FCC PART 15E TEST REPORT

TESTING
CNAS L3572

Issued to

Shenzhen OnePlus Science and Technology Co.,Ltd

For

Mobile Phone

Model Name:	ONE A0001
Trade Name:	ONEPLUS
Brand Name:	ONEPLUS
FCC ID:	2ABZ2-A0001
Standard:	47 CFR Part 15 Subpart E
Test date:	2014-4-1 to 2014-4-25
Issue date:	2014-4-25

by

Shenzhen Morlab Communications Technology Co., Ltd.
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Tested by	Nie Quan	*Approved by*	Zeng Dexin	*Reviewed by*	Peng Huarui
	Nie Quan (Test Engineer)		Zeng Dexin (Chief Engineer)		Peng Huarui (Dept. Manager)
Date	2014.4.25	*Date*	2014.4.25	*Date*	2014.4.25

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Change History		
Issue	Date	Reason for change
1.0	April 25, 2014	First Edition

1. General Information

1.1. EUT Description

EUT Type..... :	Mobile Phone
Serial No. ..... :	(n.a, marked #1 by test site)
Hardware Version..... :	213073
Software Version..... :	A0001_12_140215
Applicant..... :	Shenzhen OnePlus Science and Technology Co.,Ltd 18C01 Shenye Tairan Building, Binhe Road North, Futian District, Shenzhen
Manufacturer ..... :	Shenzhen OnePlus Science and Technology Co.,Ltd 18C01 Shenye Tairan Building, Binhe Road North, Futian District, Shenzhen
Frequency Range..... :	802.11b/g/n: 2.400GHz - 2.4835GHz 802.11a/n/ac: 5.150GHz- 5.250GHz 5.725GHz- 5.850GHz
Channel Number ..... :	2.4GHz Band: 802.11b/g/n-20MHz: 11 802.11n-40MHz: 7 802.11a/n/ac-20MHz: 5.725GHz- 5.850GHz: 5 Channels 5.150GHz – 5.250GHz: 3 Channels 802.11n/ac-40MHz: 5.725GHz- 5.850GHz: 2 Channels 5.150GHz – 5.250GHz: 2 Channels
Modulation Type..... :	DSSS, OFDM
Antenna Type ..... :	PIFA Antenna
Antenna Gain..... :	1.0dBi MAX

Note :

1. The U-NII band is applicable to this report, another bands of operation (2.4GHz and 5.8GHz) is documented in a separate report.
2. For 802.11a/n/ac-20MHz, the frequencies allocated is F (MHz) =5180+20*(n-1) (1<=n<=3). The channel of the EUT used and tested in this report are separately 36 (5180MHz), 44 (5220MHz) and 48 (5240MHz)
3. For 802.11n/ac-40MHz,the frequencies allocated is F (MHz) =5190MHz+40*(n-1) (1<=n<=2). The channel of the EUT used and tested in this report are separately 38 (5190MHz), 46 (5230MHz).
4. For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.
5. The antenna connector of EUT is designed with permanent attachment and no consideration of replacement.
6. During test, the duty cycle of the EUT was setting to 100%.

2. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart E (UNII band) for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 15 (10-1-13 Edition)	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result
1	15.203	Antenna Requirement	**PASS**
2	15.407(a)	26dB Emission Bandwidth	**PASS**
3	15.407(a)	Maximum conducted output Power	**PASS**
4	15.407(a)	Peak Power spectral density	**PASS**
5	15.407(b)	Restricted Frequency Bands	**PASS**
6	15.407(a)	Peak Excursion	**PASS**
7	15.407(g)	Frequency Stability	**PASS**
8	15.207	Conducted Emission	**PASS**
9	15.407(b)	Radiated Emission	**PASS**
10	15.407(f)	RF exposure evaluation	**PASS**

The tests of Conducted Emission and Radiated Emission were performed according to the method of measurements prescribed in ANSI C63.4 2009.

These RF tests were performed according to the method of measurements prescribed in KDB789033 D01 v01r03 (04/08/2013).

1.1. Facilities and Accreditations

1.1.1. Facilities

Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L3572.

All measurement facilities used to collect the measurement data are located at FL.1, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10 2009, ANSI C63.4 2009 and CISPR Publication 22; the FCC registration number is 695796.

1.1.2. Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106

2. 47 CFR Part 15E Requirements

2.1. Antenna requirement

2.1.1. Applicable Standard

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

2.1.2. Result: Compliant

The EUT has a permanently and irreplaceable attached antenna. Please refer to the EUT internal photos.

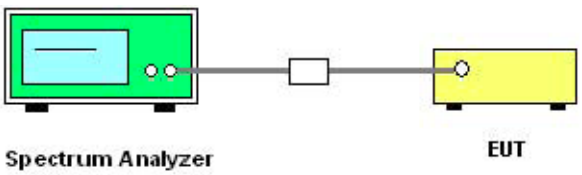
2.2. 26dB Emission Bandwidth

2.2.1. Requirement

For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

2.2.2. Test Description

A. Test Set:



The EUT which is powered by the Battery, is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

A. Test Procedure

KDB 789033 Section C) Emission Bandwidth was used in order to prove compliance

1) Set RBW = approximately 1% of the emission bandwidth.

2) Set the VBW > RBW.

3) Detector = Peak.

4) Trace mode = max hold.

5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EXA Signal Analzyer	Agilent	N9010A	MY51440152	2014.02.26	2015.02.25

2.2.3. Test Result

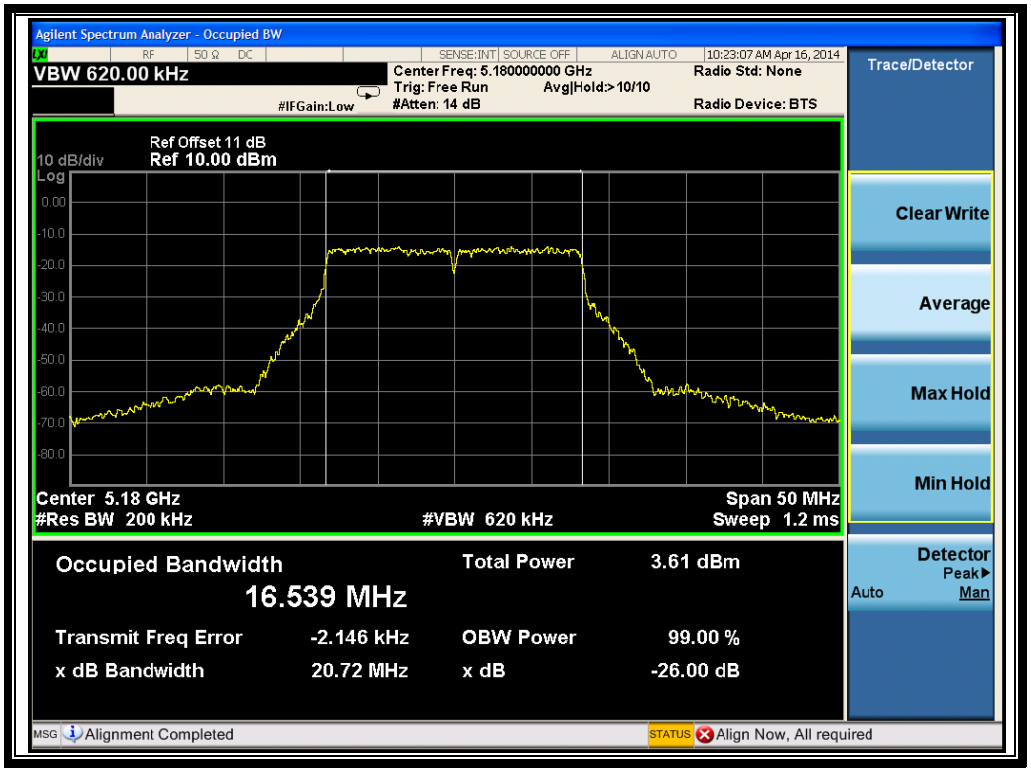
The lowest, middle and highest channels are selected to perform testing to record the 6 dB bandwidth of the Module.

2.2.3.1. 802.11a Test mode

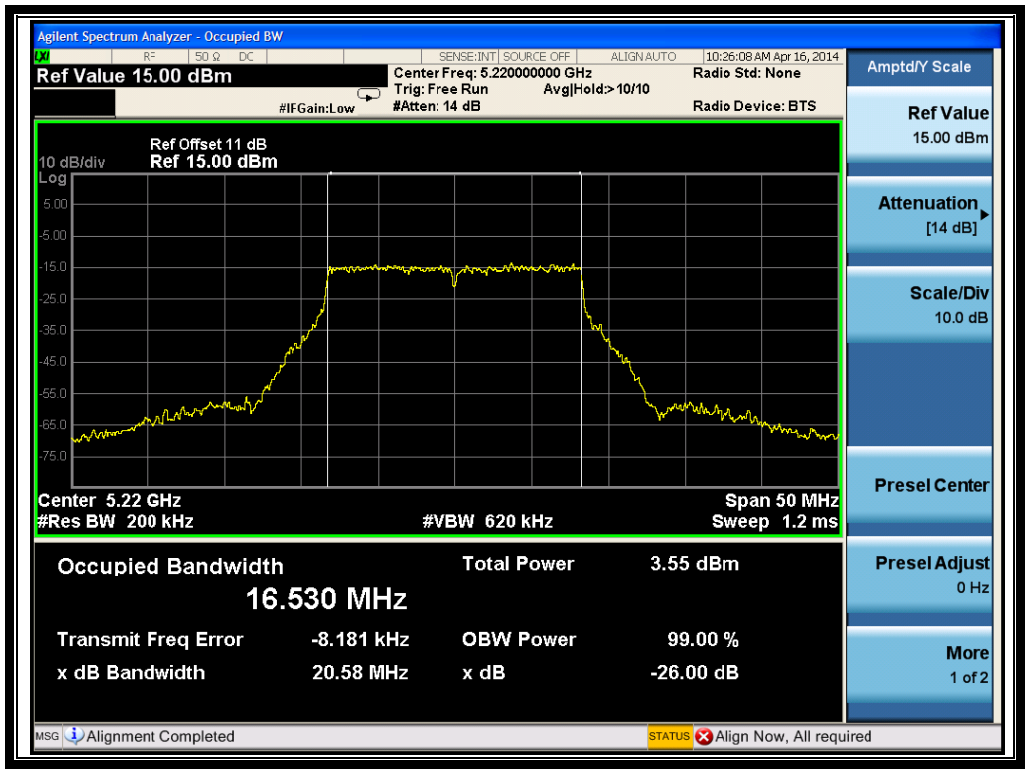
A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
36	5180	20.72
44	5220	20.58
48	5240	20.09

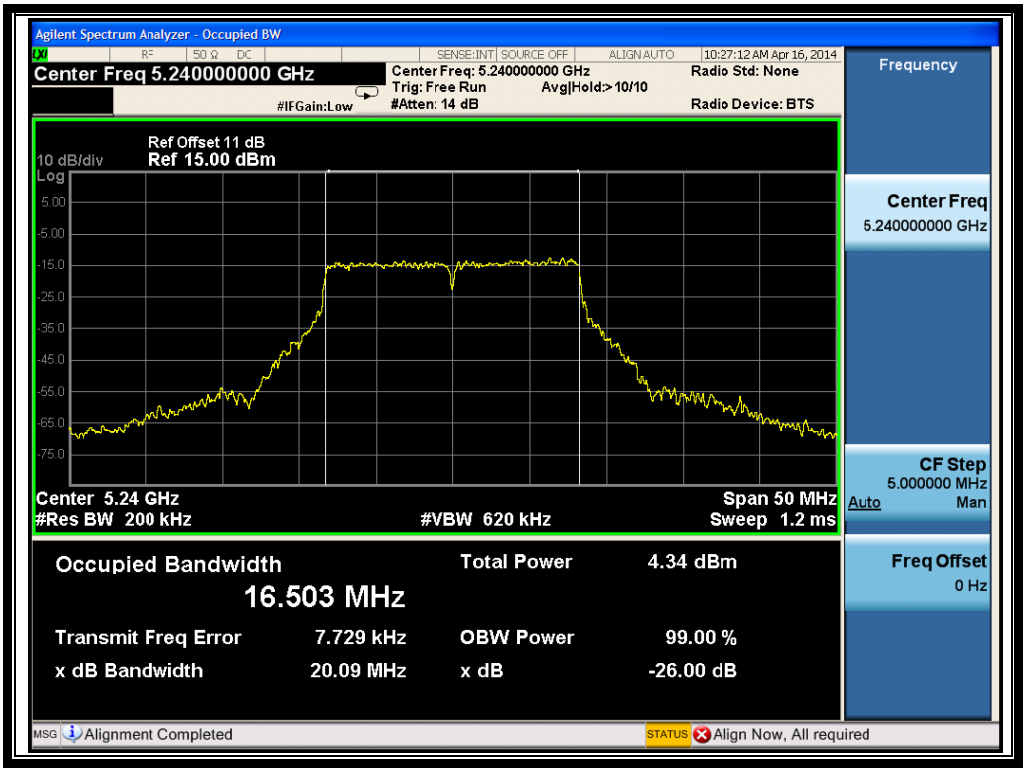
B. Test Plots



(Channel 36: 5180MHz @ 802.11a)



(Channel 44: 5220 MHz @ 802.11a)



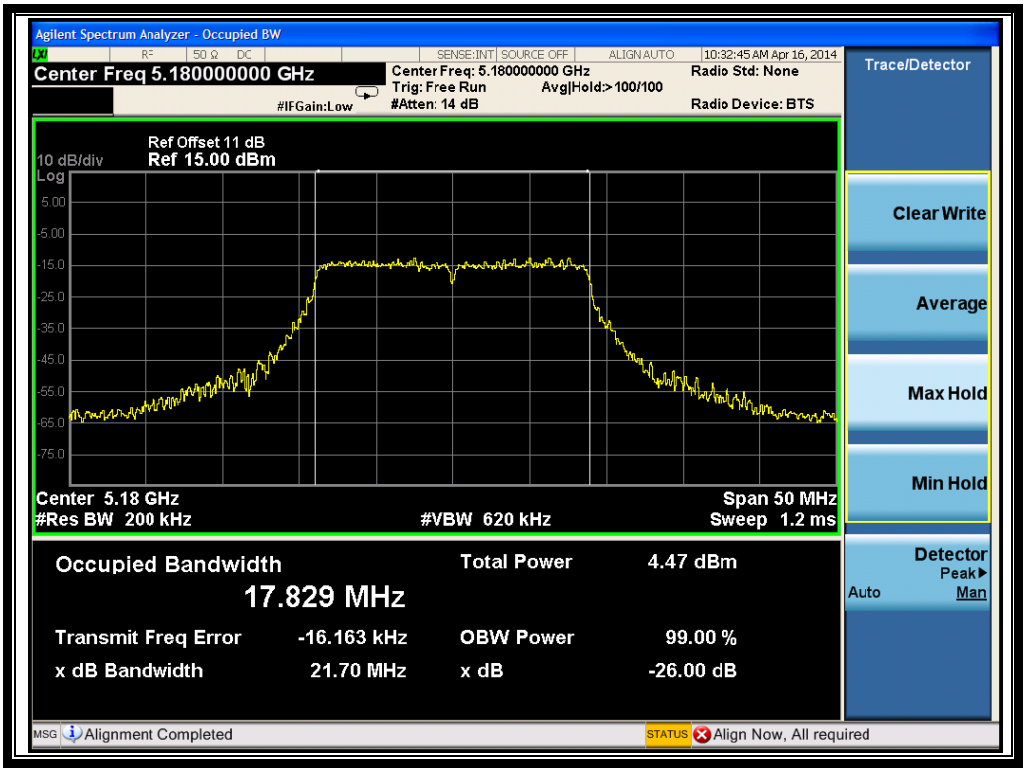
(Channel 48: 5240MHz @ 802.11a)

2.2.3.2. 802.11n-20MHz Test mode

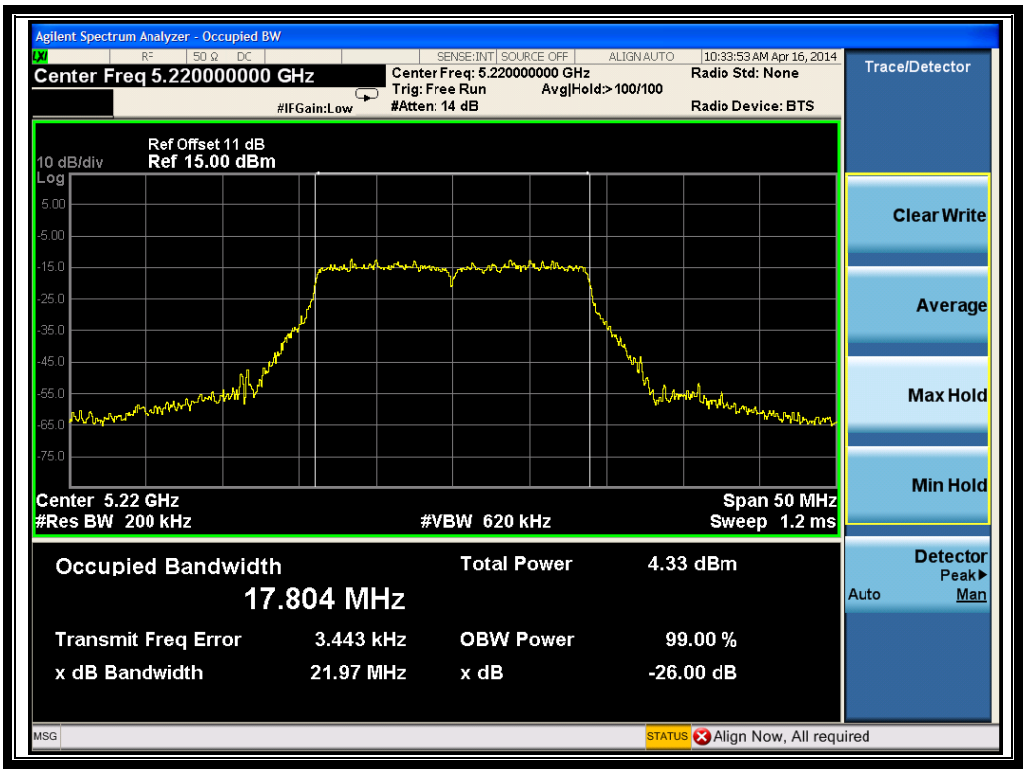
A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
36	5180	21.70
44	5220	21.97
48	5240	21.90

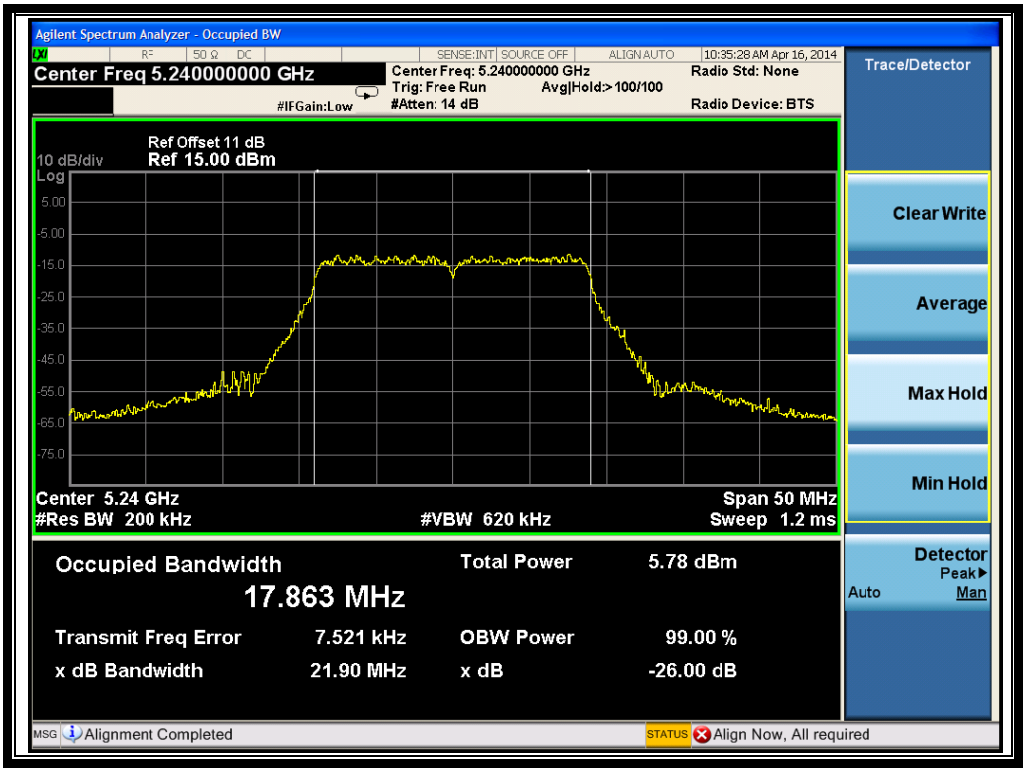
B. Test Plots



(Channel 36: 5180MHz @ 802.11n-20MHz)



(Channel 44: 5220 MHz @ 802.11n-20MHz)



