

Test Report

FCC Part15 Subpart C

Product Name : Smart Wi-Fi Plug Mini
Model No. : HS105
FCC ID : TE7HS105

Applicant : TP-LINK TECHNOLOGIES CO., LTD.
Address : Building 24(floors1,3,4,5) and 28(floors1-4) Central
Science and Technology Park, Shennan Rd, Nanshan,
Shenzhen, China

Date of Receipt : Jul. 19, 2016
Test Date : Jul. 19, 2016~ Aug. 10, 2016
Issued Date : Sep. 01, 2016
Report No. : 1672088R-RF-US-P06V01
Report Version : V1.1

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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Test Report Certification

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Manufacturer : TP-LINK TECHNOLOGIES CO., LTD.
Address : Building 24(floors1,3,4,5) and 28(floors1-4) Central Science
and Technology Park, Shennan Rd, Nanshan, Shenzhen,
China
Model No. : HS105
FCC ID : TE7HS105
EUT Voltage : AC120V/60Hz
Brand Name : TP-LINK
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C
ANSI C63.4:2014; ANSI C63.10:2013;
KDB 558074 D01v03r05
Test Result : Complied
Performed Location : Quietek Corporation - Suzhou EMC Laboratory
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006,
Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392

Documented By :



(Adm. Specialist: Kathy Feng

Laboratory Information

We, **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	:	BSMI, NCC, TAF
USA	:	FCC
Japan	:	VCCI
China	:	CNAS

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://www.quietek.com/english/about/certificates.aspx?bval=5>
The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/index_en.aspx

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory :

No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

LinKou Testing Laboratory :

No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

Suzhou Testing Laboratory :

No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China
TEL : +86-512-6251-5088 / FAX : 86-512-6251-5098 E-Mail : service@quietek.com

TABLE OF CONTENTS

Description	Page
1. General Information	7
1.1. EUT Description	7
1.2. Working Frequency of Each Channel:	7
1.3. Antenna information	8
1.4. Mode of Operation	9
1.5. Tested System Details	9
1.6. Configuration of Tested System	10
2. Technical Test	12
2.1. Summary of Test Result	12
2.2. Test Frequency configuration:	12
2.3. Power setting parameter	13
2.4. Power vs Data Rate	14
2.5. Test Environment	15
2.6. Measurement Uncertainty	15
3. AC Power Line Conducted Emission	16
3.1. Test Equipment	16
3.2. Test Setup	16
3.3. Limit	17
3.4. Test Procedure	17
3.5. Test Result	18
4. Emissions in restricted frequency bands	20
4.1. Test Equipment	20
4.2. Test Setup	21
4.3. Limit	22
4.4. Test Procedure	24
4.5. EUT test Axis definition	25
4.6. Test Result	26
5. Emissions in non-restricted frequency bands	32
5.1. Test Equipment	32
5.2. Test Setup	33
5.3. Limit	34
5.4. Test Procedure	35
5.5. EUT test Axis definition	36
5.6. Test Result	37
6. Radiated Emission Band Edge	38
6.1. Test Equipment	38
6.2. Test Setup	39

6.3.	Limit.....	39
6.4.	Test Procedure	40
6.5.	EUT test definition	41
6.6.	Duty Cycle	42
6.7.	Test Result.....	43
7.	Occupied Bandwidth.....	91
7.1.	Test Equipment.....	91
7.2.	Test Setup.....	91
7.3.	Limit.....	92
7.4.	Test Procedure	92
7.5.	EUT test definition	93
7.6.	Test Result.....	94
8.	Fundamental emission output power	95
8.1.	Test Equipment.....	95
8.2.	Test Setup.....	95
8.3.	Limit.....	96
8.4.	Test Procedure	97
8.5.	EUT test definition	98
8.6.	Test Result.....	99
9.	Power Spectral Density	100
9.1.	Test Equipment.....	100
9.2.	Test Setup.....	100
9.3.	Limit.....	100
9.4.	Test Procedure	101
9.5.	EUT test definition	102
9.6.	Test Result.....	103

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1672088R-RF-US-P06V01	V1.0	Initial Issued Report	Aug. 22, 2016
1672088R-RF-US-P06V01	V1.1	Modified some typo on page 2,8,14	Sep. 01, 2016

1. General Information

1.1. EUT Description

Product Name	Smart Wi-Fi Plug Mini
Brand Name	TP-LINK
Model No.	HS105
EUT Voltage	AC120V/60HZ
Frequency Range	For 2.4GHz Band 802.11b/g/n(20MHz): 2412~2462MHz 802.11n(40MHz): 2422~2452MHz
Channel Number	For 2.4GHz Band 802.11b/g/n(20MHz): 11 802.11n(40MHz): 7
Type of Modulation	802.11b: DSSS 802.11g: OFDM
Data Rate	802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11b: 1/2/5.5/11 Mbps 802.11n: up to 150 Mbps
Channel Control	Auto

1.2. Working Frequency of Each Channel:

802.11b/g/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz	04	2427 MHz
05	2432 MHz	06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	10	2457 MHz	11	2462 MHz	N/A	N/A
802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz	N/A	N/A

1.3. Antenna information

Model No.	N/A					
Antenna manufacturer	TP-LINK					
Antenna Delivery	☒	1*TX+1*RX	☐	2*TX+2*RX	☐	3*TX+3*RX
Antenna technology	☒	SISO				
	☐	MIMO	☐	Basic		
			☐	CDD		
			☐	Sectorized		
			☐	Beam-forming		
Antenna Type	☐	External	☐	Dipole		
			☐	Sectorized		
	☒	Internal	☐	PIFA		
			☒	PCB		
			☐	Ceramic Chip Antenna		
			☐	Metal plate type F antenna		
Antenna Technology		Ant Gain (dBi)	Directional Gain (dBi)			
			For Power	For PSD		
☒	SISO	2	2	2		

1.4. Mode of Operation

Test Modes List
Mode 1: Transmit by 802.11b
Mode 2: Transmit by 802.11g
Mode 3: Transmit by 802.11n(20MHz)
Mode 4: Transmit by 802.11n(40MHz)

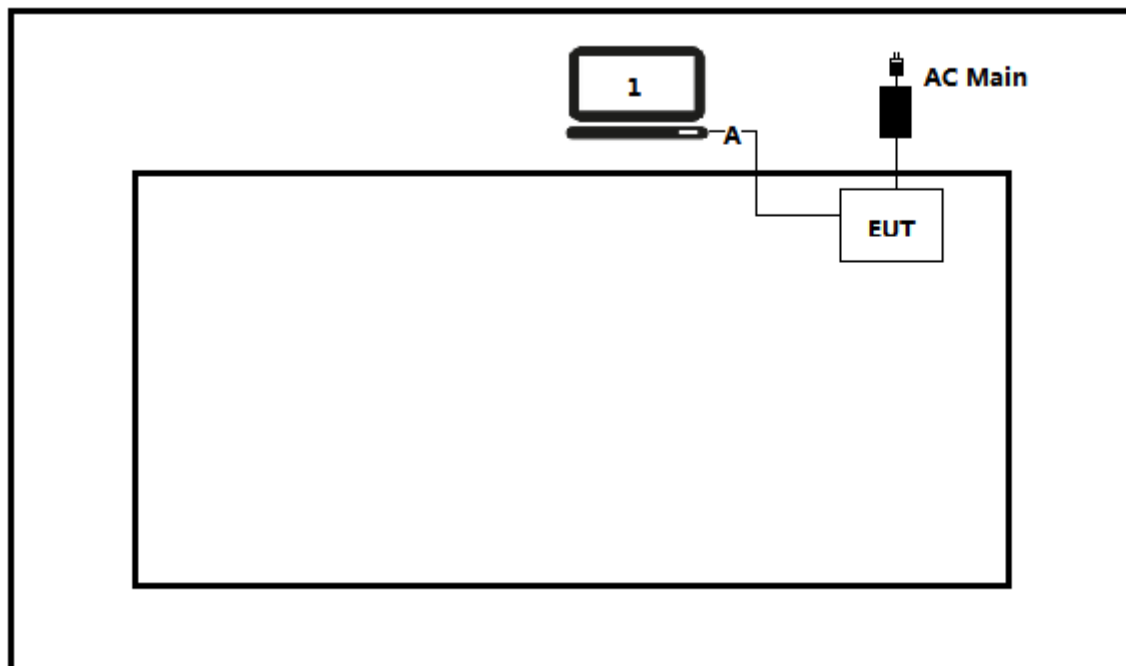
1.5. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

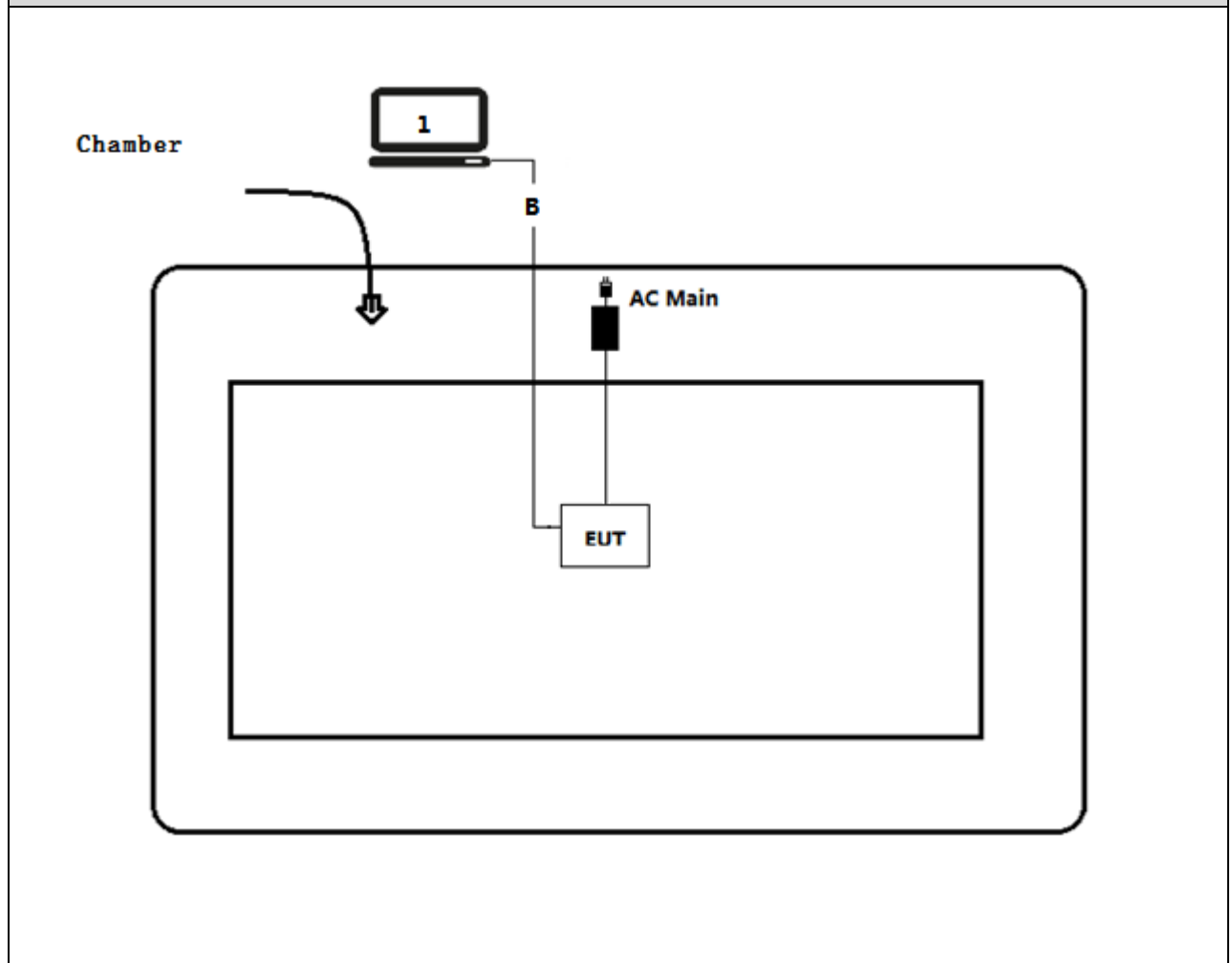
No.	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	Think pad x220	SUA0600195	Non-shielded
A	LAN cable	N/A	N/A	N/A	Non-shielded, 1.5m
B	LAN cable	N/A	N/A	N/A	Non-shielded, 10m

1.6. Configuration of Tested System

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission



2. Technical Test

2.1. Summary of Test Result

Performed Test Item	Normative References	Limit	Result
AC Power Line Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.207	FCC 15.207	PASS
Emissions in restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.209	FCC 15.209	PASS
Emissions in non-restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(d)		

2.3. Power setting parameter

Test Software	ART 2	
Modulation Mode	Test Frequency	Ant 0
802.11b	2412	22.5
	2437	26
	2462	22
802.11g	2412	16
	2437	26
	2462	15.5
802.11n(20MHz)	2412	16
	2437	25
	2462	15.5
802.11n(40MHz)	2422	15
	2437	18
	2452	15.5

2.4. Power vs Data Rate

MCS Index for 802.11n	Spatial Streams	Data Rate (Mbps)						
		802.11b	802.11g		20MHz Bandwidth		40MHz Bandwidth	
					800ns GI	400ns GI	800ns GI	400ns GI
0	1	1	6	---	6.5	7.2	13.5	15.0
1	1	2	9	---	13.0	14.4	27.0	30.0
2	1	5.5	12	---	19.5	21.7	40.5	45.0
3	1	11	18	---	26.0	28.9	54.0	60.0
4	1	---	24	---	39.0	43.3	81.0	90.0
5	1	---	36	---	52.0	57.8	108.0	120.0
6	1	---	48	---	58.5	65.0	121.5	135.0
7	1	---	54	---	65.0	72.2	135.0	150.0

Note 1 : The blue form is the maximum power data rate

Note 2 : The EUT has one spatial Streams

2.5. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

2.6. Measurement Uncertainty

Test Items	Uncertainty
------------	-------------

AC Power Line Conducted Emission

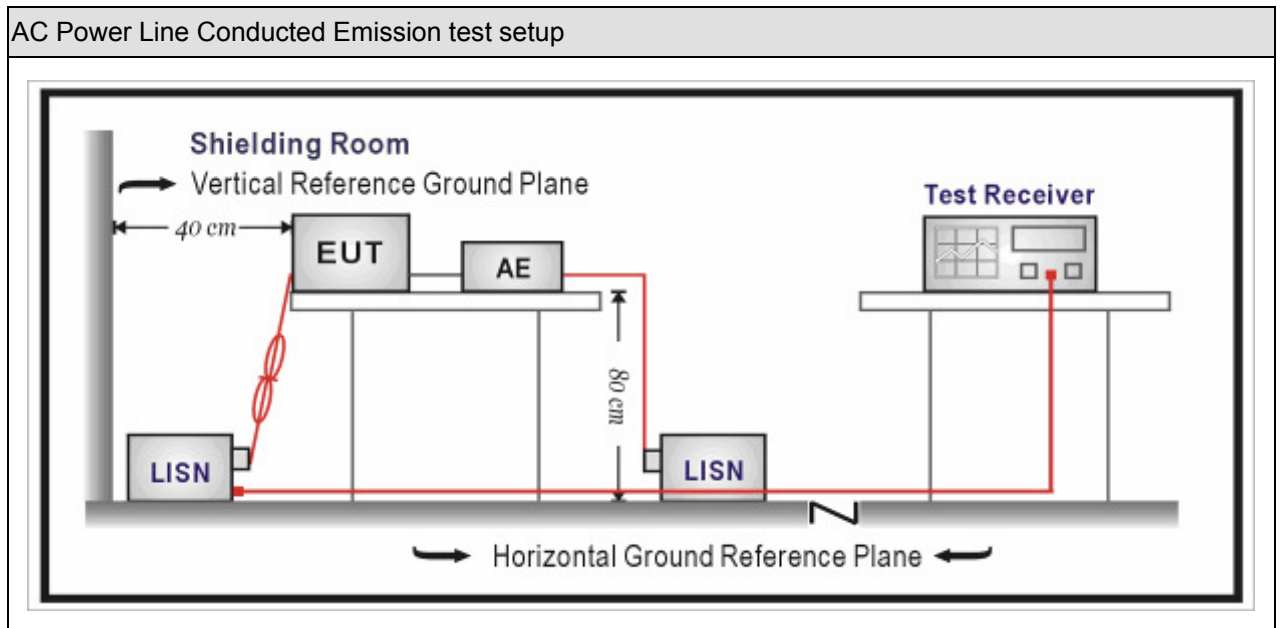
3. AC Power Line Conducted Emission

3.1. Test Equipment

AC Power Line Conducted Emission / TR-1					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100726	2016.03.29	2017.03.28
Two-Line V-Network	R&S	ENV216	100043	2016.03.29	2017.03.28
Two-Line V-Network	R&S	ENV216	100044	2015.09.17	2016.09.16
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2016.03.02	2017.03.01
50ohm Termination	SHX	TF2	07081401	2015.09.17	2016.09.16
Temperature/Humidity Meter	zhichen	ZC1-2	TR1-TH	2016.01.04	2017.01.03

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup

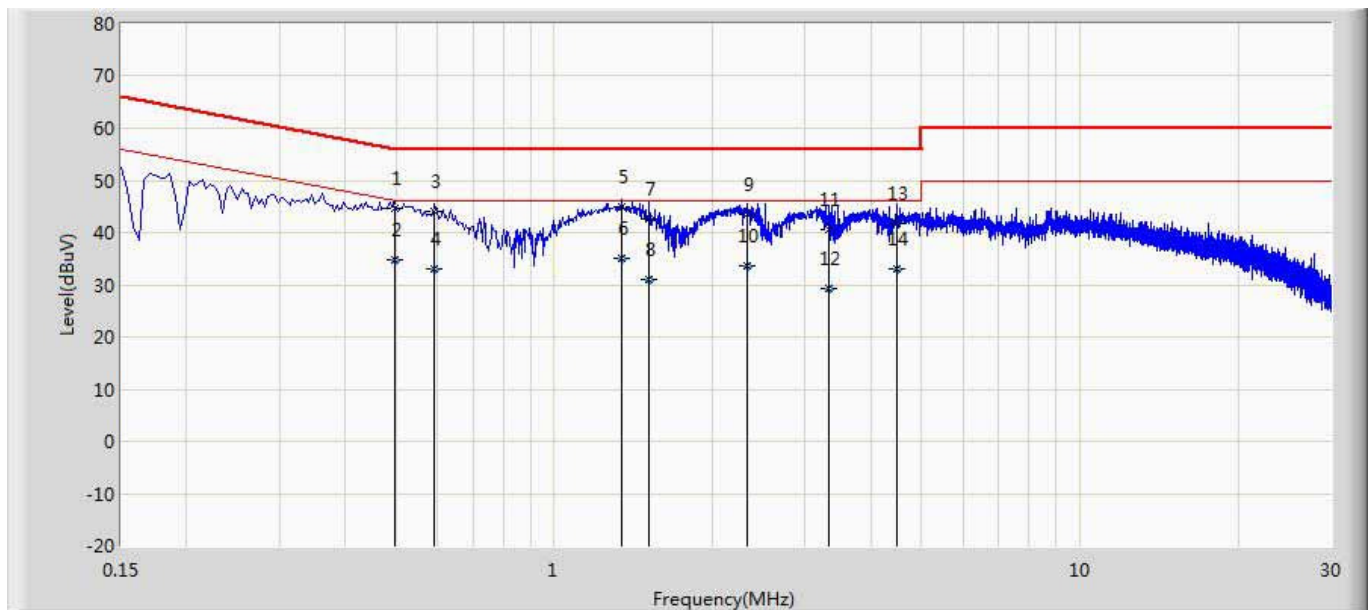


3.3. Limit

Frequency of Emission (MHz)	Conducted Limit
	Quasi-peak (dB)

3.5. Test Result

Engineer: Noro	
Site: TR1	Time: 2016/07/25
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: Smart Wi-Fi Plug Mini	Power: AC 120V/60Hz
Note: Mode 1: Normal Operation	



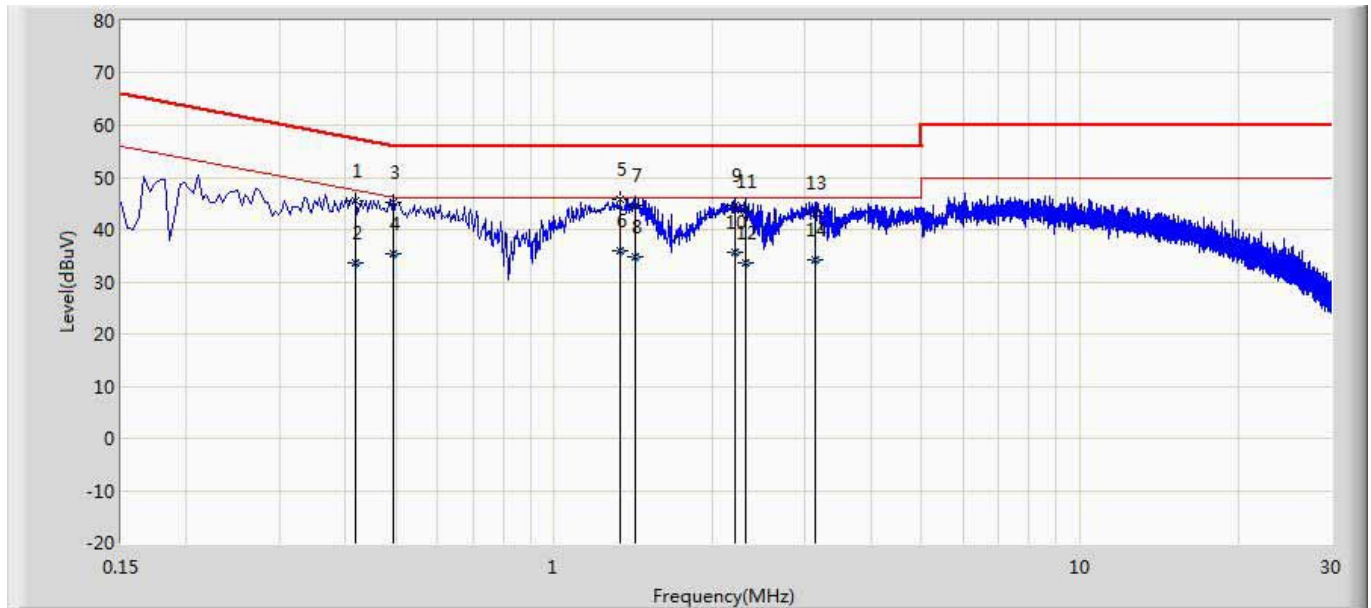
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.499	44.649	35.006	-11.365	56.014	9.600	0.043	0.000	QP
2		0.499	34.775	25.132	-11.239	46.014	9.600	0.043	0.000	AV
3		0.590	43.966	34.319	-12.034	56.000	9.600	0.047	0.000	QP
4		0.590	32.989	23.342	-13.011	46.000	9.600	0.047	0.000	AV
5		1.342	44.831	35.154	-11.169	56.000	9.610	0.067	0.000	QP
6	*	1.342	35.075	25.398	-10.925	46.000	9.610	0.067	0.000	AV
7		1.514	42.528	32.841	-13.472	56.000	9.610	0.078	0.000	QP
8		1.514	31.102	21.414	-14.898	46.000	9.610	0.078	0.000	AV
9		2.322	43.610	33.899	-12.390	56.000	9.615	0.096	0.000	QP
10		2.322	33.554	23.843	-12.446	46.000	9.615	0.096	0.000	AV
11		3.330	40.498	30.750	-15.502	56.000	9.632	0.116	0.000	QP
12		3.330	29.315	19.567	-16.685	46.000	9.632	0.116	0.000	AV
13		4.490	41.791	32.008	-14.209	56.000	9.651	0.132	0.000	QP
14		4.490	33.066	23.283	-12.934	46.000	9.651	0.132	0.000	AV

Note:

1. " * ", means this data is the worst emission level.

