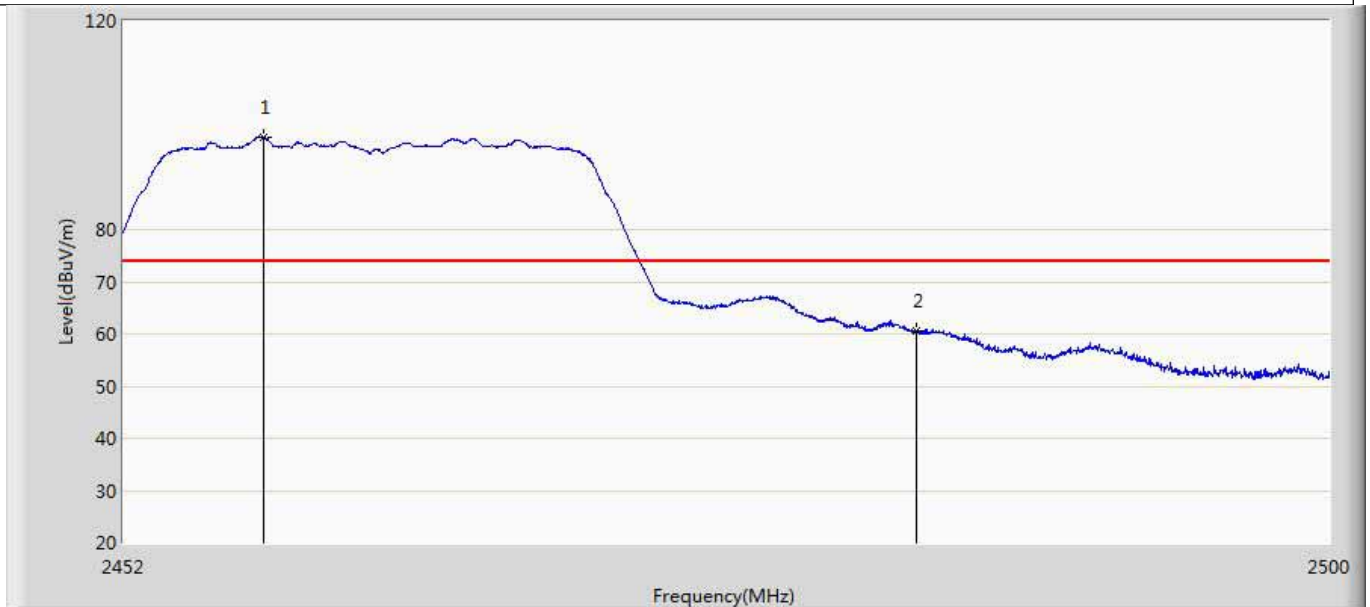
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	62.050	26.368	-11.950	74.000	35.682	PK
2	*	2407.440	96.868	61.140	N/A	N/A	35.728	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 17:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n20	