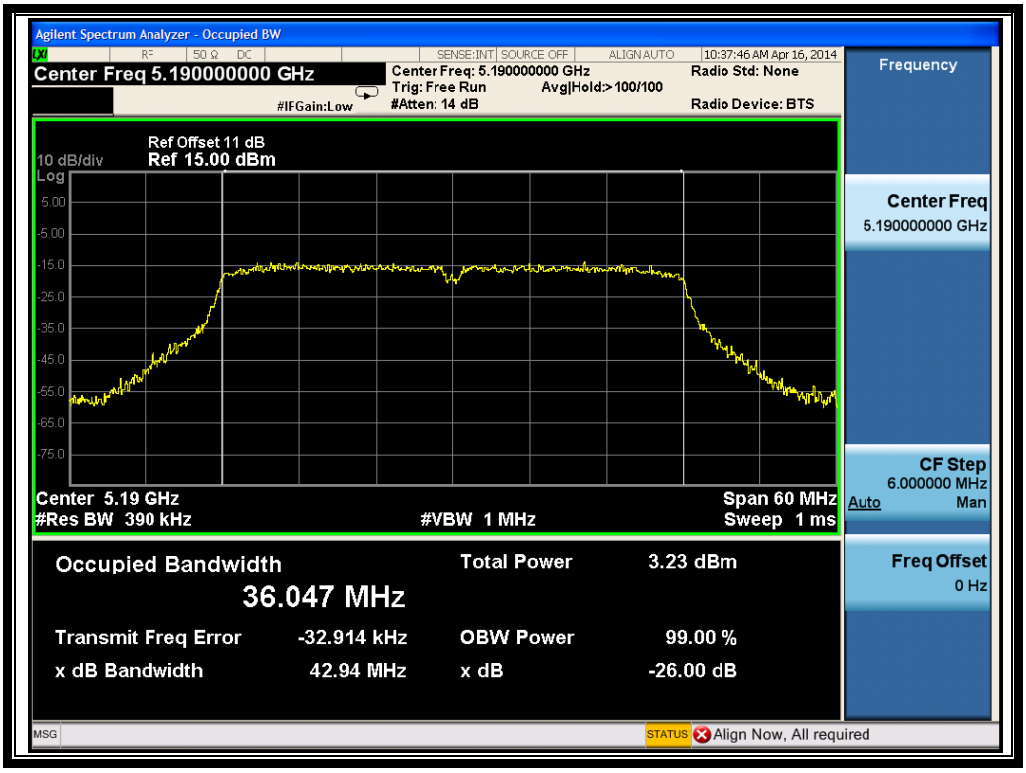
(Channel 48: 5240MHz @ 802.11n-20MHz)

2.2.3.3. 802.11n-40MHz Test mode

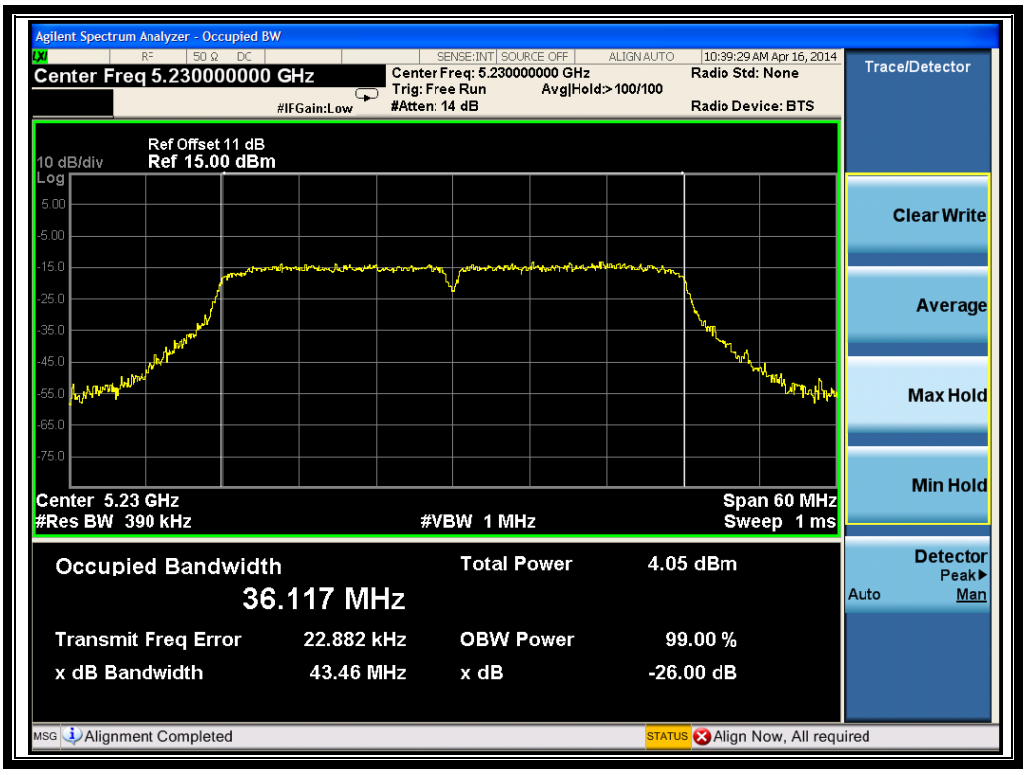
A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
38	5190	42.94
46	5230	43.46

B. Test Plots



(Channel 38: 5190MHz @ 802.11n-40MHz)



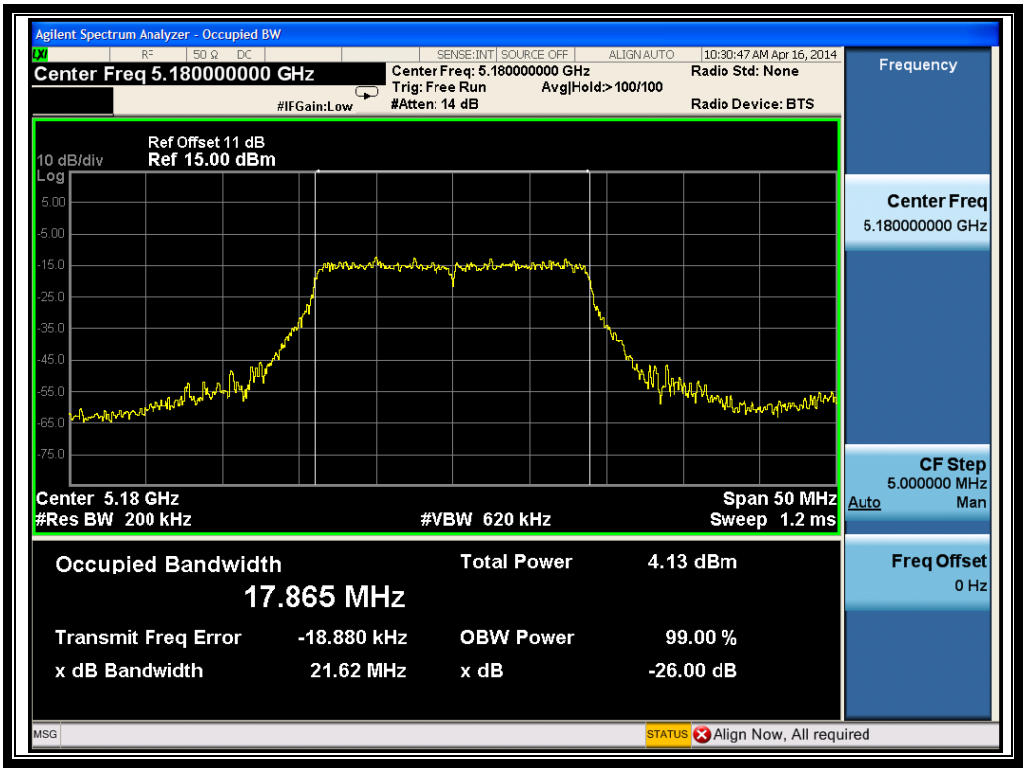
(Channel 46: 5230 MHz @ 802.11n-40MHz)

2.2.3.4. 802.11ac-20 Test mode

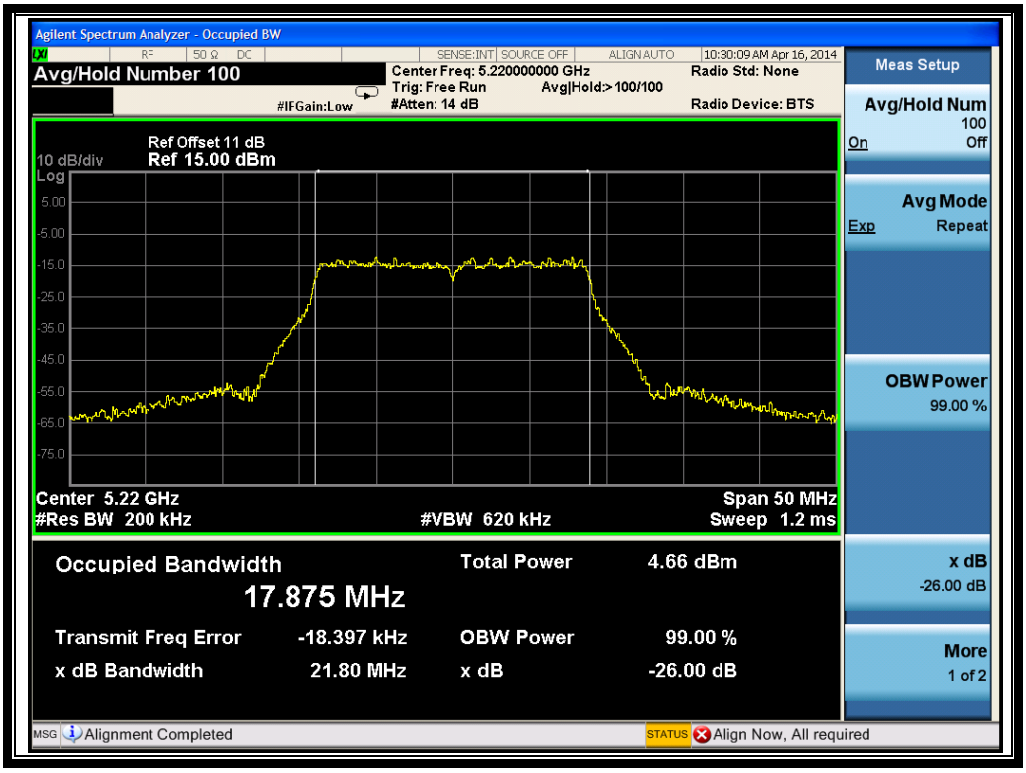
A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
36	5180	21.62
44	5220	21.80
48	5240	21.41

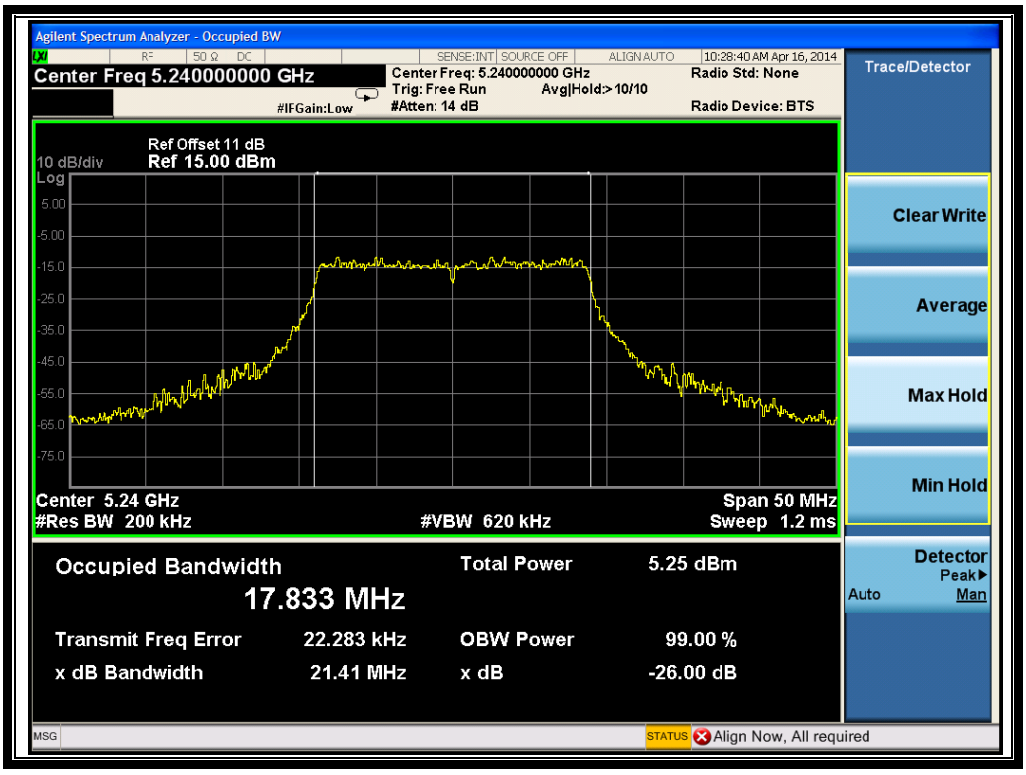
B. Test Plots



(Channel 36: 5180MHz @ 802.11ac-20MHz)



(Channel 44: 5220 MHz @ 802.11ac-20MHz)



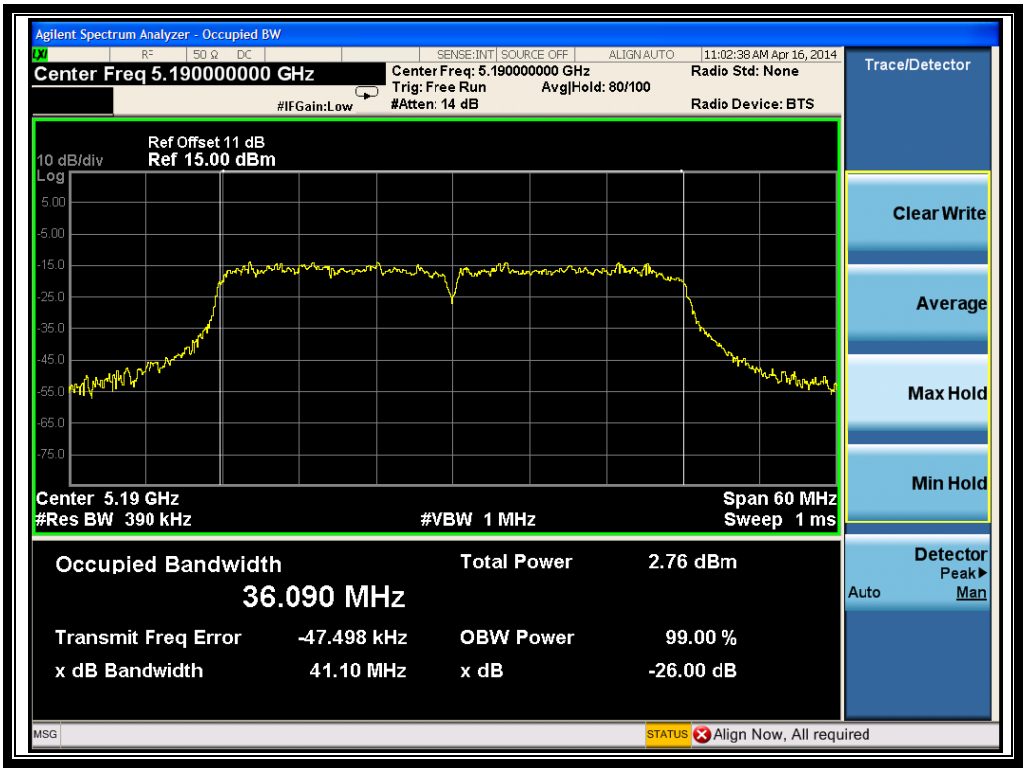
(Channel 48: 5240MHz @ 802.11ac-20MHz)

2.2.3.5. 802.11ac-40MHz Test mode

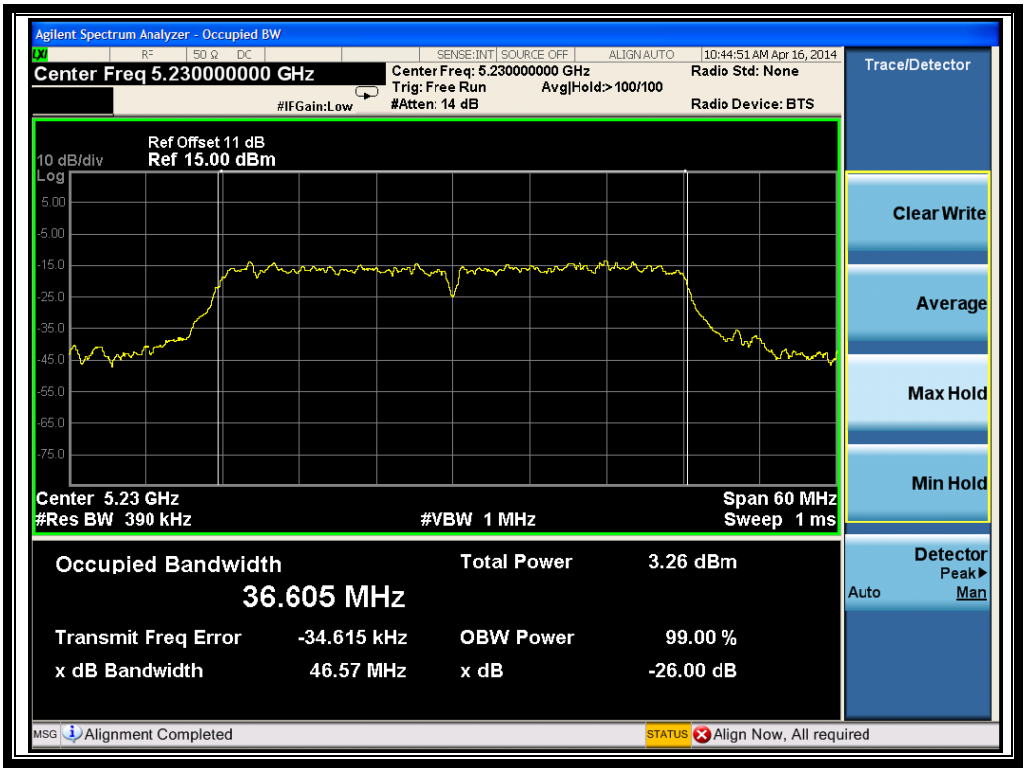
A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
38	5190	41.10
46	5230	46.57

B. Test Plots



(Channel 38: 5190MHz @ 802.11ac-40MHz)



(Channel 46: 5230 MHz @ 802.11ac-40MHz)

2.3. Maximum conducted output Power

2.3.1. Requirement

(1) For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50mW or 4dBm + 10logB, where B is the 26dB emission bandwidth in MHz.

(2) For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or 11dBm + 10log B, where B is the 26 dB emission bandwidth in megahertz.

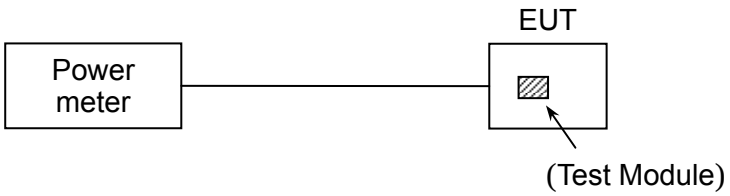
(3) For the band 5.725–5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W or 17dBm+ 10logB, where B is the 26dB emission bandwidth in MHz.
If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

2.3.2. Test Description

Section E) 3) of KDB 789033 defines a methodology using an RF average power meter.

The measured output power was calculated by the reading of the Power Meter. Then, record the max value and add 10log(1/duty cycle)

A. Test Setup:



The EUT (Equipment under the test) which is powered by the Battery is coupled to the Power Meter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading, all test result in power meter.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EPM Series Power Meter	Agilent	E4418B	GB43318055	2014.02.26	2015.02.25
Power Sensor	Agilent	8482A	MY41091706	2014.02.26	2015.02.25

2.3.3. Test Result

2.3.3.1. 802.11a Test mode

Channel	Frequency (MHz)	Measured Output Power dBm	Limit dBm	Verdict
36	5180	13.78	17	PASS
44	5220	13.73		
48	5240	13.82		

2.3.3.2. 802.11n-20MHz Test mode

Channel	Frequency (MHz)	Measured Output Power dBm	Limit dBm	Verdict
36	5180	9.92	17	PASS
44	5220	9.98		
48	5240	9.88		

2.3.3.3. 802.11n-40MHz Test mode

Channel	Frequency (MHz)	Measured Output Power dBm	Limit dBm	Verdict
38	5190	8.63	17	PASS
46	5230	8.52		

2.3.3.4. 802.11ac-20MHz Test mode

Channel	Frequency (MHz)	Measured Output Power dBm	Limit dBm	Verdict
36	5180	10.03	17	PASS
44	5220	9.87		
48	5240	9.92		

2.3.3.5. 802.11ac-40MHz Test mode

Channel	Frequency (MHz)	Measured Output Power dBm	Limit dBm	Verdict
38	5190	8.96	17	PASS
46	5230	9.20		

2.4. Peak Power spectral density

2.4.1. Requirement

(1)For the band 5.15–5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1–MHz band.

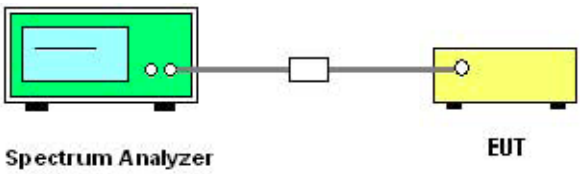
(2) For the 5.25–5.35 GHz and 5.47–5.725GHz bands, the peak power spectral density shall not exceed 11dBm in any 1 megahertz band.

(3) For the band 5.725–5.825 GHz, the peak power spectral density shall not exceed 17dBm in any 1–MHz band.

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

2.4.2. Test Description

A. Test Set:



The EUT which is powered by the Battery, is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

B. Test Procedure

KDB 789033 Section F) Peak power spectral density(PPSD) Method SA-1 was used in order to prove compliance

1) Set span to encompass the entire 26-dB emission bandwidth

2) Set RBW = 1 MHz. Set VBW ≥ 3 MHz.

3) Number of points in sweep ≥ 2 Span / RBW. Sweep time = auto.