2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Noro	
Site: TR1	Time: 2016/07/25
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: Smart Wi-Fi Plug Mini	Power: AC 120V/60Hz
Note: Mode 1: Normal Operation	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.418	45.480	35.849	-12.008	57.488	9.592	0.039	0.000	QP
2		0.418	33.636	24.005	-13.852	47.488	9.592	0.039	0.000	AV
3		0.494	45.359	35.726	-10.741	56.100	9.590	0.043	0.000	QP
4		0.494	35.477	25.844	-10.623	46.100	9.590	0.043	0.000	AV
5		1.334	45.752	36.088	-10.248	56.000	9.597	0.067	0.000	QP
6	*	1.334	35.986	26.322	-10.014	46.000	9.597	0.067	0.000	AV
7		1.422	44.569	34.897	-11.431	56.000	9.598	0.073	0.000	QP
8		1.422	34.662	24.990	-11.338	46.000	9.598	0.073	0.000	AV
9		2.202	44.666	34.958	-11.334	56.000	9.613	0.094	0.000	QP
10		2.202	35.623	25.916	-10.377	46.000	9.613	0.094	0.000	AV
11		2.318	43.409	33.700	-12.591	56.000	9.614	0.095	0.000	QP
12		2.318	33.719	24.010	-12.281	46.000	9.614	0.095	0.000	AV
13		3.126	43.296	33.559	-12.704	56.000	9.625	0.113	0.000	QP
14		3.126	34.203	24.465	-11.797	46.000	9.625	0.113	0.000	AV

Note:

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

4. Emissions in restricted frequency bands

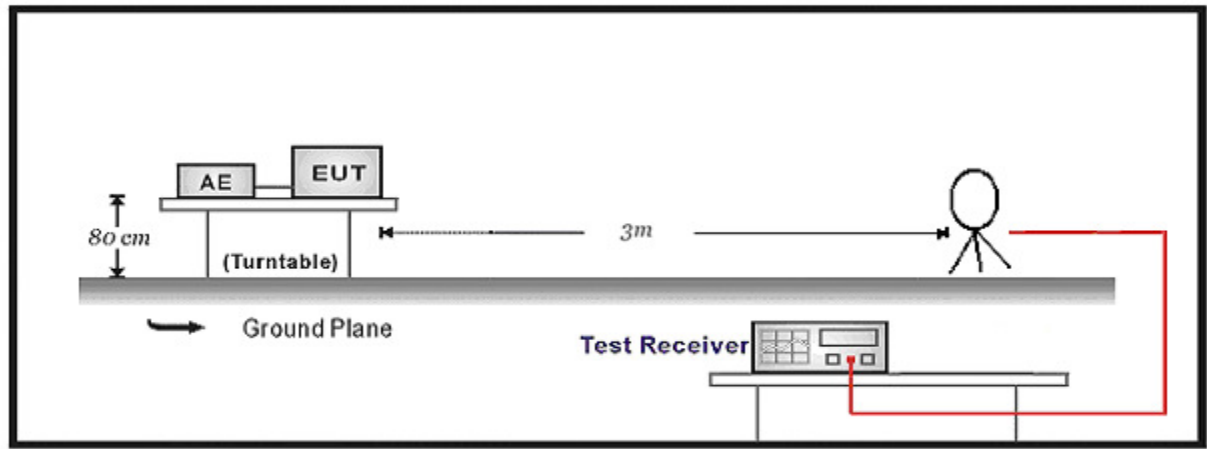
4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2016.03.29	2017.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2015.11.16	2016.11.17
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2015.10.16	2016.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2016.03.02	2017.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

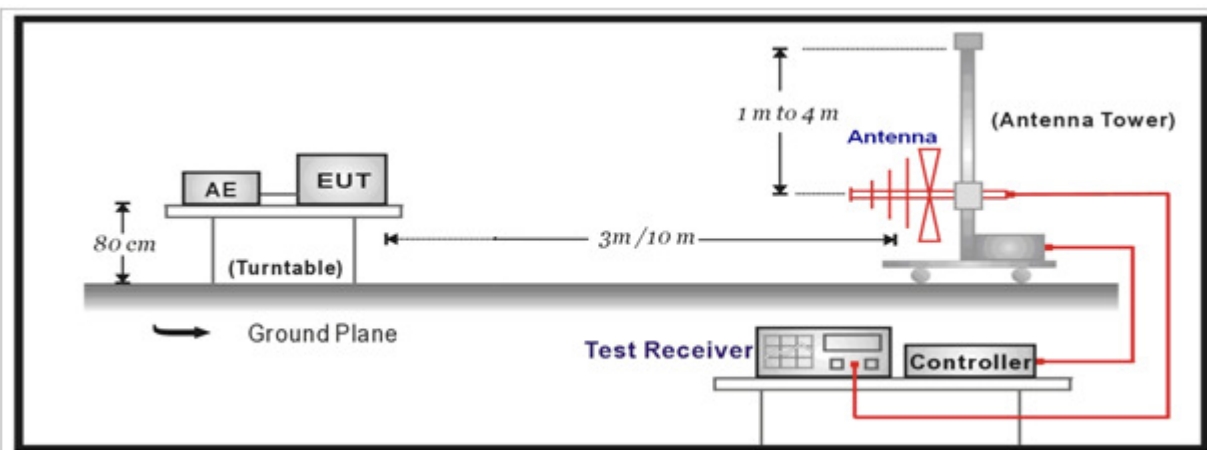
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.06	2017.05.05
Preamplifier	Quietek	AP-040G	CHM-0906001	2016.05.06	2017.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2016.01.22	2017.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2015.11.25	2016.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.02	2017.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2016.06.10	2017.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

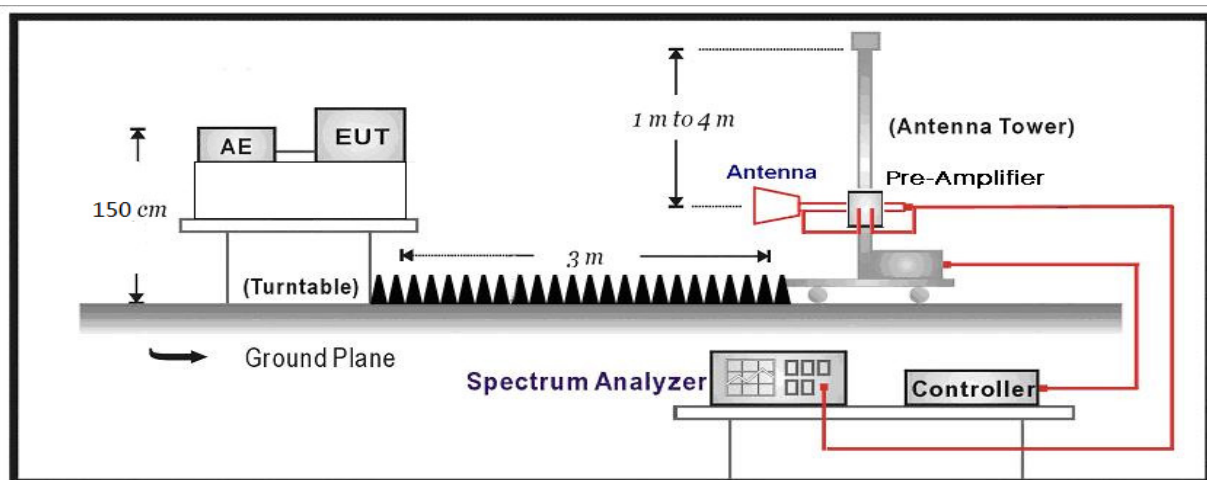
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

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

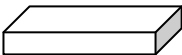
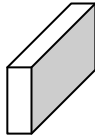
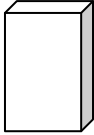
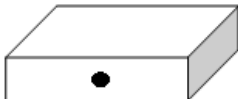
Frequency
(MHz)

Field strength
(

4.4. Test Procedure

Test Method				
	References Rule		Chapter	Description
☐	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	☐	ANSI C63.10	11.11.2	Reference level measurement
	☐	ANSI C63.10	11.11.3	Emission level measurement
☒	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. EUT test Axis definition

Item	Emissions in restricted frequency bands			
Device Category	☒	Fixed position use		
	☐	Mobile position use		
Test mode	Mode 1~4			
Test method	☒	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☒
	☐	Conducted		
	☐	Chain 1		
				
	☐	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

4.6. Test Result

Product Name	:	Smart Wi-Fi Plug Mini	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1	Test Site	:	AC-5

CH	Antenna Polarity	Frequency (MHz)	Reading Level (dB
----	---------------------	--------------------	-------------------------

Product Name	:	Smart Wi-Fi Plug Mini	Power	:	AC 120V/60Hz
Test Site	:	Mode 2	Test Site	:	AC-5

CH	Antenna Polarity	Frequency (MHz)	Reading Level (dB
----	---------------------	--------------------	-------------------------

Product Name	:	Smart Wi-Fi Plug Mini	Power	:	AC 120V/60Hz
Test Site	:	Mode 3	Test Site	:	AC-5

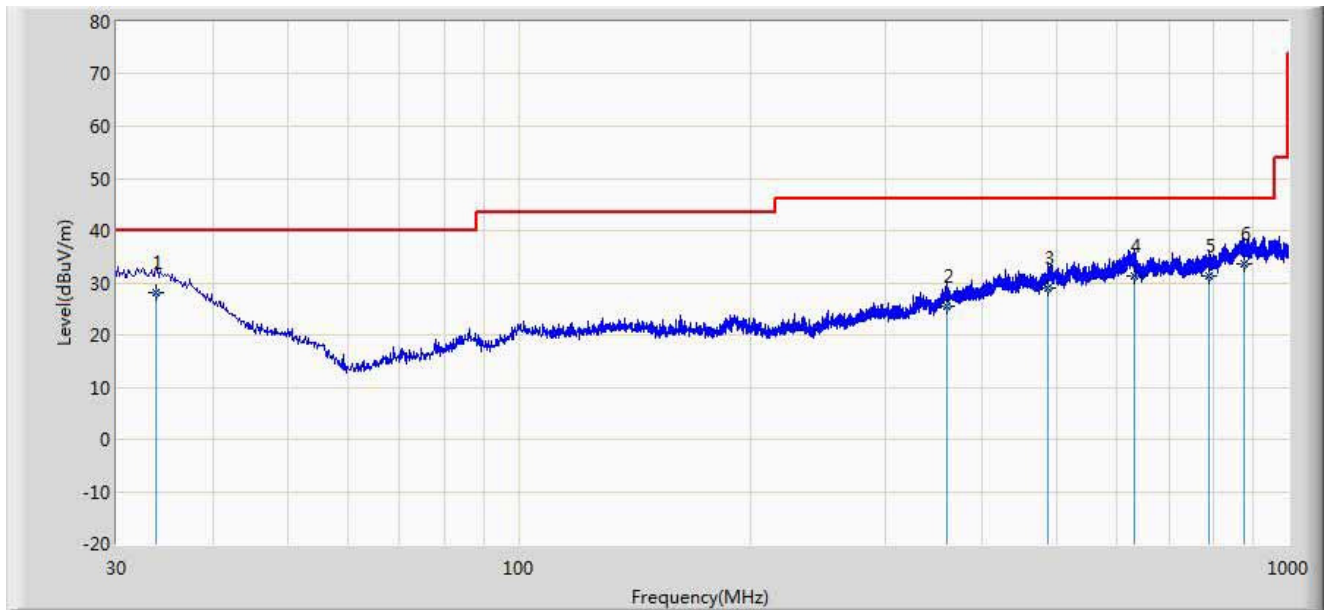
CH	Antenna Polarity	Frequency (MHz)	Reading Level (dB
----	---------------------	--------------------	-------------------------

Product Name	:	Smart Wi-Fi Plug Mini	Power	:	AC 120V/60Hz
Test Site	:	Mode 4	Test Site	:	AC-5

CH	Antenna Polarity	Frequency (MHz)	Reading Level (dB
----	---------------------	--------------------	-------------------------

The worst case of Radiated Emission below 1GHz:

Engineer: Whiteside	
Site: AC2	Time: 2016/07/25
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC 120V/60Hz
Note: Mode 1: Normal Operation	

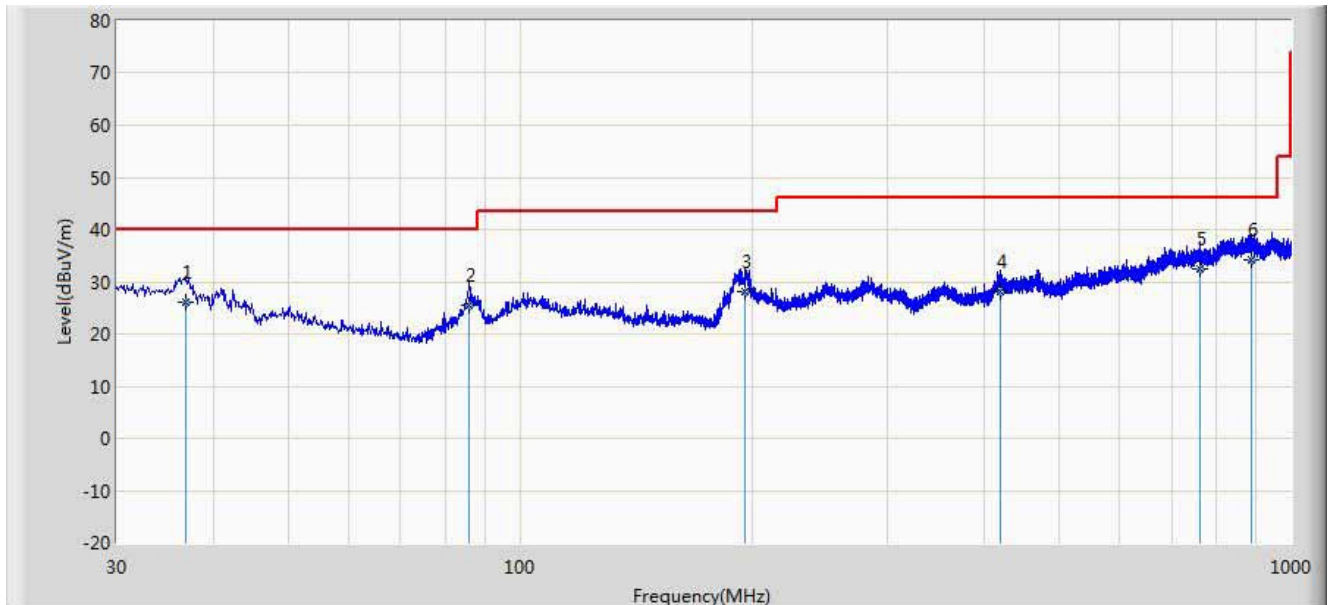


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1	*	33.745	28.025	0.663	-11.975	40.000	20.704	6.659	0.000	200	329	QP
2		360.042	25.367	1.004	-20.633	46.000	16.545	7.818	0.000	200	346	QP
3		486.870	28.939	1.136	-17.061	46.000	19.775	8.028	0.000	200	184	QP
4		630.305	31.383	1.118	-14.617	46.000	21.684	8.582	0.000	100	35	QP
5		787.935	31.360	0.762	-14.640	46.000	21.619	8.978	0.000	200	196	QP
6		876.045	33.541	1.041	-12.459	46.000	23.307	9.192	0.000	100	157	QP

Note:

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

Engineer: Whiteside	
Site: AC2	Time: 2016/07/25
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC 120V/60Hz
Note: Mode 1: Normal Operation	



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		36.910	25.986	4.510	-14.014	40.000	14.849	6.628	0.000	100	210	QP
2		85.869	25.618	9.120	-14.382	40.000	9.792	6.706	0.000	200	59	QP
3		195.746	28.119	5.610	-15.381	43.500	15.178	7.332	0.000	100	1	QP
4		420.415	28.044	1.301	-17.956	46.000	18.776	7.967	0.000	200	217	QP
5		761.125	32.577	1.275	-13.423	46.000	22.394	8.908	0.000	200	182	QP
6	*	887.125	34.236	1.089	-11.764	46.000	23.928	9.219	0.000	100	196	QP

Note:

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

5. Emissions in non-restricted frequency bands

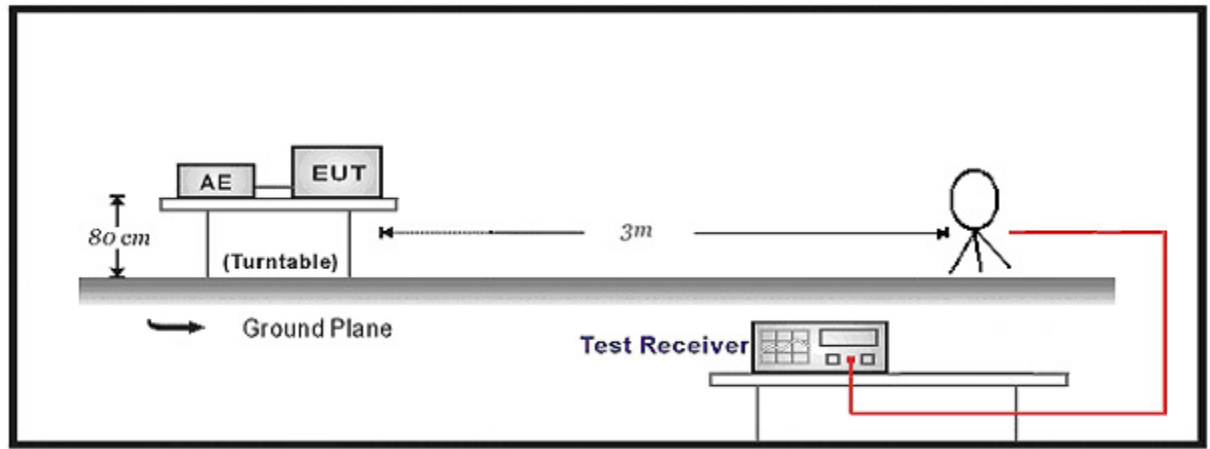
5.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2016.03.29	2017.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2015.11.16	2016.11.17
Bilog Chainenna	Teseq GmbH	CBL6112D	27611	2015.10.16	2016.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2016.03.02	2017.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

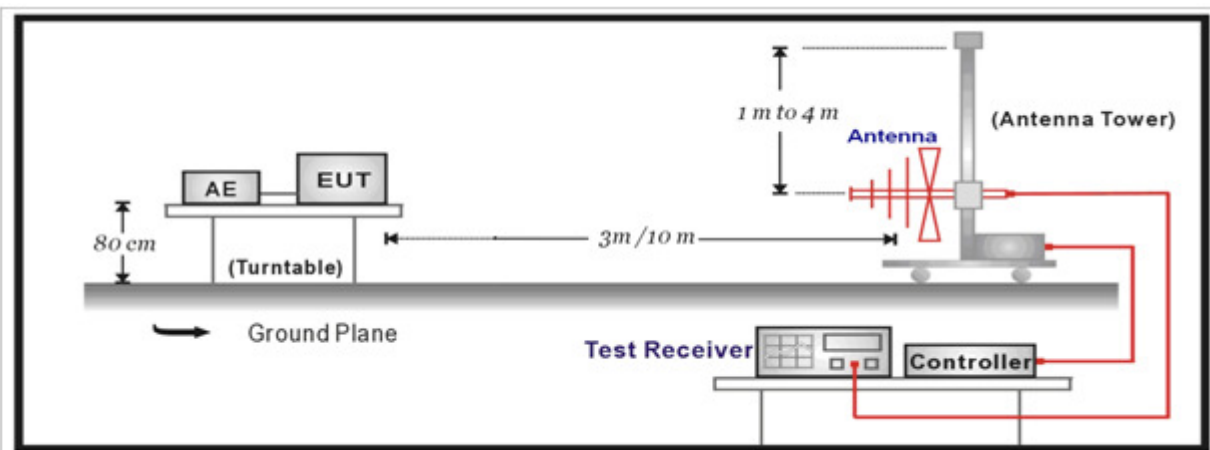
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2016.03.29	2017.03.28
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.06	2017.05.05
Preamplifier	Quietek	AP-040G	CHM-0906001	2016.05.06	2017.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2016.01.22	2017.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2015.11.25	2016.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.02	2017.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2016.06.10	2017.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2. Test Setup

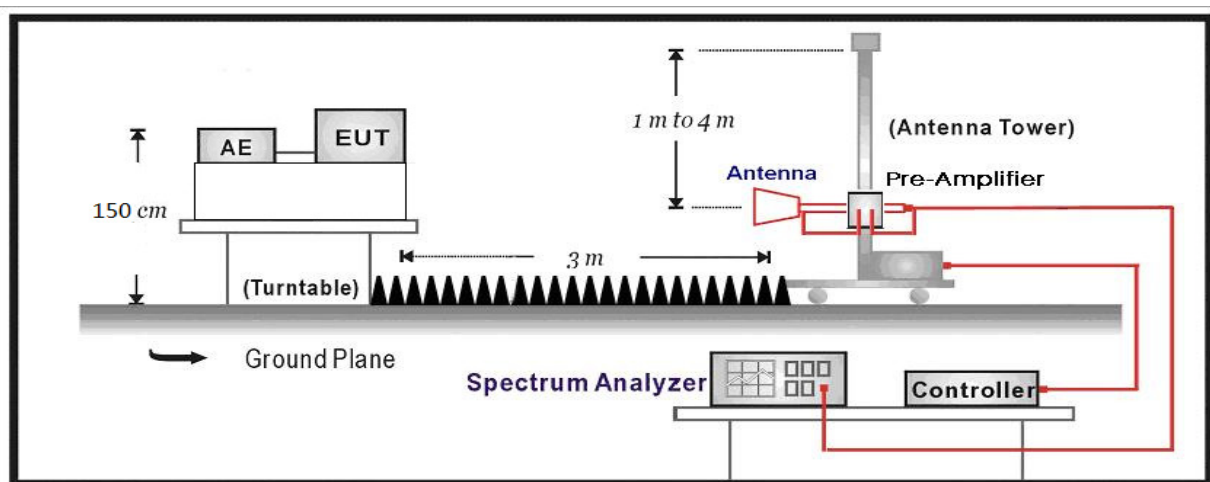
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



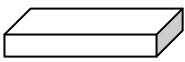
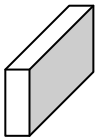
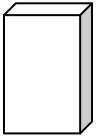
5.3. Limit

Un-Restricted Band Emissions Limit	
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30c(Note1)
RF Output power(PK detector)	20c(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).	

5.4. Test Procedure

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

5.5. EUT test Axis definition

Item	Emissions in non-restricted frequency bands			
Device Category	☒	Fixed position use		
	☐	Mobile position use		
Test mode	Mode 1 ~ Mode 4			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

5.6. Test Result

Product Name	:	Smart Wi-Fi Plug Mini	Test Power	:	AC 120V/60Hz
Test Site	:	TR8			

Antenna #0

Mode	Channel	Test Frequency (MHz)	In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	01	2412	13.891	2400	-28.344	42.235	>30	Pass
1	11	2462	13.891	2483.5	-37.918	51.809	>30	Pass
2	01	2412	12.836	2400	-20.846	33.682	>30	Pass
2	11	2462	12.836	2483.5	-34.803	47.639	>30	Pass
3	01	2412	12.430	2400	-21.569	33.999	>30	Pass
3	11	2462	12.430	2483.5	-32.811	45.241	>30	Pass
4	03	2422	5.284	2400	-28.173	33.457	>30	Pass
4	09	2452	5.284	2483.5	-35.146	40.430	>30	Pass

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

Mode 4 CH03(2422MHz)



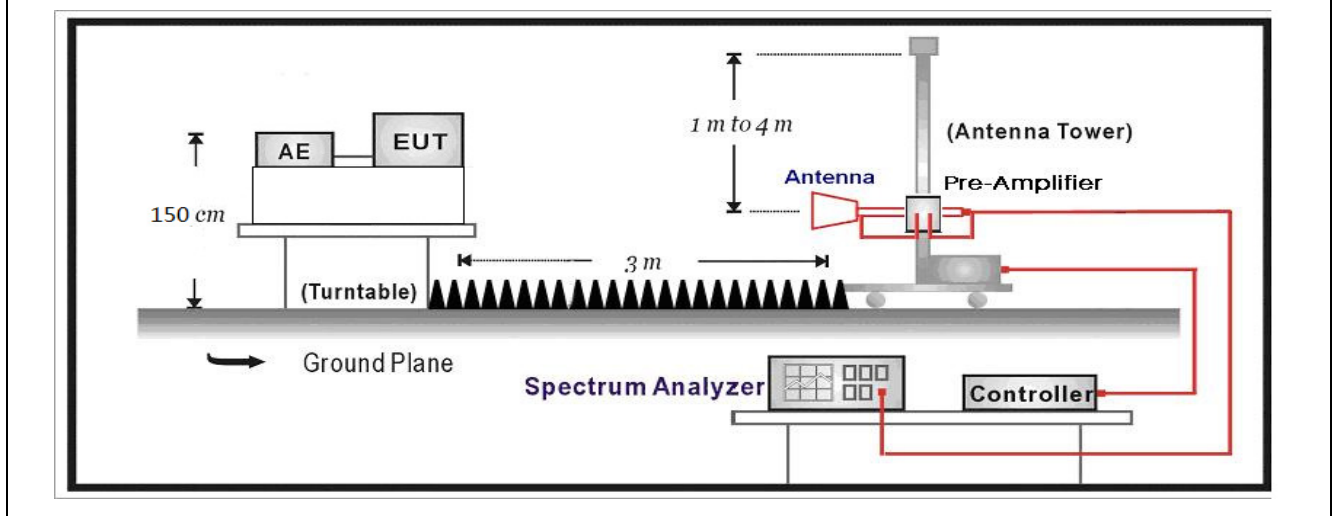
6. Radiated Emission Band Edge

6.1. Test Equipment

Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.06	2017.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2016.05.06	2017.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2016.01.22	2017.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2015.11.25	2016.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.02	2017.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2016.06.10	2017.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

6.2. Test Setup

Above 1GHz Test Setup:



6.3. Limit

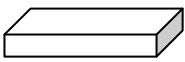
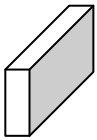
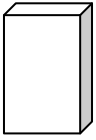
Band edge Limit

Frequency bands (MHz)	Detector	Limit (dB)
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6.4. Test Procedure

