



FCC 47 CFR PART 15 SUBPART C

RF Test Report

Applicant : EDIMAX TECHNOLOGY CO., LTD.
Product Type : 11ac Wireless Dual-Band Selectable USB Adapter
Trade Name : EDIMAX
Model Number : EW-7822UNC, EW-7822ULC
Applicable Standard : FCC 47 CFR PART 15 SUBPART C
ANSI C63.10:2013
Receive Date : Jul. 27, 2016
Test Period : Aug. 02 ~ Nov. 07, 2016
Issue Date : Nov. 18, 2016

Issue by

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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Nov. 18, 2016	Initial Issue	Snow Wang



Verification of Compliance

Issued Date: Nov. 18, 2016

Applicant : EDIMAX TECHNOLOGY CO., LTD.
Product Type : 11ac Wireless Dual-Band Selectable USB Adapter
Trade Name : EDIMAX
Model Number : EW-7822UNC, EW-7822ULC
FCC ID : NDD9578221607
EUT Rated Voltage : DC 5V
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 15 SUBPART C
ANSI C63.10:2013
Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330
<http://www.atl-lab.com.tw/e-index.htm>

A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By

: Fly Lu

(Manager)

(Fly Lu)

Reviewed By

: Eric Ou Yang

(Testing Engineer)

(Eric Ou Yang)



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1 General Information

1.1 Summary of Test Result

Standard	Item	Result	Remark
15.247			
15.207	AC Power Conducted Emission	PASS	-----
Standard	Item	Result	Remark
15.247			
15.247(d)	Transmitter Radiated Emissions	PASS	-----
15.247(b)(3)	Max. Output Power	PASS	-----
15.247(a)(2)	6dB RF Bandwidth	PASS	-----
15.247(e)	Power Spectral Density	PASS	-----
15.247(d)	Out of Band Conducted Spurious Emission	PASS	-----
15.203	Antenna Requirement	PASS	-----

The test results of this report relate only to the tested sample(s) identified in this report. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

1.2 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conducted Emission	9kHz ~ 150KHz	2.7
	150kHz ~ 30MHz	2.7
Radiated Emission	9kHz ~ 30MHz	1.7
	30MHz ~ 1000MHz	5.7
	1000MHz ~ 18000MHz	5.5
	18000MHz ~ 26500MHz	4.8
	26500MHz ~ 40000MHz	4.8
Conducted Output Power	+0.27 dB / -0.28 dB	
RF Bandwidth	4.96%	
Power Spectral Density	+0.71 dB / -0.77 dB	

2 EUT Description

Applicant	EDIMAX TECHNOLOGY CO., LTD. No.3,Wu-Chuan 3rd Road,Wu-Ku Industrial Park, New Taipei City, Taiwan			
Manufacturer	EDIMAX TECHNOLOGY CO., LTD. No.3,Wu-Chuan 3rd Road,Wu-Ku Industrial Park, New Taipei City, Taiwan			
Product Type	11ac Wireless Dual-Band Selectable USB Adapter			
Trade Name	EDIMAX			
Model Number	EW-7822UNC, EW-7822ULC			
Model Different Description	Those model numbers differ from each other in selling region.			
FCC ID	NDD9578221607			
Operate Freq. Band	Frequency Range (MHz)	Modulation	Channel Bandwidth	Data Rate 400 GI (ns)
IEEE 802.11b	2412 ~ 2462	DSSS	20MHz	Up to 11Mbps
IEEE 802.11g	2412 ~ 2462	OFDM (64QAM)	20MHz	Up to 54Mbps
IEEE 802.11n 2.4GHz 20MHz	2412 ~ 2462	OFDM (256QAM)	20MHz	Up to 173.4Mbps
IEEE 802.11n 2.4GHz 40MHz	2422 ~ 2452	OFDM (256QAM)	40MHz	Up to 400Mbps
Antenna information	Antennna	Type		Max. Gain (dBi)
	ANT-0 (Main)	Monopole Antenna		1.81
	ANT-1 (AUX)	Monopole Antenna		0.36
Antenna Delivery	See section 3.1			

Frequency Band	Max. RF Output Power (W)
IEEE 802.11b	0.028
IEEE 802.11g	0.042
IEEE 802.11n 2.4GHz 20MHz	0.070
IEEE 802.11n 2.4GHz 40MHz	0.070
Beamforming on	
Frequency Band	Max. RF Output Power (W)
IEEE 802.11n 2.4GHz 20MHz	0.081
IEEE 802.11n 2.4GHz 40MHz	0.065

3 Test Methodology

3.1. Mode of Operation

Decision of Test ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Continuous TX mode
Mode 2: IEEE 802.11b link mode
Mode 3: IEEE 802.11g link mode
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

Test Mode	ANT-0	ANT-1	ANT-0+1
Mode 2: IEEE 802.11b link mode	V	---	---
Mode 3: IEEE 802.11g link mode	V	---	---
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode	V	V	V
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode	V	V	V

Test Mode	Antenna Delivery	Test Channel	Data Rate (Mbps)
Mode 2: IEEE 802.11b link mode	1TX / 1RX (ANT-0)	1, 6, 11	1
Mode 3: IEEE 802.11g link mode	1TX / 1RX (ANT-0)	1, 6, 11	6
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode	2TX / 2RX (MIMO)	1, 6, 11	13
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode	2TX / 2RX (MIMO)	3, 6, 9	27

Duty cycle

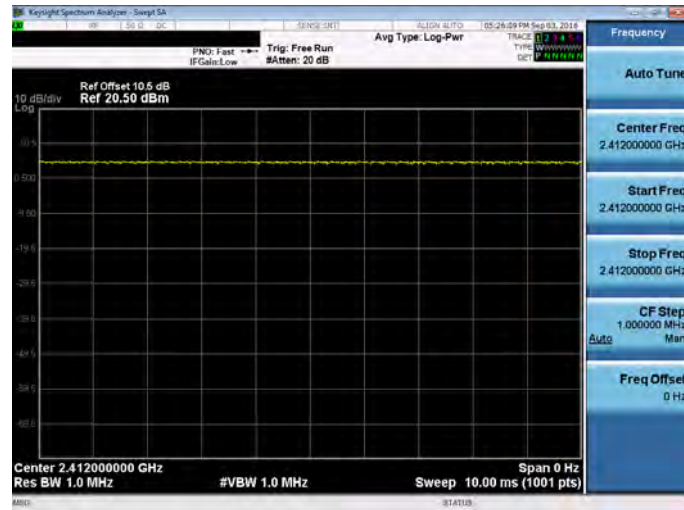
Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2: IEEE 802.11b link mode	2412.0	10.000	10.000	1.000	0.000	0.010
Mode 3: IEEE 802.11g link mode	2412.0	10.000	10.000	1.000	0.000	0.010
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode	2412.0	10.000	10.000	1.000	0.000	0.010
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode	2422.0	10.000	10.000	1.000	0.000	0.010
Beamforming on						
Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode	2412.0	10.000	10.000	1.000	0.000	0.010
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode	2422.0	10.000	10.000	1.000	0.000	0.010



Duty Cycle Graphs

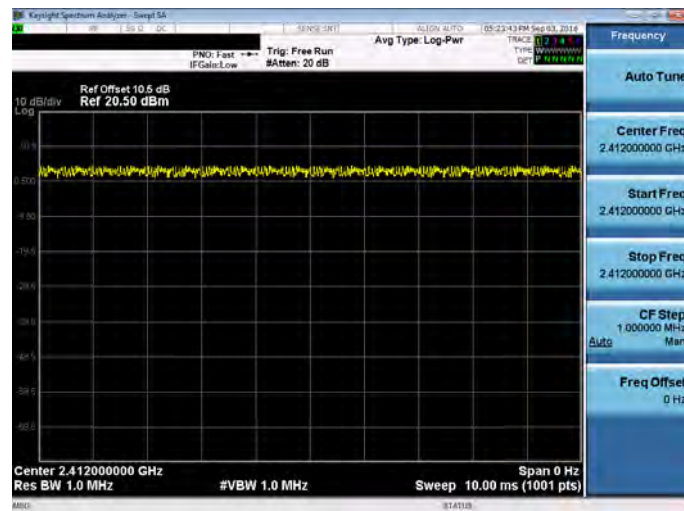
Mode 2: IEEE 802.11b link mode

On+off time



Mode 3: IEEE 802.11g Mode

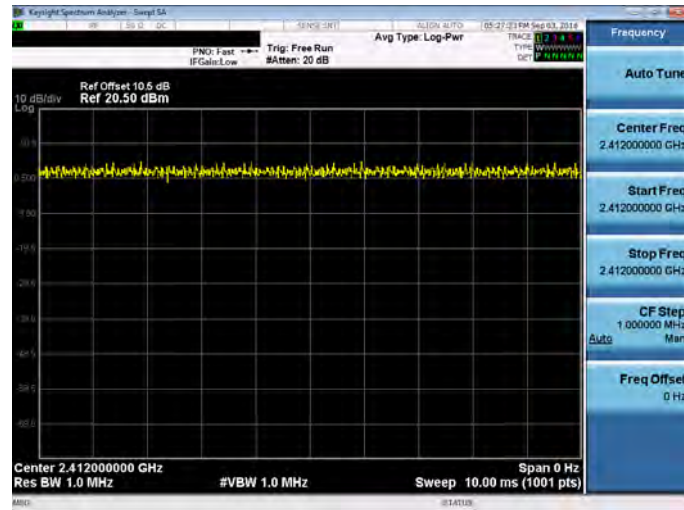
On+off time





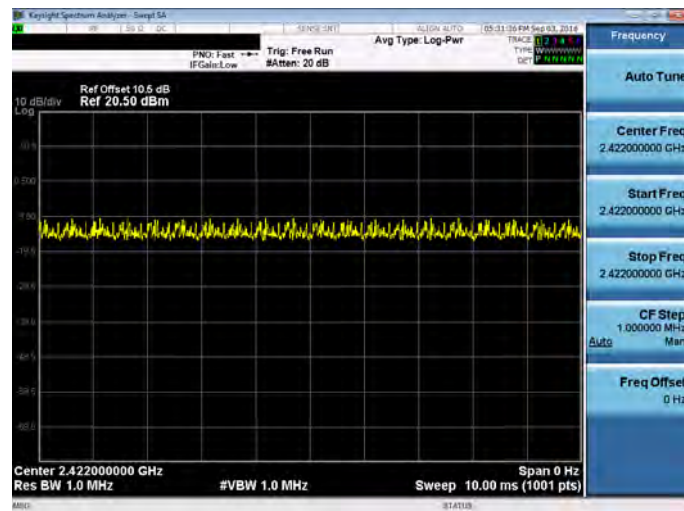
Mode 4: IEEE 802.11n 2.4GHz 20MHz Mode

On+off time



Mode 5: IEEE 802.11n 2.4GHz 40MHz Mode

On+off time

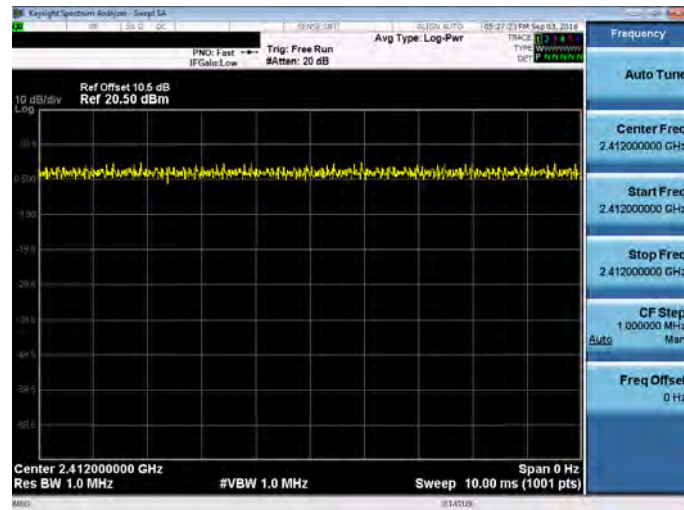




Mode 4: IEEE 802.11n 2.4GHz 20MHz Mode

Beamforming on

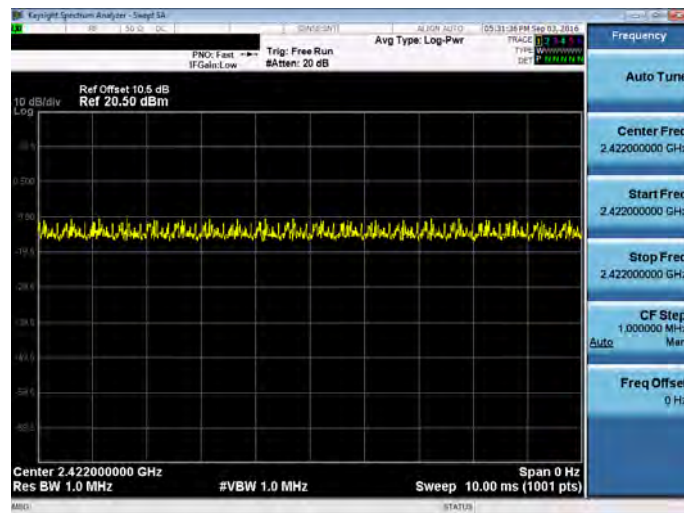
On+off time



Mode 5: IEEE 802.11n 2.4GHz 40MHz Mode

Beamforming on

On+off time



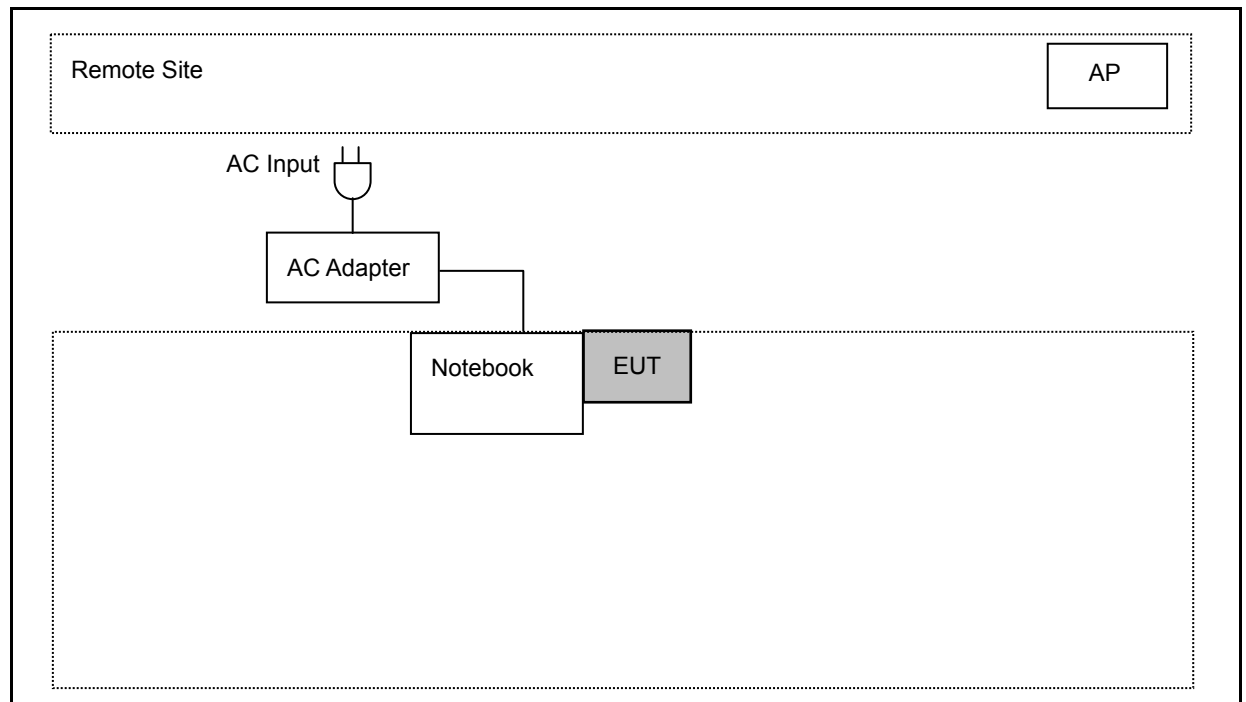
3.2. EUT Exercise Software

1.	Setup the EUT shown on 3.3.
2.	Turn on the power of all equipment.
3.	Turn Wi-Fi function link to AP
4.	EUT run test program.

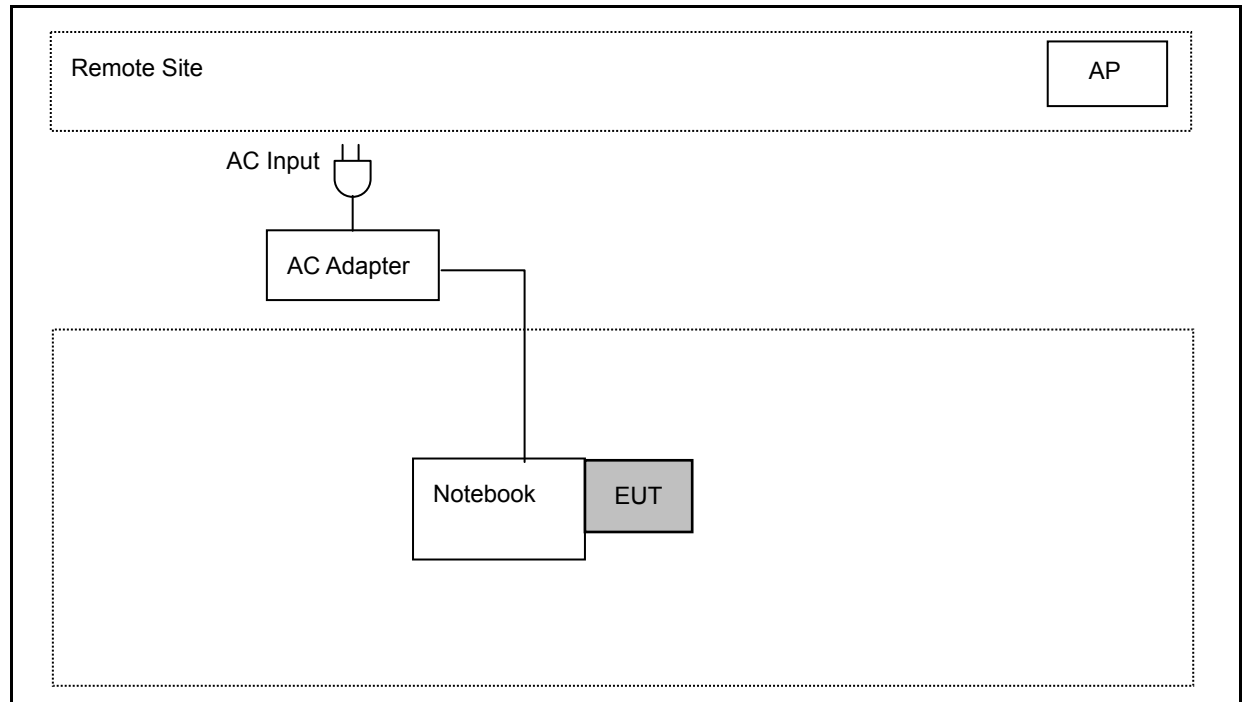
Measurement Software	
1	EZ-EMC Ver. ATL-03A1-1
2	EZ-EMC Ver ATL-ITC-3A1-1

3.3. Configuration of Test System Details

Conducted Emissions



Radiated Emissions



3.4. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

4 AC Power Line Conducted Emission Measurement

4.1. Limit

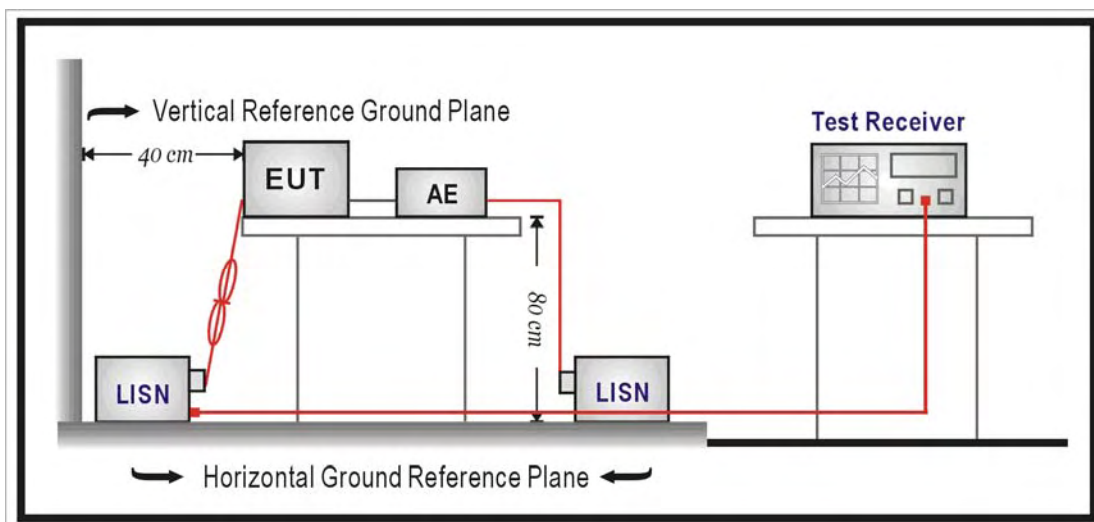
Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

4.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Test Receiver	R&S	ESCI	100367	05/31/2016	1 year
LISN	R&S	ENV216	101040	03/15/2016	1 year
LISN	R&S	ENV216	101041	03/07/2016	1 year
RF Cable	Woken	00100D1380194M	TE-02-02	05/31/2016	1 year
Test Site	ATL	TE02	TE02	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

4.3. Test Setup



4.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a $50\Omega // 50\mu\text{H}$ coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a $50\Omega // 50\mu\text{H}$ coupling impedance with 50ohm termination.

Tabletop device shall be placed on a non-conducting platform, of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The wall of screened room shall be located 40cm to the rear of the EUT. Other surfaces of tabletop or floor standing EUT shall be at least 80cm from any other ground conducting surface including one or more LISNs. For floor-standing device shall be placed under the EUT with a 12mm insulating material.

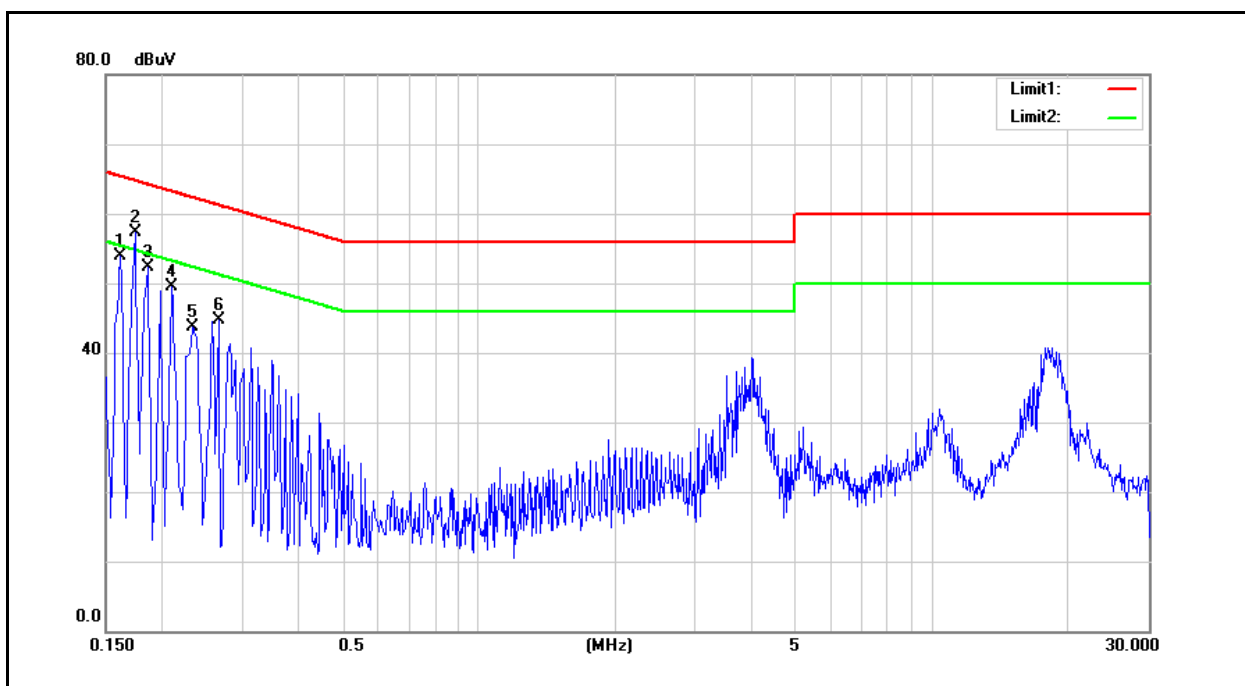
Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a resolution bandwidth of 9 kHz. The equipment under test (EUT) shall be meet the limits in section 4.1, as applicable, including the average limit and the quasi-peak limit when using respectively, an average detector and quasi-peak detector measured in accordance with the methods described of related standard. When all of peak value were complied with quasi-peak and average limit from 150kHz to 30MHz then quasi-peak and average measurement was unnecessary.

The AMN shall be placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane for AMNs mounted on top of the ground reference plane. This distance is between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment shall be at least 0,8 m from the AMN. If the mains power cable is longer than 1m then the cable shall be folded back and forth at the centre of the lead to form a bundle no longer than 0.4m. All of interconnecting cables that hang closer than 40cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long. All of EUT and AE shall be separate place more than 0.1m. All 50 Ω ports of the LISN shall be resistively terminated into 50 Ω loads when not connected to the measuring instrument.

If the reading of the measuring receiver shows fluctuations close to the limit, the reading shall be observed for at least 15 s at each measurement frequency; the higher reading shall be recorded with the exception of any brief isolated high reading which shall be ignored.

4.5. Test Result

Standard:	FCC Part 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	08/22/2016
		Test By:	Eric Ou Yang
Description:			



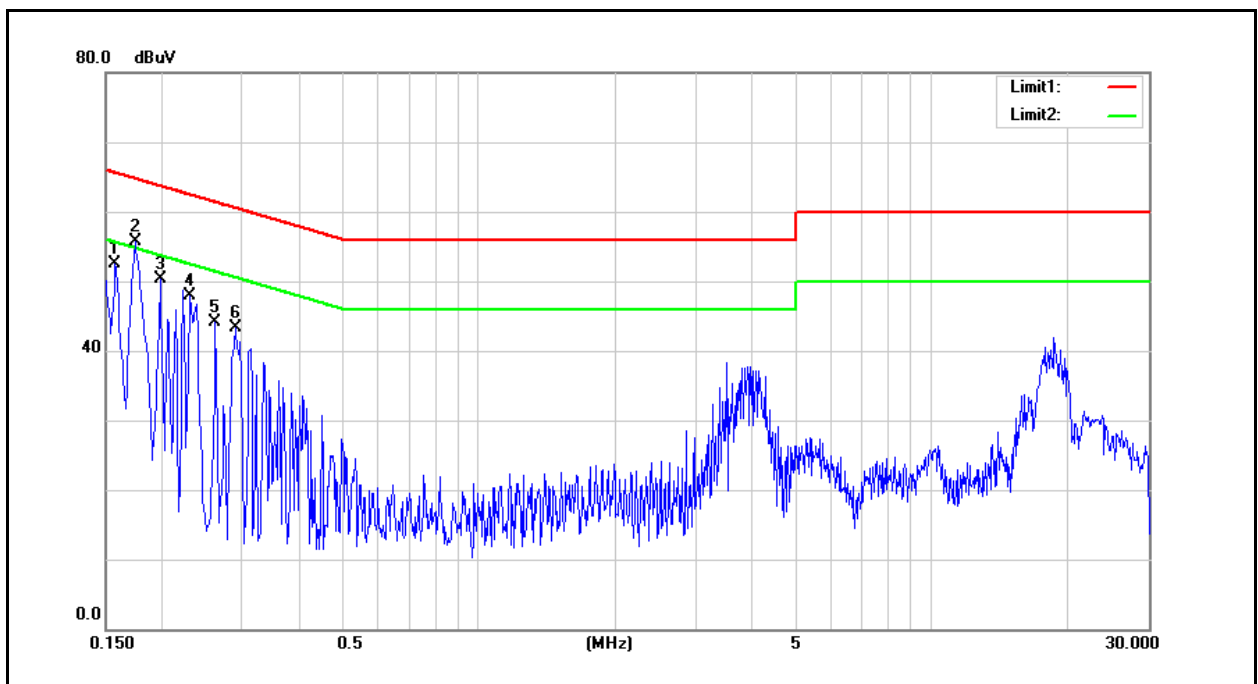
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1620	38.83	10.82	9.60	48.43	20.42	65.36	55.36	-16.93	-34.94	Pass
2	0.1740	42.40	29.74	9.60	52.00	39.34	64.77	54.77	-12.77	-15.43	Pass
3	0.1860	35.94	10.40	9.59	45.53	19.99	64.21	54.21	-18.68	-34.22	Pass
4	0.2100	32.89	5.70	9.59	42.48	15.29	63.21	53.21	-20.73	-37.92	Pass
5	0.2340	35.01	23.17	9.59	44.60	32.76	62.31	52.31	-17.71	-19.55	Pass
6	0.2660	27.38	1.90	9.60	36.98	11.50	61.24	51.24	-24.26	-39.74	Pass

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).



Standard:	FCC Part 15C	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	08/22/2016
		Test By:	Eric Ou Yang
Description:			



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1580	39.57	10.79	9.59	49.16	20.38	65.57	55.57	-16.41	-35.19	Pass
2	0.1740	42.36	29.07	9.59	51.95	38.66	64.77	54.77	-12.82	-16.11	Pass
3	0.1980	34.19	7.25	9.58	43.77	16.83	63.69	53.69	-19.92	-36.86	Pass
4	0.2300	32.39	18.47	9.58	41.97	28.05	62.45	52.45	-20.48	-24.40	Pass
5	0.2620	27.72	2.17	9.59	37.31	11.76	61.37	51.37	-24.06	-39.61	Pass
6	0.2900	28.47	15.73	9.59	38.06	25.32	60.52	50.52	-22.46	-25.20	Pass

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).



5 Radiated Emission Measurement

5.1. Limit

According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$ at 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

** 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., Sections 15.231 and 15.241.

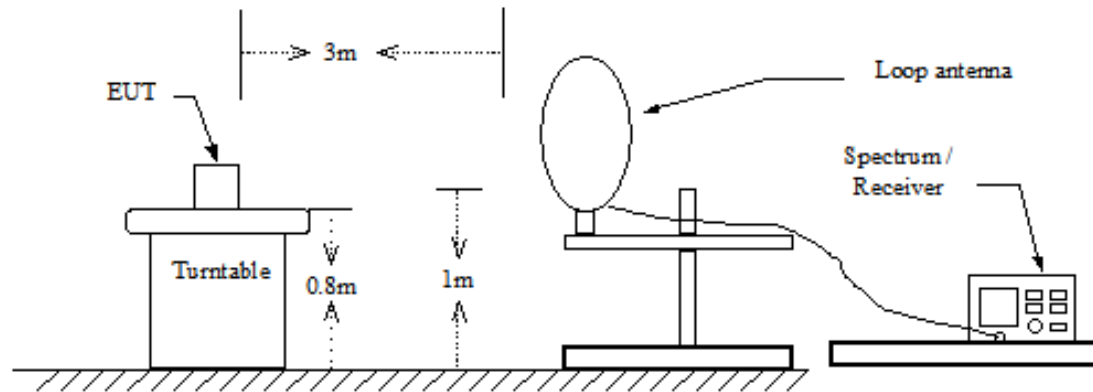
5.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
RF Pre-selector	Agilent	N9039A	MY46520256	01/08/2016	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/08/2016	1 year
Pre Amplifier	Agilent	8449B	3008A02237	10/11/2016	1 year
Pre Amplifier	Agilent	8447D	2944A11119	01/11/2016	1 year
Broadband Antenna	Schwarzbeck	VULB9168	416	10/13/2016	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/06/2016	1 year
Horn Antenna (18~40GHz)	ETS	3116	86467	09/05/2016	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	02/01/2016	1 year
Microwave Cable	EMCI	EMC102-KM-KM-14000	151001	02/23/2016	1 year
Microwave Cable	EMCI	EMC-104-SM-SM-14000	140202	02/23/2016	1 year
Microwave Cable	EMCI	EMC104-SM-SM-600	140301	02/23/2016	1 year
Test Site	ATL	TE01	888001	08/29/2016	1 year

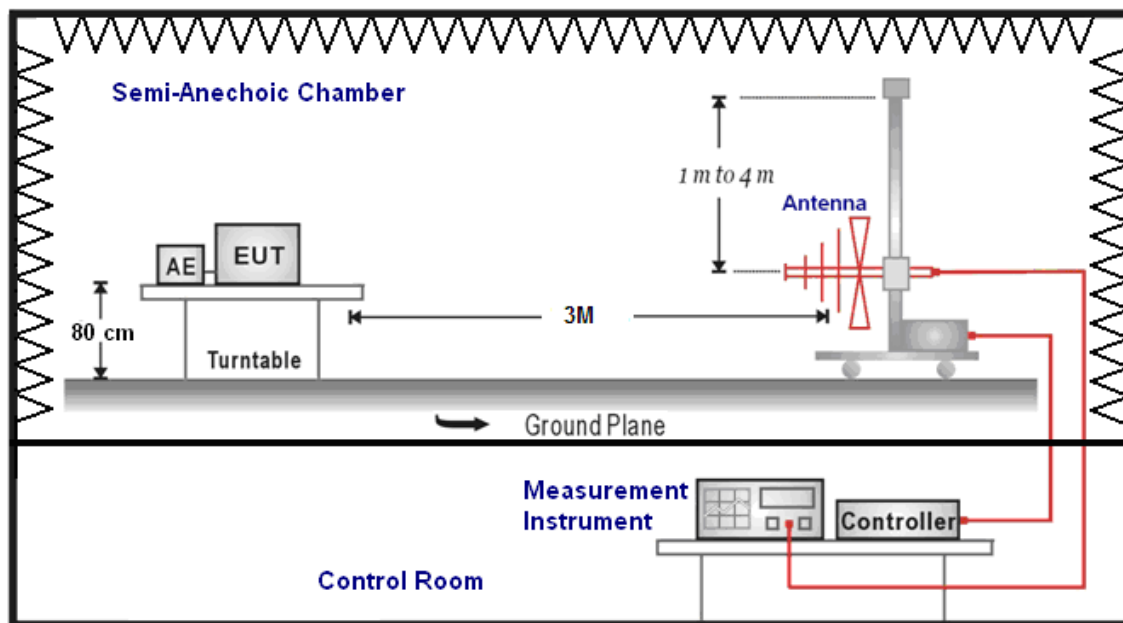
Note: N.C.R. = No Calibration Request.

5.3. Setup

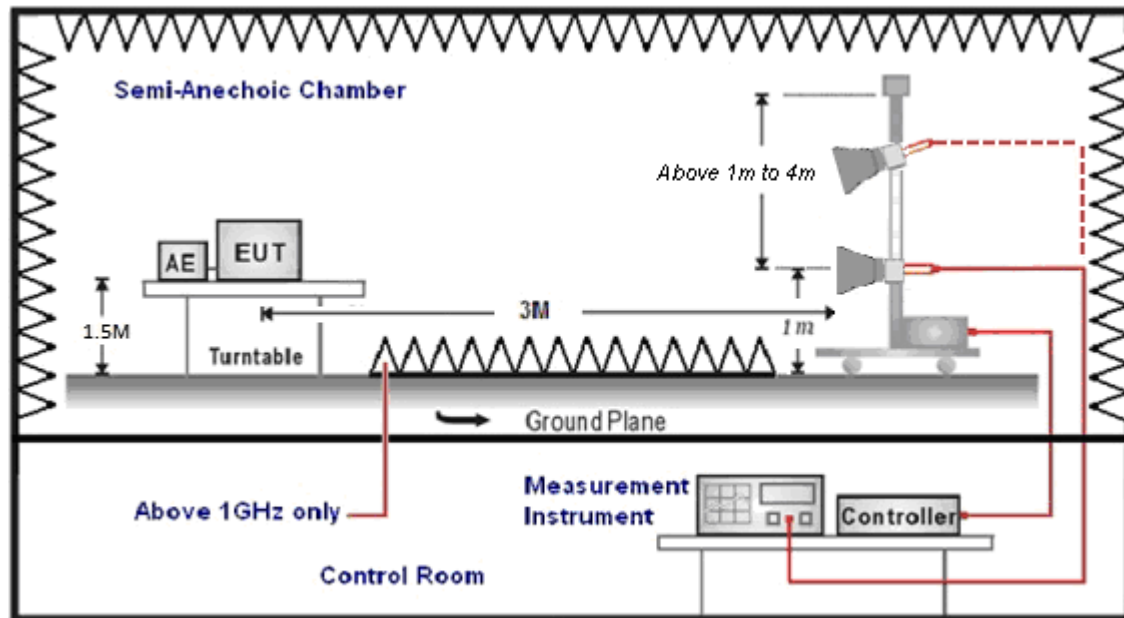
9kHz ~ 30MHz



Below 1GHz



Above 1GHz



5.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 or 1.5 meters height (below 1GHz use 0.8m turntable / above 1GHz use 1.5m turntable), top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements when Duty cycle >0.98 / $1/T$ for average measurements when Duty cycle <0.98 . A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna was used in frequencies 1 –26.5 GHz at a distance of 3 meter. The antenna at an angle toward the source of the emission. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m).

The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

$$(1) \text{ Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)}$$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

$$(2) \text{ Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)}$$

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

Data of measurement within this frequency range without mark in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



5.5. Test Result

Below 1GHz

Standard:		FCC Part 15C		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		EW-7822UNC		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Mode:		Mode 1		Date:		08/03/2016	
				Test By:		Eric Ou Yang	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
190.5000	39.37	-7.41	31.96	43.50	-11.54	QP	H
228.5000	37.65	-7.22	30.43	46.00	-15.57	QP	H
344.0000	35.23	-2.77	32.46	46.00	-13.54	QP	H
405.0000	34.04	-1.55	32.49	46.00	-13.51	QP	H
553.5000	30.72	1.56	32.28	46.00	-13.72	QP	H
833.0000	31.72	7.26	38.98	46.00	-7.02	QP	H
191.0000	41.45	-7.44	34.01	43.50	-9.49	QP	V
228.5000	36.14	-7.22	28.92	46.00	-17.08	QP	V
344.0000	33.08	-2.77	30.31	46.00	-15.69	QP	V
457.5000	31.14	-0.03	31.11	46.00	-14.89	QP	V
553.5000	29.55	1.56	31.11	46.00	-14.89	QP	V
833.0000	30.18	7.26	37.44	46.00	-8.56	QP	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.No emission found between lowest internal used/generated frequencies to 30MHz (9 kHz~30MHz).