4) Detector = RMS (i.e., power averaging)

5) Trace average at least 100 traces in power averaging (i.e., RMS) mode

6) Record the max value

C. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EXA Signal Analzyer	Agilent	N9010A	MY51440152	2014.02.26	2015.02.25

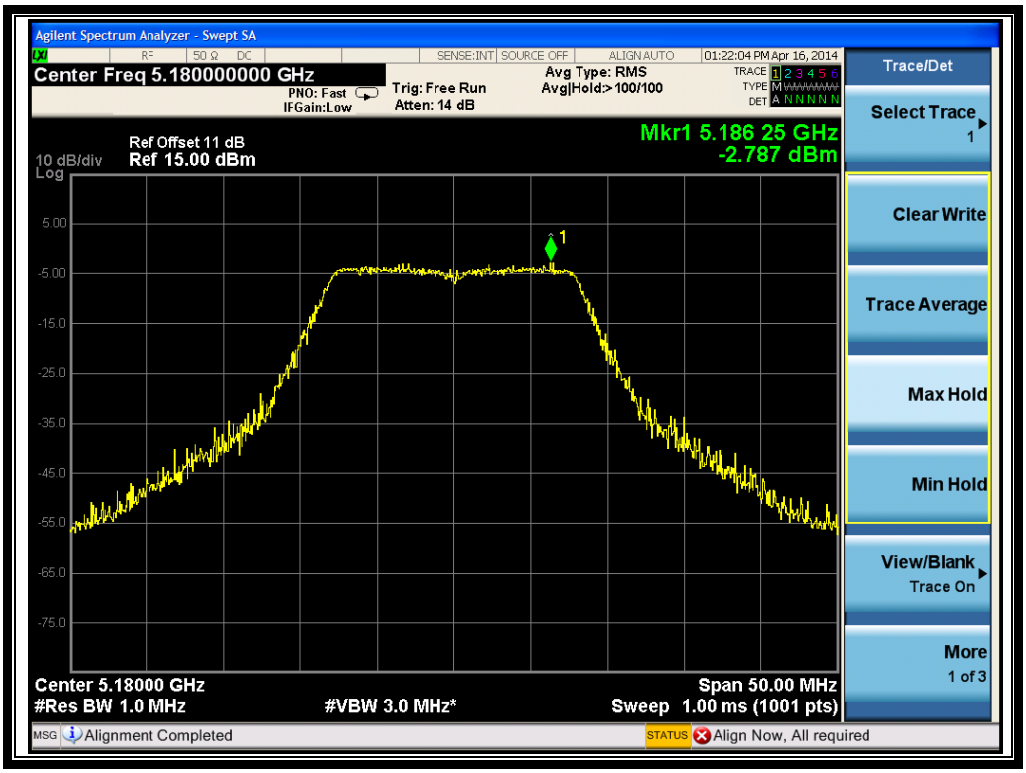
2.4.3. Test Result

2.4.3.1. 802.11a Test mode

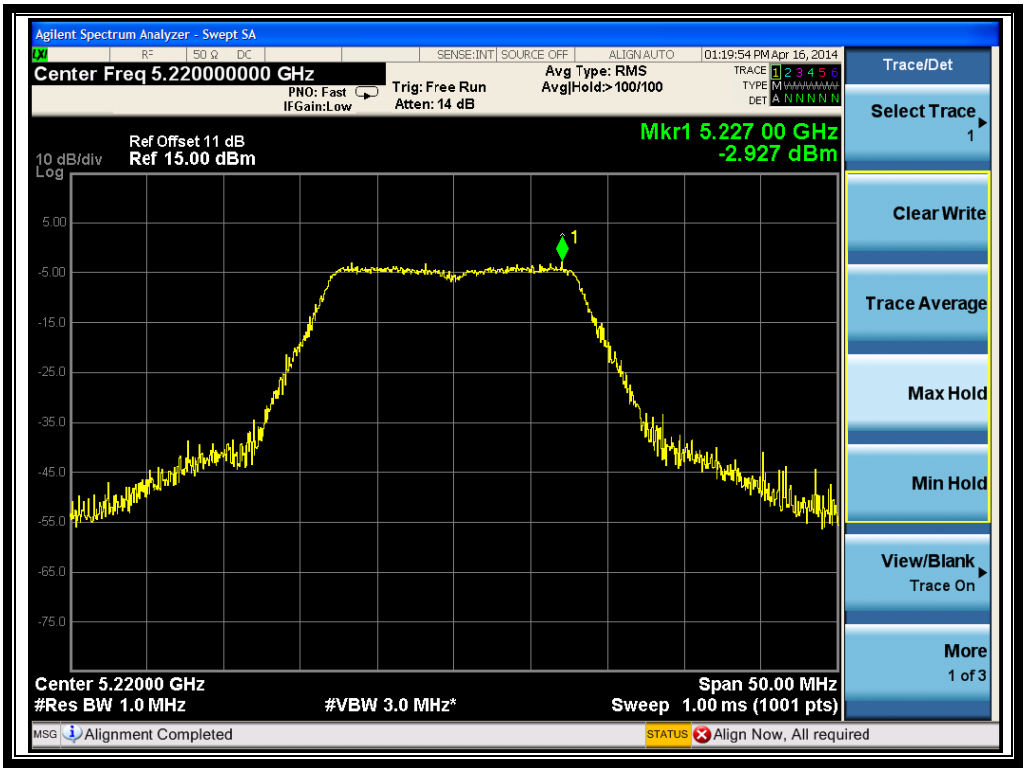
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm)	Limit (dBm)	Verdict
36	5180	-2.787	4	PASS
44	5220	-2.927		
48	5240	-1.867		

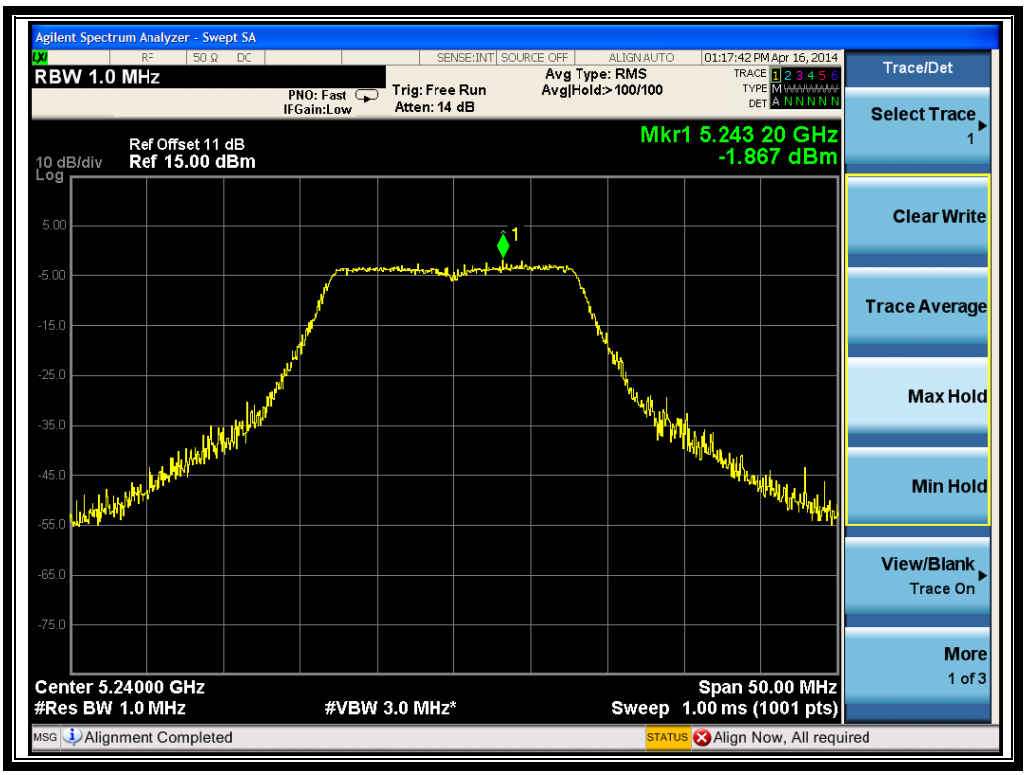
B. Test Plots:



(Channel 36: 5180MHz @ 802.11a)



(Channel 44: 5220 MHz @ 802.11a)



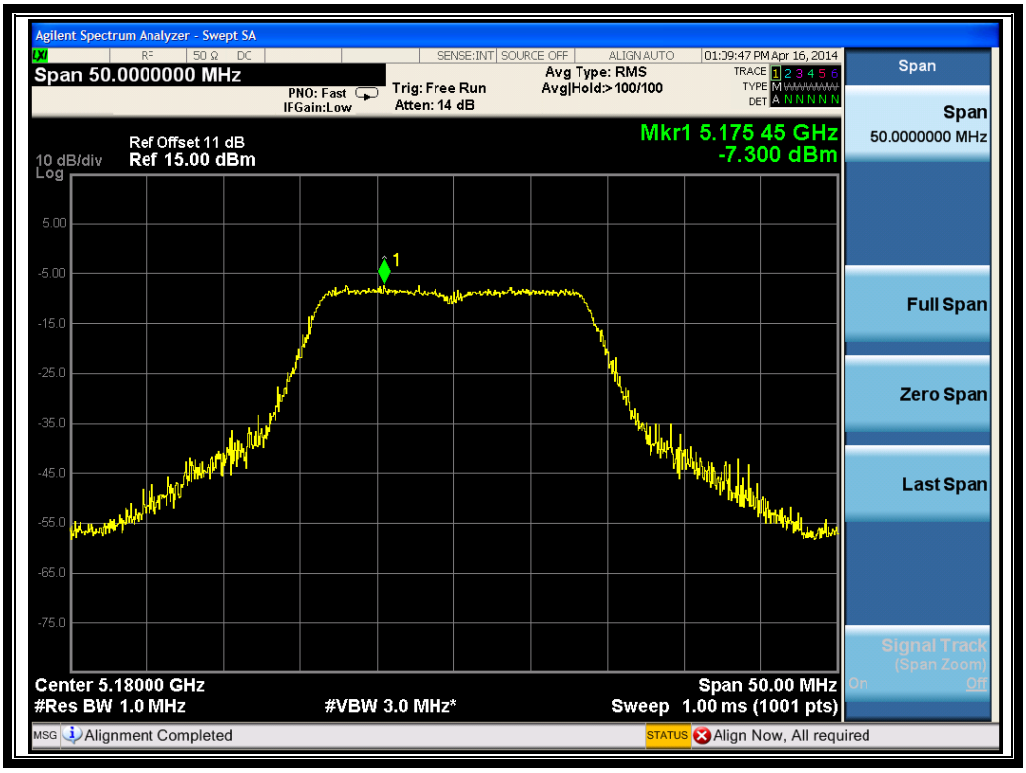
(Channel 48: 5240MHz @ 802.11a)

2.4.3.2. 802.11n-20MHz Test mode

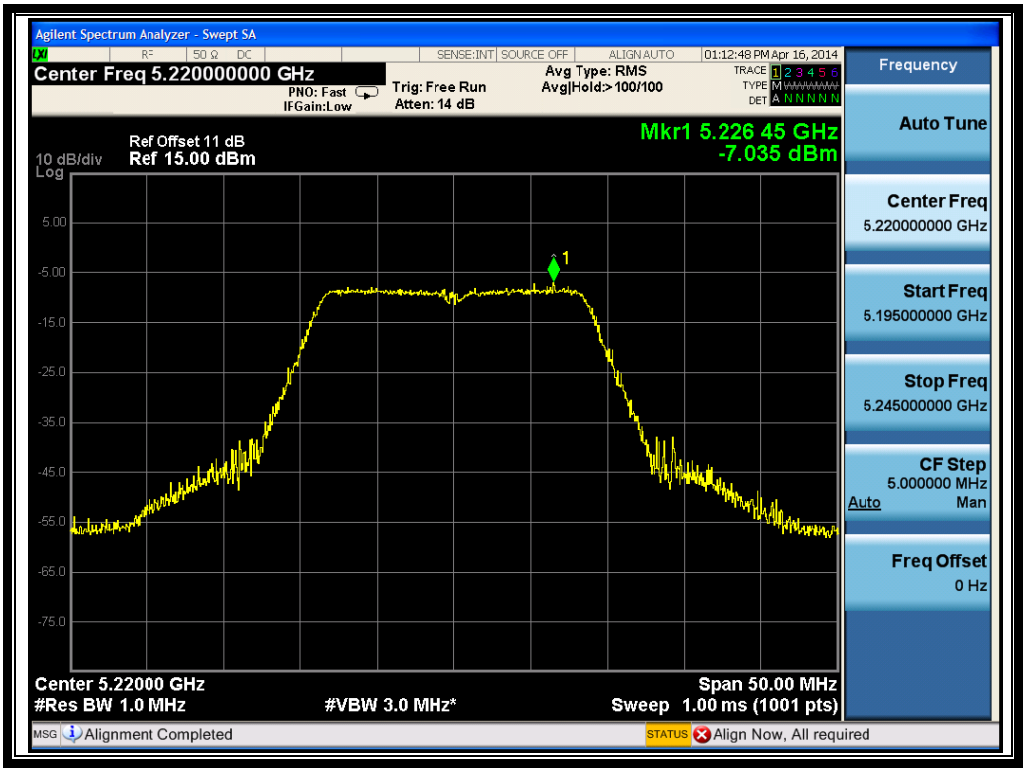
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm)	Limit (dBm)	Verdict
36	5180	-7.300	4	PASS
44	5220	-7.035		
48	5240	-6.206		

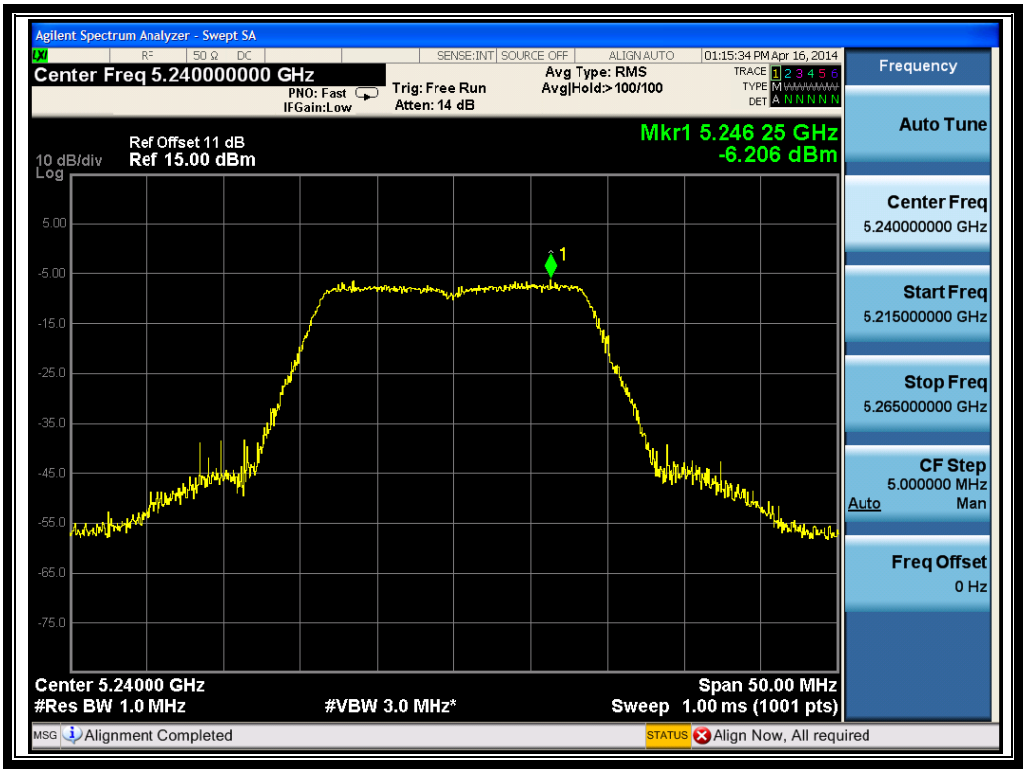
B. Test Plots:



(Channel 36: 5180MHz @ 802.11n-20MHz)



(Channel 44: 5220 MHz @ 802.11n-20MHz)



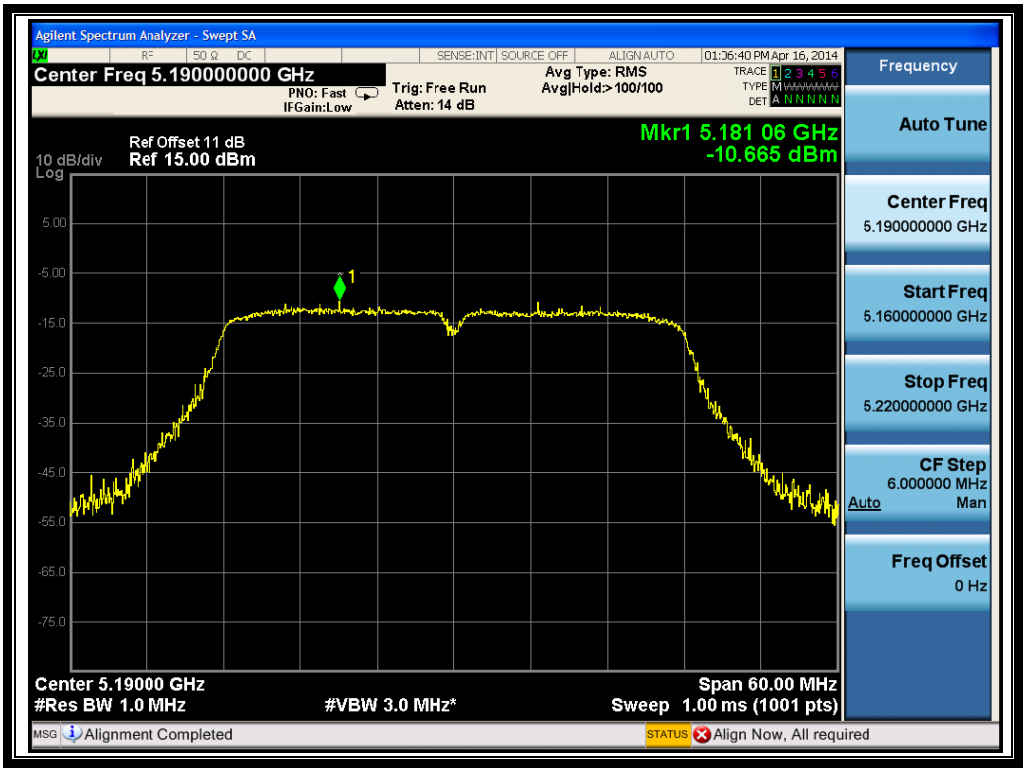
(Channel 48: 5240MHz @ 802.11n-20MHz)

2.4.3.3. 802.11n-40MHz Test mode

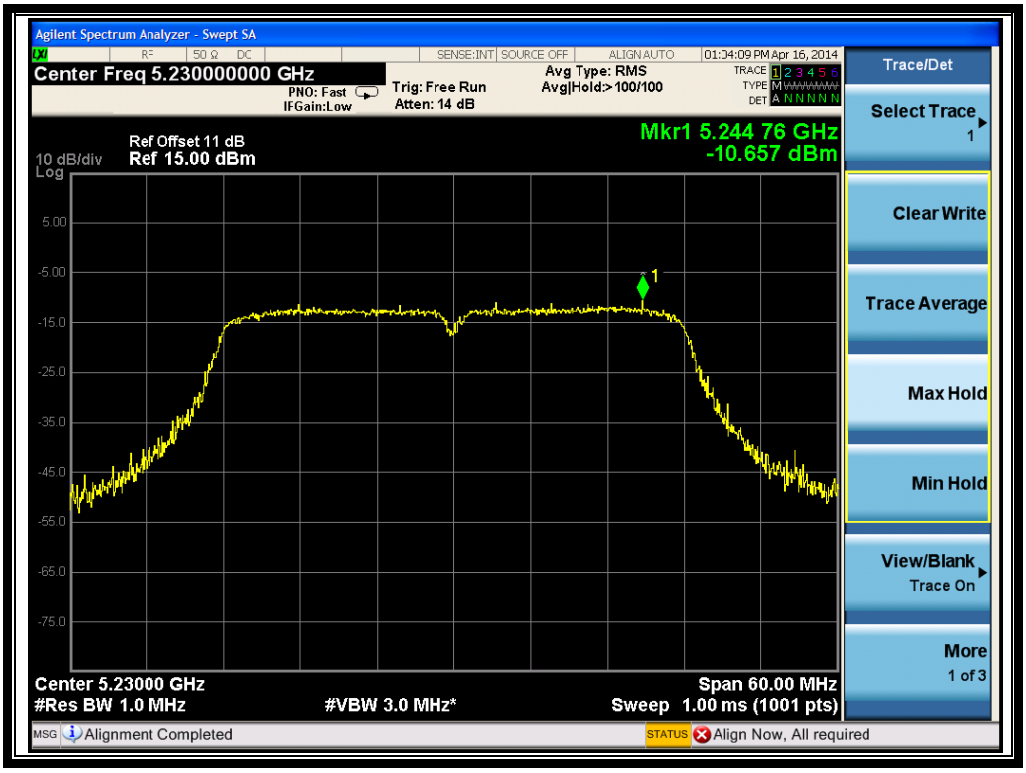
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm)	Limit (dBm)	Verdict
38	5190	-10.665	4	PASS
46	5230	-10.657		

B. Test Plots:



(Channel 38: 5190MHz @ 802.11n-40MHz)



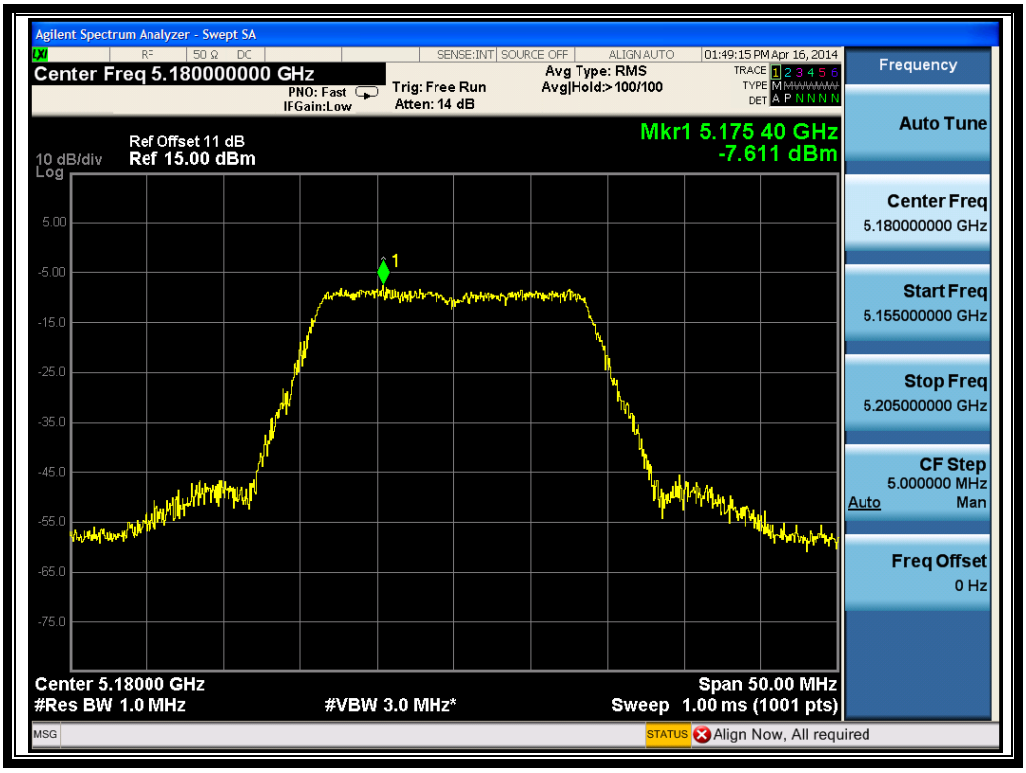
(Channel 46: 5230 MHz @ 802.11n-40MHz)

