



FCC/IC TEST REPORT

According to

CFR47 §15.247/RSS-247 Issue 2

Applicant : Elo Touch Solutions, Inc
Address : 670 N. McCarthy Blvd., Suite 100, Milpitas, CA95035
Manufacturer : Elo Touch Solutions, Inc.
Address : 670 N. McCarthy Blvd., Suite 100, Milpitas, CA95035
Equipment : Touch All in one Computer
Model No. : ESY15I1B, ESY15I1C
FCC ID : RBWESY15I1B
IC ID : 10757B-ESY15I1B
Test Period : Sept.03,2017~ Sept.18, 2017

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of **Cerpass Technology Corporation Test Laboratory**, the test report shall not be reproduced except in full.
- The test report must not be used by the clients to claim product certification approval by any agency of the Government.

I HEREBY CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.10 – 2013&RSS-247,Issue 2&RSS-Gen&FCC Part15.247** and the energy emitted by this equipment was **passed**.

Approved by:

Laboratory Accreditation:

Mark Liao / Assistant Manager



Cerpass Technology Corporation Test Laboratory

TAF LAB Code:

1439



Contents

1. Report of Measurements and Examinations	5
2. General Info.....	6
2.1 Description of EUT	6
2.2 Description of wireless module	7
2.3 Description of Antenna.....	7
2.4 Carrier Frequency of Channels.....	8
2.5 The Worst Case Configuration.....	9
2.6 EUT Exercise Software	10
2.7 Power Parameter Value of the test software	11
2.8 Duty cycle.....	12
2.9 Support equipment.....	13
3. General Information of Test Site	14
3.1 Information of Test Site	14
3.2 Measuring Equipment.....	15
3.3 Measurement Uncertainty.....	16
4. AC Conducted Emission Measurement	17
4.1 Test Limit	17
4.2 Test Standard	17
4.3 Test Procedures	17
4.4 Test Setup Layout	18
4.5 Test Result	19
5. Radiated Emission Measurement	21
5.1 Test Limit	21
5.2 Test Standard	21
5.3 Test Procedures.....	22
5.4 Test Setup Layout.....	23
5.5 Test Result	25
6. 6dB Bandwidth Measurement	33
6.1 Test Limit	33
6.2 Test Standard	33
6.3 Test Procedures	33
6.4 Test Setup Layout	33
6.5 Test Result	34
7. Output Power Measurement.....	38
7.1 Test Limit	38
7.2 Test Standard	38
7.3 Test Procedures	38
7.4 Test Setup Layout	38
7.5 Test Result	39
8. Power Spectral Density Measurement	40
8.1 Test Limit	40
8.2 Test Standard	40
8.3 Test Procedures	40



8.4 Test Setup Layout	40
8.5 Test Result	41
9. Conducted Band Edge and Out-of-Band Emissions Measurement.....	46
9.1 Test Limit	46
9.2 Test Standard	46
9.3 Test Procedures	47
9.4 Test Setup Layout	47
9.5 Test Result	48
10.Radiated Emission Band Edge Measurement	57
10.1 Test Limit	57
10.2 Test Standard	57
10.3 Test Procedure.....	57
10.4 Test Setup Layout	58
10.5 Test Result	59



History of this Test Report

Report No.	Version	Issue Date	Description
TEFI1707267-B	Rev 01	Sept.21, 2017	Original.



1. Report of Measurements and Examinations

Performed Test Item	Normative References	Test Performed	Deviation	Result
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2016 Section 15.207	Yes	N/A	Pass
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2016 Section 15.209 RSS-Gen Issue 4 November 2014 Section 6.13	Yes	No	Pass
RF Antenna Conducted Spurious	FCC CFR Title 47 Part 15 Subpart C: 2016 Section 15.247(d) RSS-247 Issue 2 February 2017 Section 5.5	Yes	No	Pass
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2016 15.247(d) RSS-247 Issue 2 February 2017 Section 5.5	Yes	No	Pass
Operation Frequency Range of 20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2016 15.215(c)	Yes	No	Pass
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2016 Section 15.247(a)(2) RSS-247 Issue 2 February 2017 Section 5.2(a)	Yes	No	Pass
Output Power	FCC CFR Title 47 Part 15 Subpart C: 2016 Section 15.247(b)(3) RSS-247 Issue 2 February 2017 Section 5.4(d)	Yes	No	Pass
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2016 Section 15.247(e) RSS-247 Issue 2 February 2017 Section 5.2(b)	Yes	No	Pass



2. General Info

2.1 Description of EUT

Product name	Touch All in one Computer	
Model No.	ESY15I1B, ESY15I1C (two models were identical except for marketing purpose)	
Operational Climate	Tnomal:	25℃
	Tmin:	0℃
	Tmax:	35℃
Power supply	Model:	ADP-65JH HB
	Input:	100-240V~ 50/60Hz 1.5A
	Output:	19V $\overline{\text{---}}$ 3.42A



2.2 Description of wireless module

WLAN	80-WL024-12
Spreading	802.11b: CCK, DQPSK, DBPSK 802.11g: 64 QAM, 16 QAM, QPSK, BPSK 802.11n: BPSK, QPSK, 16-QAM, 64-QAM
Frequency Range	802.11b/g/n(20MHz): 2412-2462MHz 802.11n(40MHz): 2422-2452MHz
Number of Channels	802.11b/g/n (20MHz): 11 802.11n (40MHz): 7
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0~MCS7

Note: For more details, please refer to the EUT User manual.

2.3 Description of Antenna

Model	Antenna	Peak Gain
ESY10I1B, ESY10I1C	PCB Antenna	2.92dBi for 2.4~2.4835GHz band 2.67dBi for 5.15~5.25GHz band 2.64dBi for 5.725~5.85GHz band
ESY15I1B, ESY15I1C	PCB Antenna	2.68dBi for 2.4~2.4835GHz band 2.50dBi for 5.15~5.25GHz band 2.54dBi for 5.725~5.85GHz band
ESY22I1B	PCB Antenna	2.68dBi for 2.4~2.4835GHz band 2.50dBi for 5.15~5.25GHz band 2.54dBi for 5.725~5.85GHz band

Note: We choose the maximum peak gain (ESY10I1B) for final test of each channel shown as the table.



2.4 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n(20MHz)			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
01	2412	08	2447
02	2417	09	2452
03	2422	10	2457
04	2427	11	2462
05	2432		
06	2437		
07	2442	---	---

802.11n(40MHz)			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
01	---	08	2447
02	---	09	2452
03	2422	---	---
04	2427	---	---
05	2432	---	---
06	2437	---	---
07	2442	---	---



2.5 The Worst Case Configuration

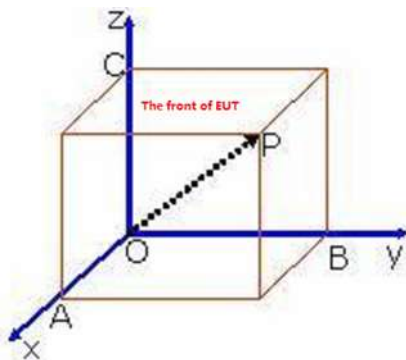
Data rate Configuration:

Modulation Mode	Test Channel	Data Rate	Peak Power(dBm)
802.11b	6	1Mbps	18.83
		6Mbps	18.64
		11Mbps	18.72
802.11g	6	6Mbps	22.46
		18Mbps	22.13
		54Mbps	22.32
802.11n(HT20)	6	Msc0	22.06
		Msc3	21.96
		Msc7	22.03
802.11n(HT40)	6	Msc0	22.72
		Msc3	22.65
		Msc7	22.69

Modulation Mode	Worst Data Rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)	MCS0
802.11n(HT40)	MCS0

Note: 1. Power output test was verified over all data rates of each mode, and then choose the maximum power output for final test of each channel shown as the table.

2. EUT is put X,Y,Z three axial assessment test, and Y axial is the worst case, so the EUT is put Y axial for all RF items tested.





2.6 EUT Exercise Software

1	Turn on the power of equipment.
2	Run 'QRCT', input RF test command and set the test mode and channel, then press Transmit to start continue transmit.



2.7 Power Parameter Value of the test software

Mode	Frequency (MHz)	Power Setting
802.11b	2412	16
	2437	16
	2462	16
802.11g	2412	15
	2437	15
	2462	15
802.11n(20MHz)	2412	14
	2437	14
	2462	14
802.11n(40MHz)	2422	15.5
	2437	15.5
	2452	15.5

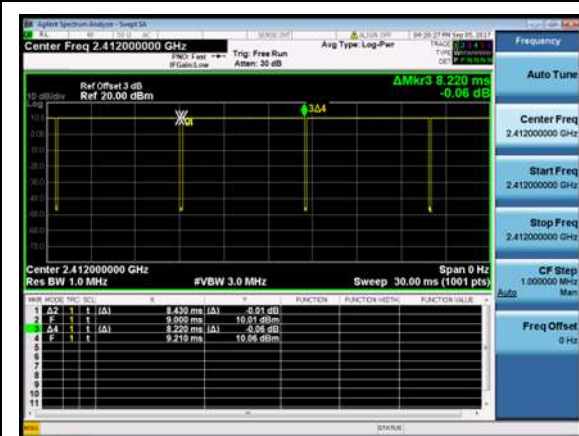


2.8 Duty cycle

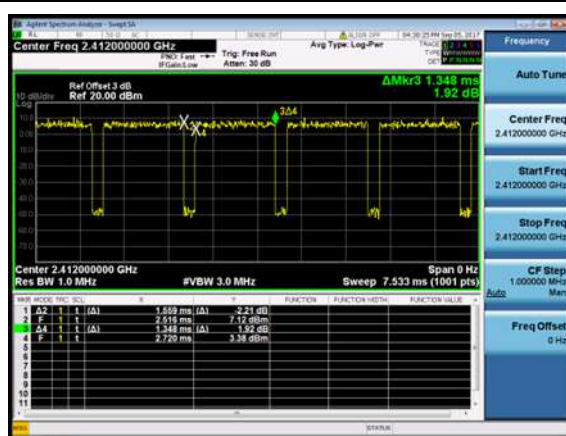
Test Item	Duty cycle
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Mode	Frequency (MHz)	Measurement (%)
802.11b	2412	97.51
802.11g	2412	86.47
802.11n(20MHz)	2412	85.71
802.11n(40MHz)	2422	74.40

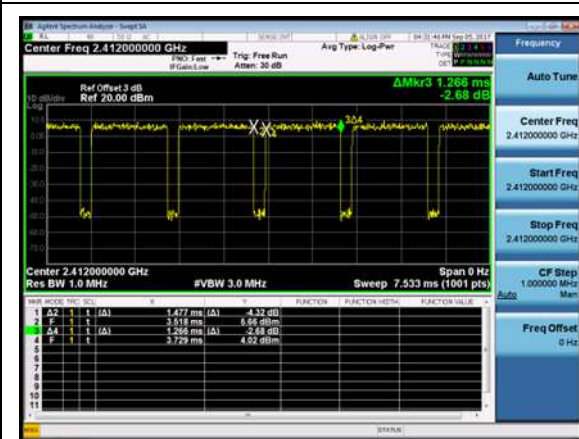
802.11b 2412MHz



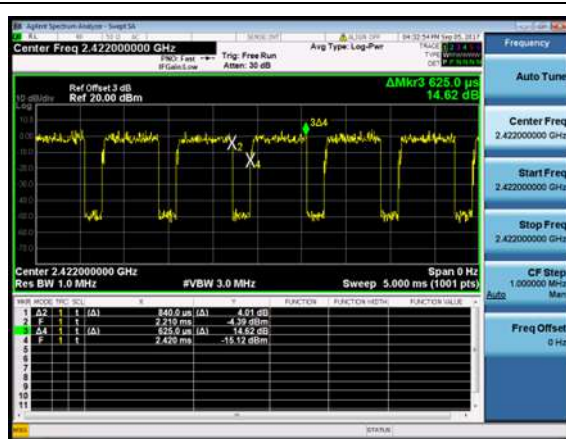
802.11g 2412MHz



802.11n(20MHz) 2412MHz



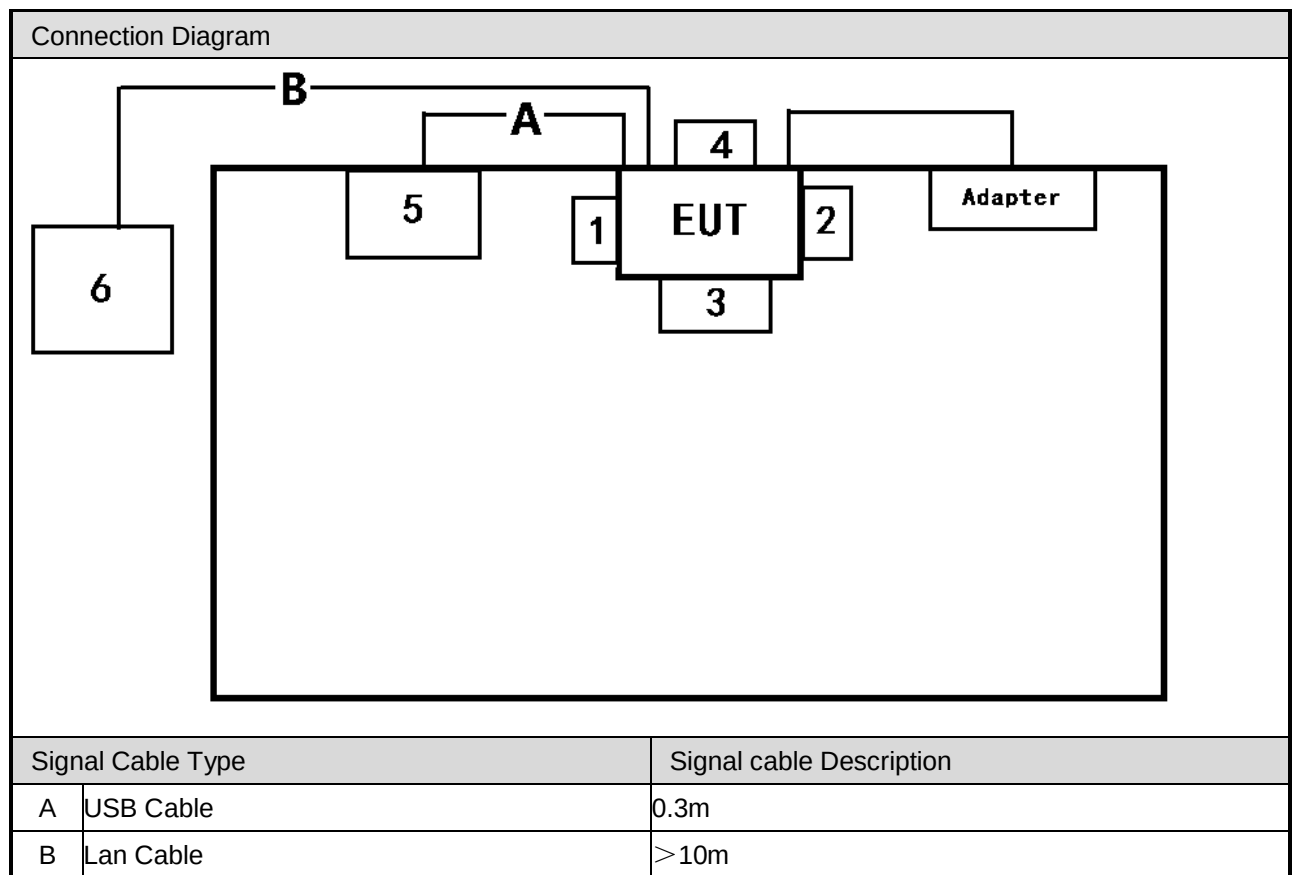
802.11n(40MHz) 2422MHz





2.9 Support equipment

Product	Manufacturer	Model No.	Serial No.
1 Barcode Scanner	Elo Touch Solutions, Inc.	KIT,BCR,USB, AAiO/02 Series	E093433
2 Barcode Scanner	Elo Touch Solutions, Inc.	KIT,FPR,USB,ESY X-Series	E001001
3 NFC	Elo Touch Solutions, Inc.	KIT,NFC,USB, ESY X Series/AAiO/02 Series	E001004
4 Barcode Scanner	Elo Touch Solutions, Inc.	ELOKIT, 2DBCR, USB, ESYELO-RGEN	E926356
5 HDD	HGST	HTS721010A9E630	N/A
6 Router	Zyxel	P-660HNU-T1	R33011





3. General Information of Test Site

3.1 Information of Test Site

Test Site :	Cerpass Technology Corporation Test Laboratory Location: No.10 Lane2 Lianfu Street Luzhu District, Taoyuan City Taiwan ROC <u>Tel:+886-3-3226-888</u> <u>Fax:+886-3-3226-881</u>
FCC Registration Number :	TW1439
IC Registration Number :	4934B-1
VCCI	T-2205 for Telecommunication Test C-4663 for Conducted emission test R-4399, R-4218 for Radiated emission test G-812, G-813 for radiated disturbance above 1GHz



3.2 Measuring Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
Test Receiver	R&S	ESCI	100565	2017.03.26	2018.03.25
AMN	R&S	ESH2-Z5	100182	2017.09.06	2018.09.05
Two-Line V-Network	R&S	ENV216	100325	/	/
Pulse Limiter	R&S	ESH3-Z2	100529	2017.03.26	2018.03.25
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-004	2017.03.29	2018.03.28
EZ-EMC	Fala	Ver CT3A1	N/A	N/A	N/A

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
EMI Test Receiver	R&S	ESCI	101183	2017.03.26	2018.03.25
Preamplifier	songyi	EM330	60618	2017.03.26	2018.03.25
Preamplifier	Agilent	8449B	3008A02342	2017.03.26	2018.03.25
Bilog Antenna	Sunol Science	JB1	A072414-1	2017.04.16	2018.04.15
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-618	2017.04.16	2018.04.15
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	9170-347	2017.04.16	2018.04.15
Preamplifier	COM-POWER	PA-840	711885	2017.03.26	2018.03.25
Spectrum Analyzer	R&S	FSP40	100324	2017.03.26	2018.03.25
Spectrum Analyzer	KEYSIGHT	N9010A	MY54200207	2017.03.17	2018.03.16
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2017.03.29	2018.03.28
EZ-EMC	Fala	Ver CT3A1	N/A	N/A	N/A



3.3 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	9 kHz ~ 30 MHz	Line / Neutral	± 2.9076 dB
Radiated Emission	9 kHz ~ 40,000 MHz	Vertical / Horizontal	± 0.948 dB
Spurious Emission (Conducted)	-	-	± 4.011 dB
Maximum Peak and Average Output Power	-	-	± 0.322 dB
Power Spectral Density	-	-	± 0.322 dB
Bandwidth	-	-	74.224Hz



4. AC Conducted Emission Measurement

4.1 Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.10-2013 Section 6.2. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 6.2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

4.2 Test Standard

Tested according to ANSI C63.10: 2013 Section 6.2 for compliance to FCC 47CFR 15.247 Part15.207 (a) requirements.

4.3 Test Procedures

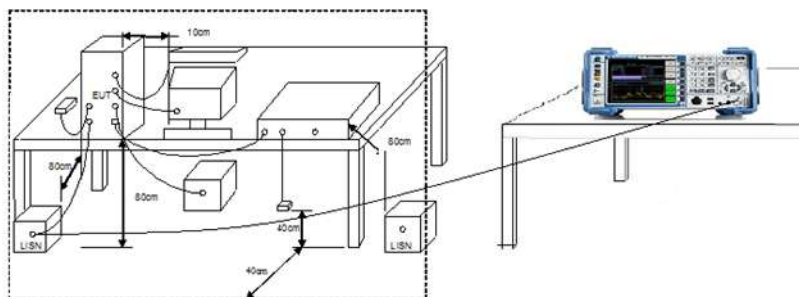
The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.