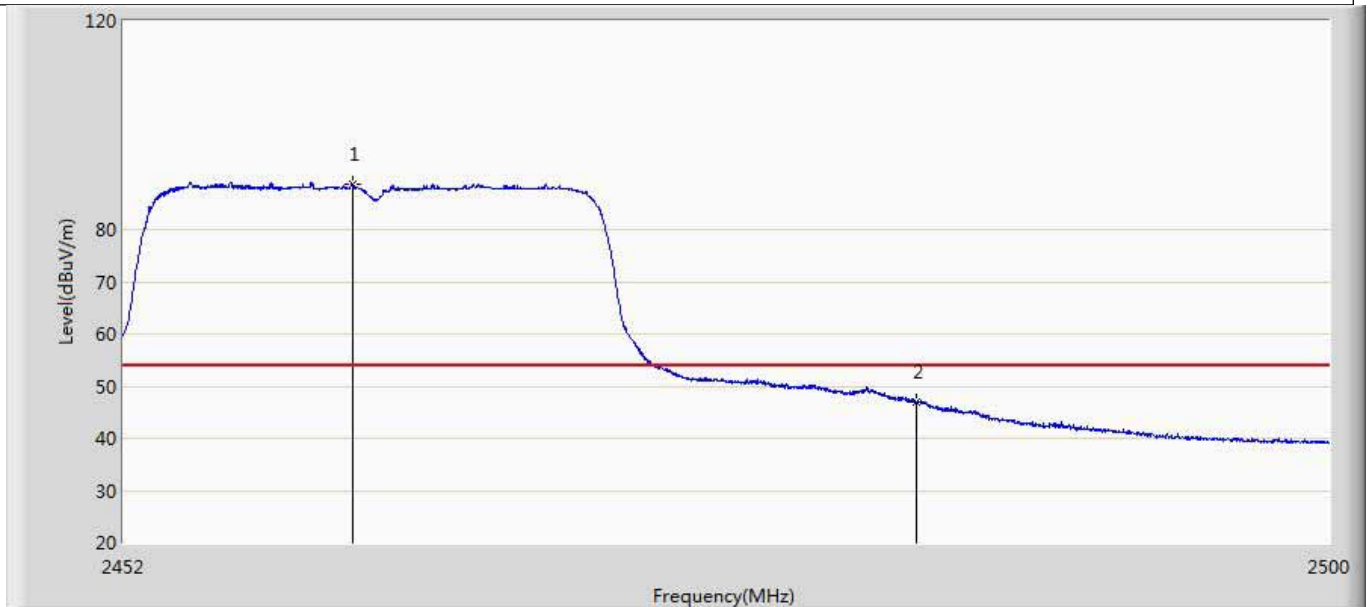
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.144	88.535	52.660	N/A	N/A	35.875	AV
2		2483.500	45.893	10.001	-8.107	54.000	35.891	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 17:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n20	



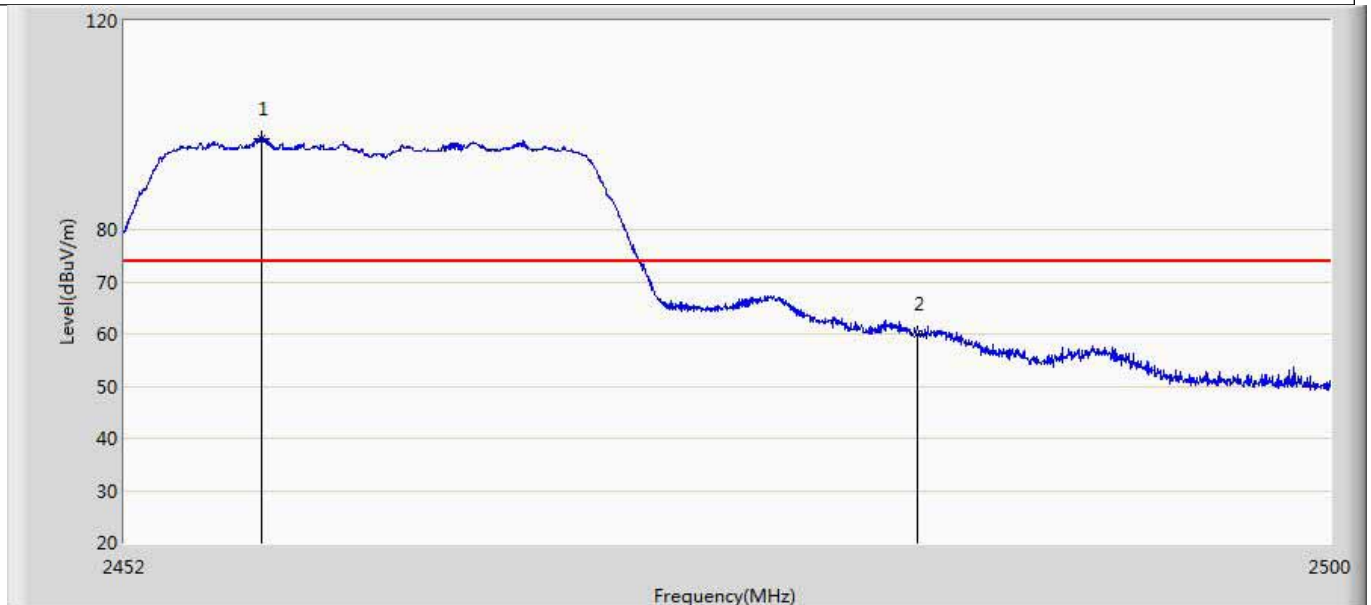
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.568	97.554	61.695	N/A	N/A	35.859	PK
2		2483.500	60.545	24.653	-13.455	74.000	35.891	PK