2.4.3.4. 802.11ac-20MHz Test mode

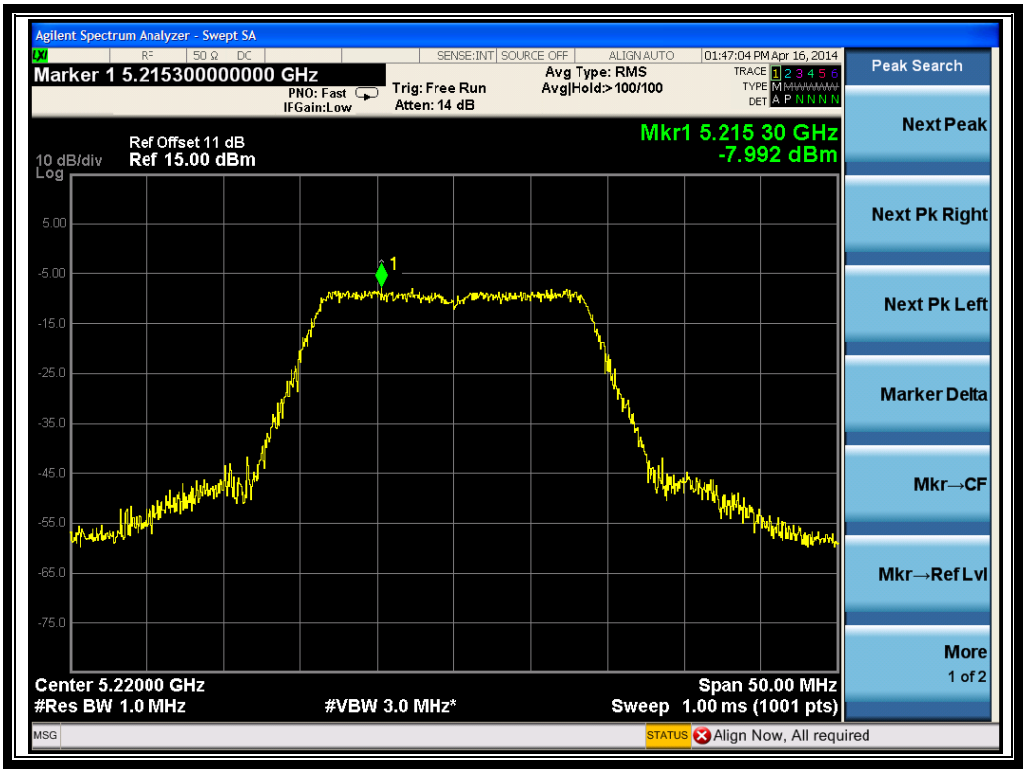
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm)	Limit (dBm)	Verdict
36	5180	-7.611	4	PASS
44	5220	-7.992		
48	5240	-6.538		

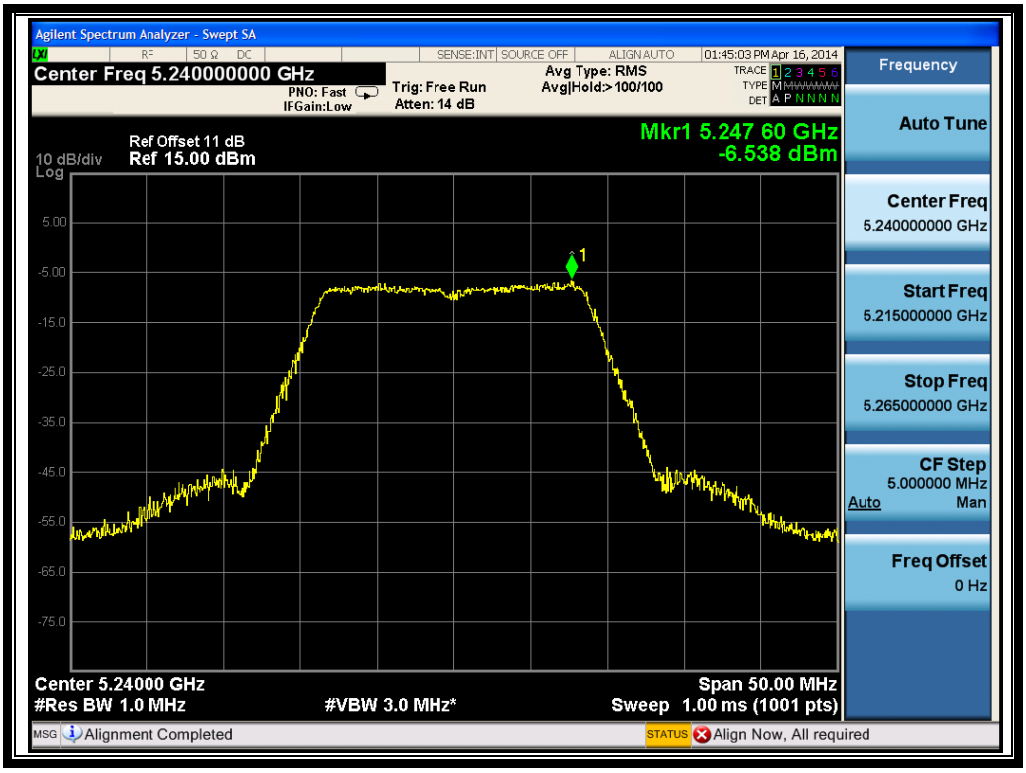
B. Test Plots:



(Channel 36: 5180MHz @ 802.11ac-20MHz)



(Channel 44: 5220 MHz @ 802.11ac-20MHz)



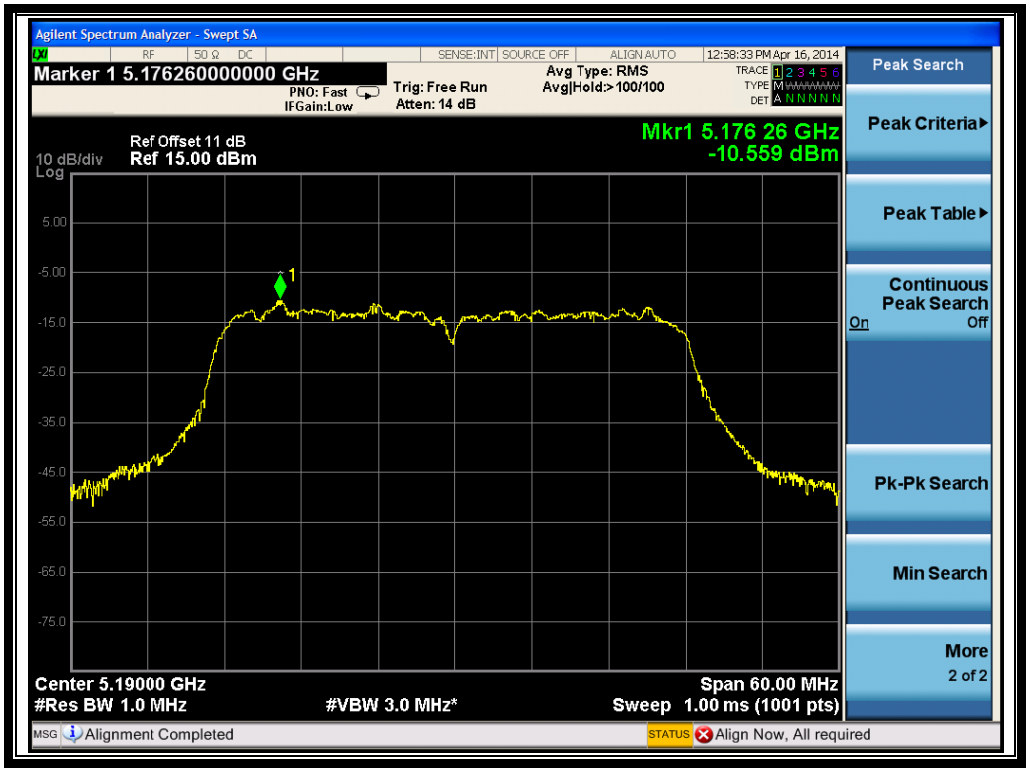
(Channel 48: 5240MHz @ 802.11ac-20MHz)

2.4.3.5. 802.11ac-40MHz Test mode

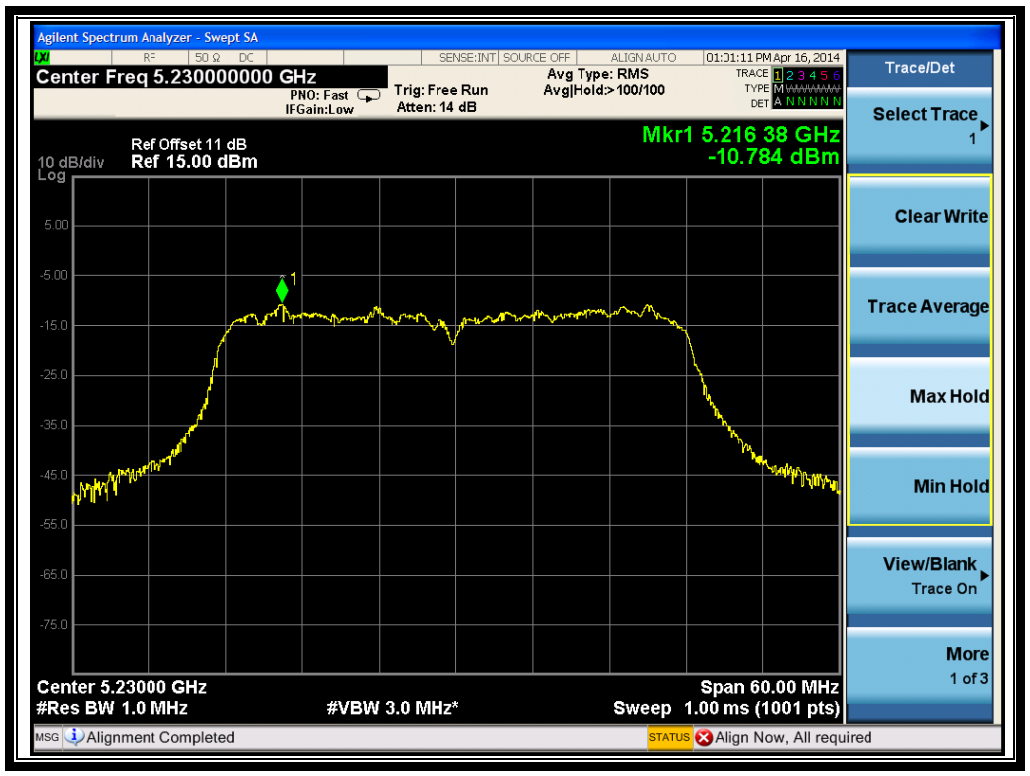
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm)	Limit (dBm)	Verdict
38	5190	-10.559	4	PASS
46	5230	-10.784		

B. Test Plots:



(Channel 38: 5190MHz @ 802.11ac-40MHz)



(Channel 46: 5230 MHz @ 802.11ac-40MHz)

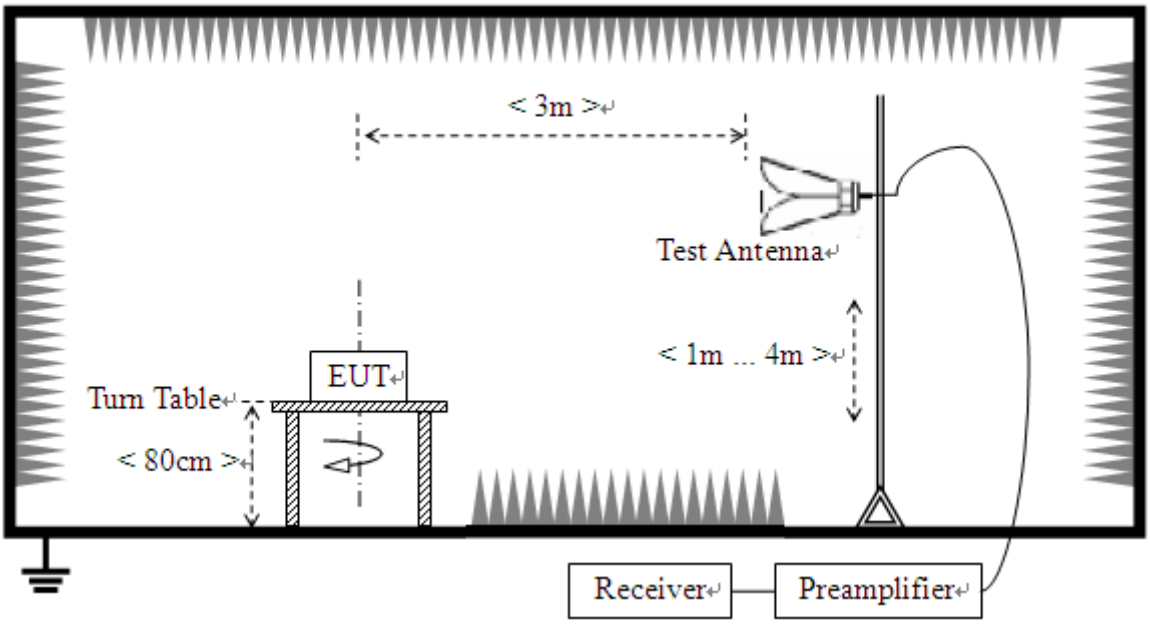
2.5. Restricted Frequency Bands

2.5.1. Requirement

According to FCC section 15.407(b)(7), The provisions of § 15.205 apply to intentional radiators operating under this section. radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

2.5.2. Test Description

A. Test Setup



The Module is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

KDB 789033 Section H) 3)5)6(d)) was used in order to prove compliance

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2014.02.26	2015.02.25
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2012.05.12	2015.02.25
Test Antenna - Horn	Schwarzbeck	BBHA 9120D	9120D-963	2014.02.26	2015.02.25

2.5.3. Test Result

The lowest and highest channels are tested to verify Restricted Frequency Bands.

The measurement results are obtained as below:
$E\ [dB\mu V/m] = U_R + A_T + A_{Factor}\ [dB]$; $A_T = L_{Cable\ loss}\ [dB] - G_{preamp}\ [dB]$
A_T: Total correction Factor except Antenna
U_R: Receiver Reading
G_{preamp}: Preamplifier Gain
A_{Factor}: Antenna Factor at 3m

Note: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition (vertical) was recorded in this test report.

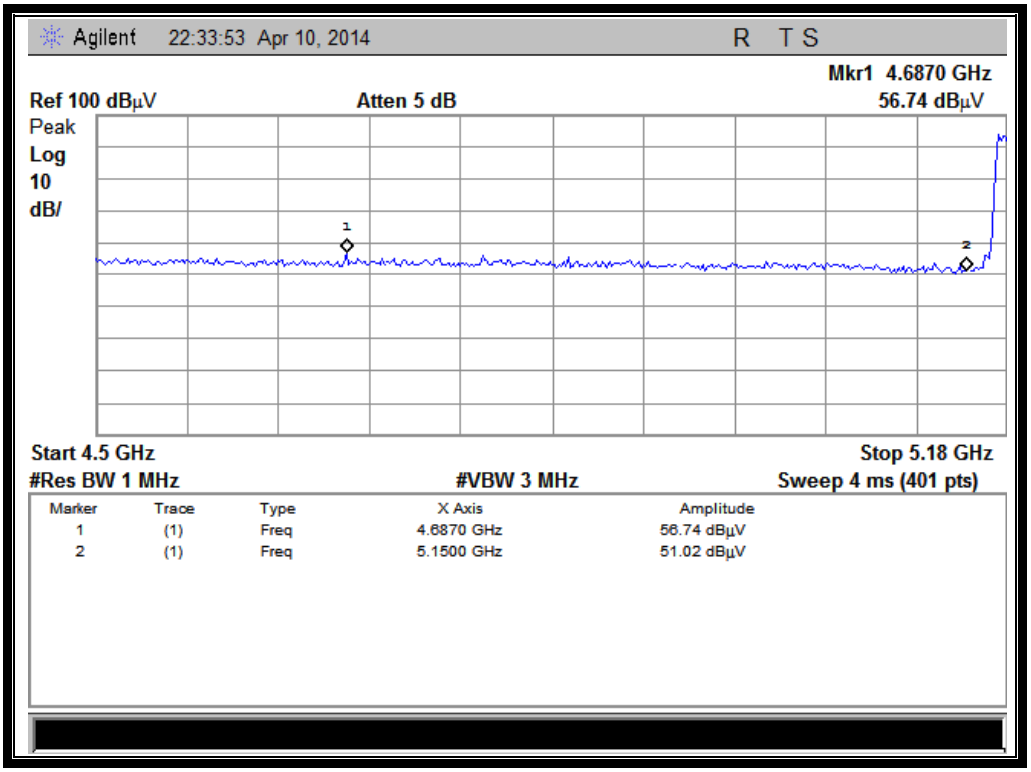
2.5.3.1. 802.11a Test mode

The lowest and highest channels are tested to verify the band edge emissions.

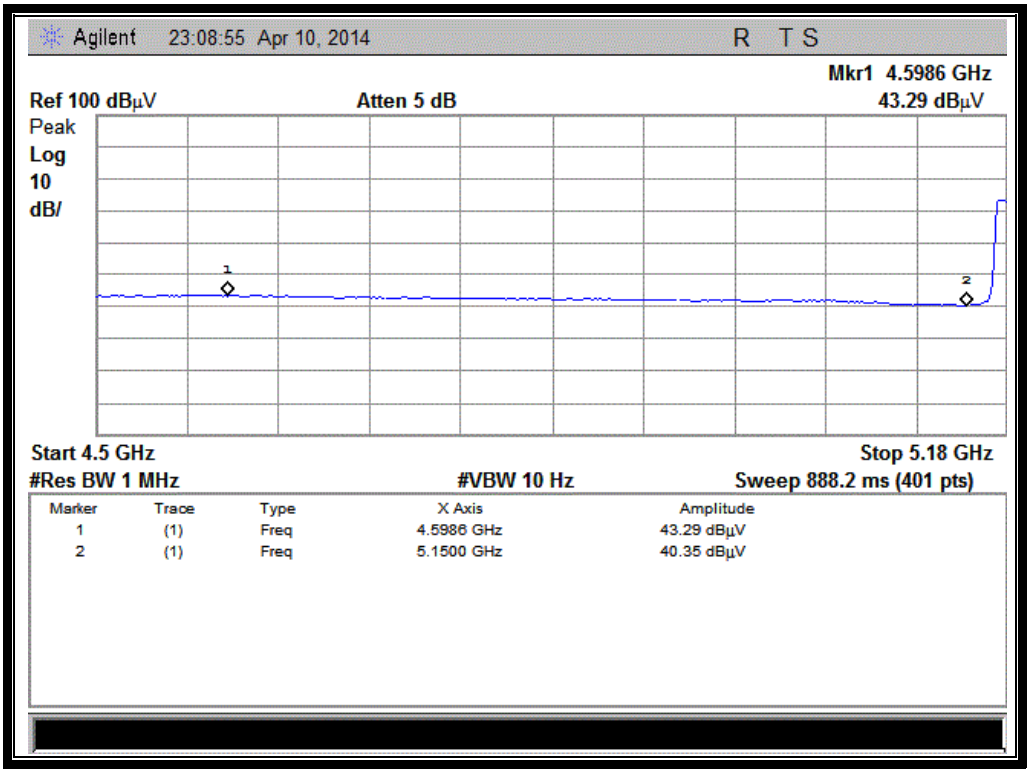
A. Test Verdict:

Channel	Frequency (MHz)	Detector	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		PK/ AV						
36	4687.00	PK	56.71	-43.13	32.11	45.69	74	Pass
36	4598.60	AV	43..29	-43.13	32.11	32.27	54	Pass

B. Test Plots:



(Channel = 36 PEAK @ 802.11a)



(Channel = 36 AVG @ 802.11a)

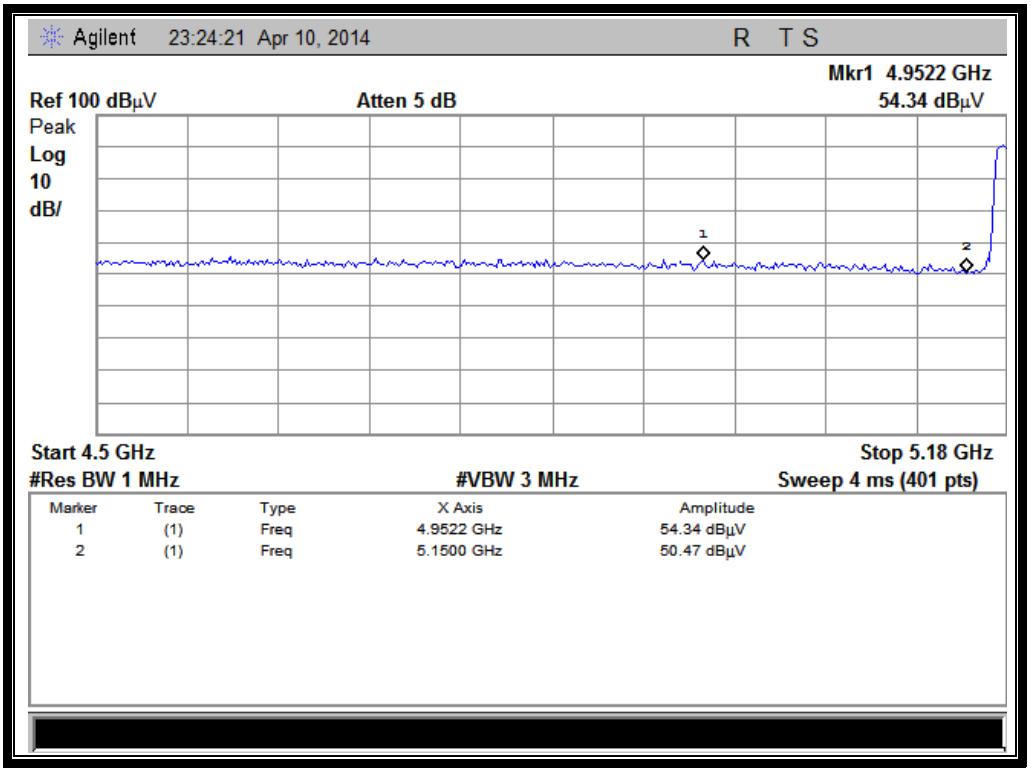
2.5.3.2. 802.11n-20MHz Test mode

The lowest and highest channels are tested to verify the band edge emissions.