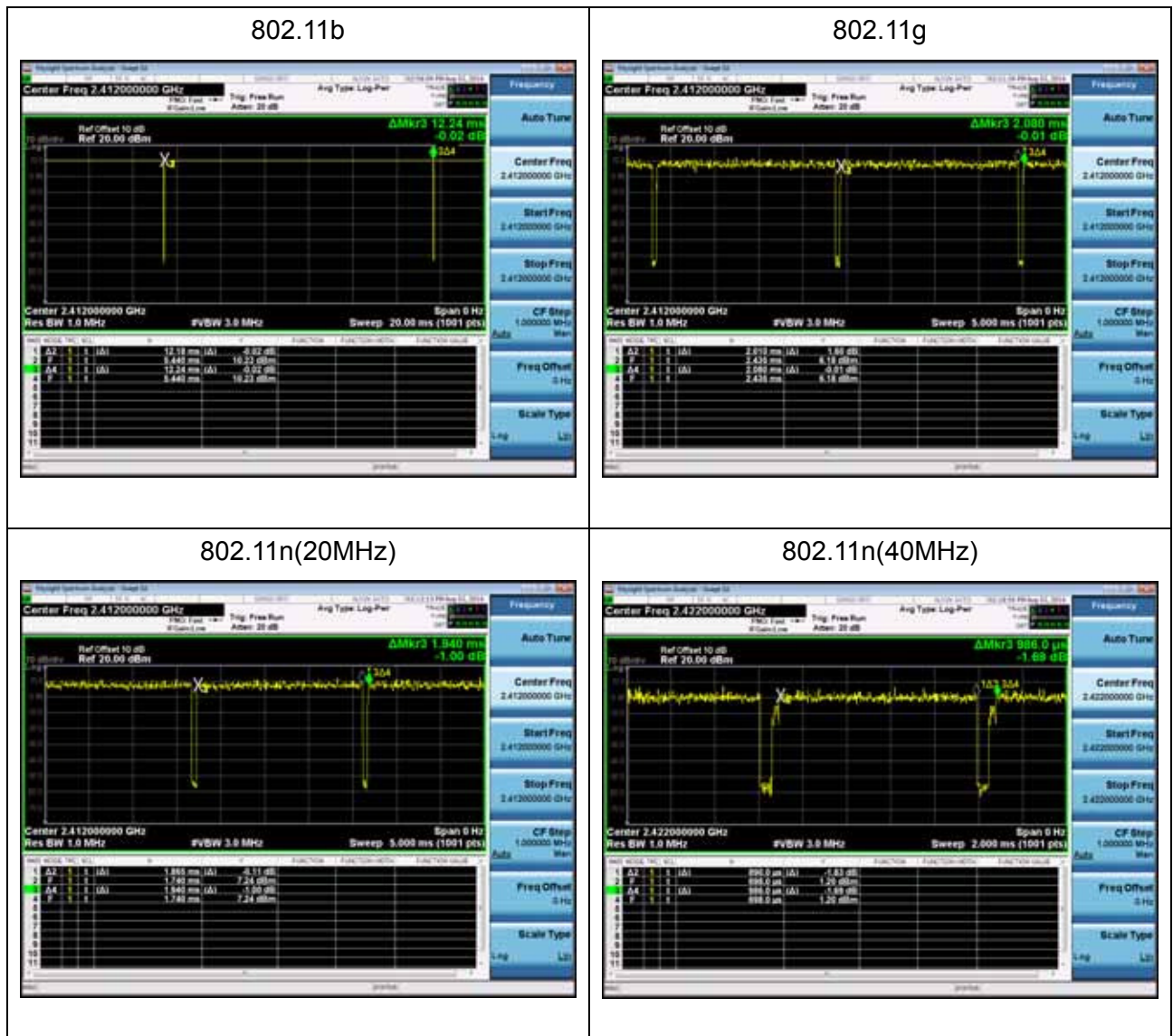
Test Method					
	References Rule		Chapter	Description	
☒	ANSI C63.10		6.10	Band-edge testing	
	☒	ANSI C63.10	6.10.5	Restricted-band band-edge measurements	
	☐	ANSI C63.10	6.10.6	Marker-delta method	
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands	
	☒	ANSI C63.10	11.12.1	Radiated emission 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

6.5. EUT test definition

Item	Emissions in non-restricted frequency bands			
Device Category	☒	Fixed position use		
	☐	Mobile position use		
Test mode	Mode 1~4			
Test method	☒	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☒
	☐	Conducted		
	☐	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

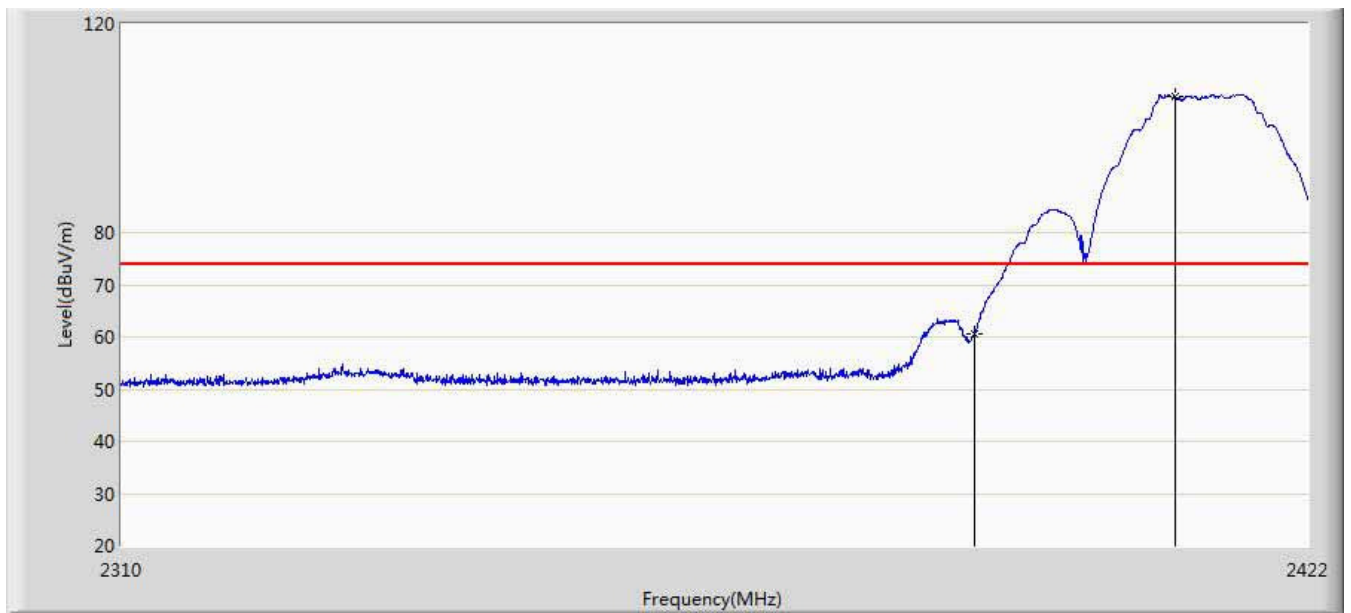
6.6. Duty Cycle

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
802.11b	12.18	0.060	24Hz	12.24	99.51%
802.11g	2.010	0.070	510Hz	2.080	96.63%
802.11n(20MHz)	1.865	0.075	560Hz	1.940	96.13%
802.11n(40MHz)	0.890	0.096	1.1kHz	0.986	92.56%



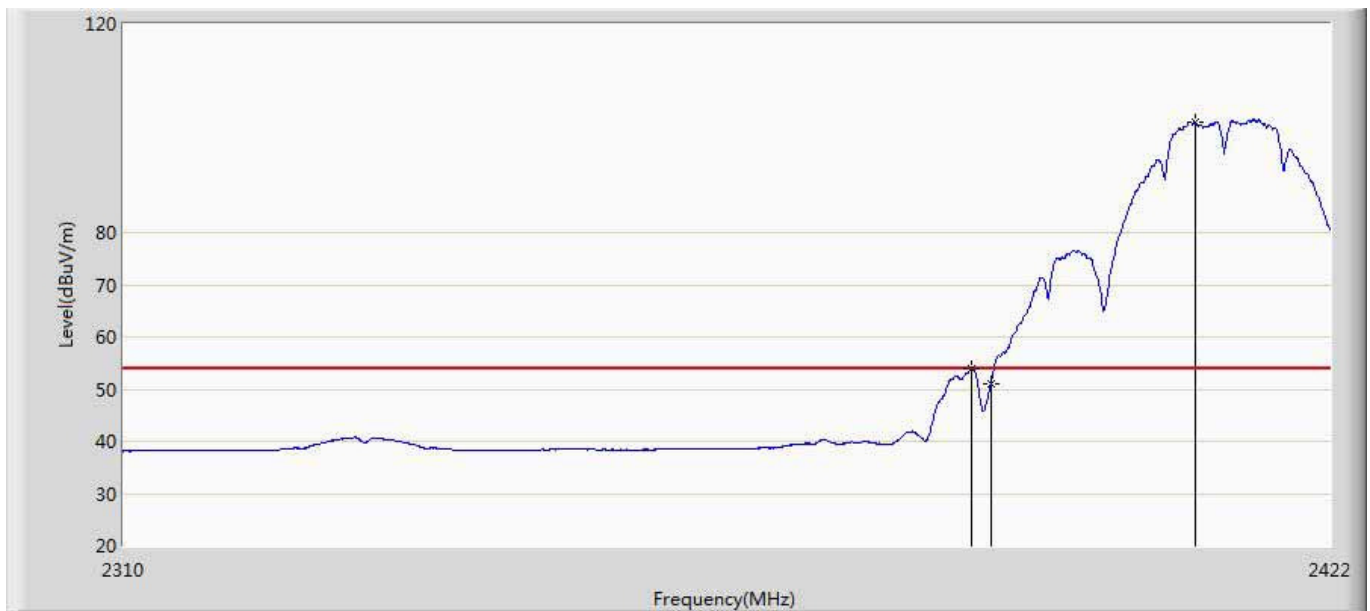
6.7. Test Result

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11b	



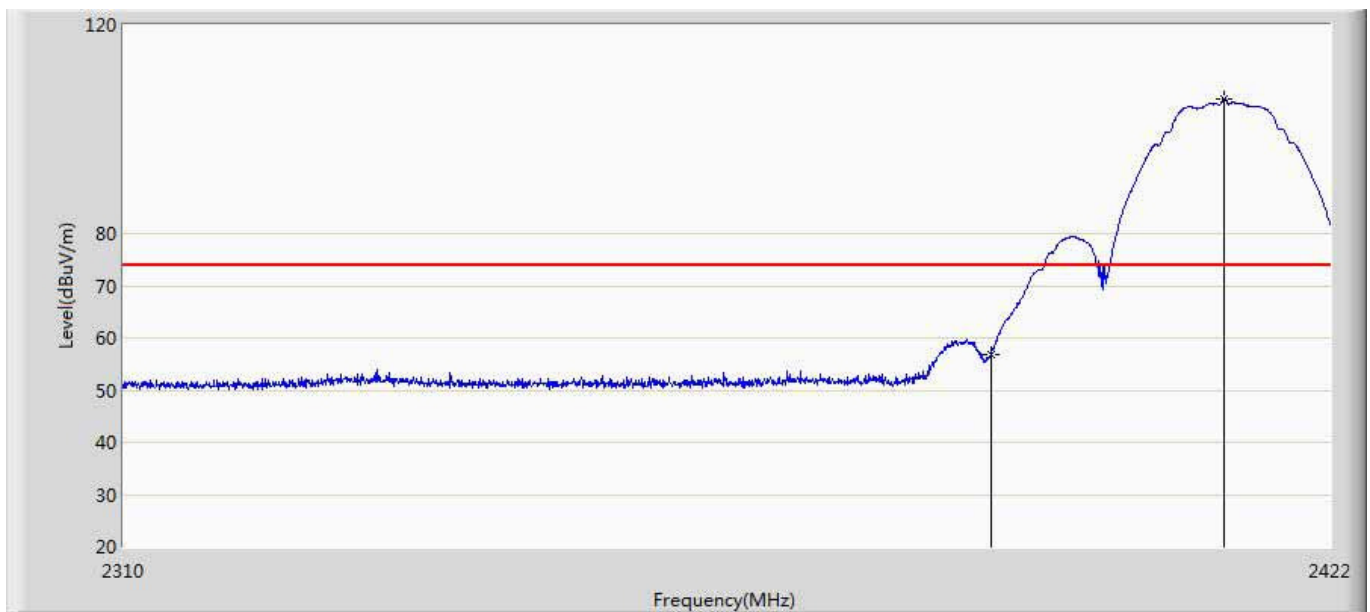
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.463	24.377	N/A	N/A	36.086	PK
2	*	2409.232	106.023	69.871	32.023	74.000	36.152	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11b	



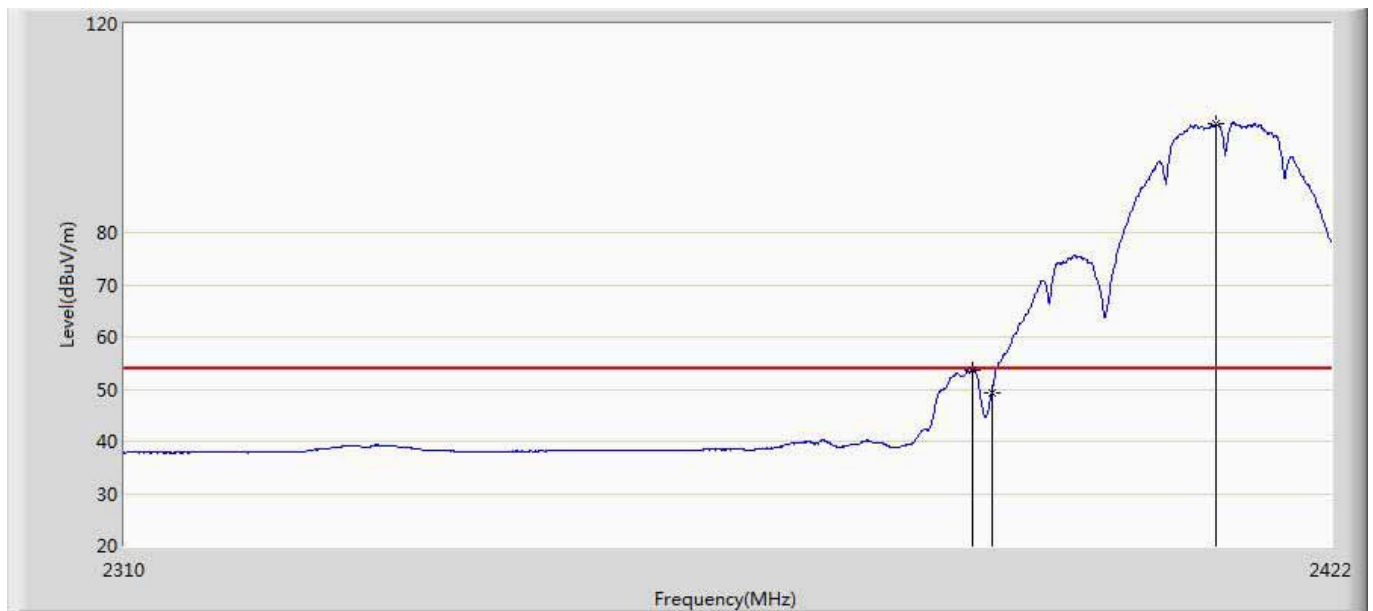
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.232	53.973	17.890	-0.027	54.000	36.083	AV
2		2390.000	50.961	14.875	-3.039	54.000	36.086	AV
3	*	2409.232	101.071	64.919	N/A	N/A	36.152	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11b	



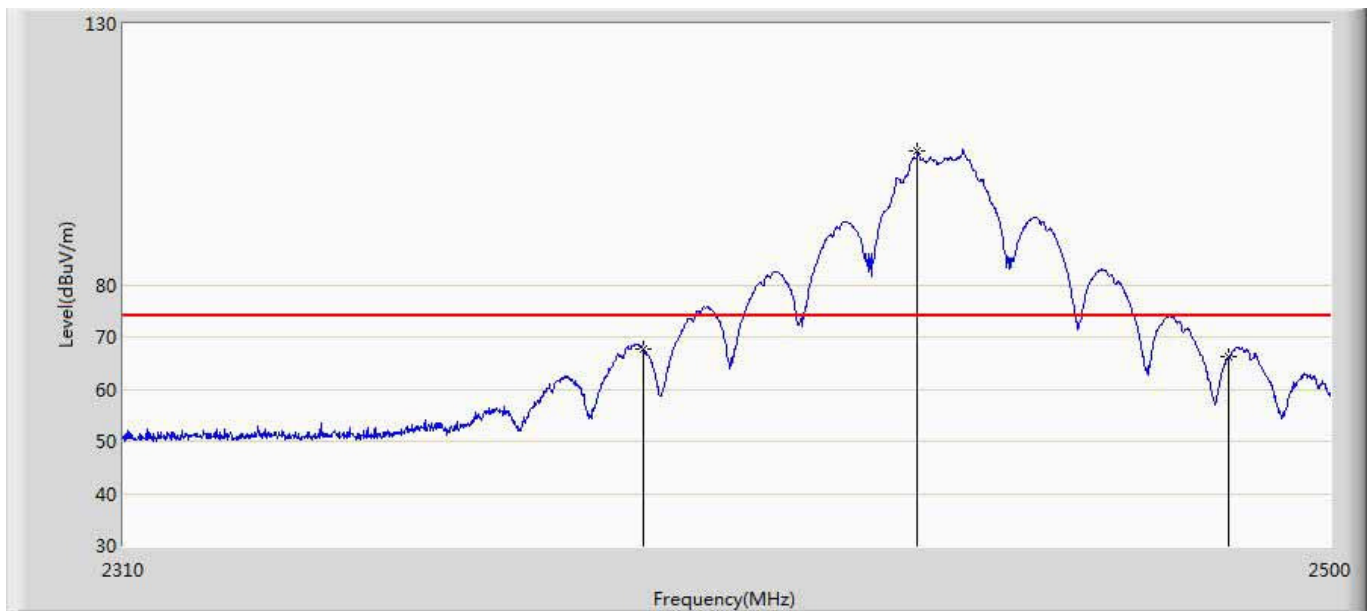
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	56.785	20.699	-17.215	74.000	36.086	PK
2	*	2411.920	105.706	69.547	N/A	N/A	36.159	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11b	



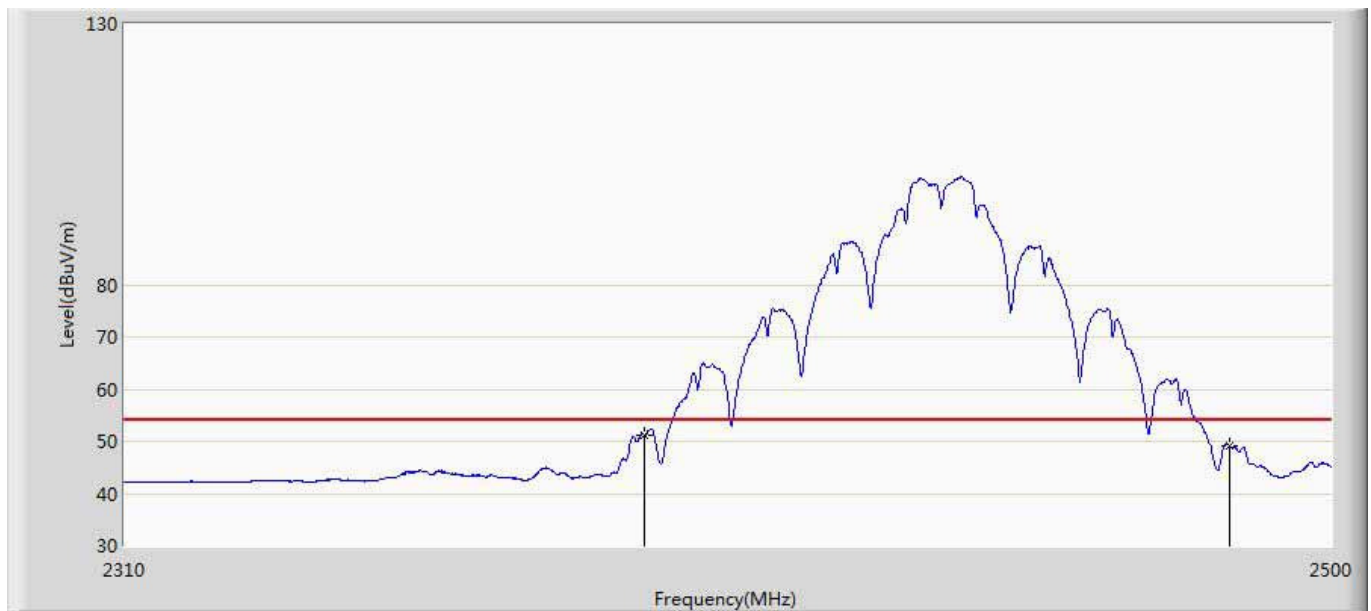
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.176	53.762	17.679	-0.238	54.000	36.083	AV
2		2390.000	49.386	13.300	-4.614	54.000	36.086	AV
3	*	2411.136	100.955	64.796	N/A	N/A	36.159	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11b	



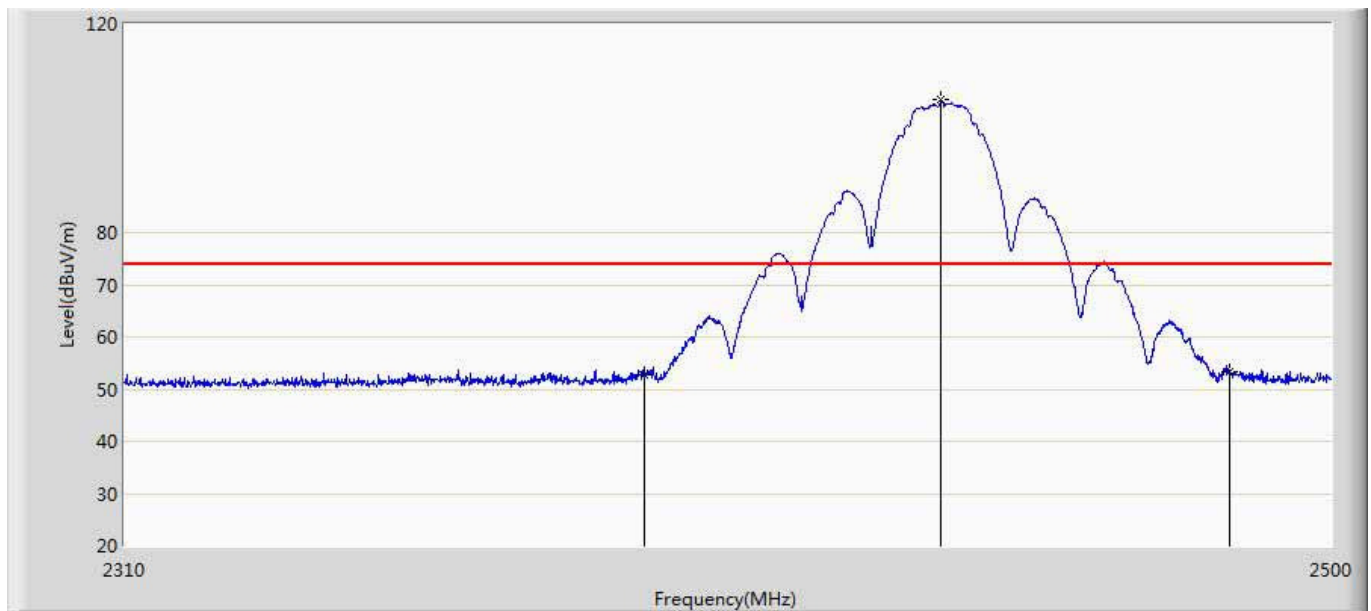
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	67.784	31.698	-6.216	74.000	36.086	PK
2	*	2433.405	105.720	69.538	N/A	N/A	36.182	PK
3		2483.500	66.206	29.944	-7.794	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11b	



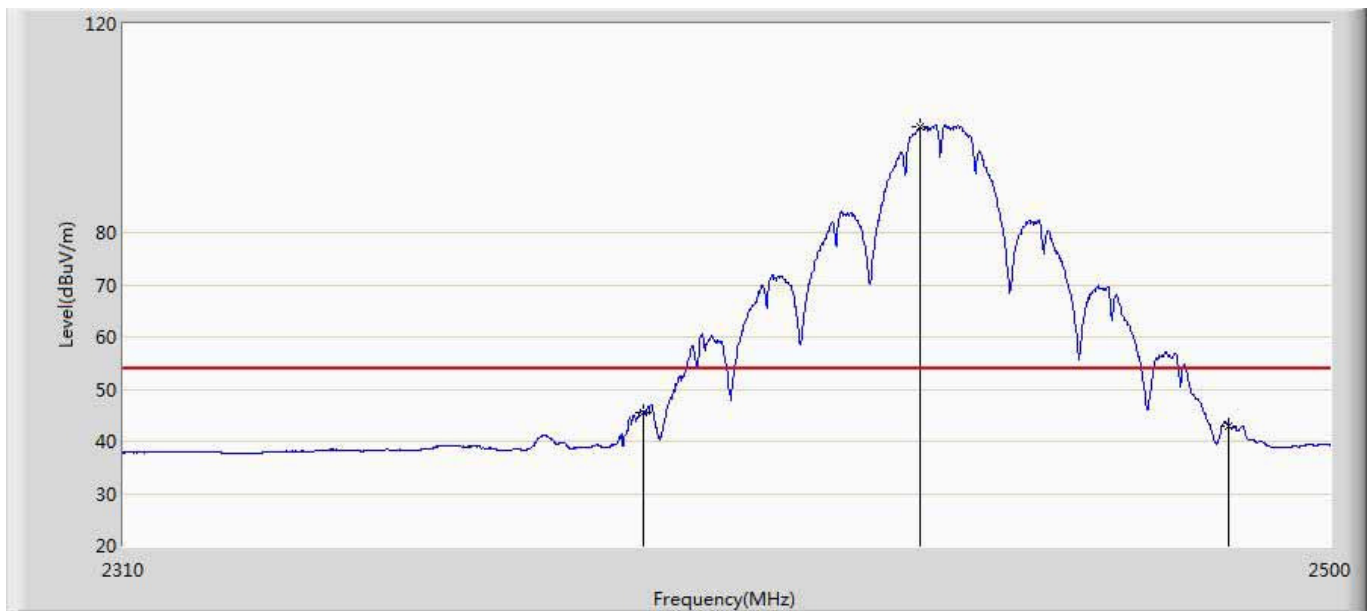
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	53.055	16.969	-0.945	54.000	36.086	AV
2		2483.500	49.041	12.780	-4.959	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11b	