**Above 1GHz**

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	EW-7822UNC			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 2			Date:	08/03/2016		
Frequency:	2412MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4824.000	57.90	-7.96	49.94	74.00	-24.06	peak	H
7236.000	56.92	-1.11	55.81	74.00	-18.19	peak	H
7236.000	54.13	-1.11	53.02	54.00	-0.98	AVG	H
4824.000	55.24	-7.96	47.28	74.00	-26.72	peak	V
7236.000	57.96	-1.11	56.85	74.00	-17.15	peak	V
7236.000	54.09	-1.11	52.98	54.00	-1.02	AVG	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	EW-7822UNC			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 2			Date:	08/03/2016		
Frequency:	2437MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4874.000	56.69	-7.80	48.89	74.00	-25.11	peak	H
7311.000	57.89	-0.82	57.07	74.00	-16.93	peak	H
7311.000	53.76	-0.82	52.94	54.00	-1.06	AVG	H
4874.000	54.27	-7.80	46.47	74.00	-27.53	peak	V
7311.000	54.39	-0.82	53.57	74.00	-20.43	peak	V
7311.000	51.08	-0.82	50.26	54.00	-3.74	AVG	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	EW-7822UNC			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Mode:	Mode 2			Date:	08/03/2016		
Frequency:	2462MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4924.000	55.43	-7.65	47.78	74.00	-26.22	peak	H
7386.000	57.02	-0.53	56.49	74.00	-17.51	peak	H
7386.000	53.40	-0.53	52.87	54.00	-1.13	AVG	H
4924.000	51.85	-7.65	44.20	74.00	-29.80	peak	V
7386.000	54.45	-0.53	53.92	74.00	-20.08	peak	V
7386.000	51.35	-0.53	50.82	54.00	-3.18	AVG	V

Standard:	FCC Part 15C		Test Distance:	3m			
Test item:	Radiated Emission		Power:	AC 120V/60Hz			
Model Number:	EW-7822UNC		Temp.(℃)/Hum.(%RH):	26(℃)/60%RH			
Mode:	Mode 3		Date:	08/03/2016			
Frequency:	2412MHz		Test By:	Eric Ou Yang			
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
7236.000	54.01	-1.11	52.90	74.00	-21.10	peak	H
7236.000	44.82	-1.11	43.71	54.00	-10.29	AVG	H
7236.000	52.47	-1.11	51.36	74.00	-22.64	peak	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	EW-7822UNC			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	08/03/2016		
Frequency:	2437MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4874.000	52.87	-7.80	45.07	74.00	-28.93	peak	H
7311.000	56.37	-0.82	55.55	74.00	-18.45	peak	H
7311.000	46.39	-0.82	45.57	54.00	-8.43	AVG	H
4874.000	51.20	-7.80	43.40	74.00	-30.60	peak	V
7311.000	54.65	-0.82	53.83	74.00	-20.17	peak	V
7311.000	44.13	-0.82	43.31	54.00	-10.69	AVG	V

Standard:	FCC Part 15C		Test Distance:	3m			
Test item:	Radiated Emission		Power:	AC 120V/60Hz			
Model Number:	EW-7822UNC		Temp.(℃)/Hum.(%RH):	26(℃)/60%RH			
Mode:	Mode 3		Date:	08/03/2016			
Frequency:	2462MHz		Test By:	Eric Ou Yang			
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
7386.000	52.78	-0.53	52.25	74.00	-21.75	peak	H
7386.000	43.83	-0.53	43.30	54.00	-10.70	peak	H
7386.000	51.38	-0.53	50.85	74.00	-23.15	peak	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C		Test Distance:	3m			
Test item:	Radiated Emission		Power:	AC 120V/60Hz			
Model Number:	EW-7822UNC		Temp.(°C)/Hum.(%RH):	26(°C)/60%RH			
Mode:	Mode 4		Date:	08/03/2016			
Frequency:	2412MHz		Test By:	Eric Ou Yang			
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4824.000	71.80	-7.96	63.84	74.00	-10.16	peak	H
4824.000	52.20	-7.96	44.24	54.00	-9.76	AVG	H
4824.000	57.72	-7.96	49.76	74.00	-24.24	peak	V
7236.000	52.03	-1.11	50.92	74.00	-23.08	peak	V

Standard:	FCC Part 15C		Test Distance:	3m			
Test item:	Radiated Emission		Power:	AC 120V/60Hz			
Model Number:	EW-7822UNC		Temp.(°C)/Hum.(%RH):	26(°C)/60%RH			
Mode:	Mode 4		Date:	08/03/2016			
Frequency:	2437MHz		Test By:	Eric Ou Yang			
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4874.000	63.77	-7.80	55.97	74.00	-18.03	peak	H
4874.000	53.43	-7.80	45.63	54.00	-8.37	AVG	H
4874.000	59.50	-7.80	51.70	74.00	-22.30	peak	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	EW-7822UNC			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	08/03/2016		
Frequency:	2462MHz			Test By:	Eric Ou Yang		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4924.000	63.63	-7.65	55.98	74.00	-18.02	peak	H
4924.000	52.68	-7.65	45.03	54.00	-8.97	AVG	H
4924.000	57.34	-7.65	49.69	74.00	-24.31	peak	V

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Mode:	Mode 5	Date:	08/03/2016				
Frequency:	2422MHz	Test By:	Eric Ou Yang				
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4844.000	58.45	-7.88	50.57	74.00	-23.43	peak	H
4844.000	53.55	-7.88	45.67	74.00	-28.33	peak	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Mode:	Mode 5	Date:	08/03/2016				
Frequency:	2437MHz	Test By:	Eric Ou Yang				
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4874.000	57.97	-7.80	50.17	74.00	-23.83	peak	H
4874.000	55.91	-7.80	48.11	74.00	-25.89	peak	V

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Mode:	Mode 5	Date:	08/03/2016				
Frequency:	2452MHz	Test By:	Eric Ou Yang				
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4904.000	58.55	-7.70	50.85	74.00	-23.15	peak	H
4904.000	56.13	-7.70	48.43	74.00	-25.57	peak	V

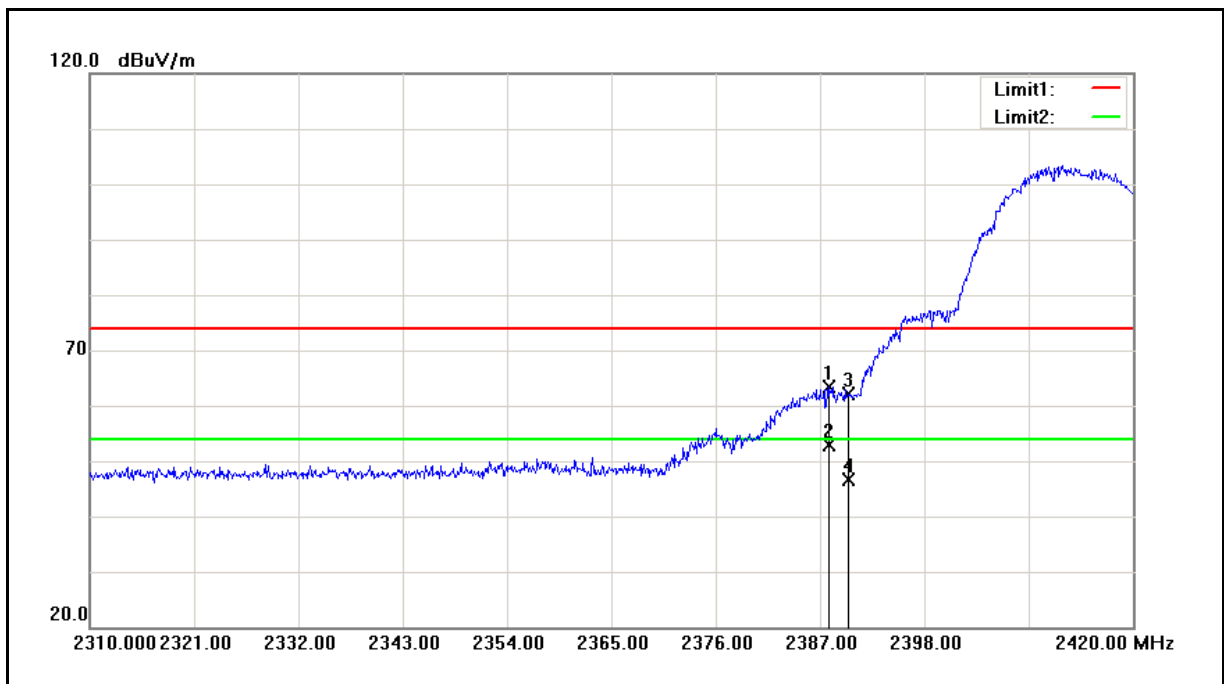
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Band Edge

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	2	Date:	08/02/2016
Frequency:	2412 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



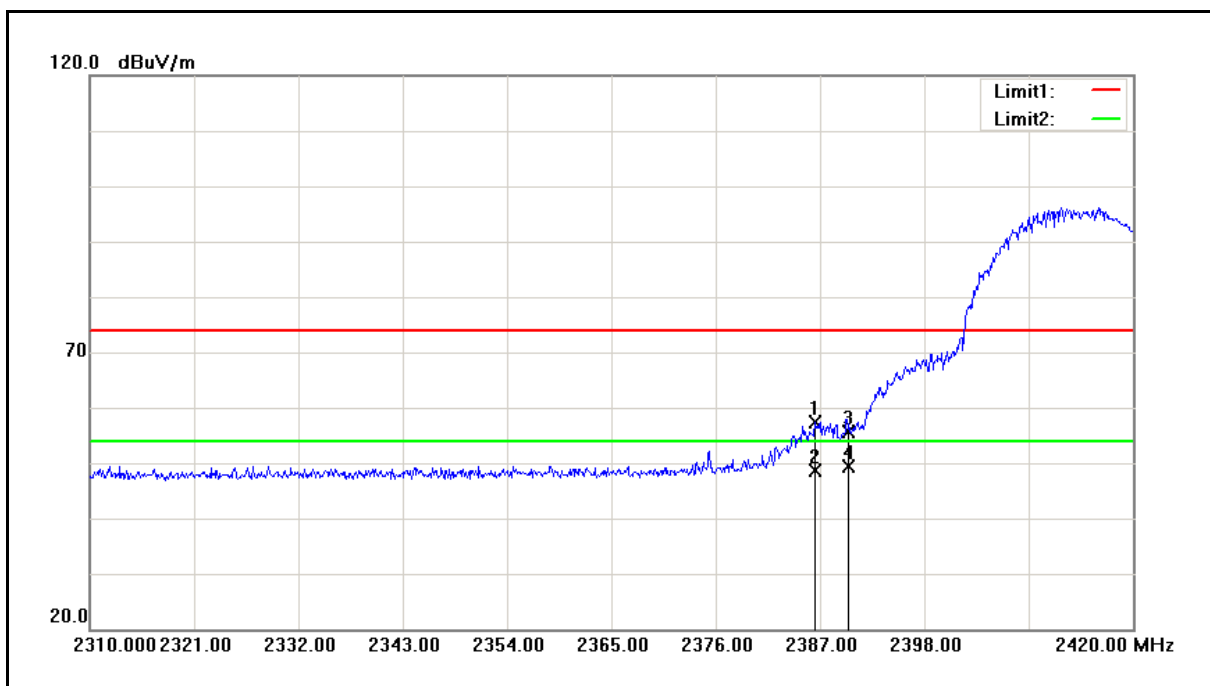
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.880	63.65	-0.34	63.31	74.00	-10.69	peak
2	2387.880	53.25	-0.34	52.91	54.00	-1.09	AVG
3	2390.000	62.53	-0.34	62.19	74.00	-11.81	peak
4	2390.000	47.09	-0.34	46.75	54.00	-7.25	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	2	Date:	08/02/2016
Frequency:	2412 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



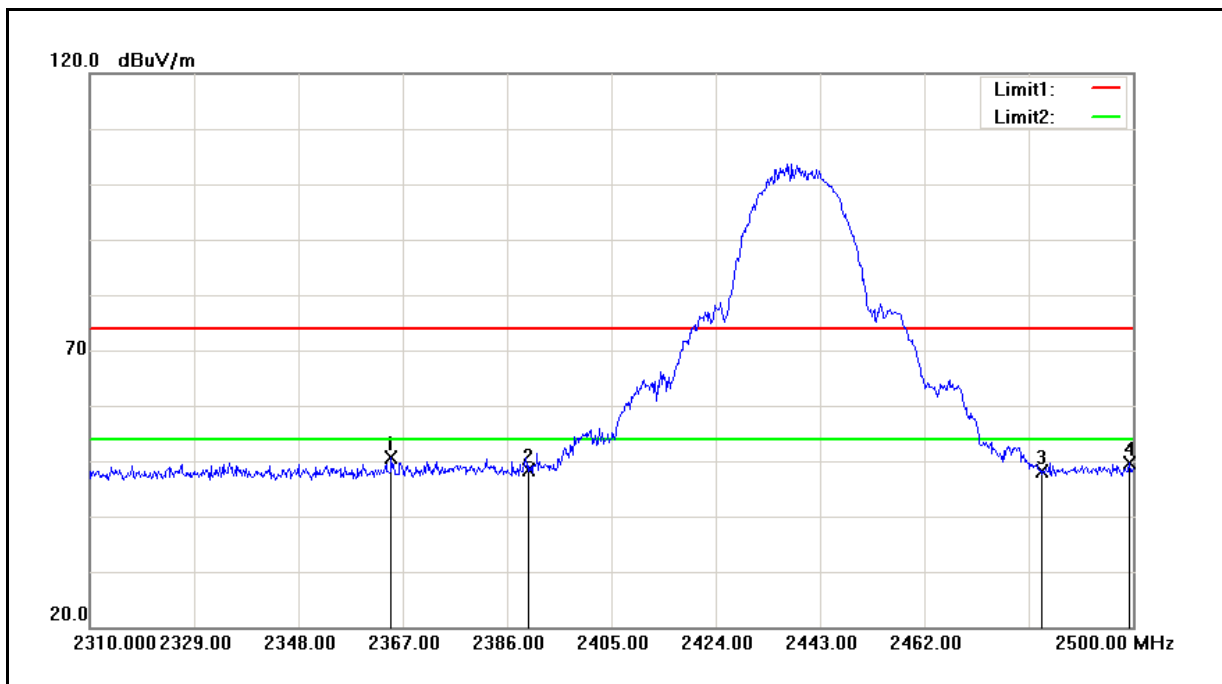
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.450	57.82	-0.36	57.46	74.00	-16.54	peak
2	2386.450	48.99	-0.36	48.63	54.00	-5.37	AVG
3	2390.000	56.09	-0.34	55.75	74.00	-18.25	peak
4	2390.000	49.82	-0.34	49.48	54.00	-4.52	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	2	Date:	08/02/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



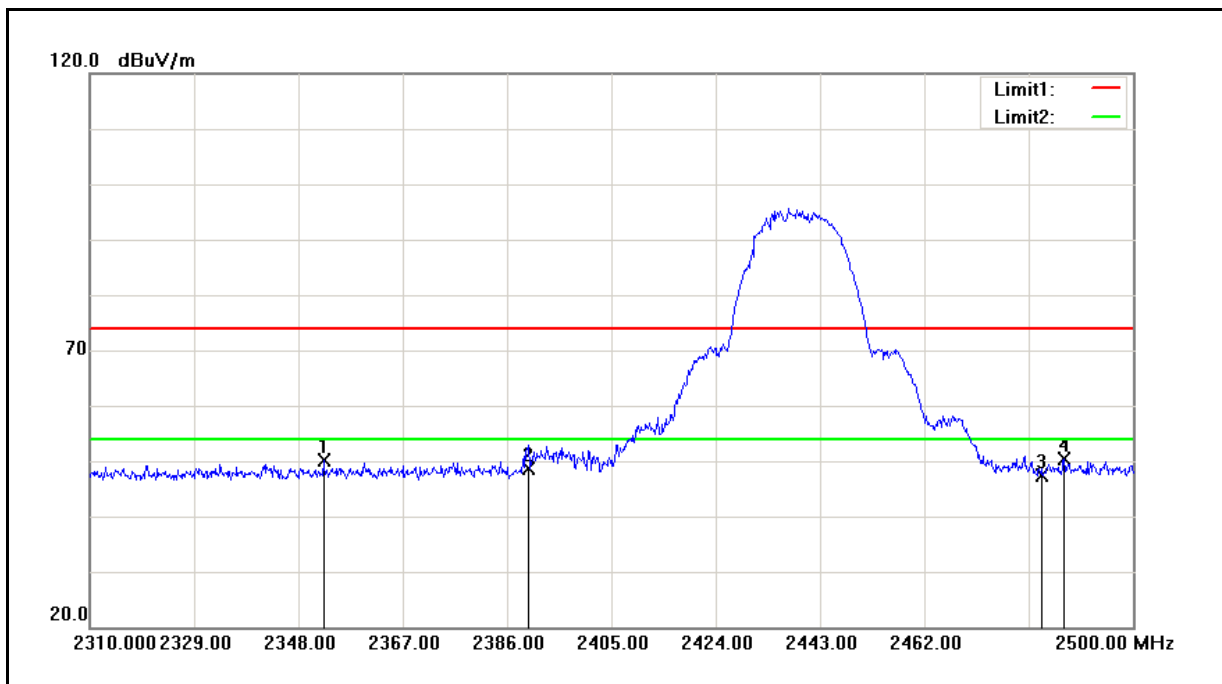
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2364.910	51.08	-0.44	50.64	74.00	-23.36	peak
2	2390.000	48.63	-0.34	48.29	74.00	-25.71	peak
3	2483.500	48.06	0.03	48.09	74.00	-25.91	peak
4	2499.240	49.60	0.10	49.70	74.00	-24.30	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	2	Date:	08/02/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



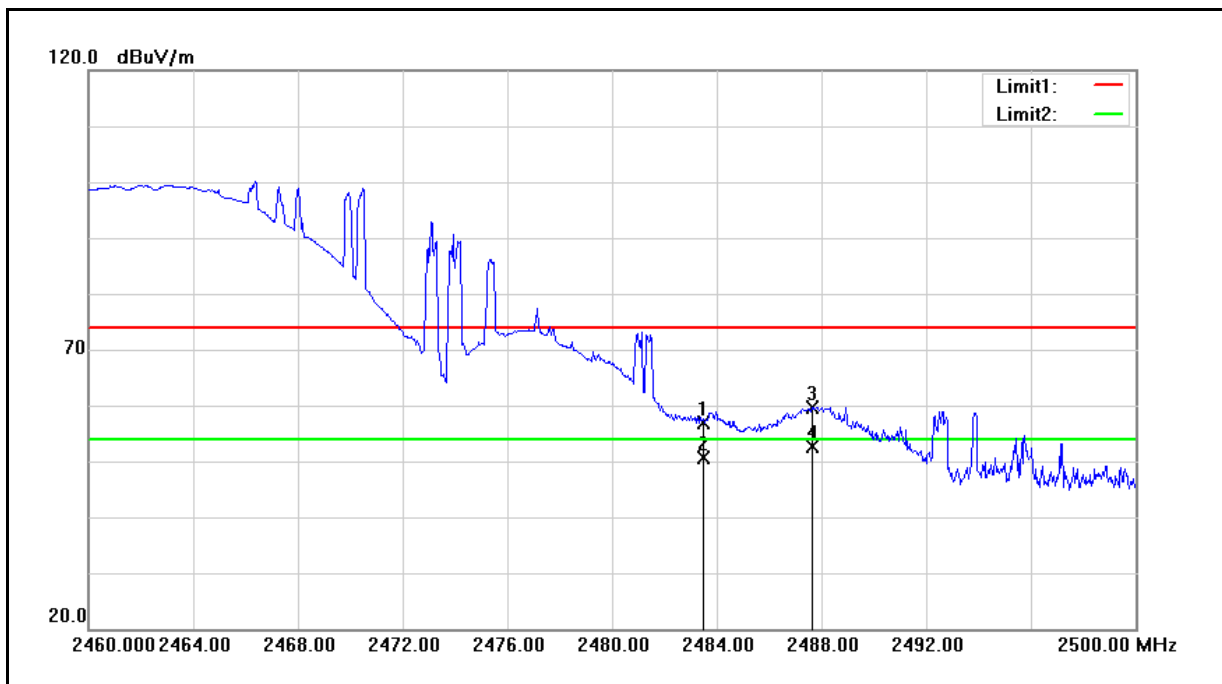
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2352.560	50.55	-0.49	50.06	74.00	-23.94	peak
2	2390.000	49.03	-0.34	48.69	74.00	-25.31	peak
3	2483.500	47.27	0.03	47.30	74.00	-26.70	peak
4	2487.460	50.26	0.04	50.30	74.00	-23.70	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	2	Date:	08/02/2016
Frequency:	2462 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



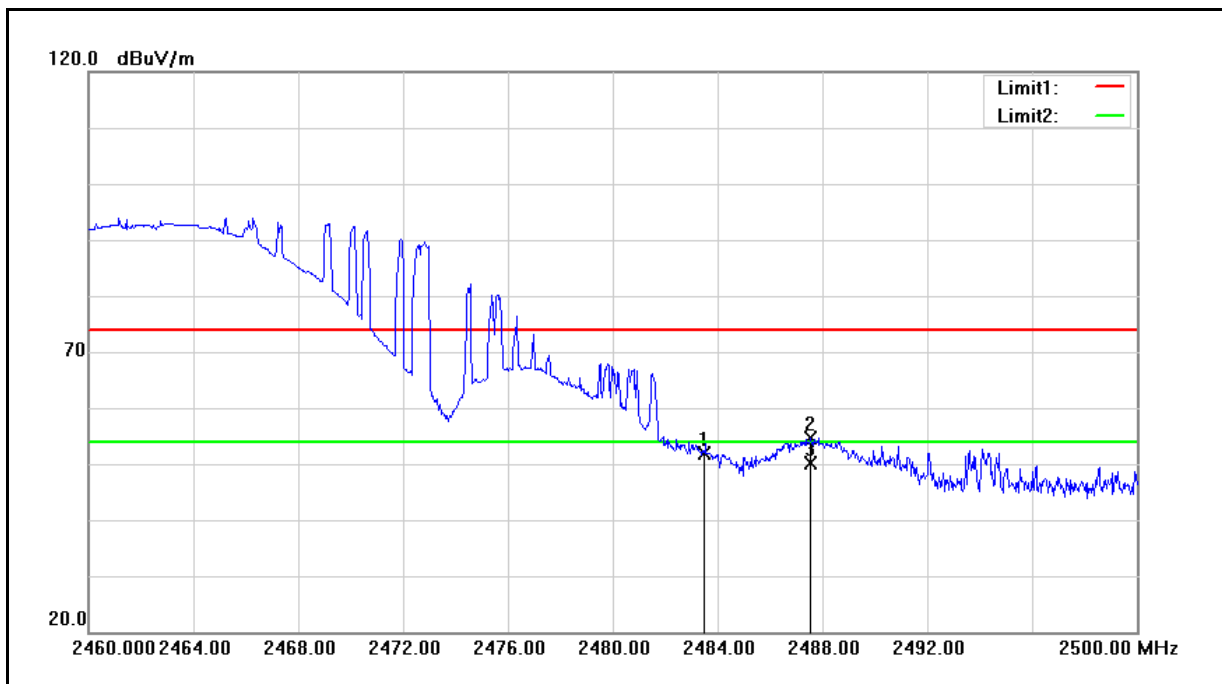
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	56.84	0.03	56.87	74.00	-17.13	peak
2	2483.500	50.54	0.03	50.57	54.00	-3.43	AVG
3	2487.640	59.66	0.05	59.71	74.00	-14.29	peak
4	2487.640	52.70	0.05	52.75	54.00	-1.25	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	2	Date:	08/02/2016
Frequency:	2462 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



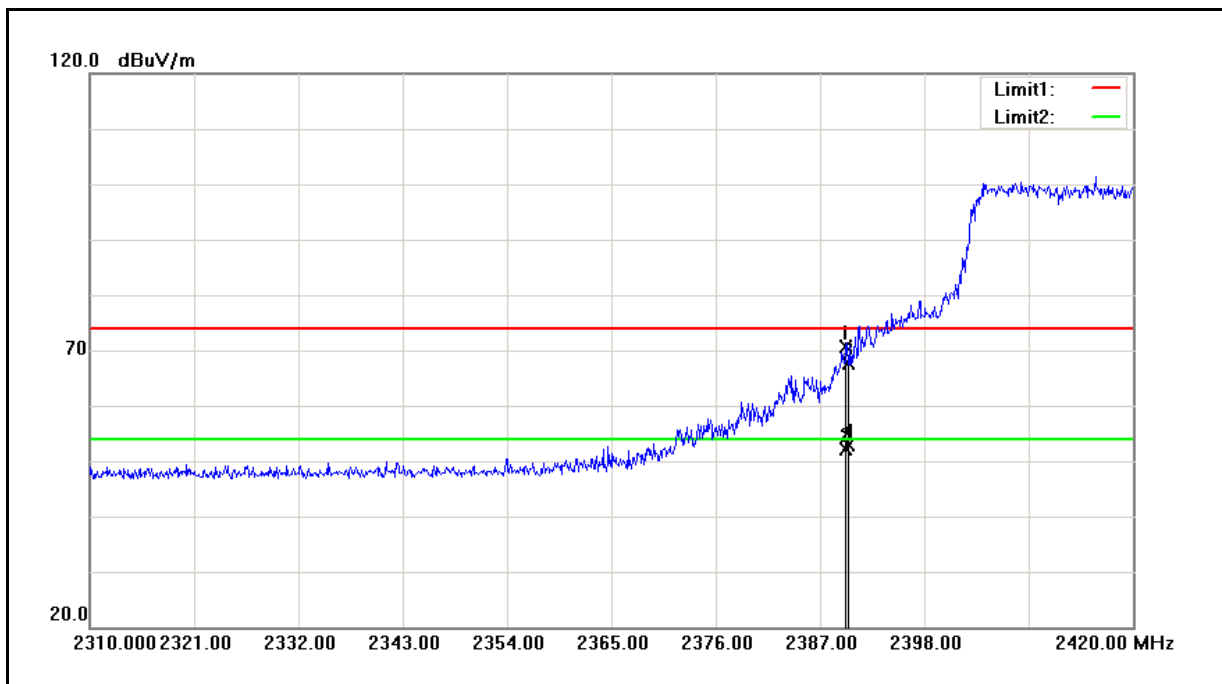
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	51.81	0.03	51.84	74.00	-22.16	peak
2	2487.560	54.60	0.05	54.65	74.00	-19.35	peak
3	2487.560	50.01	0.05	50.06	54.00	-3.94	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	3	Date:	08/02/2016
Frequency:	2412 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



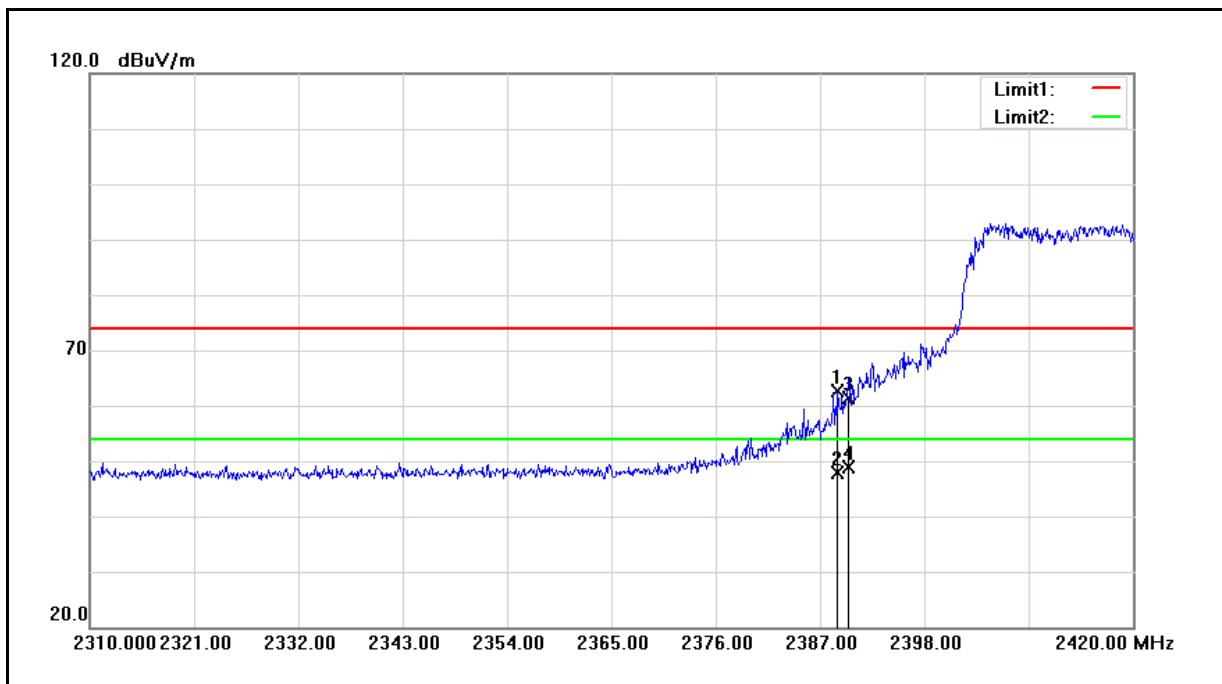
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.750	71.05	-0.34	70.71	74.00	-3.29	peak
2	2389.750	52.39	-0.34	52.05	54.00	-1.95	AVG
3	2390.000	68.09	-0.34	67.75	74.00	-6.25	peak
4	2390.000	53.29	-0.34	52.95	54.00	-1.05	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	3	Date:	08/02/2016
Frequency:	2412 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



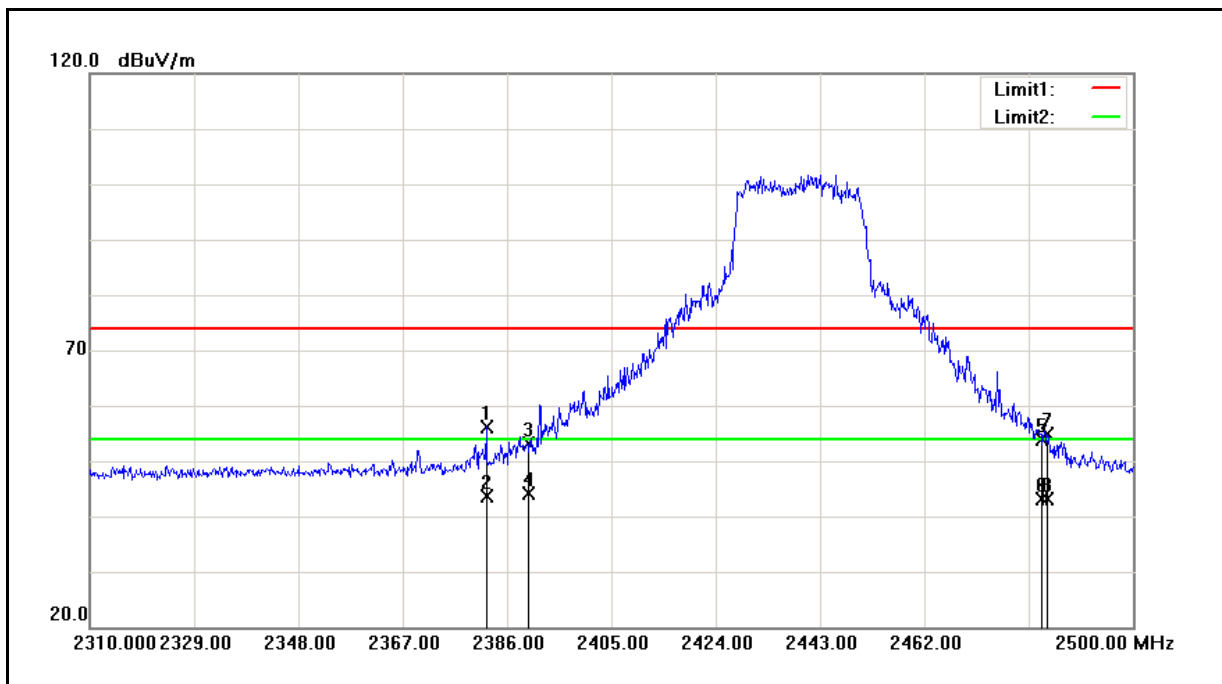
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.870	62.93	-0.34	62.59	74.00	-11.41	peak
2	2388.870	48.16	-0.34	47.82	54.00	-6.18	AVG
3	2390.000	61.72	-0.34	61.38	74.00	-12.62	peak
4	2390.000	49.23	-0.34	48.89	54.00	-5.11	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	3	Date:	08/02/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



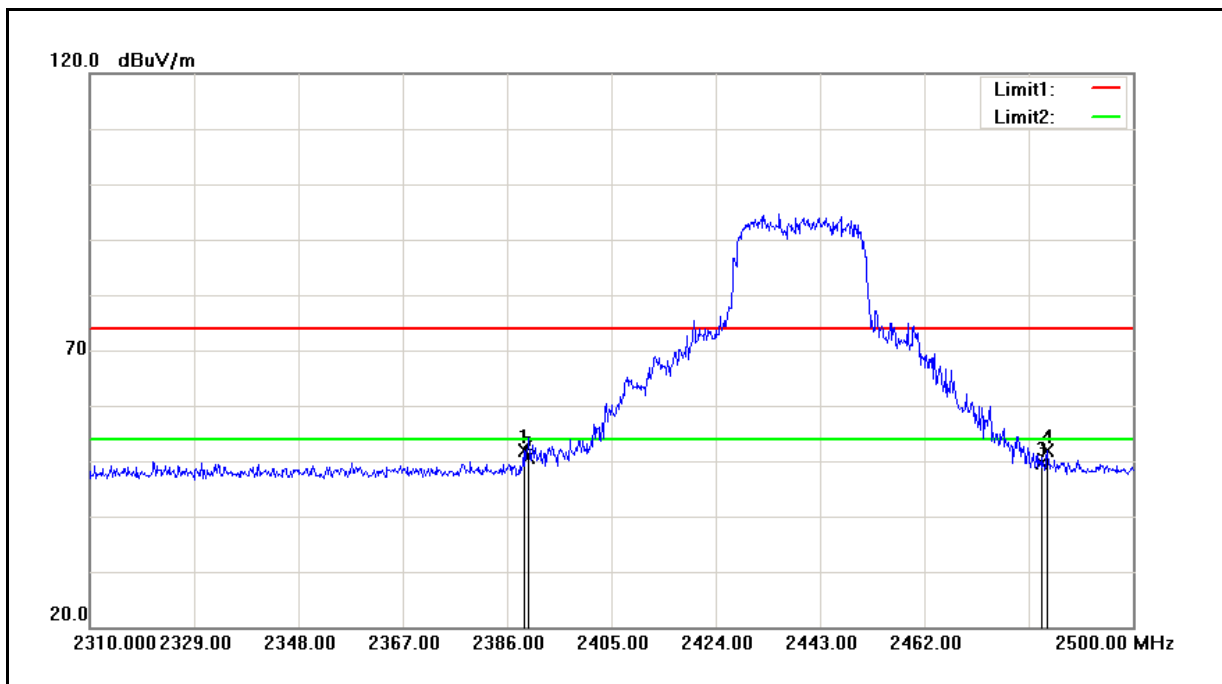
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2382.200	56.42	-0.37	56.05	74.00	-17.95	peak
2	2382.200	44.04	-0.37	43.67	54.00	-10.33	AVG
3	2390.000	53.40	-0.34	53.06	74.00	-20.94	peak
4	2390.000	44.39	-0.34	44.05	54.00	-9.95	AVG
5	2483.500	53.82	0.03	53.85	74.00	-20.15	peak
6	2483.500	43.18	0.03	43.21	54.00	-10.79	AVG
7	2484.420	54.79	0.04	54.83	74.00	-19.17	peak
8	2484.420	43.11	0.04	43.15	54.00	-10.85	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	3	Date:	08/02/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.040	52.10	-0.34	51.76	74.00	-22.24	peak
2	2390.000	51.00	-0.34	50.66	74.00	-23.34	peak
3	2483.500	49.52	0.03	49.55	74.00	-24.45	peak
4	2484.420	51.81	0.04	51.85	74.00	-22.15	peak

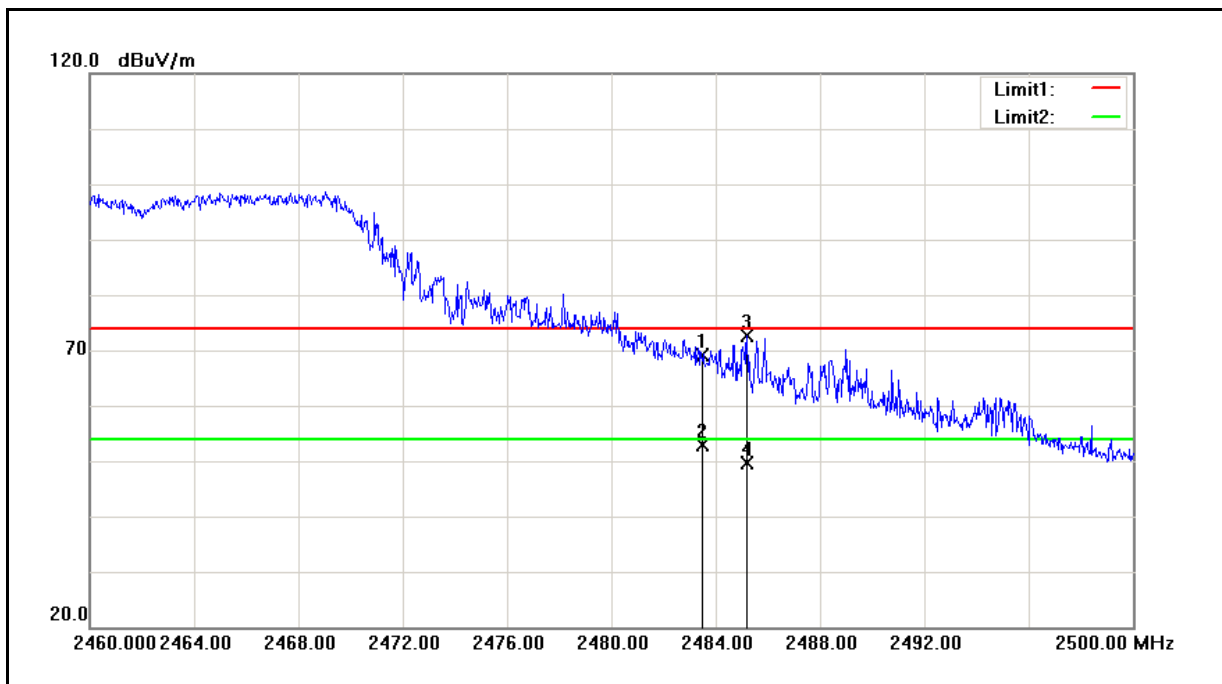
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	3	Date:	08/02/2016
Frequency:	2462 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



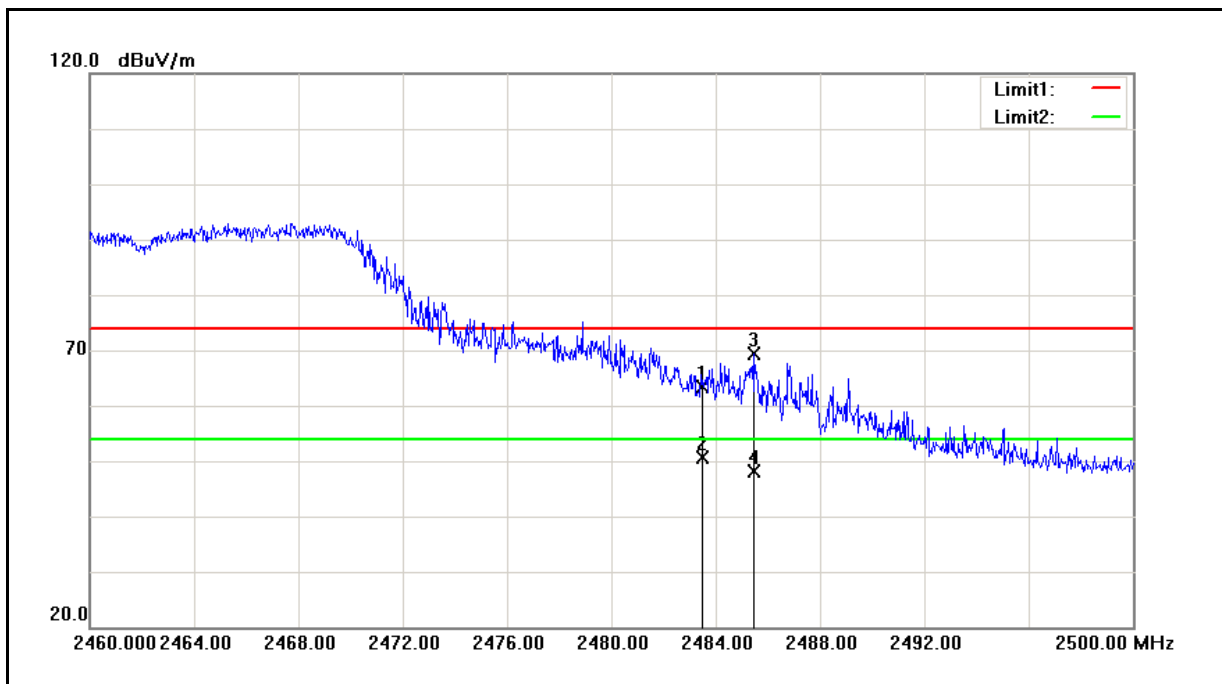
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	69.22	0.03	69.25	74.00	-4.75	peak
2	2483.500	52.87	0.03	52.90	54.00	-1.10	AVG
3	2485.200	72.60	0.04	72.64	74.00	-1.36	peak
4	2485.200	49.49	0.04	49.53	54.00	-4.47	AVG