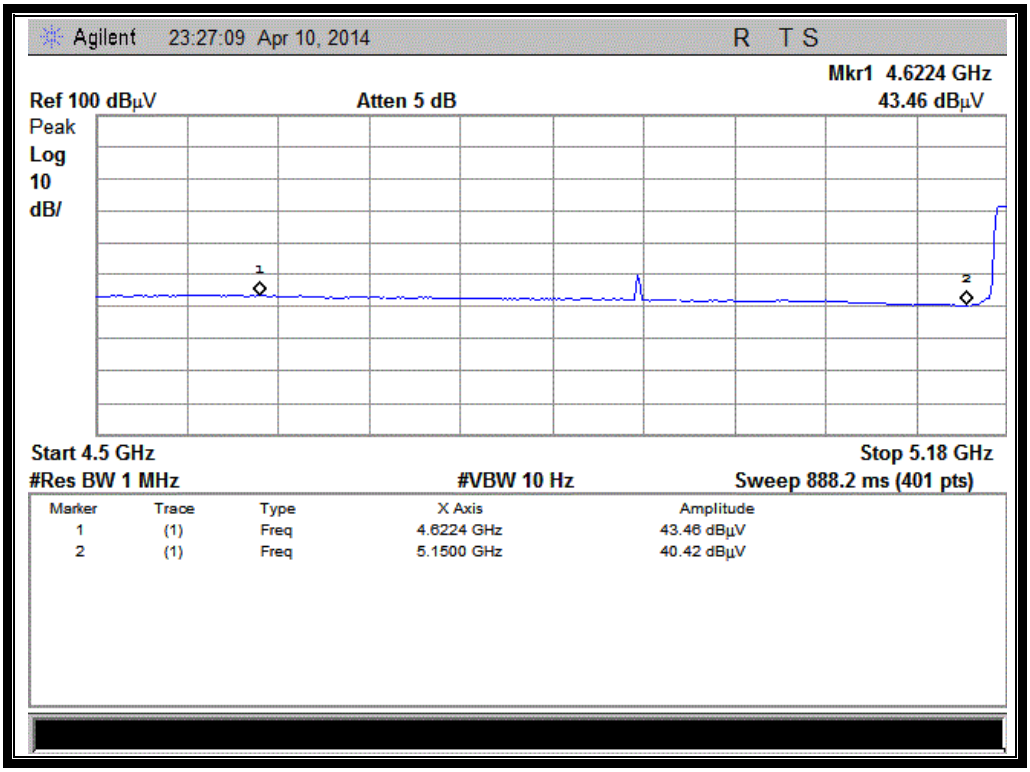
A. Test Verdict:

Channel	Frequency (MHz)	Detector	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		PK/ AV						
36	4952.20	PK	54.34	-43.13	32.11	43.32	74	Pass
36	4622.40	AV	43.46	-43.13	32.11	32.44	54	Pass

B. Test Plots:



(Channel = 36 PEAK @ 802.11n-20MHz)



(Channel = 36 AVG @ 802.11n-20MHz)

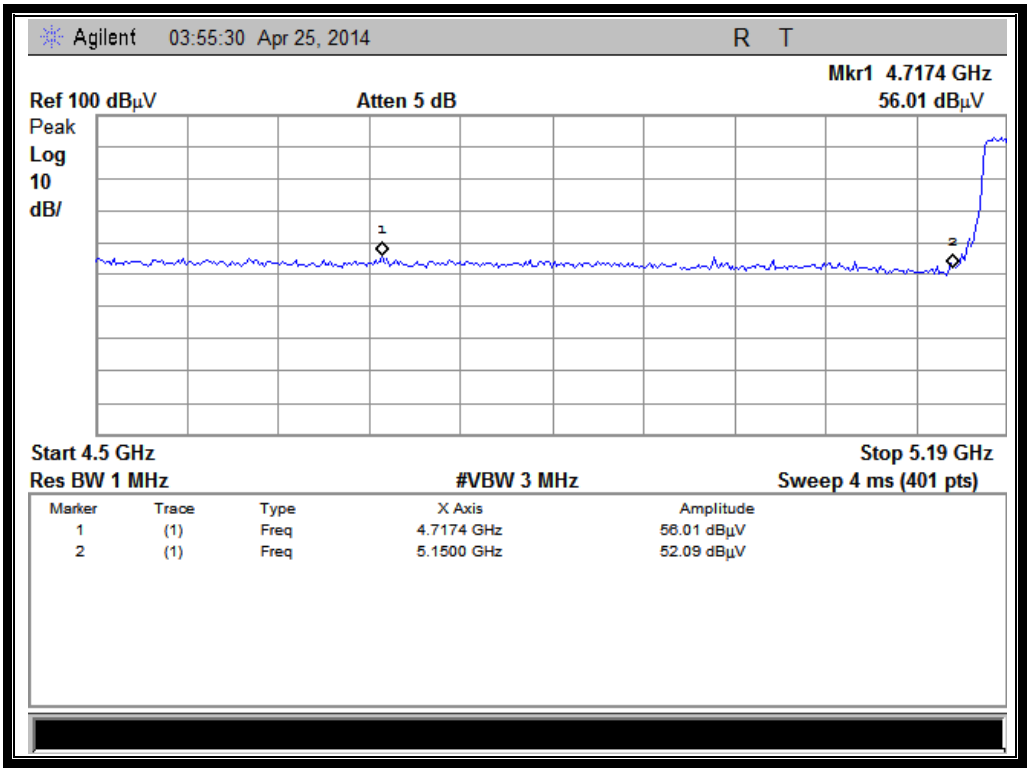
2.5.3.3. 802.11n-40MHz Test mode

The lowest and highest channels are tested to verify the band edge emissions.

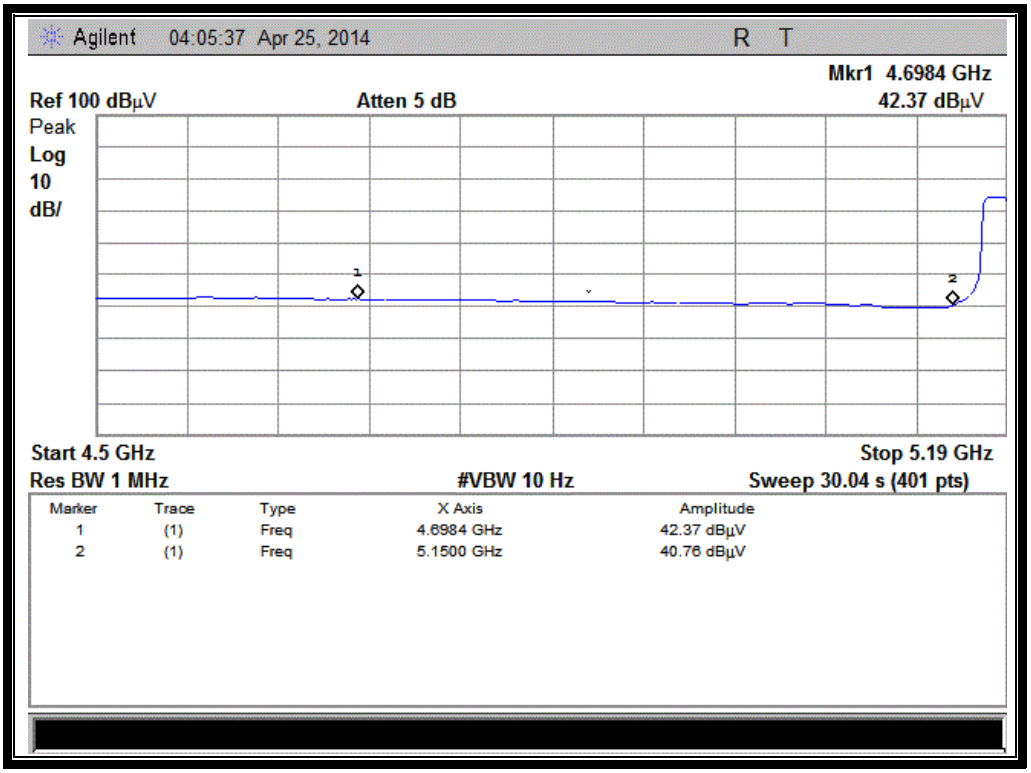
A. Test Verdict:

Channel	Frequency (MHz)	Detector	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBµV/m)	Limit (dBµV/m)	Verdict
		PK/ AV						
38	4717.40	PK	56.01	-43.13	32.11	44.99	74	Pass
38	4698.40	AV	42.37	-43.13	32.11	31.35	54	Pass

B. Test Plots:



(Channel = 38 PEAK @ 802.11n-40MHz)



(Channel = 38 AVG @ 802.11n-40MHz)

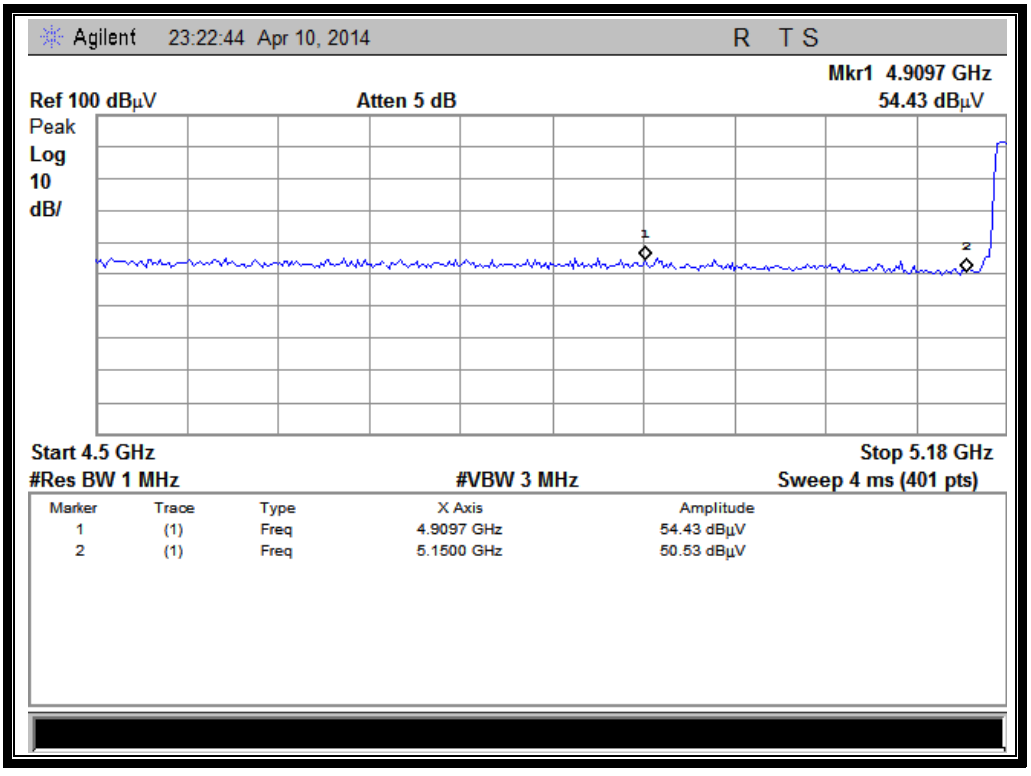
2.5.3.4. 802.11ac-20MHz Test mode

The lowest and highest channels are tested to verify the band edge emissions.

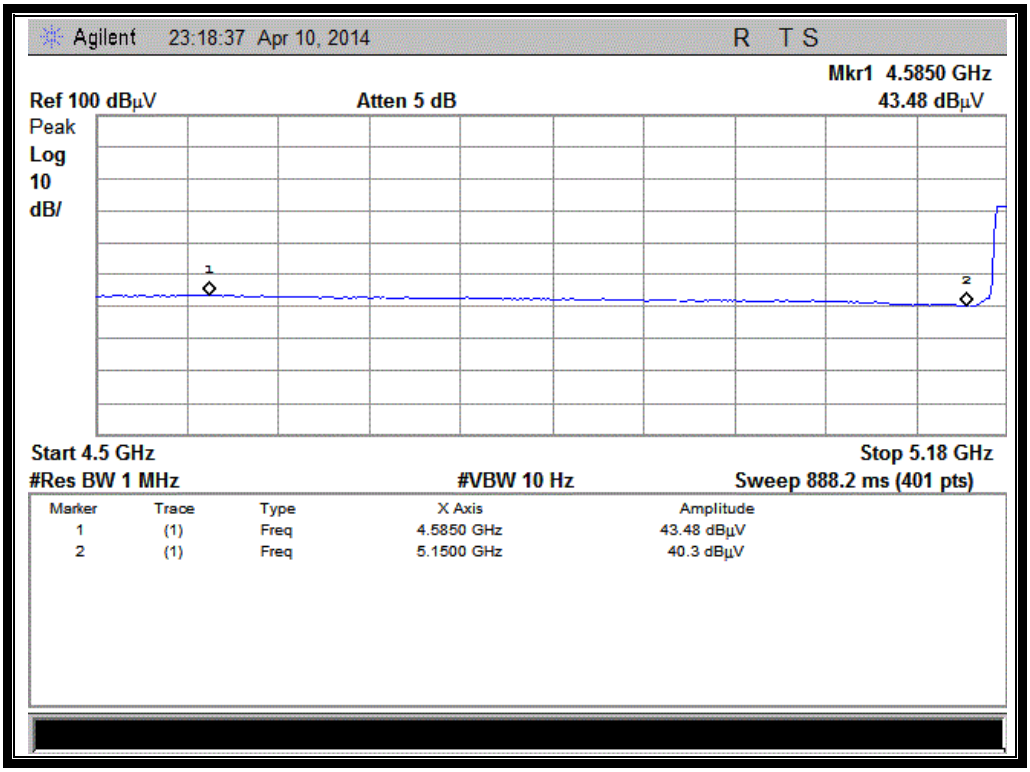
A. Test Verdict:

Channel	Frequency (MHz)	Detector PK/ AV	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
36	4907.70	PK	54.43	-43.13	32.11	43.41	74	Pass
36	4585.00	AV	43.48	-43.13	32.11	32.46	54	Pass

B. Test Plots:



(Channel = 36 PEAK @ 802.11ac-20MHz)



(Channel = 36 AVG @ 802.11ac-20MHz)

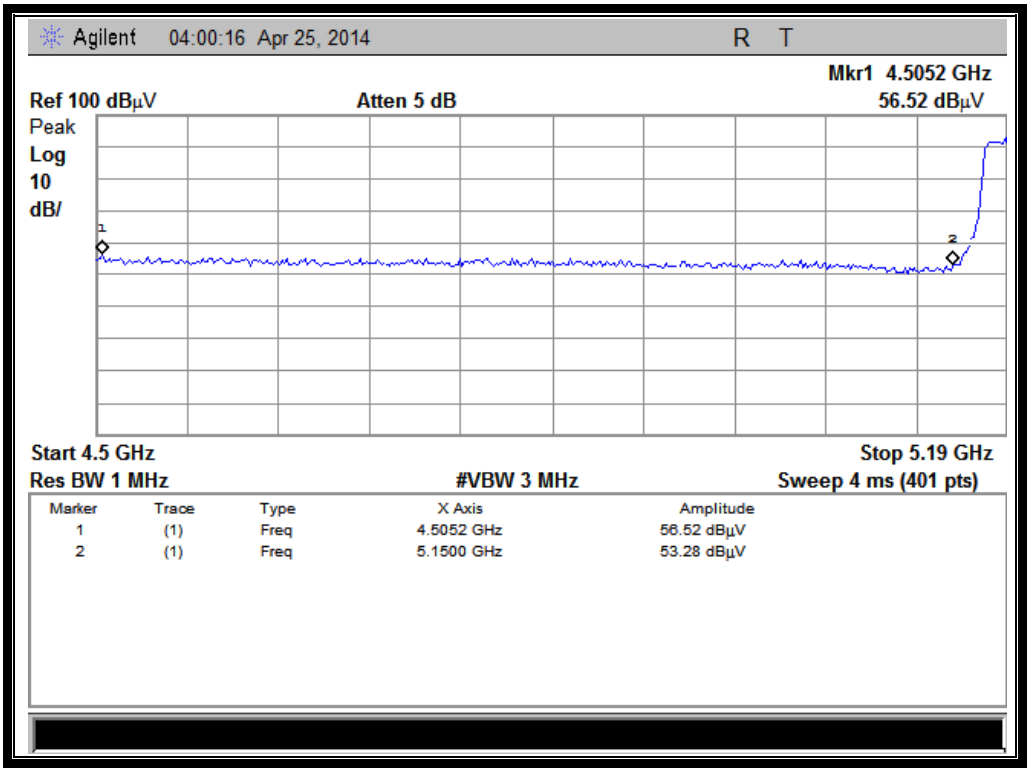
2.5.3.5. 802.11ac-40MHz Test mode

The lowest and highest channels are tested to verify the band edge emissions.

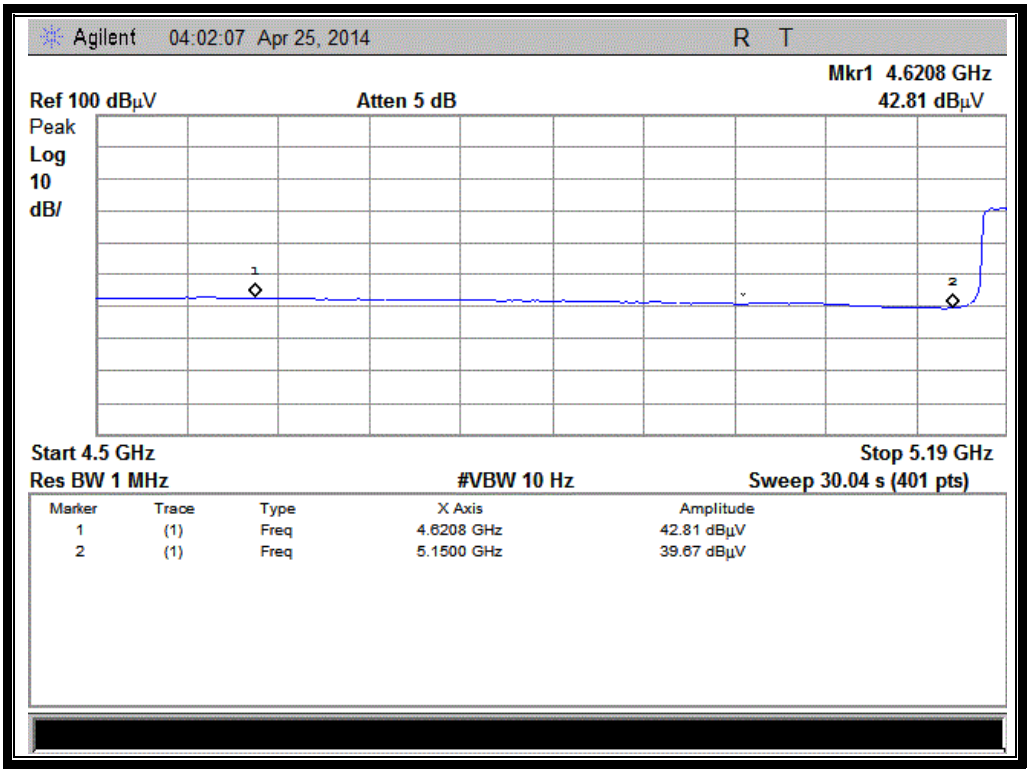
A. Test Verdict:

Channel	Frequency (MHz)	Detector	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBµV/m)	Limit (dBµV/m)	Verdict
		PK/ AV						
38	4505.20	PK	56.52	-43.13	32.11	45.50	74	Pass
38	4650.80	AV	42.81	-43.13	32.11	31.79	54	Pass

B. Test Plots:



(Channel = 38 PEAK @ 802.11ac-40MHz)



(Channel = 38 AVG @ 802.11ac-40MHz)

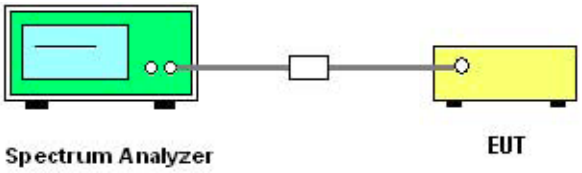
2.6. Peak Excursion

2.6.1. Requirement

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

2.6.2. Test Description

A. Test Setup:



The EUT which is powered by the Battery, is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

B. Test Procedure

Section G) of KDB 789033 was used in order to prove compliance

(1) Set RBW = 1 MHz. VBW ≥ 3 MHz. Detector = peak.

(2) Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.

(3) Use the peak search function to find the peak of the spectrum.

(4) measure the PPSD.