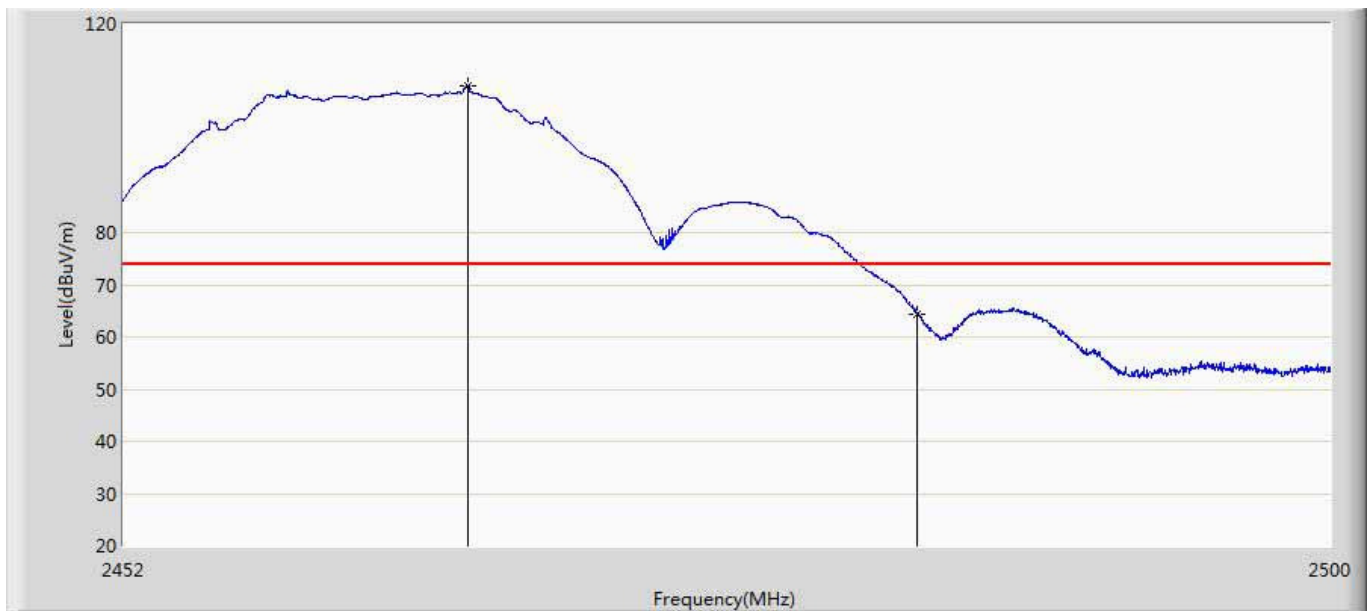
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.634	16.548	-21.366	74.000	36.086	PK
2	*	2437.015	105.366	69.172	N/A	N/A	36.195	PK
3		2483.500	53.370	17.108	-20.630	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11b	



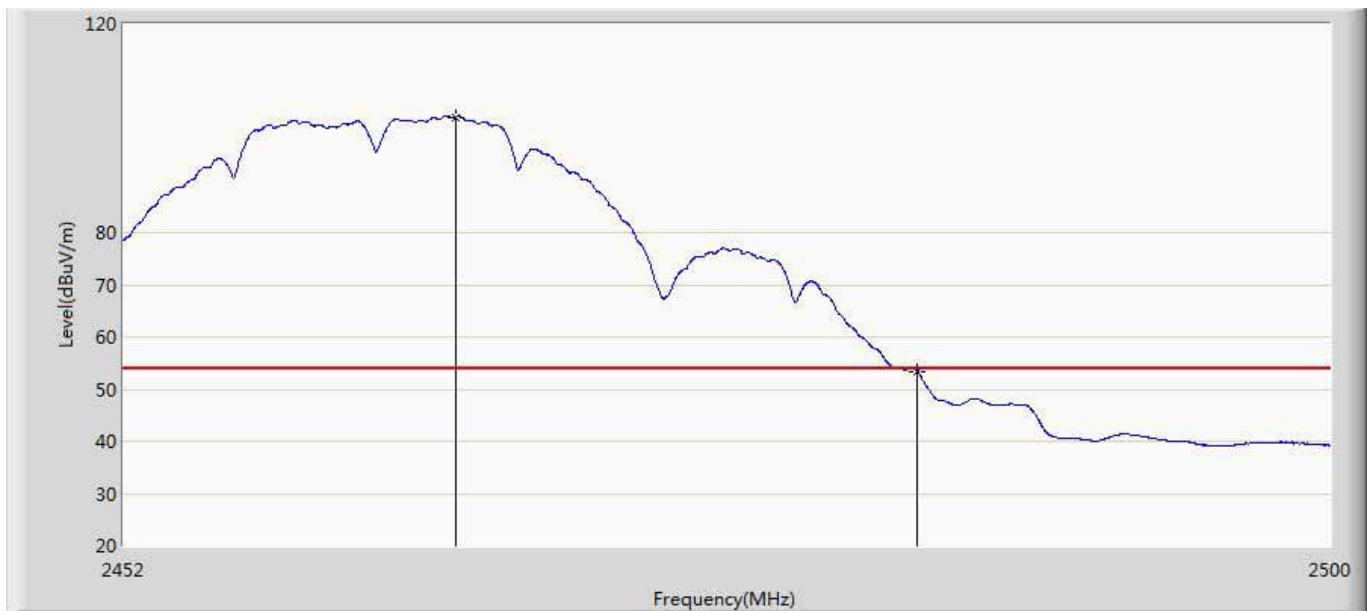
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.618	9.532	-8.382	54.000	36.086	AV
2	*	2433.690	100.285	64.102	N/A	N/A	36.184	AV
3		2483.500	43.000	6.739	-11.000	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11b	



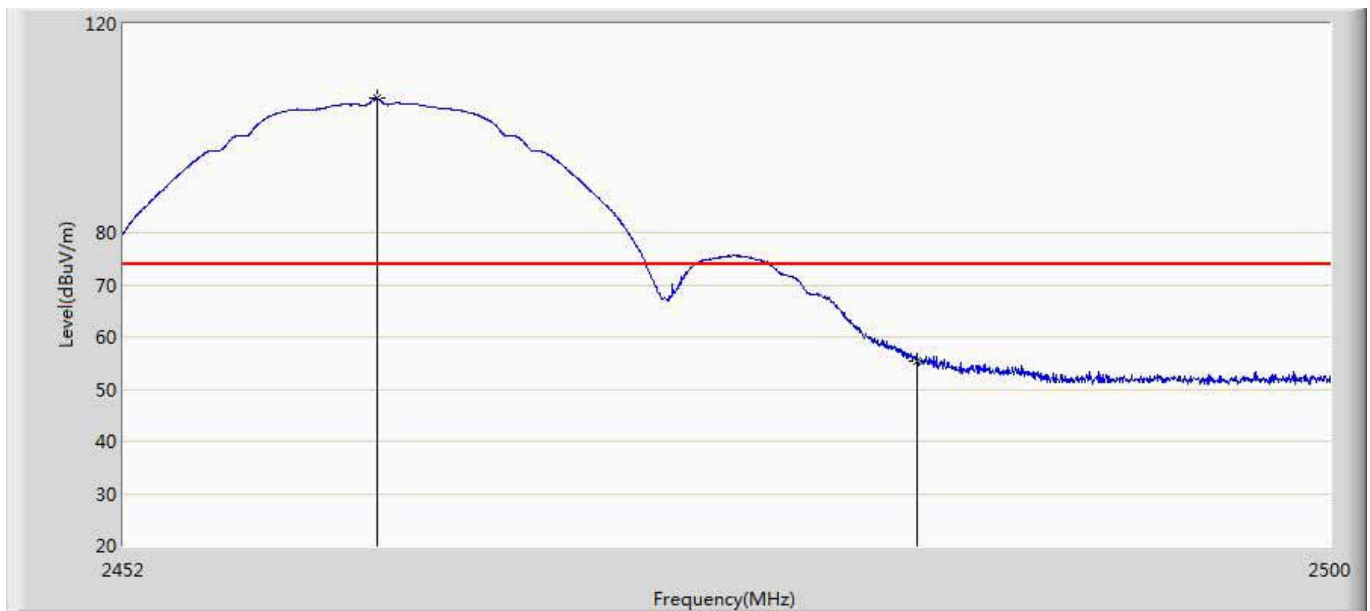
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2465.632	108.180	71.960	N/A	N/A	36.219	PK
2		2483.500	64.415	28.154	-9.585	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11b	



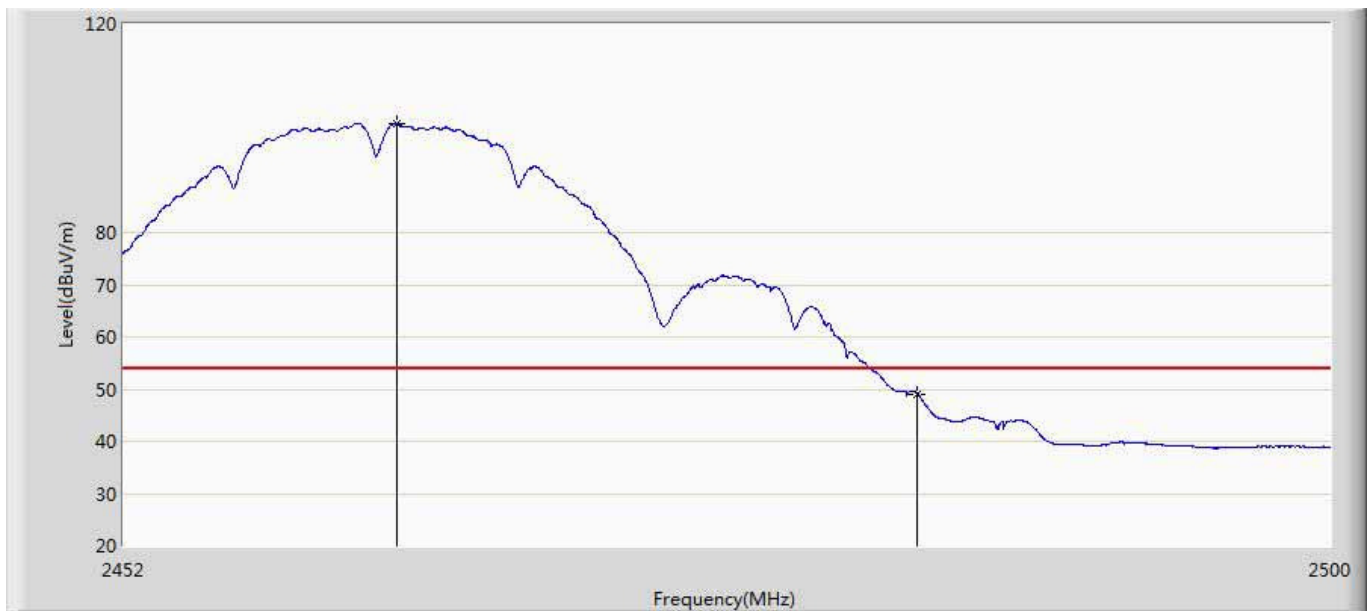
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2465.152	102.160	65.941	N/A	N/A	36.219	AV
2		2483.500	53.307	17.046	-0.693	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11b	



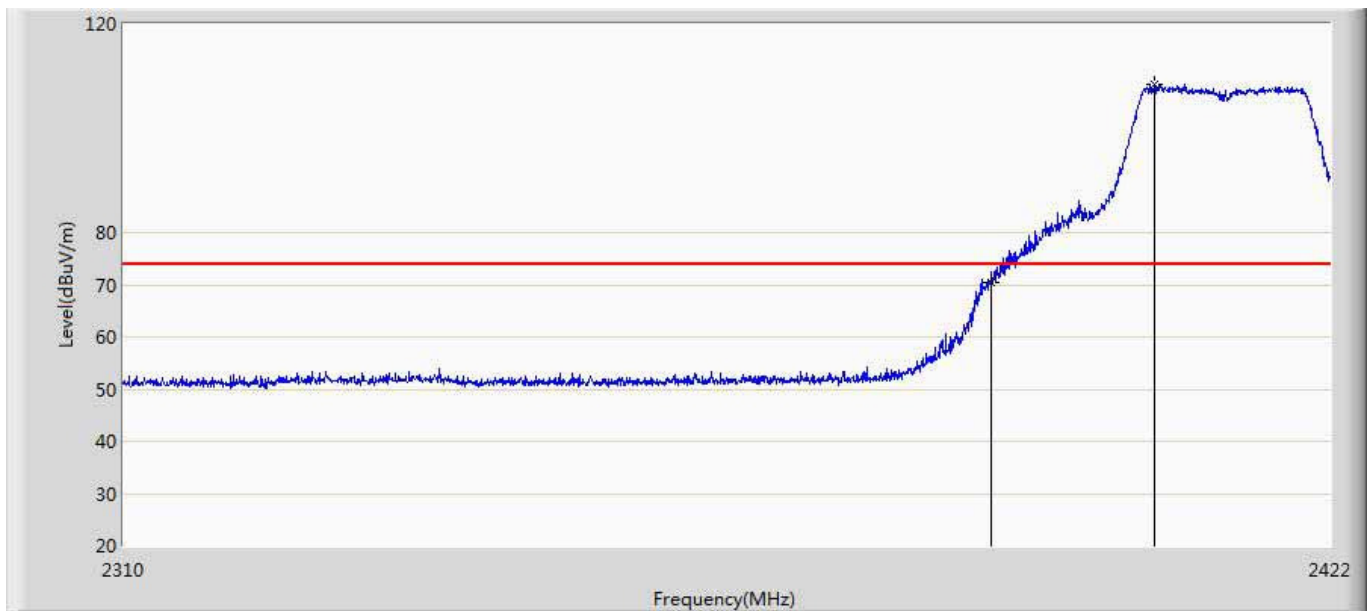
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.032	105.710	69.498	N/A	N/A	36.212	PK
2		2483.500	55.257	18.995	-18.743	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 20:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11b	



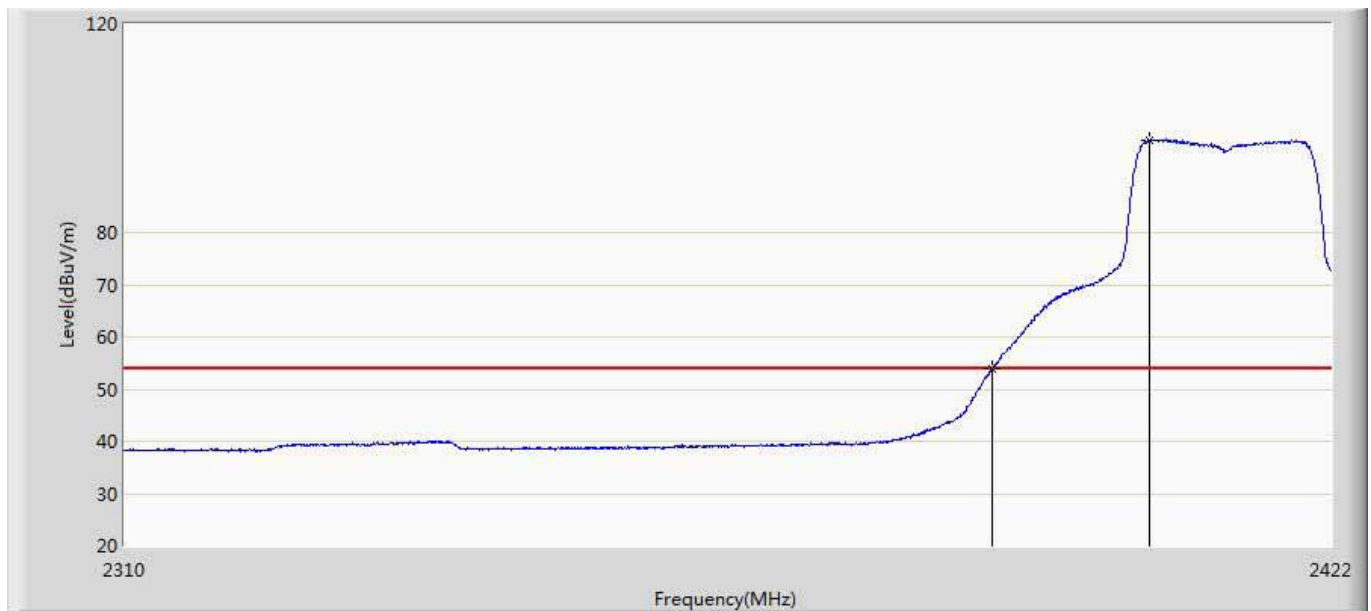
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.776	101.011	64.797	N/A	N/A	36.214	AV
2		2483.500	49.049	12.788	-4.951	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11g	



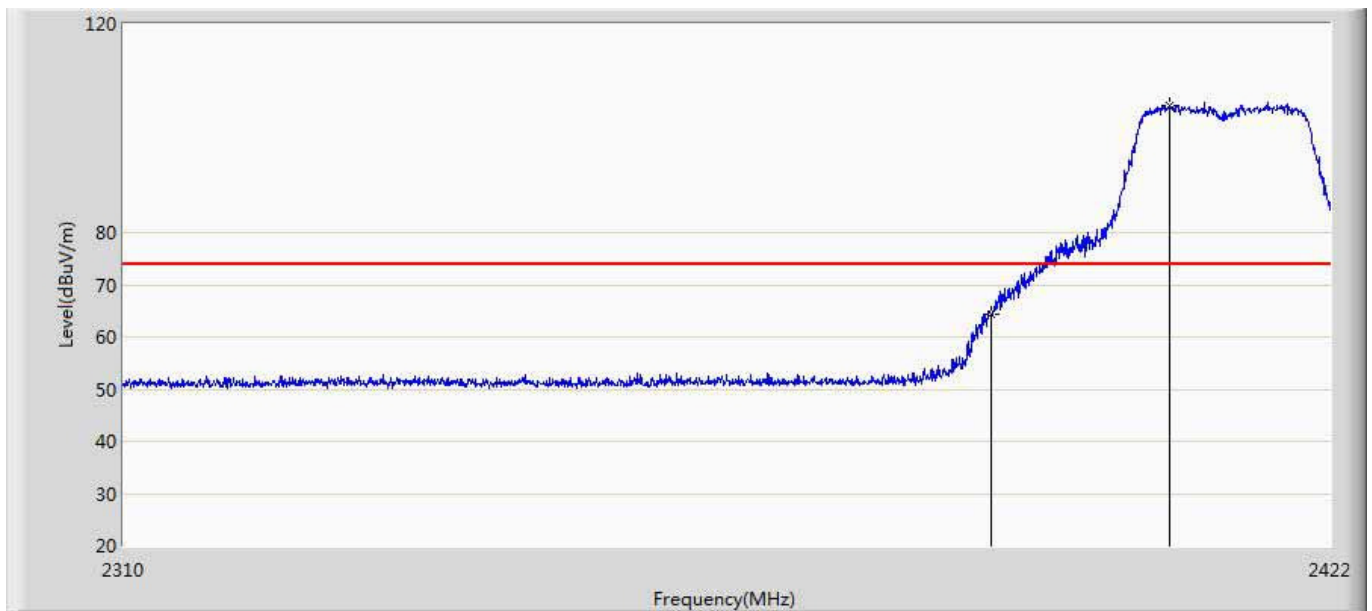
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	70.477	34.391	-3.523	74.000	36.086	PK
2	*	2405.368	108.383	72.246	N/A	N/A	36.137	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11g	



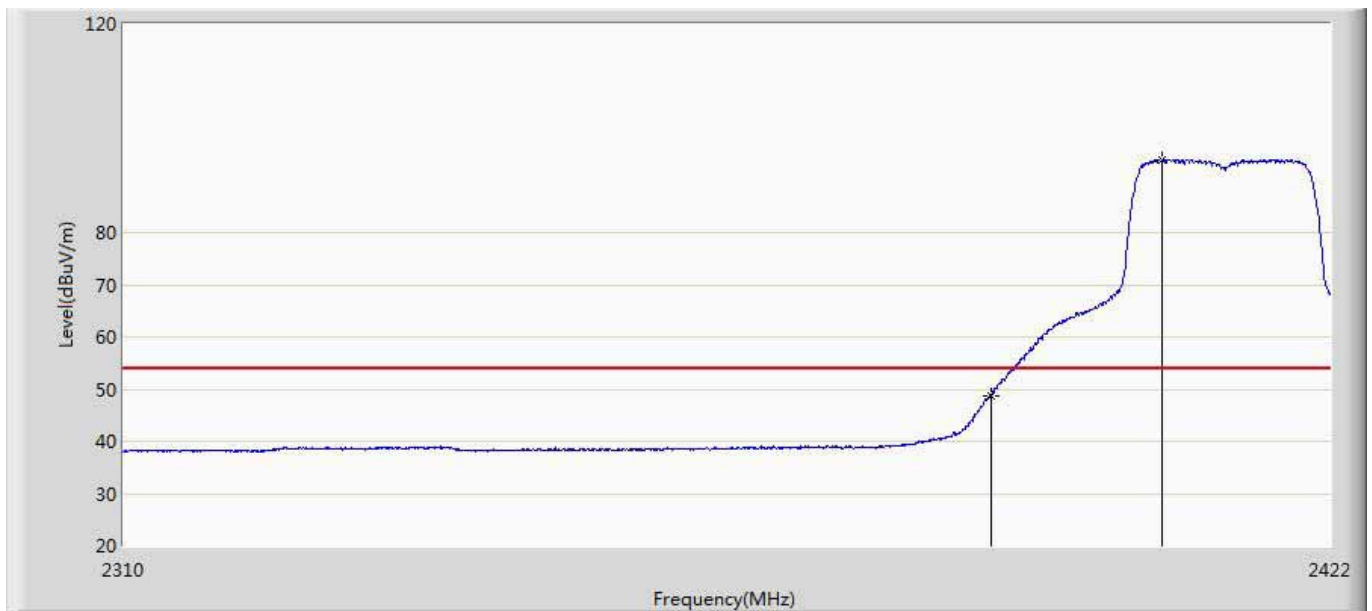
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1		2390.000	53.795	17.709	-0.205	54.000	36.086	AV
2	*	2404.808	97.658	61.523	N/A	N/A	36.136	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11g	



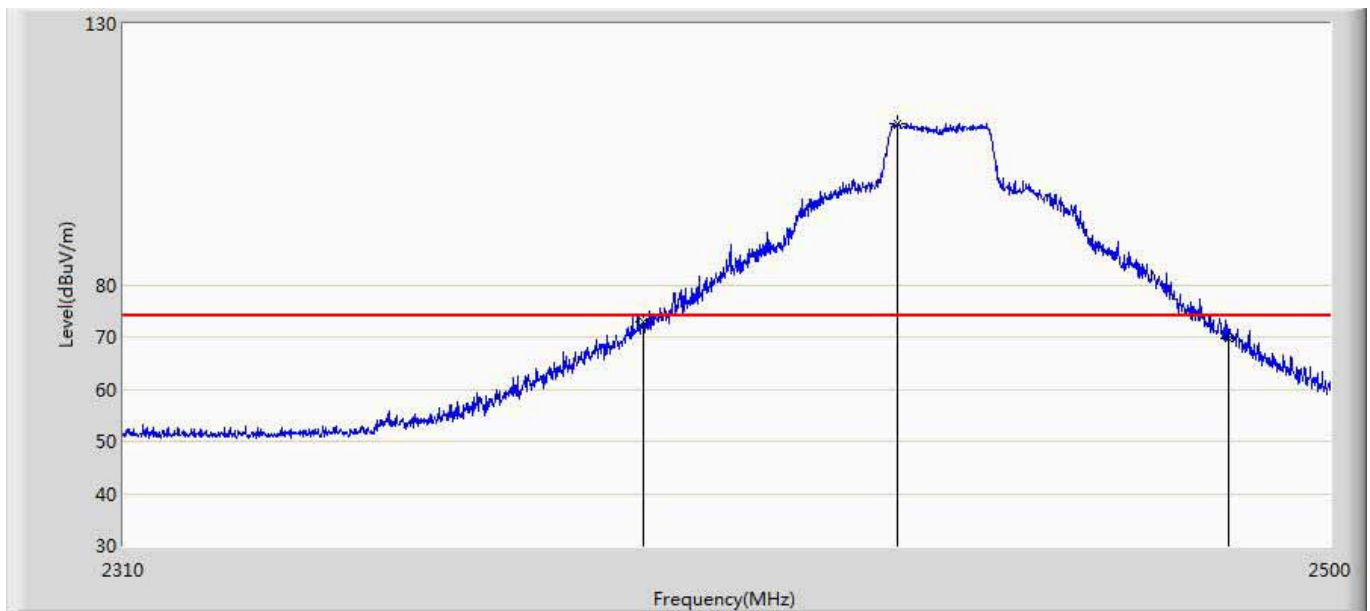
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	64.246	28.160	-9.754	74.000	36.086	PK
2	*	2406.768	104.427	68.284	N/A	N/A	36.143	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11g	