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 18:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n20	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.072	88.659	52.785	N/A	N/A	35.874	AV
2		2483.500	46.948	11.056	-7.052	54.000	35.891	AV

Engineer: Yingfei Wang	
Site: AC5	Time: 2019/07/13 - 18:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: WiFi Plug US	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n20	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.424	97.532	61.674	N/A	N/A	35.859	PK
2		2483.500	59.903	24.011	-14.097	74.000	35.891	PK

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

4.6 DTS Bandwidth

VERDICT: PASS

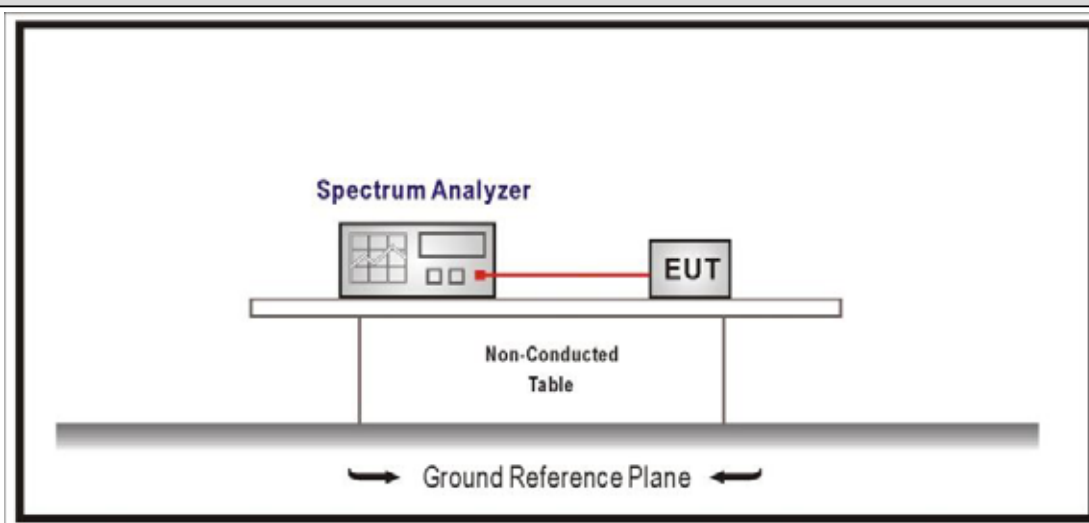
4.6.1 Limit

Standard

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

Systems using digital modulation techniques operate in 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