(5) Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

C. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EXA Signal Analzyer	Agilent	N9010A	MY51440152	2014.02.26	2015.02.25

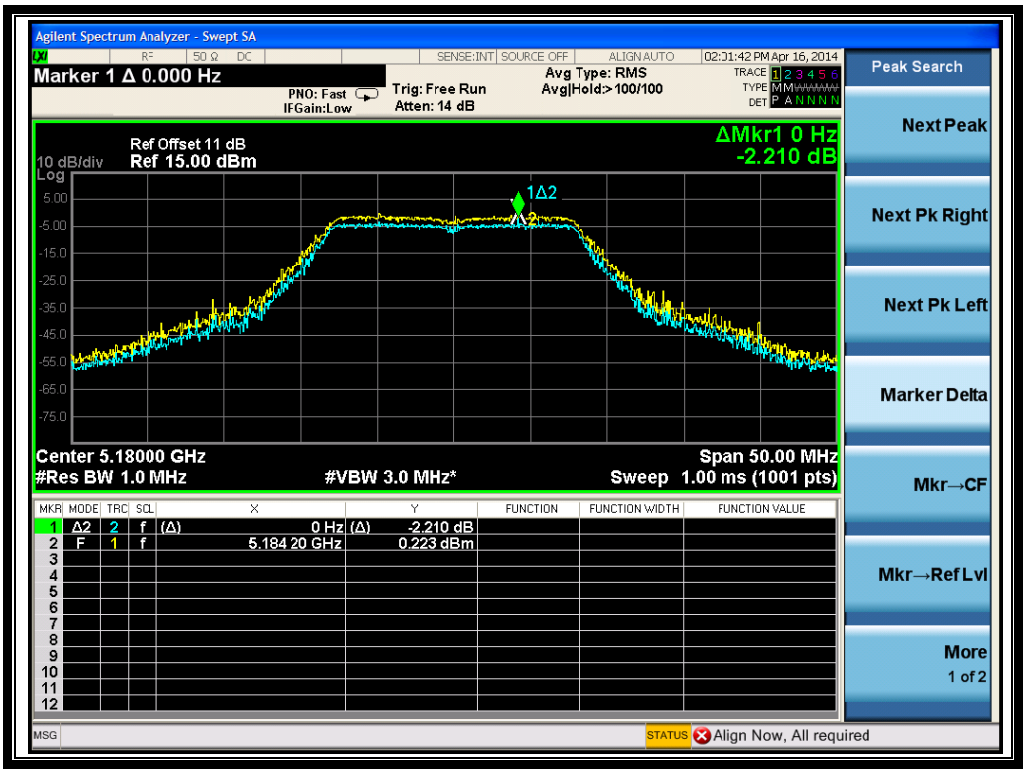
2.6.3. Test Result

2.6.3.1. 802.11a Test mode

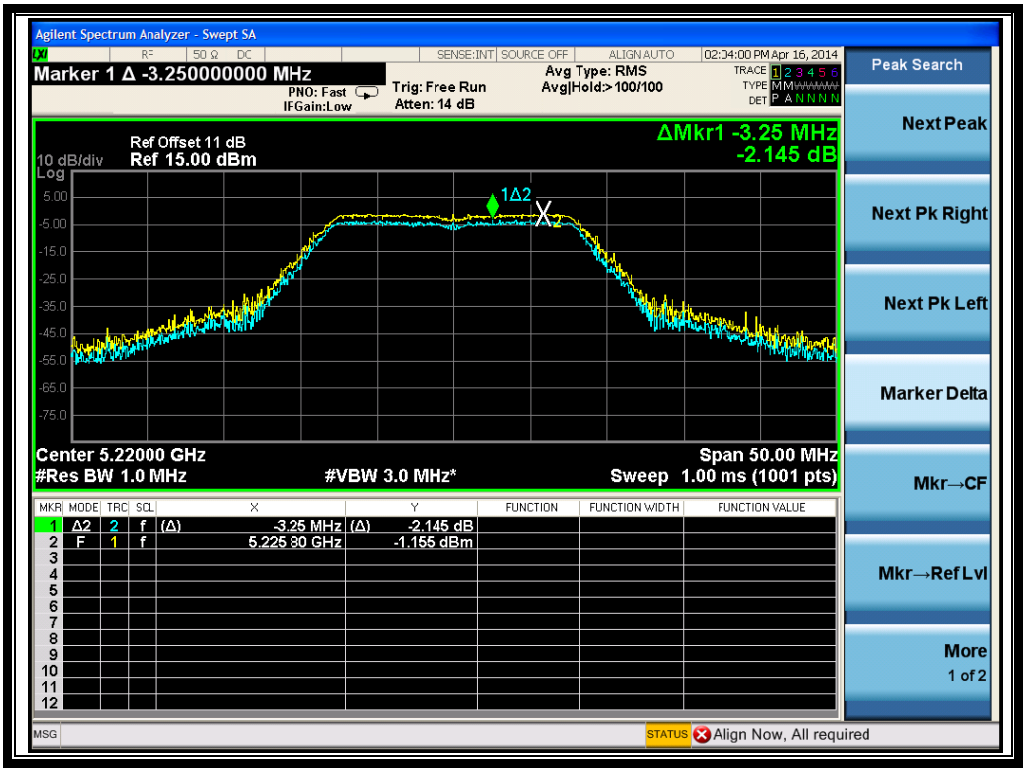
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
36	5180	2.210	13	PASS
44	5220	2.145	13	PASS
48	5240	2.698	13	PASS

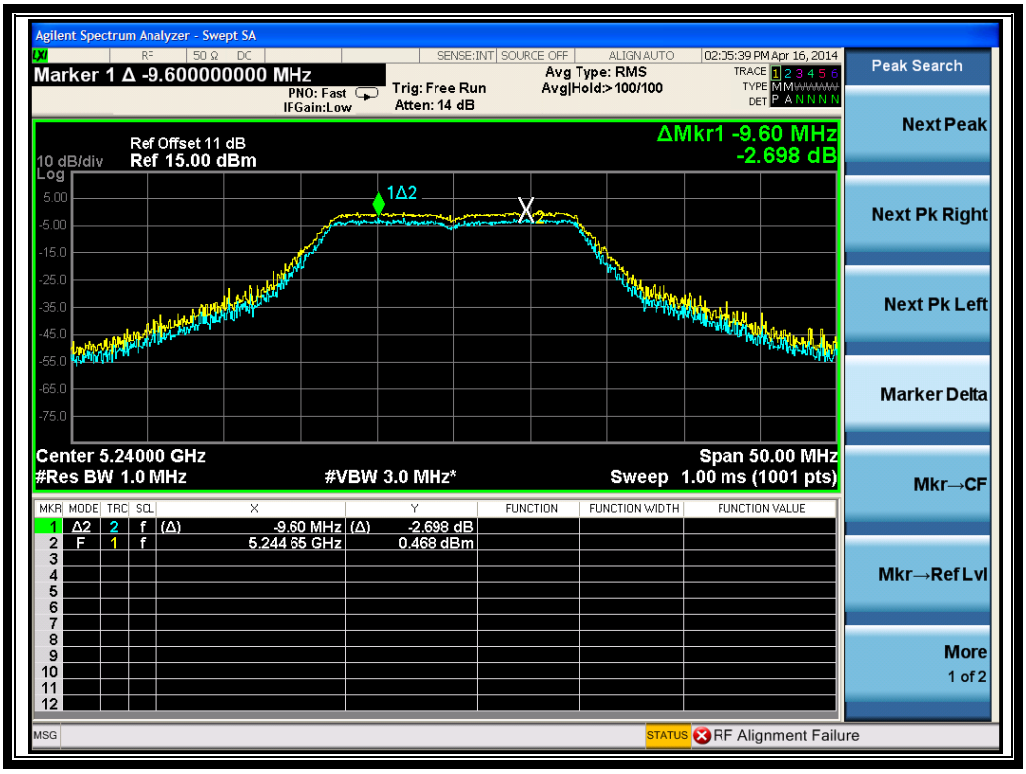
B. Test Plots:



(Channel 36: 5180MHz @ 802.11a)



(Channel 44: 5220 MHz @ 802.11a)



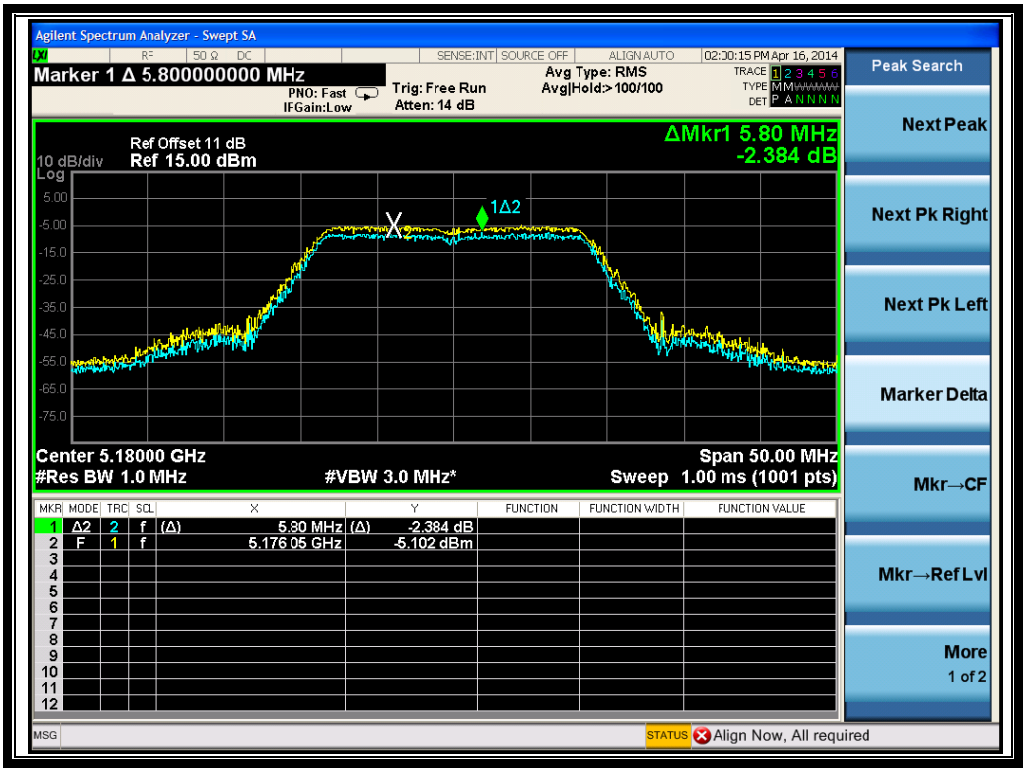
(Channel 48: 5240MHz @ 802.11a)

2.6.3.2. 802.11n-20MHz Test mode

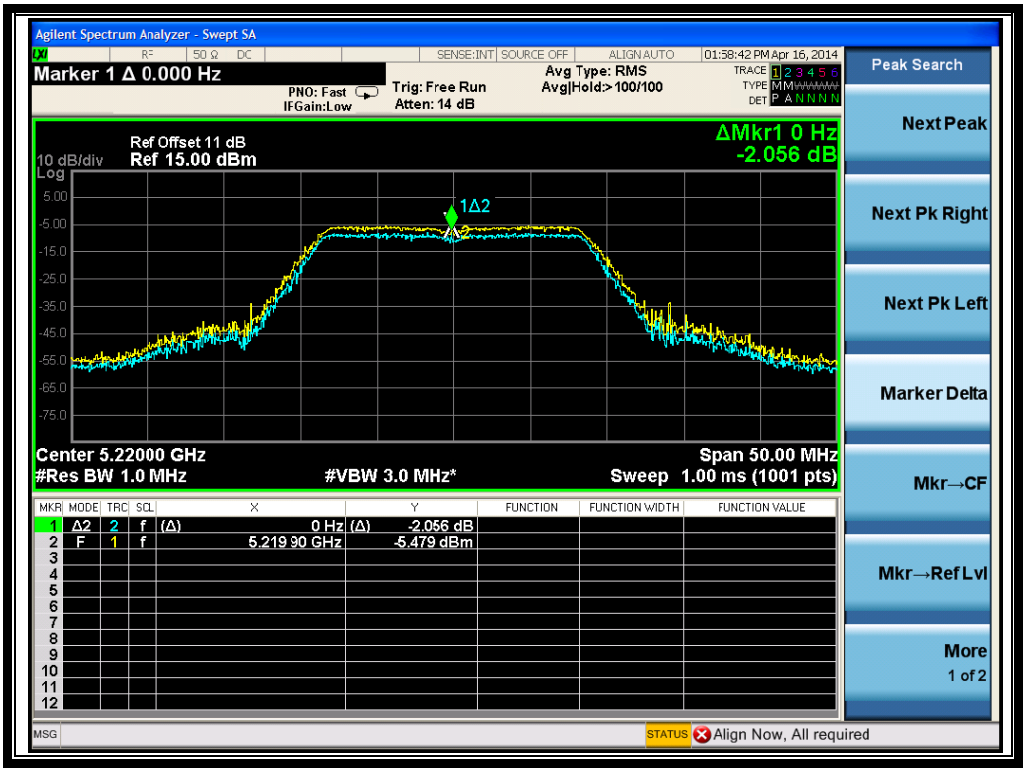
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
36	5180	2.384	13	PASS
44	5220	2.056	13	PASS
48	5240	1.764	13	PASS

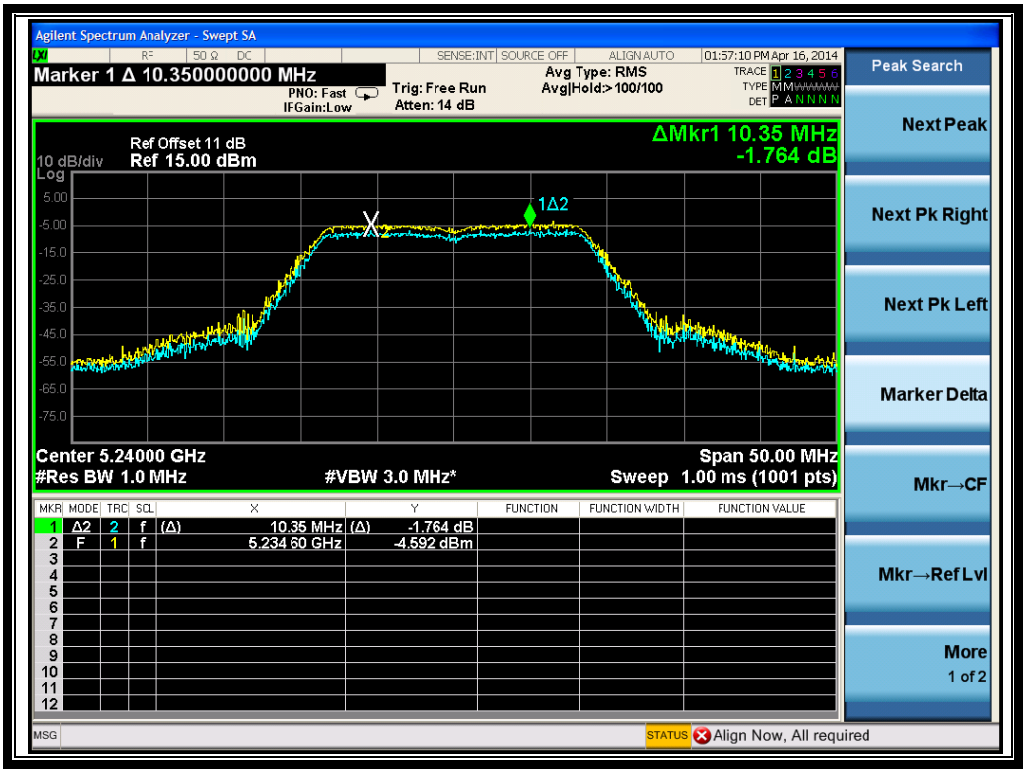
B. Test Plots:



(Channel 36: 5180MHz @ 802.11n-20MHz)



(Channel 44: 5220 MHz @ 802.11n-20MHz)



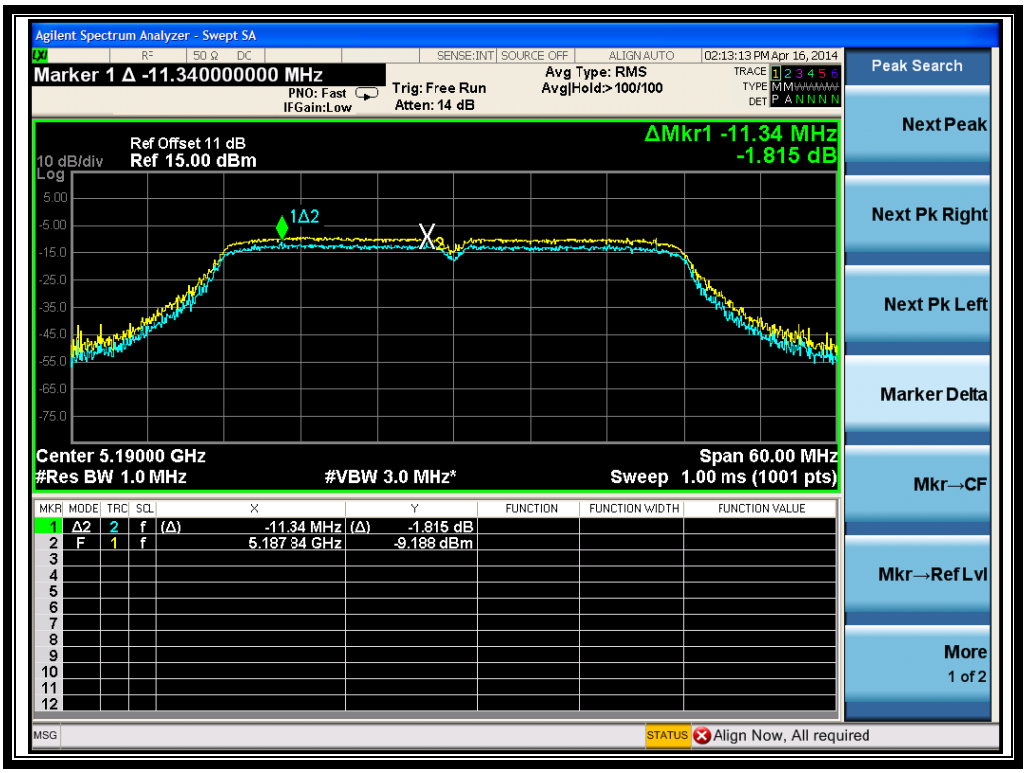
(Channel 48: 5240MHz @ 802.11n-20MHz)

2.6.3.3. 802.11n-40MHz Test mode

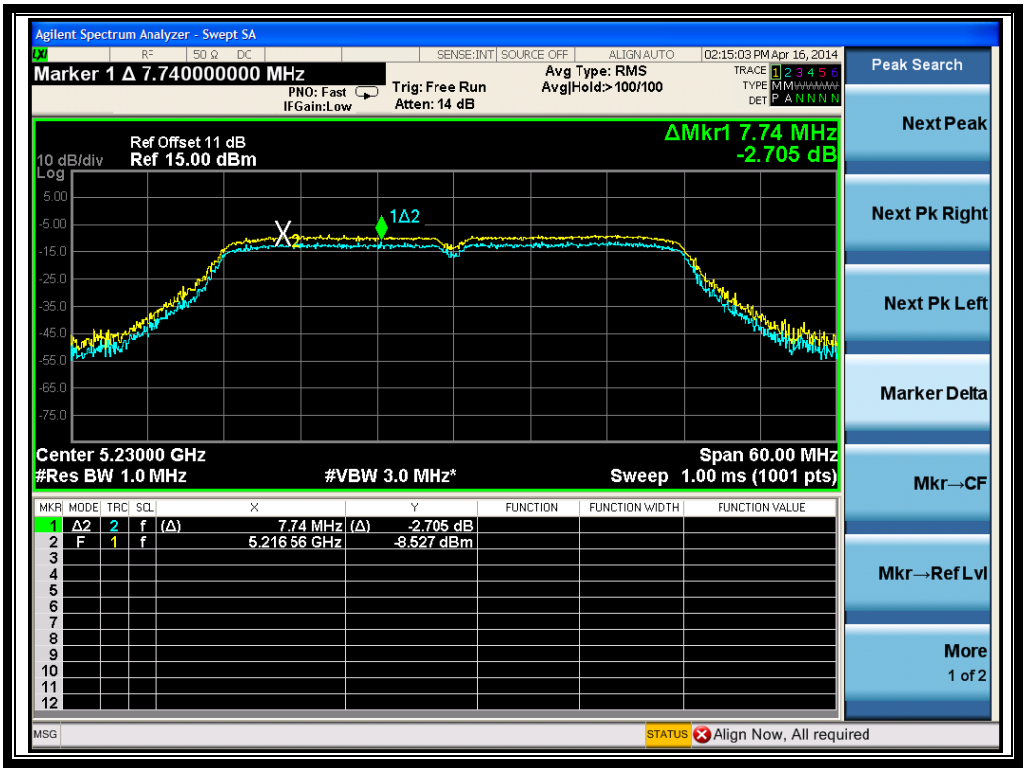
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
38	5190	1.815	13	PASS
46	5230	2.705	13	PASS

B. Test Plots:



(Channel 38: 5190MHz @ 802.11n-40MHz)



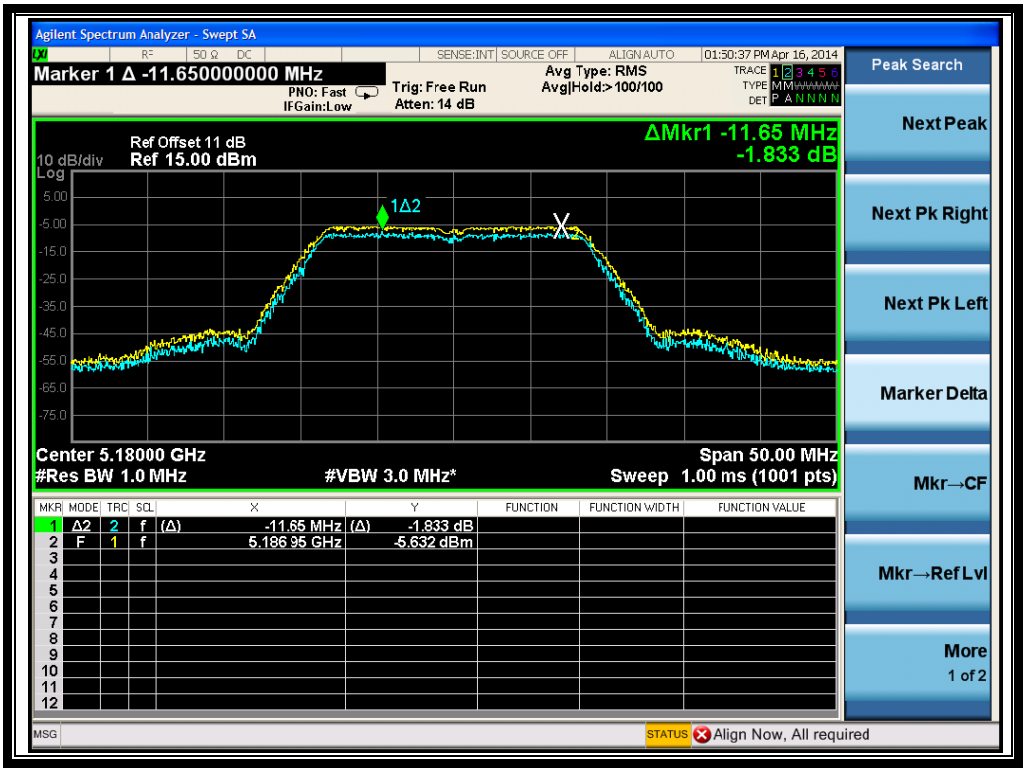
(Channel 46: 5230MHz @ 802.11n-40MHz)