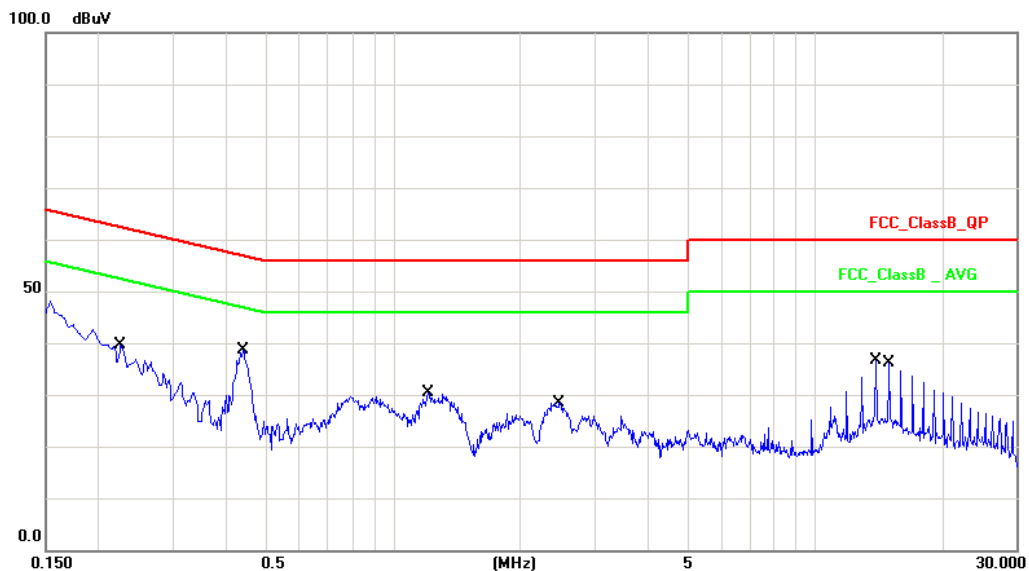
4.4 Test Setup Layout





4.5 Test Result

Test Mode :	Mode 1: Normal Operation with WIFI on		
AC Power :	AC 120V/60Hz	Phase:	LINE
Temperature :	26°C	Humidity:	60%
Pressure(mbar) :	1002	Date:	2017/09/11

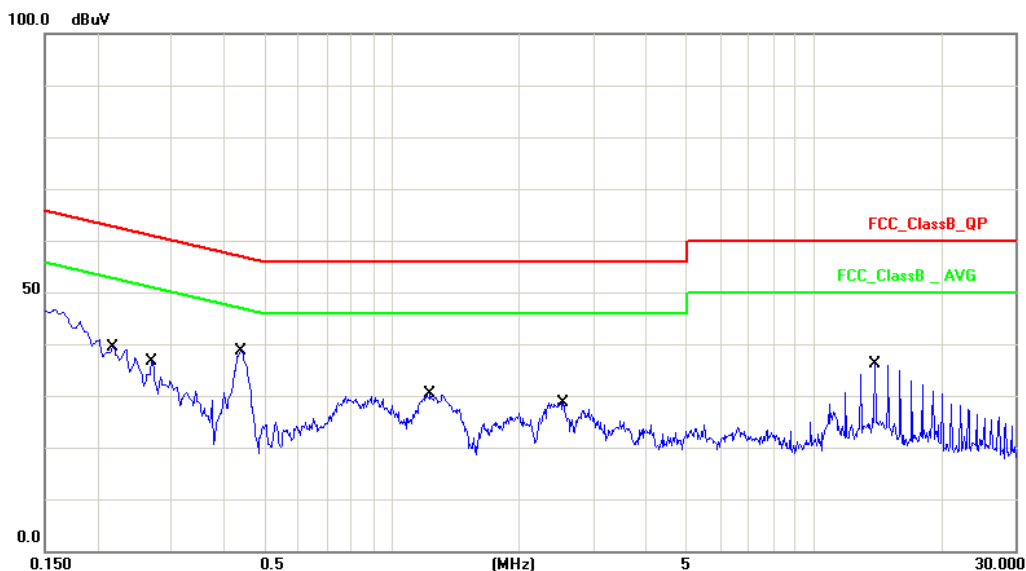


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2260	10.12	21.49	31.61	62.59	-30.98	QP
2	0.2260	10.12	3.58	13.70	52.59	-38.89	AVG
3	0.4420	10.15	25.22	35.37	57.02	-21.65	QP
4	0.4420	10.15	19.36	29.51	47.02	-17.51	AVG
5	1.2100	10.16	16.04	26.20	56.00	-29.80	QP
6	1.2100	10.16	10.84	21.00	46.00	-25.00	AVG
7	2.4780	10.18	14.34	24.52	56.00	-31.48	QP
8	2.4780	10.18	8.62	18.80	46.00	-27.20	AVG
9	13.9620	10.47	21.40	31.87	60.00	-28.13	QP
10	13.9620	10.47	11.26	21.73	50.00	-28.27	AVG
11	15.0020	10.53	23.53	34.06	60.00	-25.94	QP
12	15.0020	10.53	19.25	29.78	50.00	-20.22	AVG

Note: Measurement Level = Reading Level + Correct Factor



Test Mode :	Mode 1: Normal Operation with WIFI on		
AC Power :	AC 120V/60Hz	Phase :	NEUTRAL
Temperature :	26°C	Humidity :	60%
Pressure(mbar) :	1002	Date:	2017/09/11



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2180	10.13	22.73	32.86	62.89	-30.03	QP
2	0.2180	10.13	5.44	15.57	52.89	-37.32	AVG
3	0.2700	10.13	18.05	28.18	61.12	-32.94	QP
4	0.2700	10.13	5.31	15.44	51.12	-35.68	AVG
5	0.4380	10.15	25.46	35.61	57.10	-21.49	QP
6	0.4380	10.15	18.93	29.08	47.10	-18.02	AVG
7	1.2300	10.18	16.21	26.39	56.00	-29.61	QP
8	1.2300	10.18	10.88	21.06	46.00	-24.94	AVG
9	2.5420	10.19	13.65	23.84	56.00	-32.16	QP
10	2.5420	10.19	7.78	17.97	46.00	-28.03	AVG
11	13.9620	10.48	24.00	34.48	60.00	-25.52	QP
12	13.9620	10.48	20.81	31.29	50.00	-18.71	AVG

Note: Measurement Level = Reading Level + Correct Factor



5. Radiated Emission Measurement

5.1 Test Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter measurement is based on the maximum conducted output power, the attenuation required under this paragraph shall be 30dB instead of 20dB. In addition, radiated emissions which fall in section 15.205(a) the restricted bands must also comply with the radiated emission limit specified in section 15.209(a).

FCC Part 15 Subpart C Paragraph 15.209		
FREQUENCIES (MHz)	FIELD STRENGTH (micro volts/meter)	MEASUREMENT DISTANCE (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument Antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

Note 4: **Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

5.2 Test Standard

KDB 558074 D01v04 - Section 12.2.3 (quasi-peak measurements)

KDB 558074 D01v04 - Section 12.2.4 (peak power measurements)

KDB 558074 D01v04- Section 12.2.5 (average power measurements)



5.3 Test Procedures

Quasi-Peak Field Strength Measurements:

The specifications for measurements using the CISPR quasi-peak detector can be found in Publication 16 of the International Special Committee on Radio Frequency Interference (CISPR) of the International Electrotechnical Commission.

As an alternative to CISPR quasi-peak measurement, compliance can be demonstrated to the applicable emission limits using a peak detector.

Peak Field Strength Measurements:

Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

1. RBW=As specified in Table 1
2. VBW=3×RBW
3. Detector=Peak
4. Trace mode=Max hold
5. Sweep time=Auto couple
6. Allow the trace to stabilize

Table 1-RBW as a function of frequency

Frequency	RBW
9 ~ 150kHz	200 ~ 300Hz
0.15 ~ 30MHz	9 ~ 10kHz
30 ~ 1000MHz	100 ~ 120kHz
> 1000MHz	1MHz

AVE Field Strength Measurements:

Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

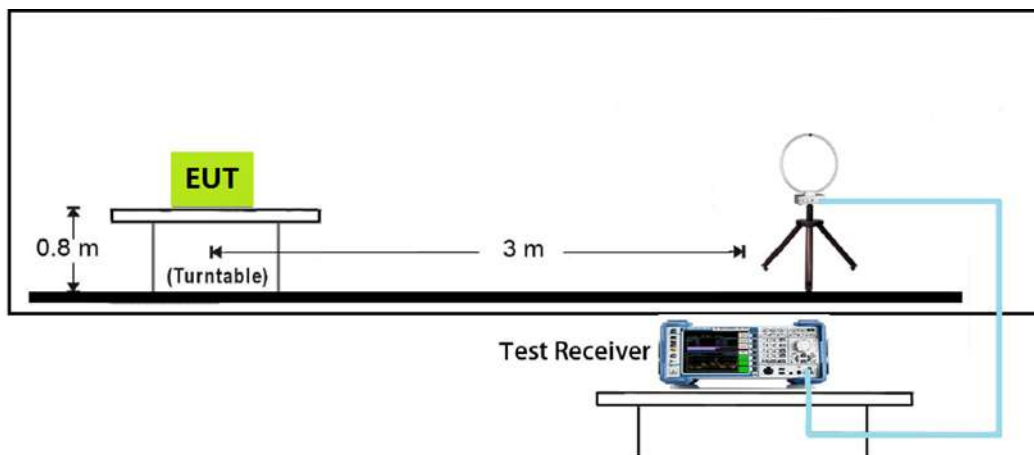
1. RBW= 1MHz
2. VBW $\geq$ 1/T
3. Detector=Peak
4. Trace mode=Max hold
5. Sweep time=Auto couple
6. Allow max hold to run for at least 50 times(1/duty cycle) trace

Do as an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode

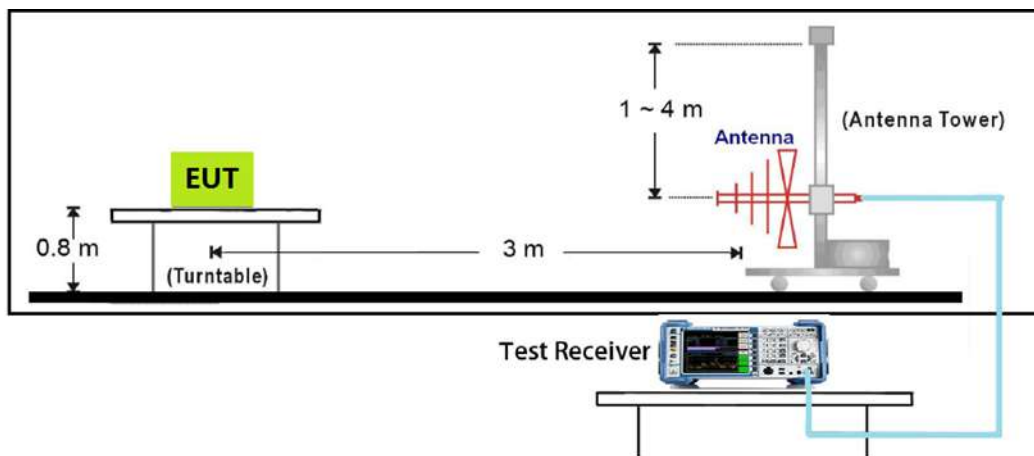


5.4 Test Setup Layout

9kHz~30MHz Test Setup

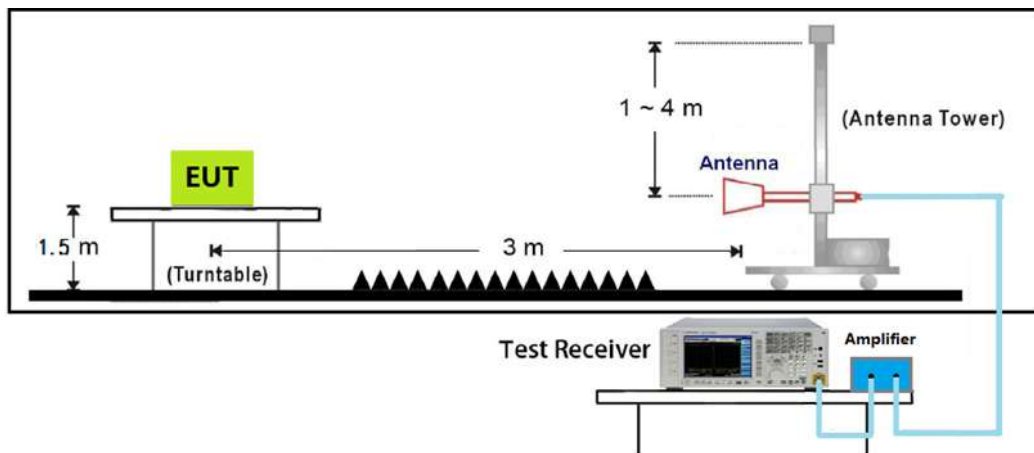


30MHz~1GHz Test Setup

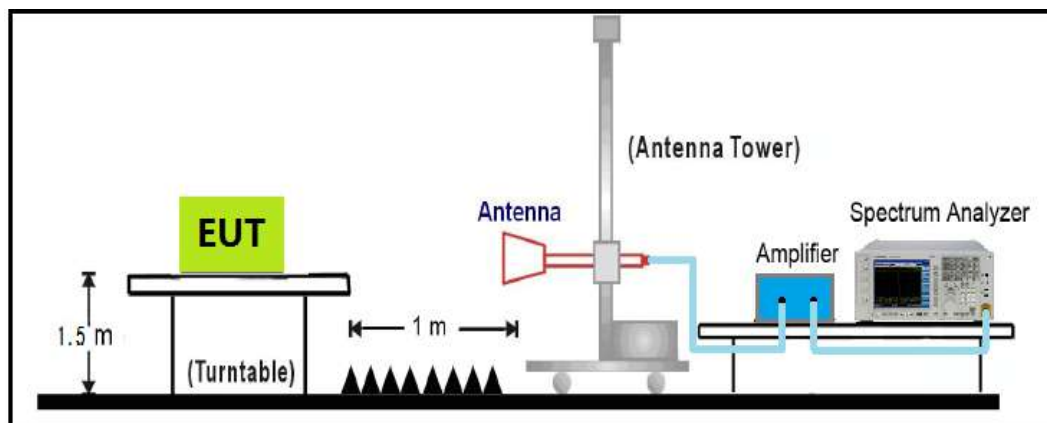




1GHz~18GHz Test Setup



18GHz~40GHz Test Setup

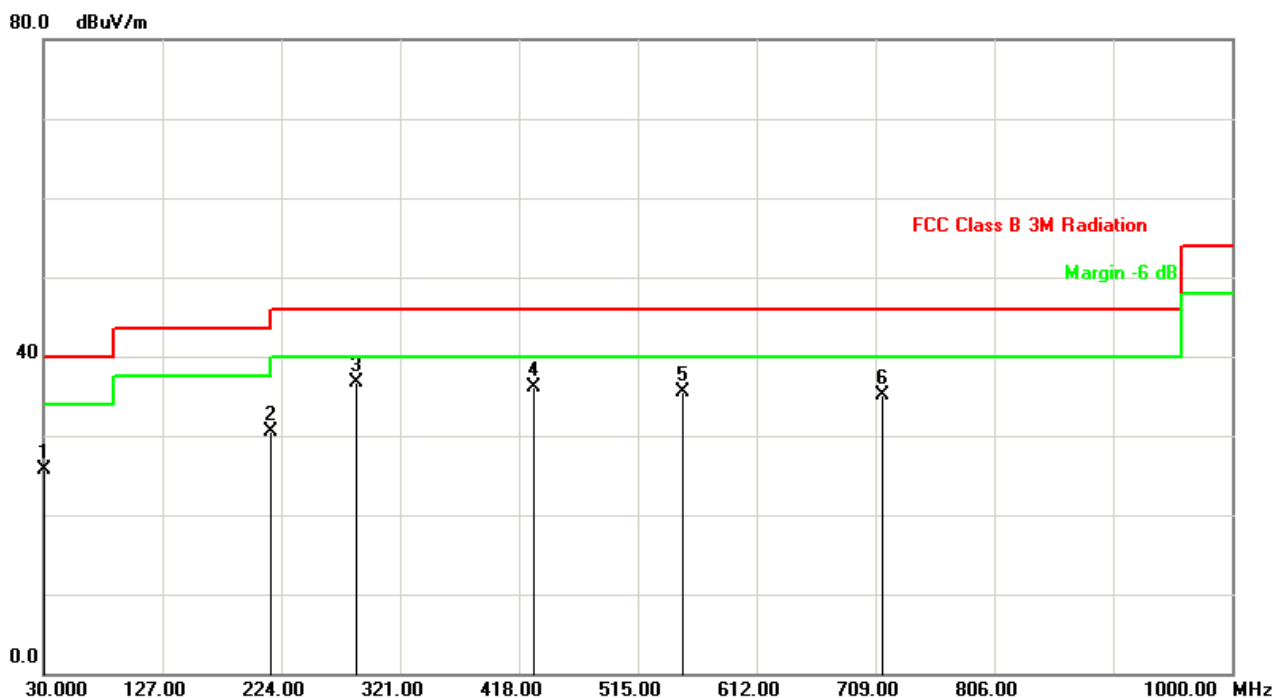




5.5 Test Result

The worst case of Radiated Emission below 1GHz:

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 2437MHz by 802.11b	



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	30.9700	-2.85	28.61	25.76	40.00	-14.24	QP
2	215.2700	-12.25	42.68	30.43	43.50	-13.07	QP
3	286.0799	-8.77	45.38	36.61	46.00	-9.39	QP
4	430.6100	-4.41	40.47	36.06	46.00	-9.94	QP
5	551.8600	-3.60	39.01	35.41	46.00	-10.59	QP
6	714.8200	1.32	33.78	35.10	46.00	-10.90	QP

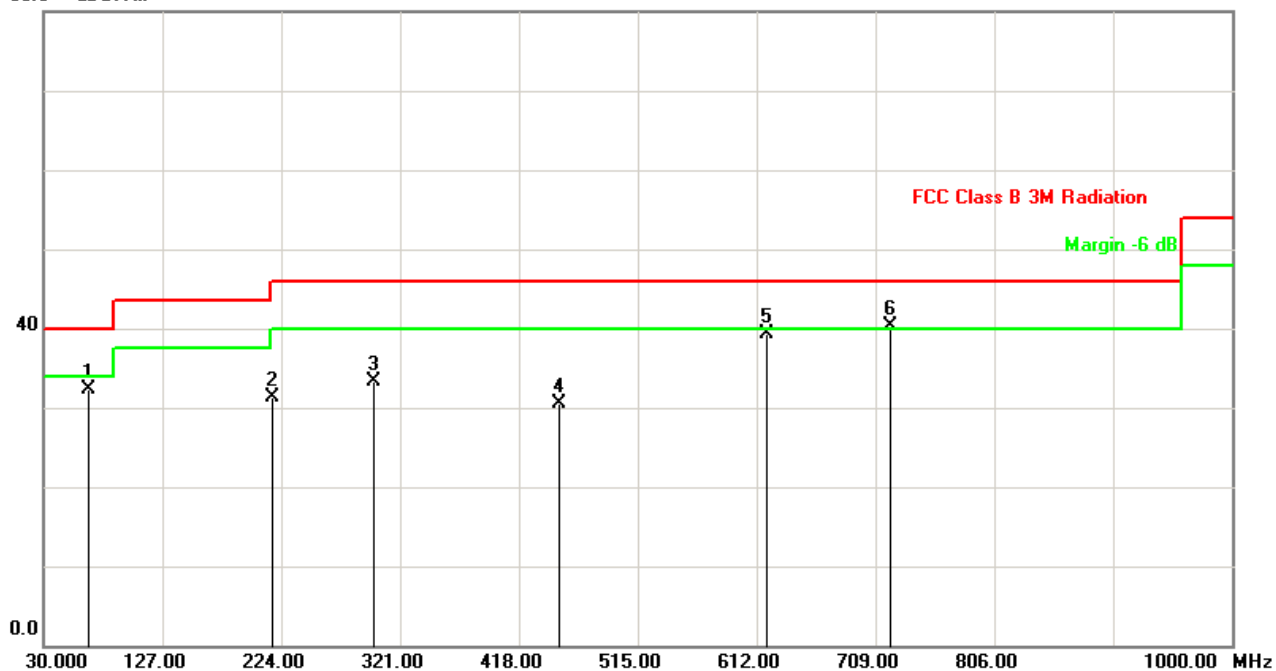
Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor(dB).

Factor (dB)=Cable Loss(dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain(dB)



Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode1: Transmit at channel 2437MHz by 802.11b	

80.0 dBuV/m



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	66.5199	-13.31	45.64	32.33	40.00	-7.67	QP
2	216.3600	-12.23	43.48	31.25	46.00	-14.75	QP
3	300.2500	-8.25	41.50	33.25	46.00	-12.75	QP
4	450.6300	-6.53	36.94	30.41	46.00	-15.59	QP
5	620.3500	-1.33	40.66	39.33	46.00	-6.67	QP
6	720.9600	1.40	38.85	40.25	46.00	-5.75	QP

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor(dB).

Factor (dB)=Cable Loss(dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain(dB)

**Radiated Emission above 1GHz:****Radiated Emission above 1GHz:**

Mode1: Transmit by 802.11b

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	H	4824.0	48.4	3.45	51.8	54(note3)	-2.2	PK
	H	7236.0	42.8	8.27	51.1	54(note3)	-2.9	PK
	V	4824.0	44.7	3.45	48.2	54(note3)	-5.8	PK
	V	7236.0	42.9	8.27	51.2	54(note3)	-2.8	PK
6	H	4874.0	48.6	3.42	52.0	54(note3)	-2.0	PK
	H	7311.0	44.6	8.26	52.9	54(note3)	-1.1	PK
	V	4874.0	49.8	3.42	53.2	54(note3)	-0.8	PK
	V	7311.0	42.1	8.26	50.4	54(note3)	-3.6	PK
11	H	4924.0	46.4	3.39	49.8	54(note3)	-4.2	PK
	H	7386.0	42.5	8.24	50.7	54(note3)	-3.3	PK
	V	4924.0	43.2	3.39	46.6	54(note3)	-7.4	PK
	V	7386.0	42.3	8.24	50.5	54(note3)	-3.5	PK

Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.



Mode2: Transmit by 802.11g

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	H	4824.0	45.7	3.45	49.1	54(note3)	-4.9	PK
	H	7236.0	39.6	8.27	47.9	54(note3)	-6.1	PK
	V	4824.0	42.2	3.45	45.6	54(note3)	-8.4	PK
	V	7236.0	39.8	8.27	48.1	54(note3)	-5.9	PK
6	H	4874.0	45.9	3.42	49.3	54(note3)	-4.7	PK
	H	7311.0	42.9	8.26	51.2	54(note3)	-2.8	PK
	V	4874.0	46.7	3.42	50.1	54(note3)	-3.9	PK
	V	7311.0	41.8	8.26	50.1	54(note3)	-3.9	PK
11	H	4924.0	44.4	3.39	47.8	54(note3)	-6.2	PK
	H	7386.0	40.9	8.24	49.1	54(note3)	-4.9	PK
	V	4924.0	42.0	3.39	45.4	54(note3)	-8.6	PK
	V	7386.0	39.5	8.24	47.7	54(note3)	-6.3	PK

Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.



Mode3: Transmit by 802.11n(20MHz)

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	H	4824.0	45.9	3.45	49.3	54(note3)	-4.7	PK
	H	7236.0	39.5	8.27	47.8	54(note3)	-6.2	PK
	V	4824.0	42.9	3.45	46.3	54(note3)	-7.7	PK
	V	7236.0	40.8	8.27	49.1	54(note3)	-4.9	PK
6	H	4874.0	42.5	3.42	45.9	54(note3)	-8.1	PK
	H	7311.0	41.1	8.26	49.4	54(note3)	-4.6	PK
	V	4874.0	45.5	3.42	48.9	54(note3)	-5.1	PK
	V	7311.0	40.9	8.26	49.2	54(note3)	-4.8	PK
11	H	4924.0	42.3	3.39	45.7	54(note3)	-8.3	PK
	H	7386.0	39.8	8.24	48.0	54(note3)	-6.0	PK
	V	4924.0	41.1	3.39	44.5	54(note3)	-9.5	PK
	V	7386.0	39.6	8.24	47.8	54(note3)	-6.2	PK

Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.