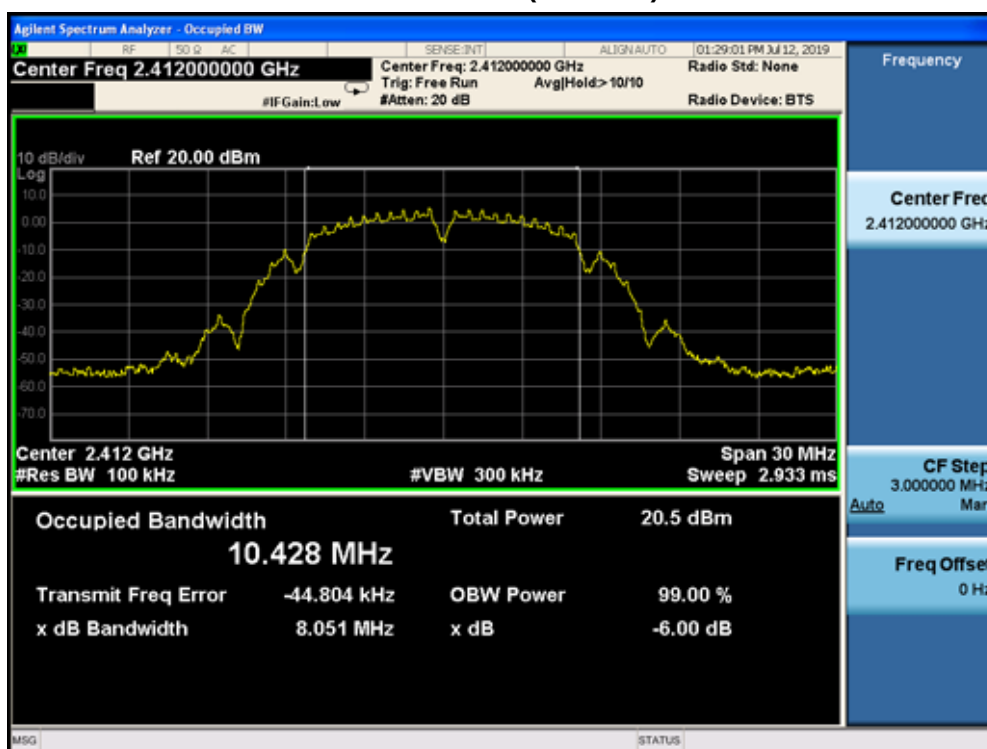
	Reference Rule	Chapter	Description
☒	ANSI C63.10	11.8	DTS bandwidth
☐	ANSI C63.10	11.8.1	Option 1
☒	ANSI C63.10	11.8.2	Option 2

4.6.4 Test Data

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	1	2412	10.428	8.051	≥ 500	Pass
	6	2437	10.501	8.115	≥ 500	Pass
	11	2462	10.715	8.115	≥ 500	Pass
2	1	2412	16.387	16.33	≥ 500	Pass
	6	2437	16.401	16.07	≥ 500	Pass
	11	2462	16.427	16.08	≥ 500	Pass
3	1	2412	17.459	16.60	≥ 500	Pass
	6	2437	17.493	16.59	≥ 500	Pass
	11	2462	17.503	16.56	≥ 500	Pass

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

Mode 1 CH01 (2412MHz)



4.7 Fundamental emission output power

VERDICT: PASS

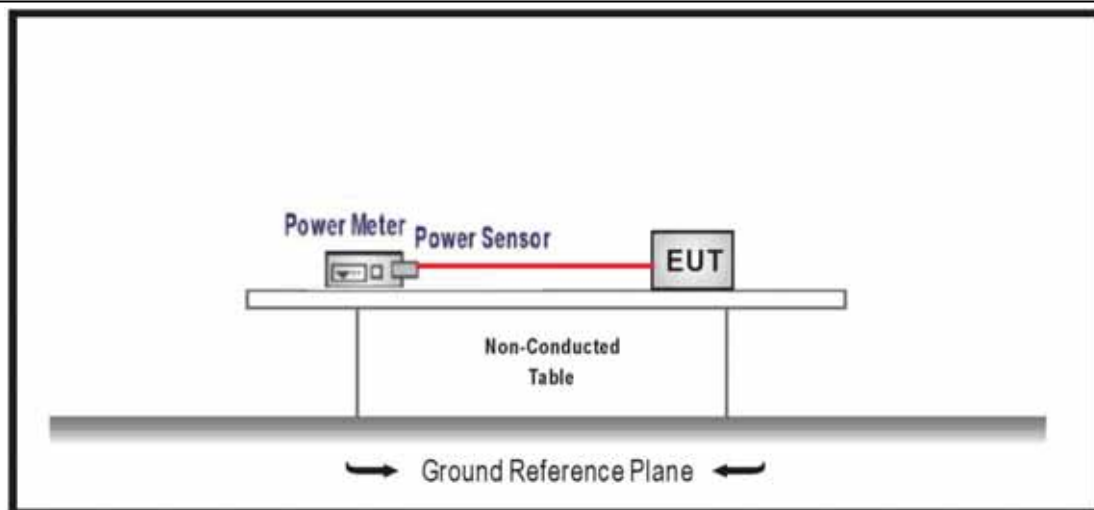
4.7.1 Limit

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

Note 1 : GTX directional gain of transmitting antennas.