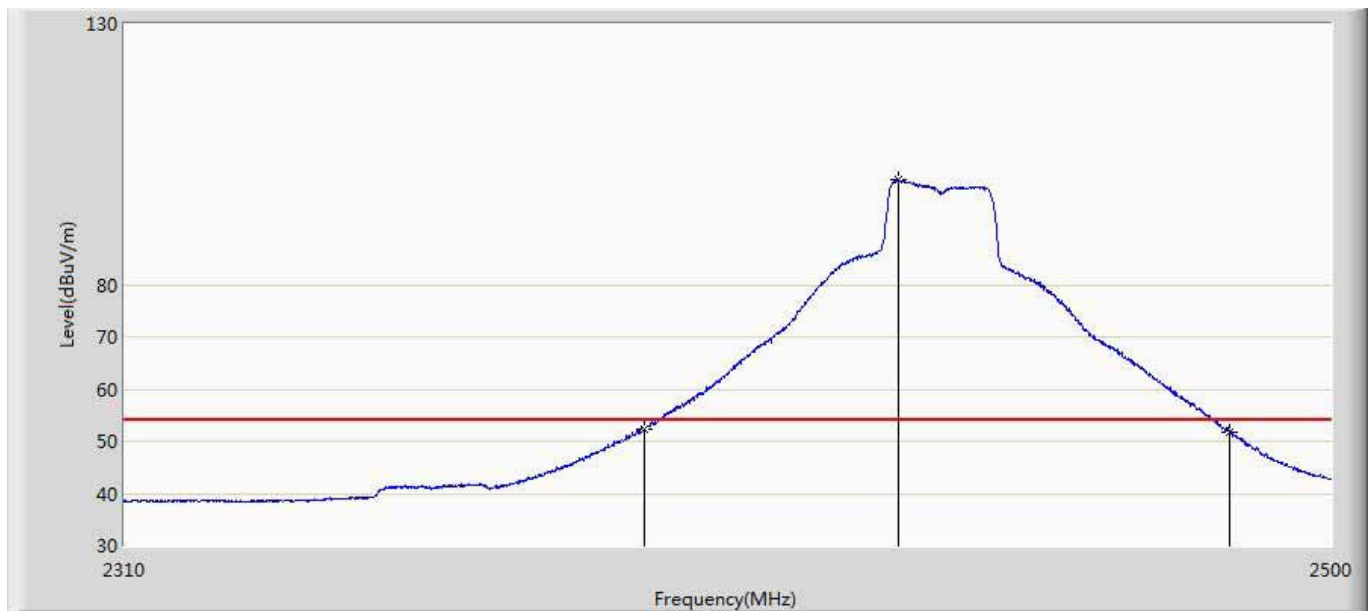
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.800	12.714	-5.200	54.000	36.086	AV
2	*	2406.152	93.918	57.778	N/A	N/A	36.140	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11g	



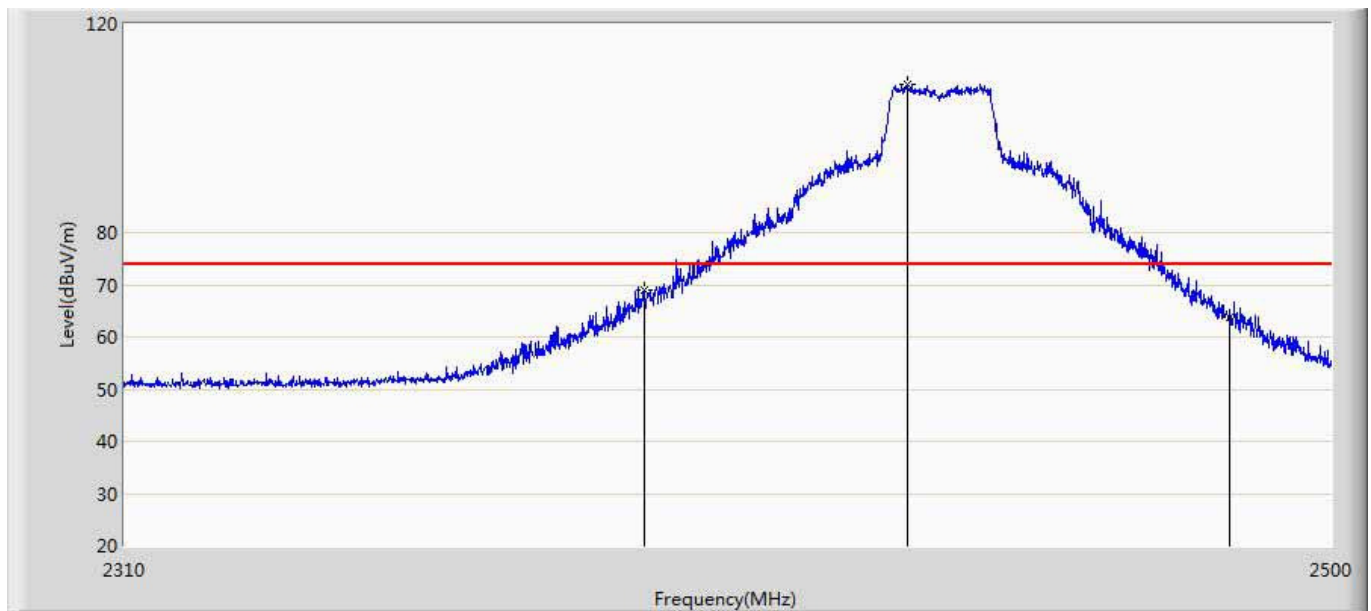
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	73.015	36.929	-0.985	74.000	36.086	PK
2	*	2430.270	110.971	74.799	N/A	N/A	36.173	PK
3		2483.500	69.783	33.522	-4.217	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11g	



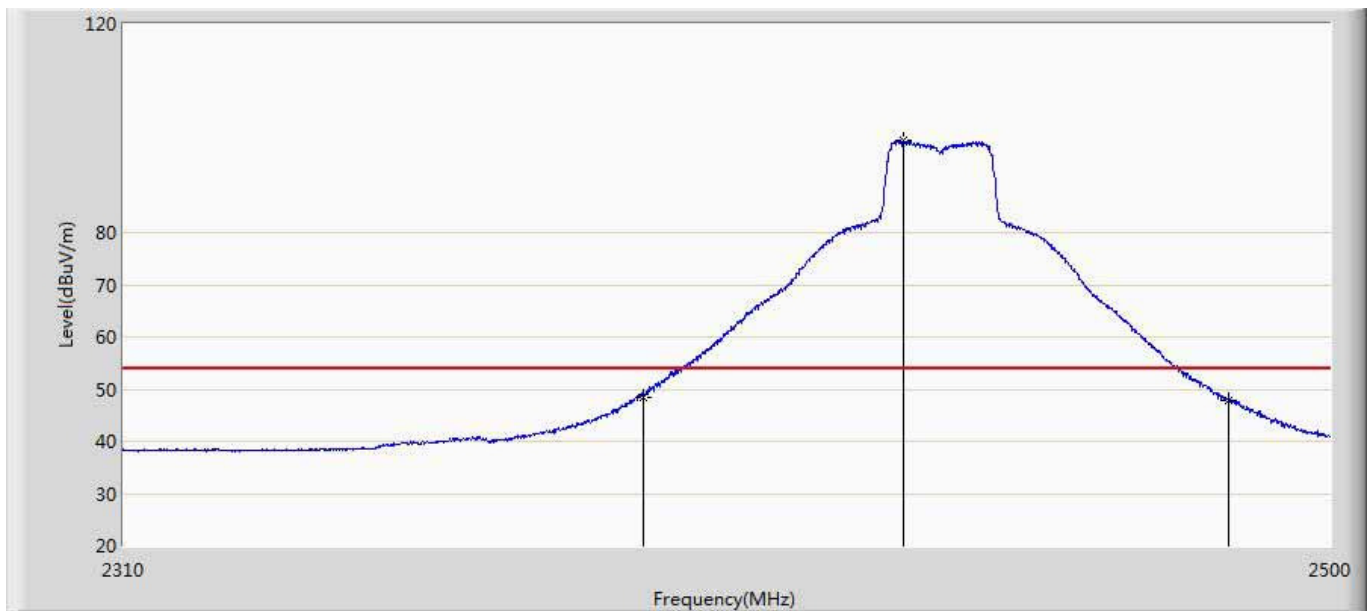
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1		2390.000	52.316	16.230	-1.684	54.000	36.086	AV
2	*	2430.080	100.168	63.996	N/A	N/A	36.171	AV
3		2483.500	51.637	15.376	-2.363	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11g	



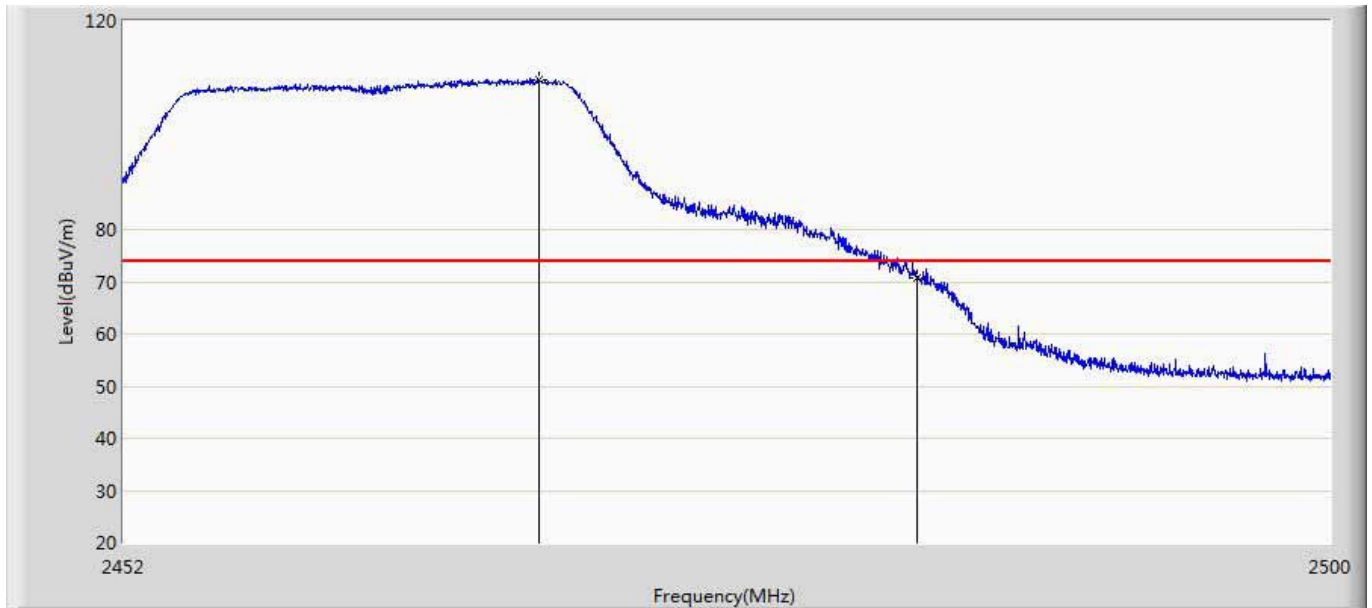
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	68.972	32.886	-5.028	74.000	36.086	PK
2	*	2431.505	108.441	72.265	N/A	N/A	36.176	PK
3		2483.500	63.828	27.567	-10.172	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11g	



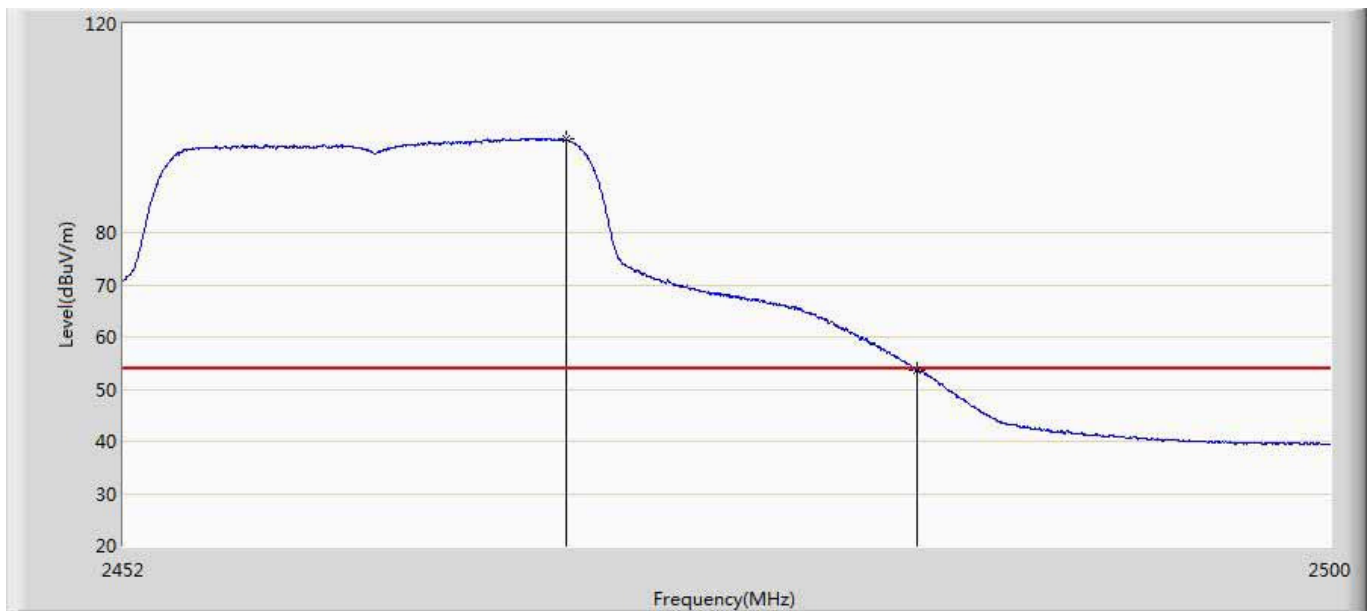
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.541	12.455	-5.459	54.000	36.086	AV
2	*	2431.030	97.541	61.366	N/A	N/A	36.175	AV
3		2483.500	47.889	11.627	-6.111	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11g	



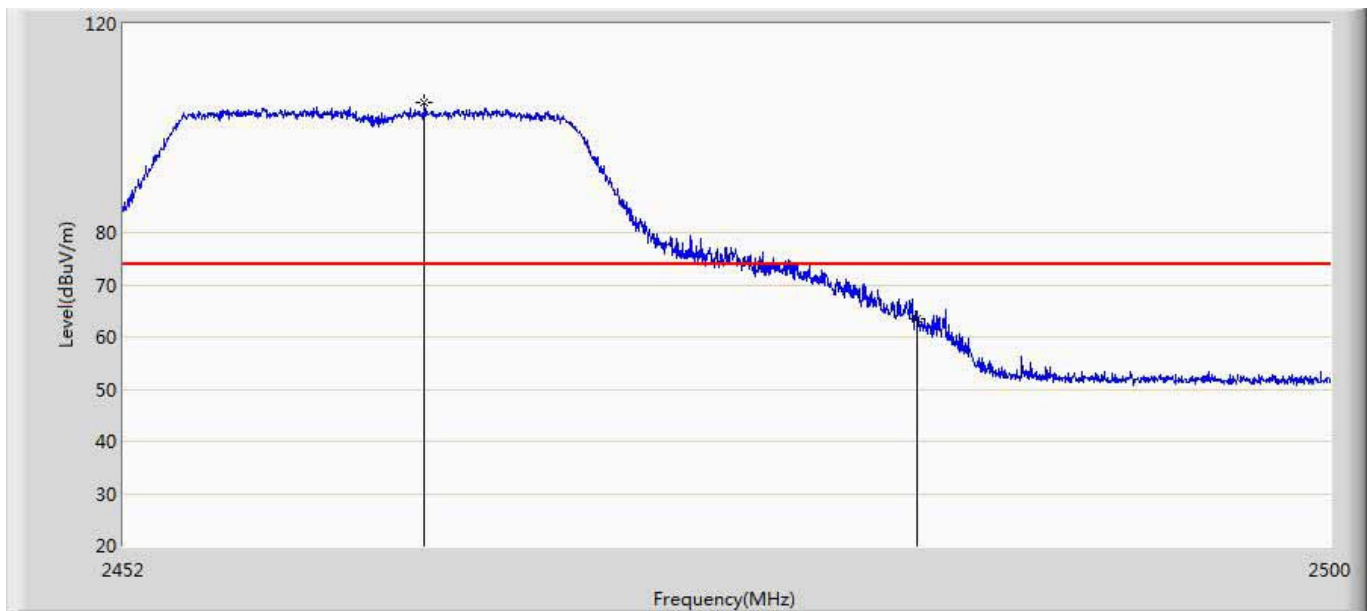
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2468.416	108.675	72.449	N/A	N/A	36.226	PK
2		2483.500	70.829	34.567	-3.171	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11g	



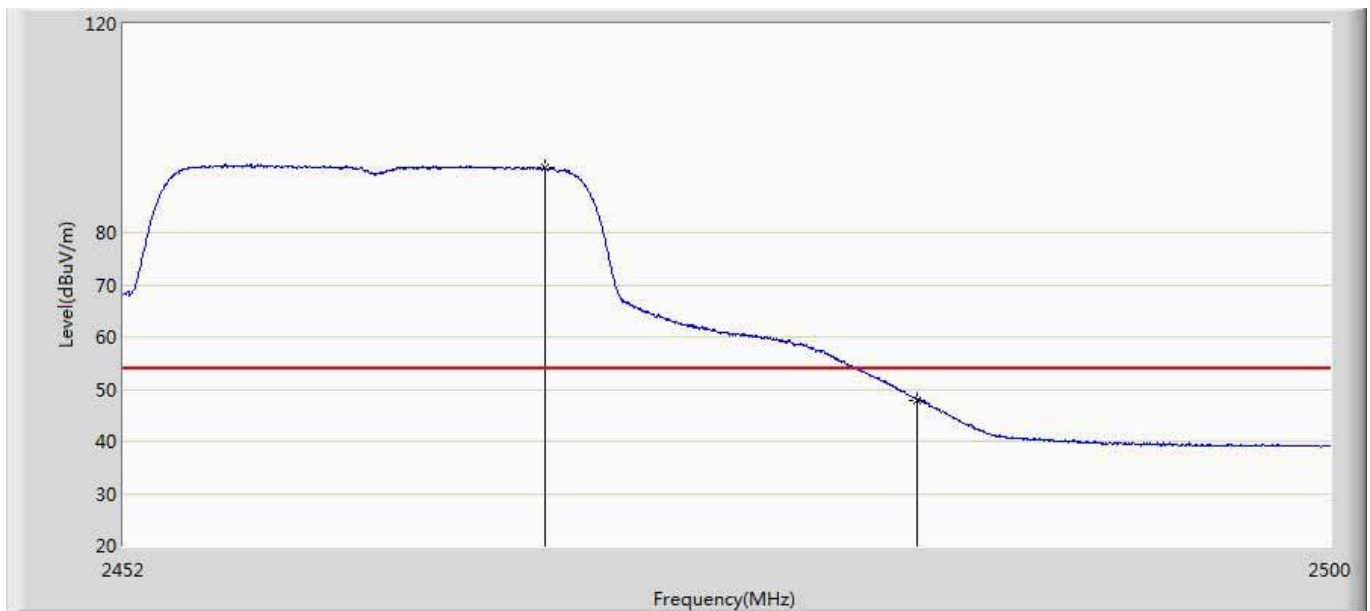
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2469.520	97.978	61.750	N/A	N/A	36.228	AV
2		2483.500	53.722	17.461	-0.278	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11g	



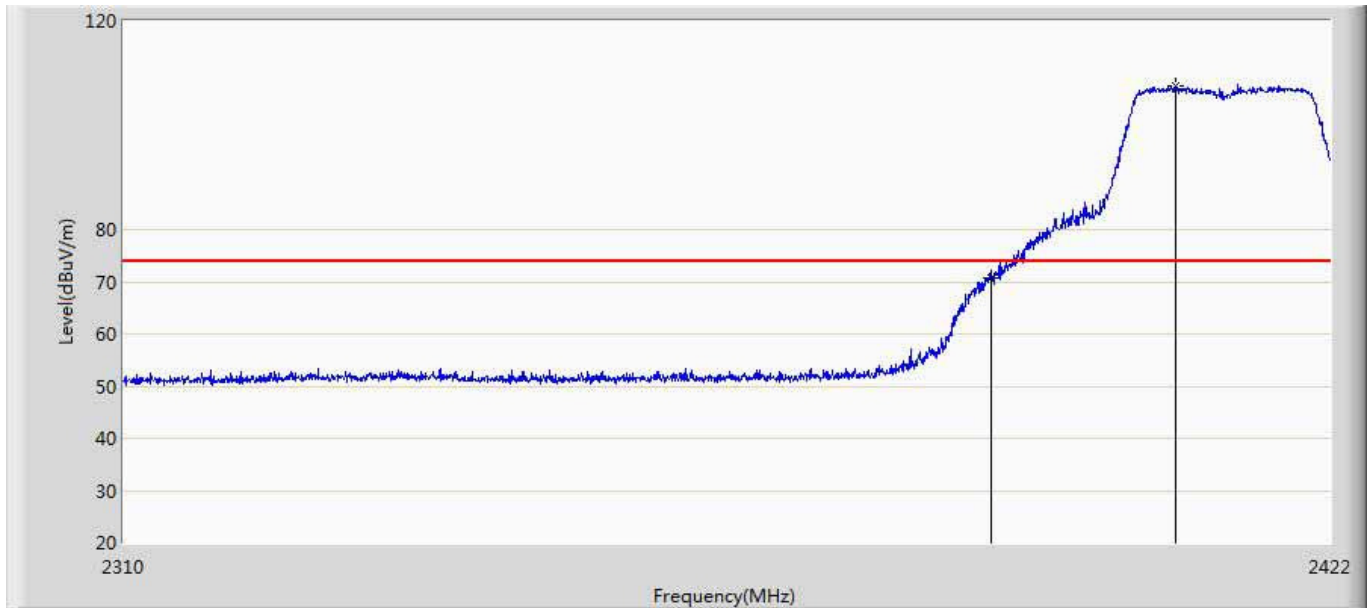
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.904	104.954	68.738	N/A	N/A	36.216	PK
2		2483.500	63.472	27.211	-10.528	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11g	



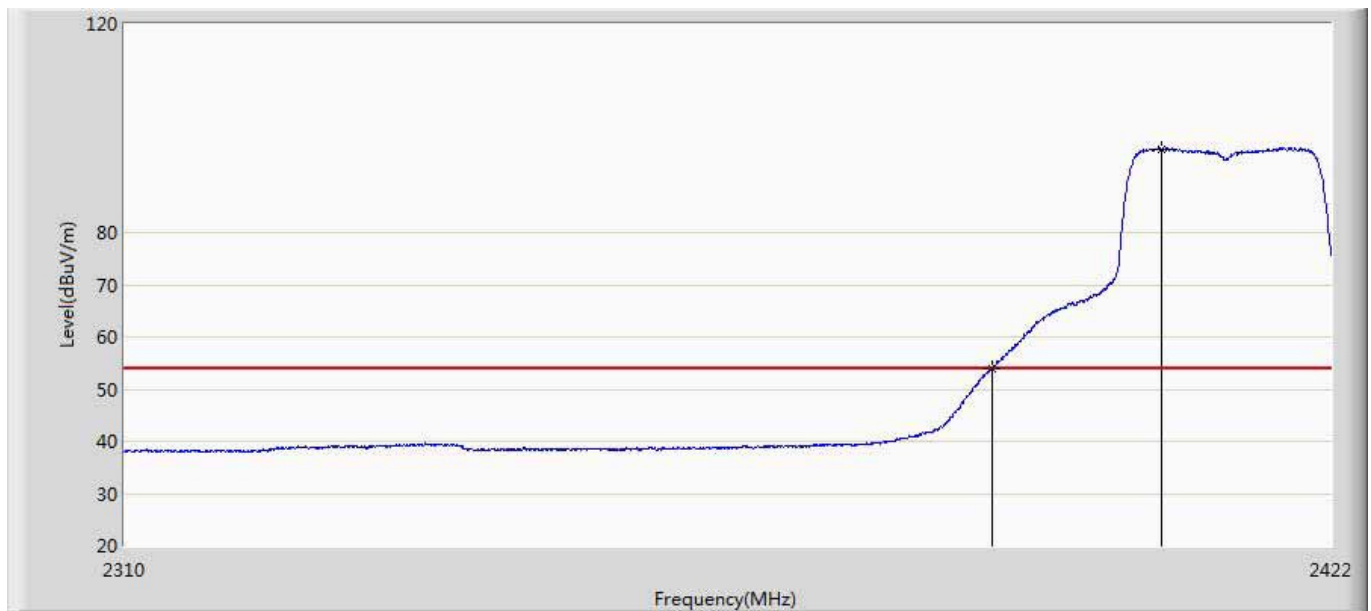
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2468.704	92.469	56.243	N/A	N/A	36.226	AV
2		2483.500	47.956	11.694	-6.044	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11n20	