Mode4: Transmit by 802.11n(40MHz)

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
3	H	4844.0	43.0	3.45	46.4	54(note3)	-7.6	PK
	H	7266.0	39.7	8.27	48	54(note3)	-6	PK
	V	4844.0	42.1	3.45	45.5	54(note3)	-8.5	PK
	V	7266.0	40.4	8.27	48.7	54(note3)	-5.3	PK
6	H	4874.0	41.9	3.42	45.3	54(note3)	-8.7	PK
	H	7311.0	40.2	8.26	48.5	54(note3)	-5.5	PK
	V	4874.0	42.3	3.42	45.7	54(note3)	-8.3	PK
	V	7311.0	40.1	8.26	48.4	54(note3)	-5.6	PK
9	H	4904.0	41.5	3.39	44.9	54(note3)	-9.1	PK
	H	7356.0	39.7	8.24	47.9	54(note3)	-6.1	PK
	V	4904.0	41.0	3.39	44.4	54(note3)	-9.6	PK
	V	7356.0	40.2	8.24	48.4	54(note3)	-5.6	PK

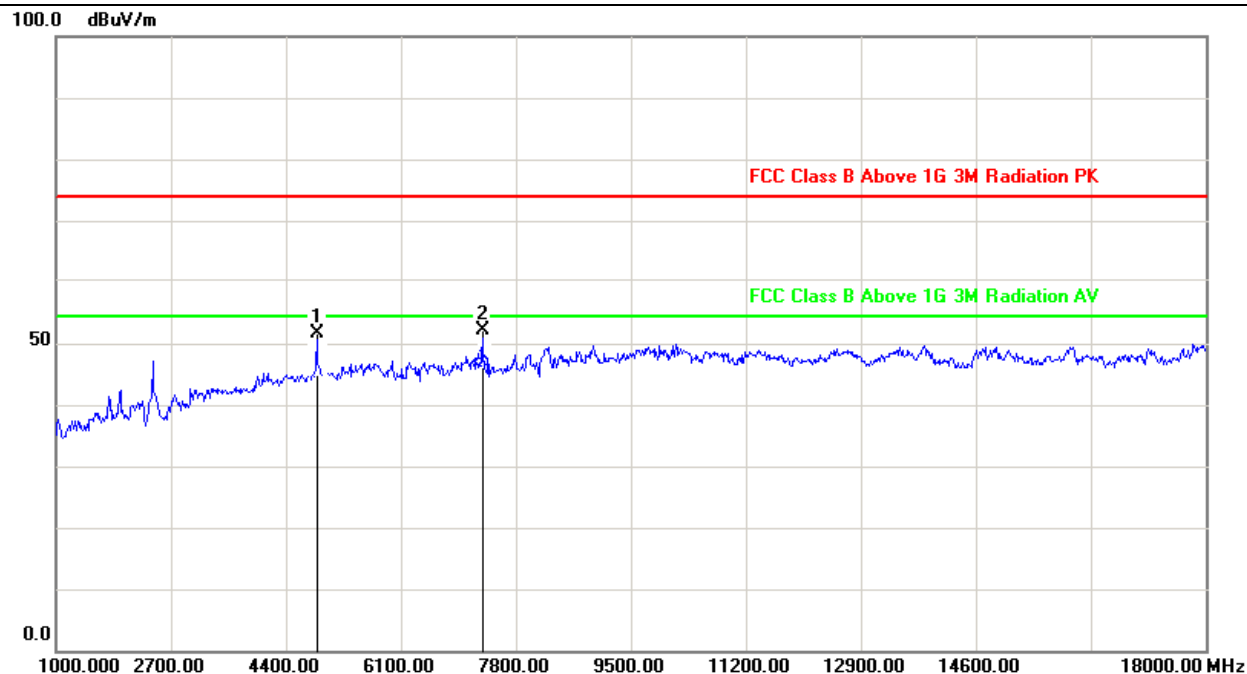
Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

**The worst case of Radiated Emission 1~18GHz:**

Site:AC102	Time: 2017/09/13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT:Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode: Transmit 802.11b at 2437MHz	



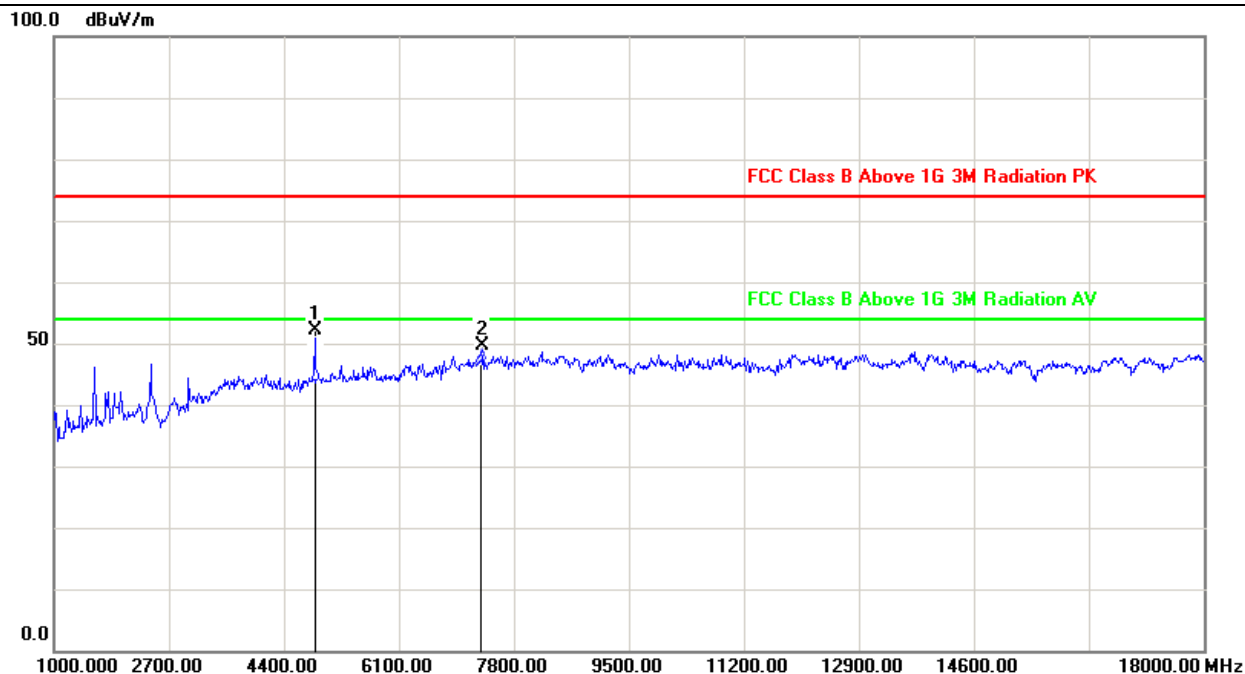
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	4874.000	3.42	48.6	52.0	54(note3)	-2.0	peak
2	7311.000	8.26	44.6	52.9	54(note3)	-1.1	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or AVG measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor
3. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~40GHz), therefore no data appear in the report.



Site:AC102	Time: 2017/09/13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT:Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode: Transmit 802.11b at 2437MHz	



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	4874.000	3.42	49.8	53.2	54(note3)	-0.8	peak
2	7311.000	8.26	42.1	50.4	54(note3)	-3.6	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or AVG measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor
3. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~40GHz), therefore no data appear in the report.



6. 6dB Bandwidth Measurement

6.1 Test Limit

According to FCC part15.247 - Section (a)(2), the minimum 6dB bandwidth shall be at least 500 kHz.

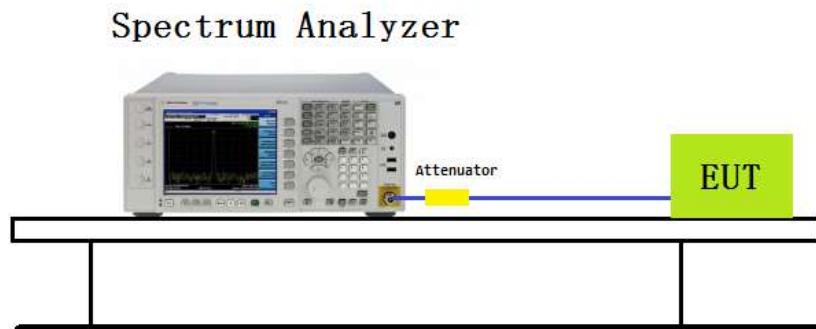
6.2 Test Standard

KDB 558074 D01v04– Section 8.2 Option 2

6.3 Test Procedures

1. Set RBW=100KHz
2. VBW $\geq$ 3 $\times$ RBW
3. Detector=Peak
4. Trace mode=Max hold
5. Sweep time=Auto couple
6. Allow the trace to stabilize
7. The Spectrum's automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 6. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.

6.4 Test Setup Layout

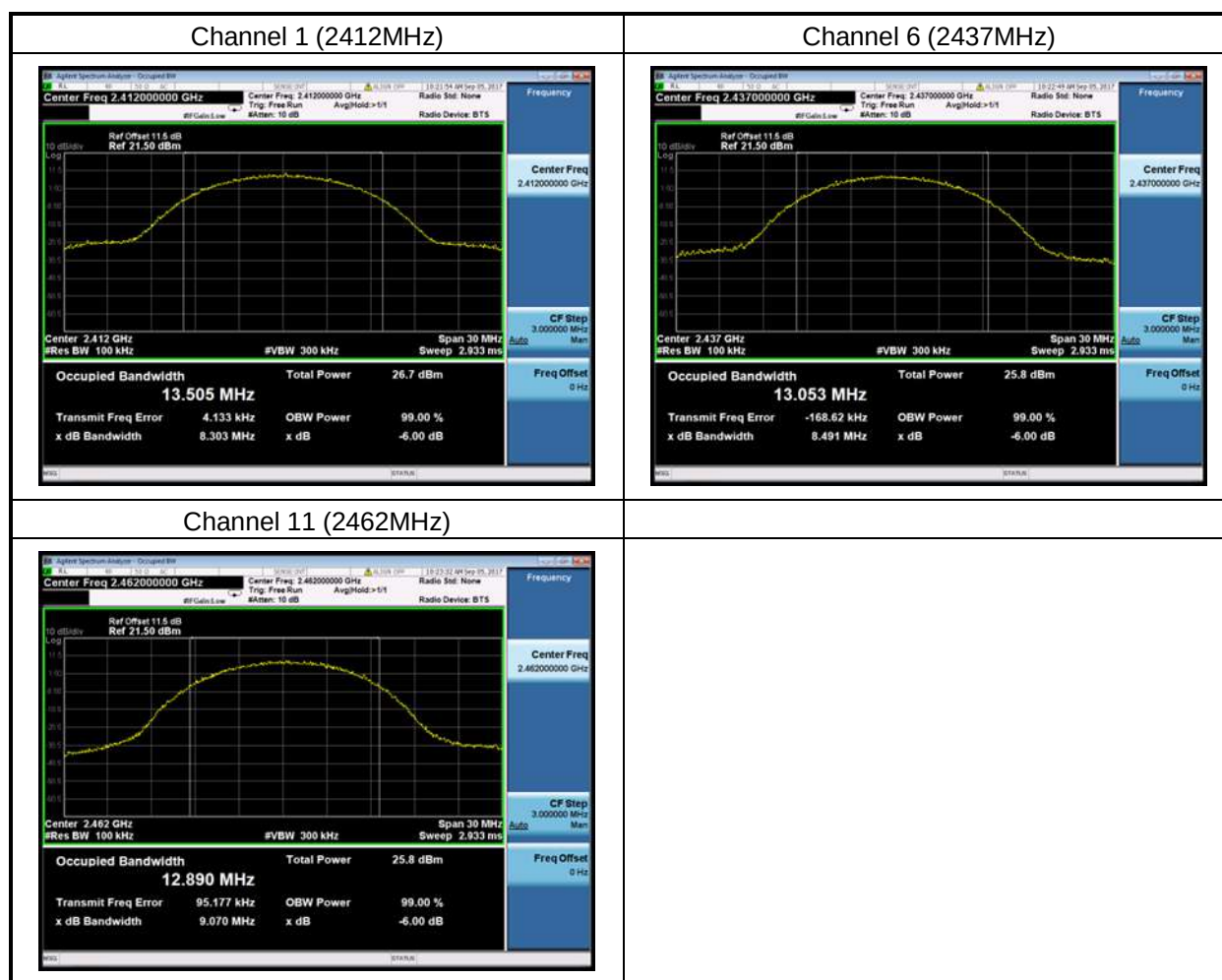




6.5 Test Result

Test Item	Occupied Bandwidth
Test Mode	Mode 1: Transmit by 802.11b

Channel No.	Frequency(MHz)	6dB Bandwidth(MHz)	99% Bandwidth(MHz)
1	2412	8.303	13.505
6	2437	8.491	13.053
11	2462	9.070	12.890





Test Item	Occupied Bandwidth
Test Mode	Mode 2: Transmit by 802.11g

Channel No.	Frequency(MHz)	6dB Bandwidth(MHz)	99% Bandwidth(MHz)
1	2412	16.45	16.787
6	2437	16.45	16.584
11	2462	16.36	16.520

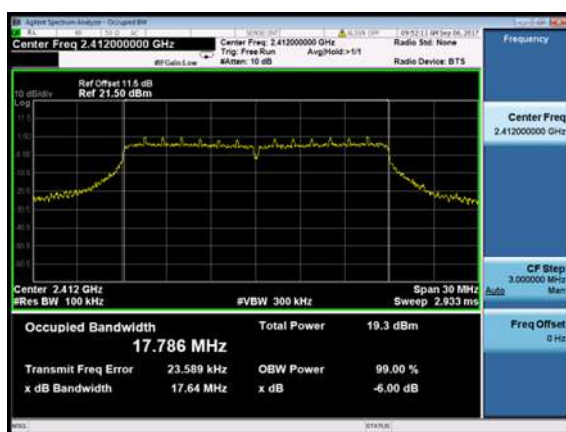




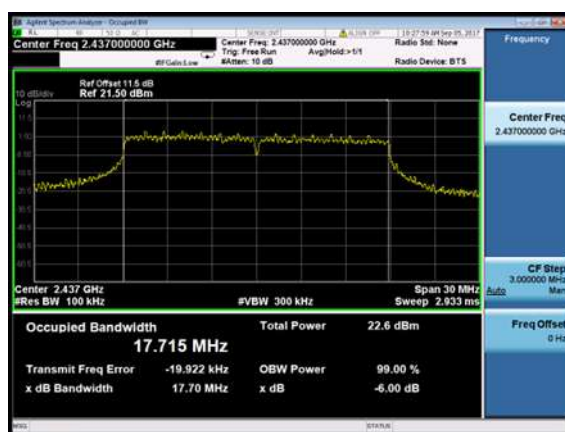
Test Item	Occupied Bandwidth
Test Mode	Mode 3: Transmit by 802.11n(20MHz)

Channel No.	Frequency(MHz)	6dB Bandwidth(MHz)	99% Bandwidth(MHz)
1	2412	17.64	17.786
6	2437	17.70	17.715
11	2462	17.58	17.666

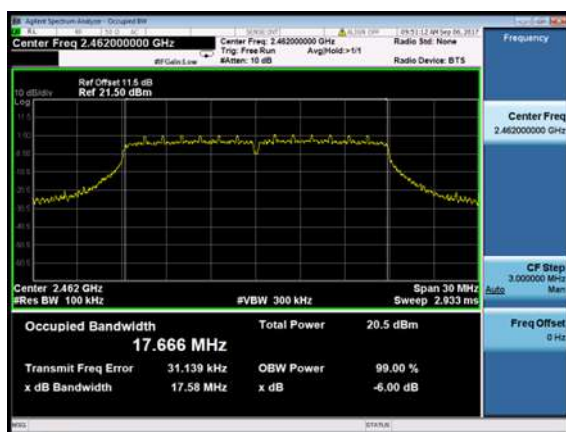
Channel 1 (2412MHz)



Channel 6 (2437MHz)



Channel 11 (2462MHz)

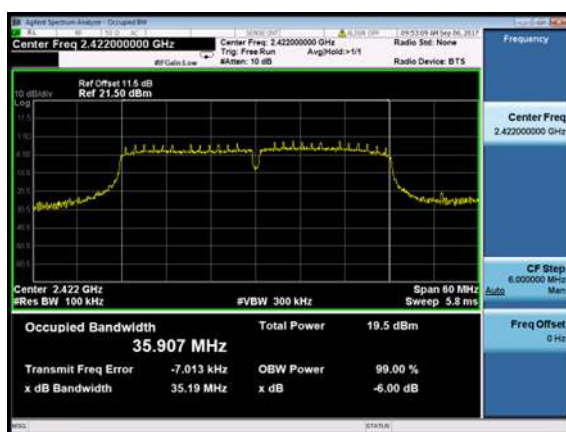




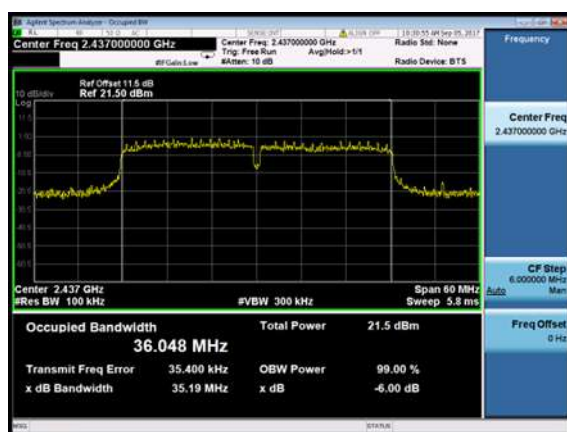
Test Item	Occupied Bandwidth
Test Mode	Mode 4: Transmit by 802.11n(40MHz)

Channel No.	Frequency(MHz)	6dB Bandwidth(MHz)	99% Bandwidth(MHz)
3	2422	35.19	35.907
6	2437	35.19	36.048
9	2452	35.21	36.036

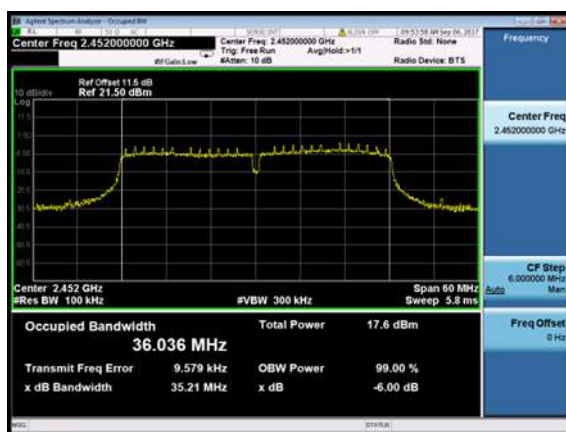
Channel 3 (2422MHz)



Channel 6 (2437MHz)



Channel 9 (2452MHz)





7. Output Power Measurement

7.1 Test Limit

According to FCC part15.247 (b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Per RSS247 Issue 2 Section 5.4(d), for DTSs employing digital modulation techniques operating in the bands 902-928 MHz and 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W.

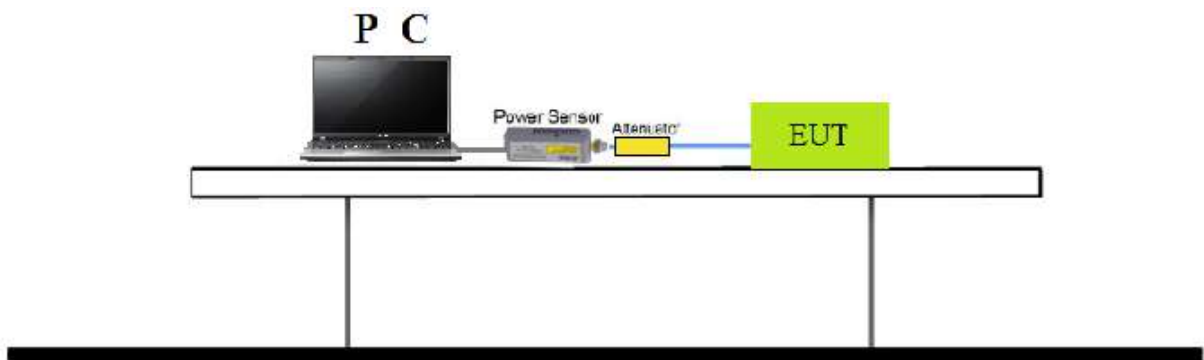
7.2 Test Standard

KDB 558074 D01v04 - Section 9.1.2 PKPM1 Peak Power Method (for signals with BW $\leq$ 50MHz)

7.3 Test Procedures

Out power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The pulse sensor employs a VBW = 50MHz so this method was only used for signals whose DTS bandwidth was less than or equal to 50MHz.

7.4 Test Setup Layout





7.5 Test Result

For Peak Power :

Test Mode	Channel No.	Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)	Result
802.11b	1	2412	18.74	30	Pass
	6	2437	18.83	30	Pass
	11	2462	19.11	30	Pass
802.11g	1	2412	22.18	30	Pass
	6	2437	22.46	30	Pass
	11	2462	22.72	30	Pass
802.11n(20MHz)	1	2412	21.92	30	Pass
	6	2437	22.06	30	Pass
	11	2462	22.47	30	Pass
802.11n(40MHz)	3	2422	22.56	30	Pass
	6	2437	22.72	30	Pass
	9	2452	23.01	30	Pass

For Average Power :

Test Mode	Channel No.	Frequency (MHz)	Average Output Power (dBm)	Limit (dBm)	Result
802.11b	1	2412	15.48	30	Pass
	6	2437	15.47	30	Pass
	11	2462	15.42	30	Pass
802.11g	1	2412	11.73	30	Pass
	6	2437	11.84	30	Pass
	11	2462	11.74	30	Pass
802.11n(20MHz)	1	2412	10.69	30	Pass
	6	2437	10.83	30	Pass
	11	2462	10.73	30	Pass
802.11n(40MHz)	3	2422	9.70	30	Pass
	6	2437	9.94	30	Pass
	9	2452	9.91	30	Pass



8. Power Spectral Density Measurement

8.1 Test Limit

According to FCC part15.247 - Section (e), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

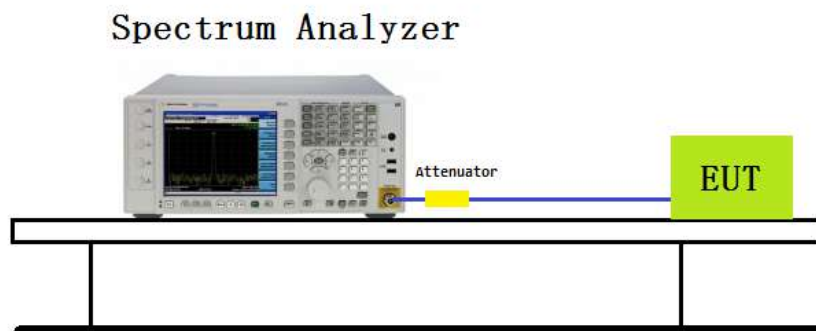
8.2 Test Standard

KDB 558074 D01v04- Section 10.2 Method PKPSD

8.3 Test Procedures

1. Set RBW=3kHz
2. Set RBW=10kHz
3. Span = 1.5 times the DTS channel bandwidth
4. Detector=Peak
5. Trace mode=Max hold
6. Sweep time=Auto couple
7. Allow the trace to stabilize
8. Analyzer was set to the center frequency of the DTS channel under investigation.