Note 2 : Pout is maximum peak conducted output power .

4.7.2 Test Setup



4.7.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.9	Fundamental emission output power
	☒	ANSI C63.10	11.9.1	Maximum peak conducted output power
	☐	ANSI C63.10	11.9.1.1	RBW $\geq$ 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

4.7.4 Test Data

Mode	Channel	Test Frequency (MHz)	Power Output (dBm)	Limit (dBm)	Result
1	1	2412	16.05	30.00	Pass
	6	2437	19.23	30.00	Pass
	11	2462	20.28	30.00	Pass
2	1	2412	16.02	30.00	Pass
	6	2437	19.17	30.00	Pass
	11	2462	19.89	30.00	Pass
3	1	2412	15.86	30.00	Pass
	6	2437	19.07	30.00	Pass
	11	2462	19.75	30.00	Pass

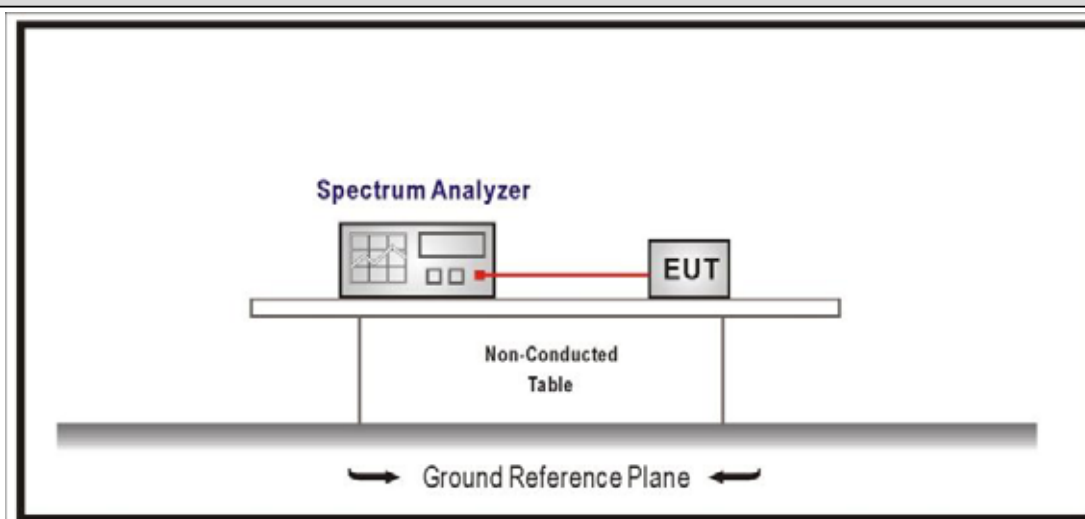
4.8 Power Density	VERDICT: PASS
--------------------------	----------------------

4.8.1 Limit:

Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
-----------------	---

Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$

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

4.8.4 Test Data

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Antenna Gain (dBi)	Limit (dBm/3kHz)	Result
1	1	2412	-8.899	2	≤ 8	Pass
	6	2437	-6.836	2	≤ 8	Pass
	11	2462	-5.276	2	≤ 8	Pass
2	1	2412	-12.833	2	≤ 8	Pass
	6	2437	-8.576	2	≤ 8	Pass
	11	2462	-5.276	2	≤ 8	Pass
3	1	2412	-13.251	2	≤ 8	Pass
	6	2437	-9.566	2	≤ 8	Pass
	11	2462	-8.066	2	≤ 8	Pass

Remark: The worst data as below:

Mode 1 CH11(2462MHz)



4.9 Antenna Requirement	VERDICT: PASS
--------------------------------	----------------------

4.9.1 Limit:

Standard	FCC Part 15 Subpart C Paragraph 15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.	

4.9.2 Antenna Connector Construction:

☐	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☐	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document “Internal Photograph” to show the antenna connector.	



4.10 Test setup photo and EUT Photo	VERDICT: PASS
-------------------------------------	---------------

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

_____ The End _____