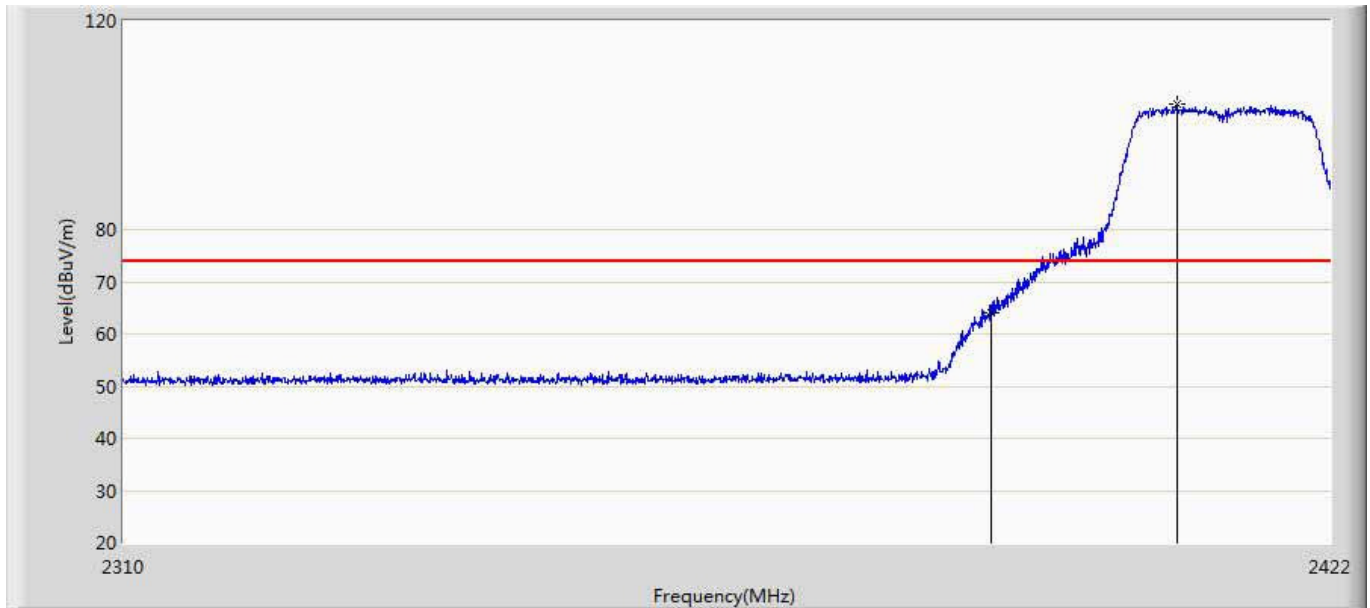
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	70.817	34.731	-3.183	74.000	36.086	PK
2	*	2407.440	107.638	71.493	N/A	N/A	36.146	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11n20	



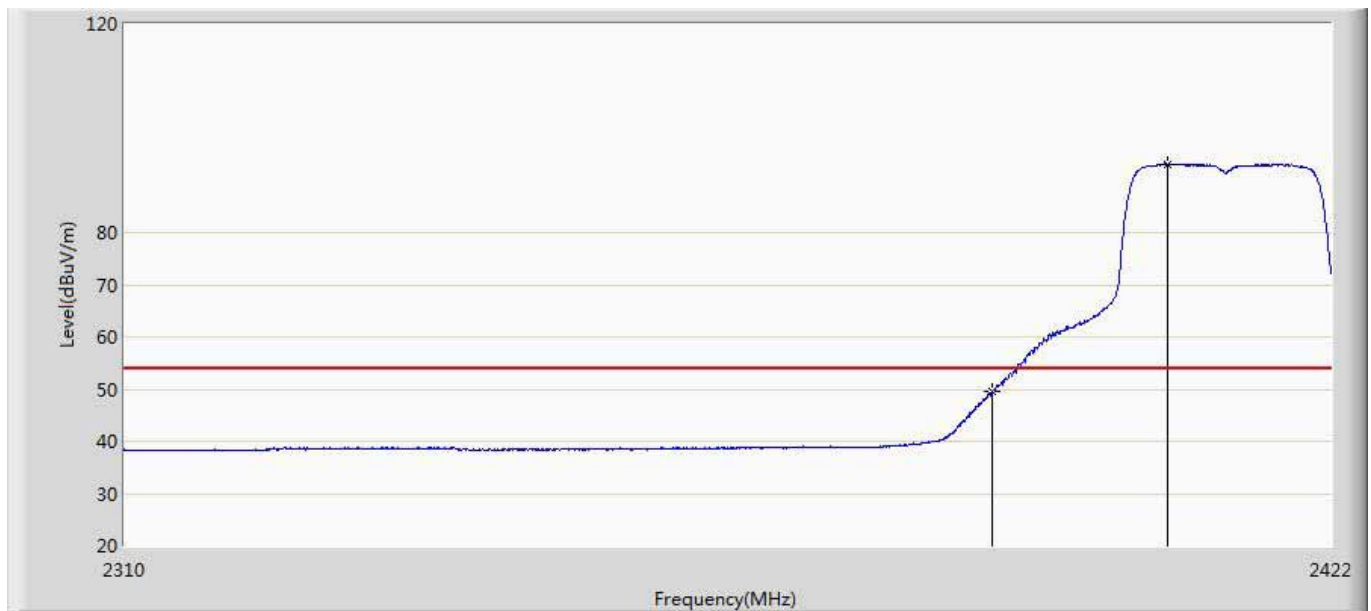
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.947	17.861	-0.053	54.000	36.086	AV
2	*	2405.928	95.989	59.849	N/A	N/A	36.140	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11n20	



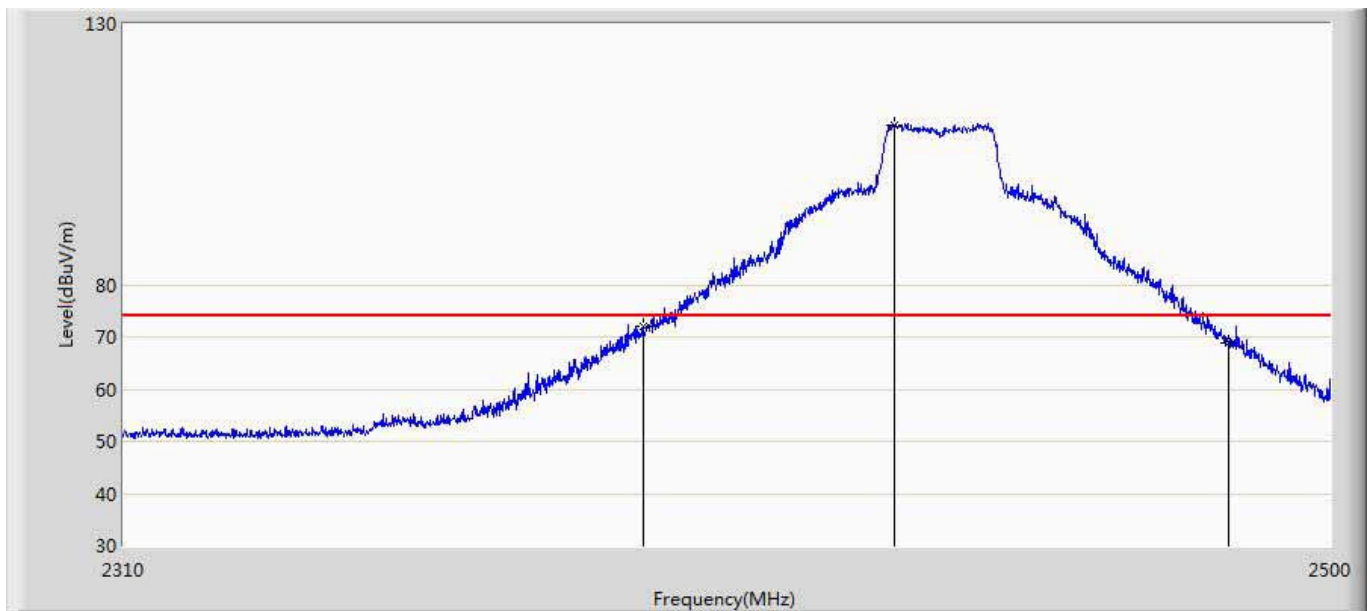
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	63.944	27.858	-10.056	74.000	36.086	PK
2	*	2407.552	104.134	67.988	N/A	N/A	36.146	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2412Mhz by 802.11n20	



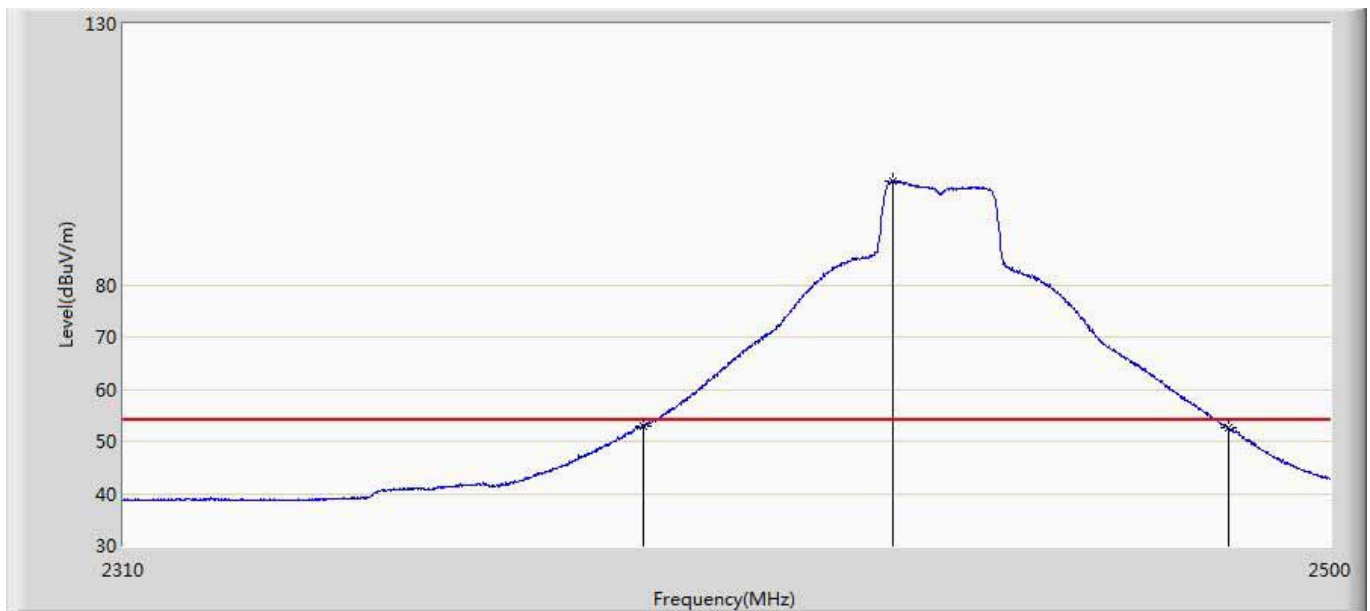
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	49.497	13.411	-4.503	54.000	36.086	AV
2	*	2406.600	93.137	56.995	N/A	N/A	36.142	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11n20	



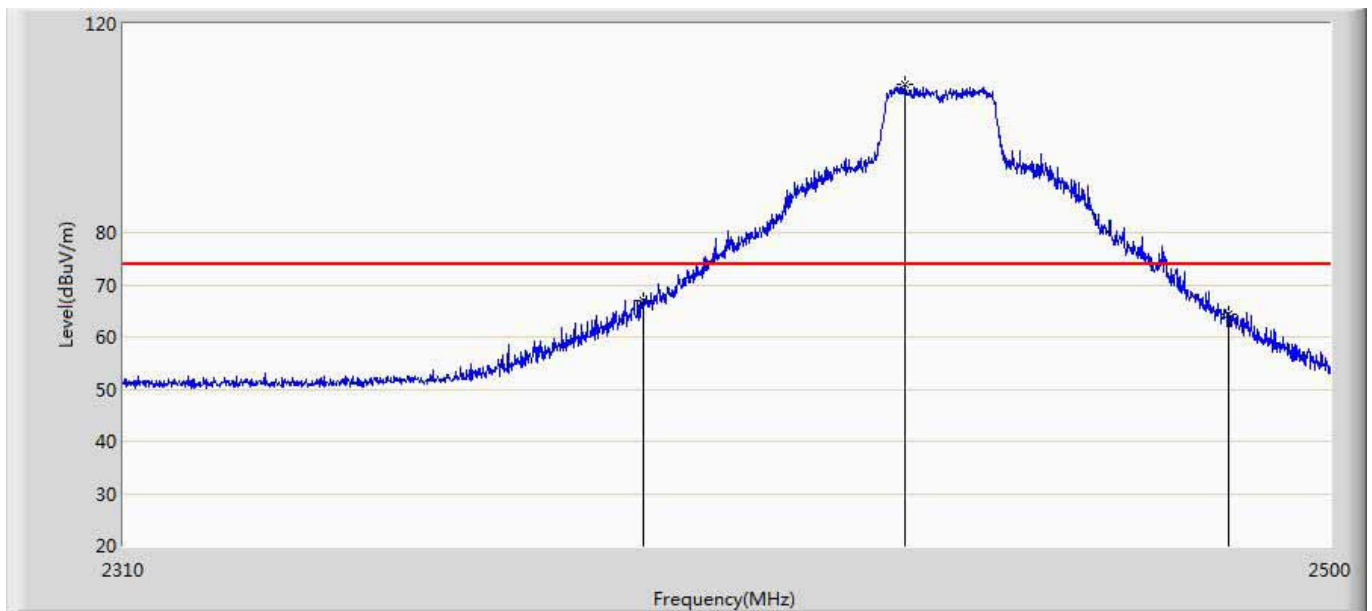
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	72.013	35.927	-1.987	74.000	36.086	PK
2	*	2429.795	110.680	74.509	N/A	N/A	36.171	PK
3		2483.500	68.811	32.549	-5.189	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11n20	



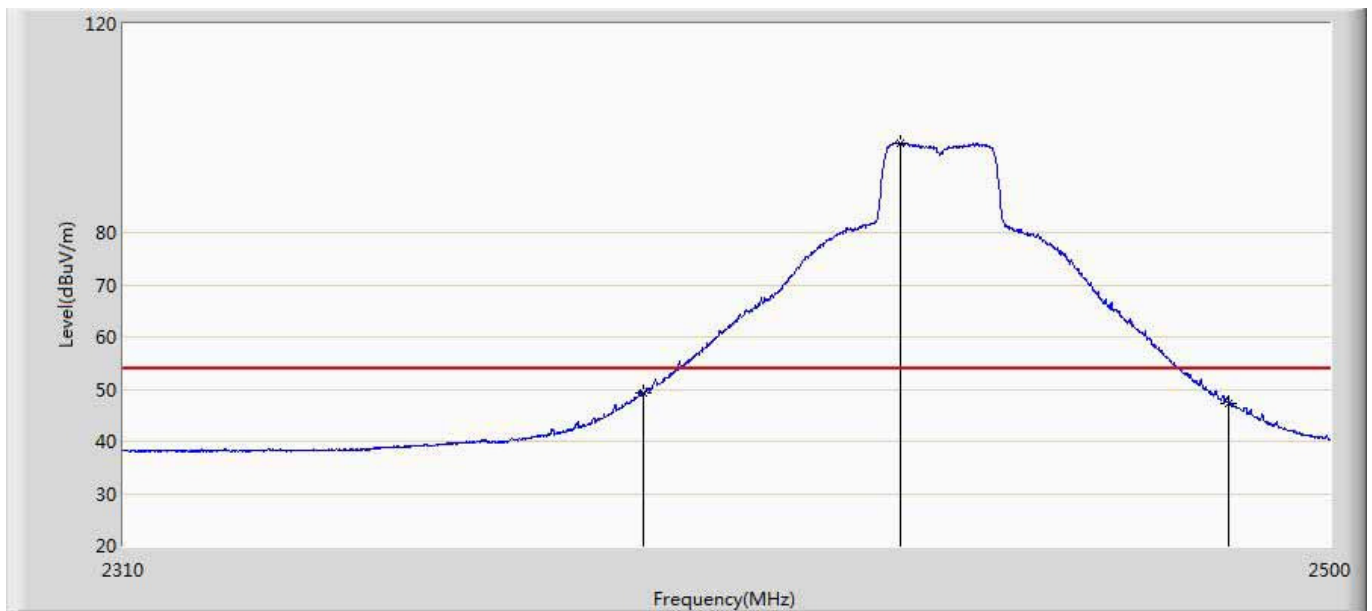
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.017	16.931	-0.983	54.000	36.086	AV
2	*	2429.510	99.759	63.589	N/A	N/A	36.170	AV
3		2483.500	52.641	16.380	-1.359	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11n20	



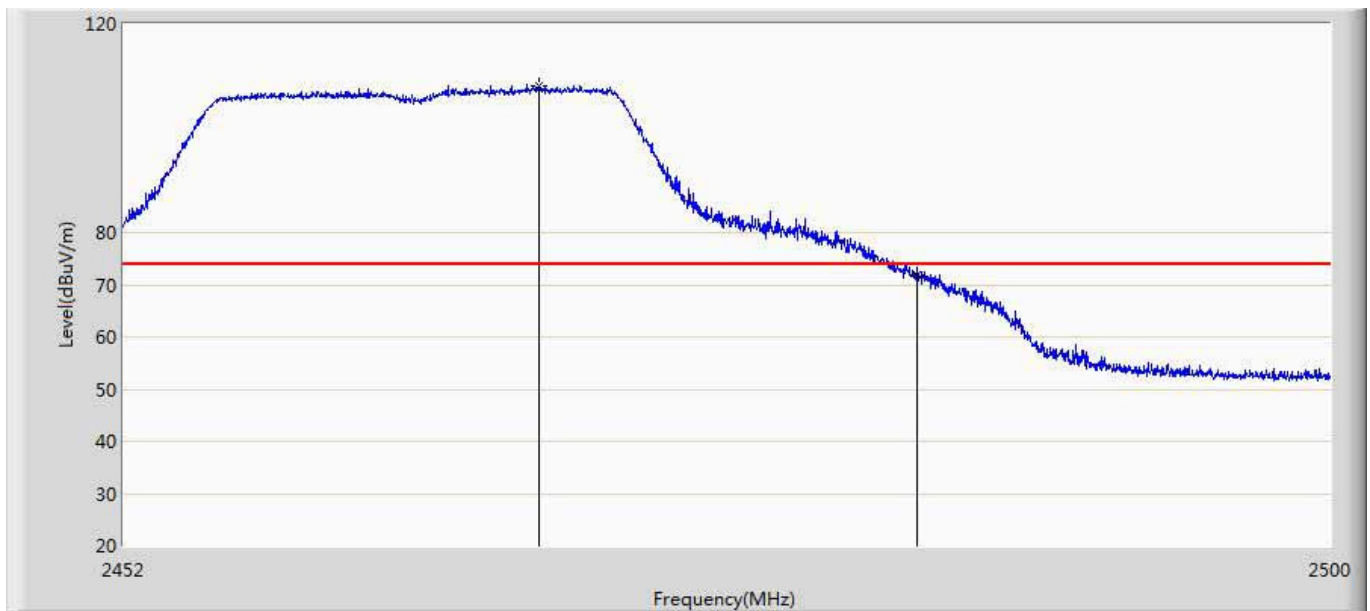
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	66.996	30.910	-7.004	74.000	36.086	PK
2	*	2431.410	108.420	72.244	N/A	N/A	36.176	PK
3		2483.500	64.269	28.007	-9.731	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11n20	



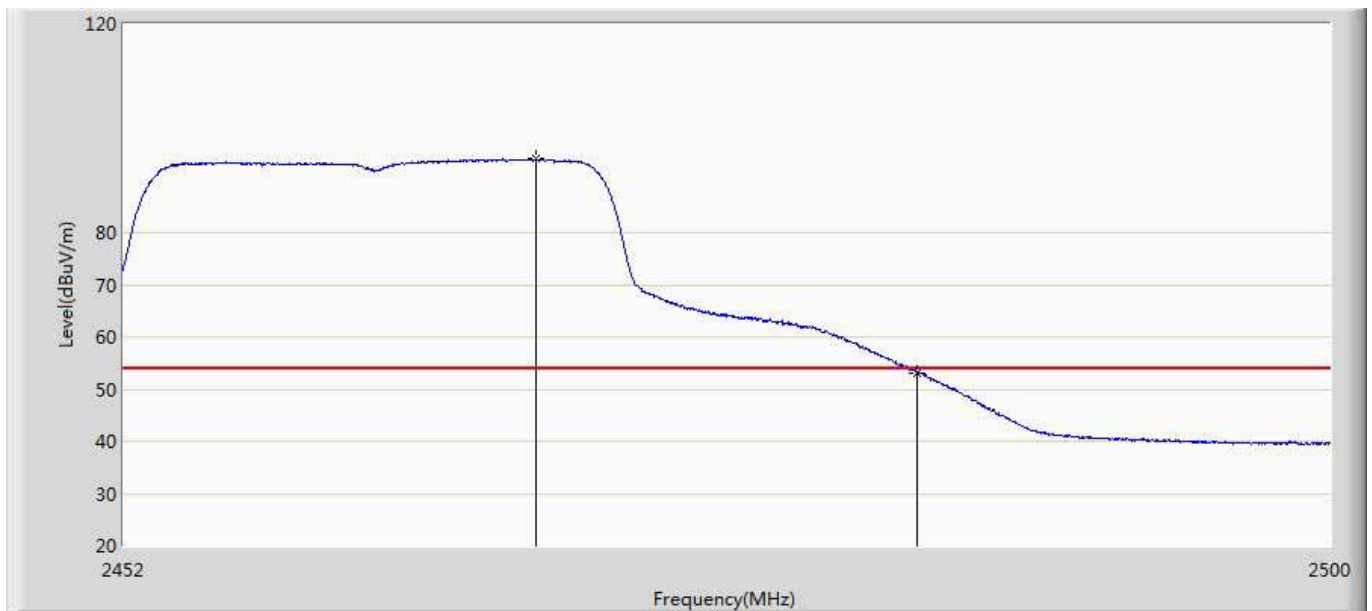
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	49.227	13.141	-4.773	54.000	36.086	AV
2	*	2430.650	97.187	61.013	N/A	N/A	36.173	AV
3		2483.500	47.126	10.864	-6.874	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11n20	



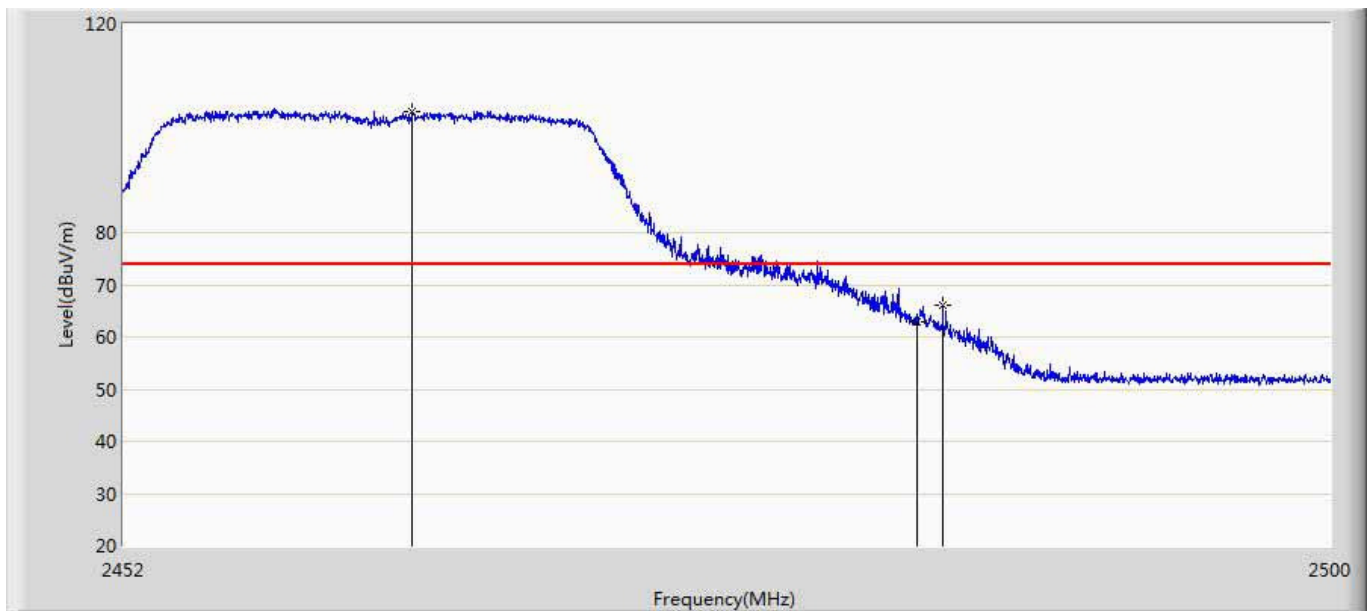
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2468.440	108.077	71.851	N/A	N/A	36.226	PK
2		2483.500	72.002	35.740	-1.998	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 21:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11n20	