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	3	Date:	08/02/2016
Frequency:	2462 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



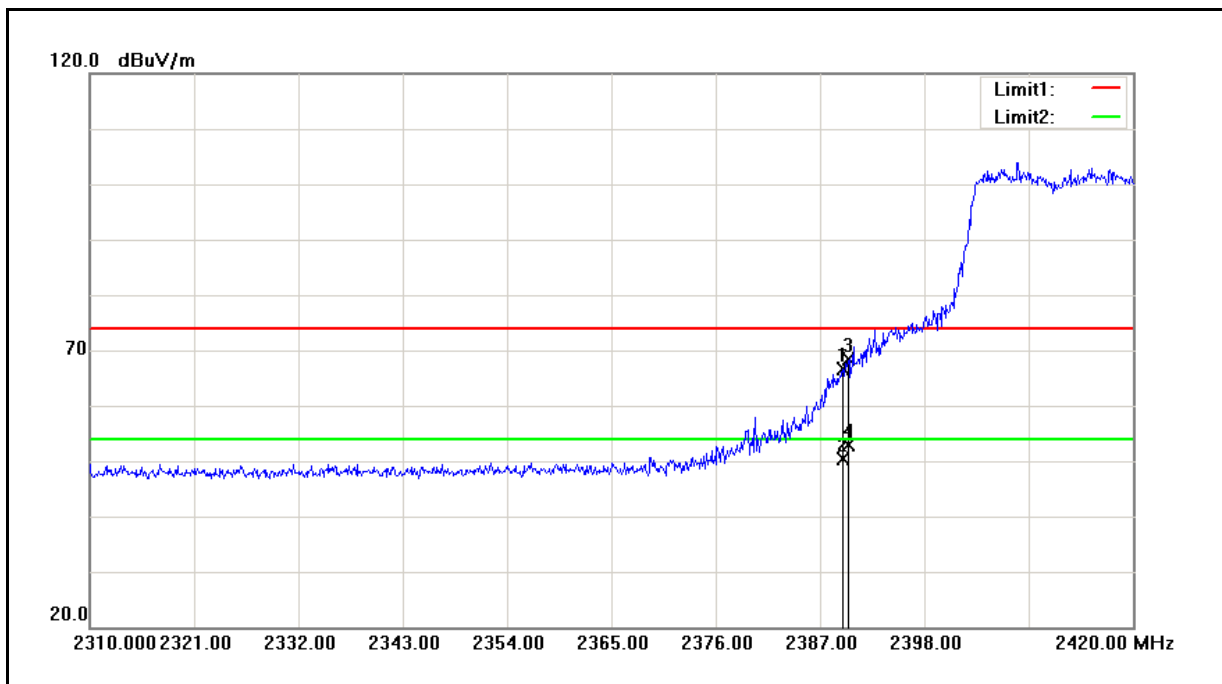
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	63.28	0.03	63.31	74.00	-10.69	peak
2	2483.500	50.58	0.03	50.61	54.00	-3.39	AVG
3	2485.480	69.23	0.04	69.27	74.00	-4.73	peak
4	2485.480	48.01	0.04	48.05	54.00	-5.95	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	08/02/2016
Frequency:	2412 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



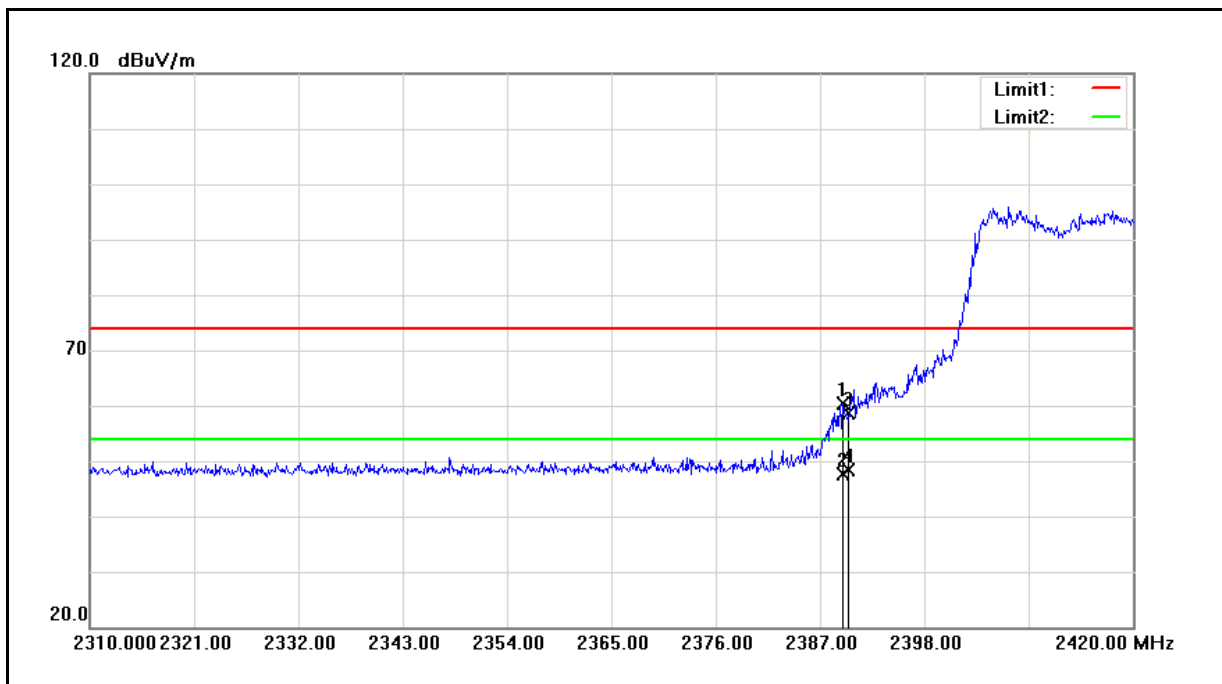
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.420	66.97	-0.34	66.63	74.00	-7.37	peak
2	2389.420	50.80	-0.34	50.46	54.00	-3.54	AVG
3	2390.000	68.65	-0.34	68.31	74.00	-5.69	peak
4	2390.000	53.28	-0.34	52.94	54.00	-1.06	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	08/02/2016
Frequency:	2412 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



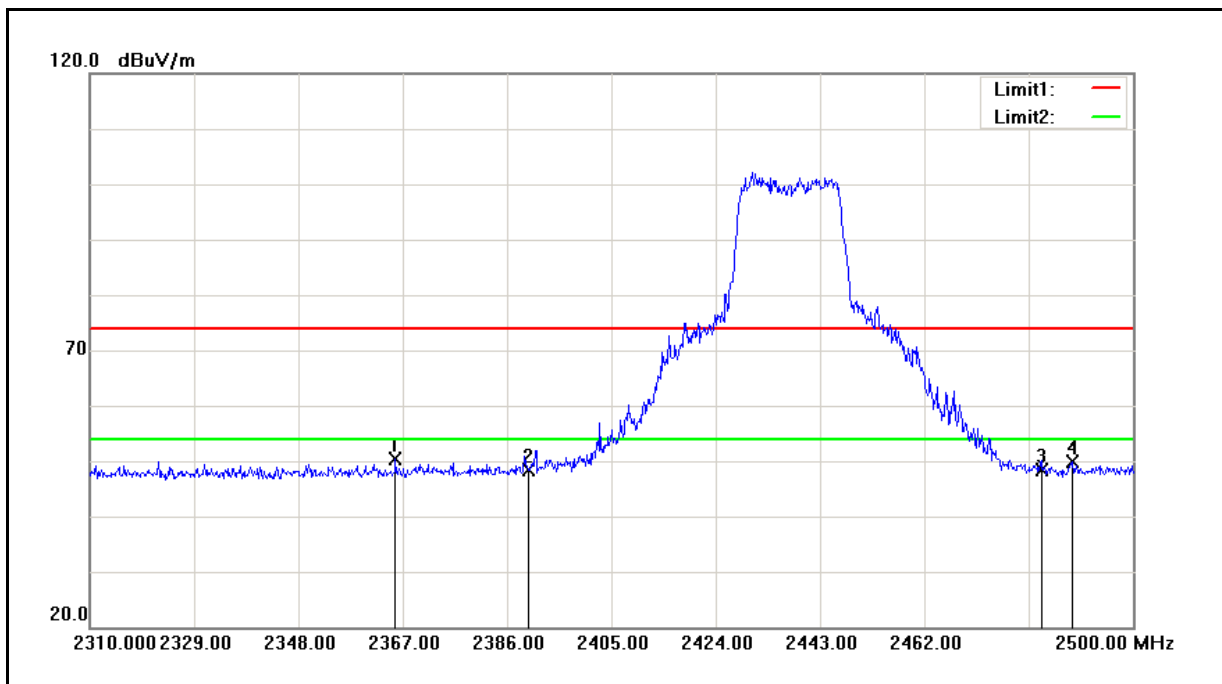
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.420	60.70	-0.34	60.36	74.00	-13.64	peak
2	2389.420	47.96	-0.34	47.62	54.00	-6.38	AVG
3	2390.000	59.07	-0.34	58.73	74.00	-15.27	peak
4	2390.000	48.75	-0.34	48.41	54.00	-5.59	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	08/02/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



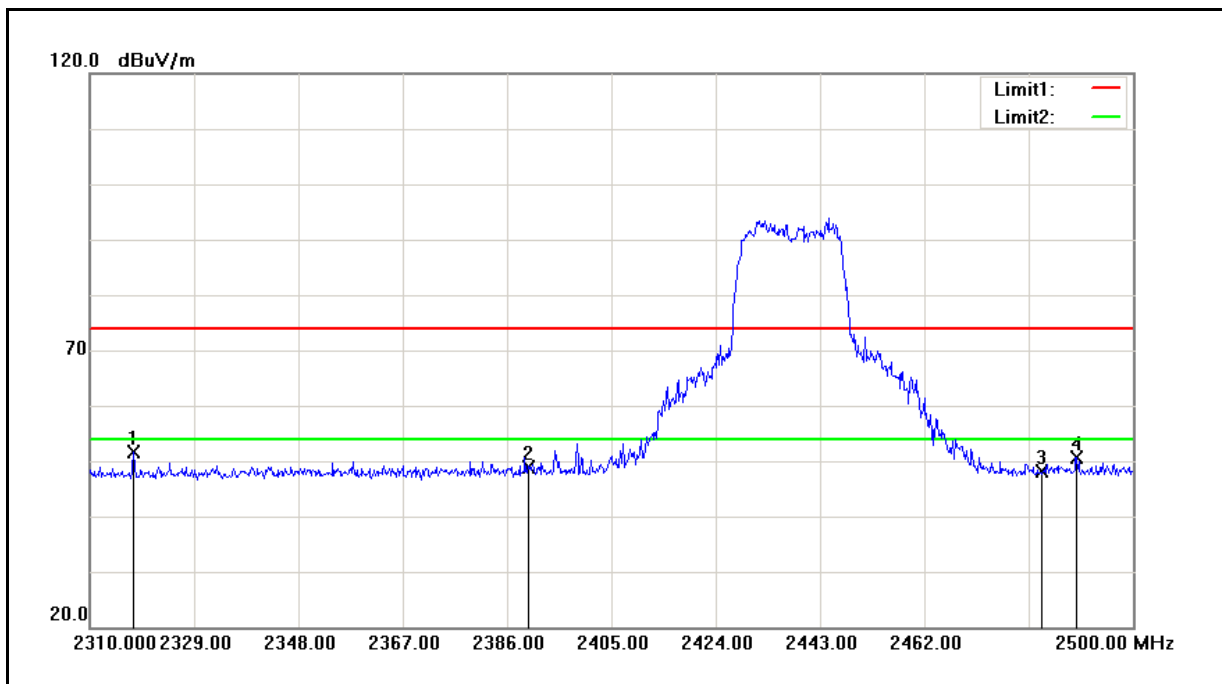
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2365.670	50.78	-0.44	50.34	74.00	-23.66	peak
2	2390.000	48.82	-0.34	48.48	74.00	-25.52	peak
3	2483.500	48.27	0.03	48.30	74.00	-25.70	peak
4	2488.980	49.73	0.06	49.79	74.00	-24.21	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	08/02/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



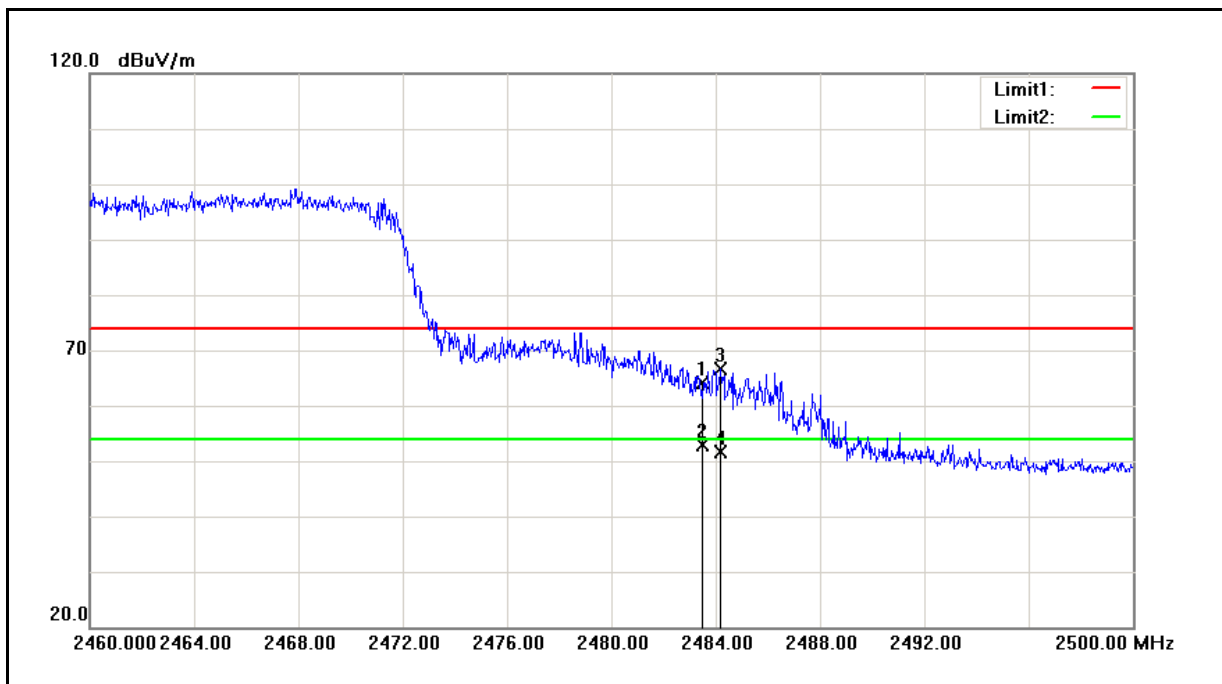
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2317.980	52.22	-0.62	51.60	74.00	-22.40	peak
2	2390.000	49.11	-0.34	48.77	74.00	-25.23	peak
3	2483.500	48.12	0.03	48.15	74.00	-25.85	peak
4	2489.740	50.63	0.06	50.69	74.00	-23.31	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	08/02/2016
Frequency:	2462 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



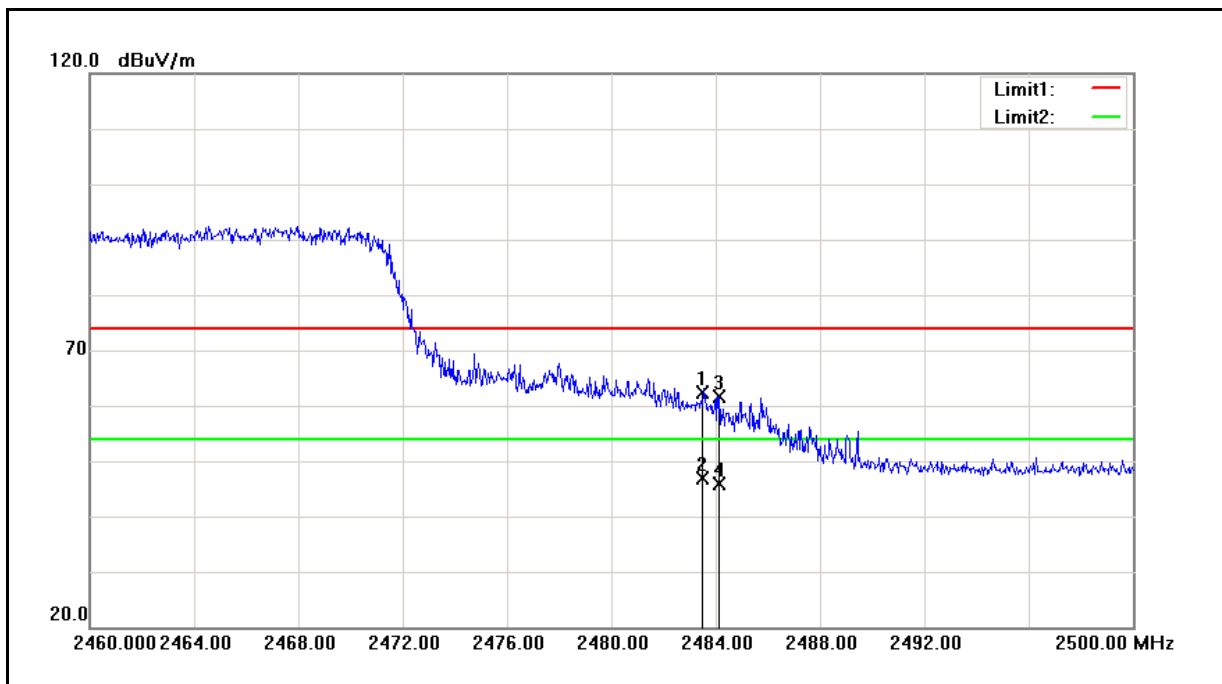
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	64.22	0.03	64.25	74.00	-9.75	peak
2	2483.500	52.80	0.03	52.83	54.00	-1.17	AVG
3	2484.200	66.66	0.04	66.70	74.00	-7.30	peak
4	2484.200	51.48	0.04	51.52	54.00	-2.48	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	08/02/2016
Frequency:	2462 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	62.35	0.03	62.38	74.00	-11.62	peak
2	2483.500	46.74	0.03	46.77	54.00	-7.23	AVG
3	2484.120	61.69	0.04	61.73	74.00	-12.27	peak
4	2484.120	45.76	0.04	45.80	54.00	-8.20	AVG

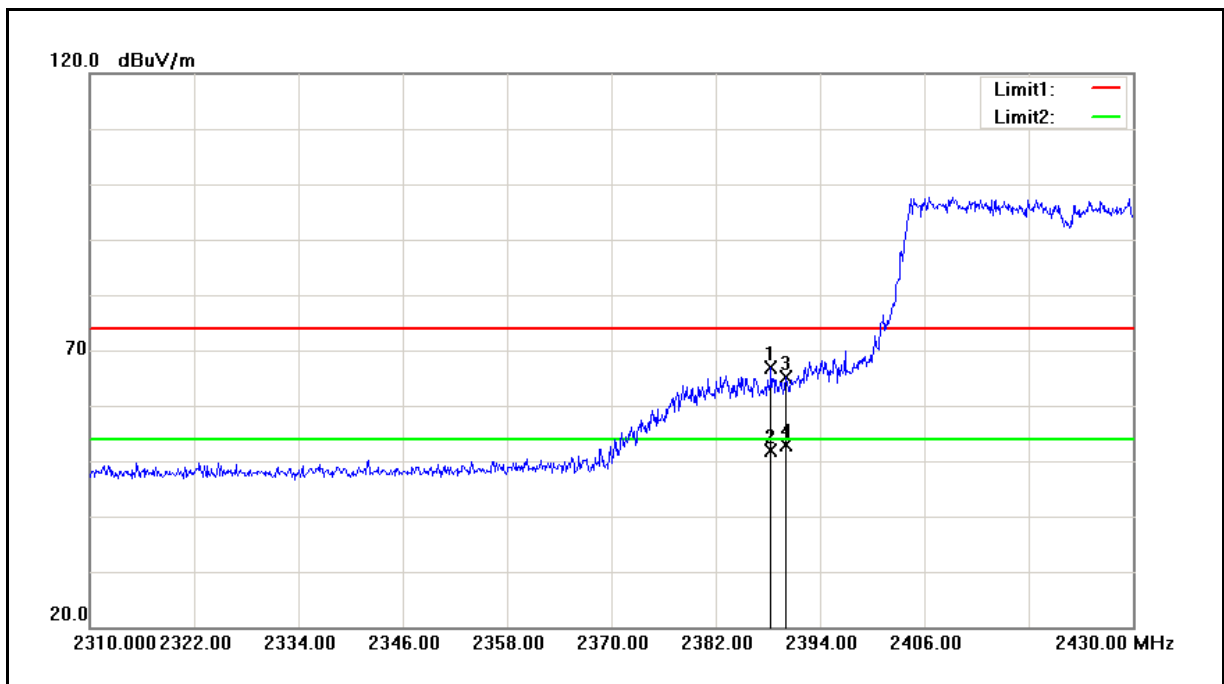
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	01/22/2015
Frequency:	2422 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



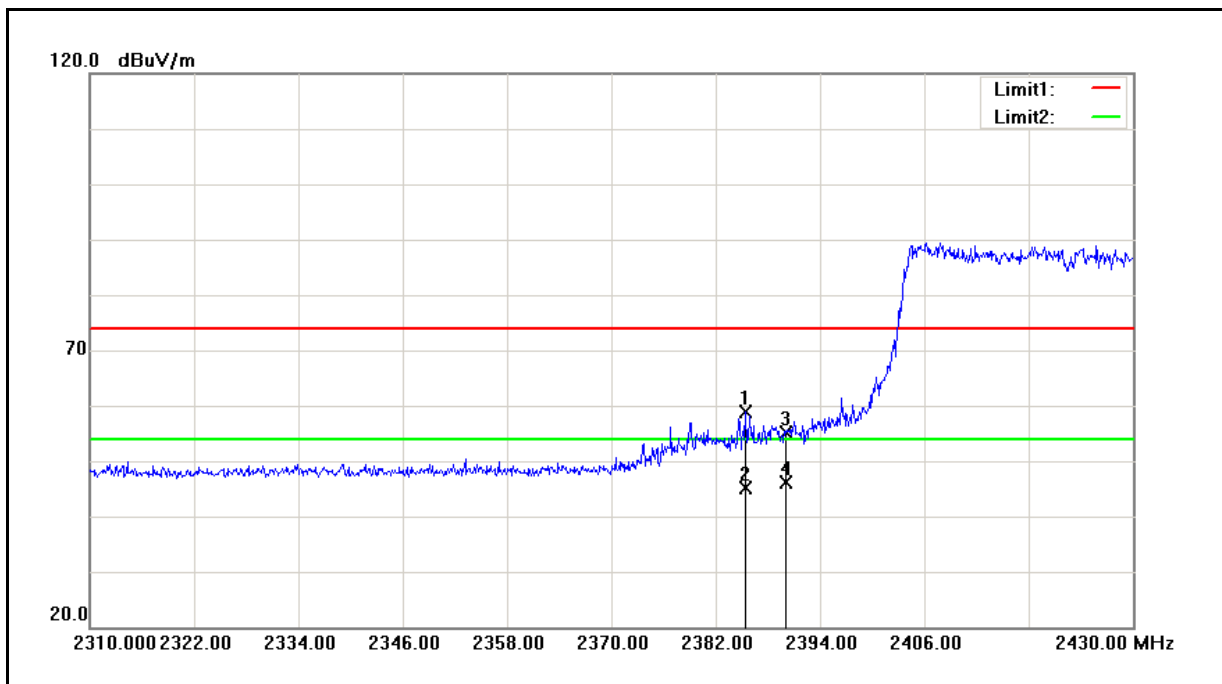
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.360	67.12	-0.34	66.78	74.00	-7.22	peak
2	2388.360	52.27	-0.34	51.93	54.00	-2.07	AVG
3	2390.000	65.53	-0.34	65.19	74.00	-8.81	peak
4	2390.000	53.14	-0.34	52.80	54.00	-1.20	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	01/22/2015
Frequency:	2422 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



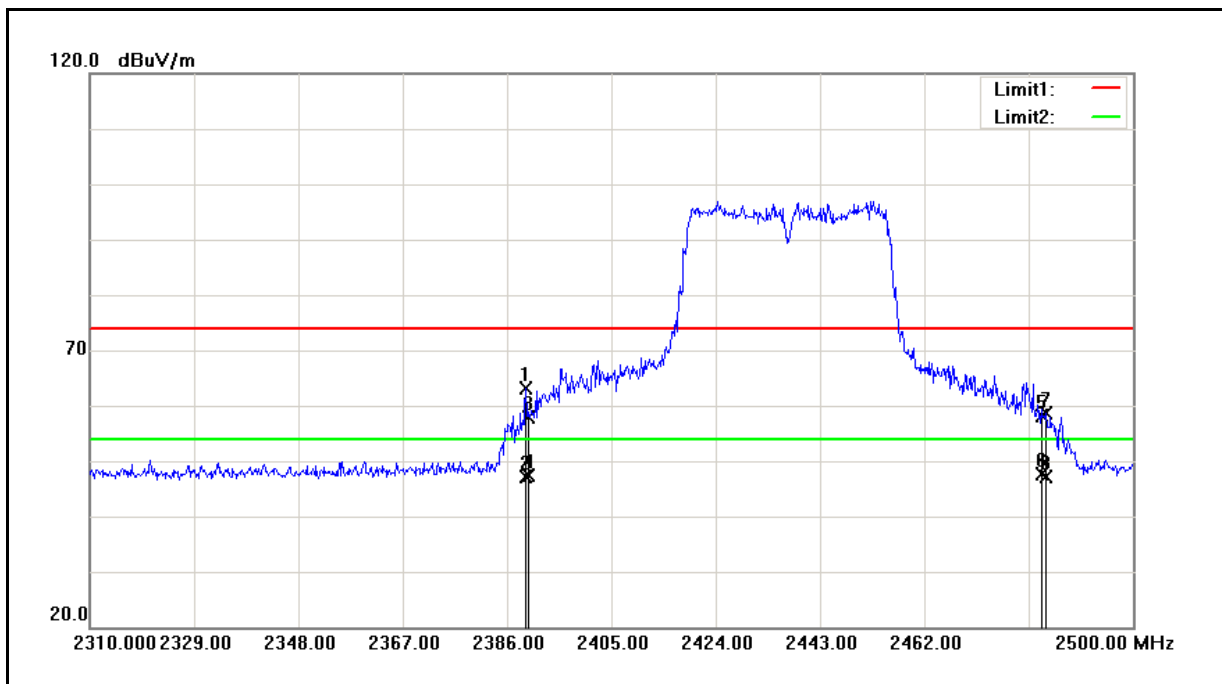
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.360	59.16	-0.36	58.80	74.00	-15.20	peak
2	2385.360	45.38	-0.36	45.02	54.00	-8.98	AVG
3	2390.000	55.46	-0.34	55.12	74.00	-18.88	peak
4	2390.000	46.53	-0.34	46.19	54.00	-7.81	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	08/02/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



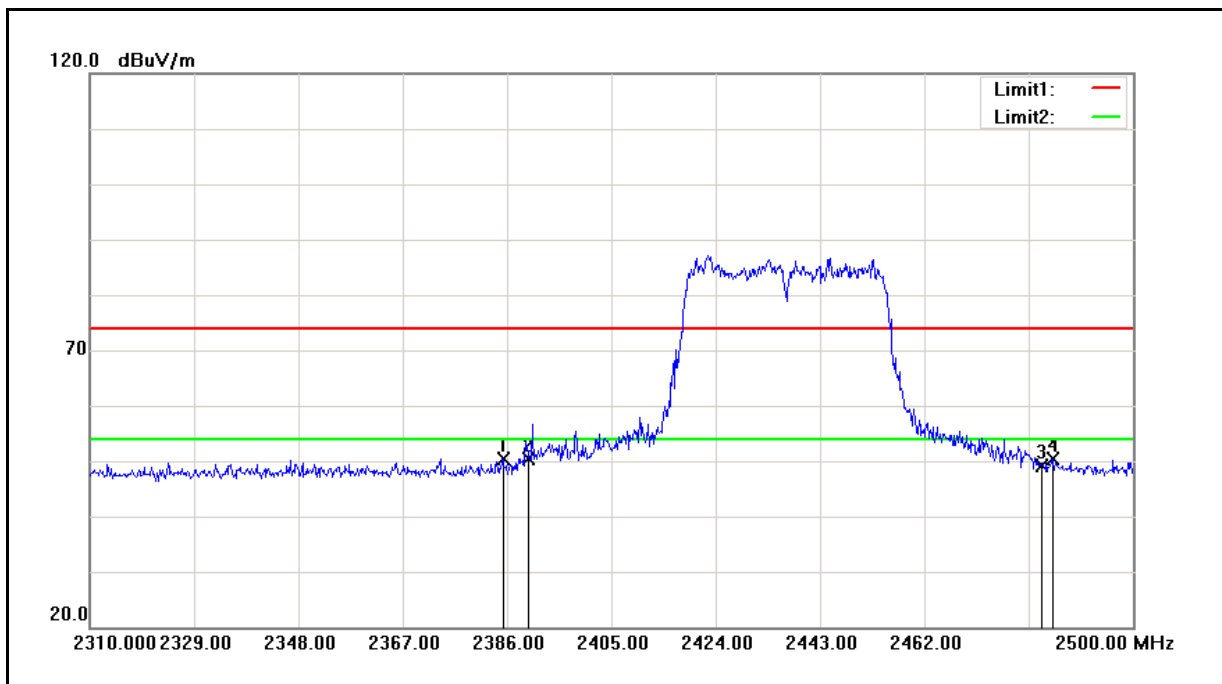
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.420	63.57	-0.34	63.23	74.00	-10.77	peak
2	2389.420	47.36	-0.34	47.02	54.00	-6.98	AVG
3	2390.000	58.15	-0.34	57.81	74.00	-16.19	peak
4	2390.000	47.79	-0.34	47.45	54.00	-6.55	AVG
5	2483.500	58.08	0.03	58.11	74.00	-15.89	peak
6	2483.500	47.66	0.03	47.69	54.00	-6.31	AVG
7	2484.230	58.53	0.04	58.57	74.00	-15.43	peak
8	2484.230	47.06	0.04	47.10	54.00	-6.90	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	08/02/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.240	50.85	-0.36	50.49	74.00	-23.51	peak
2	2390.000	50.70	-0.34	50.36	74.00	-23.64	peak
3	2483.500	49.17	0.03	49.20	74.00	-24.80	peak
4	2485.370	50.37	0.04	50.41	74.00	-23.59	peak

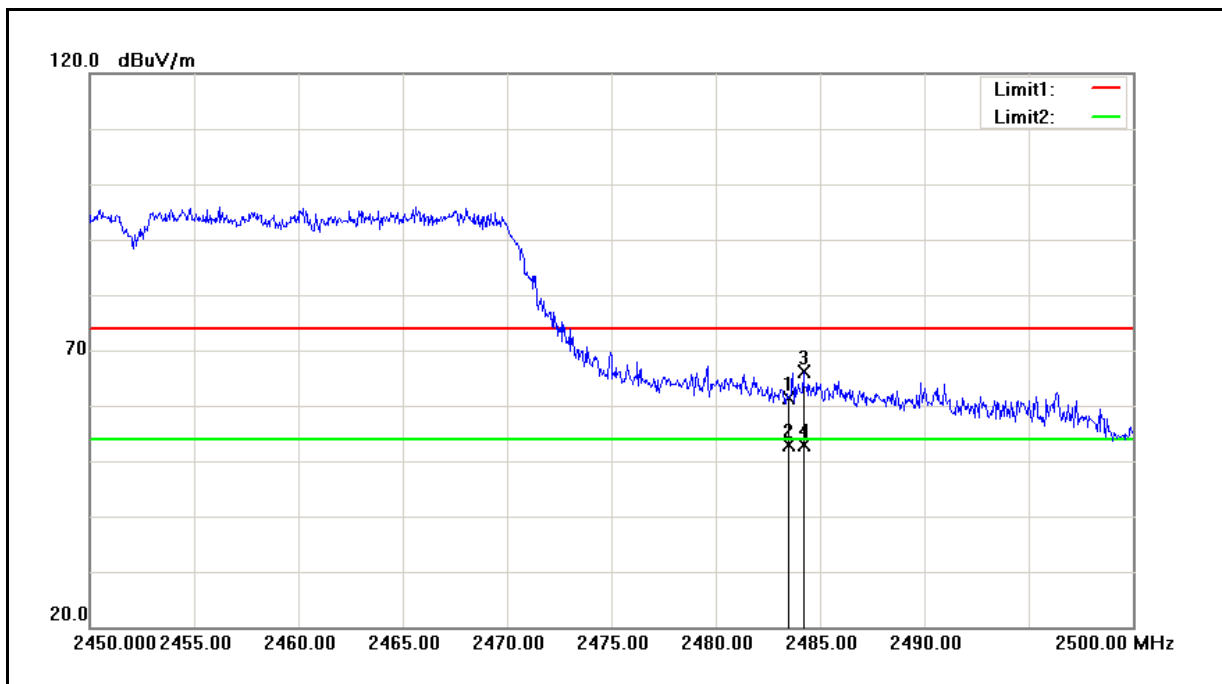
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	01/22/2015
Frequency:	2452 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	61.31	0.03	61.34	74.00	-12.66	peak
2	2483.500	52.94	0.03	52.97	54.00	-1.03	AVG
3	2484.200	66.13	0.04	66.17	74.00	-7.83	peak
4	2484.200	52.86	0.04	52.90	54.00	-1.10	AVG

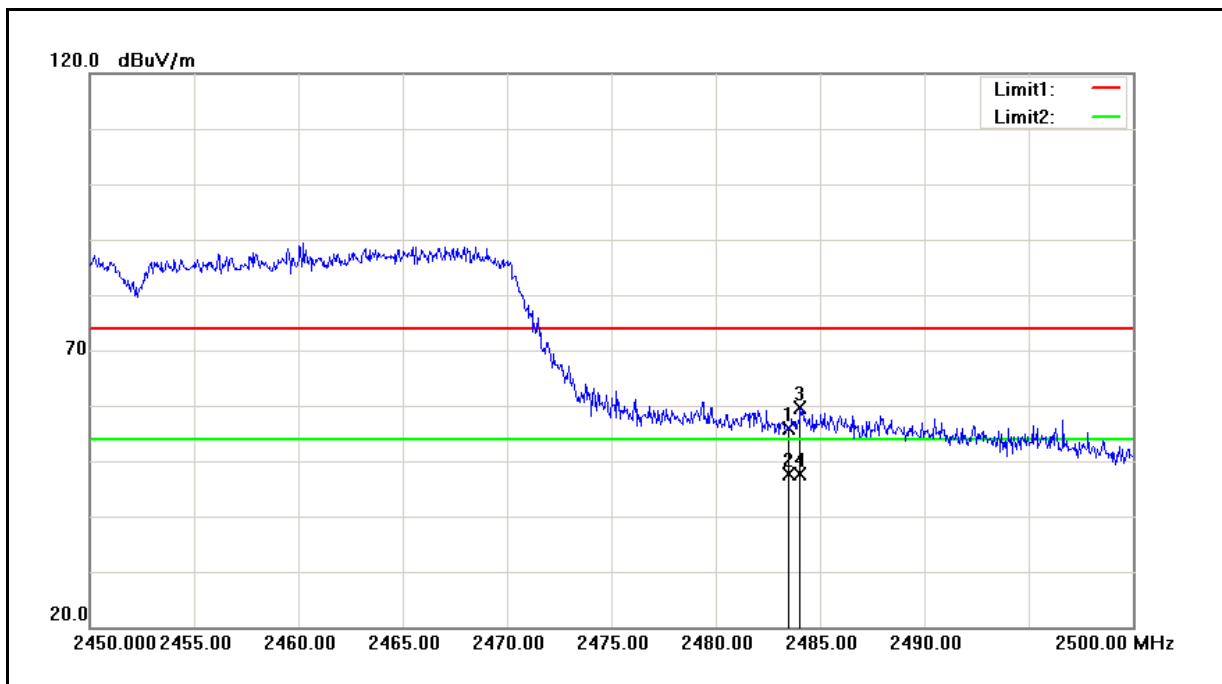
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	01/22/2015
Frequency:	2452 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	55.74	0.03	55.77	74.00	-18.23	peak
2	2483.500	47.72	0.03	47.75	54.00	-6.25	AVG
3	2484.050	59.53	0.04	59.57	74.00	-14.43	peak
4	2484.050	47.54	0.04	47.58	54.00	-6.42	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

**Above 1GHz**

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	EW-7822UNC	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH				
Mode:	Mode 4	Date:	10/07/2016				
Frequency:	2412MHz	Test By:	Eric Ou Yang				
Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4824.000	61.91	-7.96	53.95	74.00	-20.05	peak	H
4824.000	52.53	-7.96	44.57	54.00	-9.43	AVG	H
4824.000	58.04	-7.96	50.08	74.00	-23.92	peak	V
7236.000	52.37	-1.11	51.26	74.00	-22.74	peak	V

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	EW-7822UNC	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH				
Mode:	Mode 4	Date:	10/07/2016				
Frequency:	2437MHz	Test By:	Eric Ou Yang				
Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4874.000	64.04	-7.80	56.24	74.00	-17.76	peak	H
4874.000	54.48	-7.80	46.68	54.00	-7.32	AVG	H
4874.000	59.18	-7.80	51.38	74.00	-22.62	peak	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	EW-7822UNC	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH				
Mode:	Mode 4	Date:	10/07/2016				
Frequency:	2462MHz	Test By:	Eric Ou Yang				
Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4924.000	63.25	-7.65	55.60	74.00	-18.40	peak	H
4924.000	52.44	-7.65	44.79	54.00	-9.21	AVG	H
4924.000	58.02	-7.65	50.37	74.00	-23.63	peak	V

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	EW-7822UNC	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH				
Mode:	Mode 5	Date:	10/07/2016				
Frequency:	2422MHz	Test By:	Eric Ou Yang				
Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4844.000	57.98	-7.88	50.10	74.00	-23.90	peak	H
4844.000	53.10	-7.88	45.22	74.00	-28.78	peak	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	EW-7822UNC	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH				
Mode:	Mode 5	Date:	10/07/2016				
Frequency:	2437MHz	Test By:	Eric Ou Yang				
Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4874.000	58.55	-7.80	50.75	74.00	-23.25	peak	H
4874.000	56.80	-7.80	49.00	74.00	-25.00	peak	V

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	EW-7822UNC	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH				
Mode:	Mode 5	Date:	10/07/2016				
Frequency:	2452MHz	Test By:	Eric Ou Yang				
Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4904.000	58.96	-7.70	51.26	74.00	-22.74	peak	H
4904.000	56.47	-7.70	48.77	74.00	-25.23	peak	V