2.6.3.4. 802.11ac-20MHz Test mode

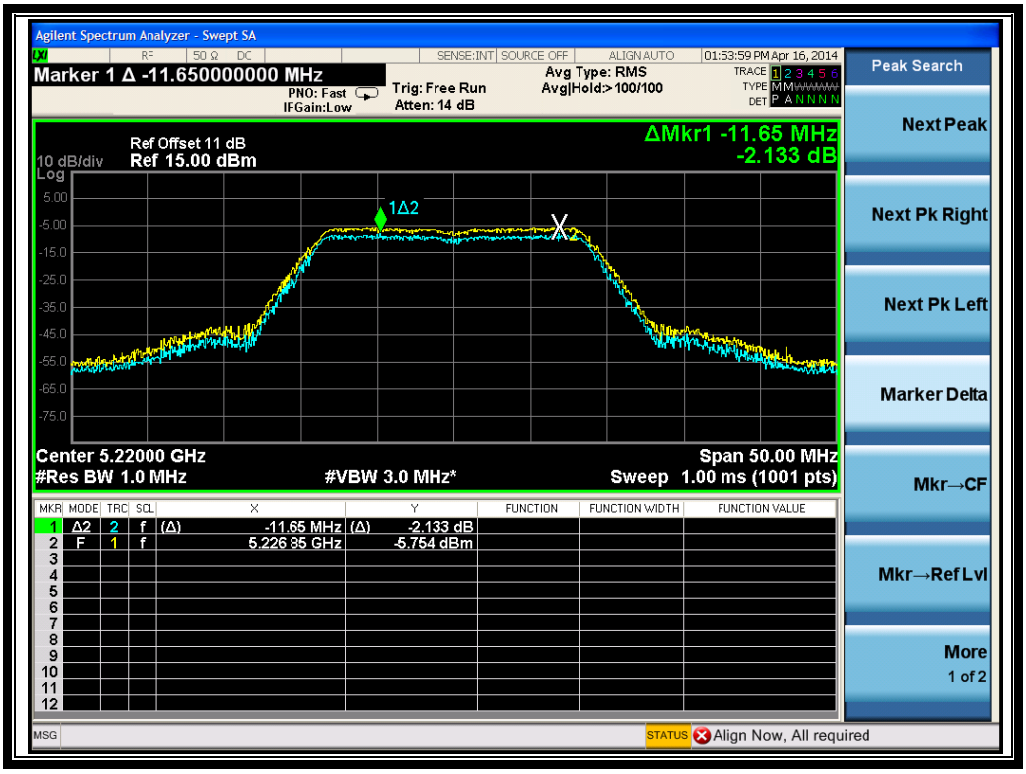
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
36	5180	1.833	13	PASS
44	5220	2.133	13	PASS
48	5240	2.044	13	PASS

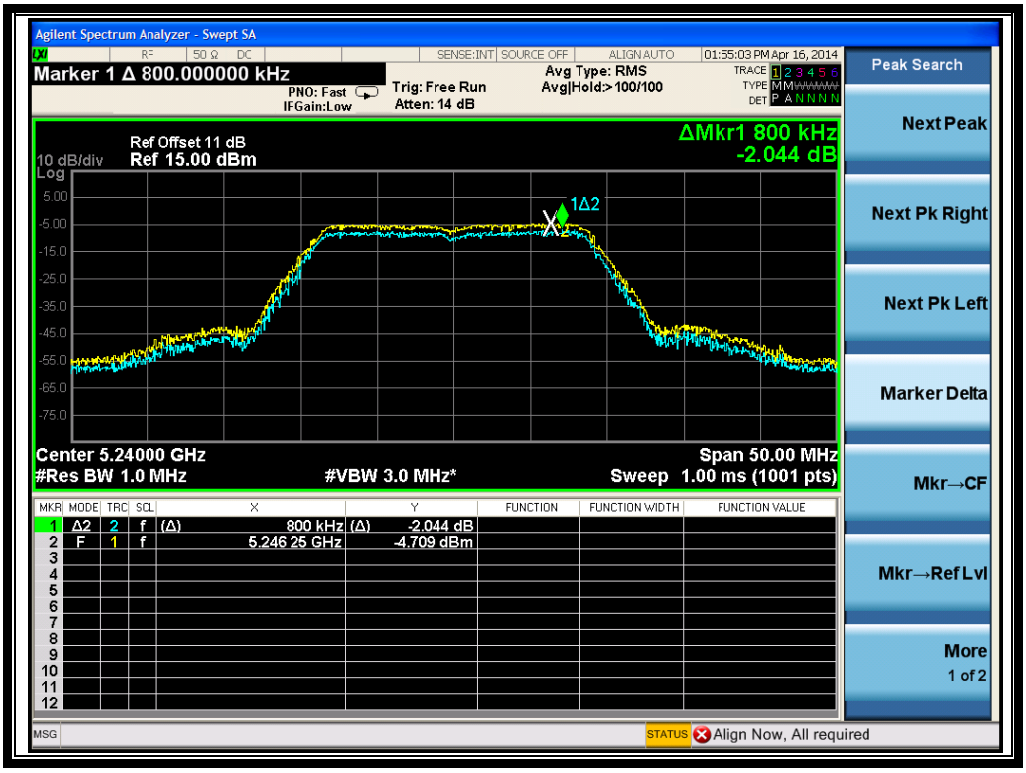
B. Test Plots:



(Channel 36: 5180MHz @ 802.11ac-20MHz)



(Channel 44: 5220 MHz @ 802.11ac-20MHz)



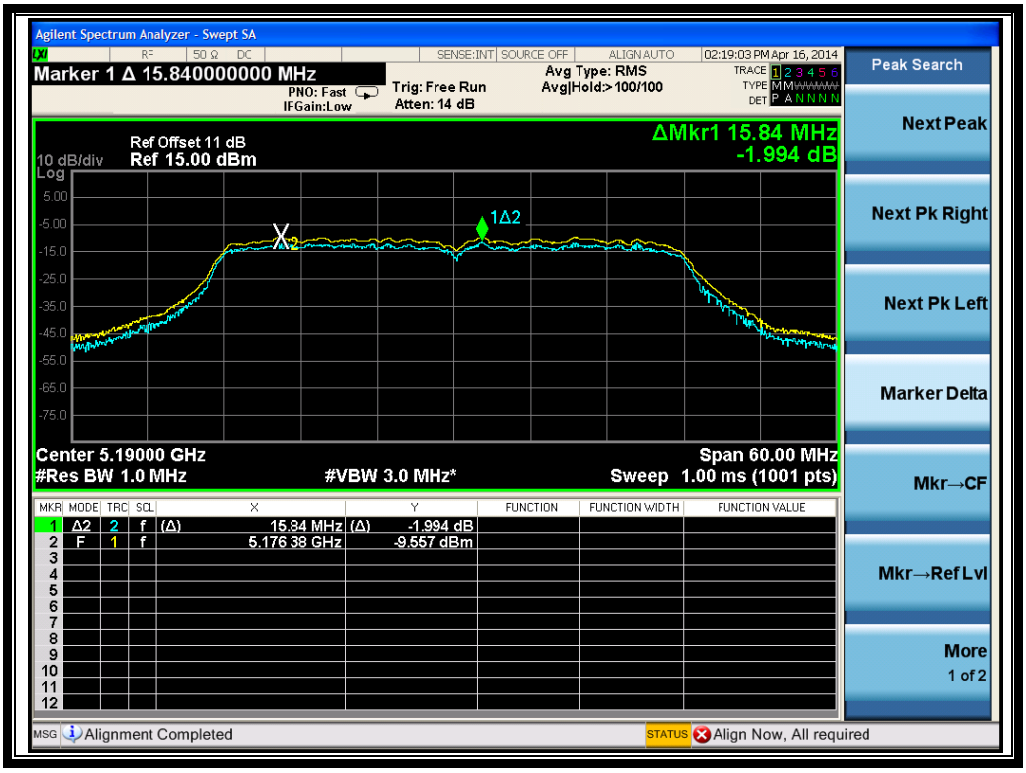
(Channel 48: 5240MHz @ 802.11ac-20MHz)

2.6.3.5. 802.11ac-40MHz Test mode

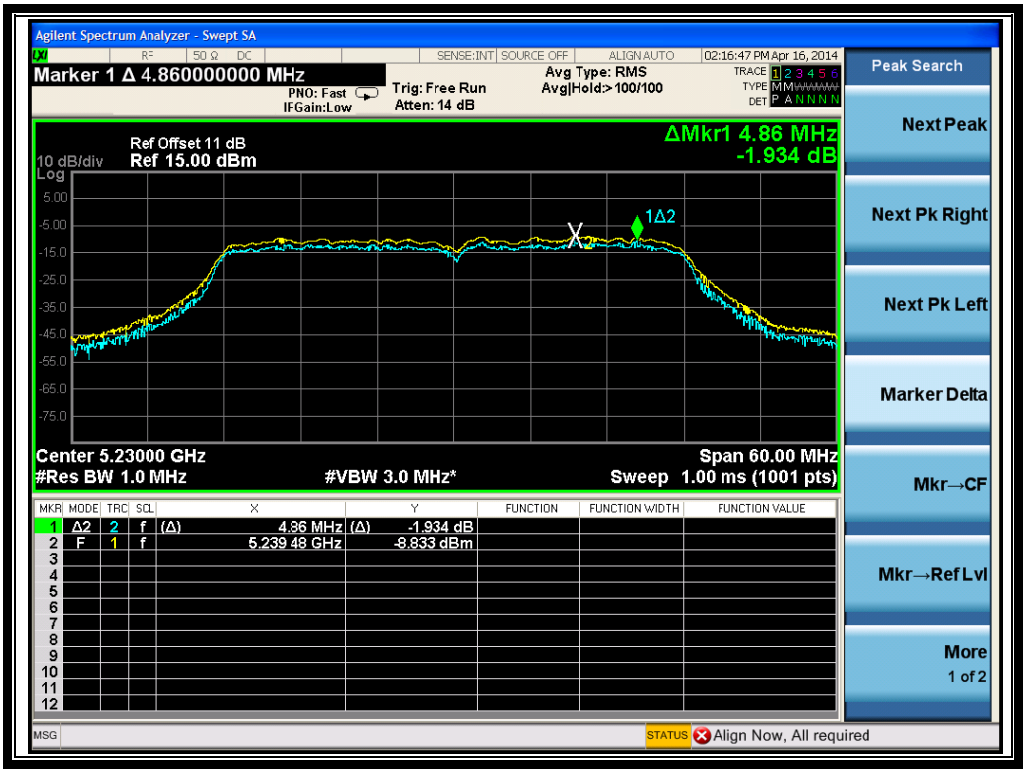
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
38	5190	1.994	13	PASS
46	5230	1.934	13	PASS

B. Test Plots:



(Channel 38: 5190MHz @ 802.11ac-40MHz)



(Channel 46: 5230 MHz @ 802.11ac-40MHz)

2.7. Frequency Stability

2.7.1. Requirement

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

2.7.2. Test Procedure

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30℃ and +50℃. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

A. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
DC Power Supply	Good Will	GPS-3030DD	EF920938	2014.02.26	2015.02.25
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2014.02.26	2015.02.25

2.7.3. Test Result

Frequency Stability Measurements for UNII Band 1 (Ch. 36)

VOLTAGE (%)	POWER (VDC)	TEMP (℃)	FREQUENCY (Hz)	Freq Dev. (Hz)	Deviation (%)
100%	3.80	+20(Ref)	5,179,999,983	-13	-0.00000025
100%		-30	5,179,999,985	-15	-0.00000029
100%		-20	5,180,000,000	9	0.00000017
100%		-10	5,179,999,999	-7	-0.00000014
100%		0	5,179,999,988	-14	-0.00000027
100%		+10	5,179,999,987	-7	-0.00000014
100%		+20	5,179,999,986	-2	-0.00000004
100%		+30	5,180,000,006	1	0.00000002
100%		+40	5,180,000,001	9	0.00000017
100%		+50	5,179,999,995	-3	-0.00000006
114%	4.35	+20	5,180,000,011	10	0.00000019
BATT.ENDPOINT	3.60	+20	5,179,999,991	-11	-0.00000021

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

2.8. Conducted Emission

2.8.1. Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

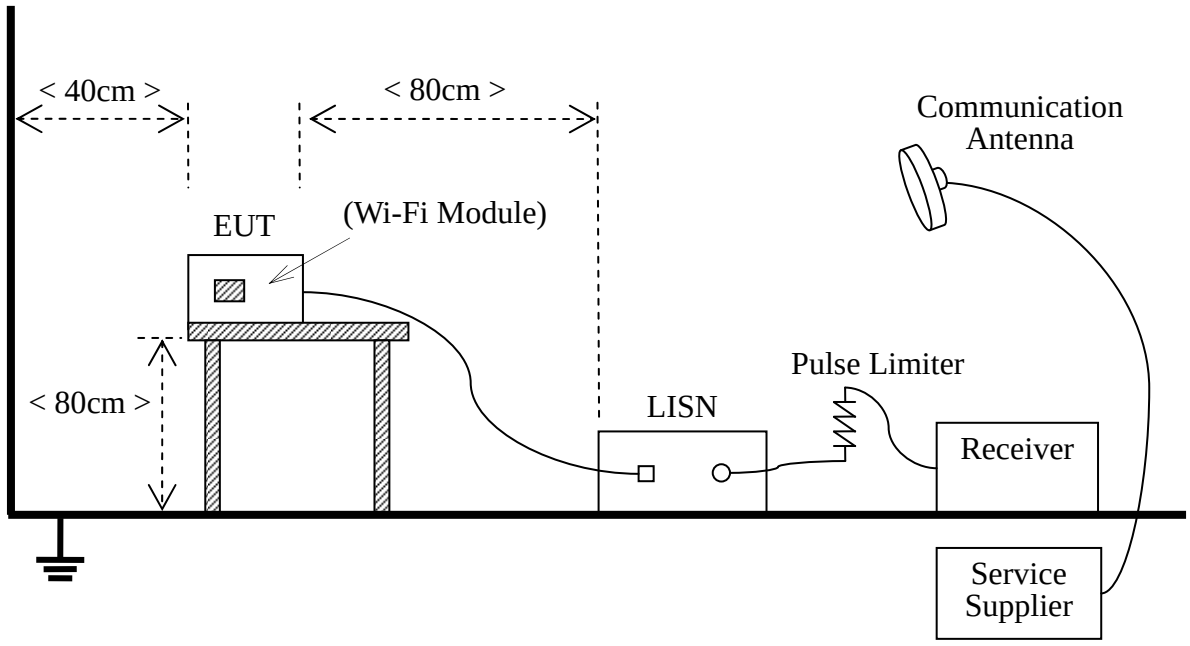
NOTE:

(a) The lower limit shall apply at the band edges.

(b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

2.8.2. Test Description

A. Test Setup:



The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.4:2009

The EUT is powered by the Battery charged with the AC Adapter which is powered by 120V, 60Hz AC mains supply. The factors of the site are calibrated to correct the reading. During the measurement, the EUT is activated and controlled by the Wi-Fi Service Supplier (SS) via a Common Antenna.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2014.02.26	2015.02.25
LISN	Schwarzbeck	NSLK 8127	812744	2014.02.26	2015.02.25
Service Supplier	R&S	CMU200	100448	2014.02.26	2015.02.25
Pulse Limiter (20dB)	Schwarzbeck	VTSD 9561-D	9391	(n.a.)	(n.a.)

2.8.3. Test Result

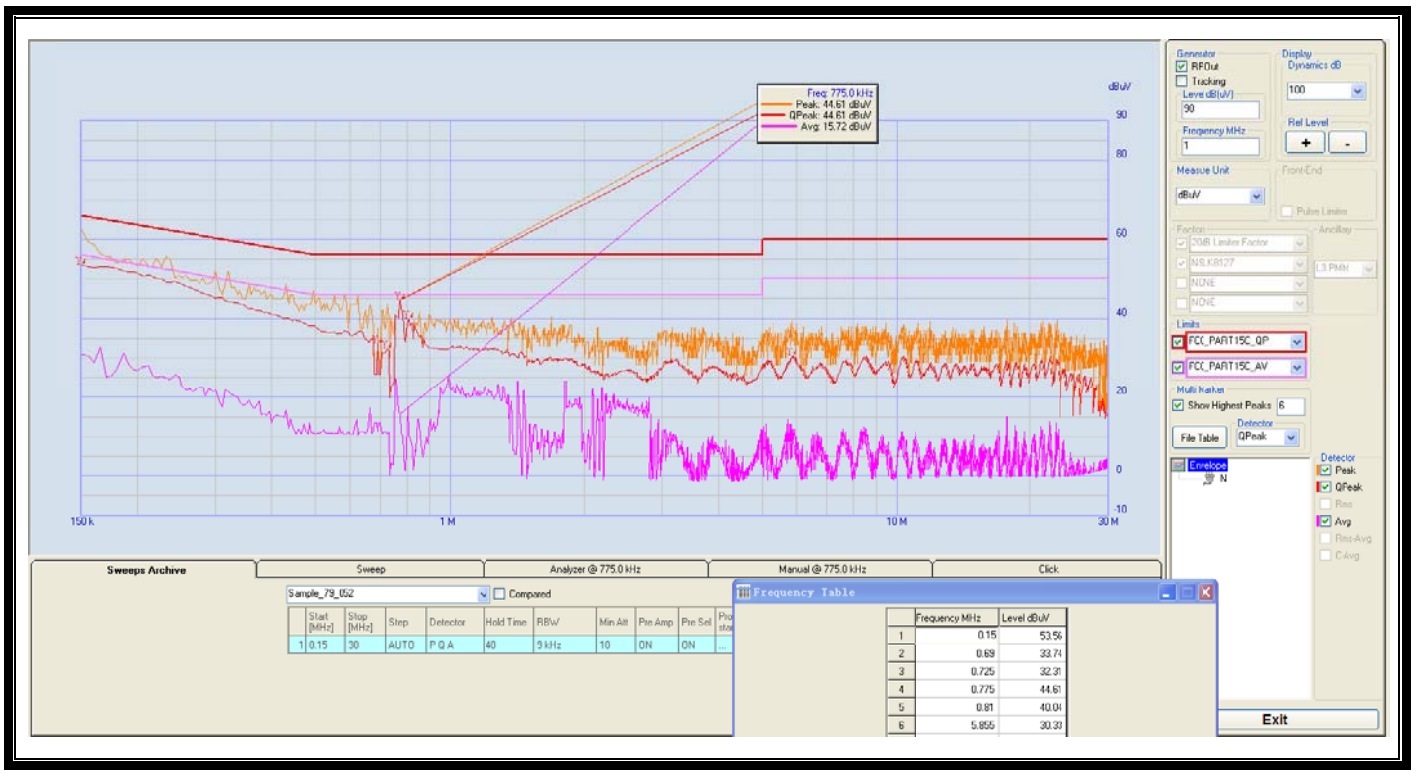
The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

Note: All test modes are performed, only the worst case is recorded in this report.

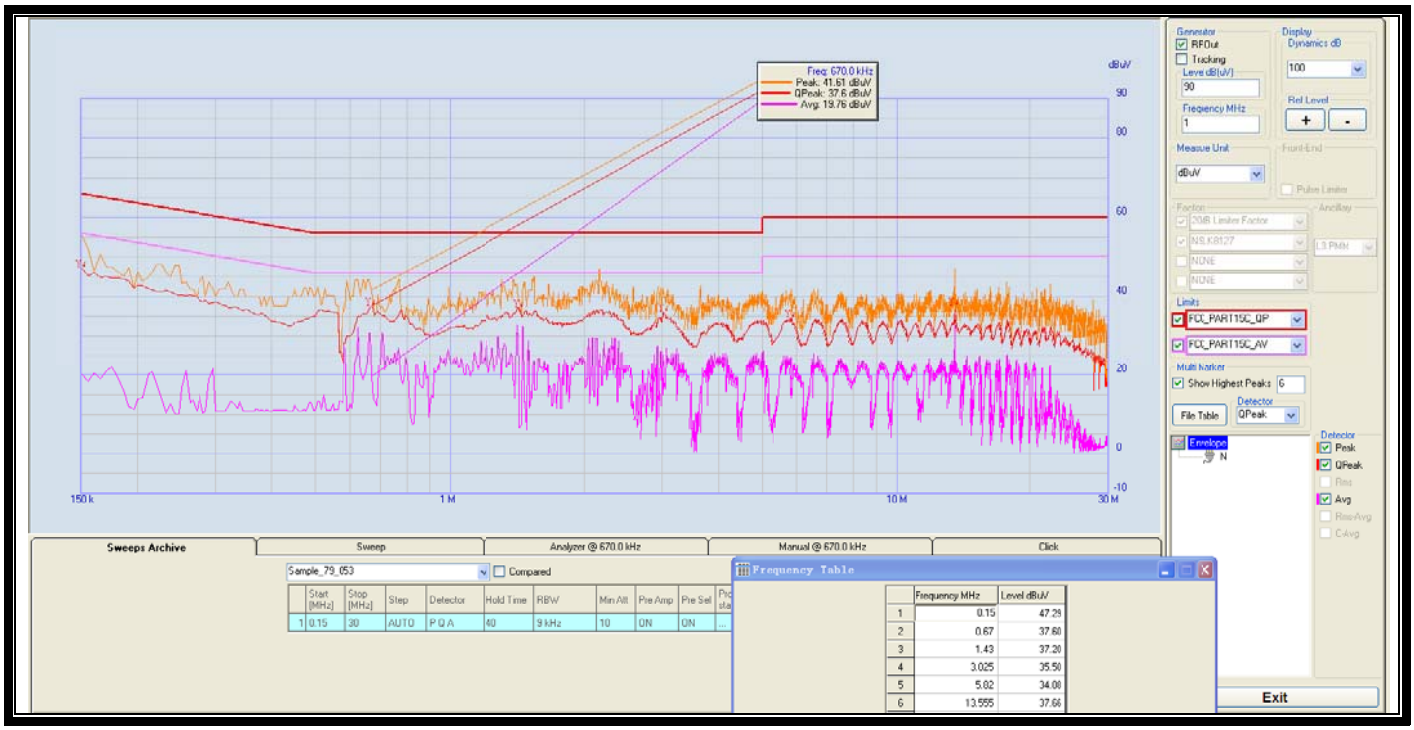
A. Test setup:

The EUT configuration of the emission tests is EUT + Link.