8.4 Test Setup Layout





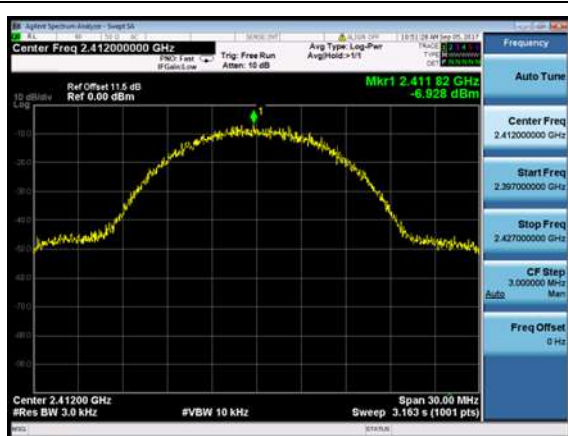
8.5 Test Result

Test Mode	Channel No.	Frequency(MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
802.11b	1	2412	-6.928	8	Pass
	6	2437	-8.093	8	Pass
	11	2462	-6.702	8	Pass
802.11g	1	2412	-12.988	8	Pass
	6	2437	-9.214	8	Pass
	11	2462	-10.665	8	Pass
802.11n(20M Hz)	1	2412	-13.363	8	Pass
	6	2437	-12.277	8	Pass
	11	2462	-12.333	8	Pass
802.11n(40M Hz)	3	2422	-15.684	8	Pass
	6	2437	-16.465	8	Pass
	9	2452	-18.358	8	Pass

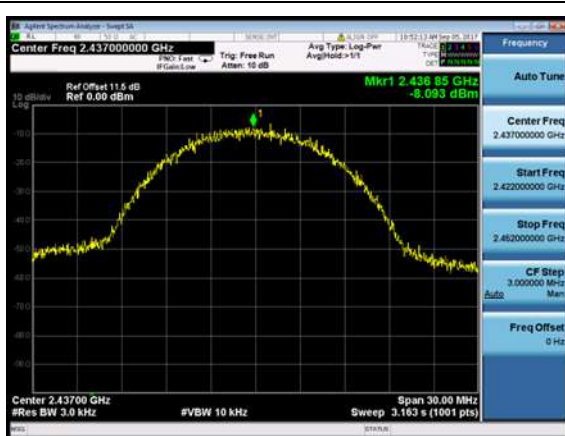


Test Item	Power Spectral Density
Test Mode	Mode 1: Transmit by 802.11b

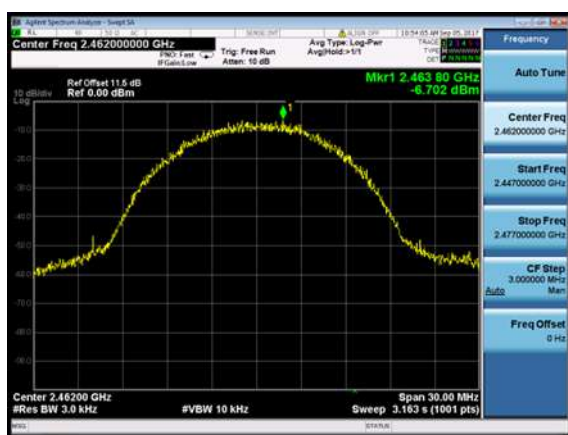
Channel 1 (2412MHz)



Channel 6 (2437MHz)



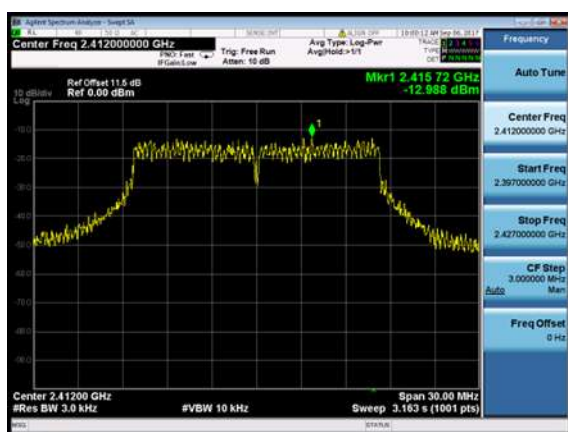
Channel 11 (2462MHz)



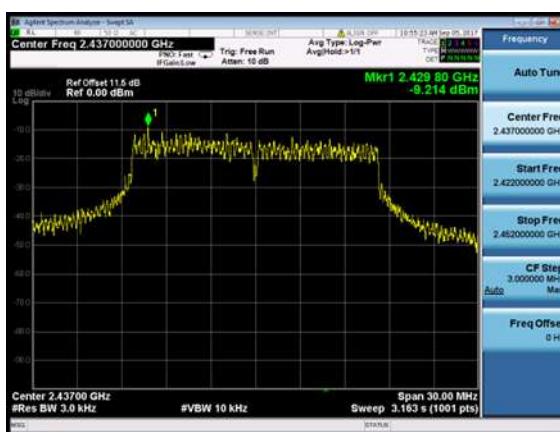


Test Item	Power Spectral Density
Test Mode	Mode 2: Transmit by 802.11g

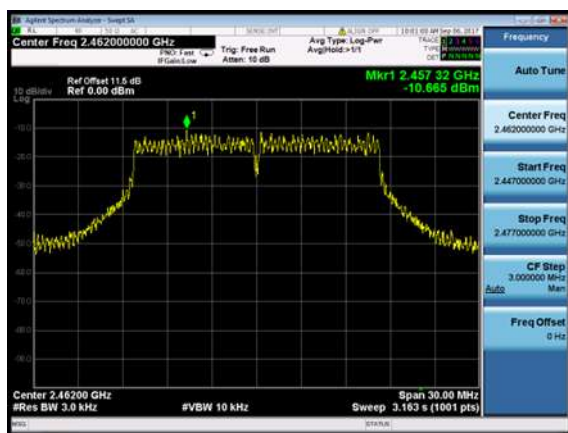
Channel 1 (2412MHz)



Channel 6 (2437MHz)



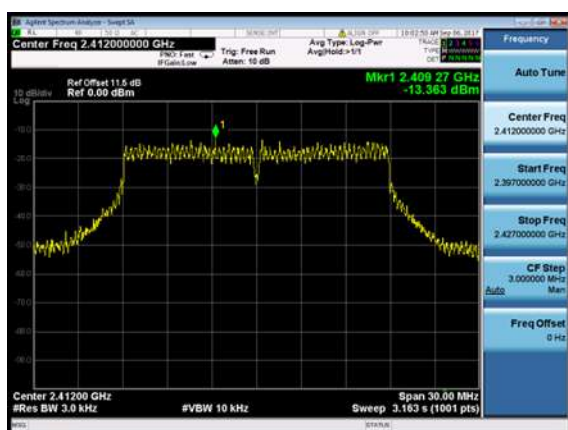
Channel 11 (2462MHz)



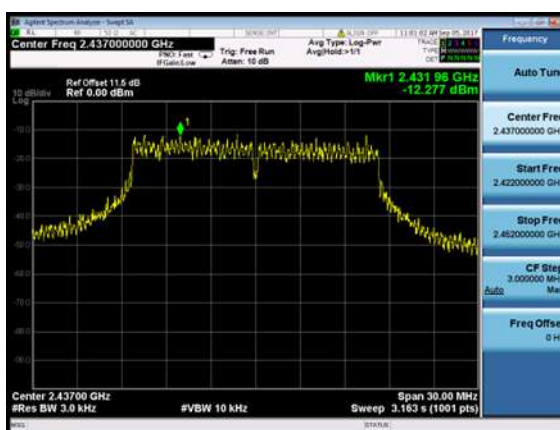


Test Item	Power Spectral Density
Test Mode	Mode 3: Transmit by 802.11n(20MHz)

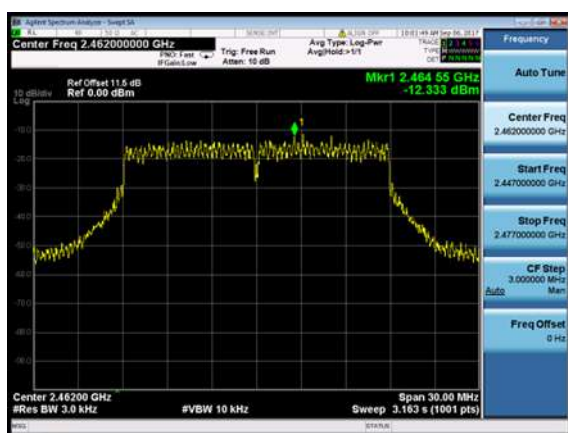
Channel 1 (2412MHz)



Channel 6 (2437MHz)



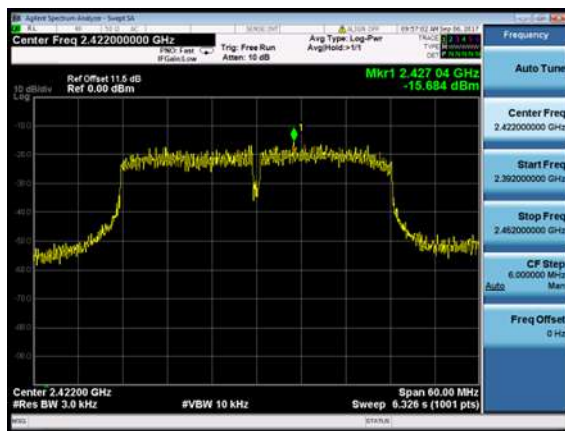
Channel 11 (2462MHz)



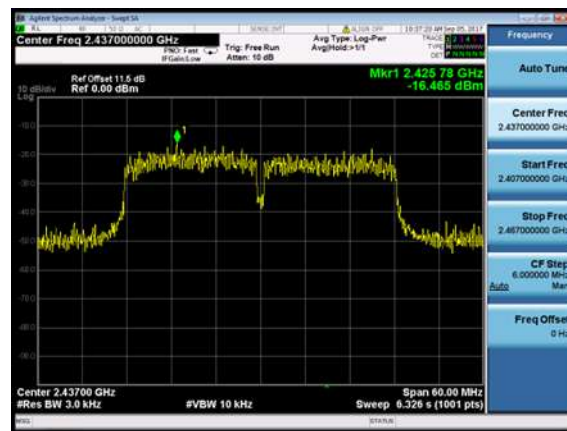


Test Item	Power Spectral Density
Test Mode	Mode 4: Transmit by 802.11n(40MHz)

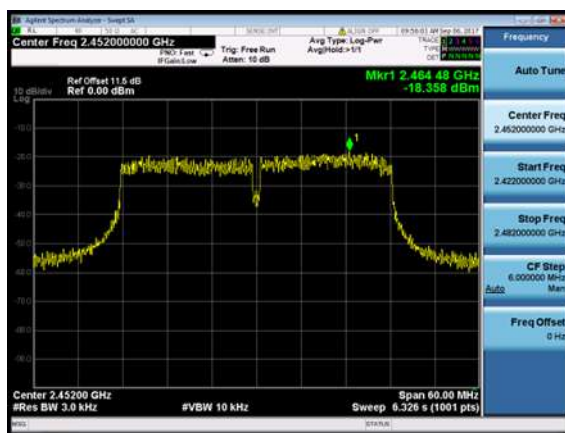
Channel 3 (2422MHz)



Channel 6 (2437MHz)



Channel 9 (2452MHz)





9. Conducted Band Edge and Out-of-Band Emissions Measurement

9.1 Test Limit

According to FCC part 15.247(d) , in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) of FCC part 15 is not required.

9.2 Test Standard

KDB 558074 D01v04 - Section 11.2 & Section 11.3



9.3 Test Procedures

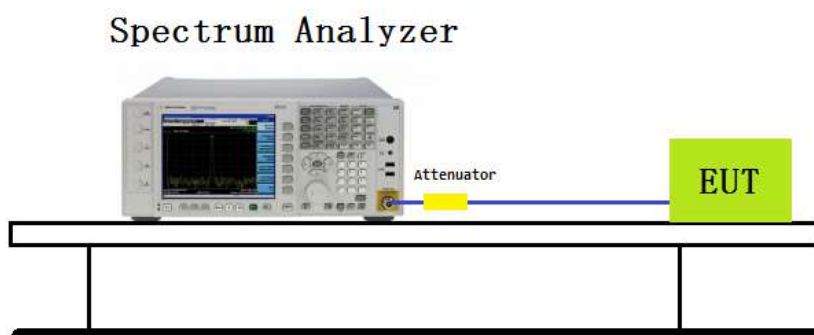
Reference level measurement:

1. Set the RBW = 100 kHz
2. Set the VBW $\geq 3 \times$ RBW
3. Set the span to ≥ 1.5 times the DTS bandwidth
4. Detector = peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. Allow trace to fully stabilize
8. Set instrument center frequency to DTS channel center frequency

Emission level measurement:

1. RBW = 100kHz
2. VBW = 300kHz
3. Detector = Peak
4. Trace mode = max hold
5. Sweep time = auto couple
6. The trace was allowed to stabilize
7. Set the center frequency and span to encompass frequency range to be measured

9.4 Test Setup Layout





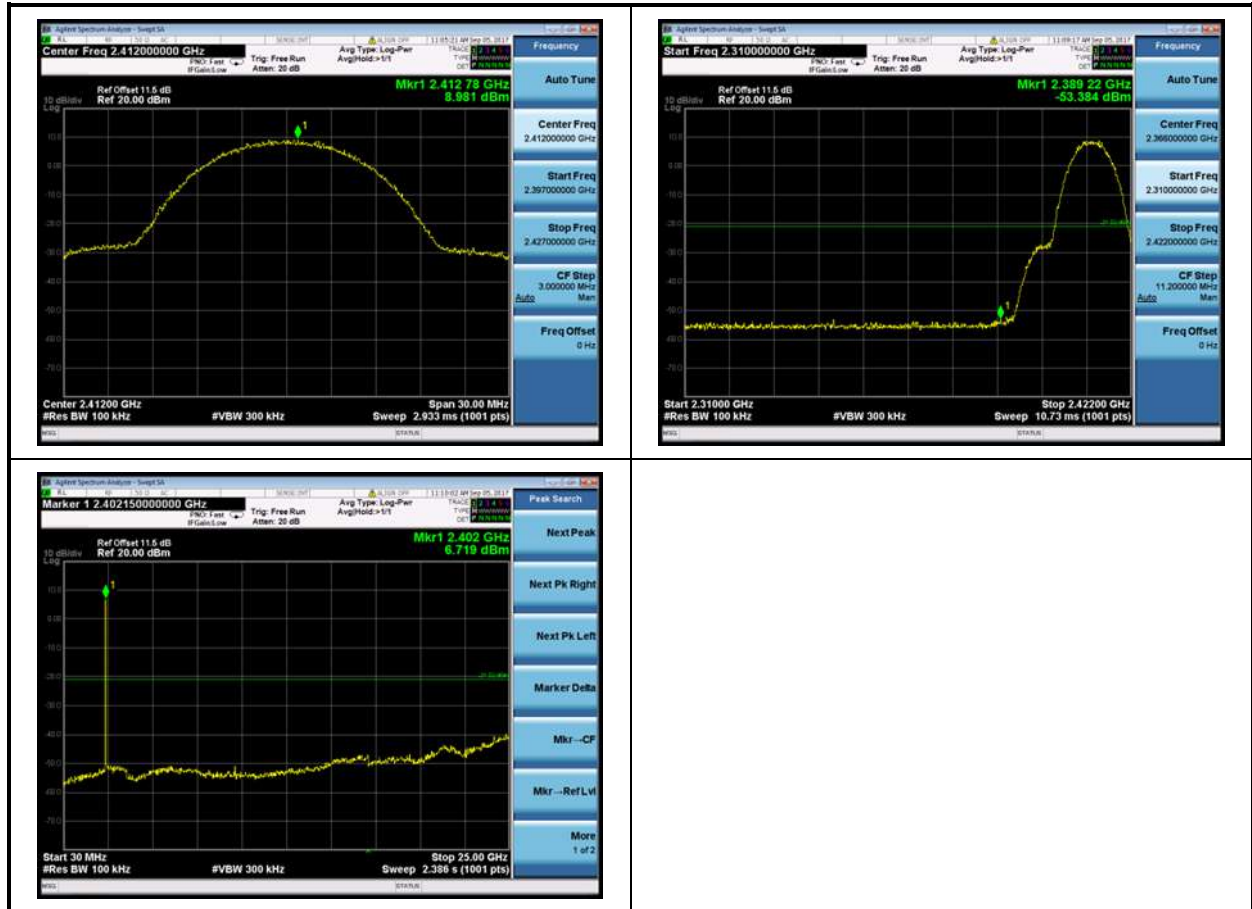
9.5 Test Result

Test Mode	Channel No.	Frequency (MHz)	Limit	Result
802.11b	1	2412	20dBc	Pass
	6	2437	20dBc	Pass
	11	2462	20dBc	Pass
802.11g	1	2412	20dBc	Pass
	6	2437	20dBc	Pass
	11	2462	20dBc	Pass
802.11n(20MHz)	1	2412	20dBc	Pass
	6	2437	20dBc	Pass
	11	2462	20dBc	Pass
802.11n(40MHz)	3	2422	20dBc	Pass
	6	2437	20dBc	Pass
	9	2452	20dBc	Pass



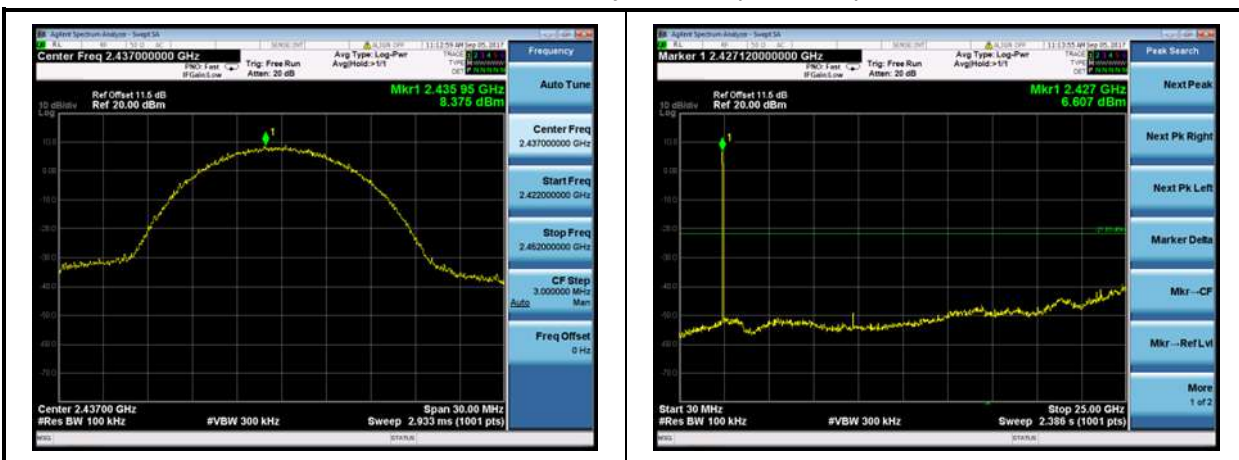
Test Item	: Conducted Band Edge and Out-of-Band Emissions
Test Mode	: Mode 1: Transmit by 802.11b

Mode 1: Transmit by 802.11b (2412MHz)

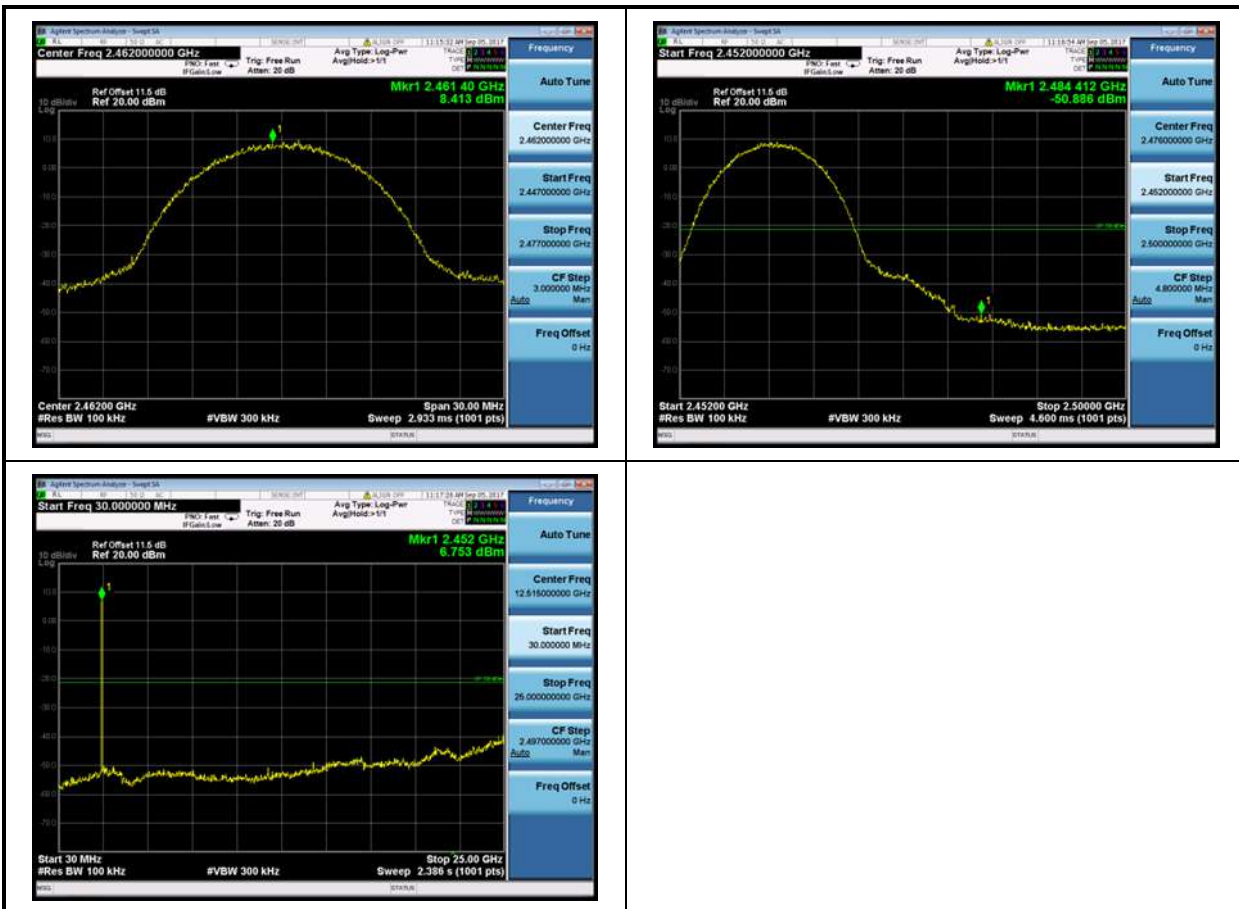




Mode 1: Transmit by 802.11b (2437MHz)