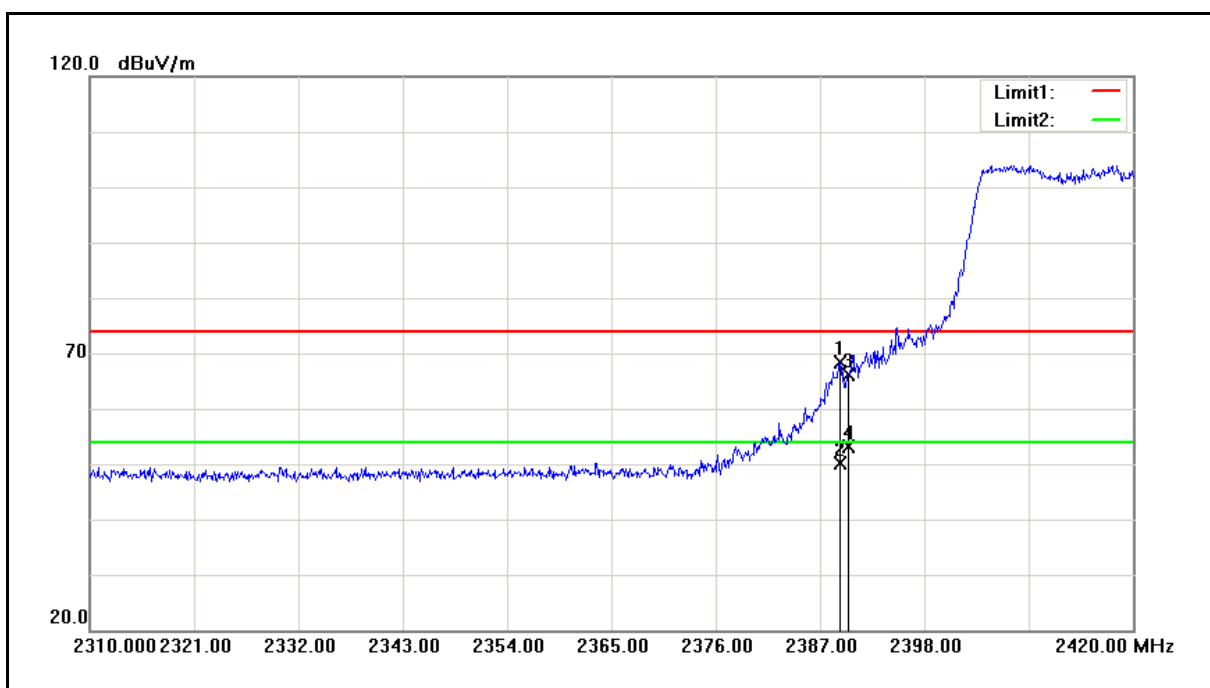
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Band Edge

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	10/07/2016
Frequency:	2412 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		
Beamforming on			



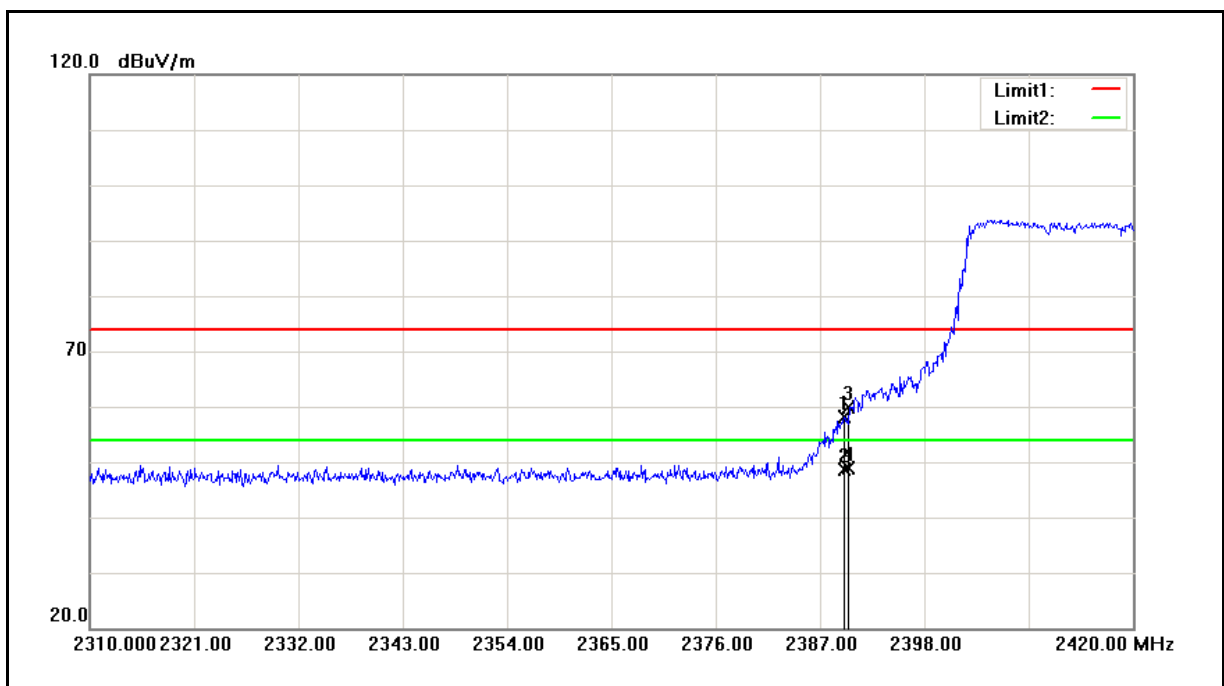
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.090	68.74	-0.34	68.40	74.00	-5.60	peak
2	2389.090	50.44	-0.34	50.10	54.00	-3.90	AVG
3	2390.000	66.37	-0.34	66.03	74.00	-7.97	peak
4	2390.000	53.42	-0.34	53.08	54.00	-0.92	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	10/07/2016
Frequency:	2412 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		
Beamforming on			



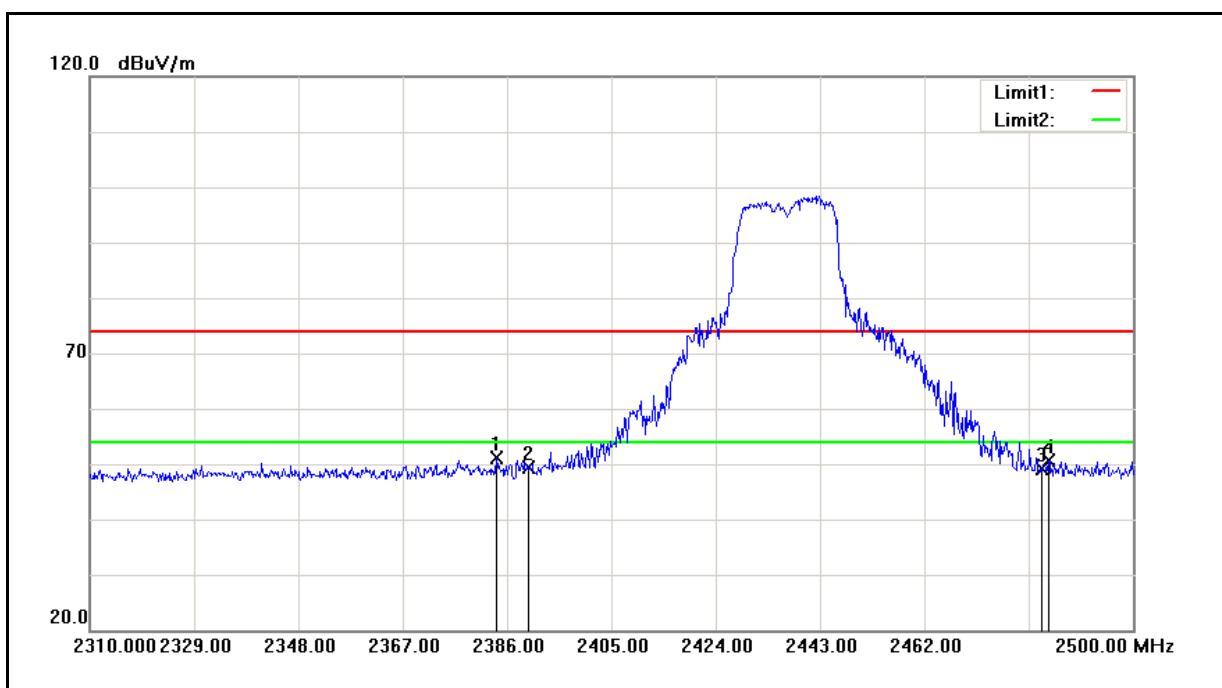
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.530	58.42	-0.34	58.08	74.00	-15.92	peak
2	2389.530	48.85	-0.34	48.51	54.00	-5.49	AVG
3	2390.000	60.22	-0.34	59.88	74.00	-14.12	peak
4	2390.000	49.17	-0.34	48.83	54.00	-5.17	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	10/07/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		
Beamforming on			



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2384.100	51.45	-0.36	51.09	74.00	-22.91	peak
2	2390.000	49.66	-0.34	49.32	74.00	-24.68	peak
3	2483.500	49.03	0.03	49.06	74.00	-24.94	peak
4	2484.610	50.70	0.04	50.74	74.00	-23.26	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

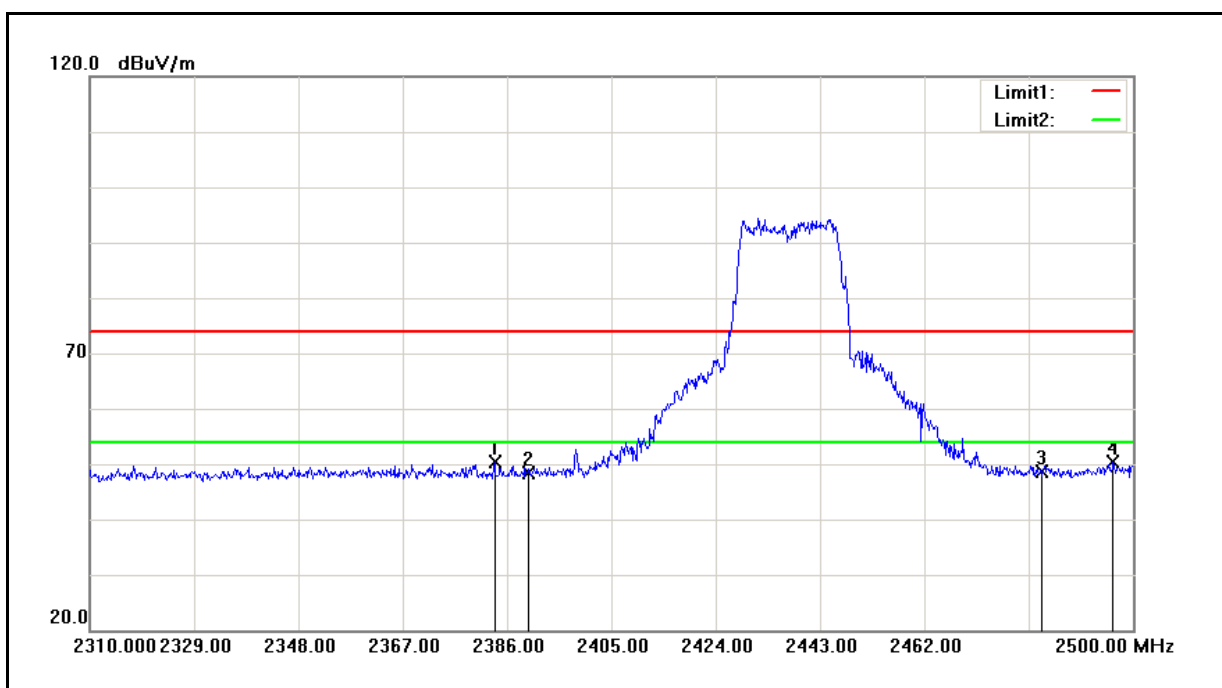
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	10/07/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		

Beamforming on



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2383.720	50.84	-0.37	50.47	74.00	-23.53	peak
2	2390.000	48.67	-0.34	48.33	74.00	-25.67	peak
3	2483.500	48.63	0.03	48.66	74.00	-25.34	peak
4	2496.390	50.30	0.09	50.39	74.00	-23.61	peak

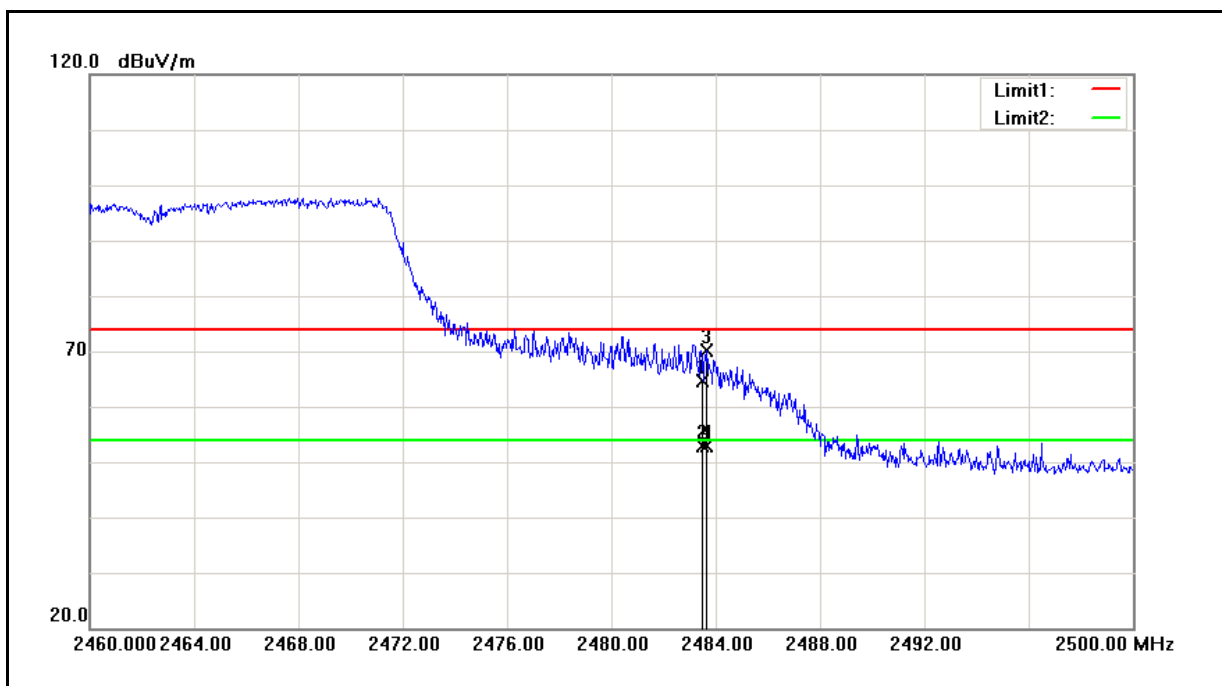
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	10/07/2016
Frequency:	2462 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		
Beamforming on			



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	64.56	0.03	64.59	74.00	-9.41	peak
2	2483.500	52.92	0.03	52.95	54.00	-1.05	AVG
3	2483.640	70.01	0.03	70.04	74.00	-3.96	peak
4	2483.640	52.75	0.03	52.78	54.00	-1.22	AVG

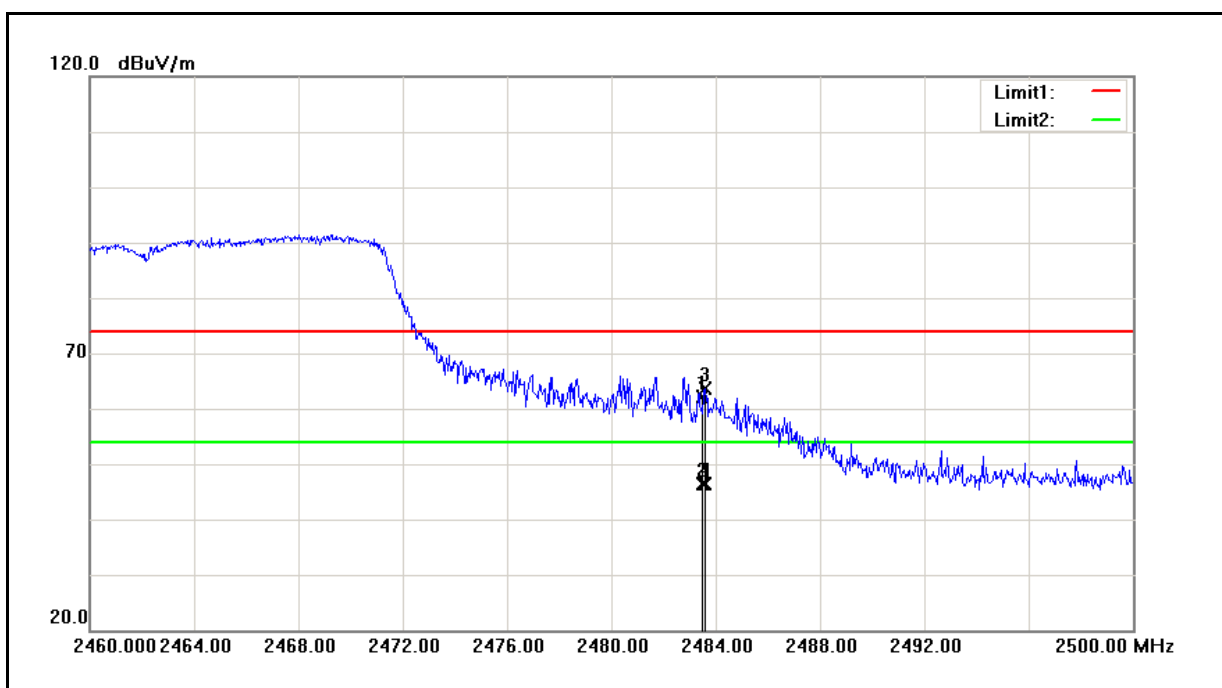
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	10/07/2016
Frequency:	2462 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		
Beamforming on			



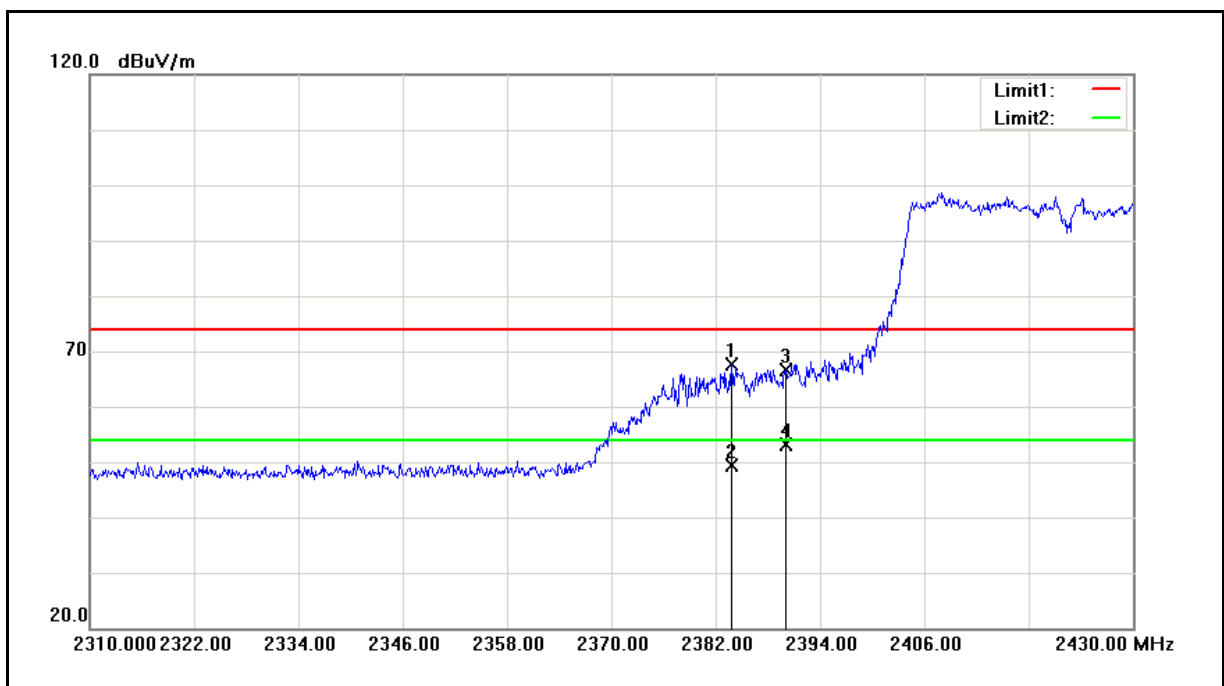
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	62.05	0.03	62.08	74.00	-11.92	peak
2	2483.500	46.42	0.03	46.45	54.00	-7.55	AVG
3	2483.600	63.64	0.03	63.67	74.00	-10.33	peak
4	2483.600	46.31	0.03	46.34	54.00	-7.66	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	01/22/2015
Frequency:	2422 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		
Beamforming on			



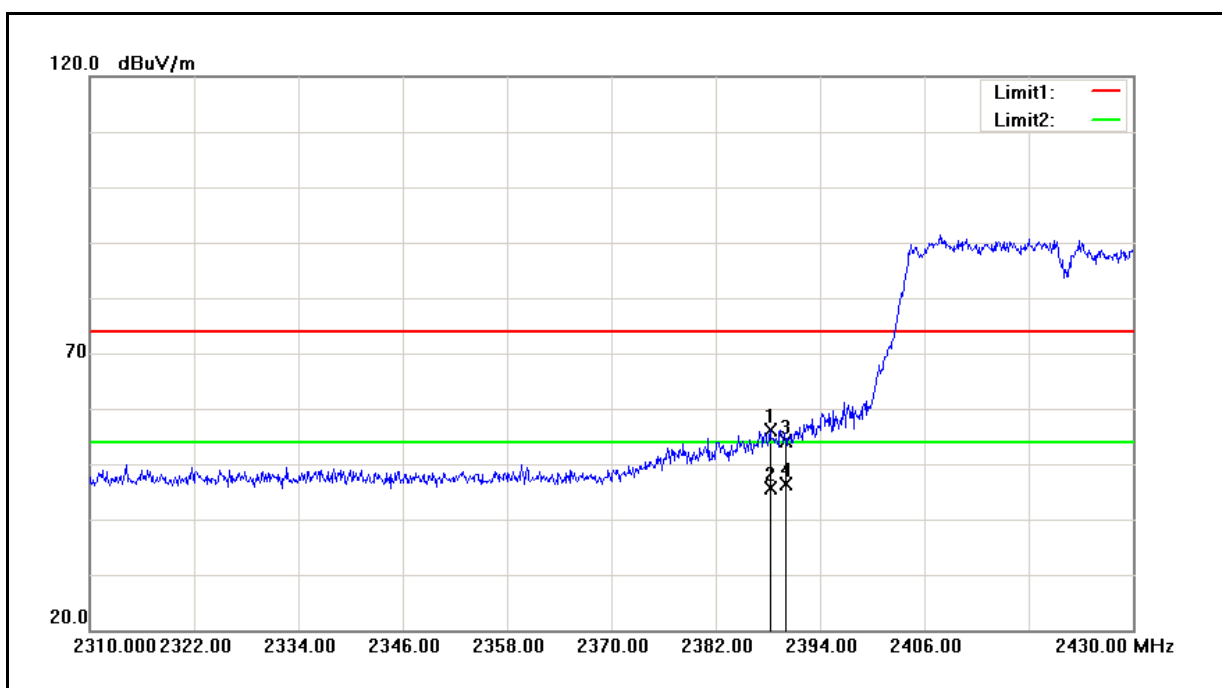
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2383.800	68.12	-0.37	67.75	74.00	-6.25	peak
2	2383.800	49.79	-0.37	49.42	54.00	-4.58	AVG
3	2390.000	66.87	-0.34	66.53	74.00	-7.47	peak
4	2390.000	53.45	-0.34	53.11	54.00	-0.89	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	01/22/2015
Frequency:	2422 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		
Beamforming on			



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.240	56.42	-0.34	56.08	74.00	-17.92	peak
2	2388.240	45.98	-0.34	45.64	54.00	-8.36	AVG
3	2390.000	54.44	-0.34	54.10	74.00	-19.90	peak
4	2390.000	46.68	-0.34	46.34	54.00	-7.66	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

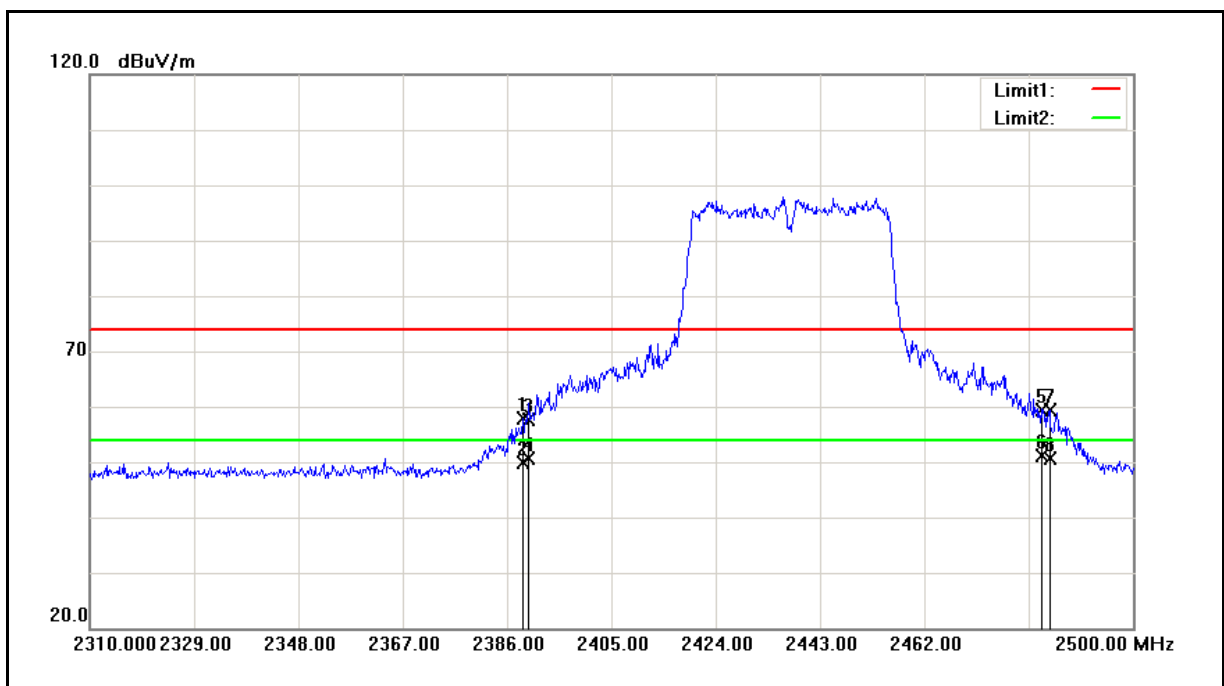
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	10/07/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		

Beamforming on





Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	10/07/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		
Beamforming on			

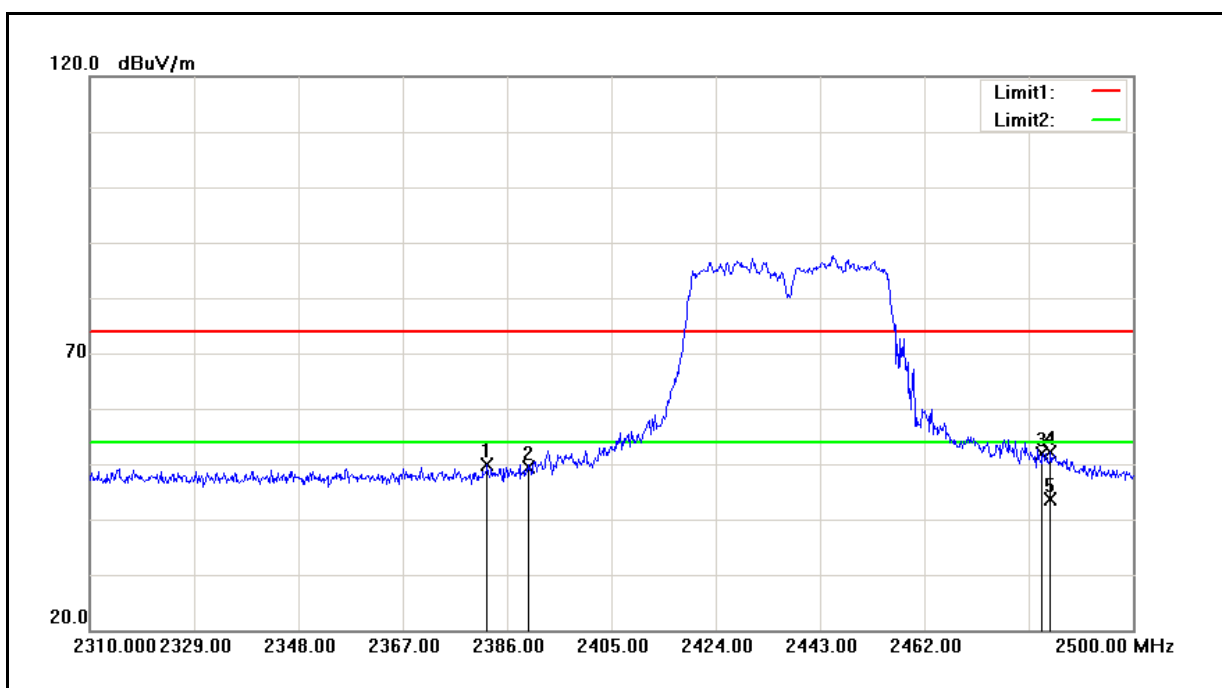
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.850	58.19	-0.34	57.85	74.00	-16.15	peak
2	2388.850	50.11	-0.34	49.77	54.00	-4.23	AVG
3	2390.000	57.99	-0.34	57.65	74.00	-16.35	peak
4	2390.000	50.93	-0.34	50.59	54.00	-3.41	AVG
5	2483.500	59.36	0.03	59.39	74.00	-14.61	peak
6	2483.500	51.21	0.03	51.24	54.00	-2.76	AVG
7	2484.800	59.39	0.04	59.43	74.00	-14.57	peak
8	2484.800	50.63	0.04	50.67	54.00	-3.33	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	10/07/2016
Frequency:	2437 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		
Beamforming on			



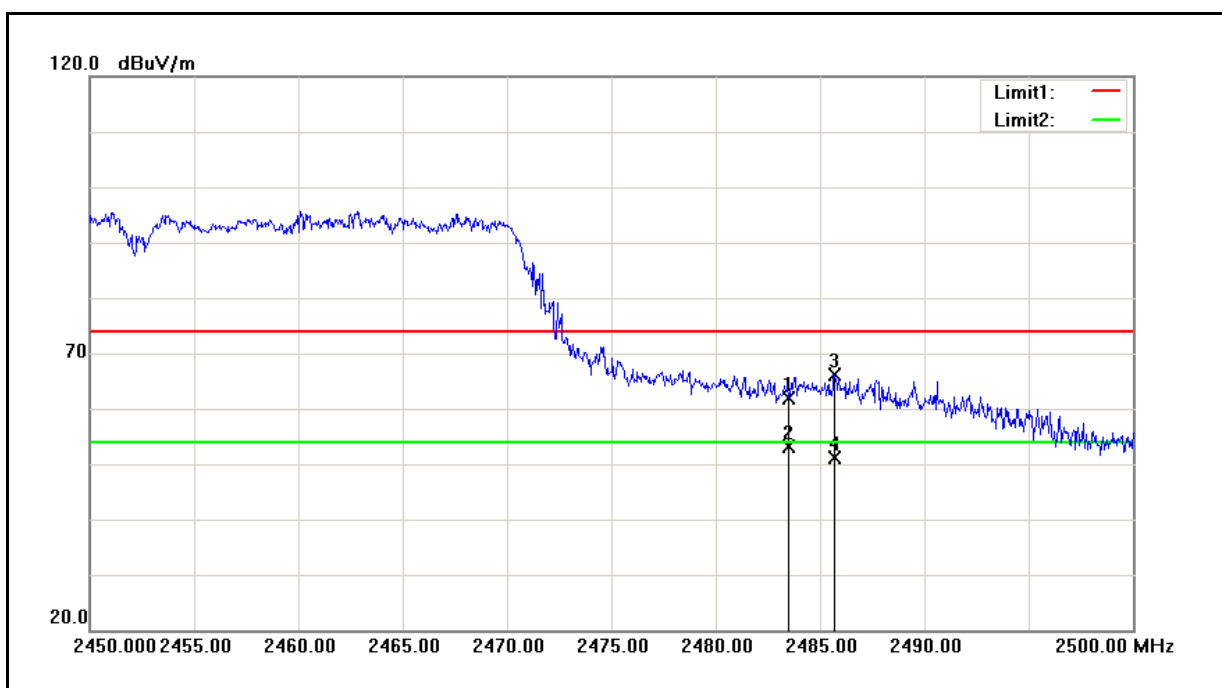
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2382.390	50.32	-0.37	49.95	74.00	-24.05	peak
2	2390.000	49.69	-0.34	49.35	74.00	-24.65	peak
3	2483.500	51.87	0.03	51.90	74.00	-22.10	peak
4	2484.990	52.17	0.04	52.21	74.00	-21.79	peak
5	2484.990	43.50	0.04	43.54	54.00	-10.46	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	01/22/2015
Frequency:	2452 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Horizontal		
Beamforming on			



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	61.97	0.03	62.00	74.00	-12.00	peak
2	2483.500	53.13	0.03	53.16	54.00	-0.84	AVG
3	2485.700	66.00	0.04	66.04	74.00	-7.96	peak
4	2485.700	51.18	0.04	51.22	54.00	-2.78	AVG

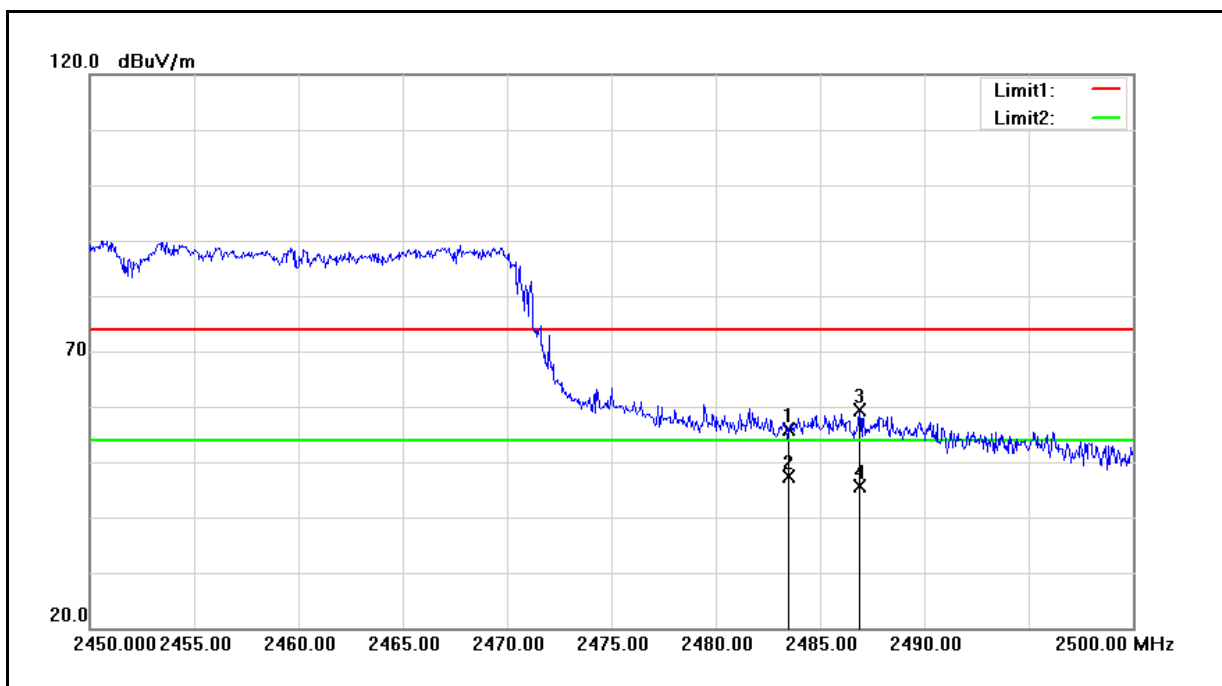
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	EW-7822UNC	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	01/22/2015
Frequency:	2452 MHz	Test By:	Eric Ou Yang
Ant.Polar.:	Vertical		
Beamforming on			



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	55.75	0.03	55.78	74.00	-18.22	peak
2	2483.500	47.34	0.03	47.37	54.00	-6.63	AVG
3	2486.900	59.34	0.04	59.38	74.00	-14.62	peak
4	2486.900	45.55	0.04	45.59	54.00	-8.41	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

6 Maximum Conducted Output Power Measurement

6.1. Limit

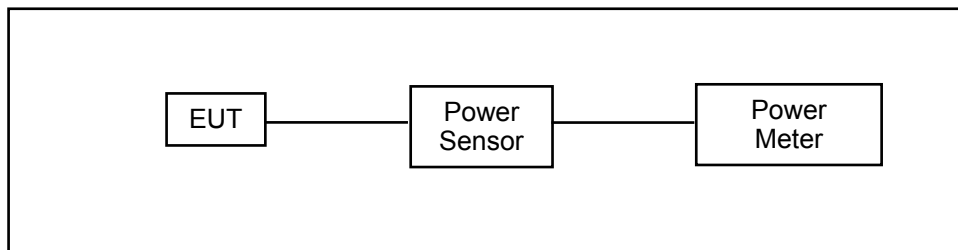
For systems using digital modulation in the 2400-2483.5MHz, the limit for maximum output power is 30dBm.

And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

* SISO mode for ANT-0 : Directional Gain = Max. Gain = 1.81 dBi < 6 dBi.

* MIMO/BF mode : Directional Gain = $10 \cdot \log\left[\frac{10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_n/20}}{N_{ANT}}\right]^2$ = 4.13 dBi < 6dBi

6.2. Test Setup



6.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Power Sensor	Anritsu	MA2411B	1126022	08/29/2016	1 year
Power Meter	Anritsu	ML2495A	1135009	08/29/2016	1 year
Microwave Cable	EMCI	EMC104-SM-SM-1500	140303	02/23/2016	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

6.4. Test Procedure

The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor.

6.5. Test Result

Model Number	EW-7822UNC				
Test Item	Maximum Conducted Output Power				
Date of Test	08/02/2016				
ANT-0					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 2	2412	1M	14.25	0.027	< 30
	2437		14.23	0.026	< 30
	2462		14.45	0.028	< 30
	2437	2M	14.20	0.026	< 30
	2437	5.5M	14.19	0.026	< 30
	2437	11M	14.15	0.026	< 30
Mode 3	2412	6M	14.62	0.029	< 30
	2437		16.26	0.042	< 30
	2462		14.20	0.026	< 30
	2437	9M	16.25	0.042	< 30
	2437	12M	16.20	0.042	< 30
	2437	18M	16.24	0.042	< 30
	2437	24M	16.19	0.042	< 30
	2437	36M	16.22	0.042	< 30
	2437	48M	16.20	0.042	< 30
	2437	54M	16.18	0.041	< 30

Note: The relevant measured result has the offset with cable loss already.