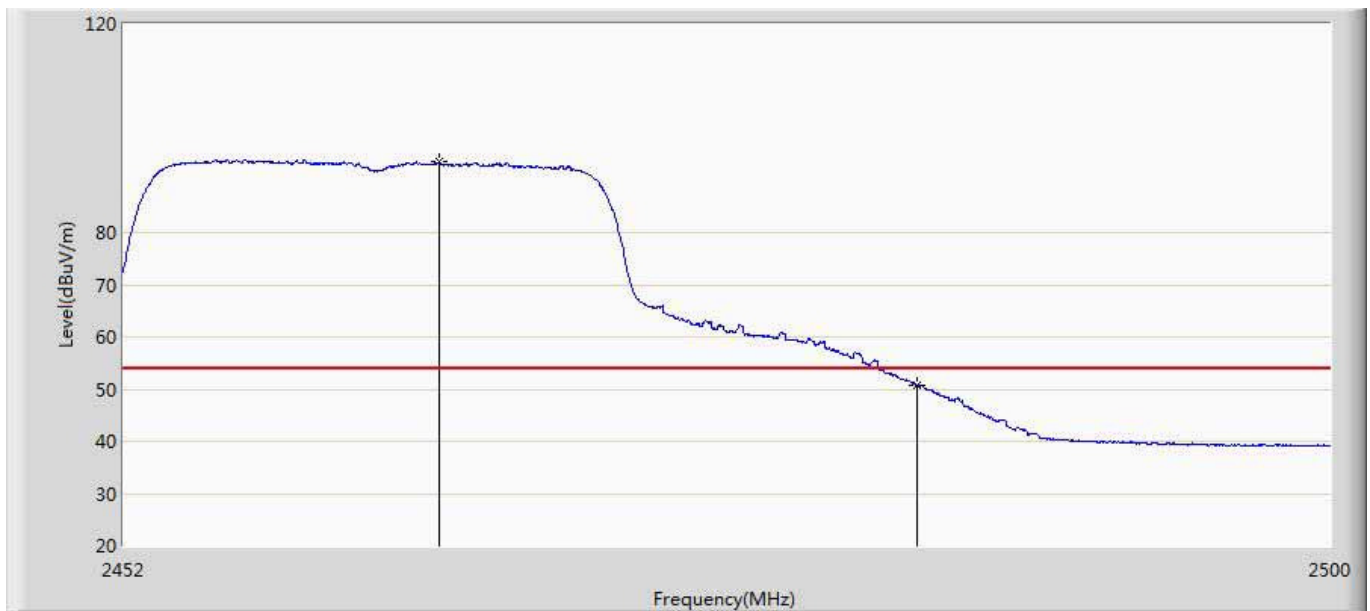
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2468.320	94.076	57.851	N/A	N/A	36.226	AV
2		2483.500	53.111	16.849	-0.889	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 22:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11n20	



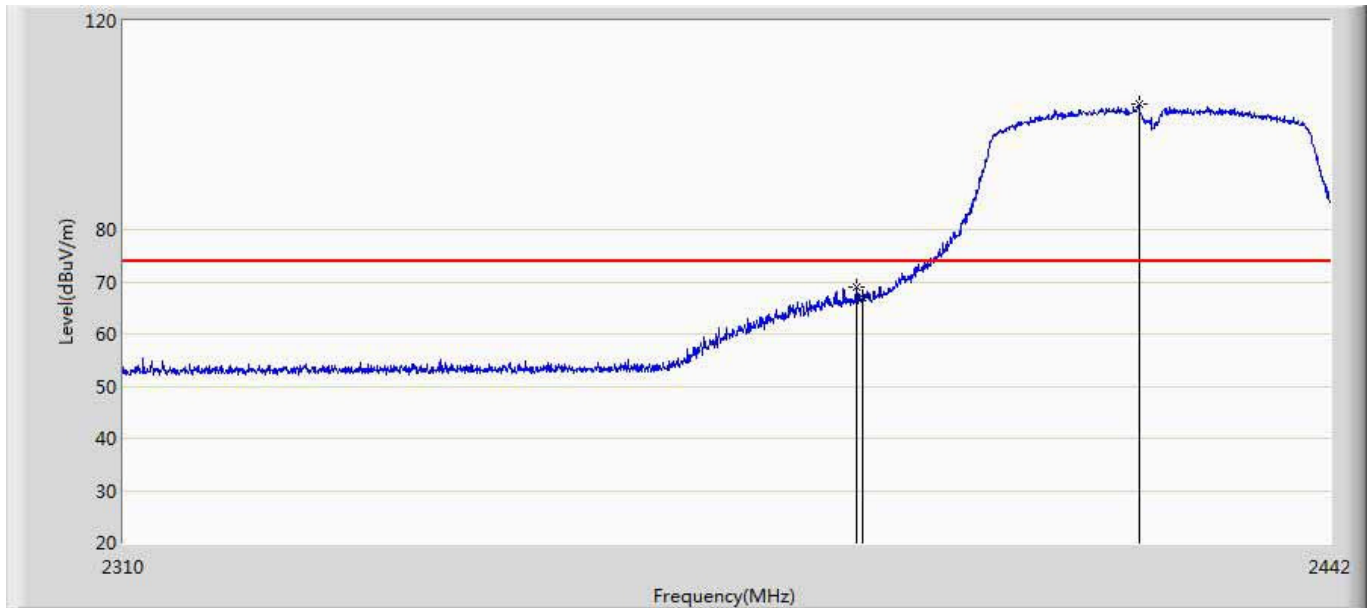
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.424	103.281	67.066	N/A	N/A	36.215	PK
2		2483.500	62.944	26.682	-11.056	74.000	36.261	PK
3		2484.496	66.169	29.905	-7.831	74.000	36.264	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/01 - 22:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2462Mhz by 802.11n20	



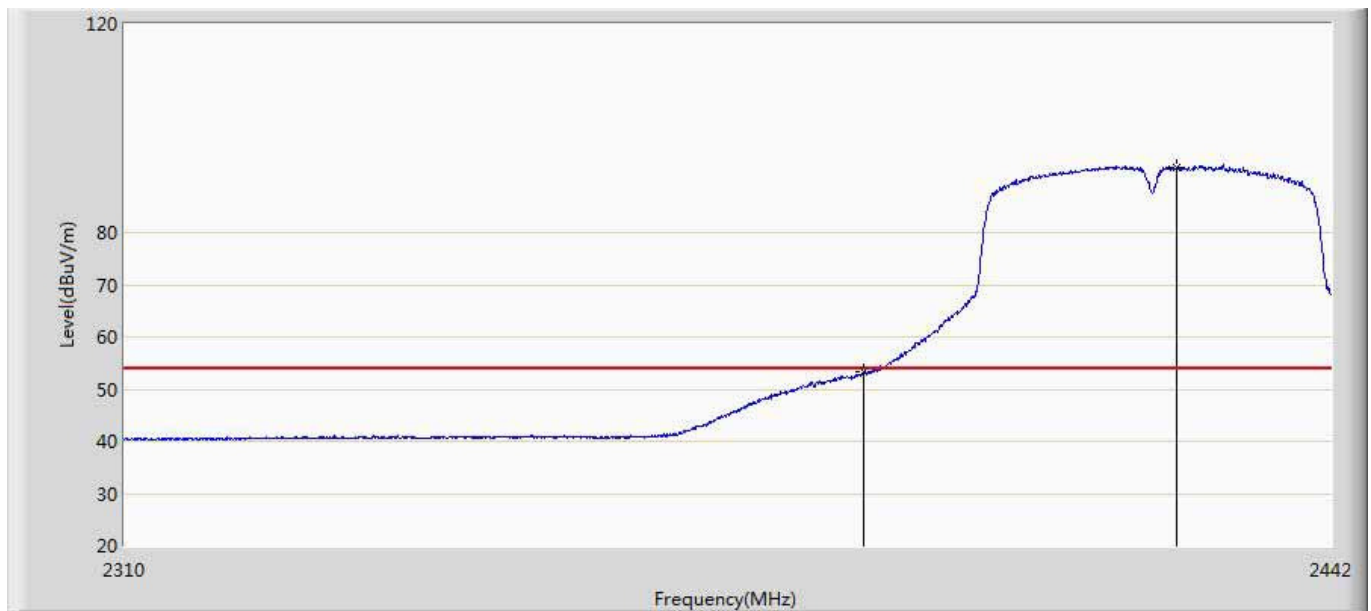
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.480	93.518	57.301	N/A	N/A	36.217	AV
2		2483.500	50.655	14.394	-3.345	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 09:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2422Mhz by 802.11n40	



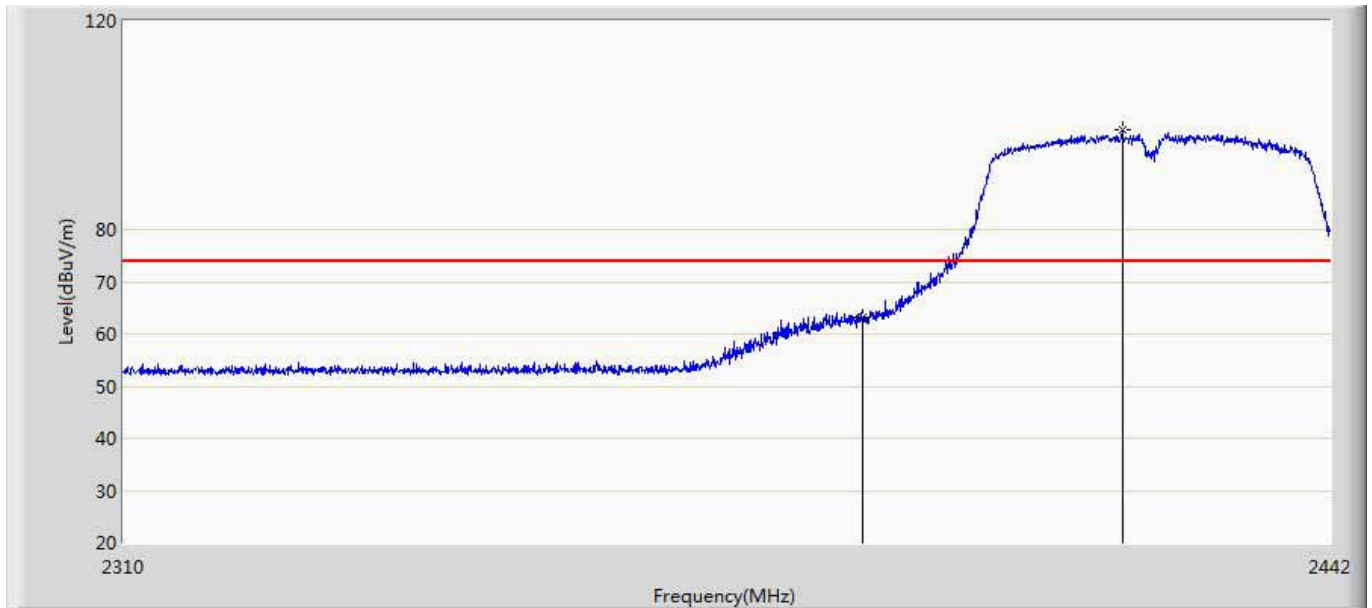
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.332	69.112	33.027	-4.888	74.000	36.085	PK
2		2390.000	66.950	30.864	-7.050	74.000	36.086	PK
3	*	2420.616	103.958	67.796	N/A	N/A	36.163	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 09:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2422Mhz by 802.11n40	



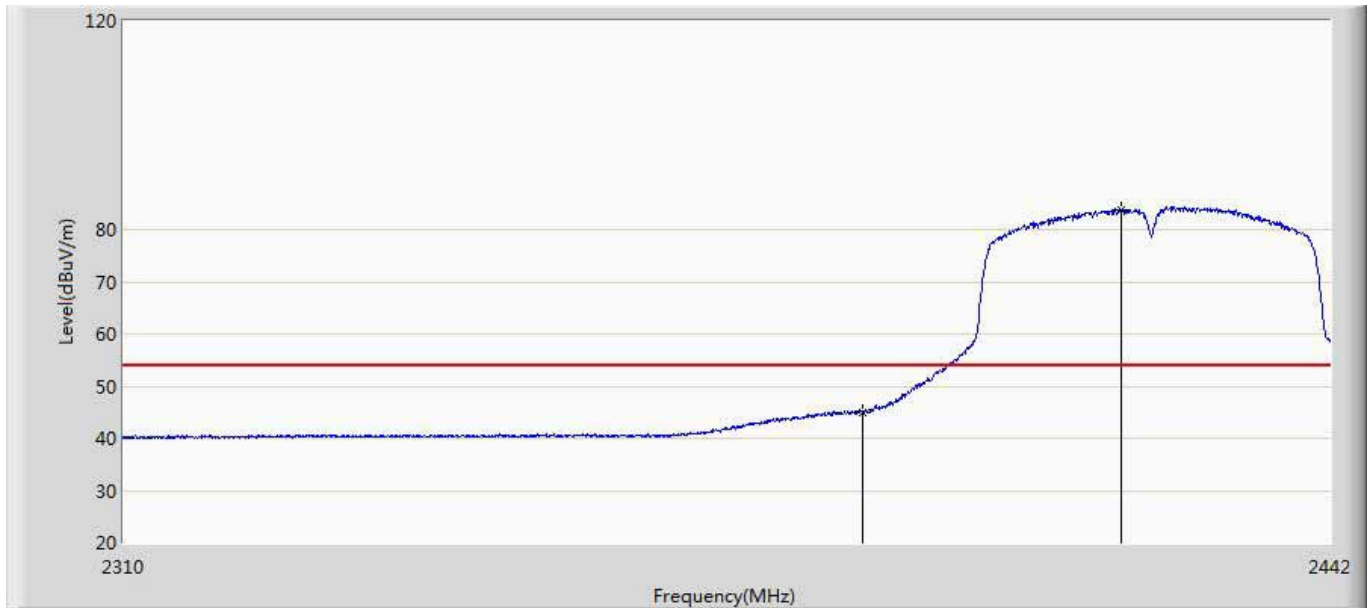
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.290	17.204	-0.710	54.000	36.086	AV
2	*	2424.774	92.555	56.391	N/A	N/A	36.164	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 09:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2422Mhz by 802.11n40	



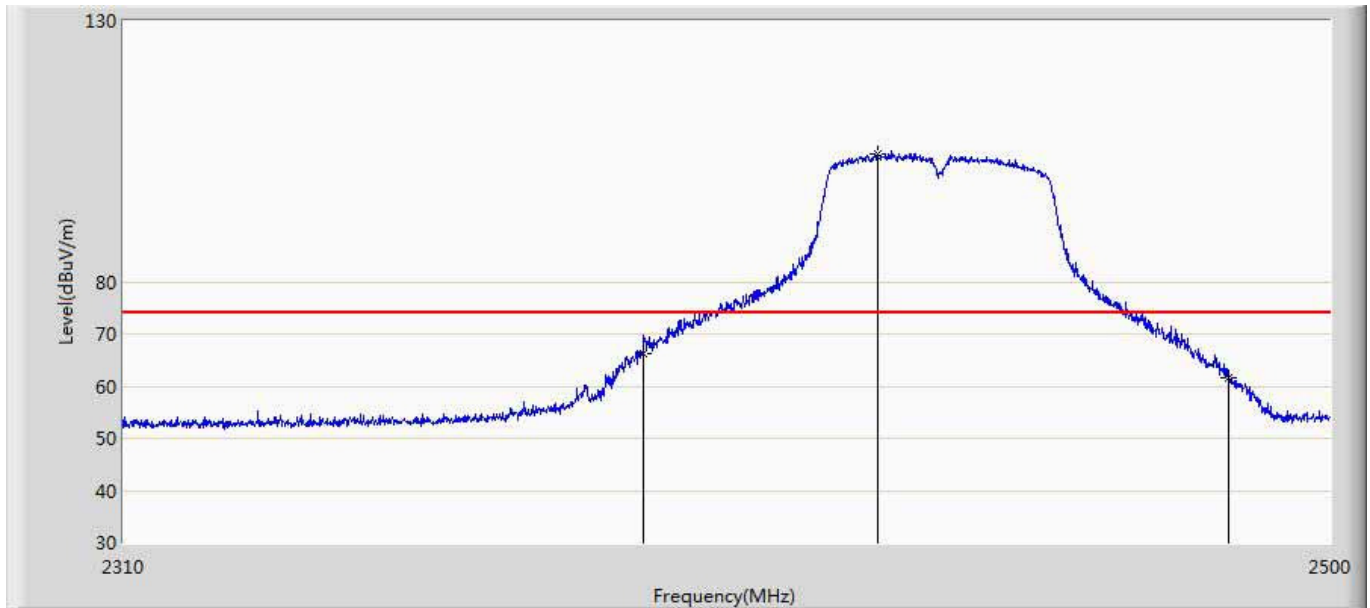
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	63.049	26.963	-10.951	74.000	36.086	PK
2	*	2418.768	99.144	62.982	N/A	N/A	36.162	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 09:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2422Mhz by 802.11n40	



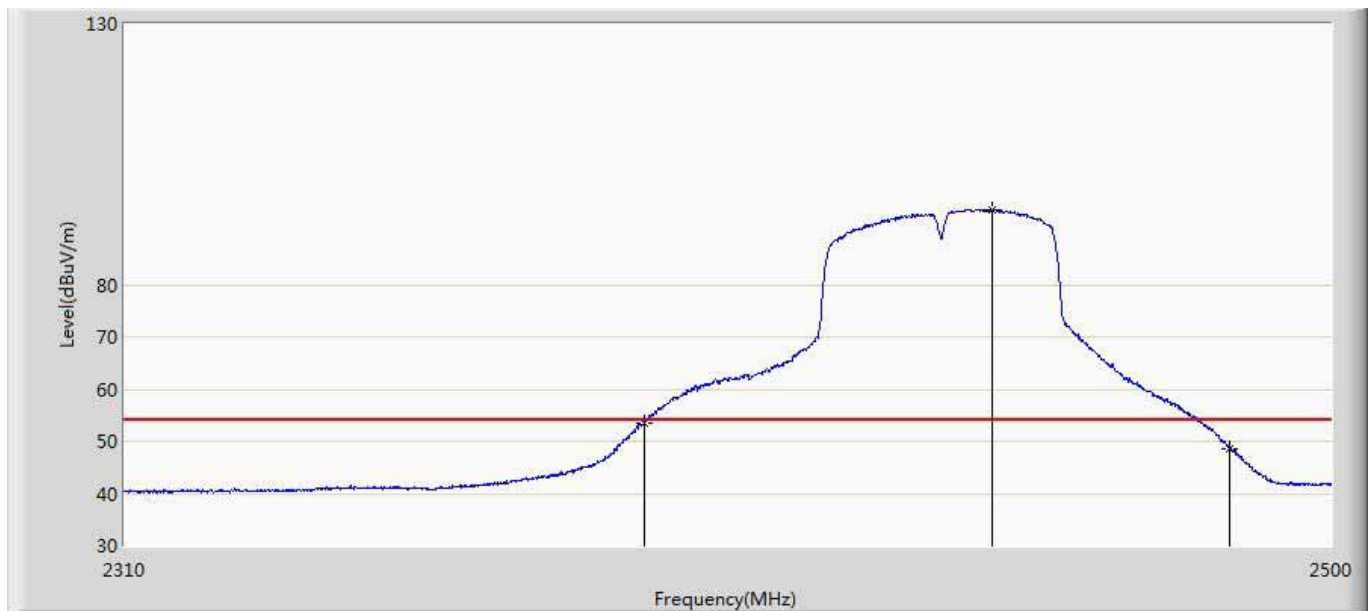
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.036	8.950	-8.964	54.000	36.086	AV
2	*	2418.702	83.840	47.678	N/A	N/A	36.162	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 09:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11n40	



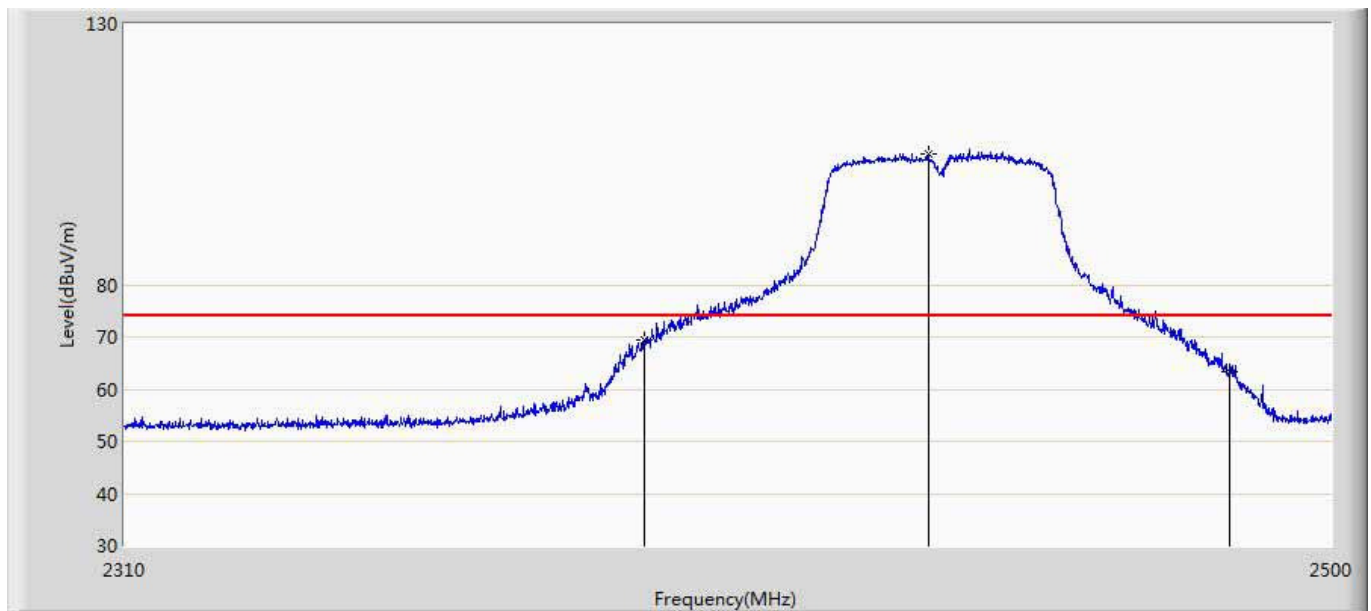
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	66.101	30.015	-7.899	74.000	36.086	PK
2	*	2426.945	104.388	68.223	N/A	N/A	36.165	PK
3		2483.500	61.656	25.395	-12.344	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 09:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11n40	



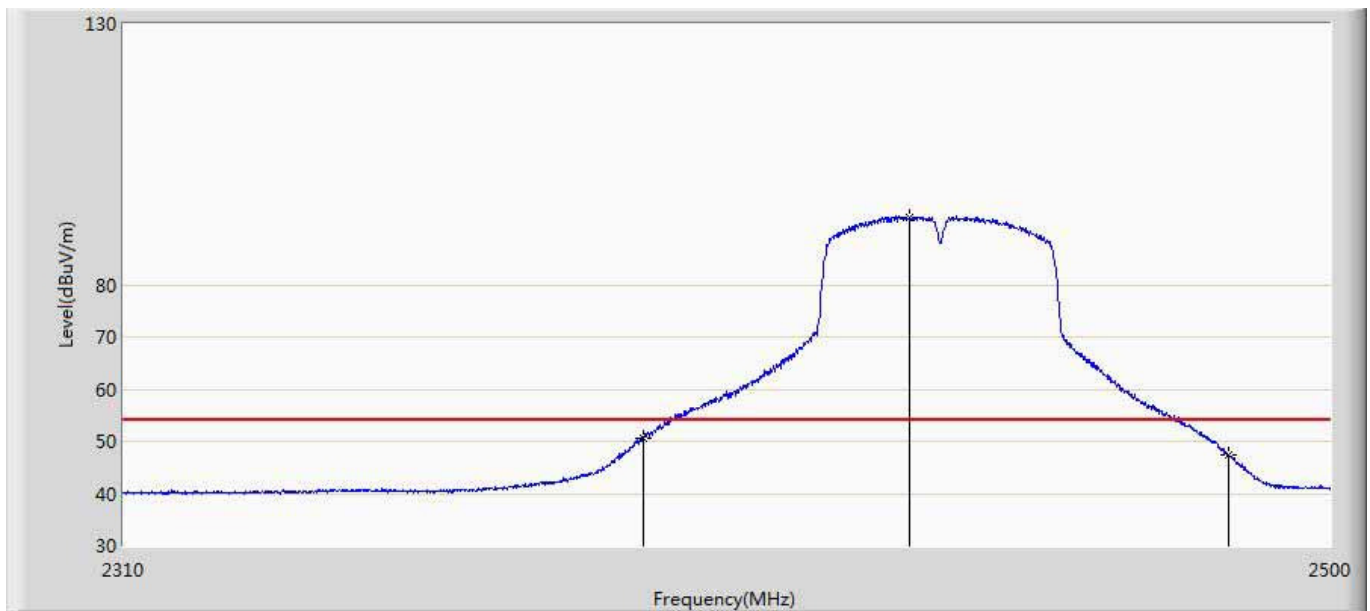
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.365	17.279	-0.635	54.000	36.086	AV
2	*	2445.185	94.447	58.227	N/A	N/A	36.220	AV
3		2483.500	48.689	12.428	-5.311	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 09:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11n40	