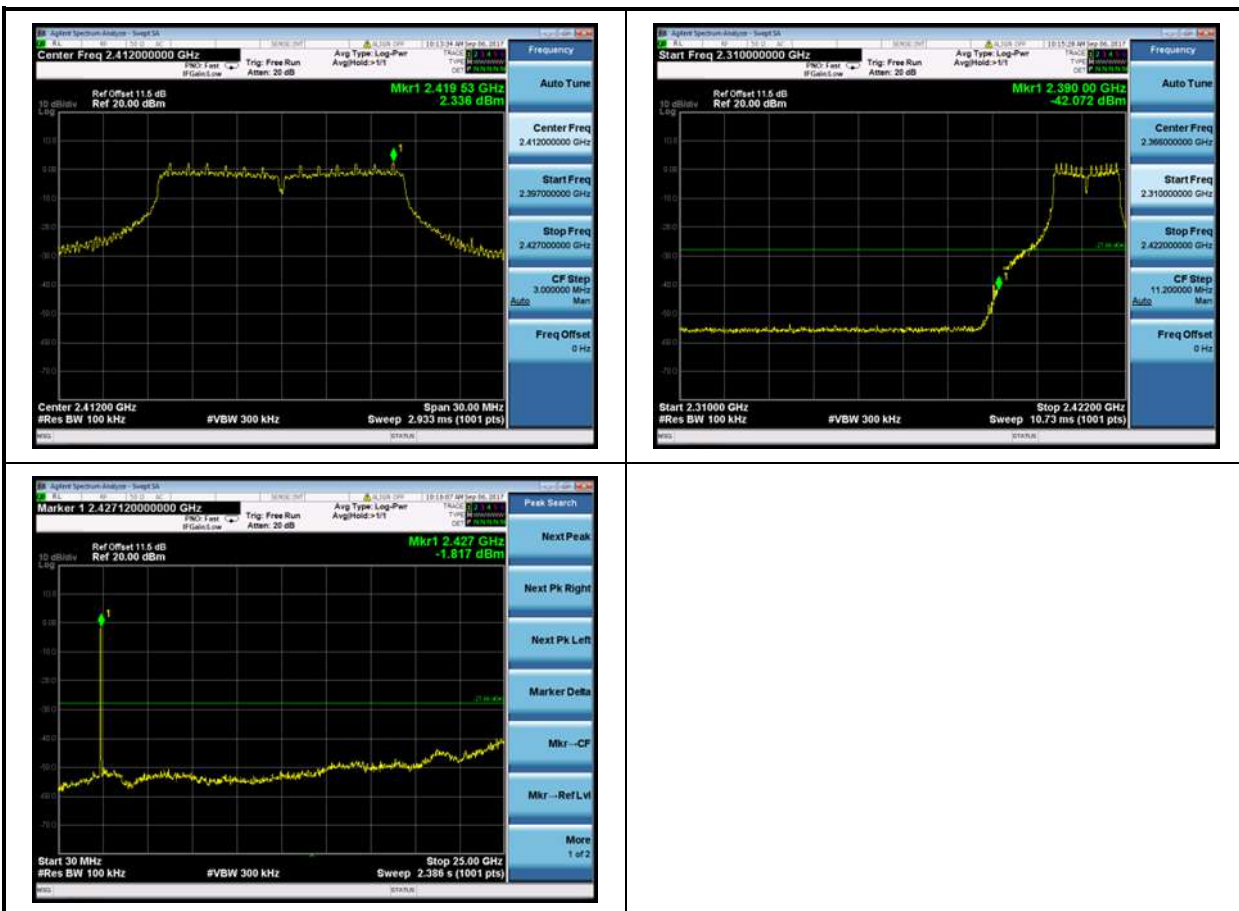
Mode 1: Transmit by 802.11b (2462MHz)





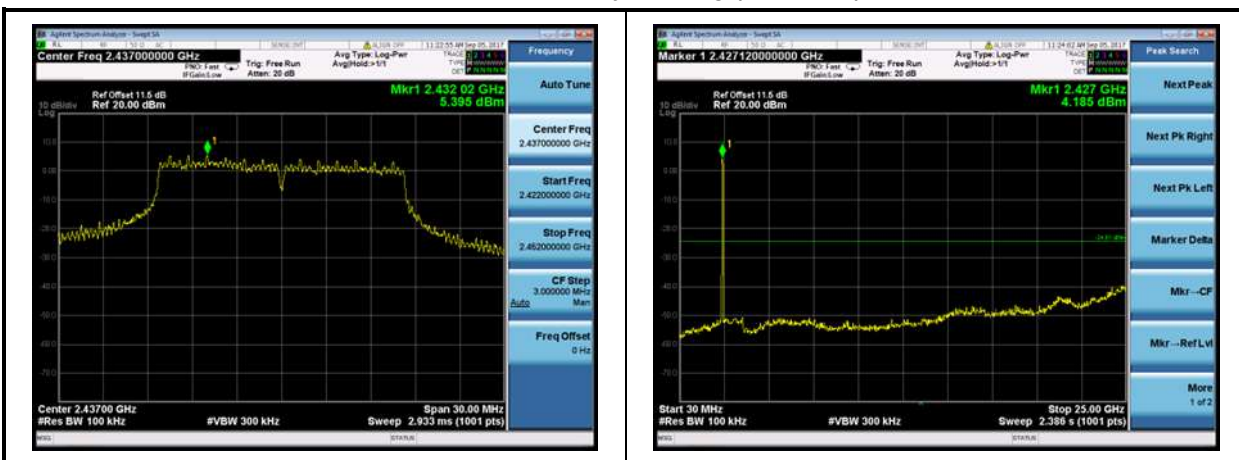
Test Item	: Band-edge Compliance & Conducted Spurious Emissions
Test Mode	: Mode 2: Transmit by 802.11g

Mode 2: Transmit by 802.11g (2412MHz)

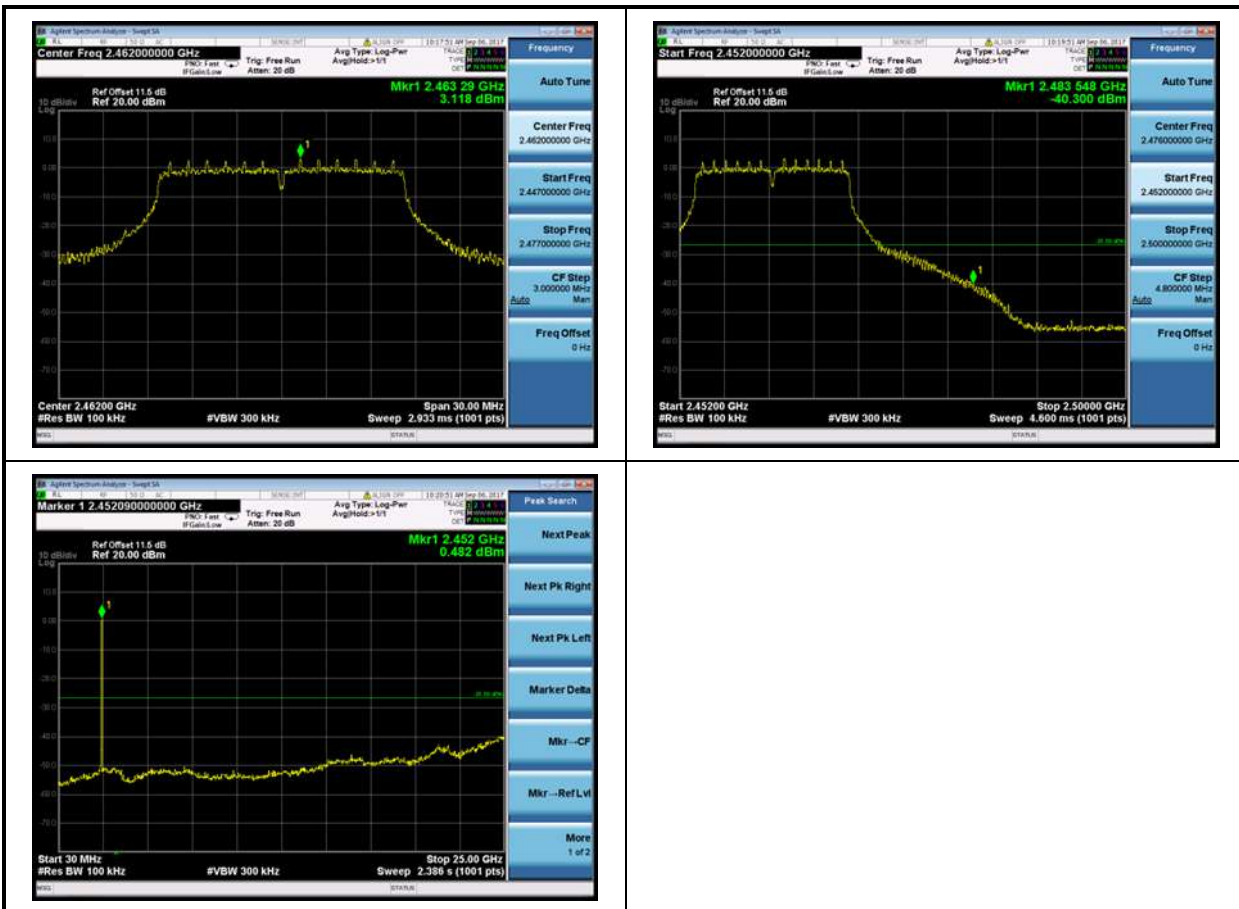




Mode 2: Transmit by 802.11g (2437MHz)



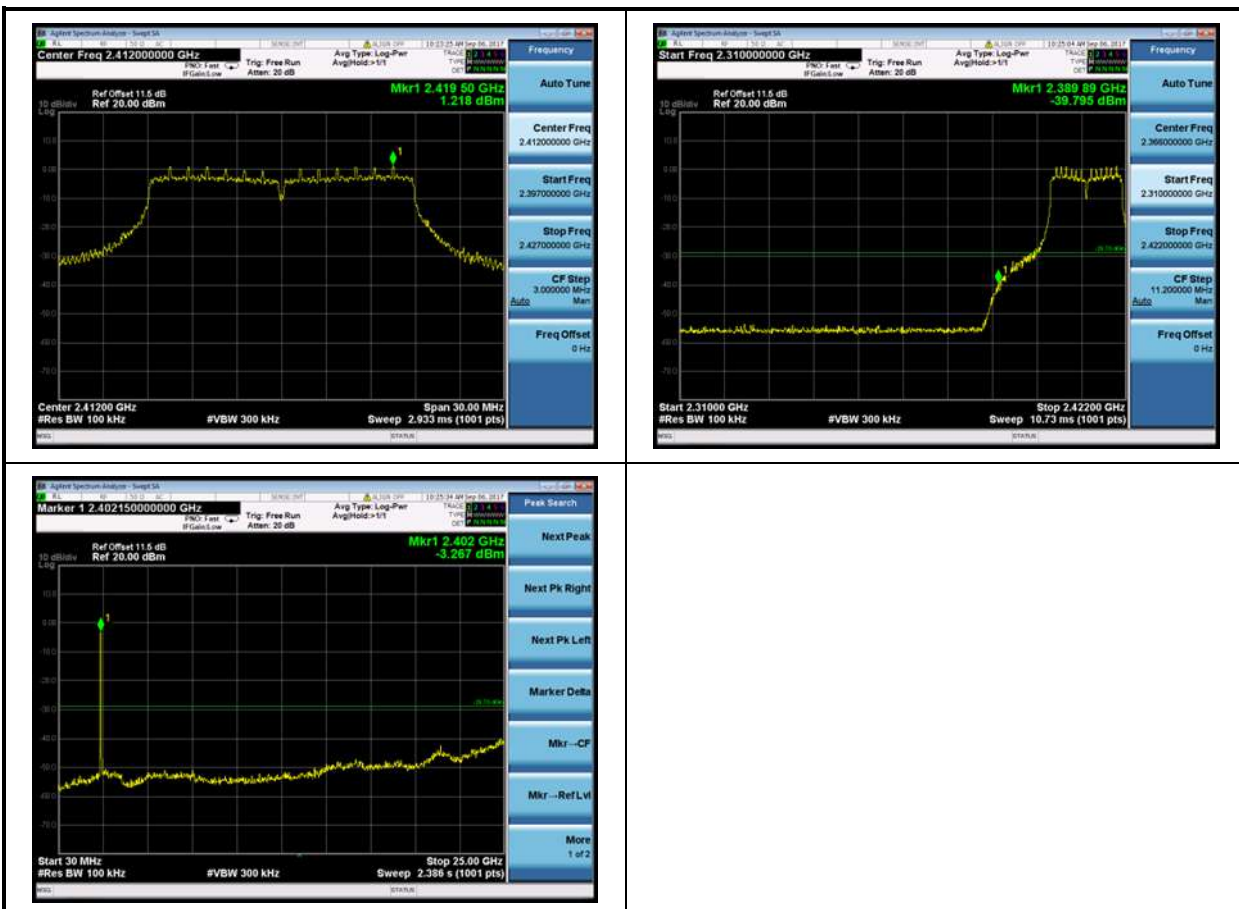
Mode 2: Transmit by 802.11g (2462MHz)





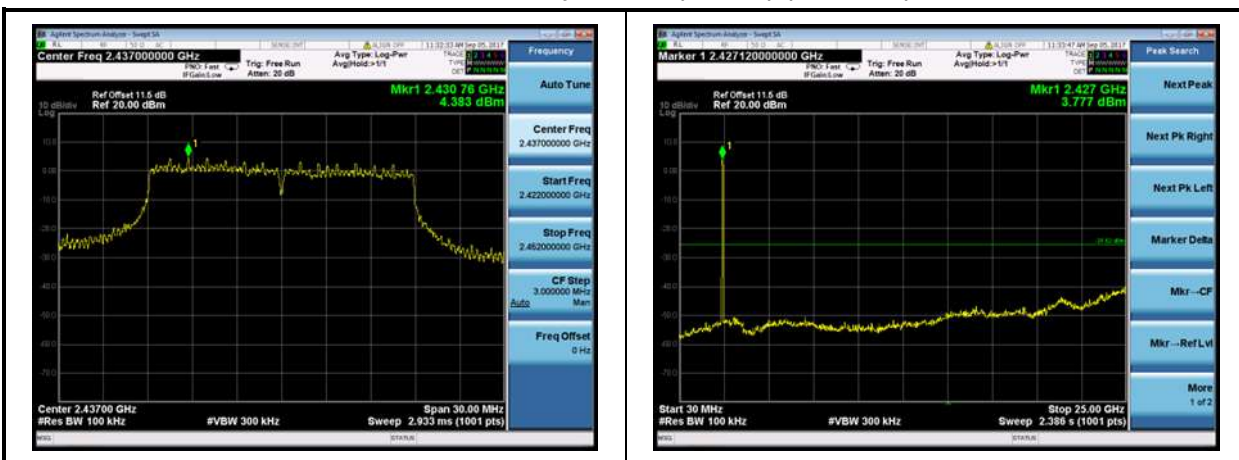
Test Item	: Band-edge Compliance & Conducted Spurious Emissions
Test Mode	: Mode 3: Transmit by 802.11n(20MHz)

Mode 3: Transmit by 802.11n(20MHz) (2412MHz)

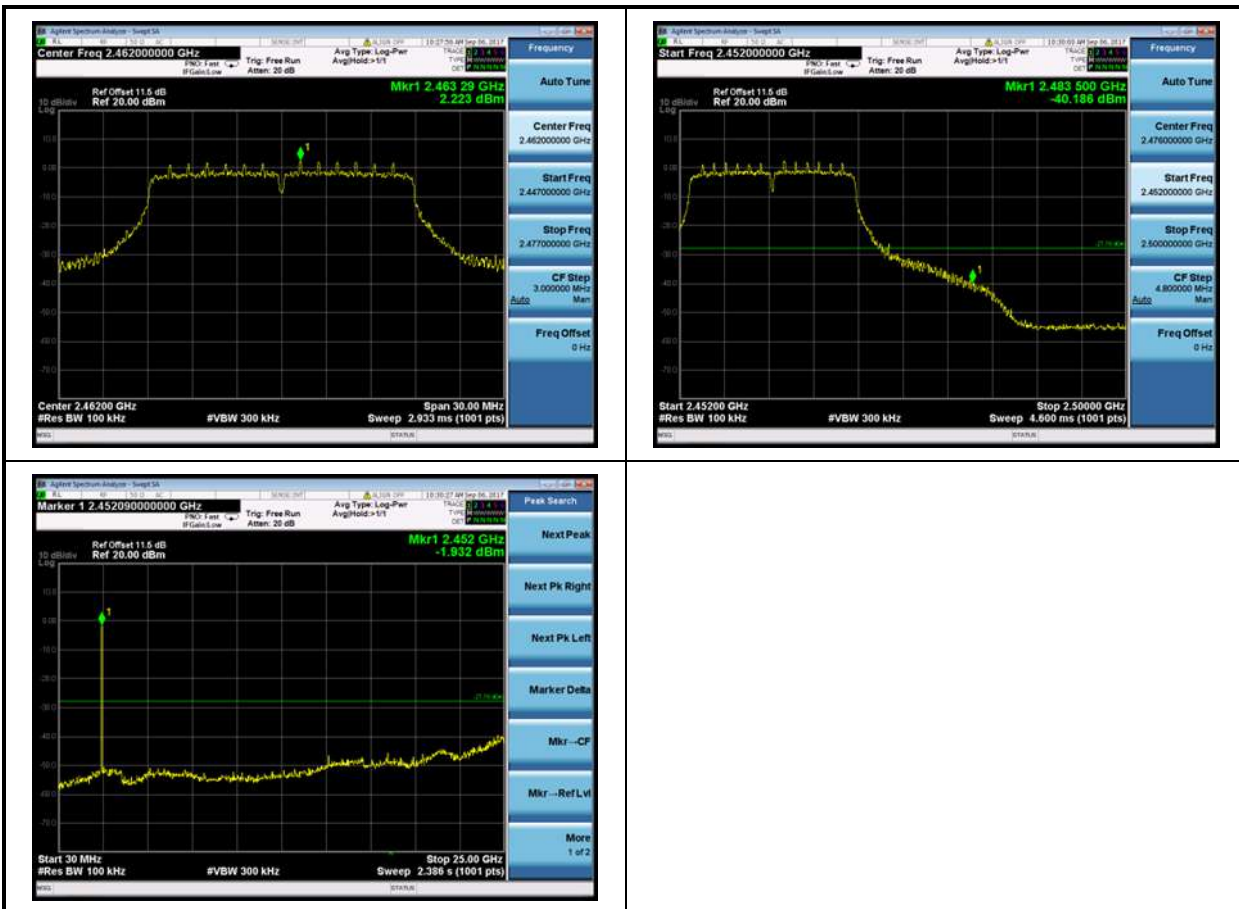




Mode 3: Transmit by 802.11n(20MHz) (2437MHz)



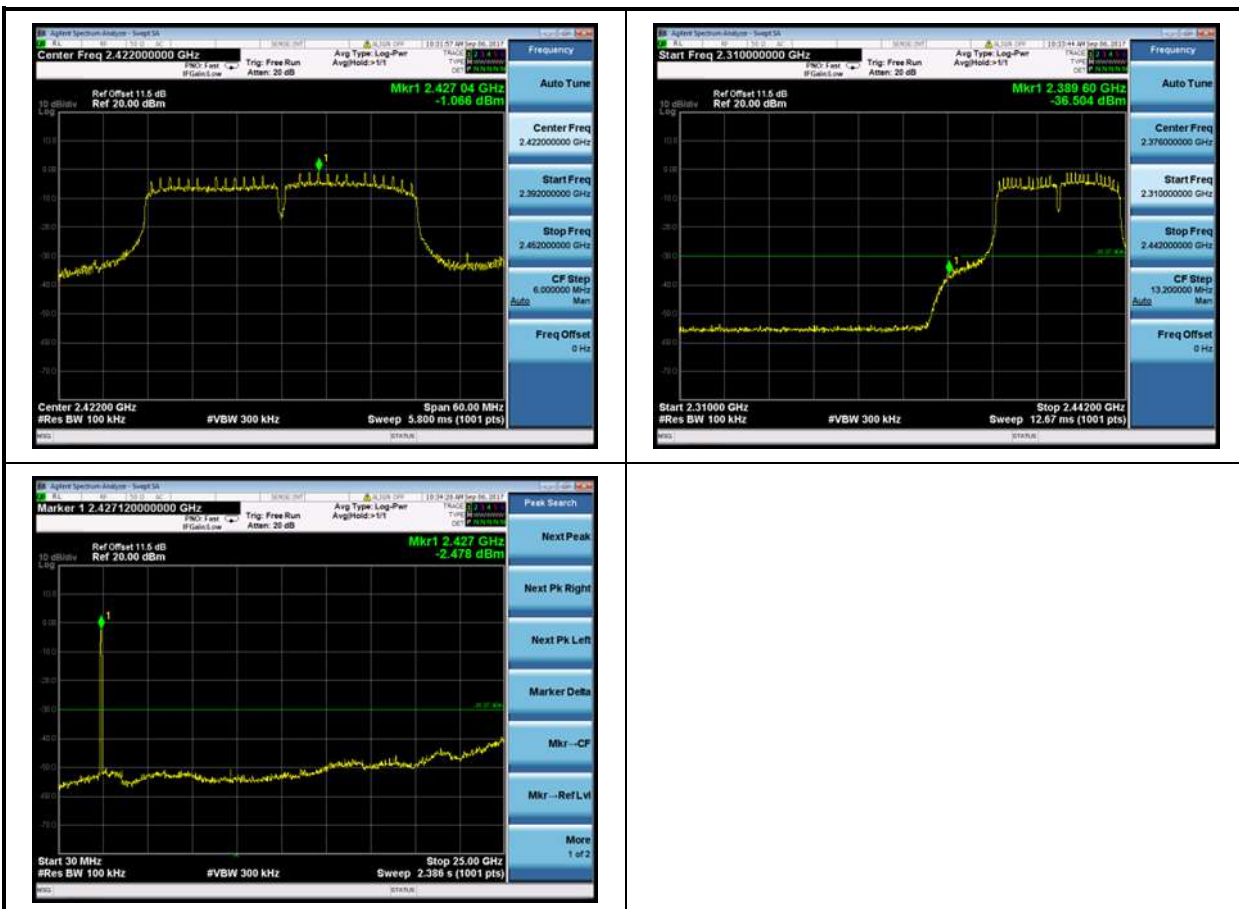
Mode 3: Transmit by 802.11n(20MHz) (2462MHz)





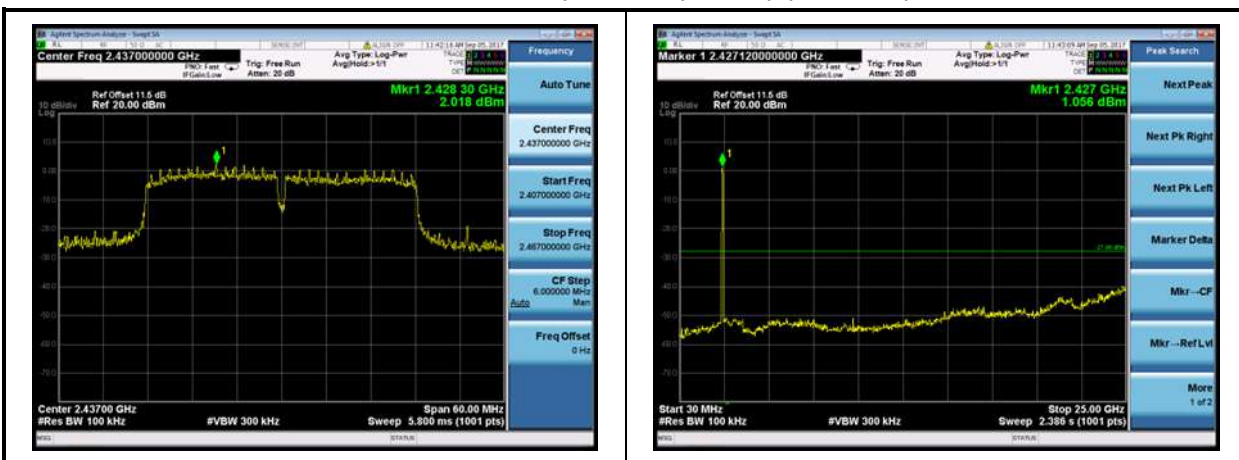
Test Item	: Band-edge Compliance & Conducted Spurious Emissions
Test Mode	: Mode 4: Transmit by 802.11n(40MHz)