Model Number	EW-7822UNC				
Test Item	Maximum Conducted Output Power				
Date of Test	08/02/2016				
ANT-0					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 4	2412	13M	15.41	0.035	< 30
	2437		15.46	0.035	< 30
	2462		15.44	0.035	< 30
	2437	26M	15.26	0.034	< 30
	2437	39M	15.40	0.035	< 30
	2437	52M	15.45	0.035	< 30
	2437	78M	15.43	0.035	< 30
	2437	104M	15.39	0.035	< 30
	2437	117M	15.37	0.034	< 30
	2437	130M	15.44	0.035	< 30
	2437	156M	15.41	0.035	< 30
Mode 5	2422	27M	15.26	0.034	< 30
	2437		15.37	0.034	< 30
	2452		15.45	0.035	< 30
	2437	54M	15.35	0.034	< 30
	2437	81M	15.30	0.034	< 30
	2437	108M	15.36	0.034	< 30
	2437	162M	15.34	0.034	< 30
	2437	216M	15.29	0.034	< 30
	2437	243M	15.36	0.034	< 30
	2437	135M	15.32	0.034	< 30
	2437	324M	15.31	0.034	< 30
	2437	360M	15.33	0.034	< 30

Note: The relevant measured result has the offset with cable loss already.



Model Number	EW-7822UNC				
Test Item	Maximum Conducted Output Power				
Date of Test	08/02/2016				
ANT-1					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 4	2412	13M	15.49	0.035	< 30
	2437		15.48	0.035	< 30
	2462		15.42	0.035	< 30
	2437	26M	15.18	0.033	< 30
	2437	39M	15.45	0.035	< 30
	2437	52M	15.47	0.035	< 30
	2437	78M	15.40	0.035	< 30
	2437	104M	15.42	0.035	< 30
	2437	117M	15.41	0.035	< 30
	2437	130M	15.46	0.035	< 30
	2437	156M	15.38	0.035	< 30
Mode 5	2422	27M	15.39	0.035	< 30
	2437		15.47	0.035	< 30
	2452		15.48	0.035	< 30
	2437	54M	15.41	0.035	< 30
	2437	81M	15.39	0.035	< 30
	2437	108M	15.45	0.035	< 30
	2437	162M	15.44	0.035	< 30
	2437	216M	15.38	0.035	< 30
	2437	243M	15.42	0.035	< 30
	2437	135M	15.40	0.035	< 30
	2437	324M	15.36	0.034	< 30
	2437	360M	15.38	0.035	< 30

Note: The relevant measured result has the offset with cable loss already.



Model Number	EW-7822UNC				
Test Item	Maximum Conducted Output Power				
Date of Test	08/02/2016				
ANT-0+1					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 4	2412	13M	18.46	0.070	< 30
	2437		18.48	0.070	< 30
	2462		18.44	0.070	< 30
	2437	26M	18.23	0.067	< 30
	2437	39M	18.44	0.070	< 30
	2437	52M	18.47	0.070	< 30
	2437	78M	18.43	0.070	< 30
	2437	104M	18.42	0.069	< 30
	2437	117M	18.40	0.069	< 30
	2437	130M	18.46	0.070	< 30
	2437	156M	18.41	0.069	< 30
Mode 5	2422	27M	18.34	0.068	< 30
	2437		18.43	0.070	< 30
	2452		18.48	0.070	< 30
	2437	54M	18.39	0.069	< 30
	2437	81M	18.36	0.068	< 30
	2437	108M	18.42	0.069	< 30
	2437	162M	18.40	0.069	< 30
	2437	216M	18.35	0.068	< 30
	2437	243M	18.40	0.069	< 30
	2437	135M	18.37	0.069	< 30
	2437	324M	18.35	0.068	< 30
	2437	360M	18.37	0.069	< 30

Note: The relevant measured result has the offset with cable loss already.



Model Number	EW-7822UNC				
Test Item	Maximum Conducted Output Power				
Date of Test	08/02/2016				
Beamforming on					
ANT-0					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 4	2412	13M	14.05	0.025	< 30
	2437		15.73	0.037	< 30
	2462		14.94	0.031	< 30
	2437	26M	15.60	0.036	< 30
	2437	39M	15.57	0.036	< 30
	2437	52M	15.70	0.037	< 30
	2437	78M	15.68	0.037	< 30
	2437	104M	15.65	0.037	< 30
	2437	117M	15.71	0.037	< 30
	2437	130M	15.66	0.037	< 30
	2437	156M	15.63	0.037	< 30
Mode 5	2422	27M	13.84	0.024	< 30
	2437		15.26	0.034	< 30
	2452		12.39	0.017	< 30
	2437	54M	15.20	0.033	< 30
	2437	81M	15.23	0.033	< 30
	2437	108M	15.17	0.033	< 30
	2437	162M	15.12	0.033	< 30
	2437	216M	15.15	0.033	< 30
	2437	243M	15.21	0.033	< 30
	2437	135M	15.19	0.033	< 30
	2437	324M	15.13	0.033	< 30
	2437	360M	15.12	0.033	< 30

Note: The relevant measured result has the offset with cable loss already.



Model Number	EW-7822UNC				
Test Item	Maximum Conducted Output Power				
Date of Test	08/02/2016				
Beamforming on					
ANT-1					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 4	2412	13M	14.17	0.026	< 30
	2437		16.36	0.043	< 30
	2462		15.02	0.032	< 30
	2437	26M	16.27	0.042	< 30
	2437	39M	16.32	0.043	< 30
	2437	52M	16.30	0.043	< 30
	2437	78M	16.25	0.042	< 30
	2437	104M	16.20	0.042	< 30
	2437	117M	16.29	0.043	< 30
	2437	130M	16.22	0.042	< 30
	2437	156M	16.25	0.042	< 30
Mode 5	2422	27M	13.98	0.025	< 30
	2437		15.02	0.032	< 30
	2452		12.37	0.017	< 30
	2437	54M	15.00	0.032	< 30
	2437	81M	14.95	0.031	< 30
	2437	108M	14.97	0.031	< 30
	2437	162M	14.98	0.031	< 30
	2437	216M	14.92	0.031	< 30
	2437	243M	14.99	0.032	< 30
	2437	135M	14.99	0.032	< 30
	2437	324M	14.95	0.031	< 30
	2437	360M	14.91	0.031	< 30

Note: The relevant measured result has the offset with cable loss already.

Model Number	EW-7822UNC				
Test Item	Maximum Conducted Output Power				
Date of Test	08/02/2016				
Beamforming on					
ANT-0+1					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 4	2412	13M	17.12	0.052	< 30
	2437		19.07	0.081	< 30
	2462		17.99	0.063	< 30
	2437	26M	18.96	0.079	< 30
	2437	39M	18.97	0.079	< 30
	2437	52M	19.02	0.080	< 30
	2437	78M	18.98	0.079	< 30
	2437	104M	18.94	0.078	< 30
	2437	117M	19.02	0.080	< 30
	2437	130M	18.96	0.079	< 30
	2437	156M	18.96	0.079	< 30
Mode 5	2422	27M	16.92	0.049	< 30
	2437		18.15	0.065	< 30
	2452		15.39	0.035	< 30
	2437	54M	18.11	0.065	< 30
	2437	81M	18.10	0.065	< 30
	2437	108M	18.08	0.064	< 30
	2437	162M	18.06	0.064	< 30
	2437	216M	18.05	0.064	< 30
	2437	243M	18.11	0.065	< 30
	2437	135M	18.10	0.065	< 30
	2437	324M	18.05	0.064	< 30
	2437	360M	18.03	0.063	< 30

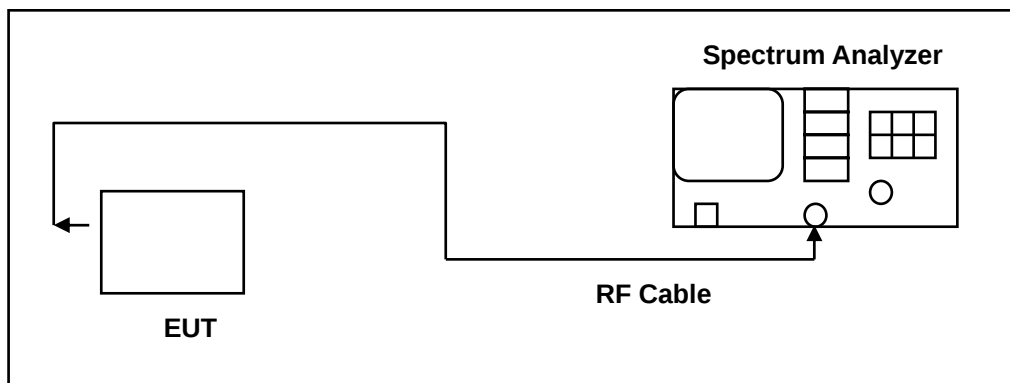
Note: The relevant measured result has the offset with cable loss already.

7 6dB RF Bandwidth Measurement

7.1. Limit

6dB RF Bandwidth: Systems using digital modulation techniques may operate in the 2400–2483.5 MHz bands. The minimum 6 dB band-width shall be at least 500 kHz.

7.2. Test Setup



7.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Microwave Cable	EMCI	EMC104-SM-SM-1500	140303	02/23/2016	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

7.4. Test Procedure

The EUT tested to DTS test procedure of KDB558074D01 for compliance to FCC 47CFR 15.247 requirements.

6dB RF Bandwidth: The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RBW was set to 100 kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A peak output reading was taken, a DISPLAY line was drawn 6 dB lower than peak level. The 6 dB bandwidth was determined from where the channel output spectrum intersected the display line.

The test was performed at 3 channels (Channel low, middle, high)



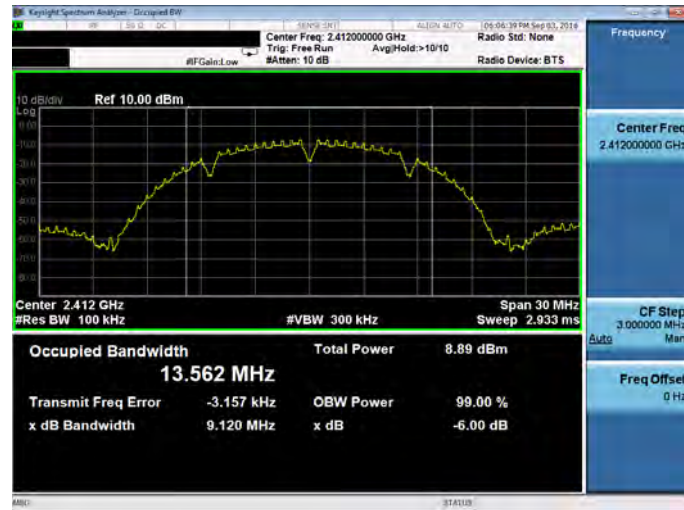
7.5. Test Result

Model Number	EW-7822UNC			
Test Item	6dB RF Bandwidth			
Date of Test	09/03/2016, 11/07/2016			
Test Mode	Frequency (MHz)	Measurement (kHz)		Limit (kHz)
		ANT-0	ANT-1	
Mode 2	2412	9120	---	> 500
	2437	9123	---	> 500
	2462	9123	---	> 500
Mode 3	2412	16570	---	> 500
	2437	16570	---	> 500
	2462	16550	---	> 500
Mode 4	2412	17820	17670	> 500
	2437	17800	17660	> 500
	2462	17820	17690	> 500
Mode 5	2422	36550	36380	> 500
	2437	36510	36390	> 500
	2452	36570	36380	> 500
Beamforming on				
Test Mode	Frequency (MHz)	Measurement (kHz)		Limit (kHz)
		ANT-0	ANT-1	
Mode 4	2412	17560	17060	> 500
	2437	17540	16810	> 500
	2462	17300	17040	> 500
Mode 5	2422	35860	35780	> 500
	2437	36280	35490	> 500
	2452	36270	35550	> 500

7.6. Test Graphs

Mode 2: IEEE 802.11b link mode_ANT-0

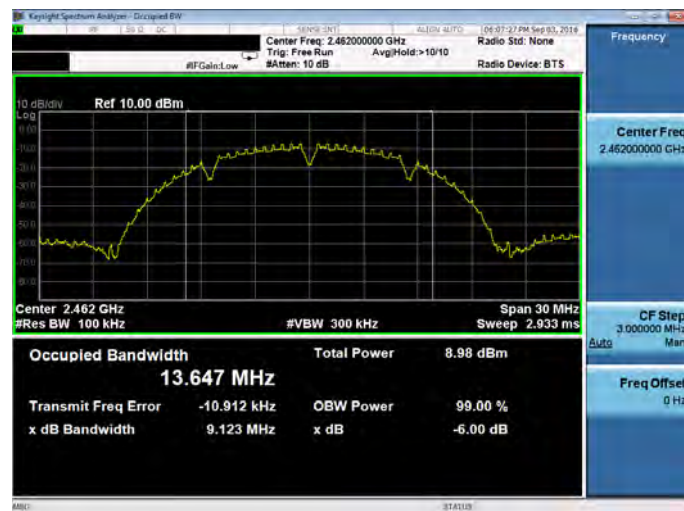
2412 MHz



2437 MHz

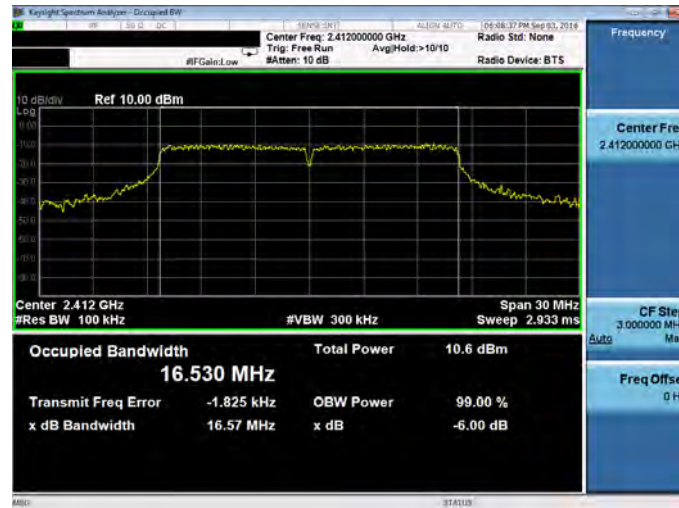


2462 MHz

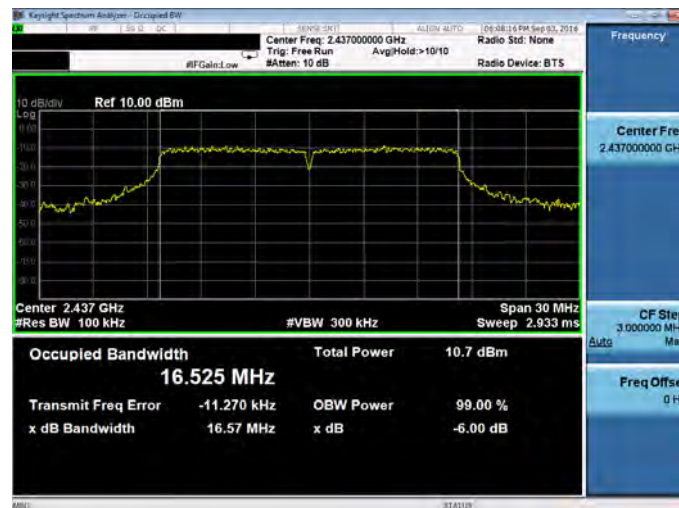


Mode 3: IEEE 802.11g link mode_ANT-0

2412 MHz



2437 MHz

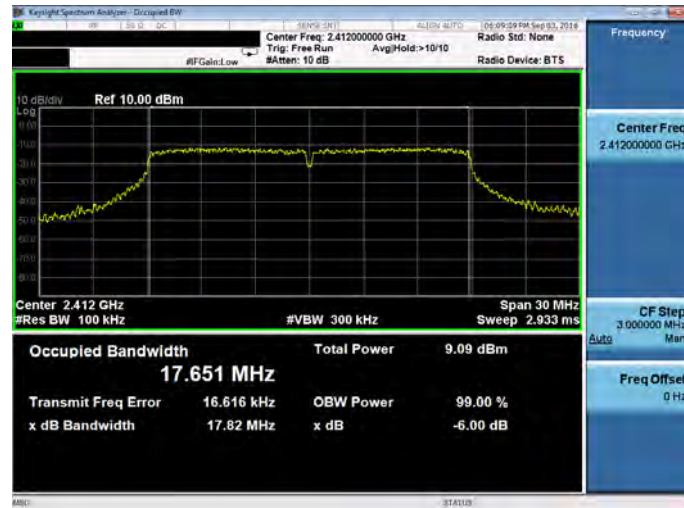


2462 MHz



Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

2412 MHz



2437 MHz

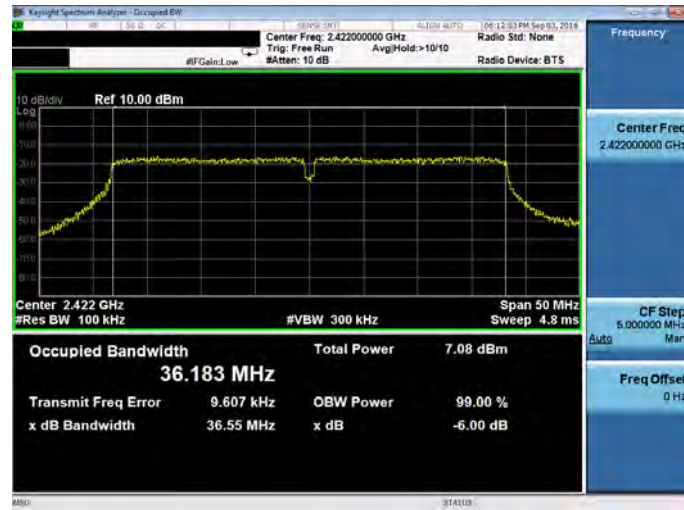


2462 MHz



Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

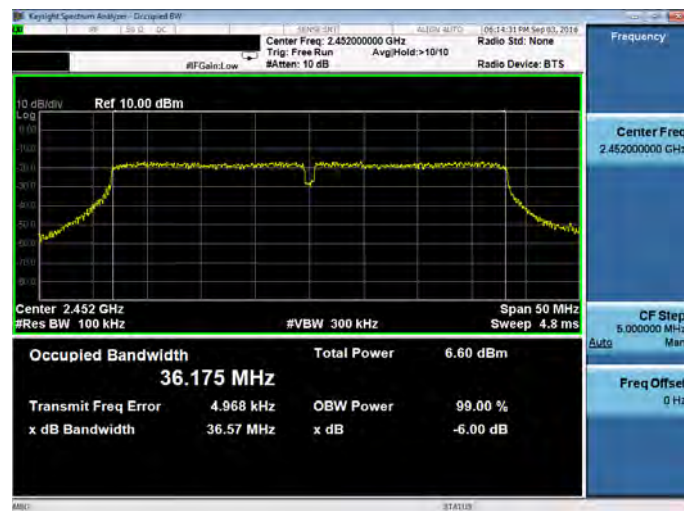
2422 MHz



2437 MHz

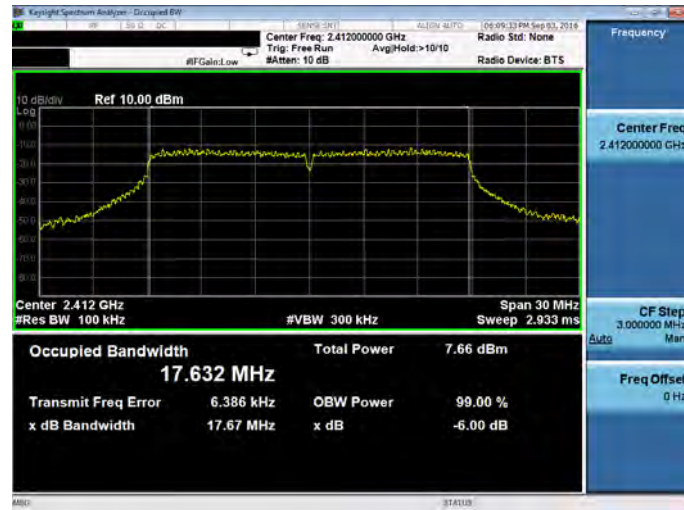


2452 MHz



Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

2412 MHz



2437 MHz

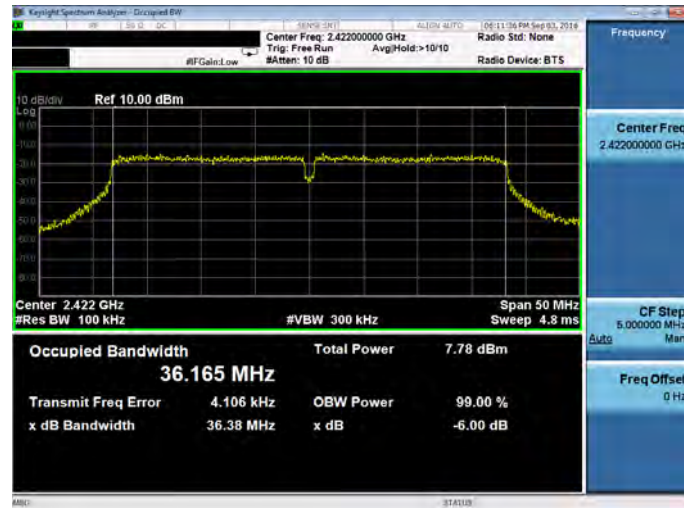


2462 MHz



Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

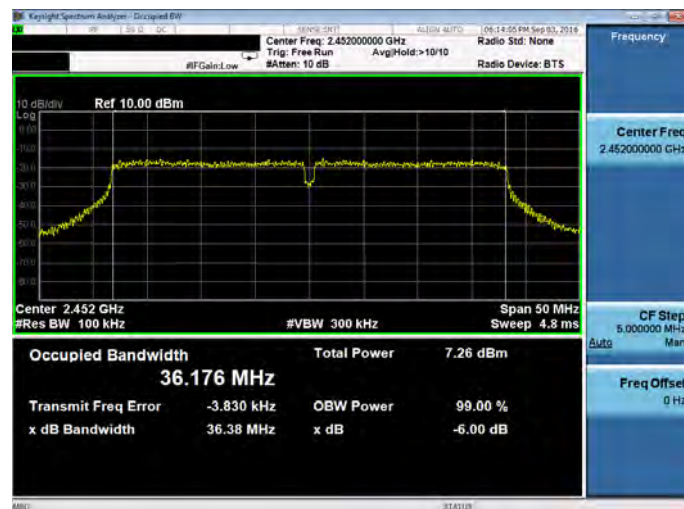
2422 MHz



2437 MHz



2452 MHz

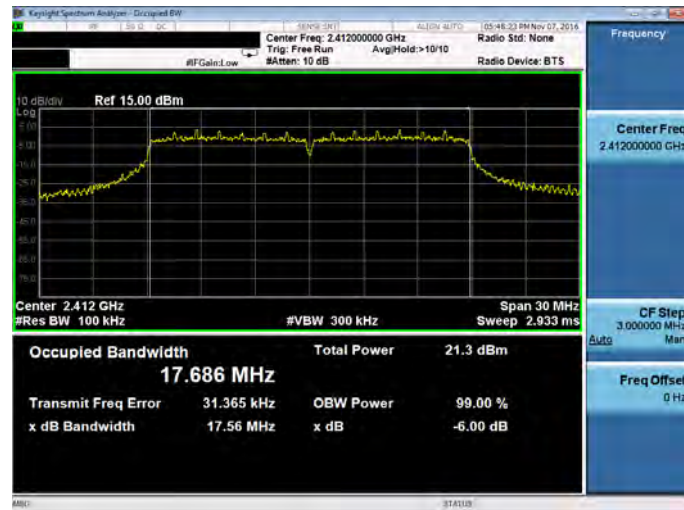




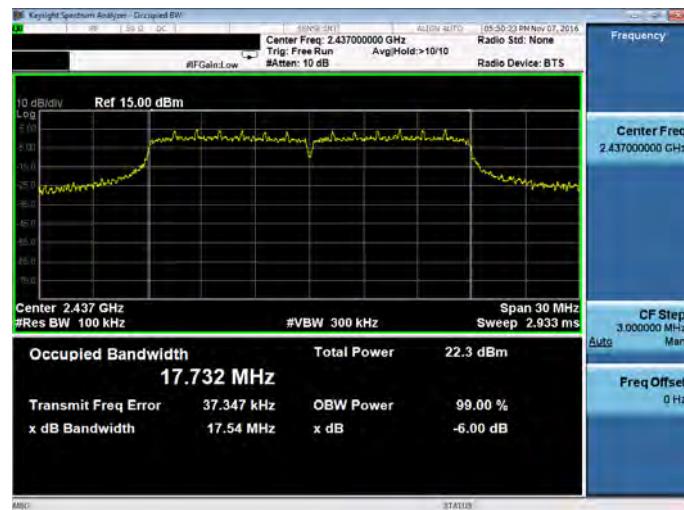
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

Beamforming on

2412 MHz



2437 MHz



2462 MHz

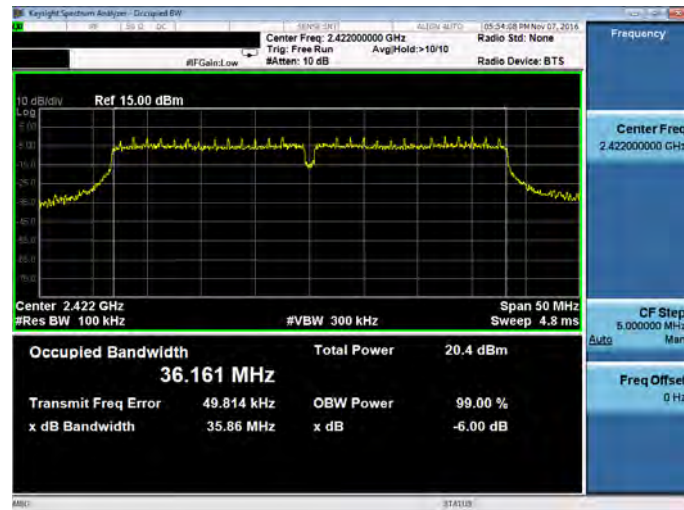




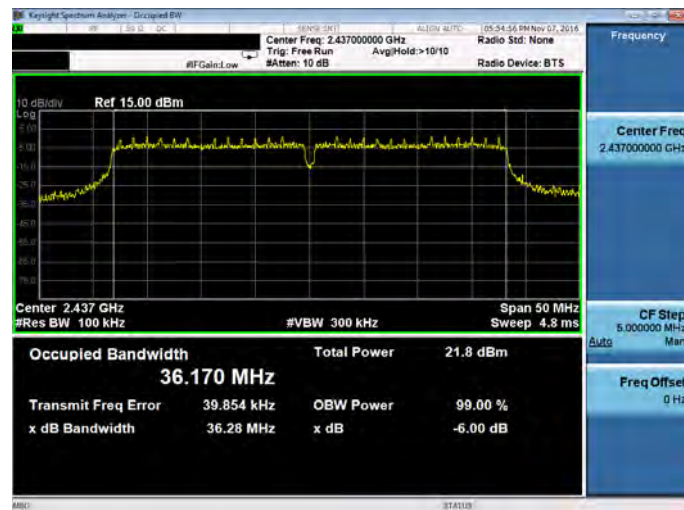
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

Beamforming on

2422 MHz



2437 MHz



2452 MHz

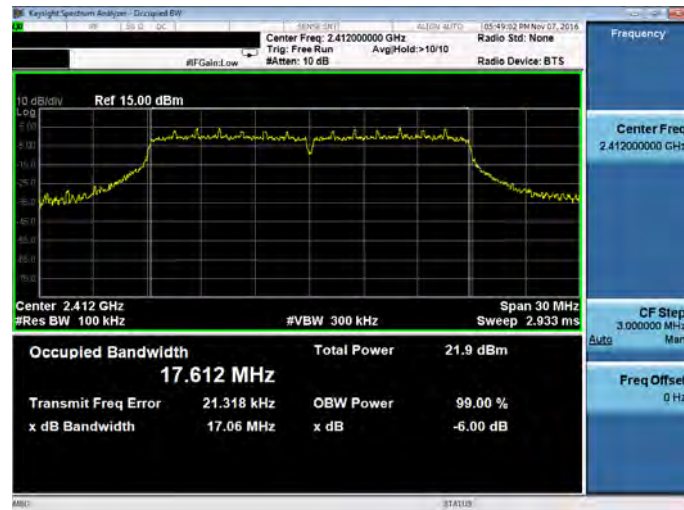




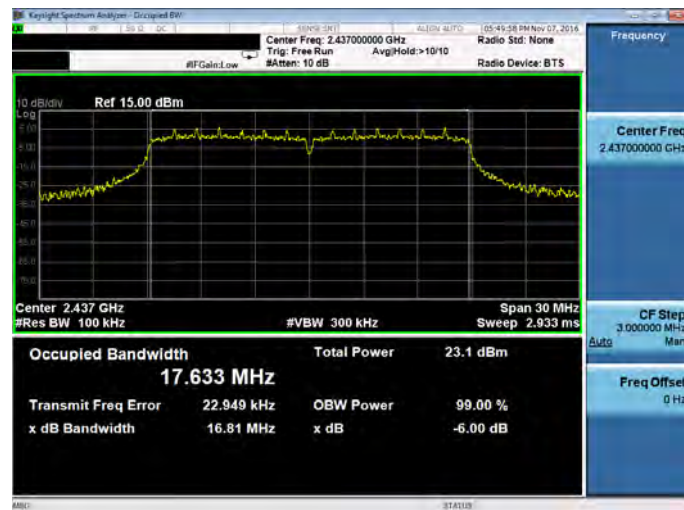
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

Beamforming on

2412 MHz



2437 MHz



2462 MHz

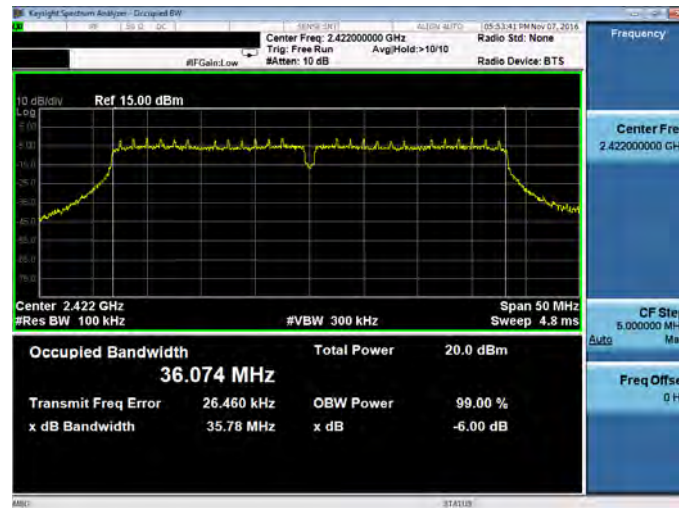




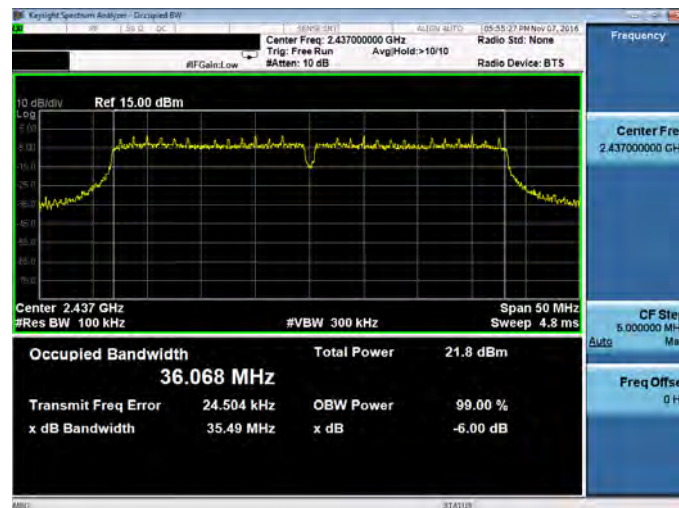
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

Beamforming on

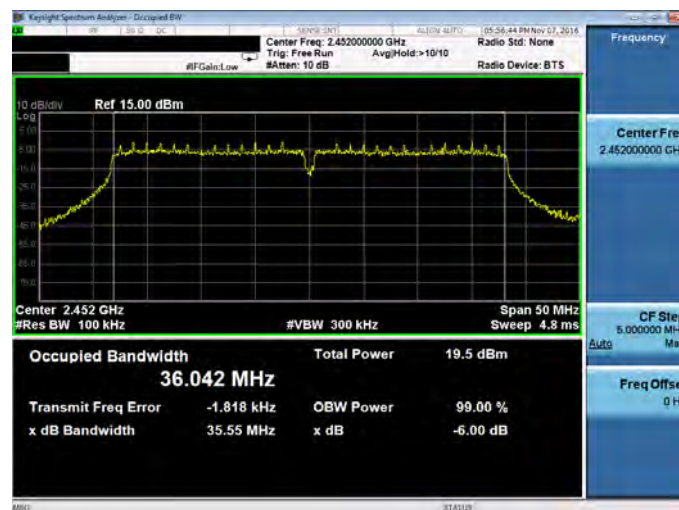
2422 MHz



2437 MHz



2452 MHz



8 Maximum Power Density Measurement

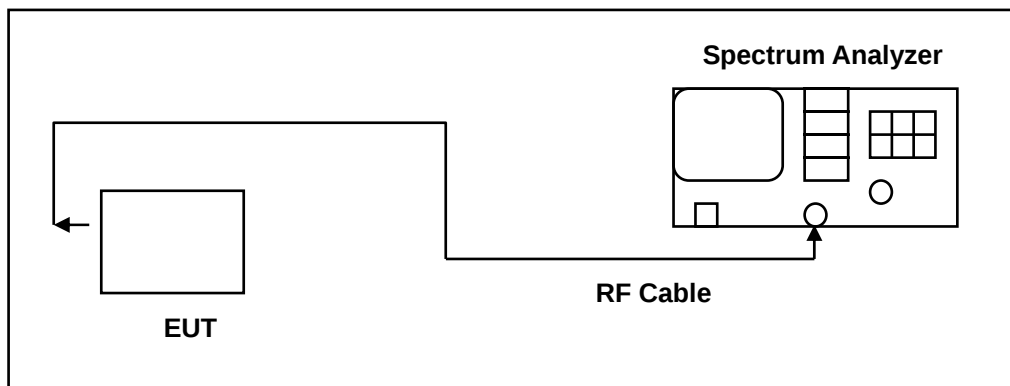
8.1. Limit

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.

* SISO mode for ANT-0 : Directional Gain = Max. Gain = 1.81 dBi < 6 dBi.