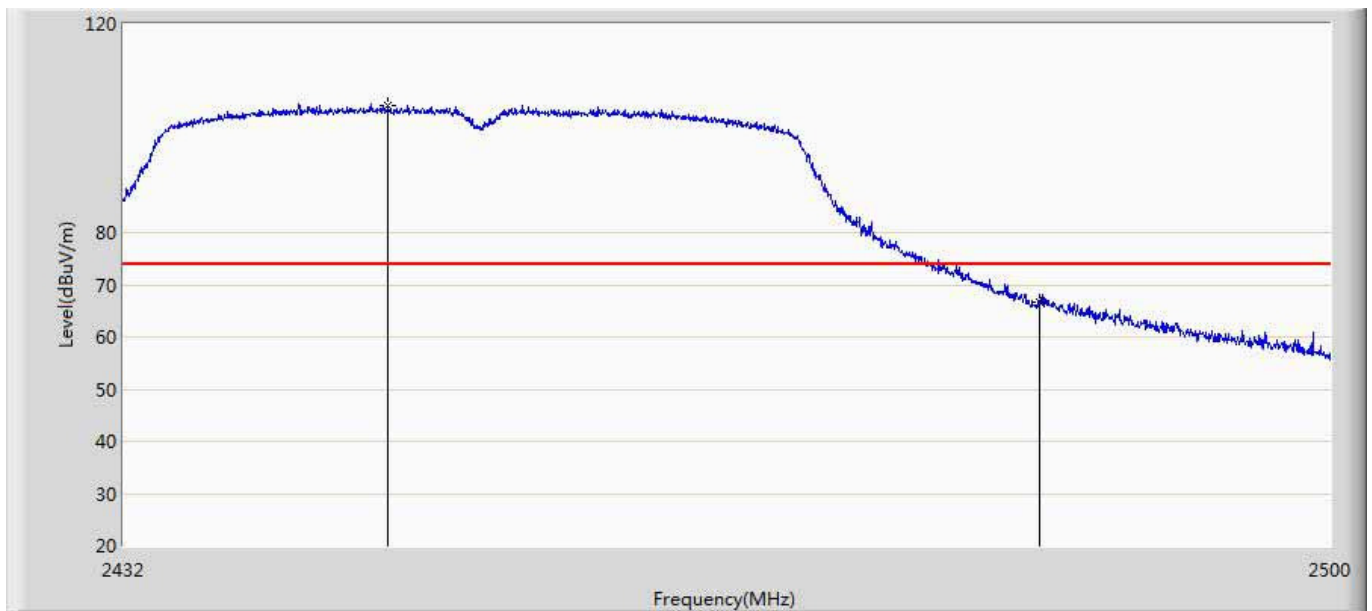
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	69.311	33.225	-4.689	74.000	36.086	PK
2	*	2434.925	105.110	68.923	N/A	N/A	36.187	PK
3		2483.500	63.444	27.182	-10.556	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 09:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2437Mhz by 802.11n40	



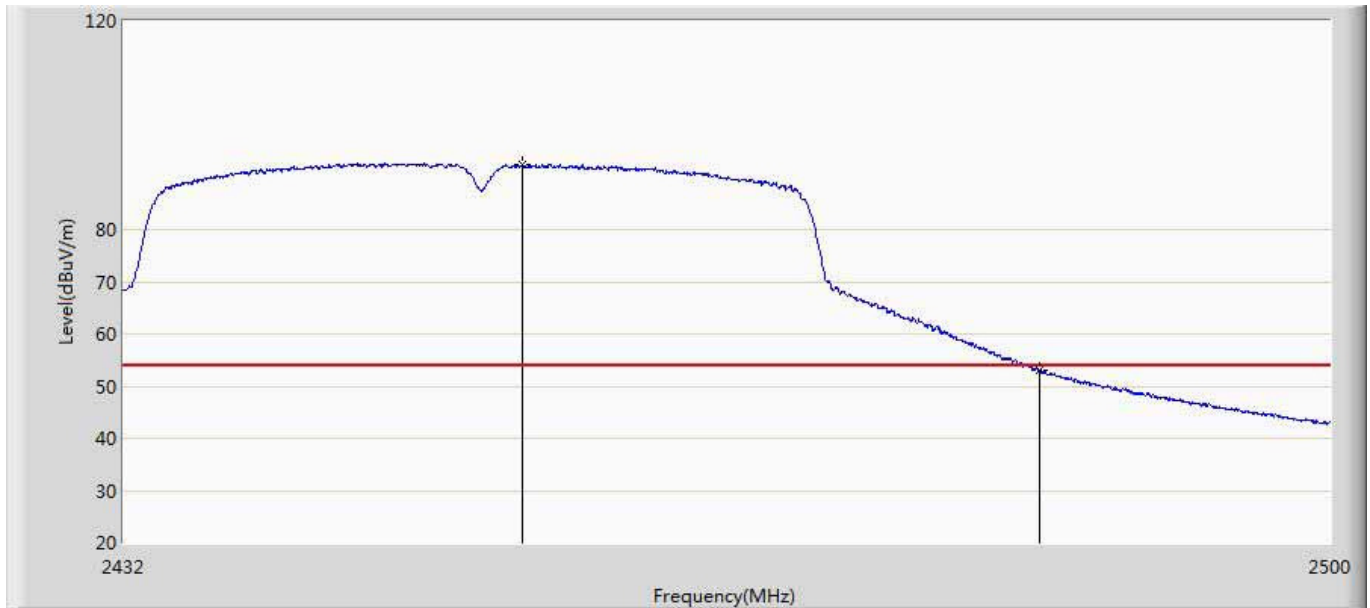
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.703	14.617	-3.297	54.000	36.086	AV
2	*	2432.075	92.912	56.734	N/A	N/A	36.178	AV
3		2483.500	47.298	11.037	-6.702	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 09:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2452Mhz by 802.11n40	



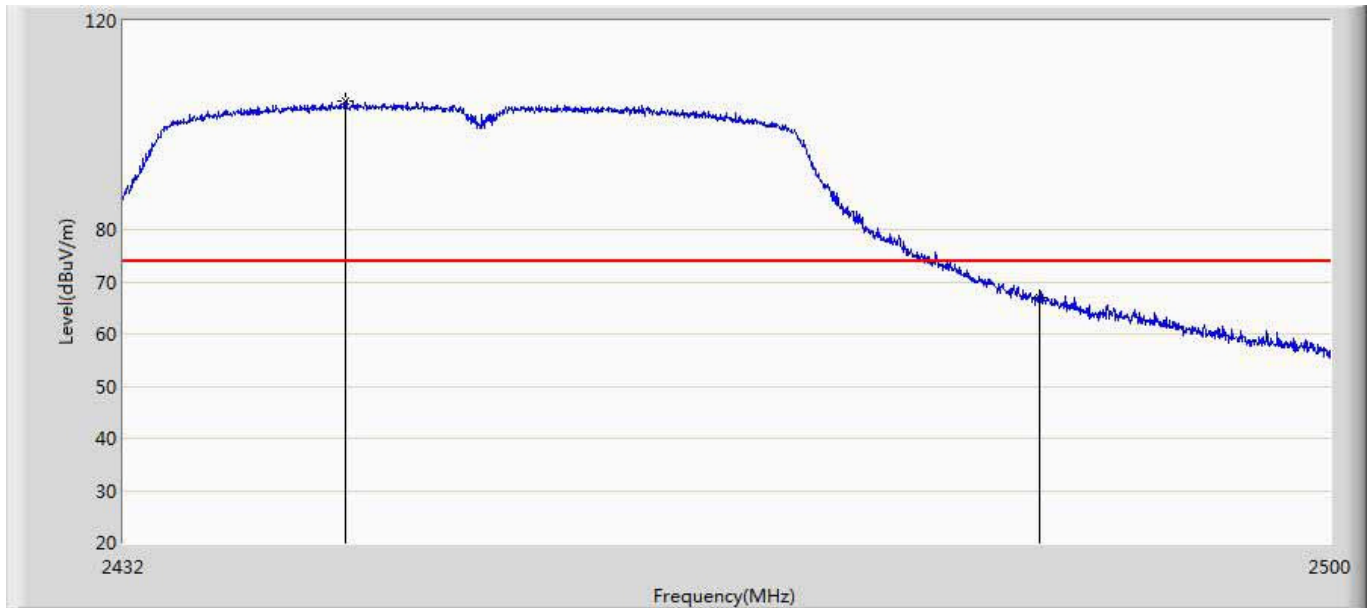
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2446.756	104.361	68.142	N/A	N/A	36.219	PK
2		2483.500	66.725	30.464	-7.275	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 09:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2452Mhz by 802.11n40	



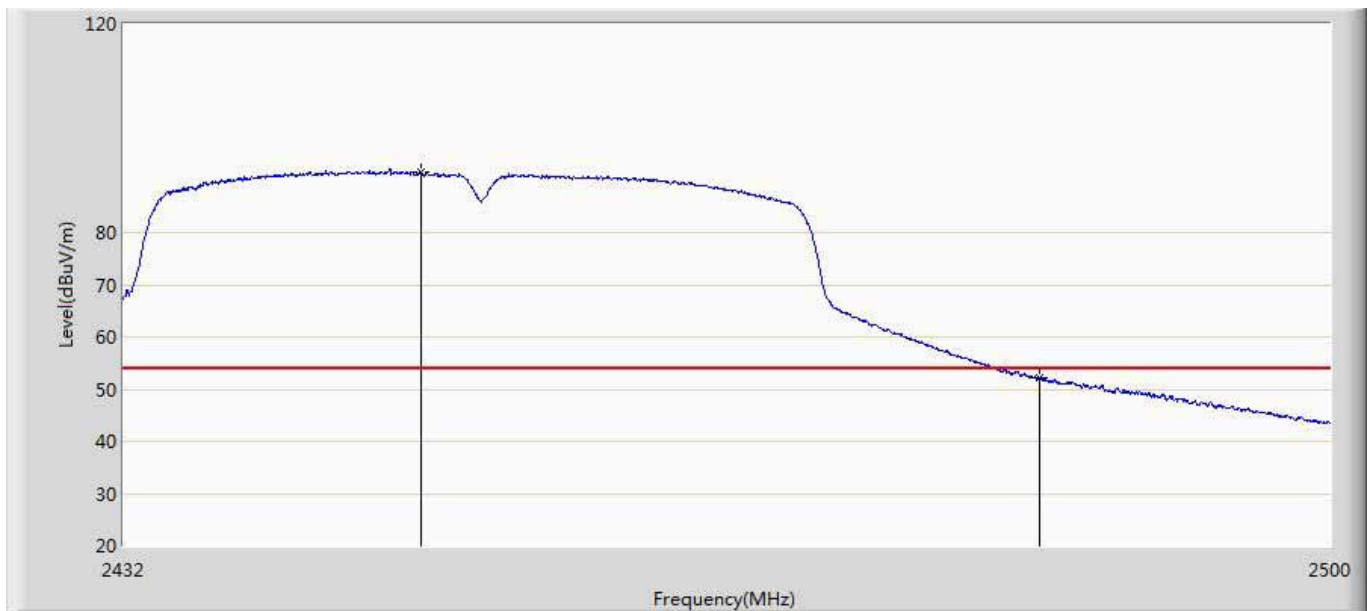
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2454.304	92.578	56.362	N/A	N/A	36.216	AV
2		2483.500	53.046	16.785	-0.954	54.000	36.261	AV

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 10:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2452Mhz by 802.11n40	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2444.376	104.681	68.463	N/A	N/A	36.218	PK
2		2483.500	66.974	30.712	-7.026	74.000	36.261	PK

Engineer: Yock	
Site: AC5	Time: 2016/08/02 - 10:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Smart Wi-Fi Plug Mini	Power: AC120V/60HZ
Note: Mode1 Transmit at channel 2452Mhz by 802.11n40	



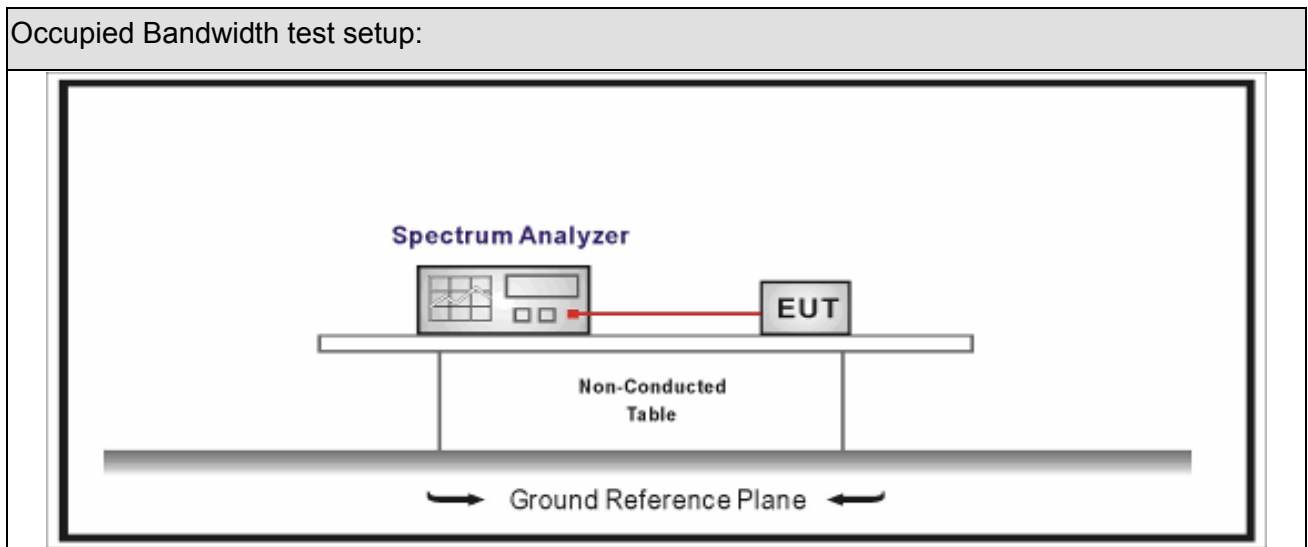
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2448.592	91.617	55.399	N/A	N/A	36.218	AV
2		2483.500	52.160	15.899	-1.840	54.000	36.261	AV

7. Occupied Bandwidth

7.1. Test Equipment

Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.03
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.03.11	2017.03.10
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup



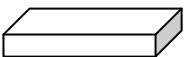
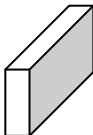
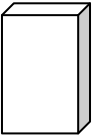
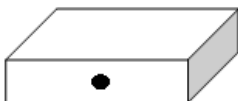
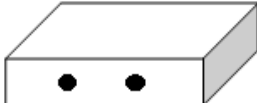
7.3. Limit

Occupied Bandwidth
Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

7.4. Test Procedure

Test Method				
	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

7.5. EUT test definition

Item	Occupied Bandwidth			
Device Category	☒	Fixed position use		
	☐	Mobile position use		
Test mode	Mode 1~4			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

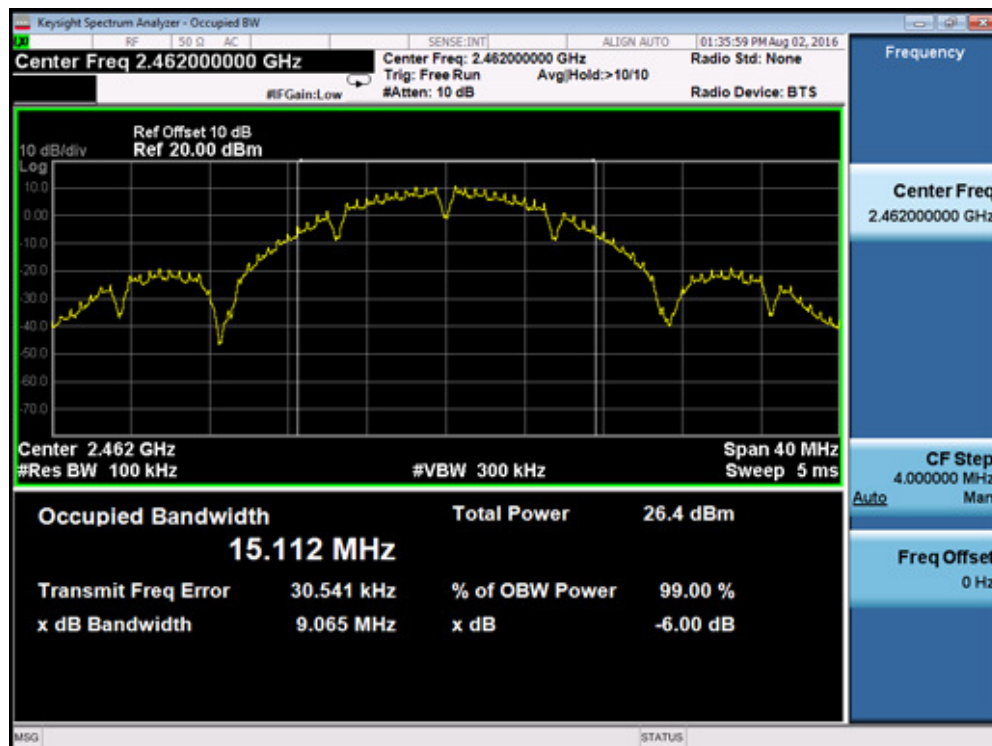
7.6. Test Result

Product Name	:	Smart Wi-Fi Plug Mini	Test Power	:	AC 120V/60Hz
Test Site	:	TR-8			

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	01	2412	15.497	9.079	>500	Pass
1	06	2437	16.655	9.537	>500	Pass
1	11	2462	15.112	9.065	>500	Pass
2	01	2412	16.551	16.36	>500	Pass
2	06	2437	16.655	16.37	>500	Pass
2	11	2462	16.514	16.35	>500	Pass
3	01	2412	17.693	17.56	>500	Pass
3	06	2437	17.846	17.53	>500	Pass
3	11	2462	17.676	17.57	>500	Pass
4	03	2422	35.954	35.04	>500	Pass
4	06	2437	36.169	35.06	>500	Pass
4	09	2452	35.999	35.07	>500	Pass

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

Mode 1 CH11 (2462MHz)



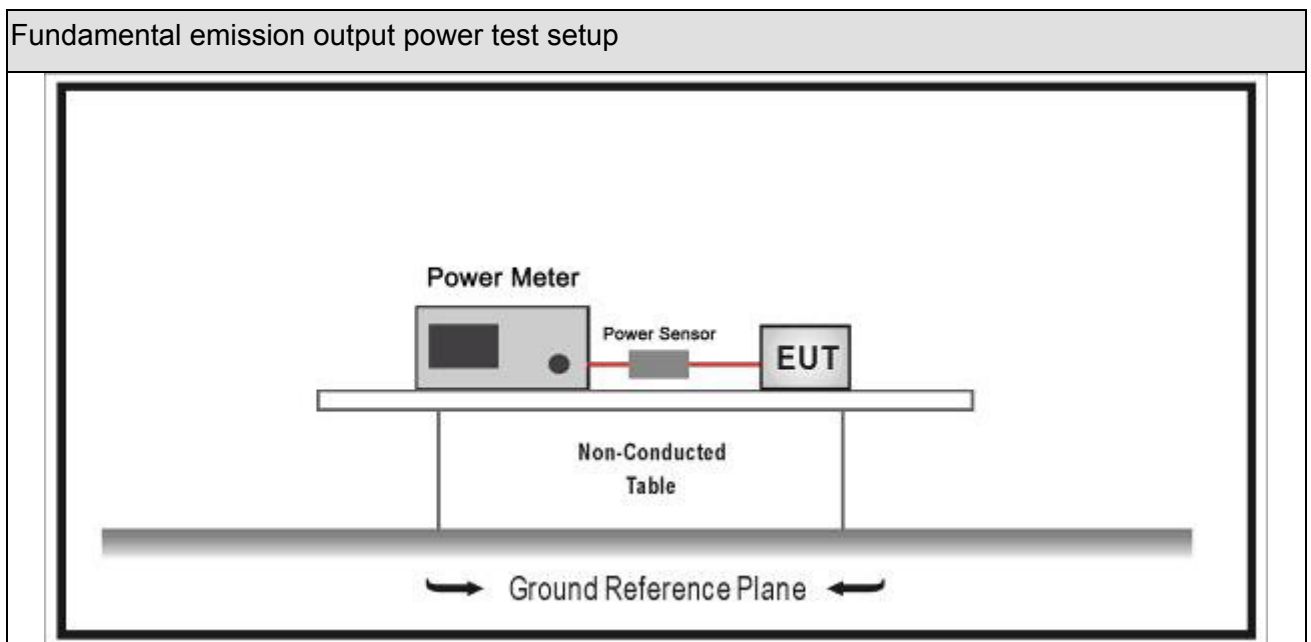
8. Fundamental emission output power

8.1. Test Equipment

Fundamental emission output power/ TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.03
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.03.11	2017.03.10
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2015.11.11	2016.11.10
Power Sensor	Anritsu	MA2411B	0846014	2015.11.11	2016.11.10
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2016.04.10	2017.04.09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



8.3. Limit

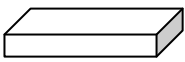
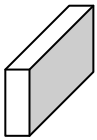
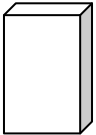
Fundamental emission output power Limit

☒ GTX

8.4. Test Procedure

Fundamental emission output power Test Method					
	References Rule			Chapter	Description
☒	ANSI C63.10			11.9	Fundamental emission output power
	☐	ANSI C63.10		11.9.1	Maximum peak conducted output power
		☐	ANSI C63.10	11.9.1.1	RBW ≥ DTS bandwidth
		☐	ANSI C63.10	11.9.1.2	Integrated band power method
		☐	ANSI C63.10	11.9.1.3	PKPM1 Peak power meter method
	☒	ANSI C63.10		11.9.2	Maximum conducted (average) output power
		☐	ANSI C63.10	11.9.2.2	Measurement using a spectrum analyzer (SA)
☐ ANSI C63.10 11.9.2.2.2 Method AVGSA-1(Duty cycle					

8.5. EUT test definition

Item	Fundamental emission output power			
Device Category	☒	Fixed position use		
	☐	Mobile position use		
Test mode	Mode 1~4			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

8.6. Test Result

Product Name	:	Smart Wi-Fi Plug Mini	Test Power	:	AC 120V/60Hz
Test Site	:	TR8			

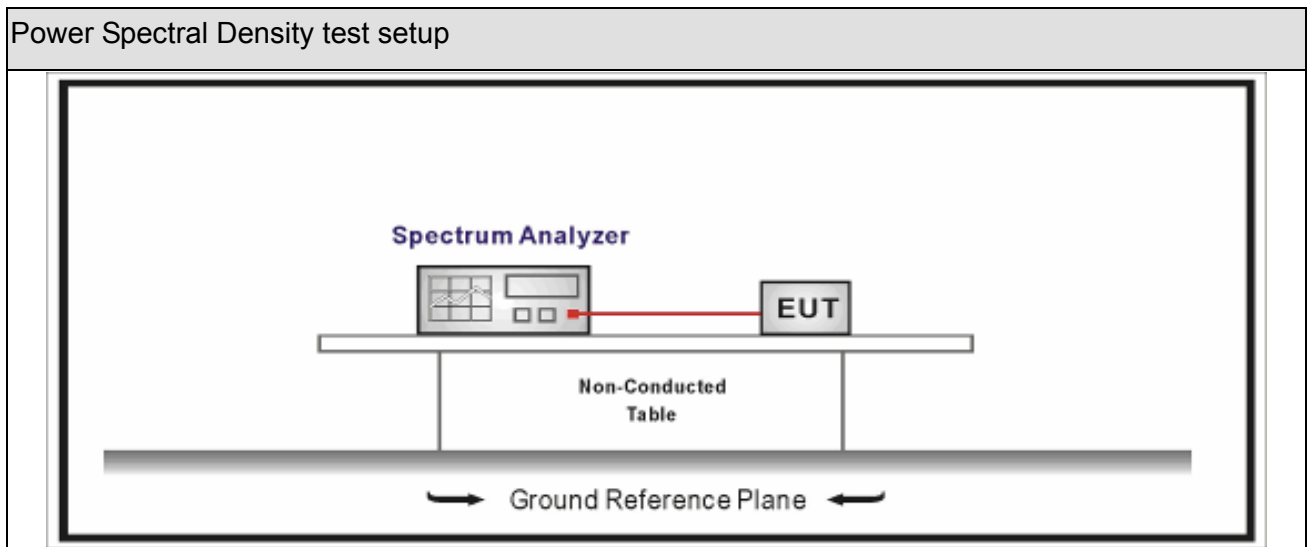
Mode	Channel	Test Frequency (MHz)	Average Power Output (dBm)	Antenna Gain (dBi)	Limit (dBm)	Result
1	01	2412	22.02	2.0	30	Pass
1	06	2437	24.45	2.0	30	Pass
1	11	2462	21.62	2.0	30	Pass
2	01	2412	15.96	2.0	30	Pass
2	06	2437	24.63	2.0	30	Pass
2	11	2462	15.38	2.0	30	Pass
3	01	2412	15.93	2.0	30	Pass
3	06	2437	23.44	2.0	30	Pass
3	11	2462	15.29	2.0	30	Pass
4	03	2422	15.02	2.0	30	Pass
4	06	2437	17.34	2.0	30	Pass
4	09	2452	15.32	2.0	30	Pass

9. Power Spectral Density

9.1. Test Equipment

Power Spectral Density / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.03
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.03.11	2017.03.10
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup



9.3. Limit

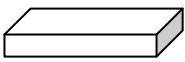
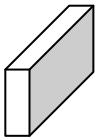
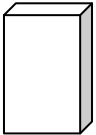
Power Spectral Density Limit

Power Spectral Density

9.4. Test Procedure

Power Spectral Density Test Method				
	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 AVGPS-1(Duty cycle

9.5. EUT test definition

Item	Power Spectral Density Test Method			
Device Category	☒	Fixed position use		
	☐	Mobile position use		
Test mode	Mode 1~4			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

9.6. Test Result

Product Name	:	Smart Wi-Fi Plug Mini	Test Power	:	AC 120V/60Hz
Test Site	:	TR8			

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
1	01	2412	-0.434	2.0	8.0	Pass
1	06	2437	0.953	2.0	8.0	Pass
1	11	2462	-0.439	2.0	8.0	Pass
2	01	2412	-6.812	2.0	8.0	Pass
2	06	2437	-0.994	2.0	8.0	Pass
2	11	2462	-6.808	2.0	8.0	Pass
3	01	2412	-7.62	2.0	8.0	Pass
3	06	2437	-3.151	2.0	8.0	Pass
3	11	2462	-8.101	2.0	8.0	Pass
4	03	2422	-10.746	2.0	8.0	Pass
4	06	2437	-9.57	2.0	8.0	Pass
4	09	2452	-10.857	2.0	8.0	Pass

Mode 1 CH06(2437MHz)



The End