Mode 4: Transmit by 802.11n(40MHz) (2422MHz)

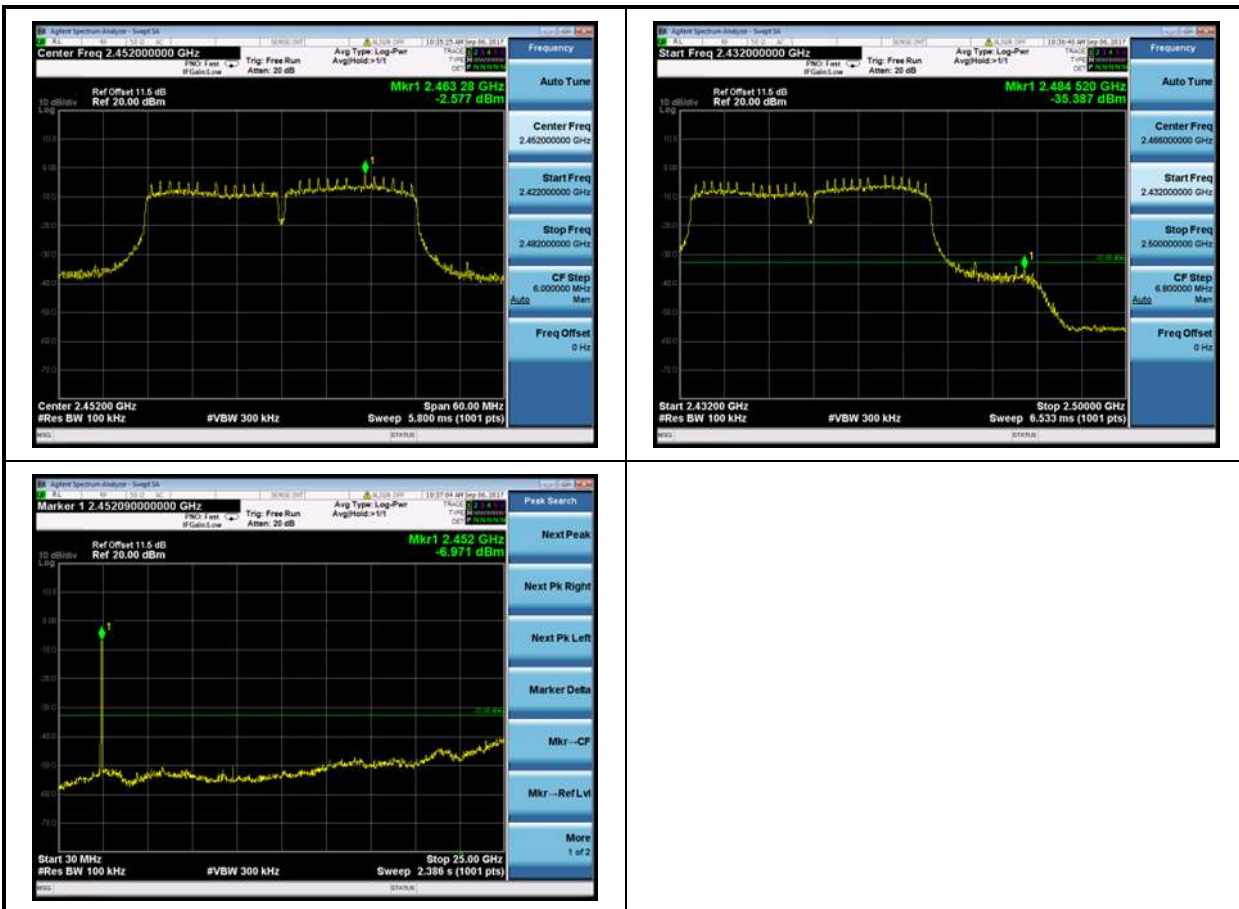




Mode 4: Transmit by 802.11n(40MHz) (2437MHz)



Mode 4: Transmit by 802.11n(40MHz) (2452MHz)





10. Radiated Emission Band Edge Measurement

10.1 Test Limit

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) of FCC part 15.

10.2 Test Standard

ANSI C63.10-2013 Section 6.10.5

10.3 Test Procedure

Peak Field Strength Measurements:

Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

7. RBW=As specified in Table 1
8. VBW=3×RBW
9. Detector=Peak
10. Trace mode=Max hold
11. Sweep time=Auto couple
12. Allow the trace to stabilize

Table 1-RBW as a function of frequency

Frequency	RBW
9 ~ 150kHz	200 ~ 300Hz
0.15 ~ 30MHz	9 ~ 10kHz
30 ~ 1000MHz	100 ~ 120kHz
> 1000MHz	1MHz



AVE Field Strength Measurements:

Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

7. RBW= 1MHz

8. VBW $\geq$ 1/T

9. Detector=Peak

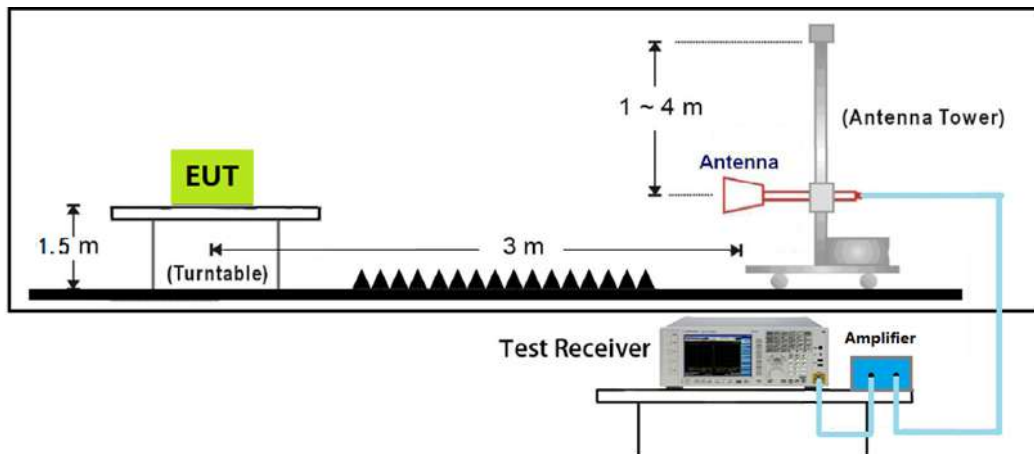
10. Trace mode=Max hold

11. Sweep time=Auto couple

12. Allow max hold to run for at least 50 times(1/duty cycle) trace

Do as an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode

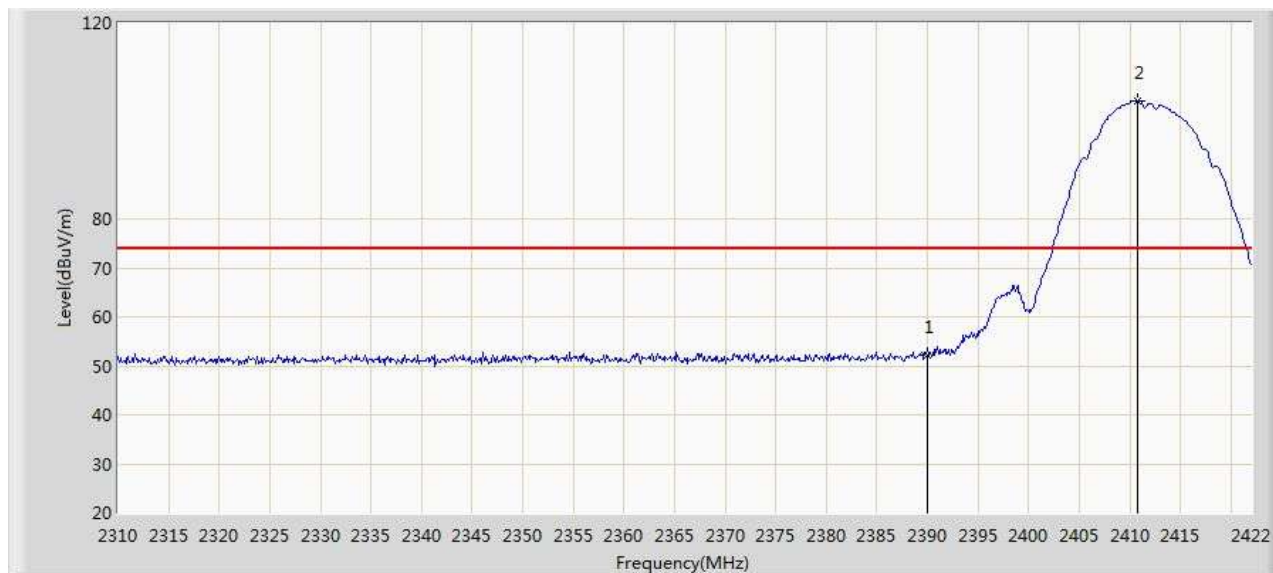
10.4 Test Setup Layout





10.5 Test Result

Site: AC102	Time: 2017/09/05 - 18:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11b at 2412MHz	



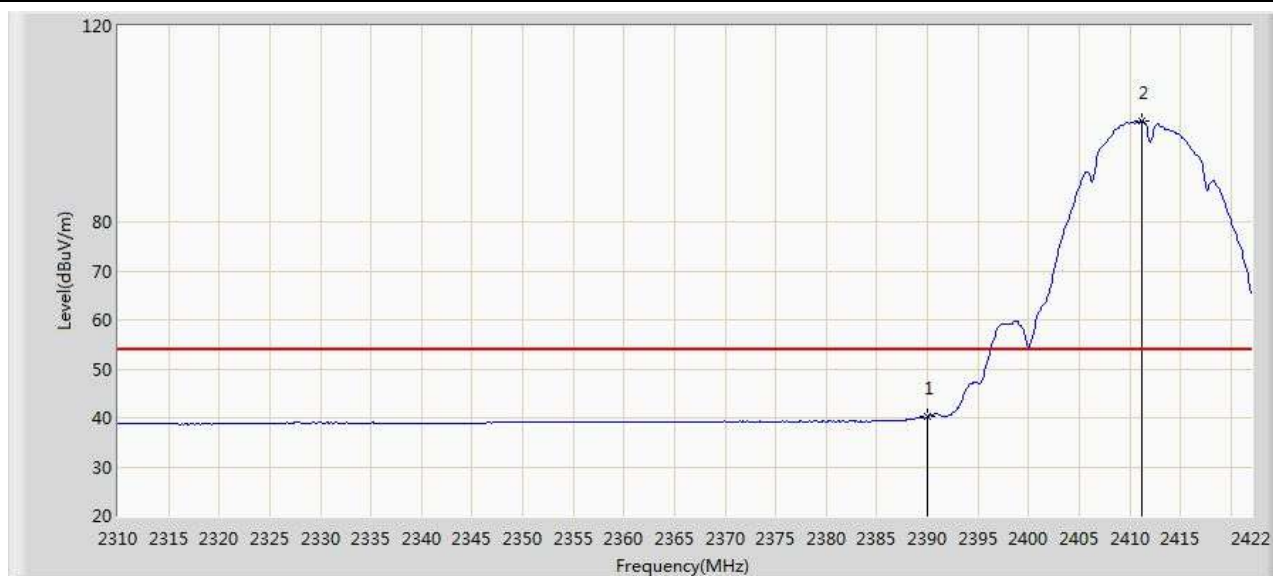
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.082	54.323	-21.918	74.000	-2.241	PK
2	*	2410.800	104.103	106.267	N/A	N/A	-2.164	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 18:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11b at 2412MHz	



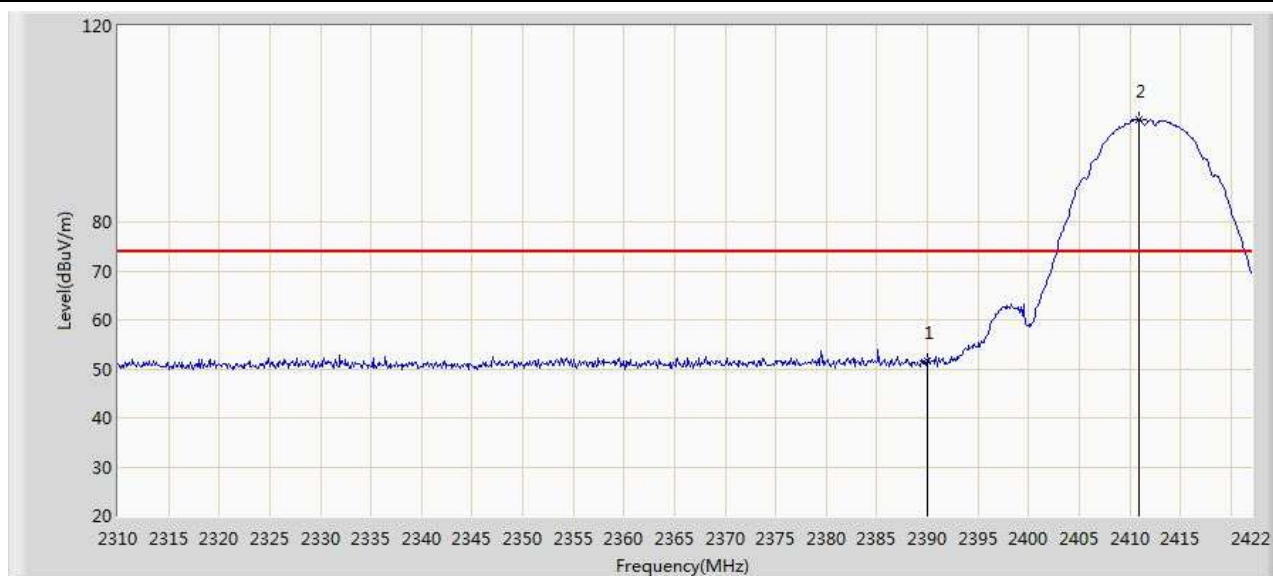
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.163	42.404	-13.837	54.000	-2.241	AV
2	*	2411.248	100.718	102.880	N/A	N/A	-2.162	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 18:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11b at 2412MHz	



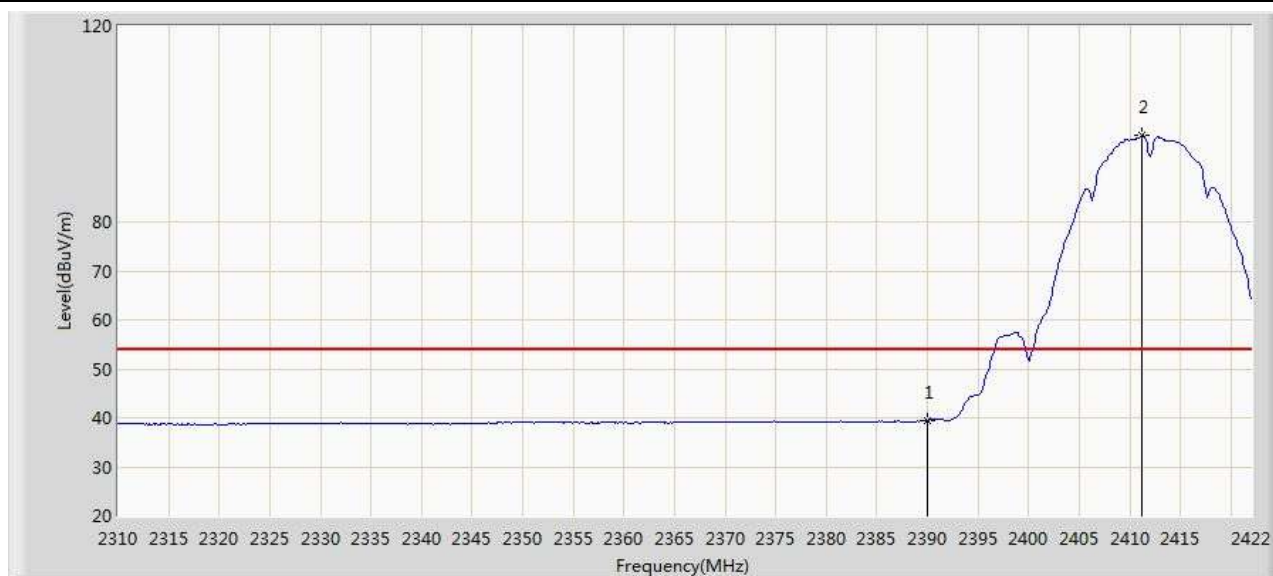
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.693	53.934	-22.307	74.000	-2.241	PK
2	*	2410.912	100.876	103.039	N/A	N/A	-2.163	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode: Transmit 802.11b at 2412MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.494	41.735	-14.506	54.000	-2.241	AV
2	*	2411.136	97.550	99.712	N/A	N/A	-2.162	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11b at 2462MHz	



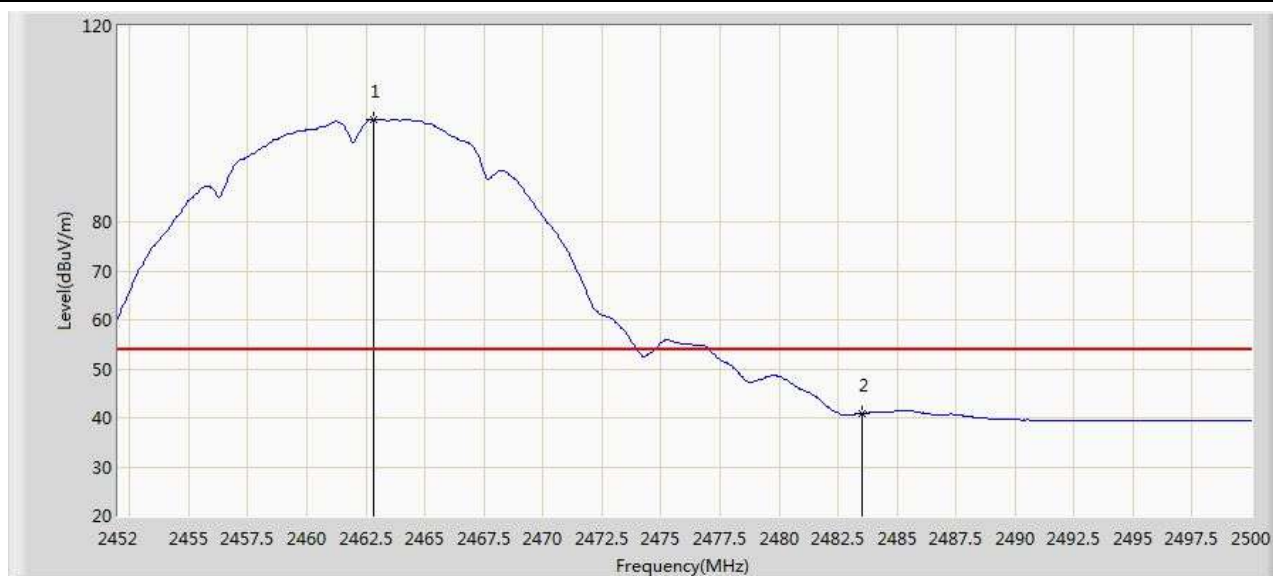
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.424	104.708	106.675	N/A	N/A	-1.967	PK
2		2483.500	52.435	54.327	-21.565	74.000	-1.892	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11b at 2462MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.800	101.002	102.971	N/A	N/A	-1.969	AV
2		2483.500	40.869	42.761	-13.131	54.000	-1.892	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11b at 2462MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.040	101.577	103.545	N/A	N/A	-1.968	PK
2		2483.500	52.548	54.440	-21.452	74.000	-1.892	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11b at 2462MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.752	98.117	100.086	N/A	N/A	-1.969	AV
2		2483.500	40.939	42.831	-13.061	54.000	-1.892	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11g at 2412MHz	



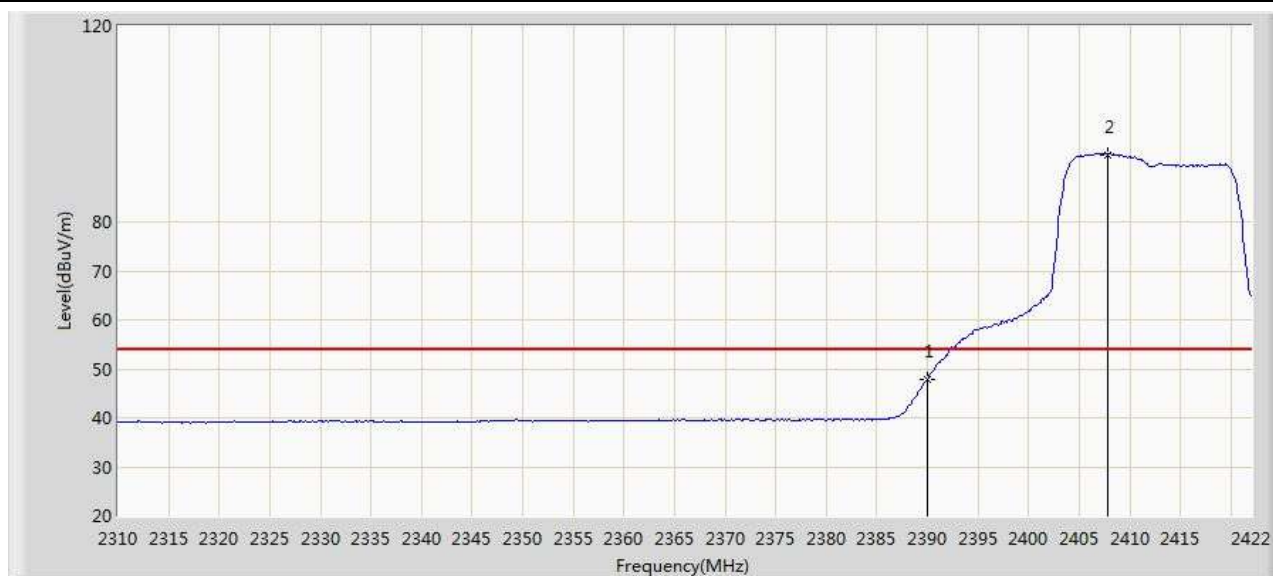
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	70.370	72.611	-3.630	74.000	-2.241	PK
2	*	2407.440	104.270	106.446	N/A	N/A	-2.176	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11g at 2412MHz	