* MIMO/BF mode : Directional Gain = $10 \cdot \log\{[10^{(G1/20)} + 10^{(G2/20)} + \dots + 10^{(Gn/20)}]^2 / N_{ANT}\}$ = 4.13 dBi < 6dBi

8.2. Test Setup



8.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Microwave Cable	EMCI	EMC104-SM-SM-1500	140303	02/23/2016	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

8.4. Test Procedure

The EUT tested to DTS test procedure of KDB558074D01 for compliance to FCC 47CFR 15.247 requirements.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



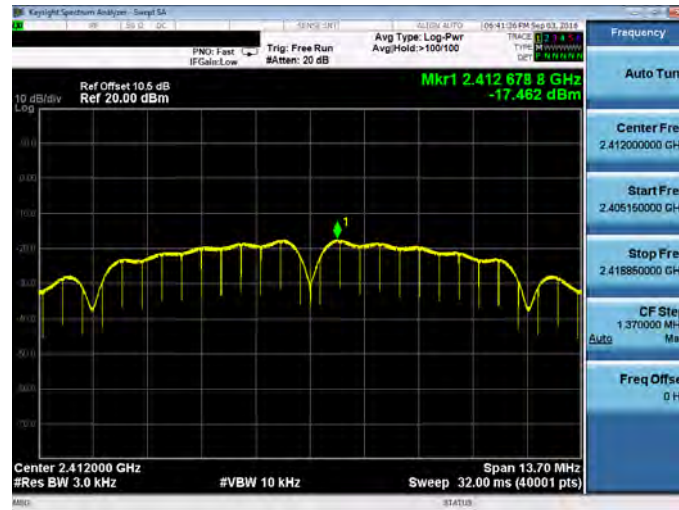
8.5. Test Result

Model Number	EW-7822UNC				
Test Item	Maximum Power Density				
Date of Test	09/03/2016, 11/07/2016				
Test Mode	Frequency (MHz)	Measurement (dBm/3KHz)			Limit (dBm/3KHz)
		ANT-0	ANT-1	ANT-0+1	
Mode 2	2412	-17.462	---	---	< 8
	2437	-17.305	---	---	< 8
	2462	-17.104	---	---	< 8
Mode 3	2412	-13.762	---	---	< 8
	2437	-13.915	---	---	< 8
	2462	-13.937	---	---	< 8
Mode 4	2412	-16.205	-15.334	-12.737	< 8
	2437	-15.403	-16.283	-12.810	< 8
	2462	-16.436	-15.650	-13.015	< 8
Mode 5	2422	-17.025	-18.495	-14.688	< 8
	2437	-19.043	-18.862	-15.941	< 8
	2452	-17.528	-18.595	-15.019	< 8
Beamforming on					
Test Mode	Frequency (MHz)	Measurement (dBm/3KHz)			Limit (dBm/3KHz)
		ANT-0	ANT-1	ANT-0+1	
Mode 4	2412	-10.264	-9.500	-6.855	< 8
	2437	-9.152	-8.731	-5.926	< 8
	2462	-8.977	-10.698	-6.743	< 8
Mode 5	2422	-14.550	-15.607	-12.036	< 8
	2437	-11.441	-13.278	-9.253	< 8
	2452	-15.029	-13.812	-11.368	< 8

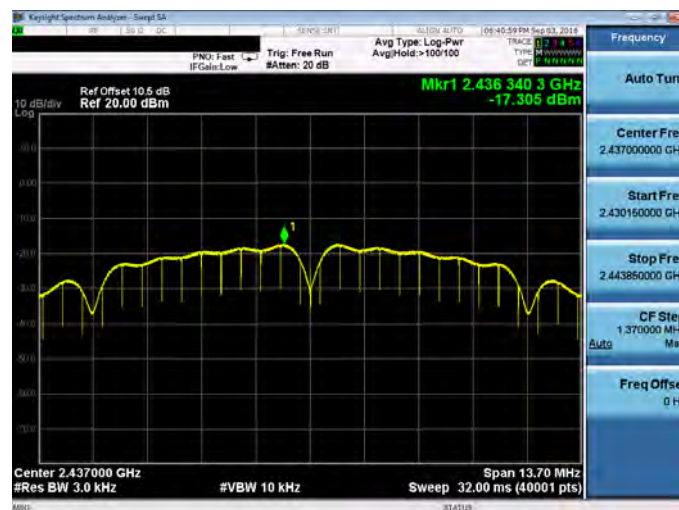
8.6. Test Graphs

Mode 2: IEEE 802.11b link mode_ANT-0

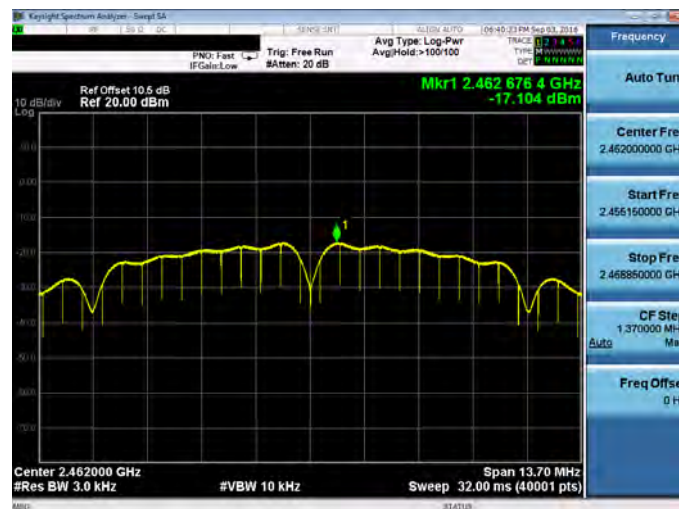
2412 MHz



2437 MHz

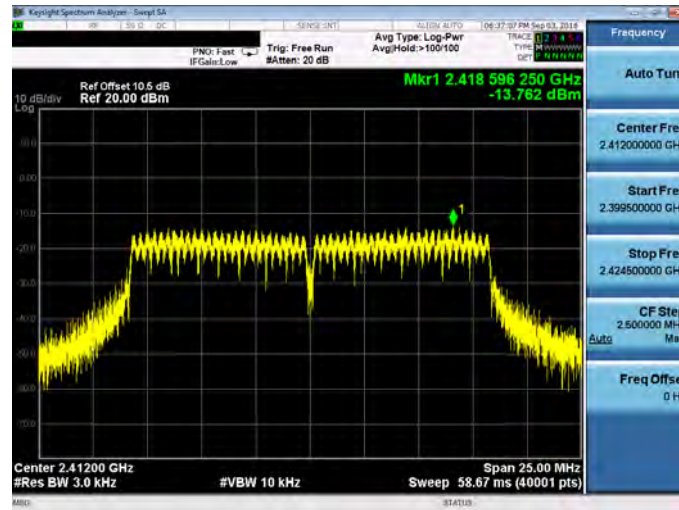


2462 MHz

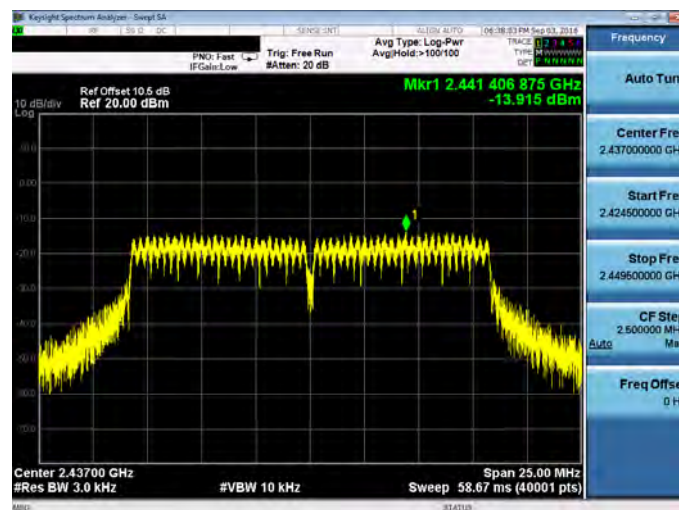


Mode 3: IEEE 802.11g link mode_ANT-0

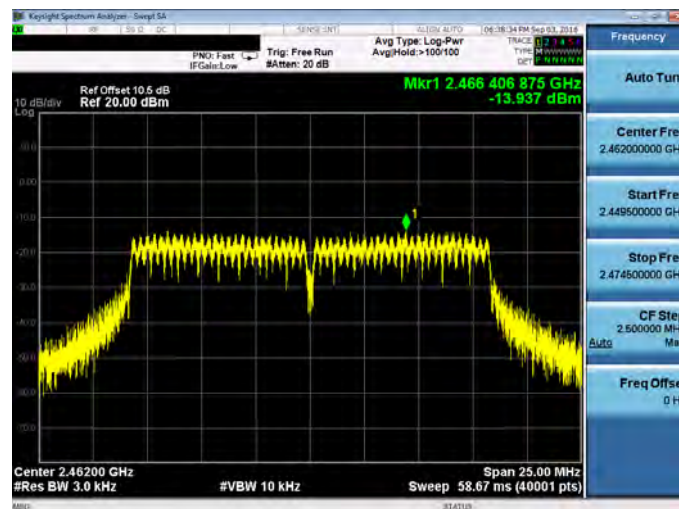
2412 MHz



2437 MHz

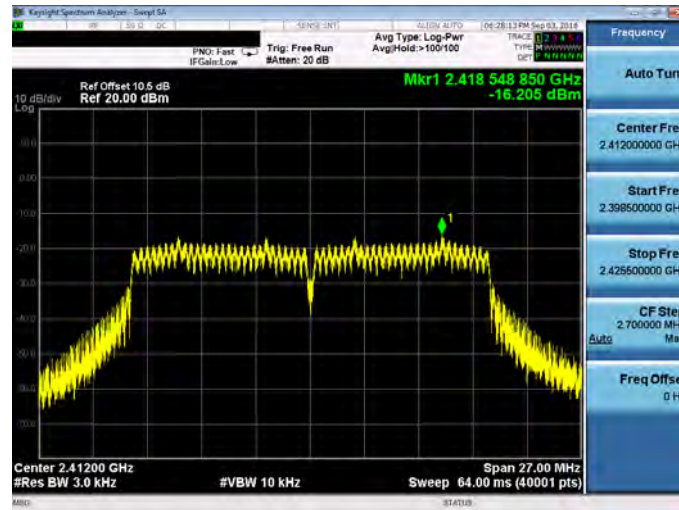


2462 MHz

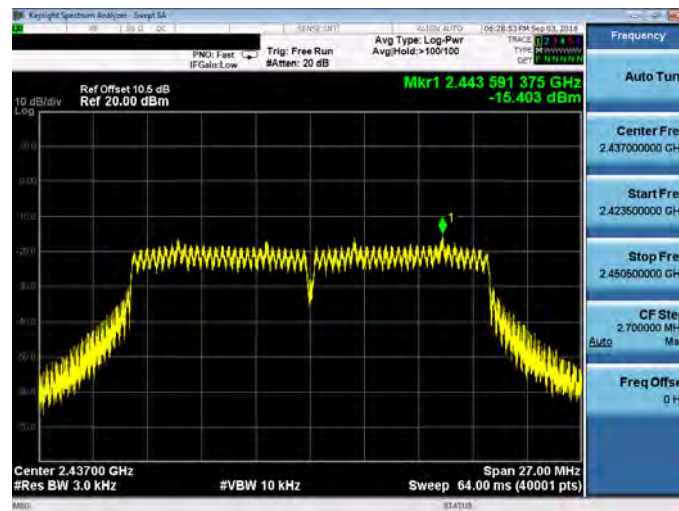


Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

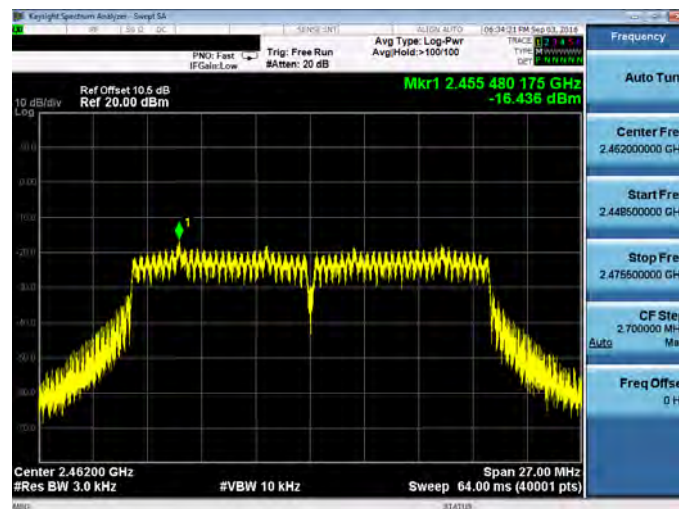
2412 MHz



2437 MHz

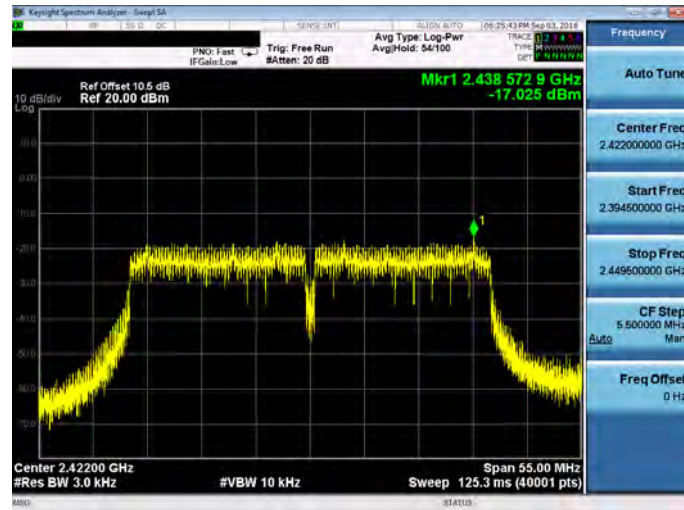


2462 MHz

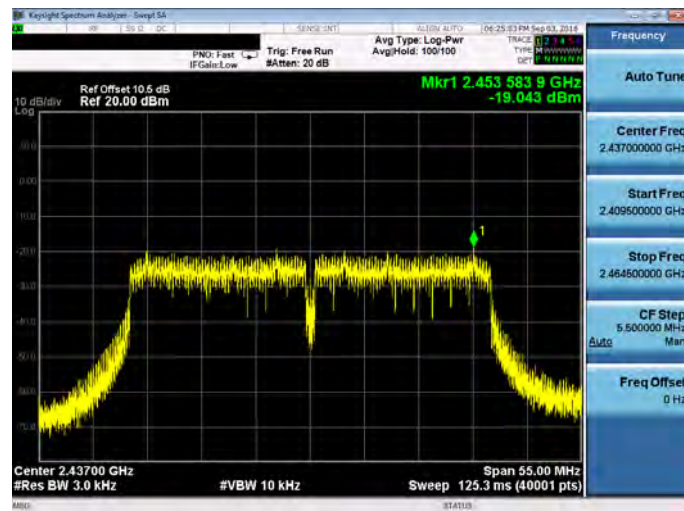


Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

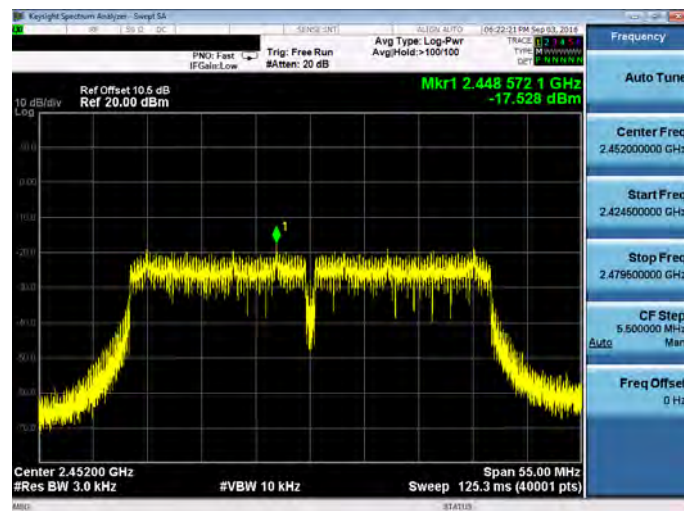
2422 MHz



2437 MHz



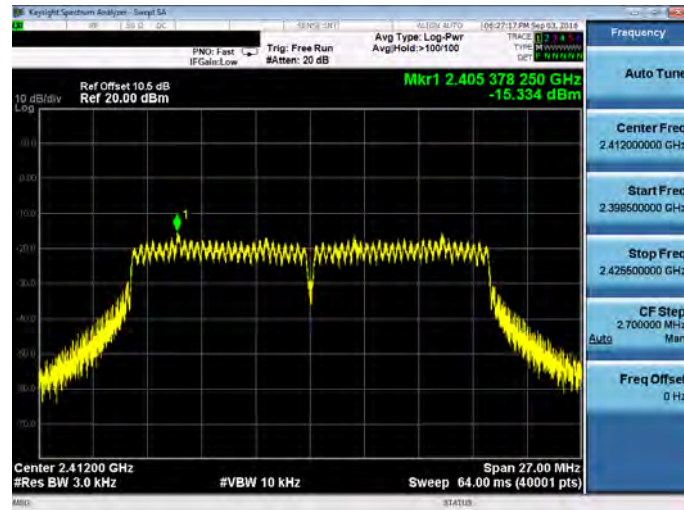
2452 MHz



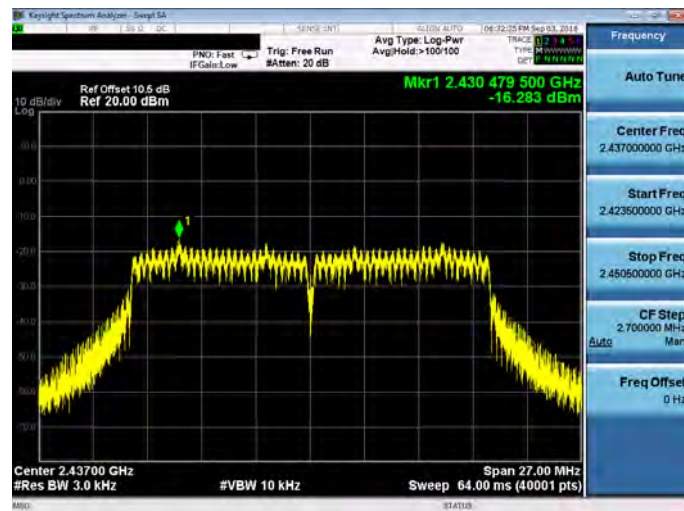


Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

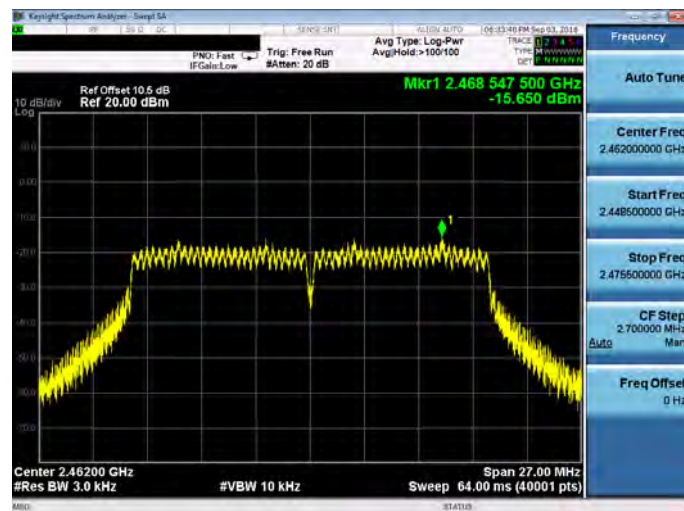
2412 MHz



2437 MHz



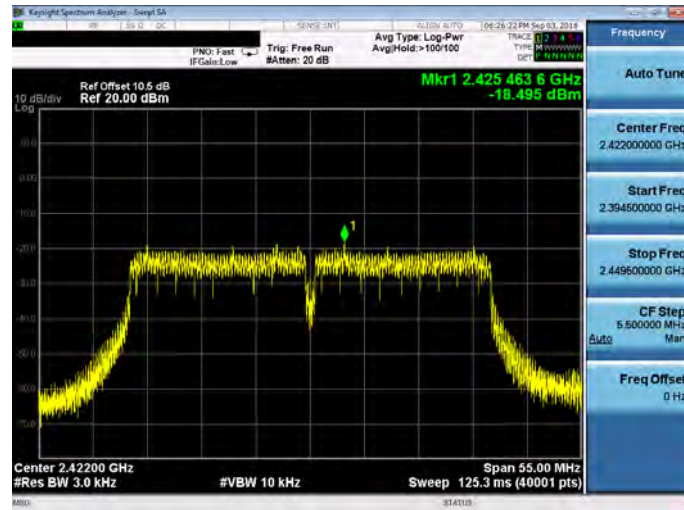
2462 MHz



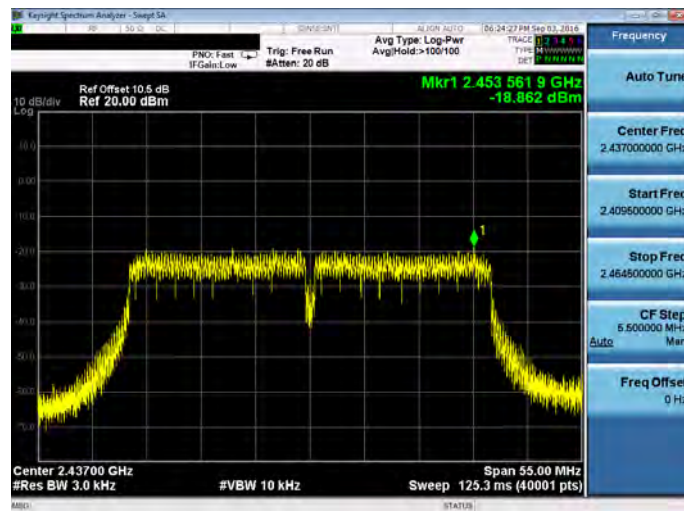


Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

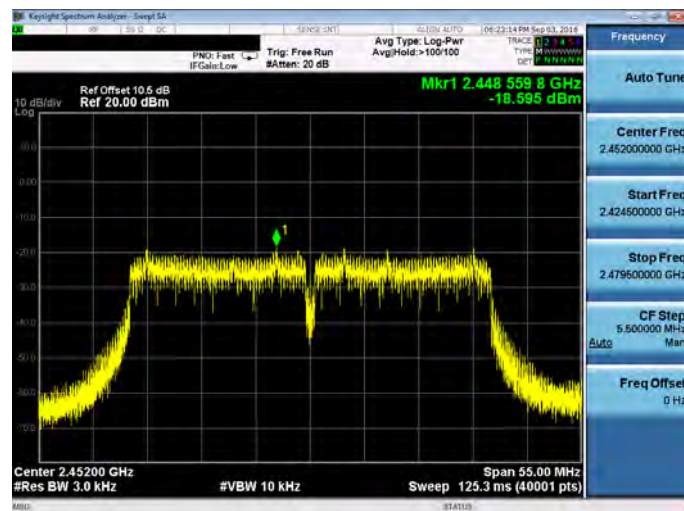
2422 MHz



2437 MHz



2452 MHz

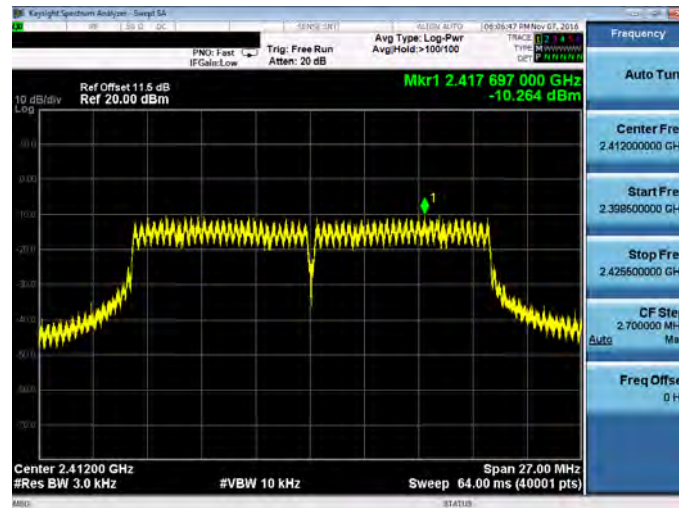




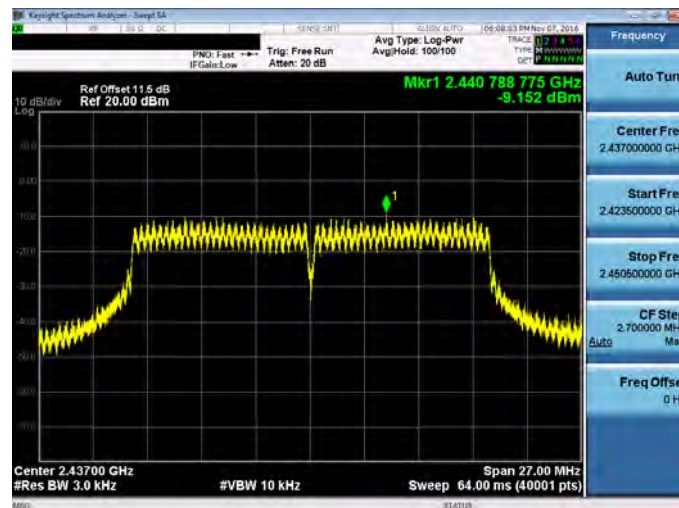
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

Beamforming on

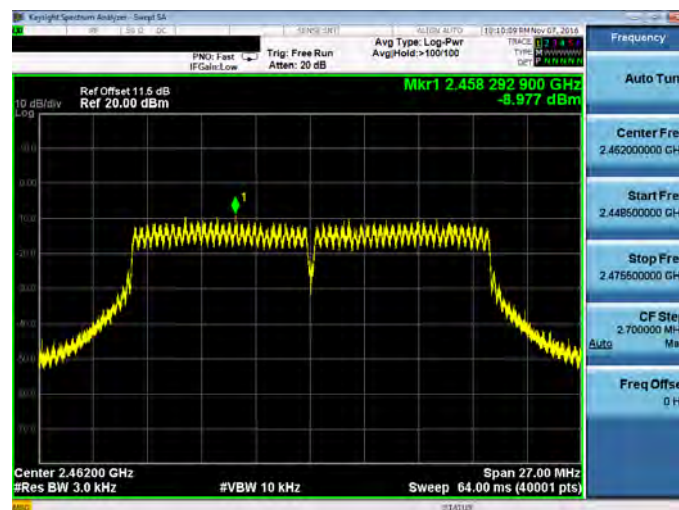
2412 MHz



2437 MHz



2462 MHz

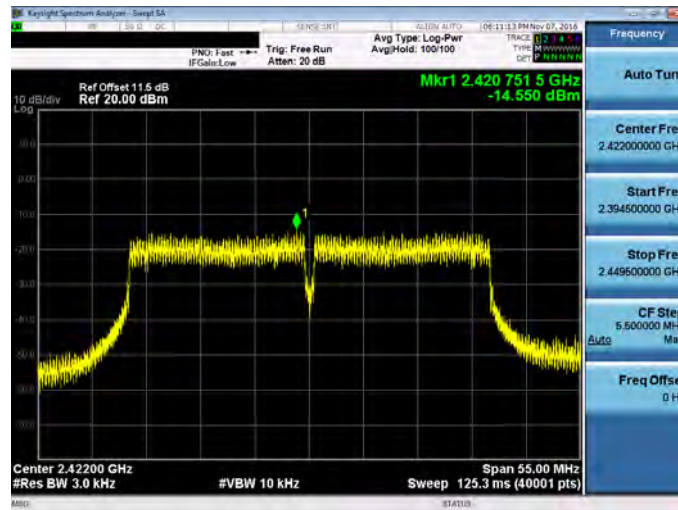




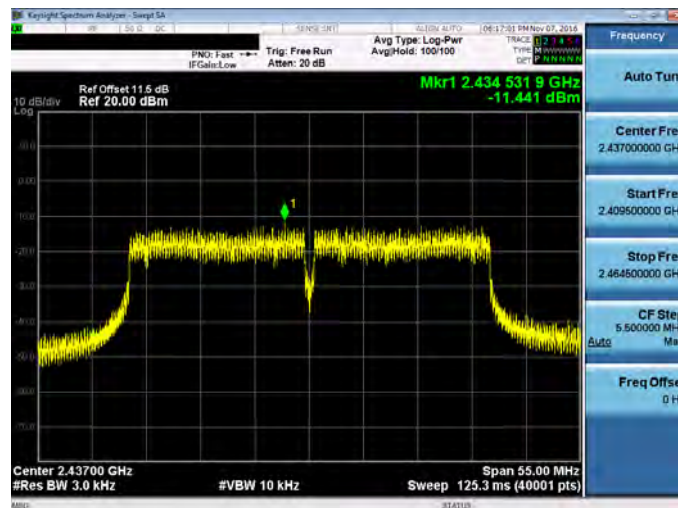
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

Beamforming on

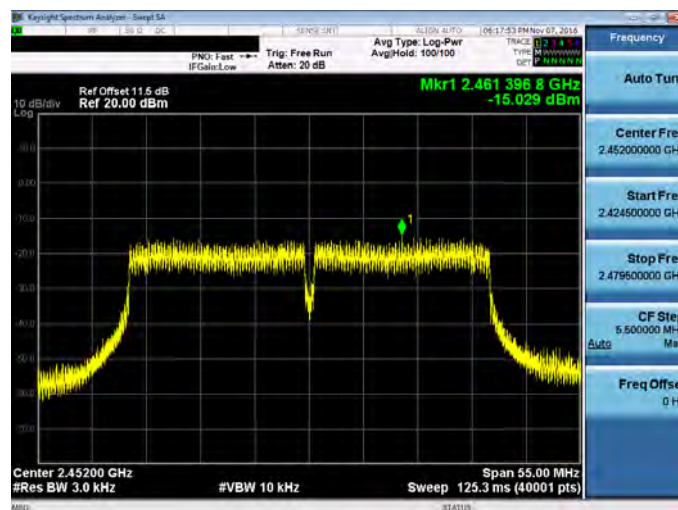
2422 MHz



2437 MHz



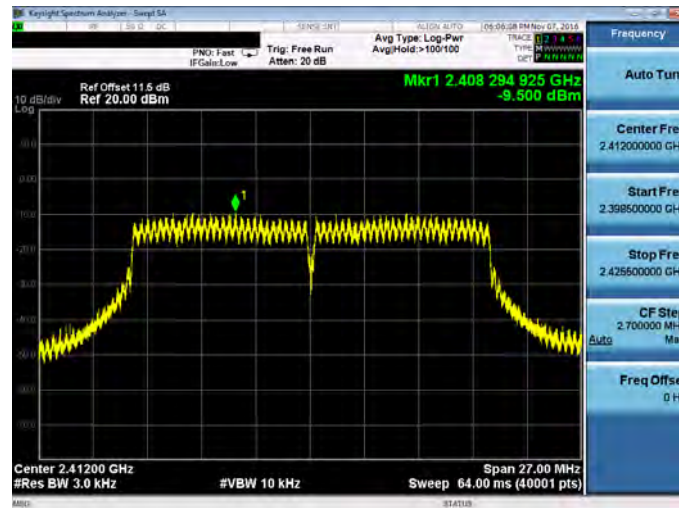
2452 MHz



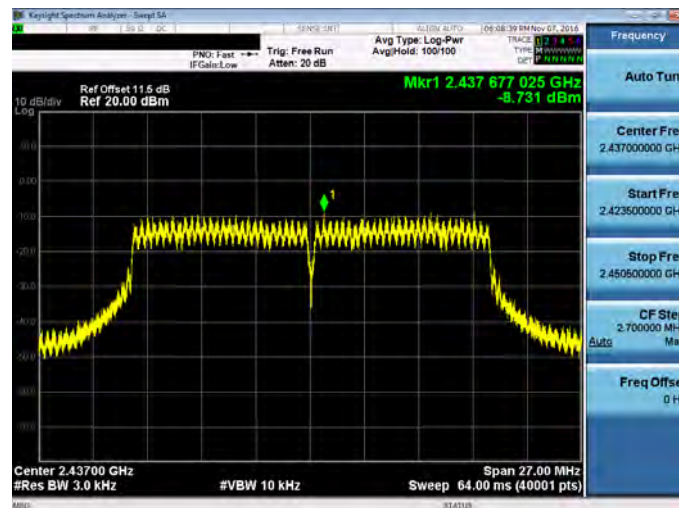
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

Beamforming on

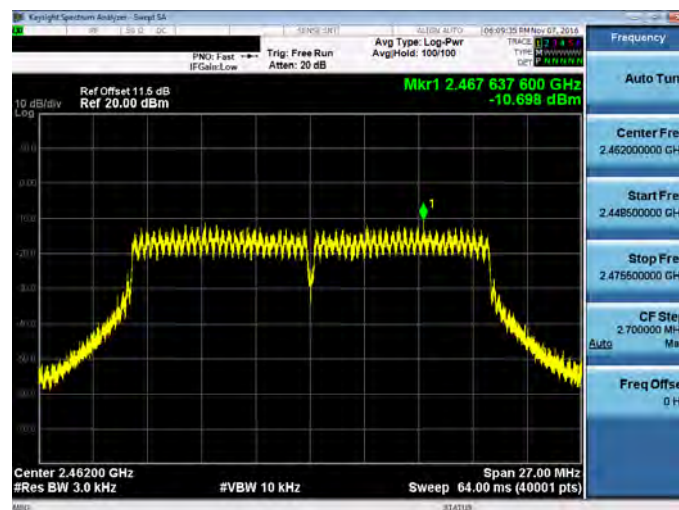
2412 MHz



2437 MHz



2462 MHz

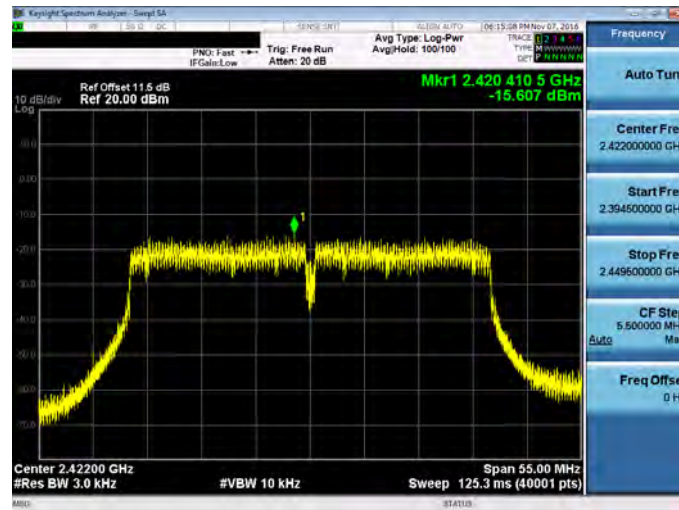




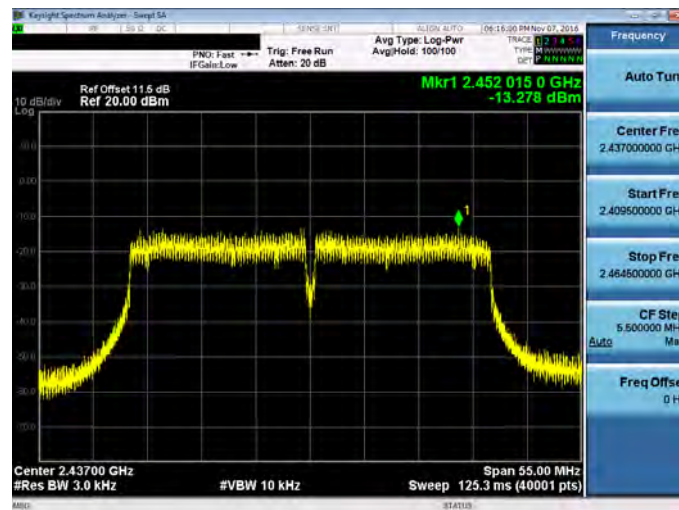
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

Beamforming on

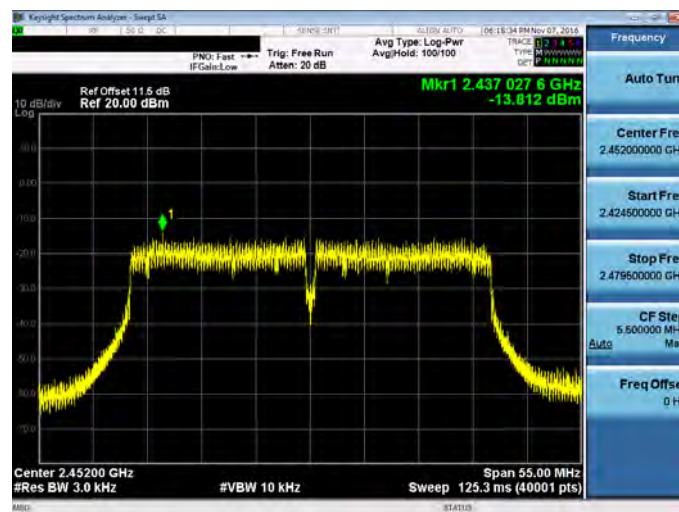
2422 MHz



2437 MHz



2452 MHz

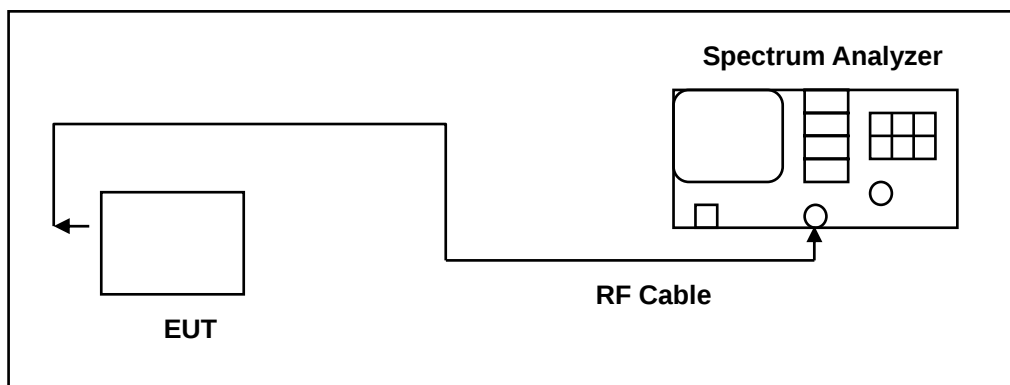


9 Out of Band Conducted Emissions Measurement

9.1. Limit

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 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

9.2. Test Setup



9.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Spectrum Analyzer	Agilent	E4408B	MY45107753	08/08/2016	1 year
Microwave Cable	EMCI	EMC104-SM-SM-1500	140303	02/23/2016	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

9.4. Test Procedure

In any 100 kHz bandwidth outside the EUT pass band, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 30 dB below that of the maximum in-band 100 kHz emission, antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the pass band. The test was performed at 3 channels.