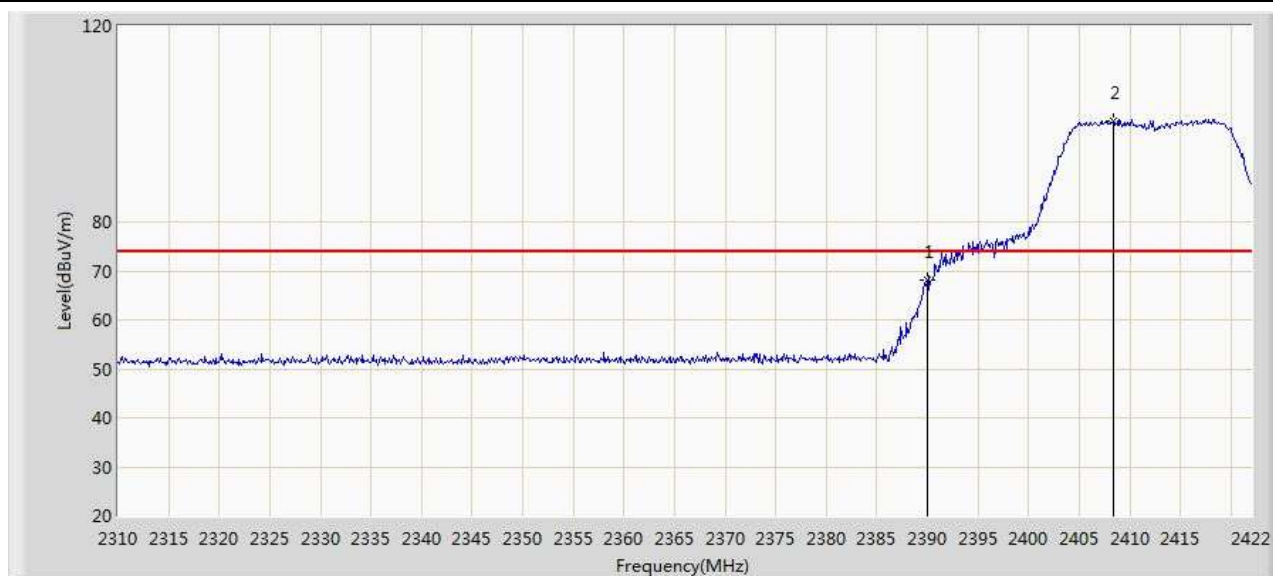
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.941	50.182	-6.059	54.000	-2.241	AV
2	*	2407.776	93.766	95.941	N/A	N/A	-2.175	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11g at 2412MHz	



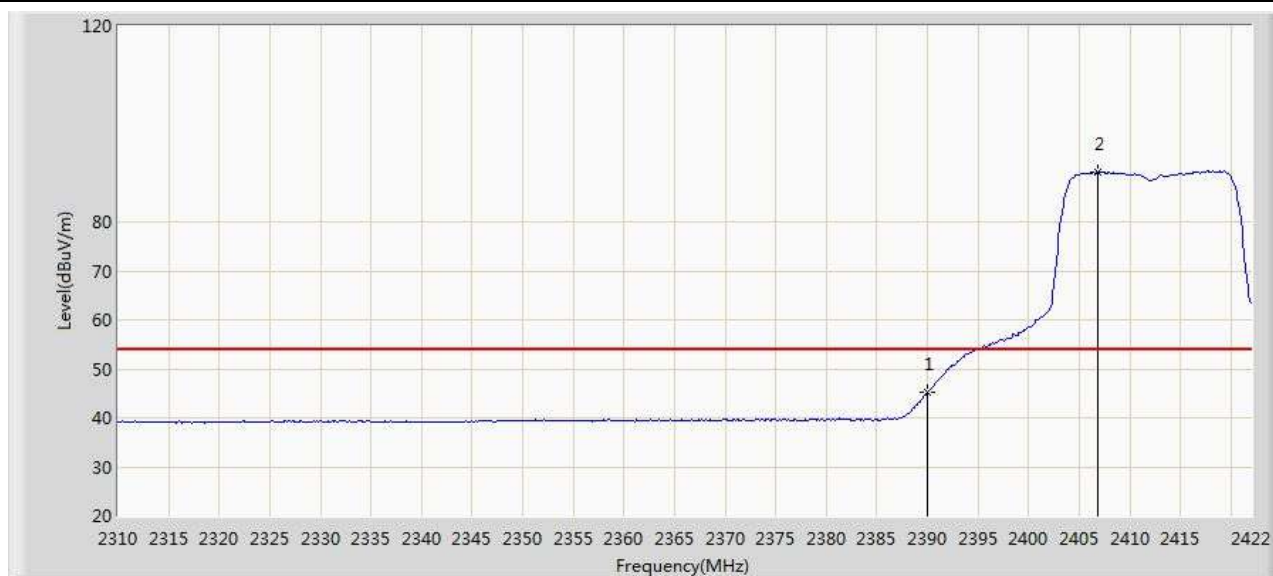
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	68.007	70.248	-5.993	74.000	-2.241	PK
2	*	2408.448	100.644	102.816	N/A	N/A	-2.172	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11g at 2412MHz	



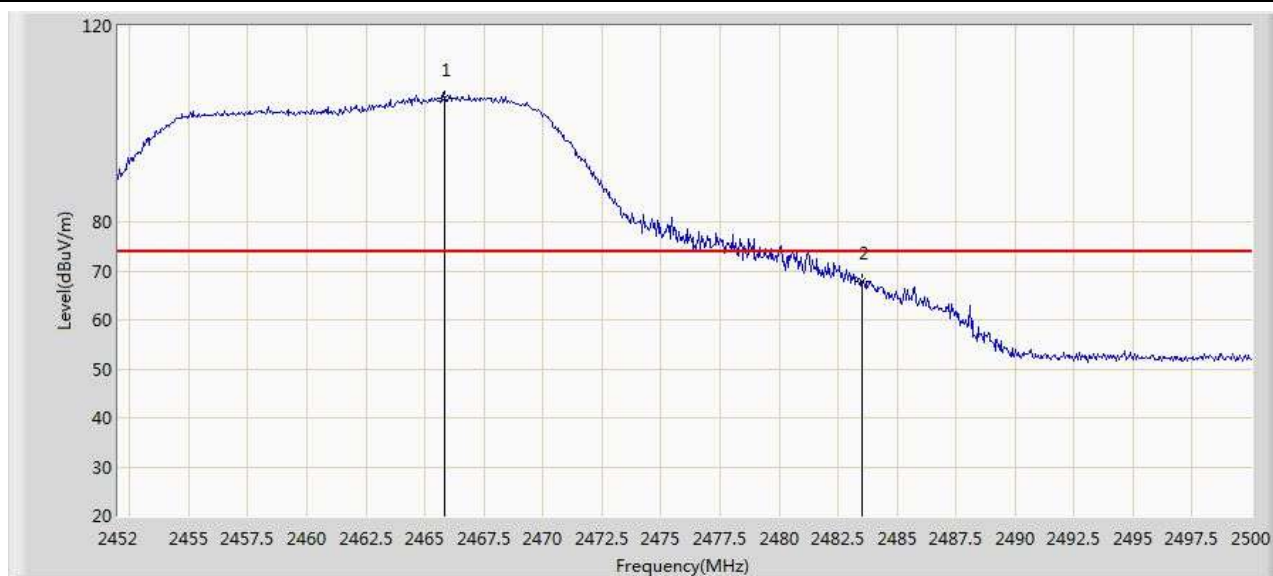
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.266	47.507	-8.734	54.000	-2.241	AV
2	*	2406.880	90.090	92.268	N/A	N/A	-2.178	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11g at 2462MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2465.824	105.157	107.115	N/A	N/A	-1.958	PK
2		2483.500	67.798	69.690	-6.202	74.000	-1.892	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11g at 2462MHz	



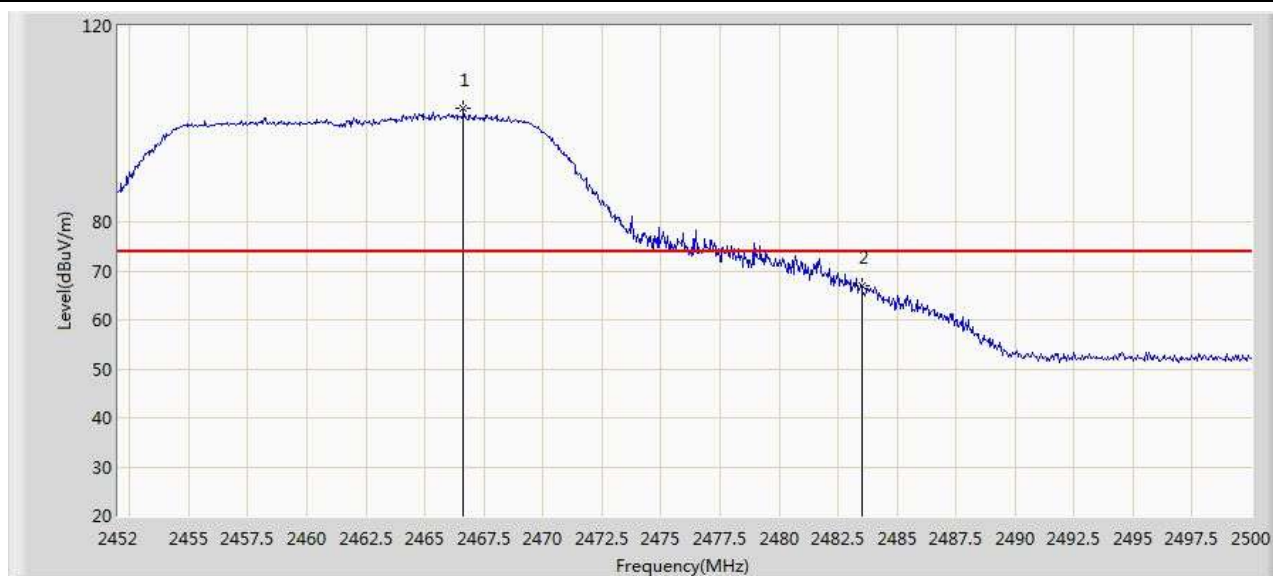
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2467.024	94.784	96.737	N/A	N/A	-1.953	AV
2		2483.500	48.529	50.421	-5.471	54.000	-1.892	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11g at 2462MHz	



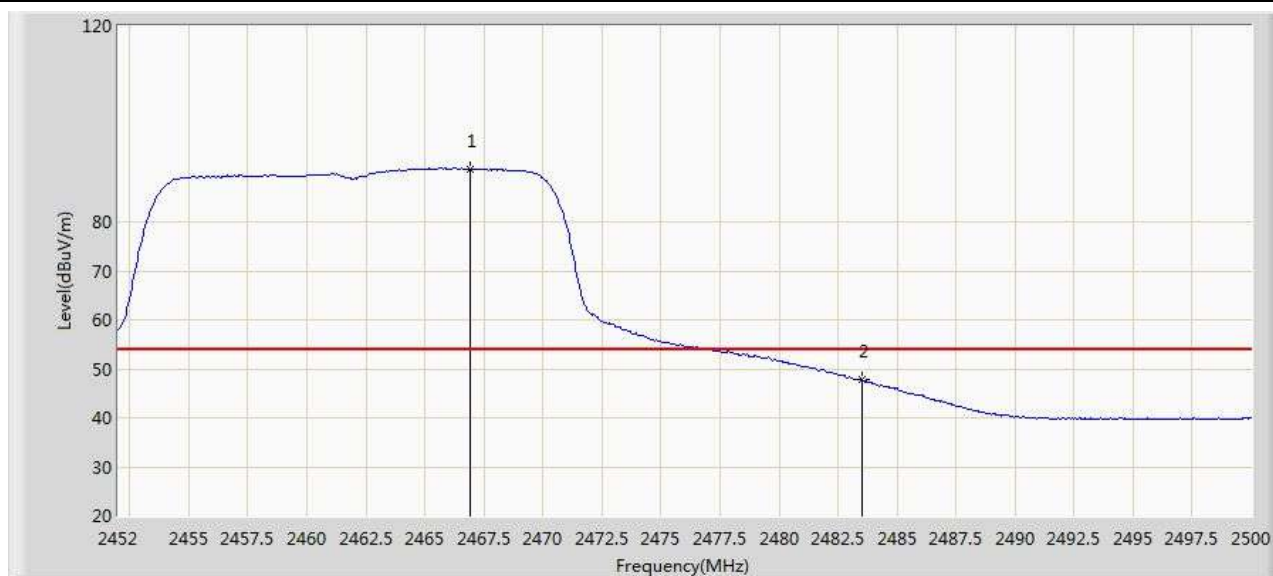
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2466.640	103.221	105.176	N/A	N/A	-1.955	PK
2		2483.500	66.830	68.722	-7.170	74.000	-1.892	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11g at 2462MHz	



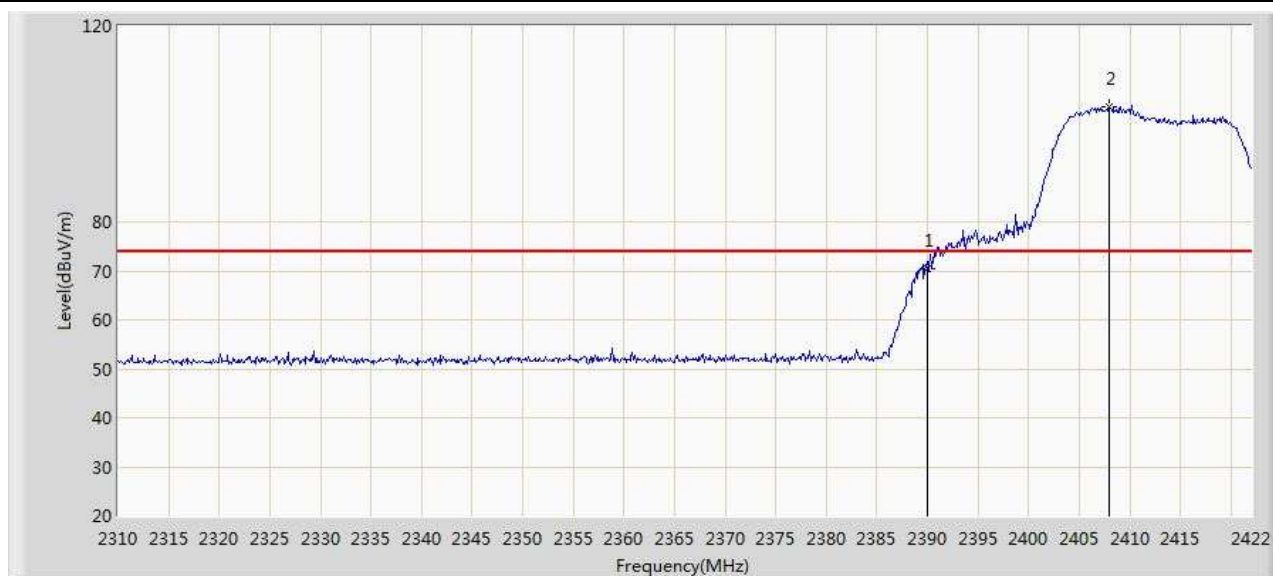
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2466.928	90.777	92.731	N/A	N/A	-1.954	AV
2		2483.500	47.819	49.711	-6.181	54.000	-1.892	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(20MHz) at 2412MHz	



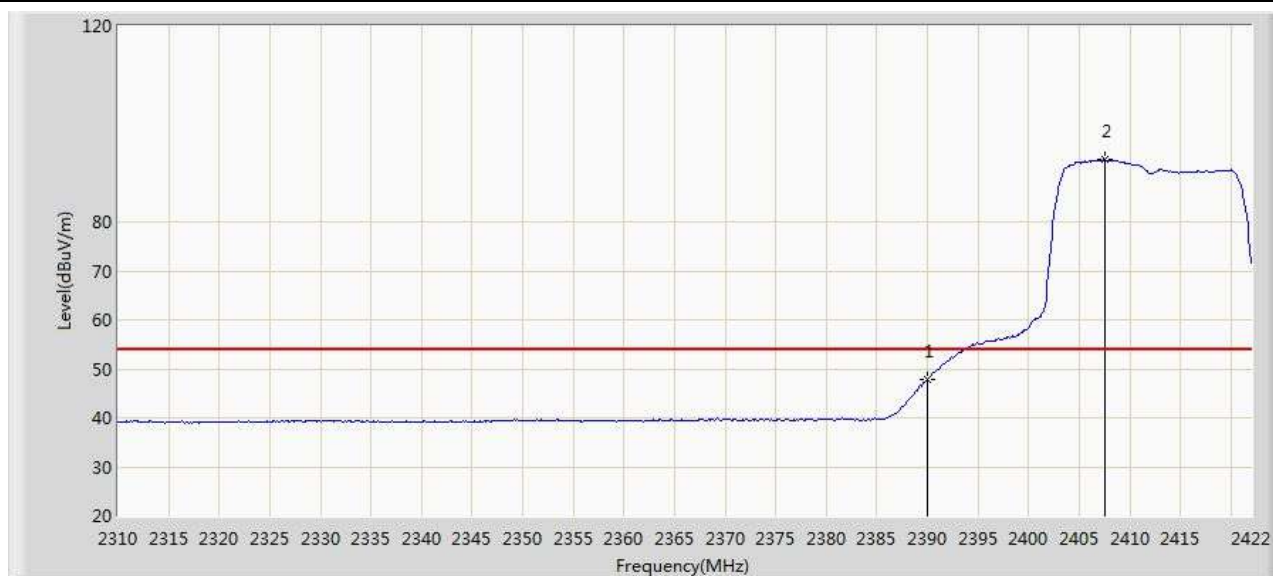
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	70.537	72.778	-3.463	74.000	-2.241	PK
2	*	2408.000	103.536	105.710	N/A	N/A	-2.174	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(20MHz) at 2412MHz	



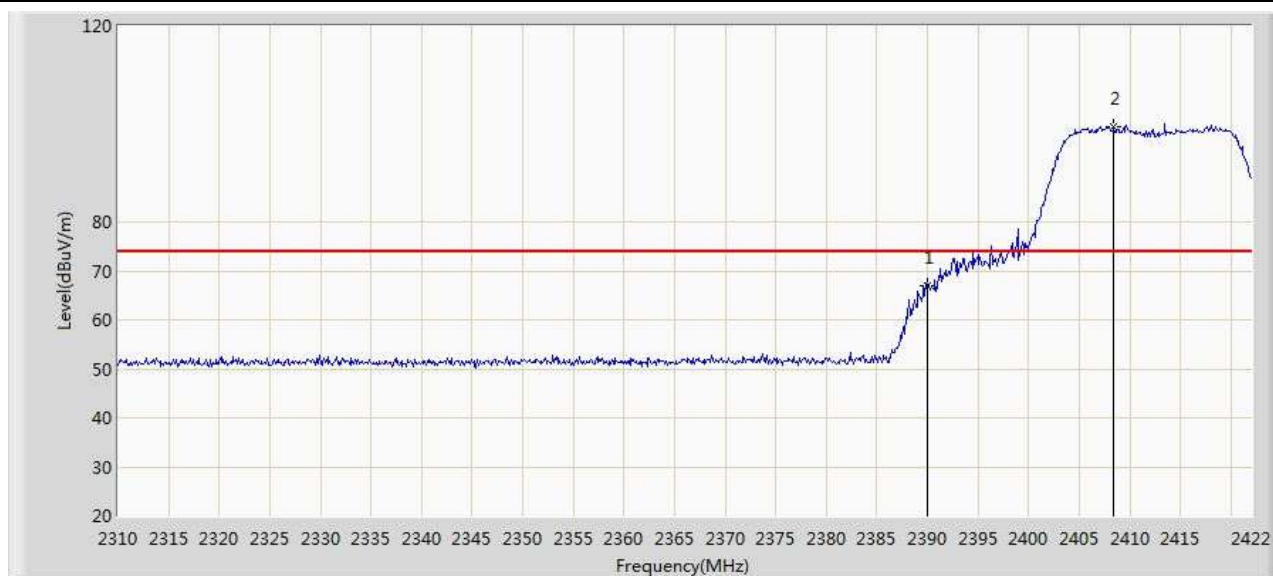
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.846	50.087	-6.154	54.000	-2.241	AV
2	*	2407.552	92.670	94.846	N/A	N/A	-2.176	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(20MHz) at 2412MHz	



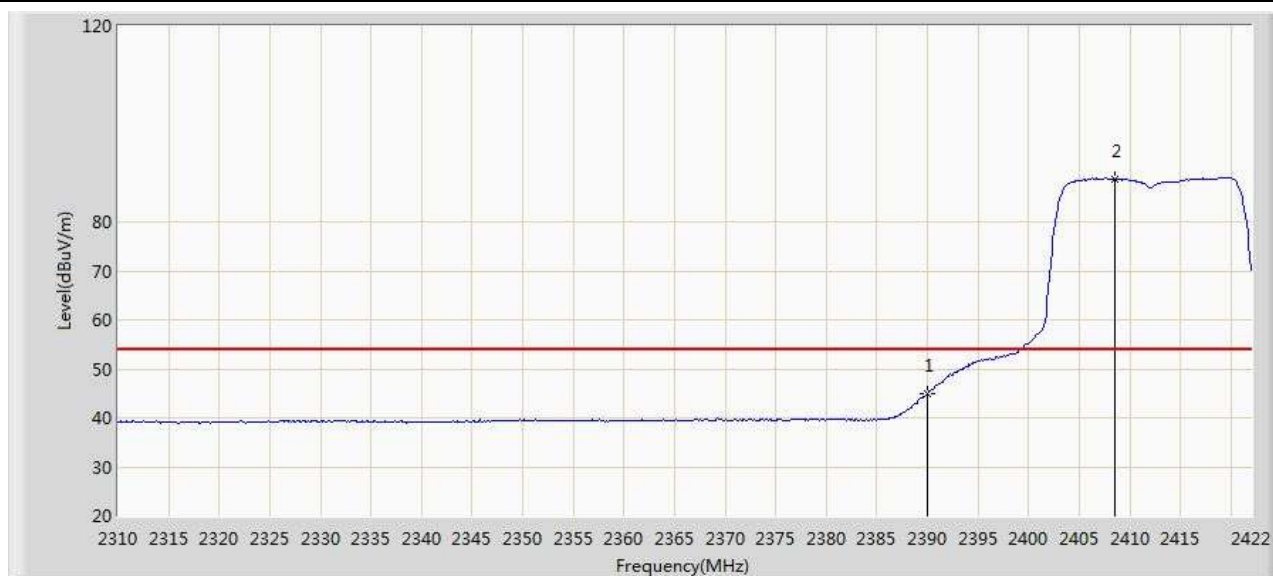
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	66.989	69.230	-7.011	74.000	-2.241	PK
2	*	2408.448	99.477	101.649	N/A	N/A	-2.172	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(20MHz) at 2412MHz	



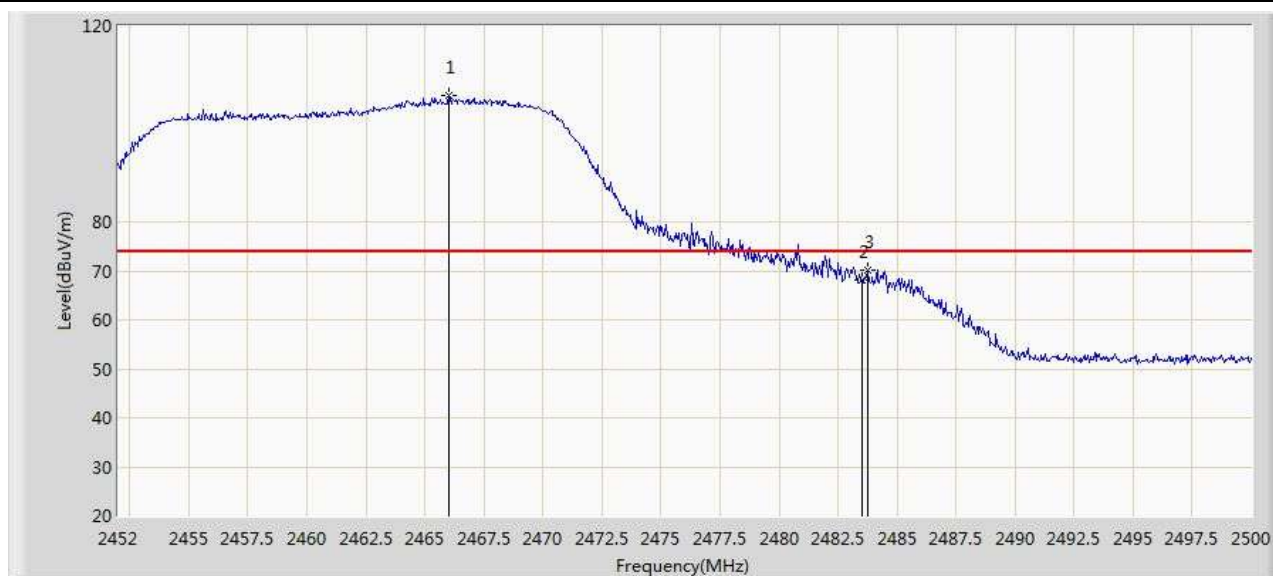
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	44.856	47.097	-9.144	54.000	-2.241	AV
2	*	2408.560	88.806	90.978	N/A	N/A	-2.172	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(20MHz) at 2462MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2466.016	105.837	107.794	N/A	N/A	-1.957	PK
2		2483.500	68.175	70.067	-5.825	74.000	-1.892	PK
3		2483.776	70.072	71.963	-3.928	74.000	-1.891	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(20MHz) at 2462MHz	



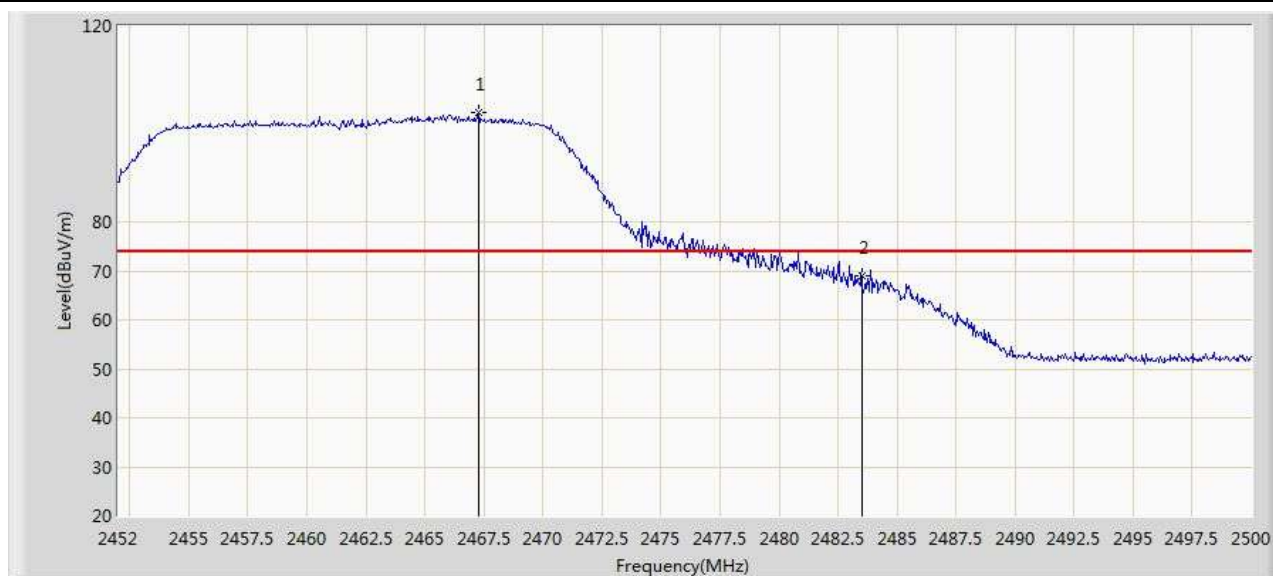
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2466.928	94.550	96.504	N/A	N/A	-1.954	AV
2		2483.500	50.370	52.262	-3.630	54.000	-1.892	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(20MHz) at 2462MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2467.264	102.301	104.253	N/A	N/A	-1.952	PK
2		2483.500	68.888	70.780	-5.112	74.000	-1.892	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(20MHz) at 2462MHz	



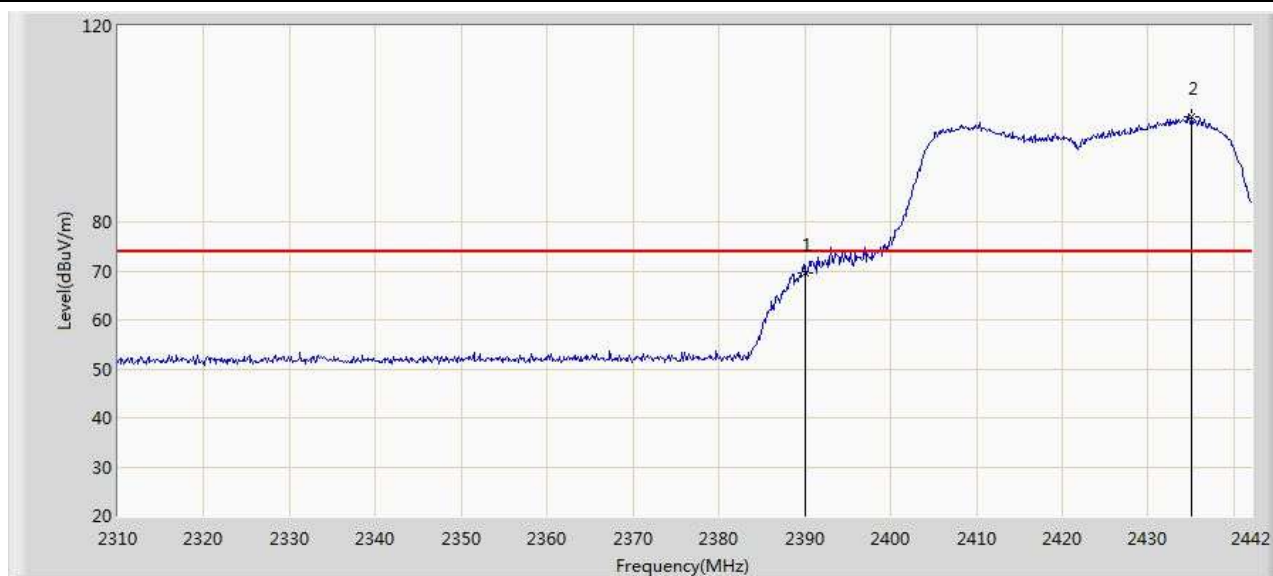
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2466.688	90.539	92.494	N/A	N/A	-1.955	AV
2		2483.500	49.422	51.314	-4.578	54.000	-1.892	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(40MHz) at 2422MHz	



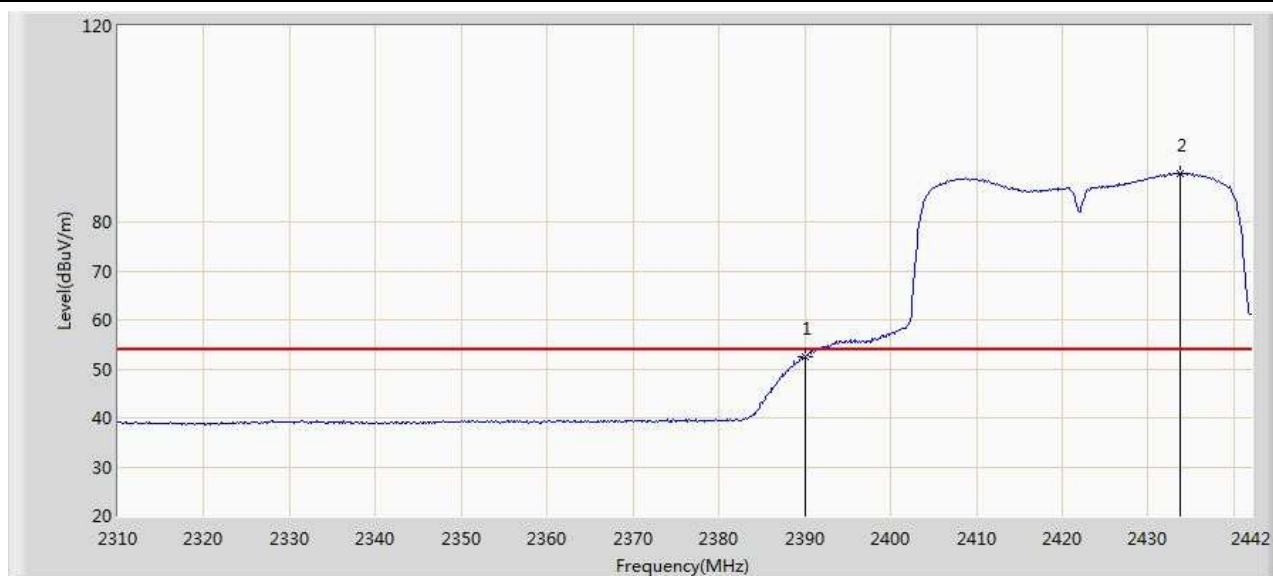
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	69.689	71.930	-4.311	74.000	-2.241	PK
2	*	2435.004	101.526	103.599	N/A	N/A	-2.073	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(40MHz) at 2422MHz	



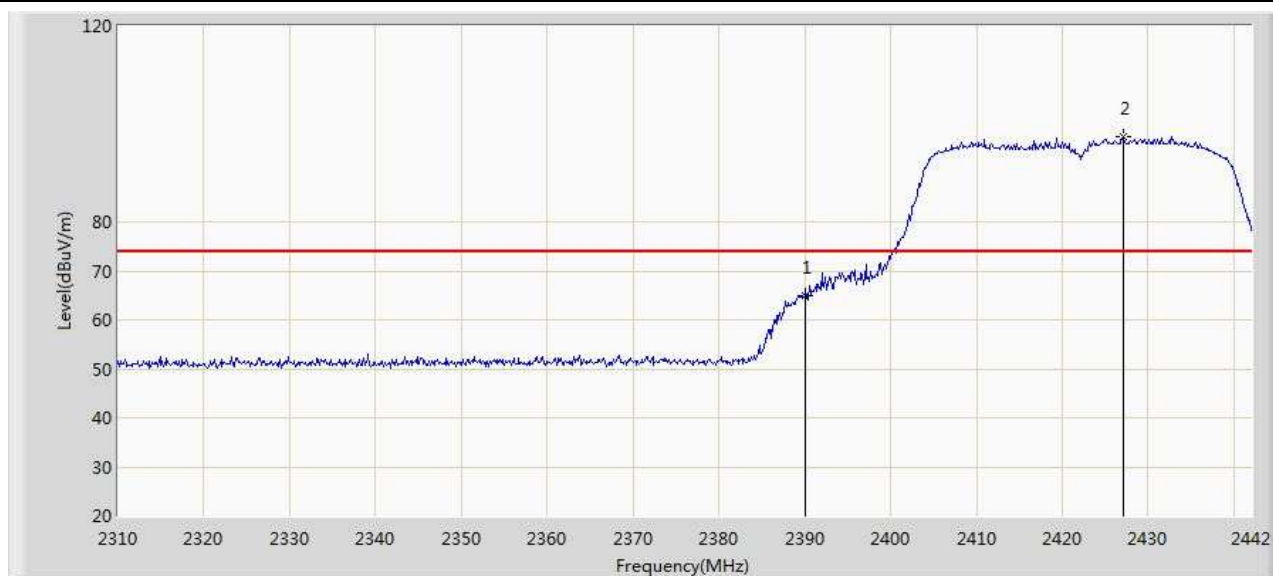
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.546	54.787	-1.454	54.000	-2.241	AV
2	*	2433.684	89.753	91.831	N/A	N/A	-2.078	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(40MHz) at 2422MHz	



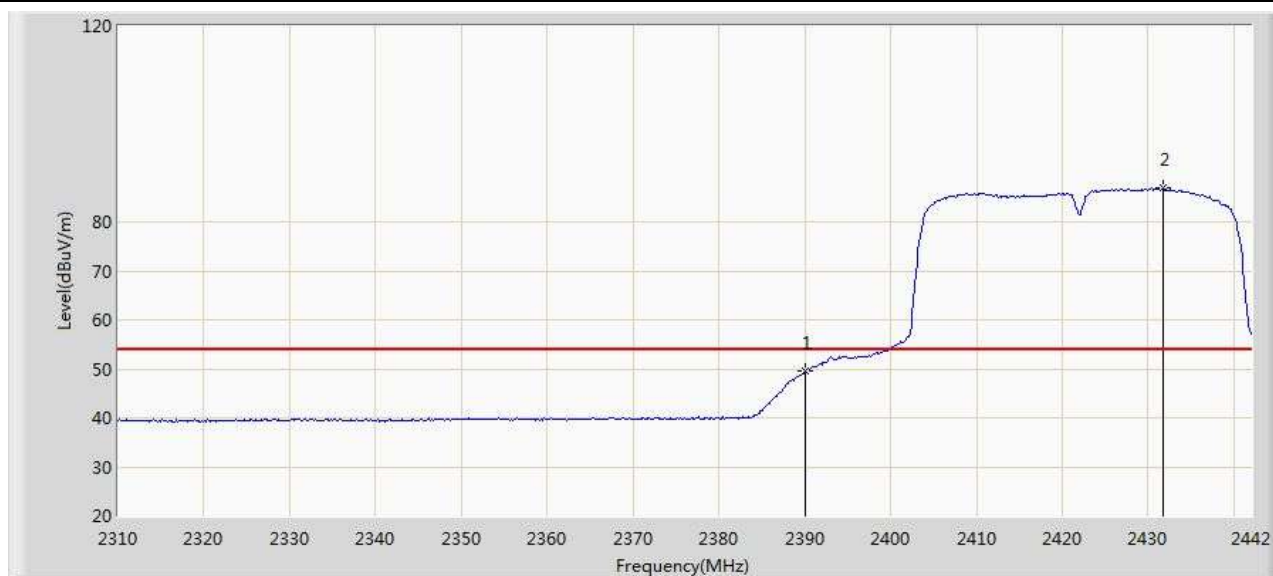
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	64.930	67.171	-9.070	74.000	-2.241	PK
2	*	2427.084	97.472	99.574	N/A	N/A	-2.102	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(40MHz) at 2422MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	49.443	51.684	-4.557	54.000	-2.241	AV
2	*	2431.704	87.008	89.093	N/A	N/A	-2.085	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(40MHz) at 2452MHz	



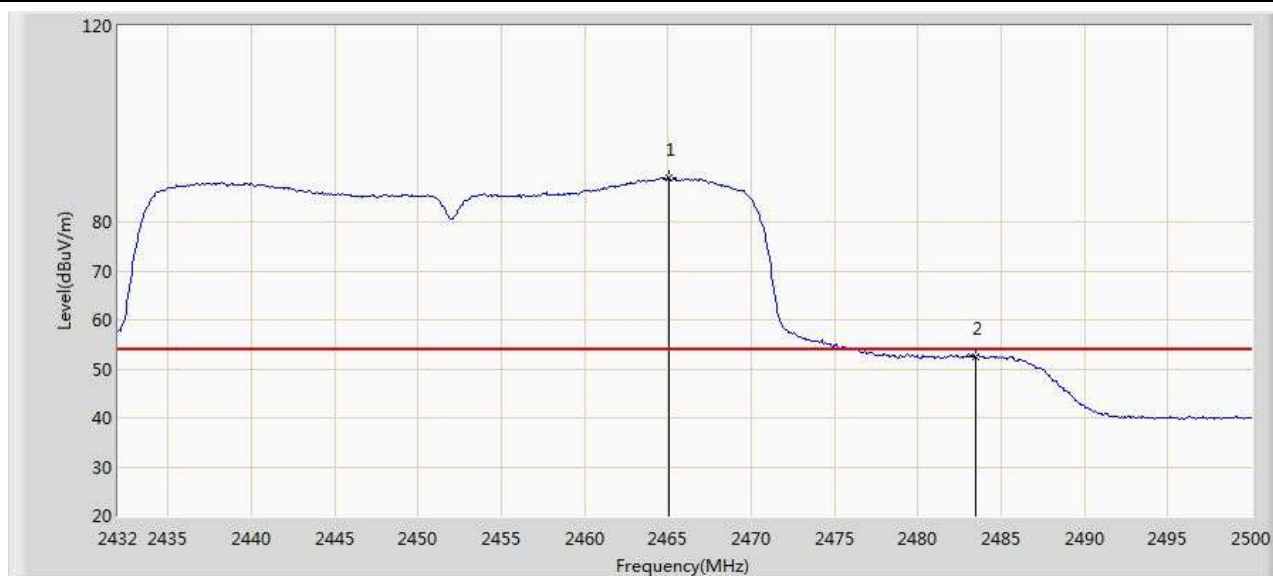
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.844	100.989	102.950	N/A	N/A	-1.961	PK
2		2483.500	71.804	73.696	-2.196	74.000	-1.892	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Horizontal
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(40MHz) at 2452MHz	



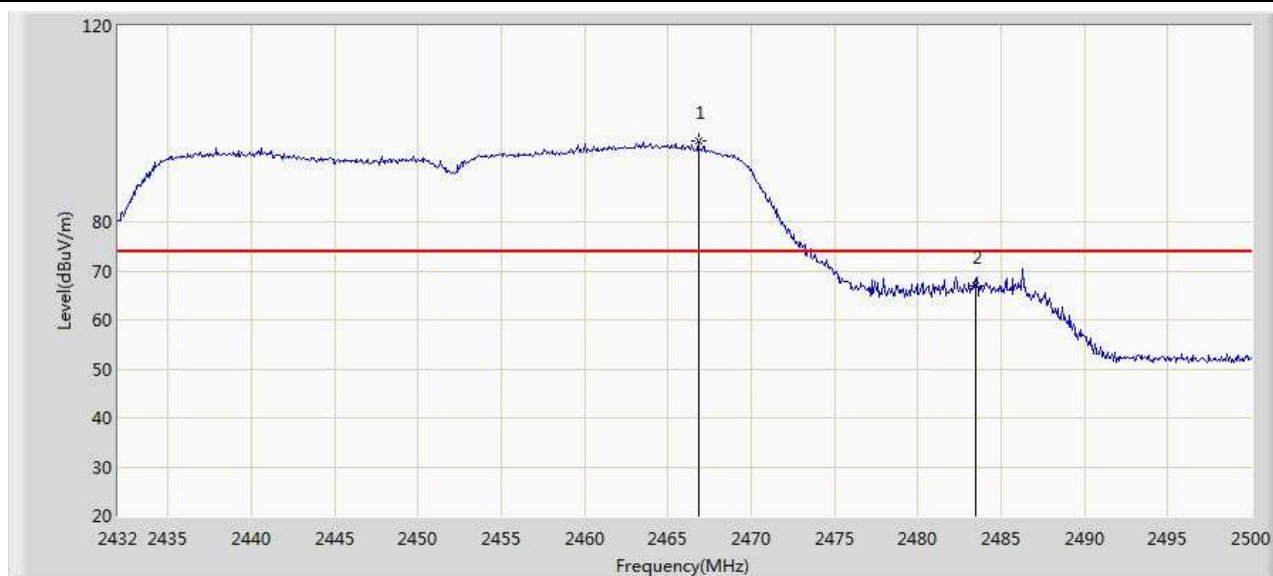
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2465.048	88.889	90.850	N/A	N/A	-1.961	AV
2		2483.500	52.540	54.432	-1.460	54.000	-1.892	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(40MHz) at 2452MHz	



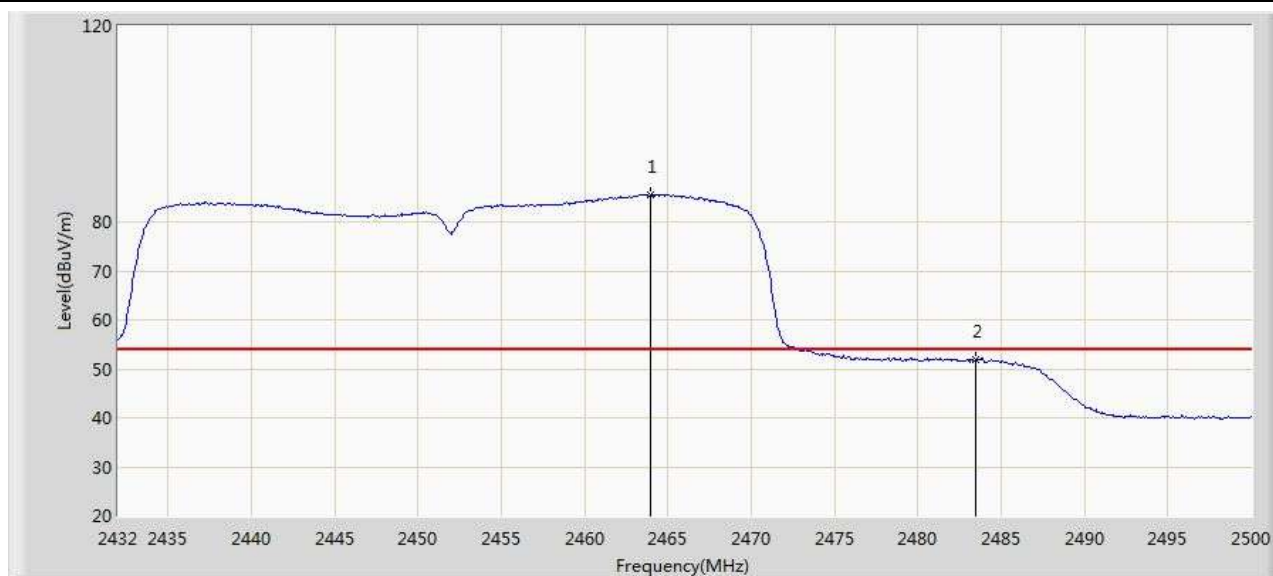
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2466.816	96.591	98.545	N/A	N/A	-1.954	PK
2		2483.500	66.950	68.842	-7.050	74.000	-1.892	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).



Site: AC102	Time: 2017/09/05 - 19:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: N/A	Polarity: Vertical
EUT: Touch All in one Computer	Power: AC 120V/60Hz
Note: Mode:Transmit 802.11n(40MHz) at 2452MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.960	85.550	87.515	N/A	N/A	-1.965	AV
2		2483.500	51.754	53.646	-2.246	54.000	-1.892	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

The End