9.5. Test Graphs

Reference level

Mode 2: IEEE 802.11b link mode_ANT-0

2412 MHz



2437 MHz



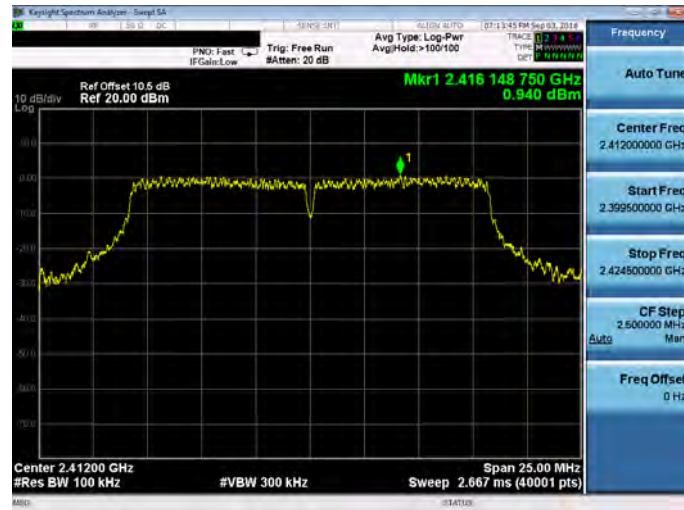
2462 MHz



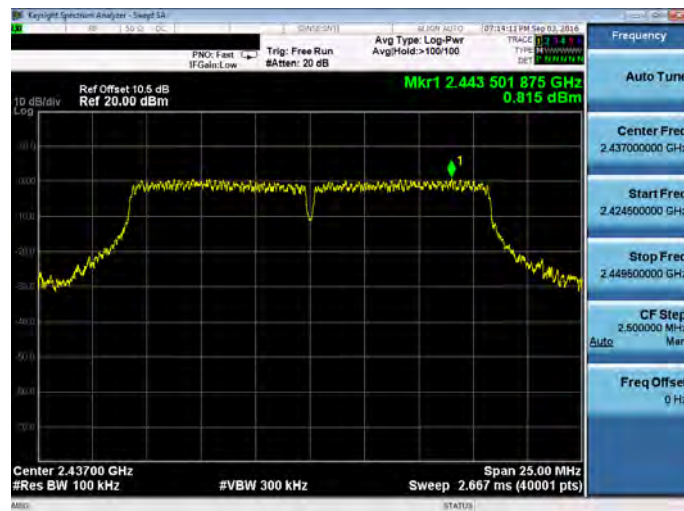


Mode 3: IEEE 802.11g link mode_ANT-0

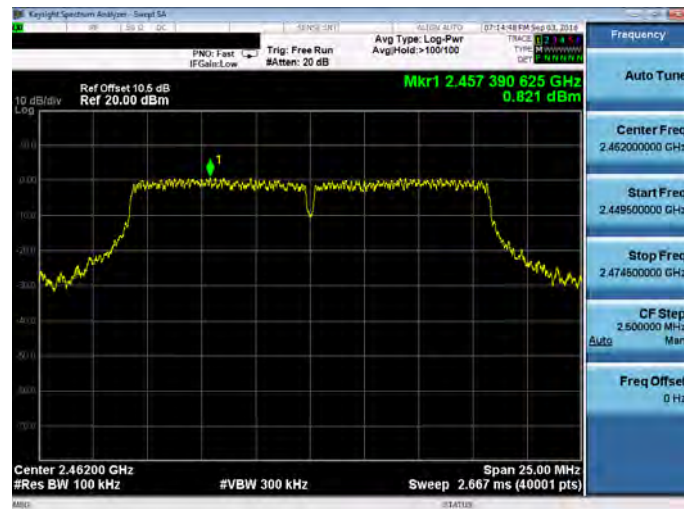
2412 MHz



2437 MHz



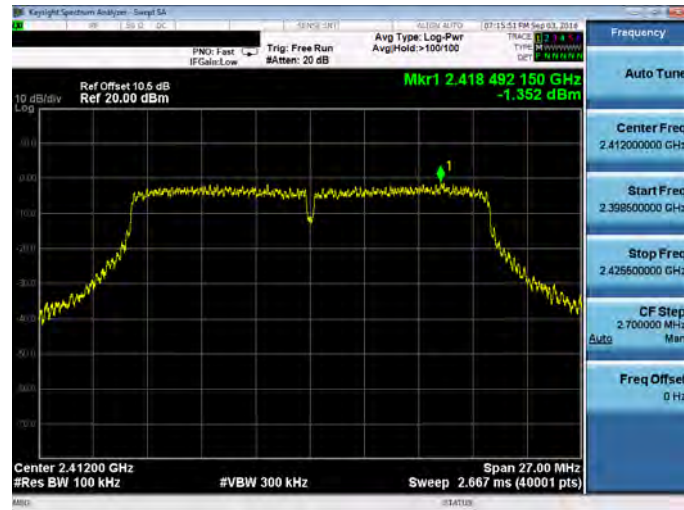
2462 MHz



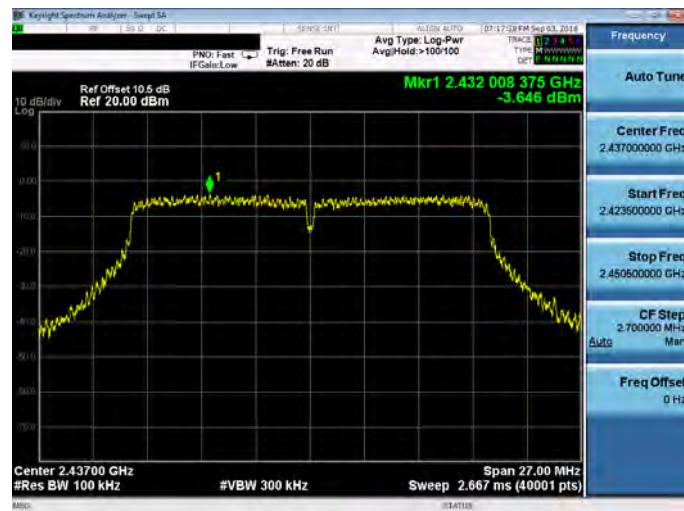


Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

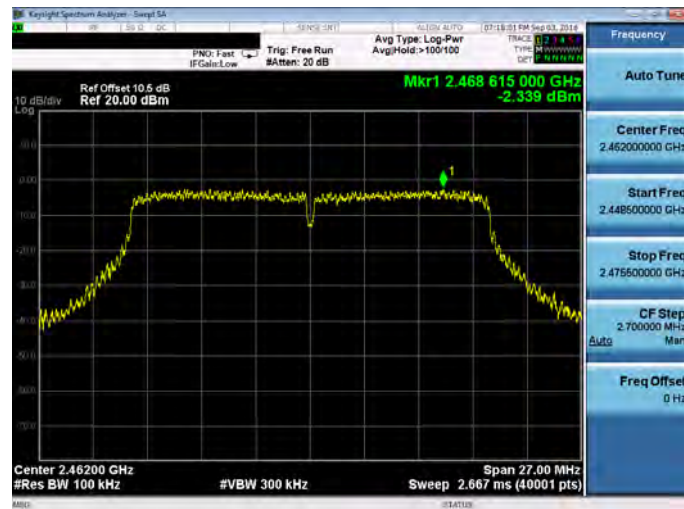
2412 MHz



2437 MHz



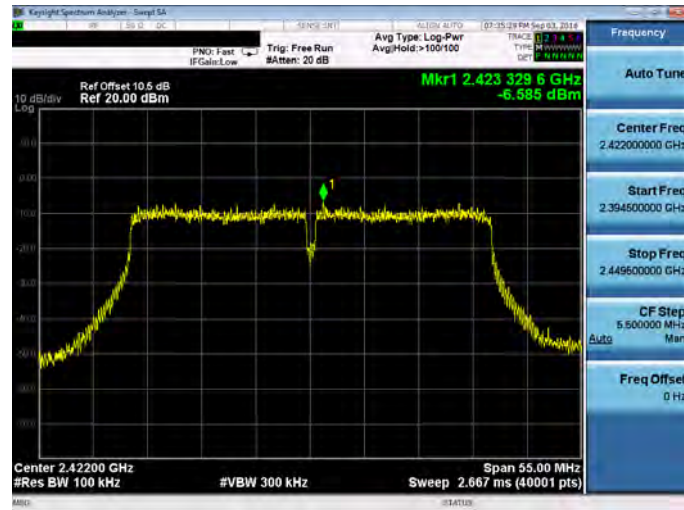
2462 MHz



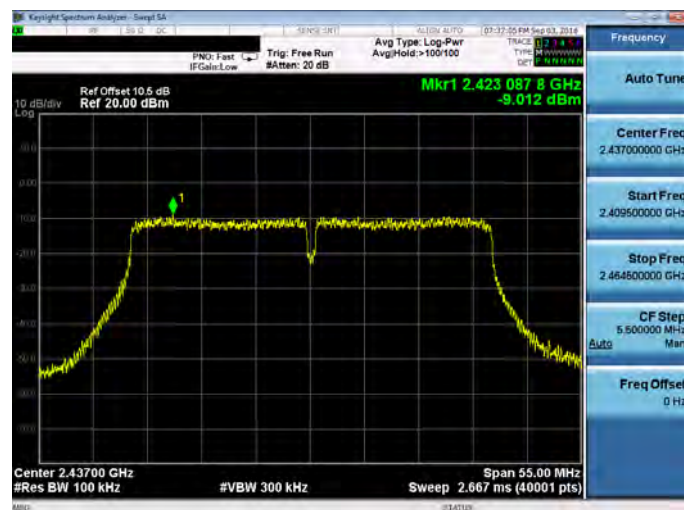


Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

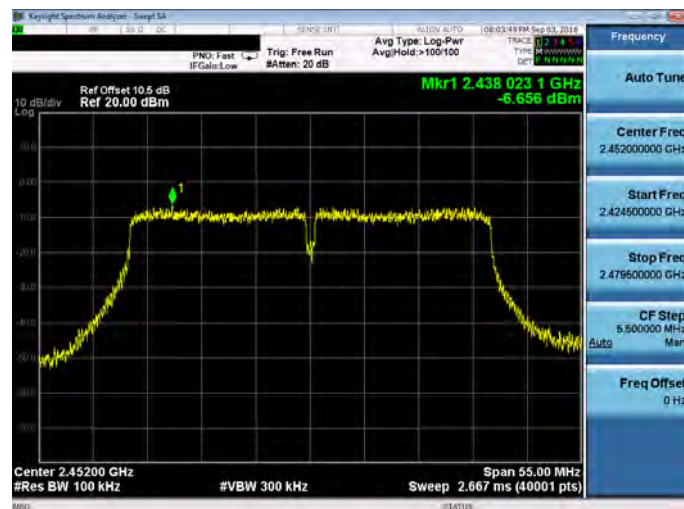
2422 MHz



2437 MHz

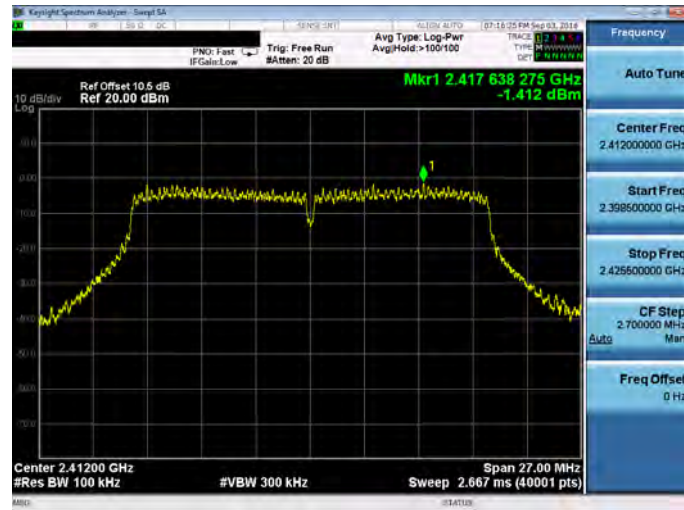


2452 MHz

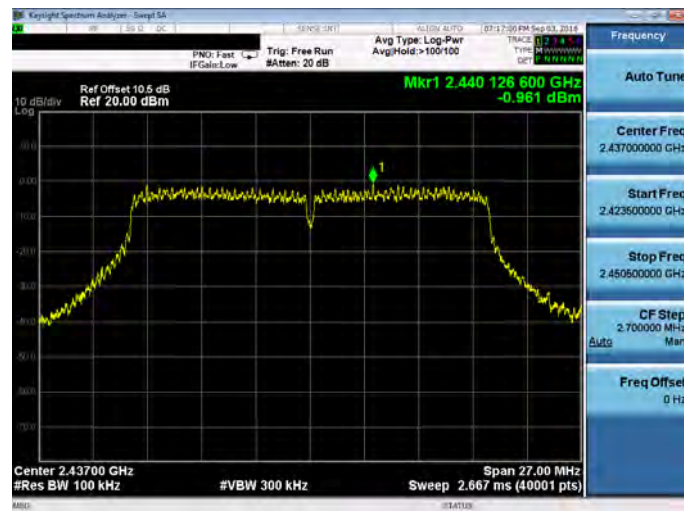


Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

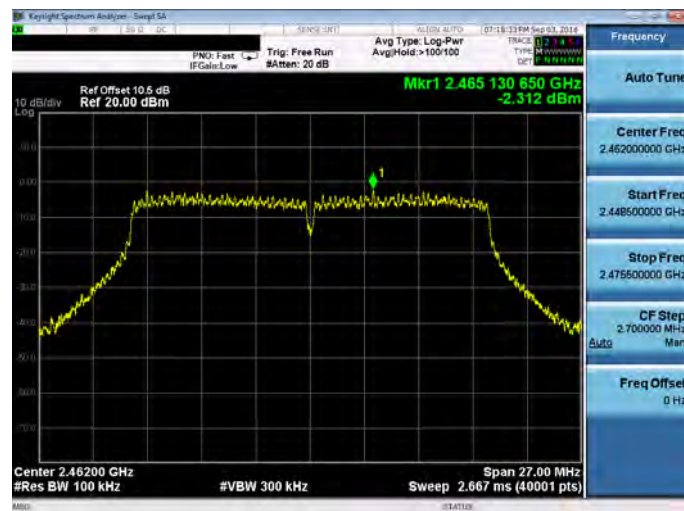
2412 MHz



2437 MHz



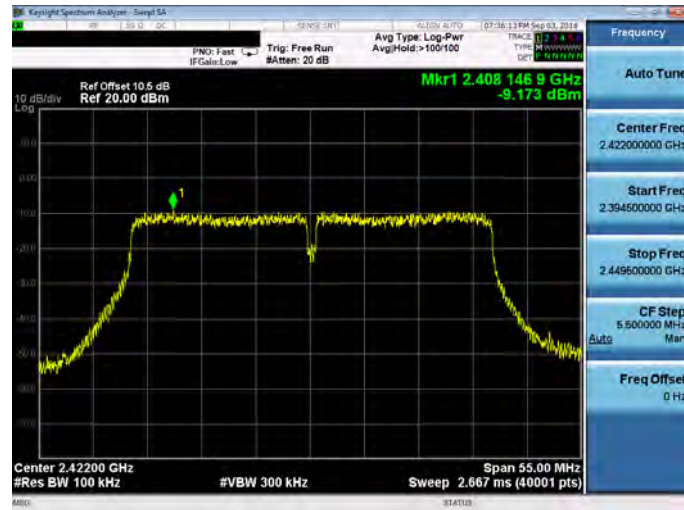
2462 MHz



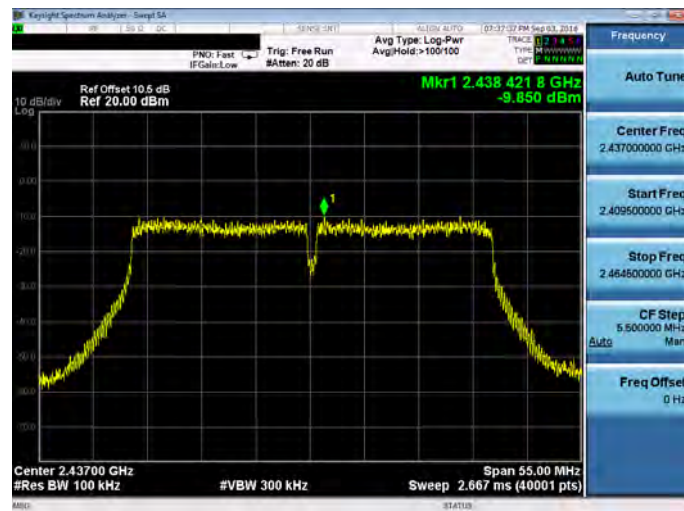


Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

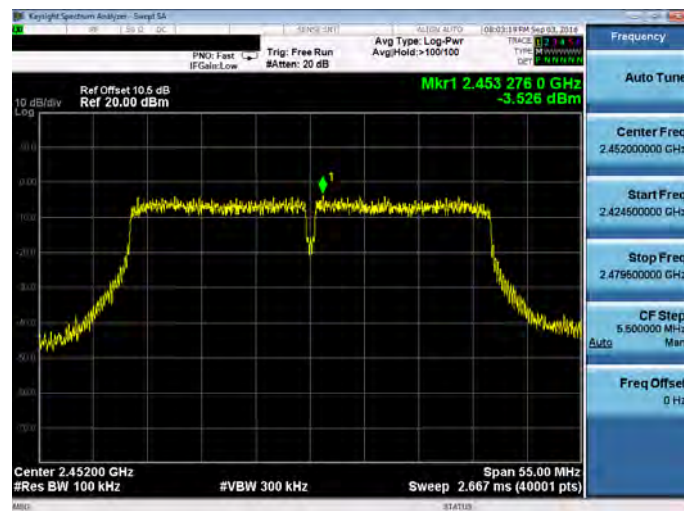
2422 MHz



2437 MHz



2452 MHz





Out of Band Conducted Emissions

Mode 2: IEEE 802.11b link mode_ANT-0

2412 MHz



2437 MHz



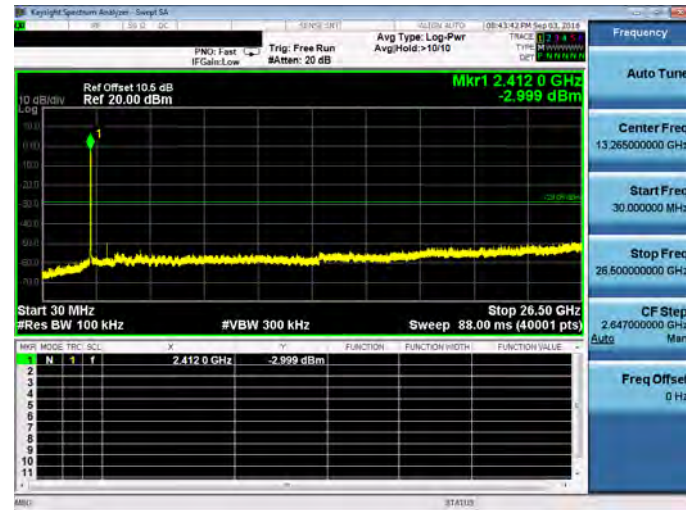
2462 MHz





Mode 3: IEEE 802.11g link mode_ANT-0

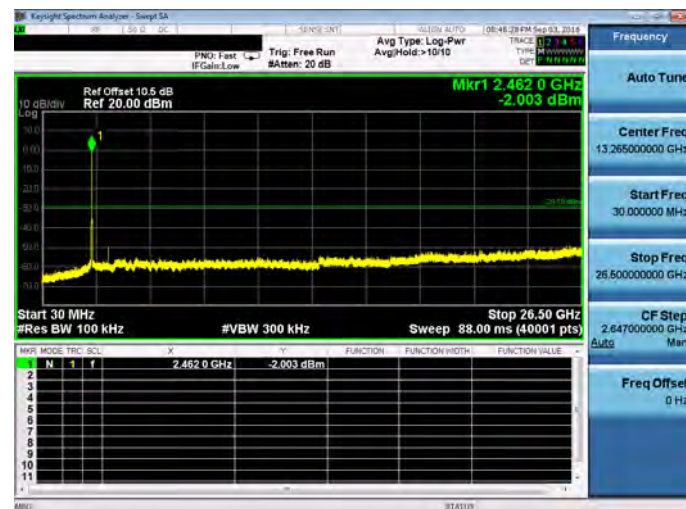
2412 MHz



2437 MHz



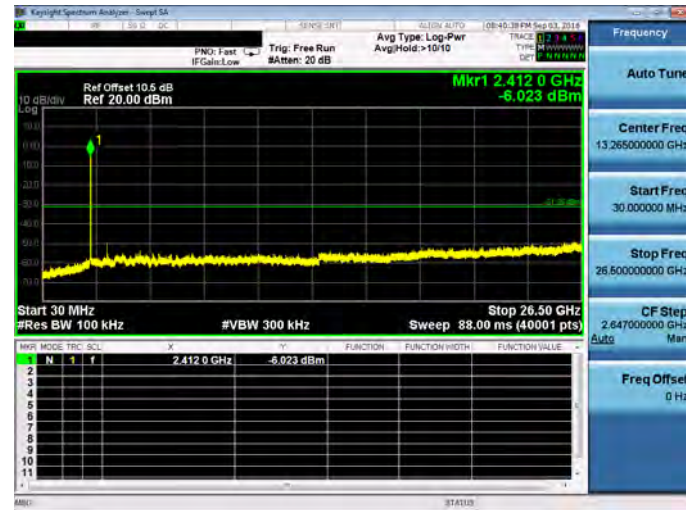
2462 MHz



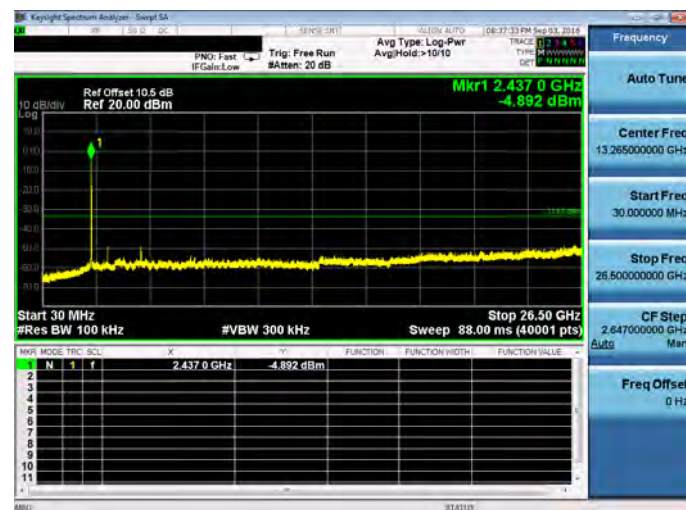


Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

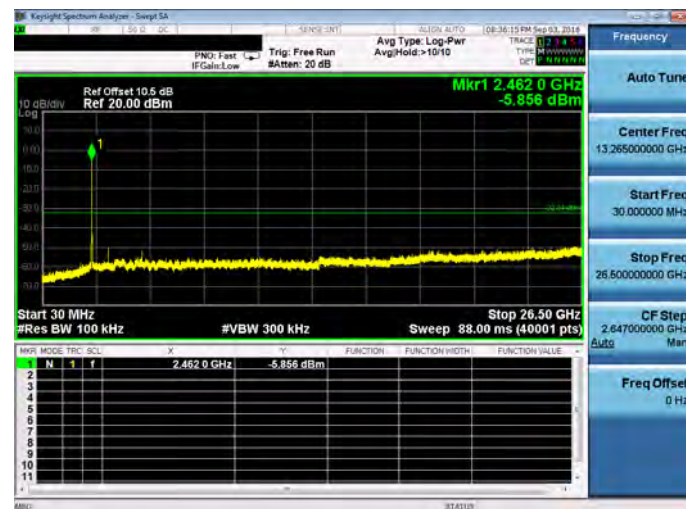
2412 MHz



2437 MHz

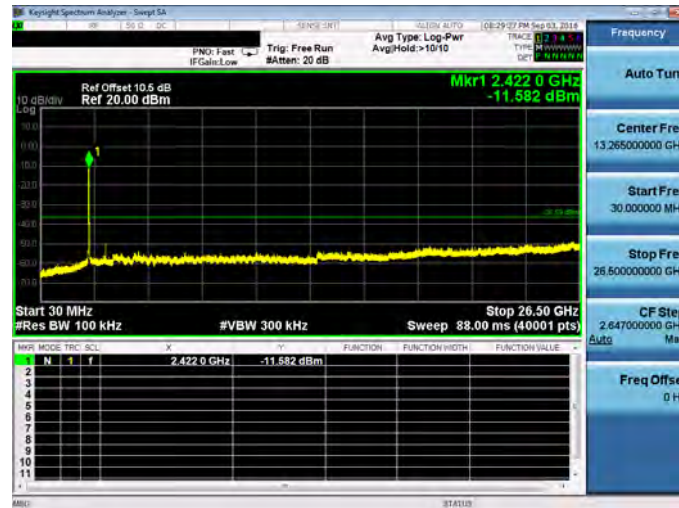


2462 MHz

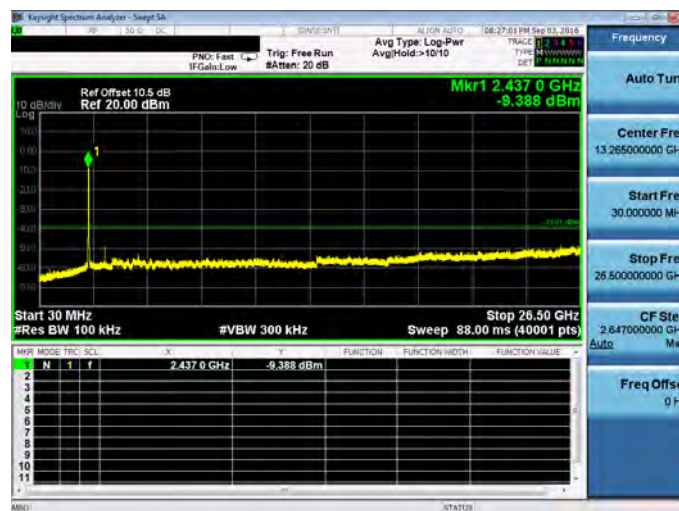


Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

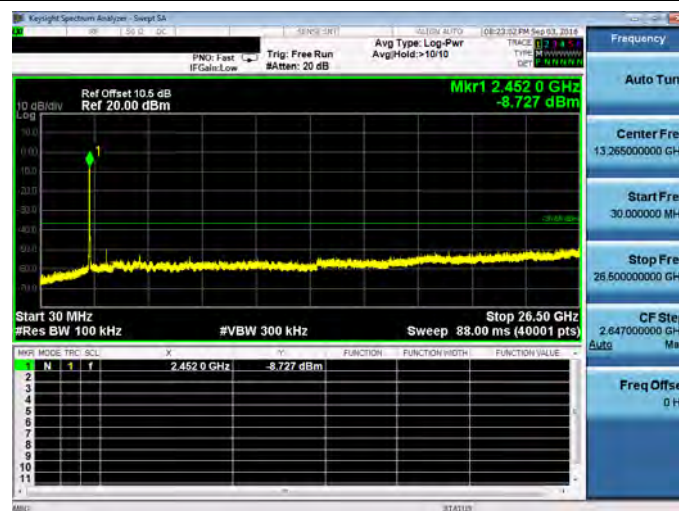
2422 MHz



2437 MHz

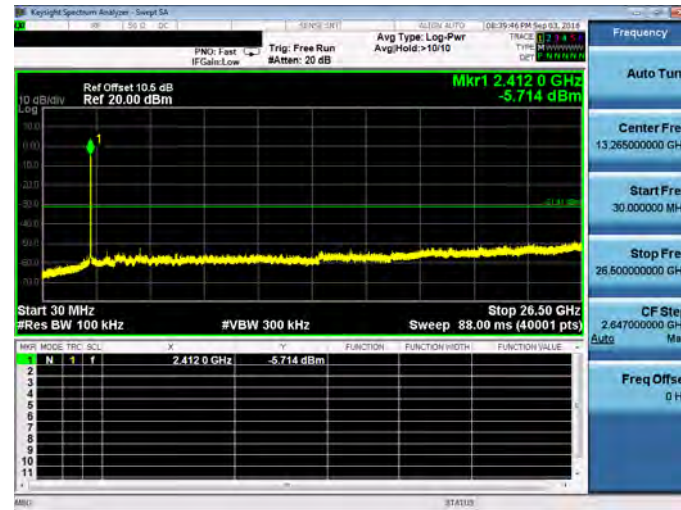


2452 MHz

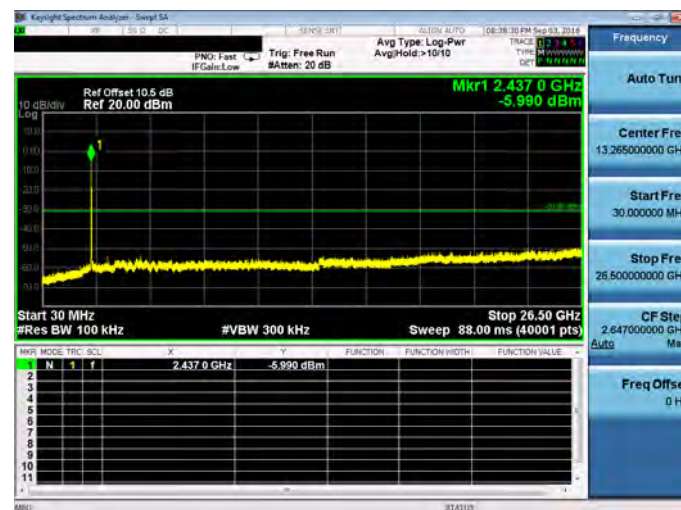


Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

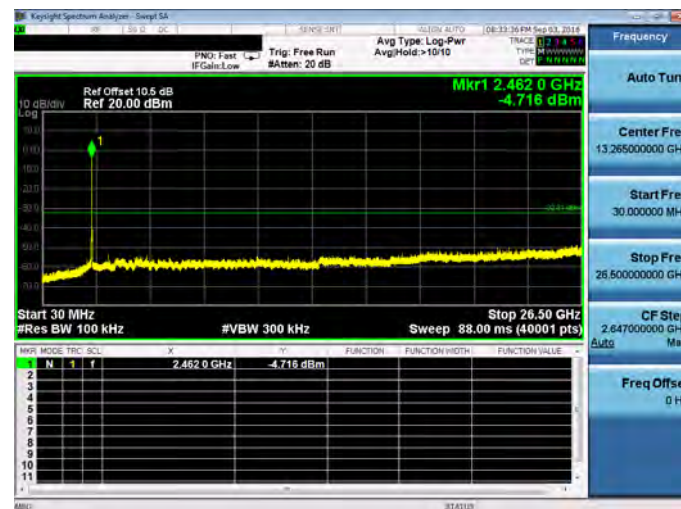
2412 MHz



2437 MHz



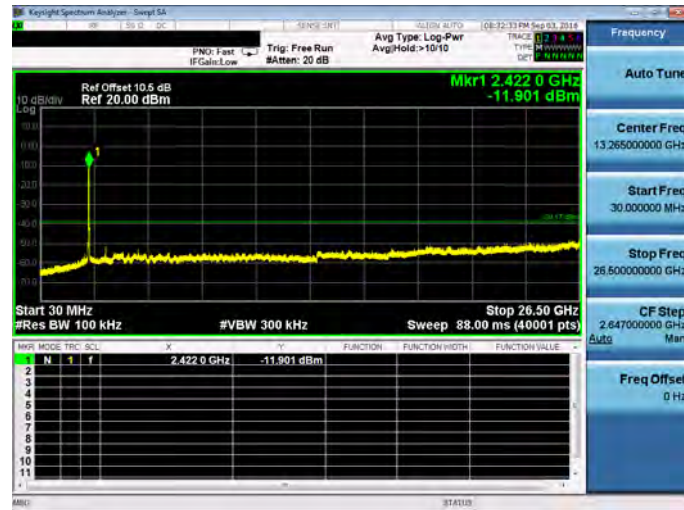
2462 MHz





Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

2422 MHz



2437 MHz



2452 MHz

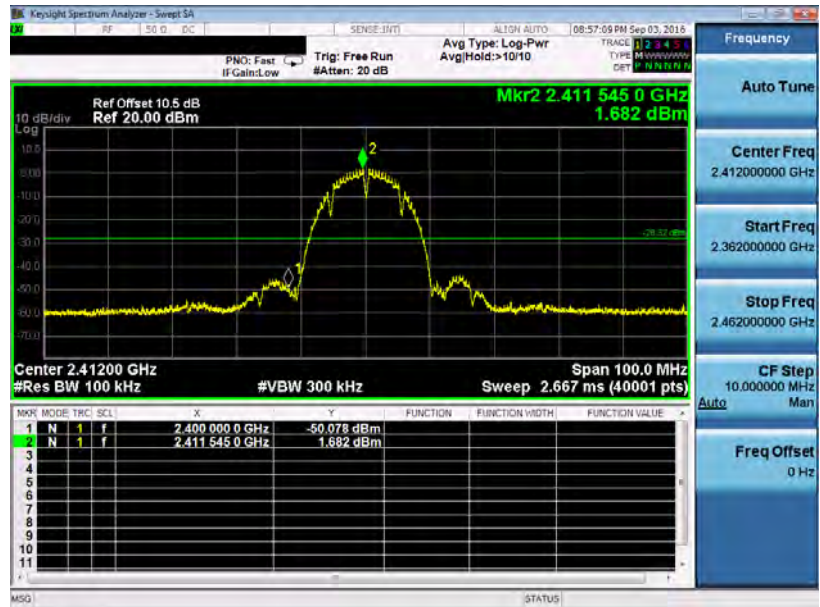




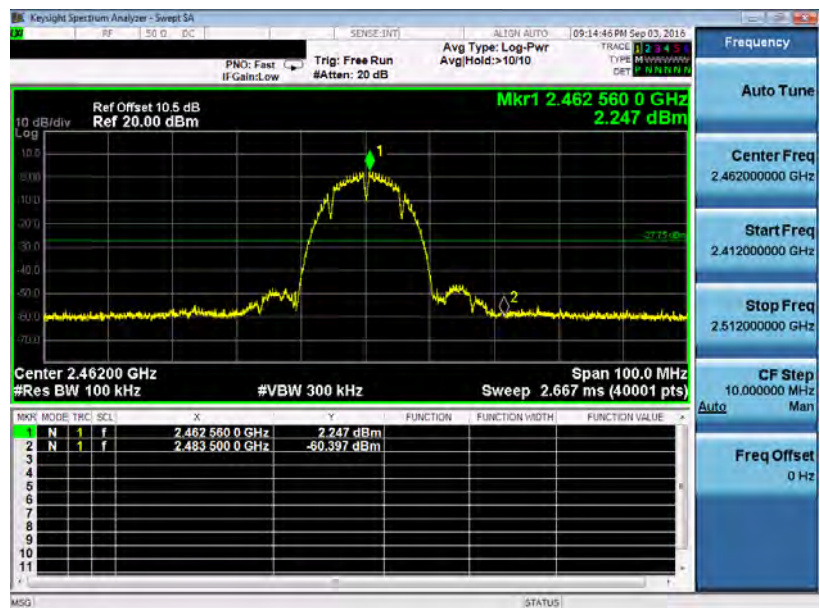
Conducted Band Edge

Mode 2: IEEE 802.11b link mode_ANT-0

2412 MHz



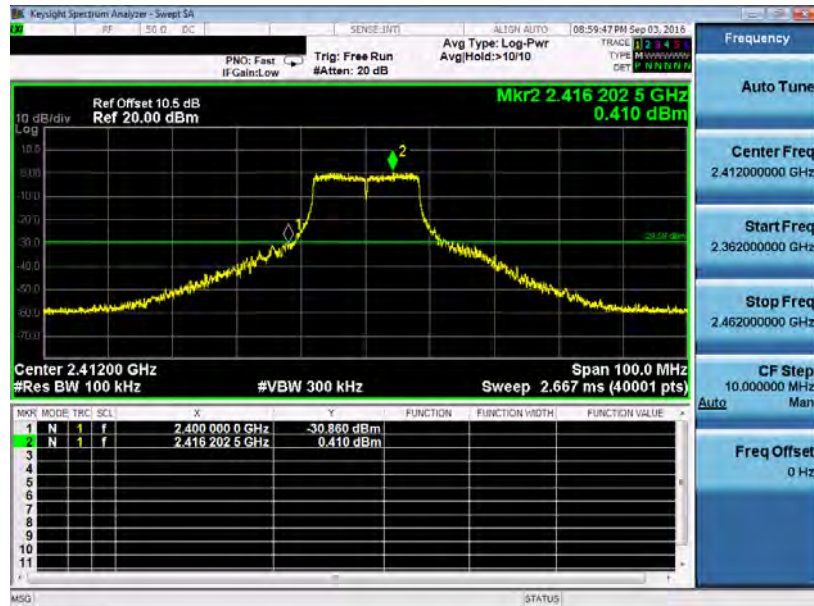
2462 MHz



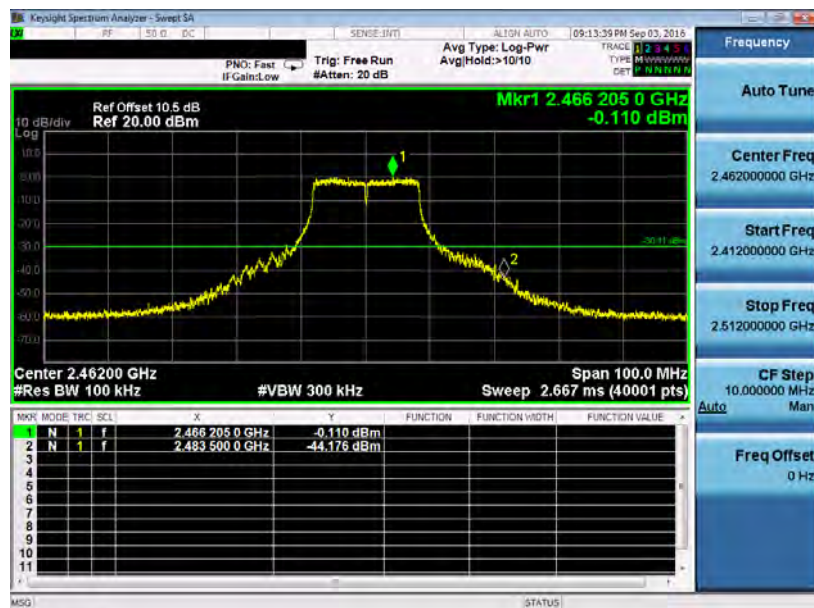


Mode 3: IEEE 802.11g link mode_ANT-0

2412 MHz



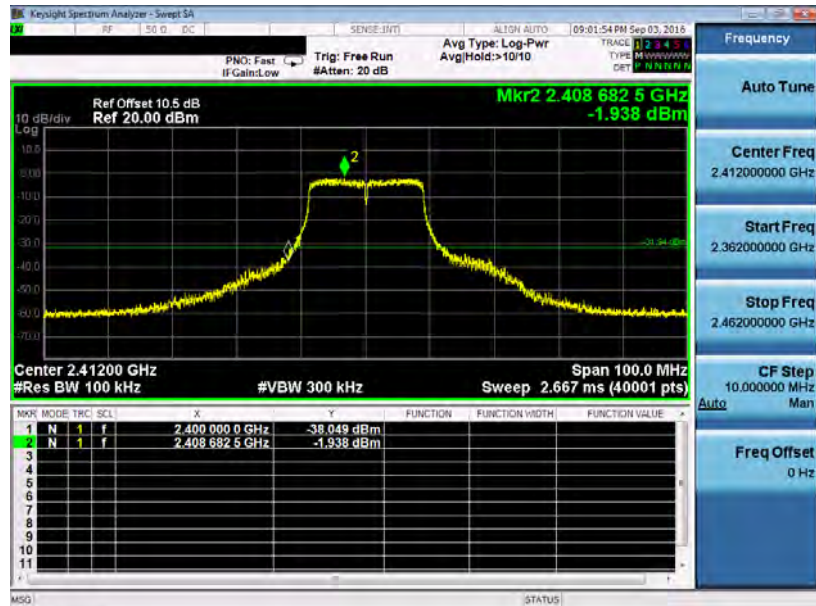
2462 MHz



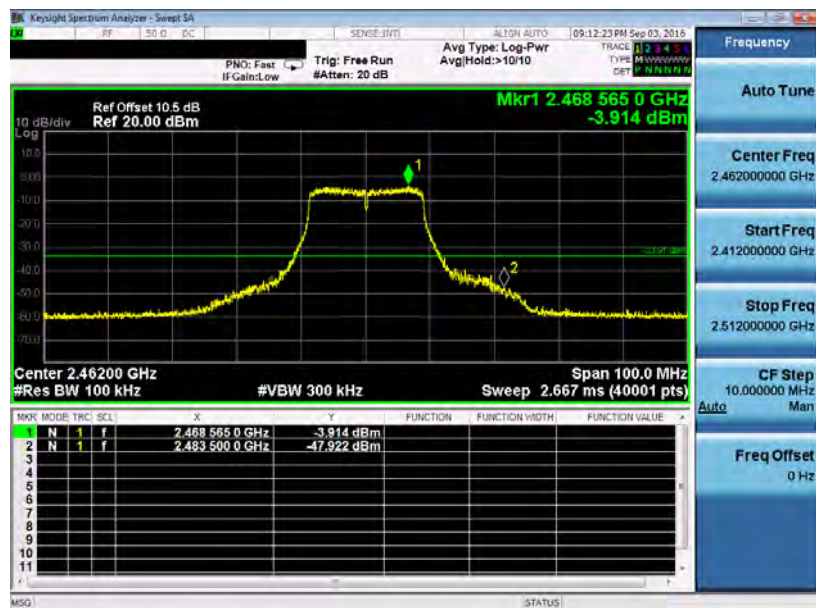


Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

2412 MHz



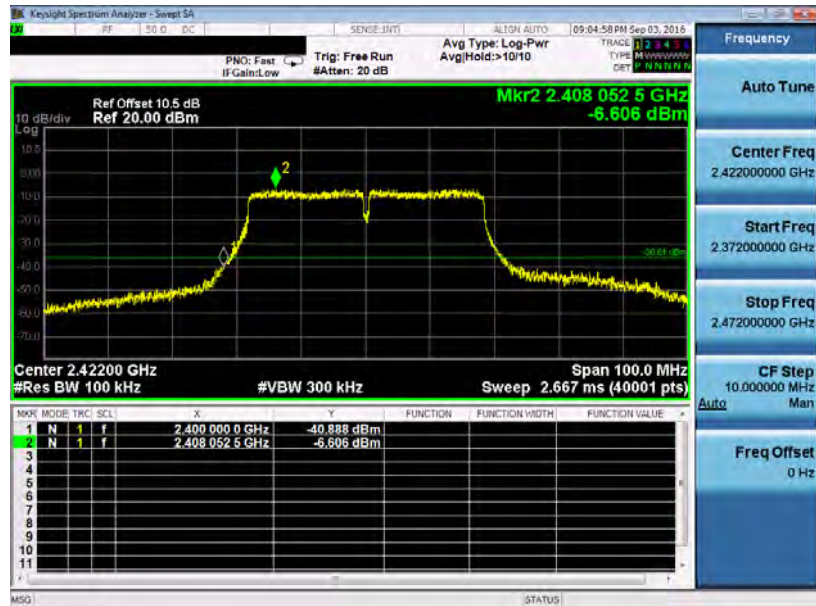
2462 MHz





Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

2422 MHz



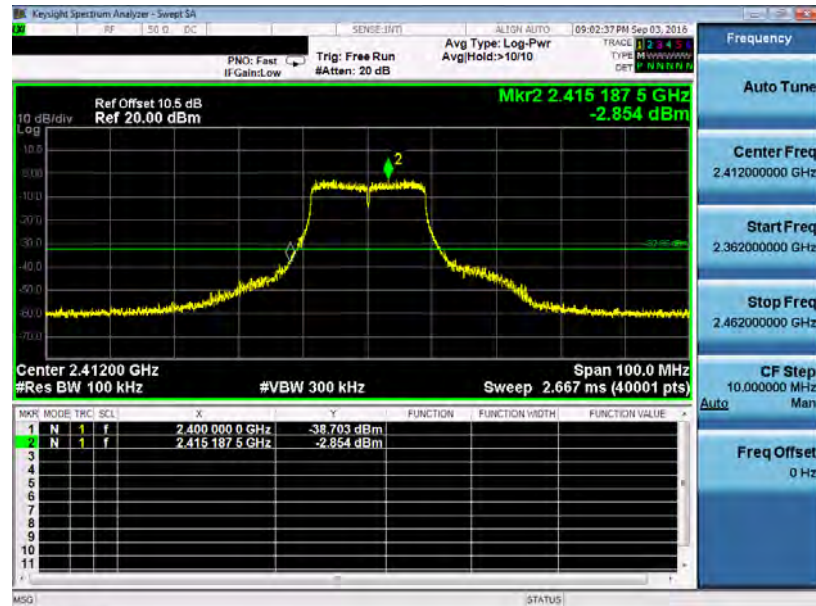
2452 MHz



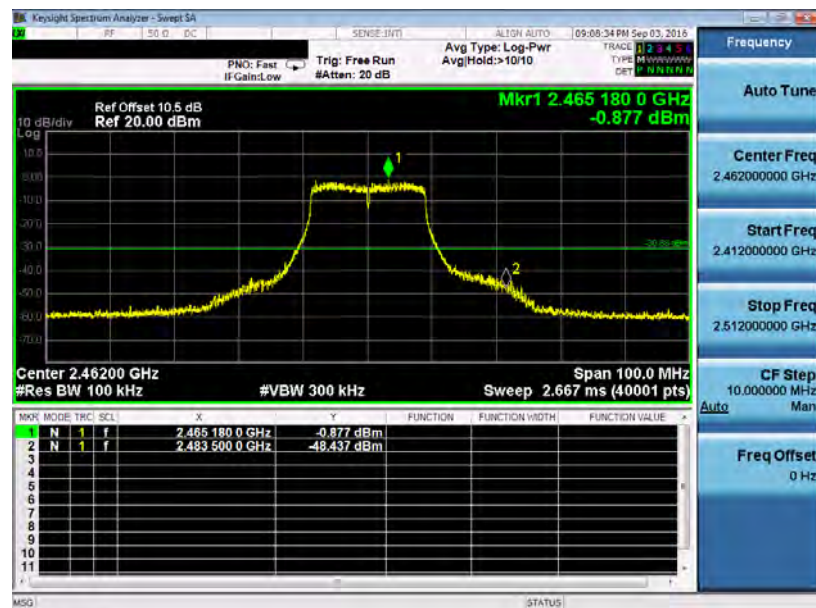


Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

2412 MHz



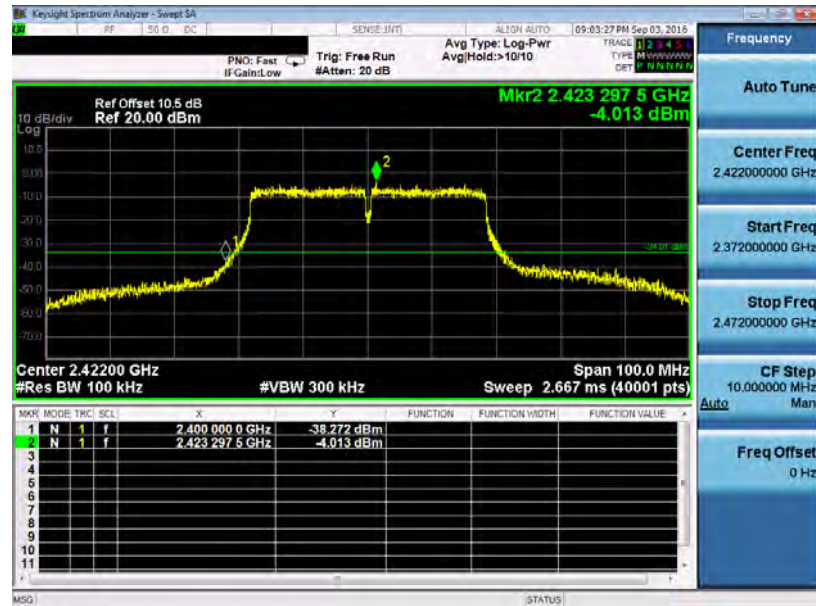
2462 MHz



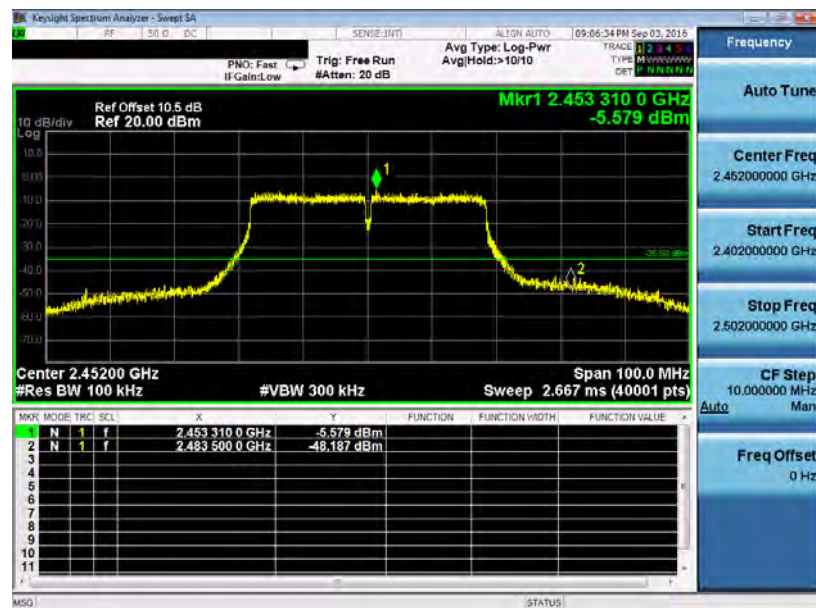


Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

2422 MHz



2452 MHz

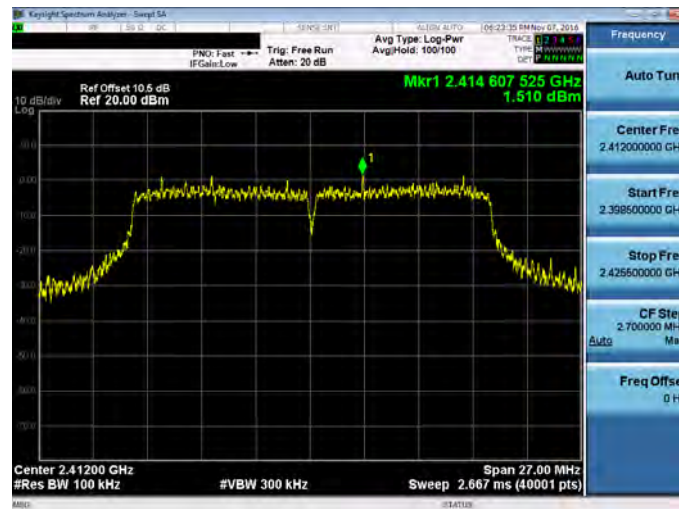


Reference level

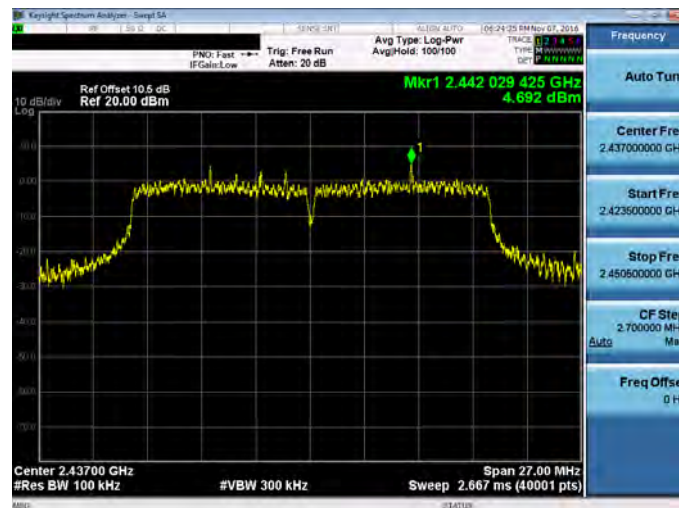
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

Beamforming on

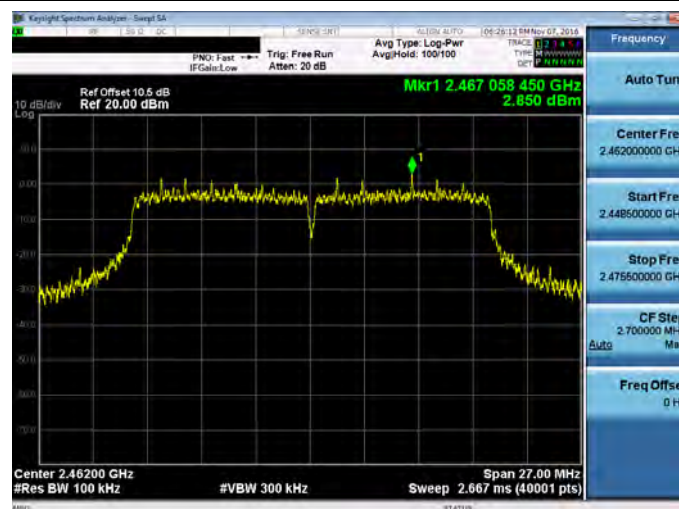
2412 MHz



2437 MHz



2462 MHz

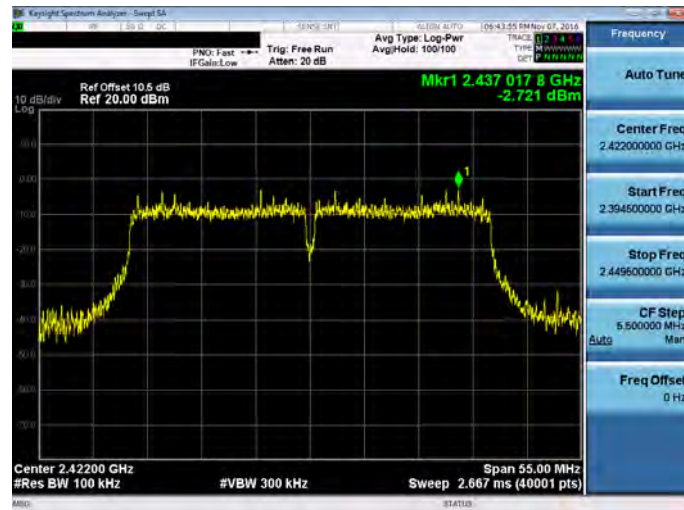




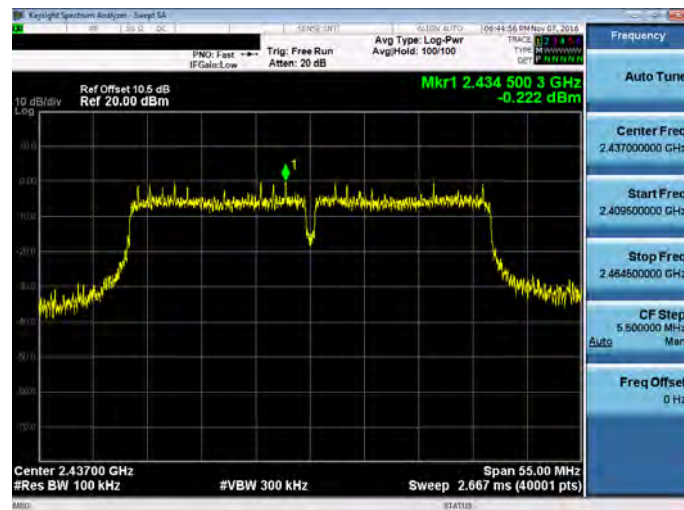
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

Beamforming on

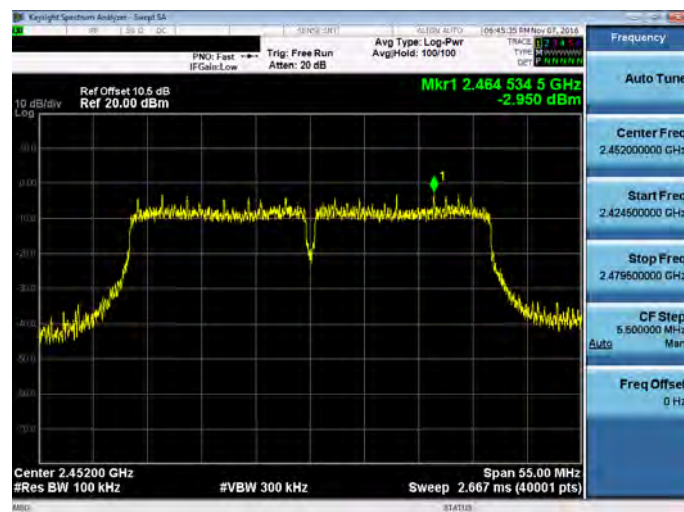
2422 MHz



2437 MHz



2452 MHz

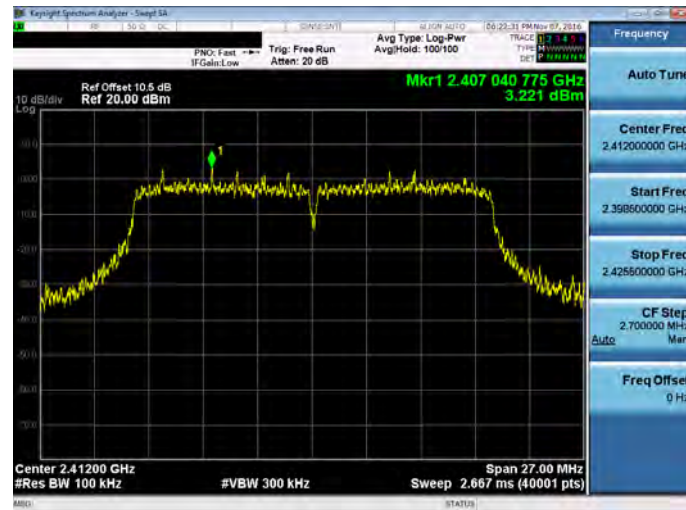




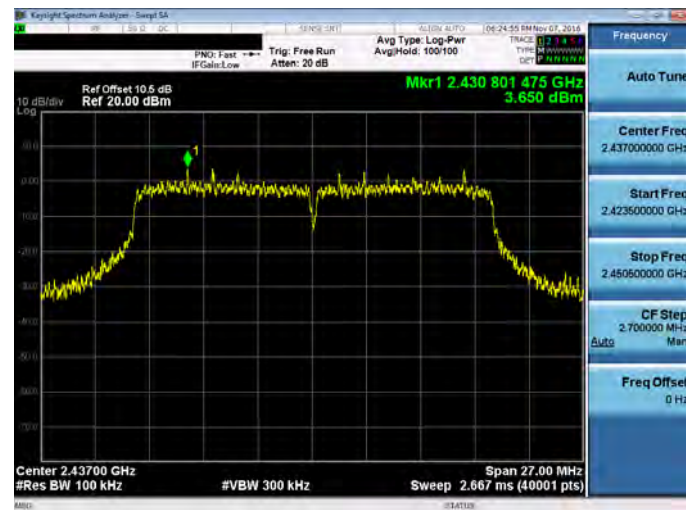
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

Beamforming on

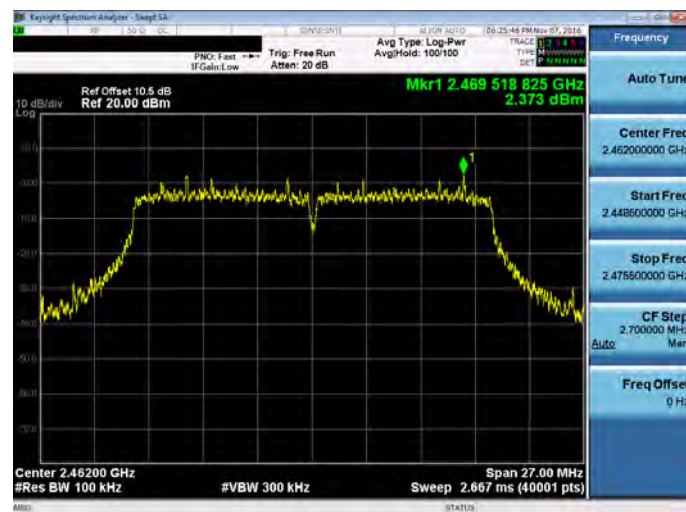
2412 MHz



2437 MHz



2462 MHz

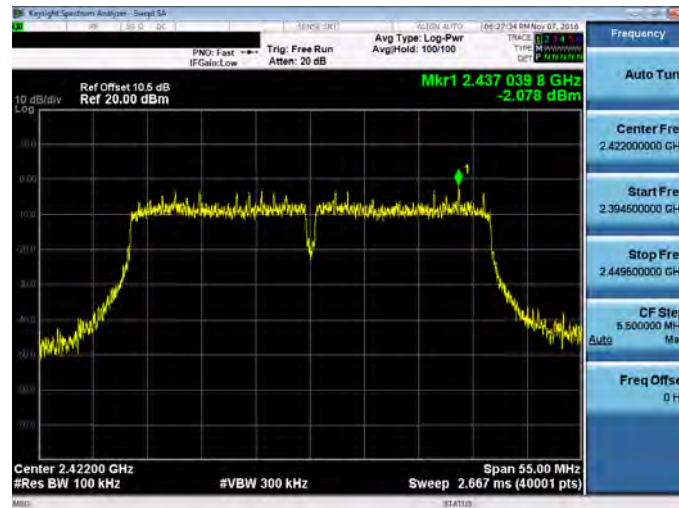




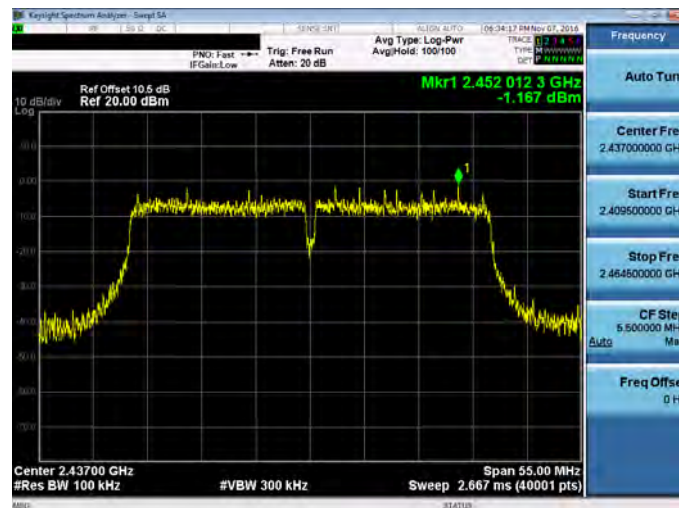
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

Beamforming on

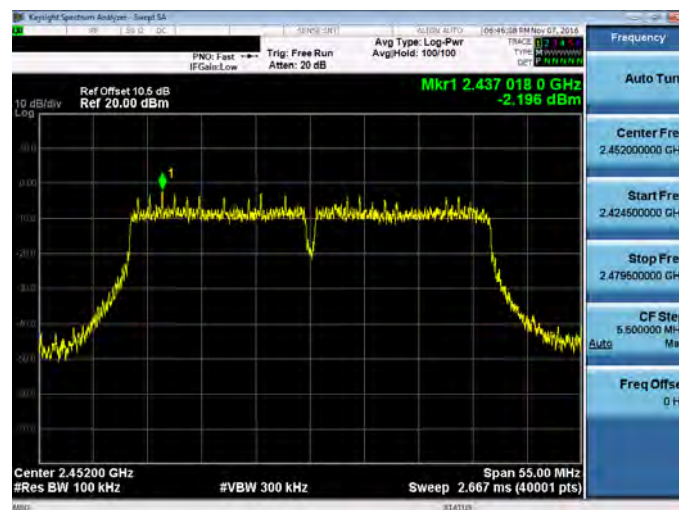
2422 MHz



2437 MHz



2452 MHz





Out of Band Conducted Emissions

Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

Beamforming on

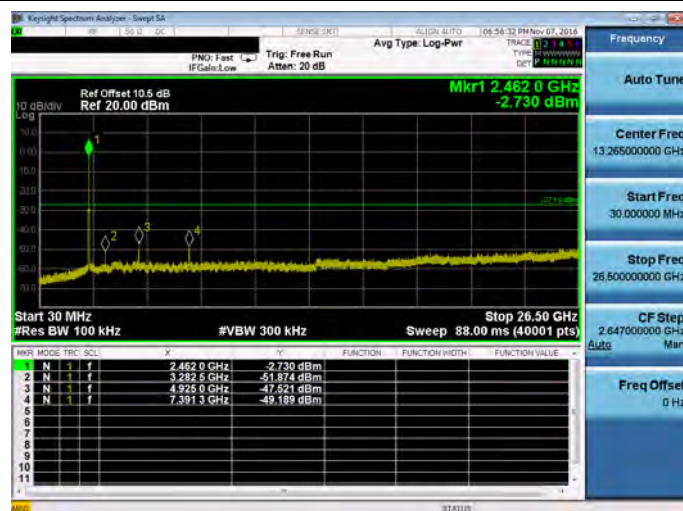
2412 MHz



2437 MHz



2462 MHz

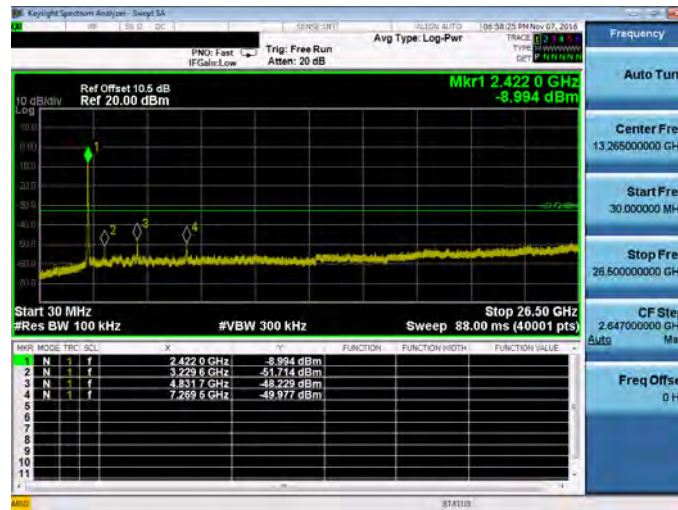




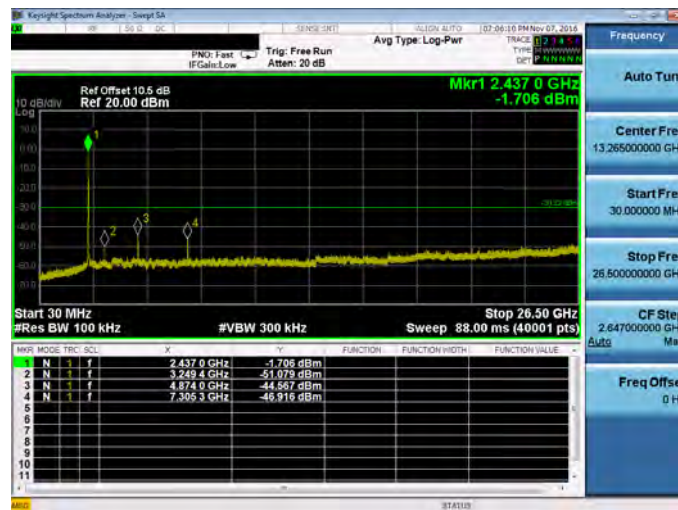
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

Beamforming on

2422 MHz



2437 MHz



2452 MHz

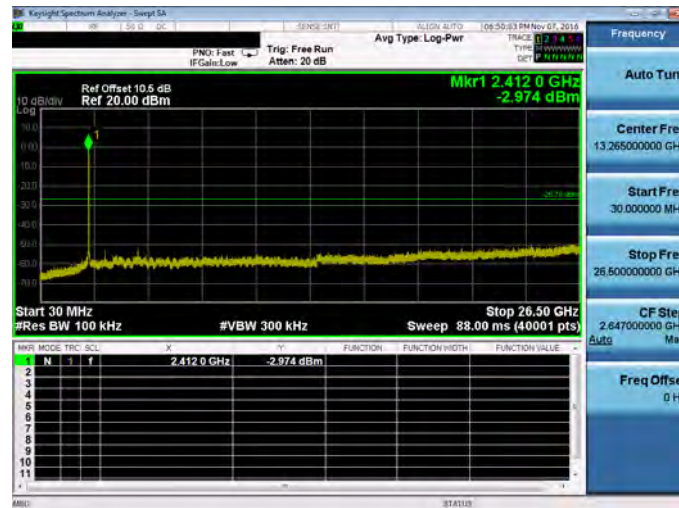




Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

Beamforming on

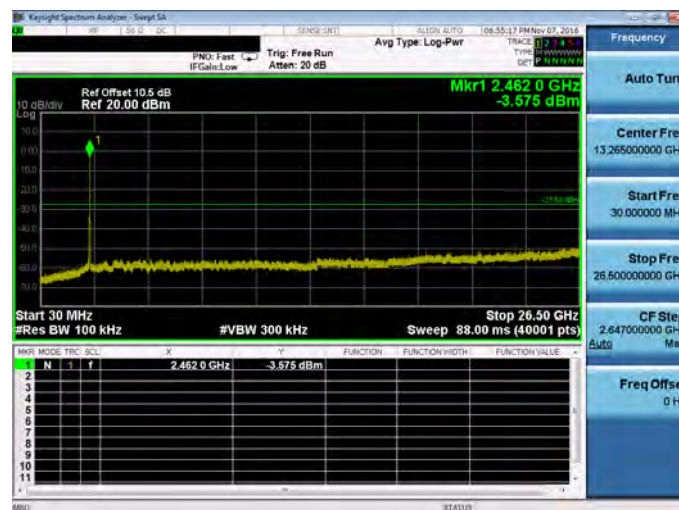
2412 MHz



2437 MHz



2462 MHz

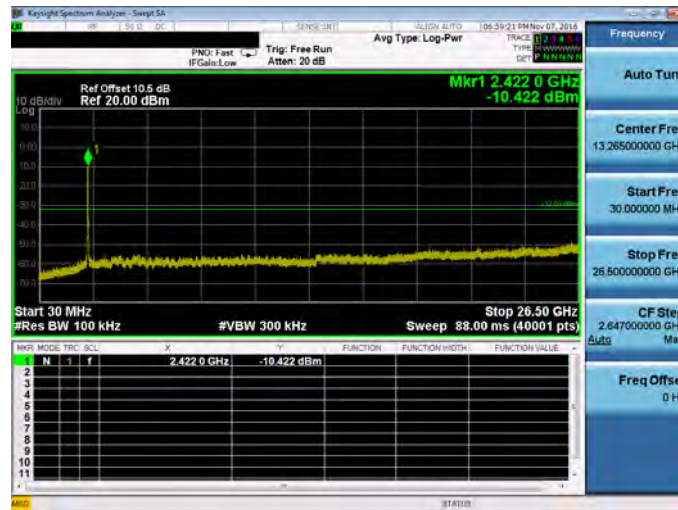




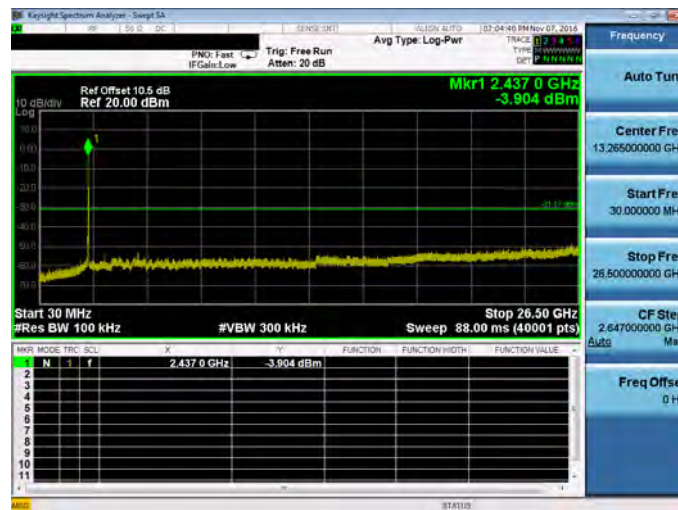
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

Beamforming on

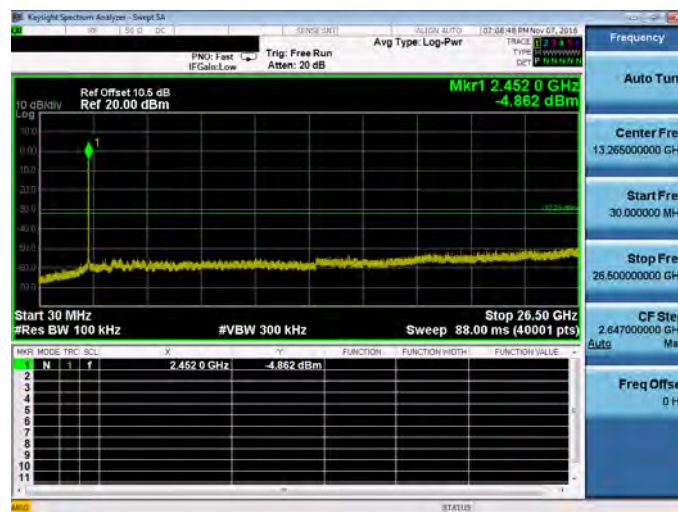
2422 MHz



2437 MHz



2452 MHz

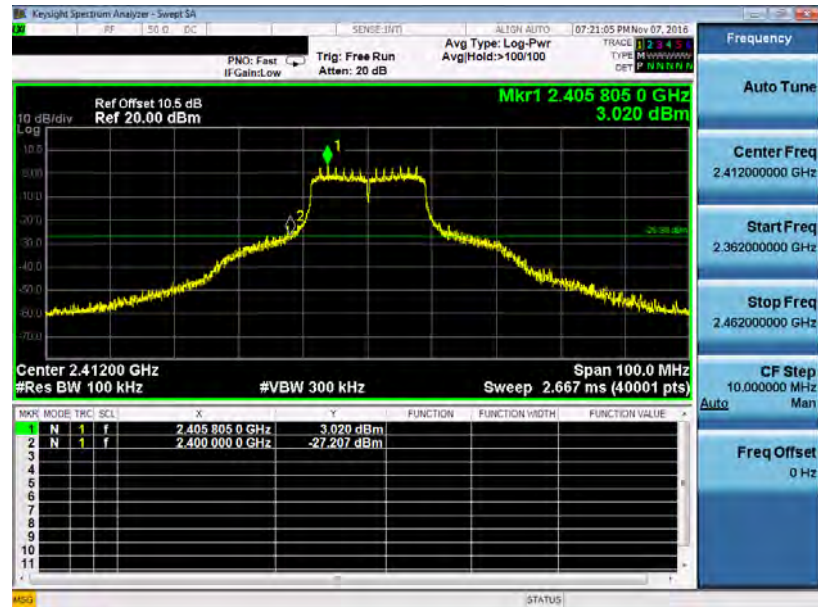


**Conducted Band Edge**

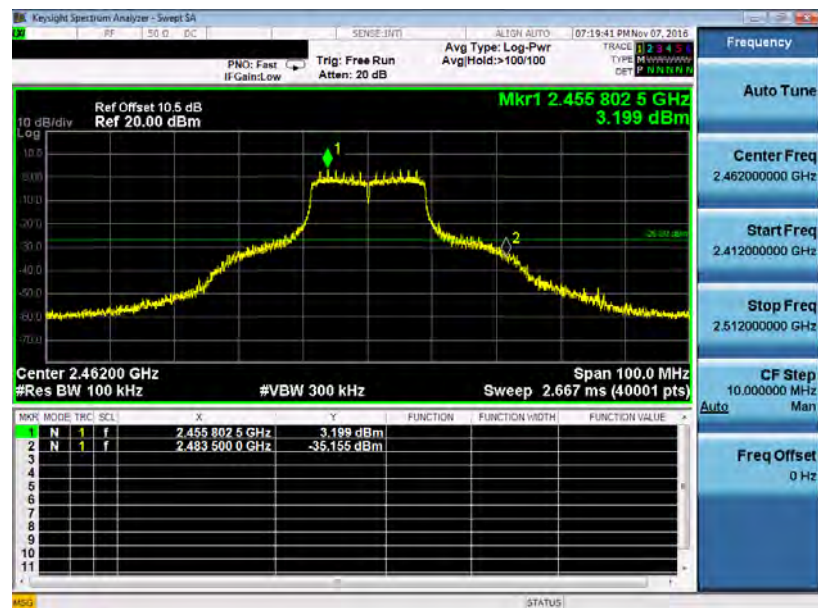
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-0

Beamforming on

2412 MHz



2462 MHz

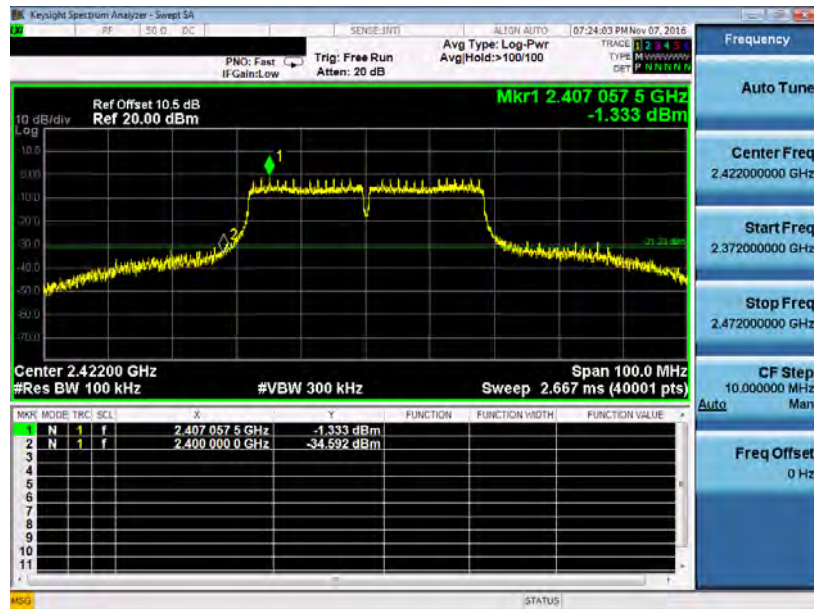




Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-0

Beamforming on

2422 MHz



2452 MHz

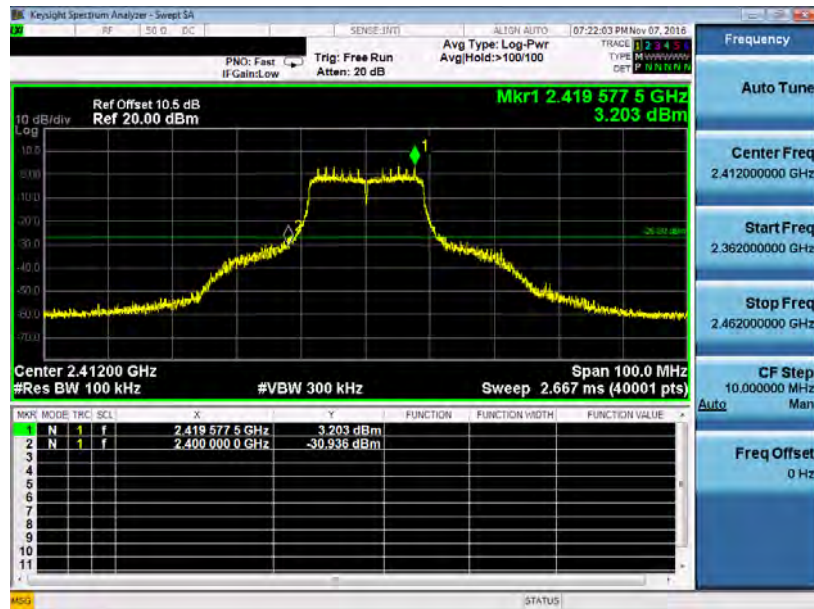




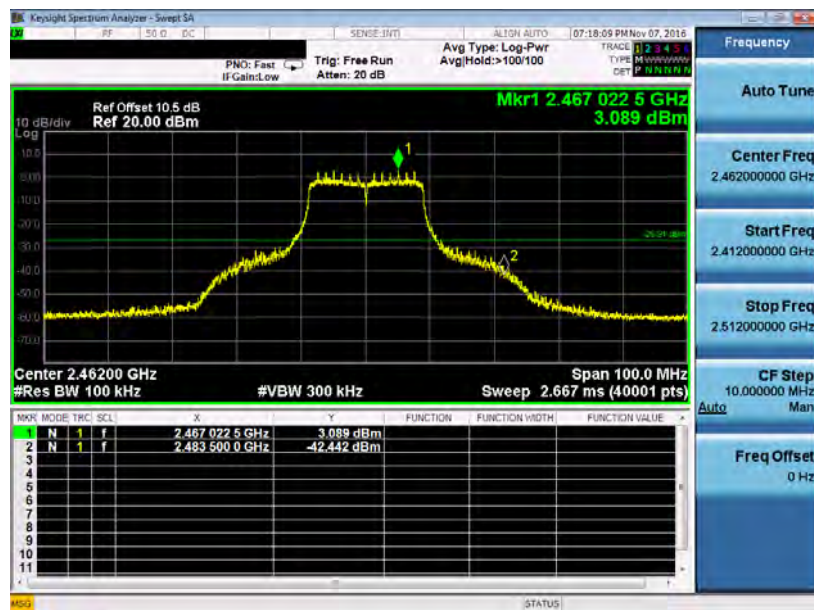
Mode 4: IEEE 802.11n 2.4GHz 20MHz link mode_ANT-1

Beamforming on

2412 MHz



2462 MHz

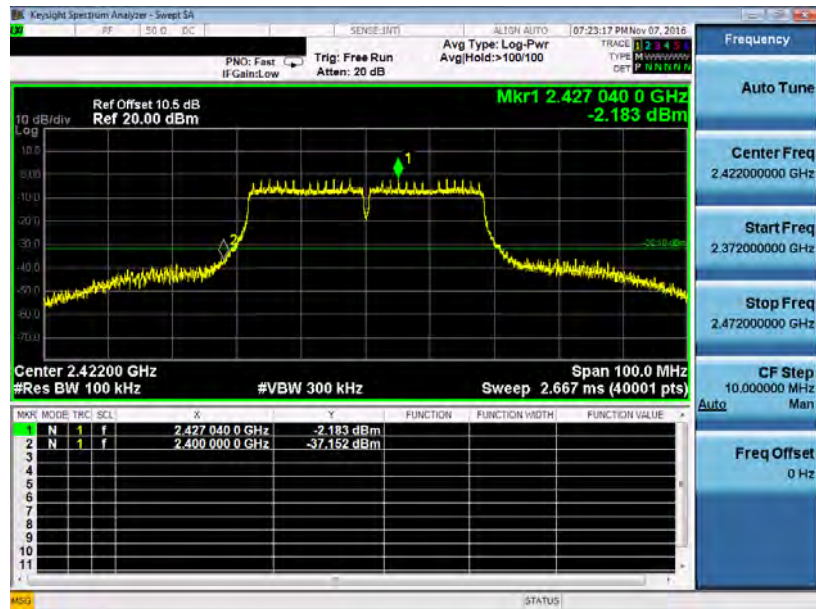




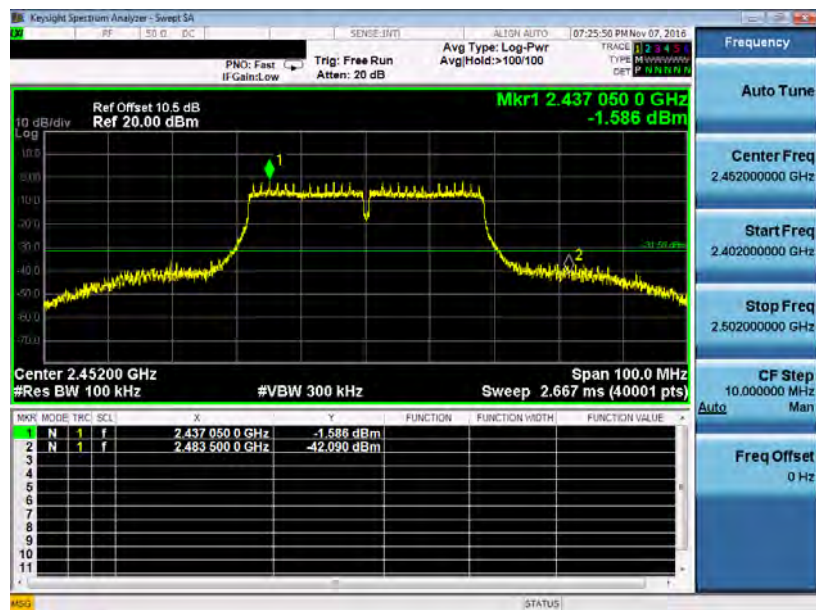
Mode 5: IEEE 802.11n 2.4GHz 40MHz link mode_ANT-1

Beamforming on

2422 MHz



2452 MHz





10 Antenna Measurement

10.1.Limit

For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

10.2.Antenna Description

See section 2 – antenna information.

10.3.Directiona Gain Calculated

Directional Gain = $10 \cdot \log\{[10^{(G1/20)} + 10^{(G2/20)} + \dots + 10^{(Gn/20)}]^2 / NANT\}$ = 4.13 dBi < 6dBi

Operate Freq. Band	Directional Gain (dBi)
IEEE 802.11n 2.4GHz 20MHz	4.13
IEEE 802.11n 2.4GHz 40MHz	4.13