B. Test Plots:



(Plot A: L Phase)



(Plot B: N Phase)

2.9. Radiated Emission

2.9.1. Requirement

The peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.

(2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15–5.25 GHz band.

(3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27dBm/MHz.

(4) For transmitters operating in the 5.725–5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz.

The following formula is used to convert the equipment isotropic radiated power(eirp) to field strength (dBμV/m);

Field strength is converted to EIRP as follows:

*(i)EIRP = ((E*d)^2) / 30*

where:

E is the field strength in V/m;

d is the measurement distance in meters;

EIRP is the equivalent isotropically radiated power in watts.

(ii) Working in dB units, the above equation is equivalent to: EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77

(iii) Or, if d is 3 meters: EIRP[dBm] = E[dBμV/m] - 95.2

Therefore: -27 dBm/MHz = 68.23 dBuV/m

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. According to FCC section 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 (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note:

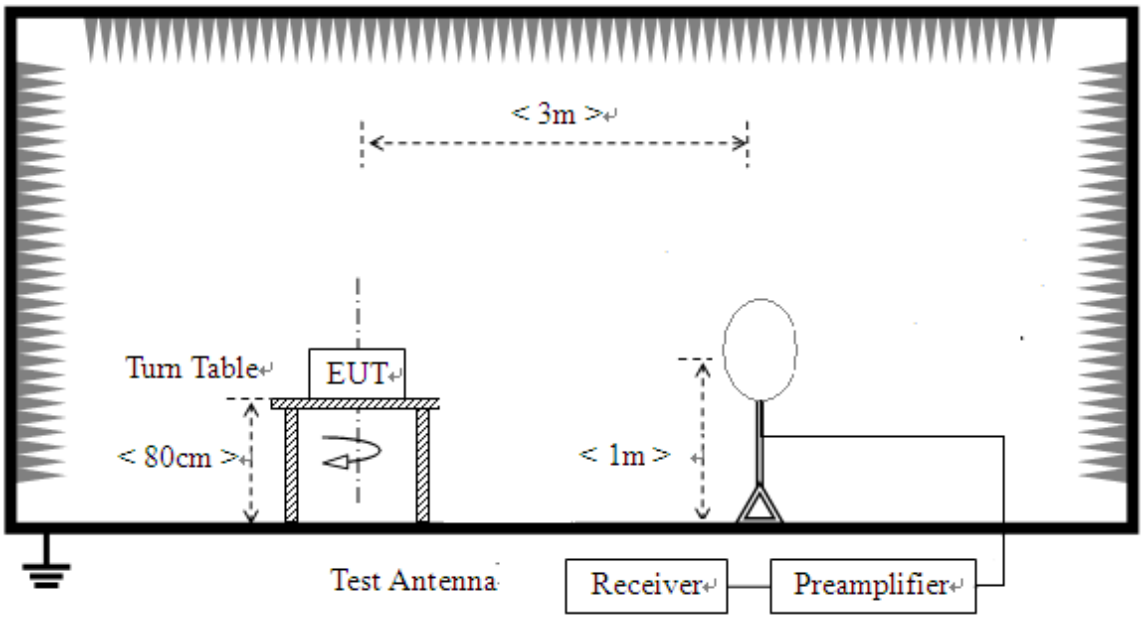
1. For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table)

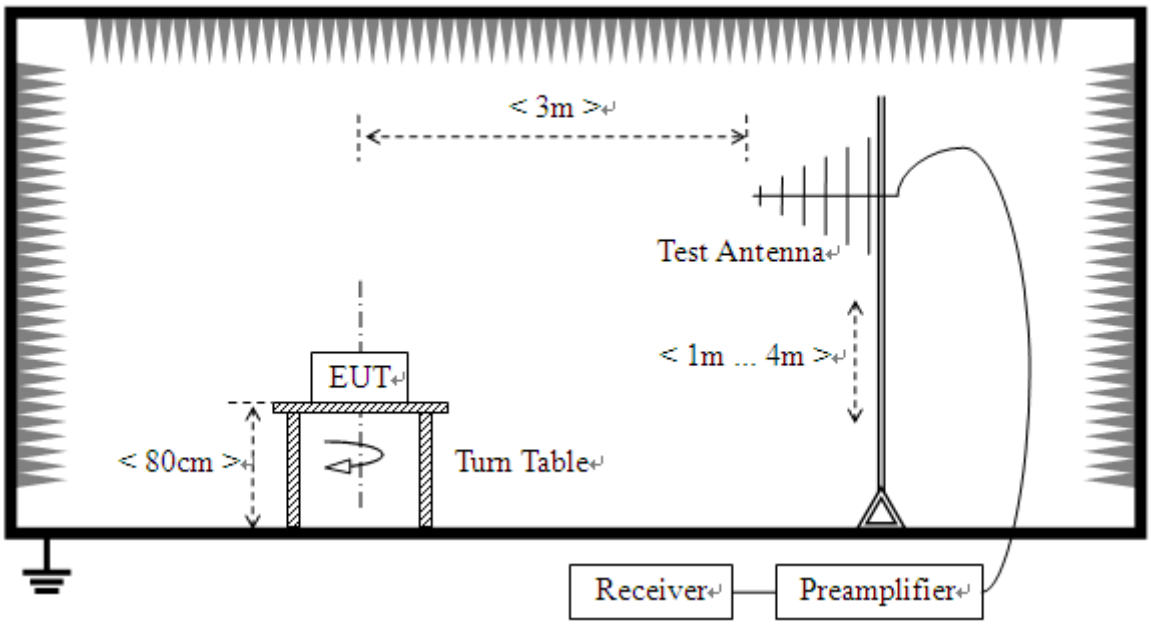
2.9.2. Test Description

A. Test Setup:

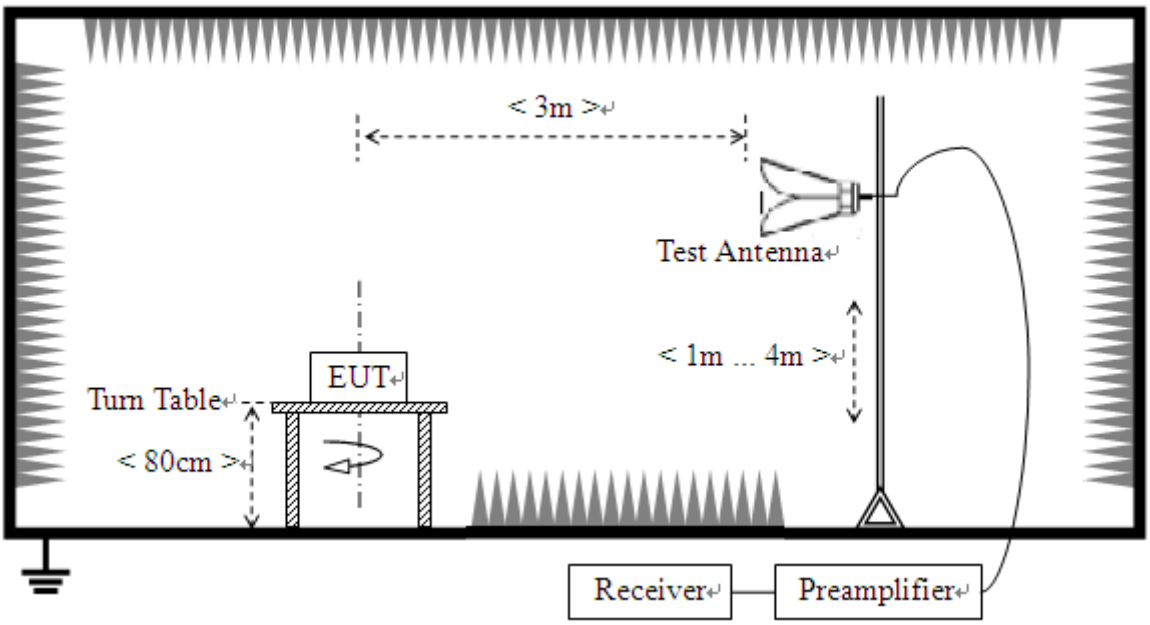
1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to1GHz



3) For radiated emissions above 1GHz



The test site semi-anechoic chamber has met the requirement of NSA tolerance 4dB according to the standards: ANSI C63.4 (2009). The EUT was set-up on insulator 80cm above the Ground Plane. The set-up and test methods were according to ANSI C63.4.

The EUT of the EUT is powered by the Battery charged with the AC Adapter which is powered by 120V, 60Hz AC mains supply. The Module is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading. During the measurement, the EUT is activated and controlled by the Wireless Router via a Common Antenna, and is set to operate under hopping-on test mode.

For the Test Antenna:

(a) In the frequency range of 9kHz to 30MHz, magnetic field is measured with Loop Test Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
(b) In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 2GHz) and Horn Test Antenna (above 2GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength. The emission levels at both horizontal and vertical polarizations should be tested.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2014.02.26	2015.02.25
EXA Signal Analzyer	Agilent	N9010A	MY51440152	2014.02.26	2015.02.25

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2012.05.12	2015.02.25
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2014.02.26	2015.02.25
Test Antenna - Horn	Schwarzbeck	BBHA 9120D	9120D-963	2014.02.26	2015.02.25
Test Antenna - Horn	Schwarzbeck	BBHA9170	9170-872	2014.02.26	2015.02.25
Test Antenna - Horn	R&S	HL050S7	71688	2014.02.26	2015.02.25
Test Antenna -Loop	Schwarzbeck	FMZB 1519	1519-022	2014.02.26	2015.02.25

2.9.3. Test Result

According to ANSI C63.4 selection 4.2.2, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak limit, it is unnecessary to perform an quasi-peak measurement.

The measurement results are obtained as below:

$E\ [dB\mu V/m] = U_R + A_T + A_{Factor}\ [dB]$; $A_T = L_{Cable\ loss}\ [dB] - G_{preamp}\ [dB]$

A_T: Total correction Factor except Antenna

U_R: Receiver Reading

G_{preamp}: Preamplifier Gain

A_{Factor}: Antenna Factor at 3m

During the test, the total correction Factor A_T and A_{Factor} were built in test software.

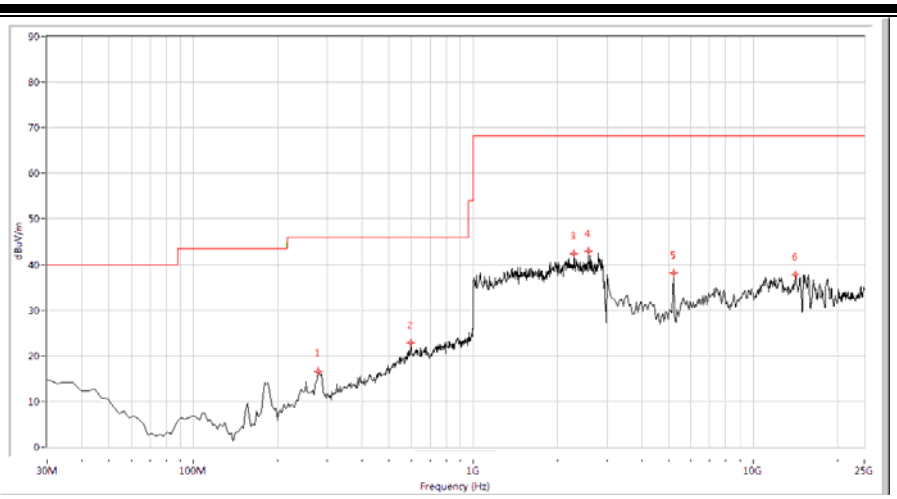
Note: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

The low frequency, which started from 9KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

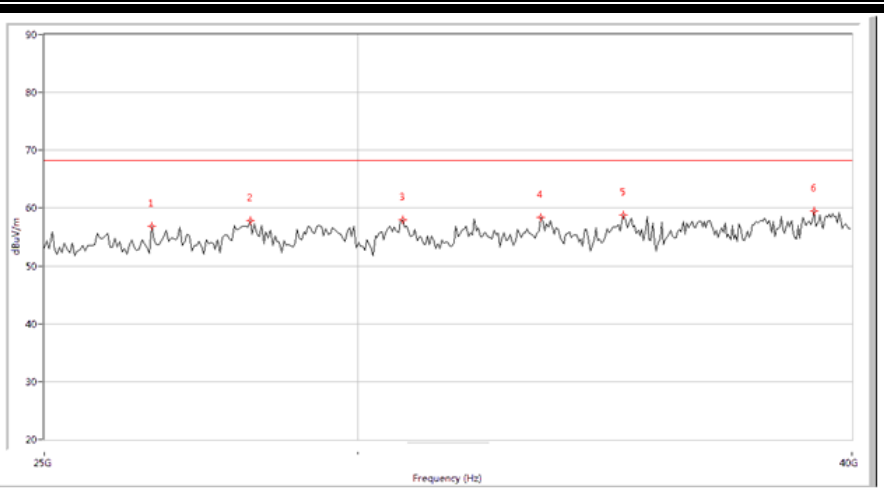
2.9.3.1. 802.11a Test mode

A. Test Plots for the Whole Measurement Frequency Range:

Plots for Channel = 36

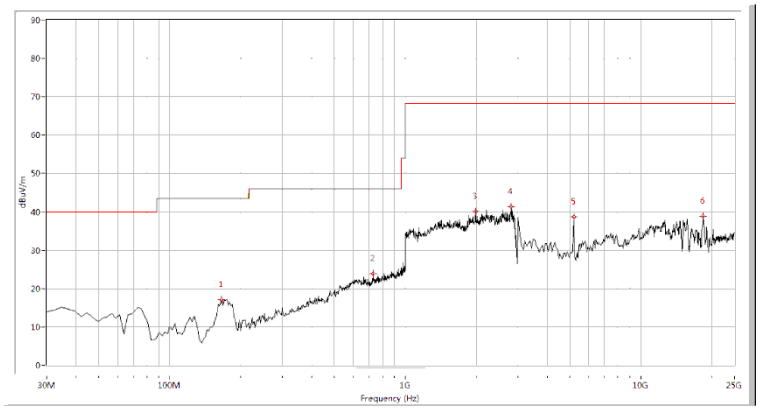


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
279.152	16.57	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
598.454	22.75	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2291.771	42.41	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
2581.047	42.98	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5180.000	38.12	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
14137.157	37.78	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

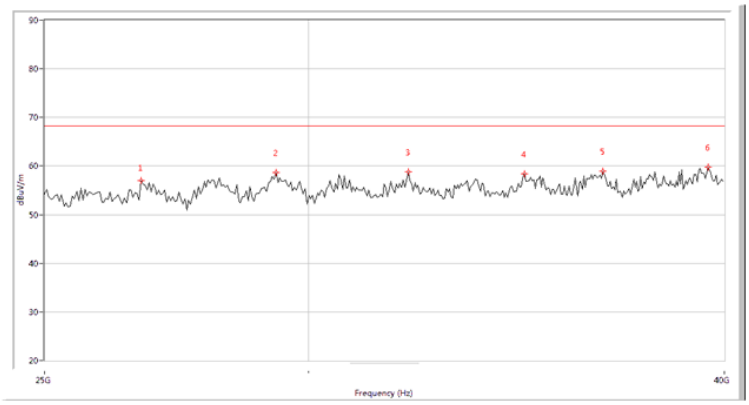


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
26608.48	56.92	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
28179.55	57.87	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30798.00	57.99	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33379.05	58.46	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
35024.94	58.77	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39139.65	59.55	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



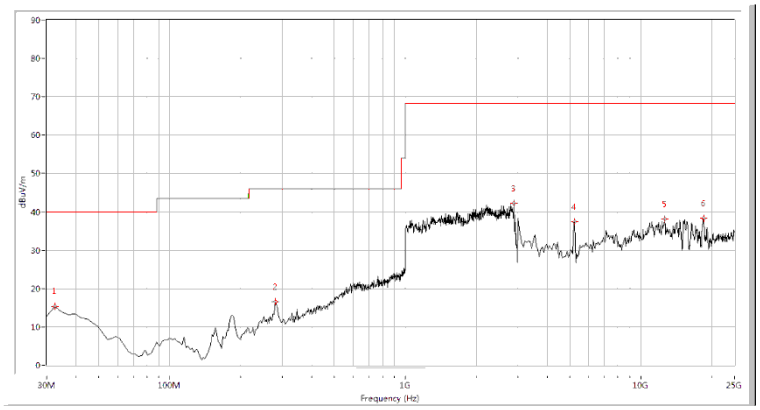
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
165.461	17.12	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
729.077	23.86	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1982.544	40.12	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
2820.449	41.42	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5180.000	38.62	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
18416.459	38.77	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



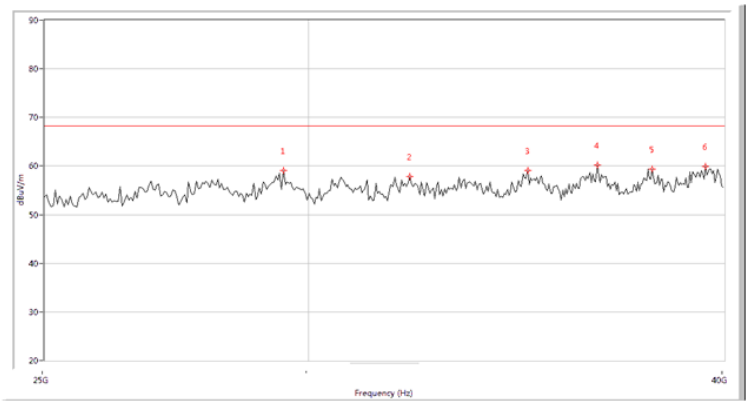
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
26720.70	57.05	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29339.15	58.71	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32144.64	58.87	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34837.91	58.36	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36783.04	58.99	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39551.12	59.74	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 44

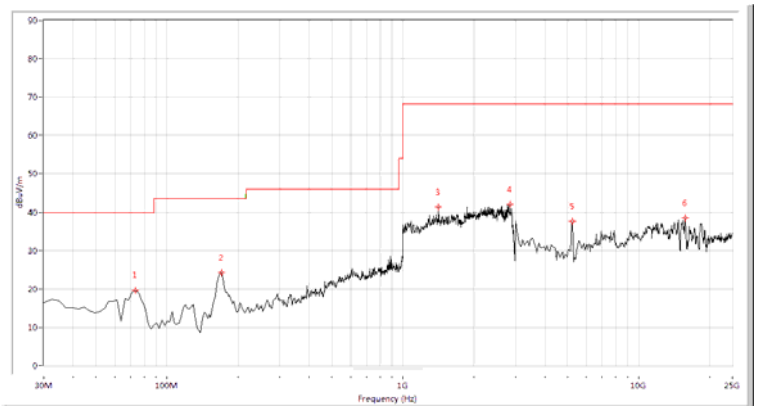


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
32.419	15.38	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
281.571	16.60	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2890.274	42.21	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5220.000	37.47	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
12655.860	38.16	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
18471.322	38.28	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

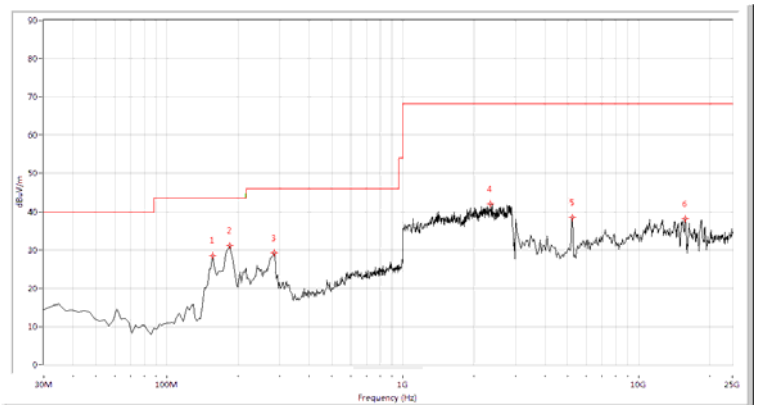


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
29488.78	59.09	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32182.04	57.86	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34912.72	59.08	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36633.42	60.21	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38054.86	59.33	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39476.31	59.86	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



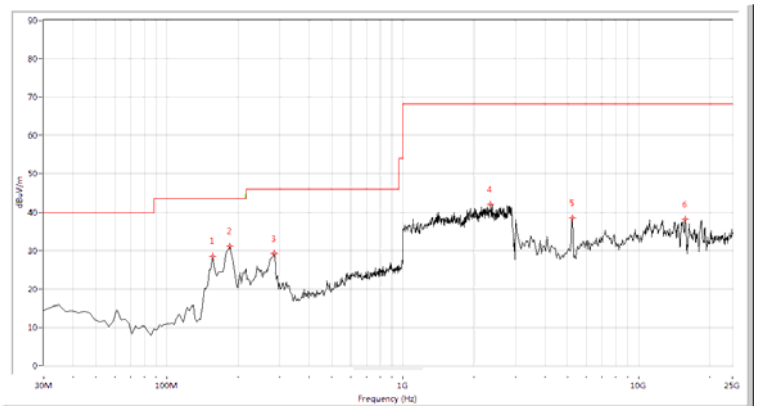
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
73.541	19.55	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
170.299	24.26	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
1418.953	41.37	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
2855.362	42.07	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5220.000	37.67	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
15728.180	38.50	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



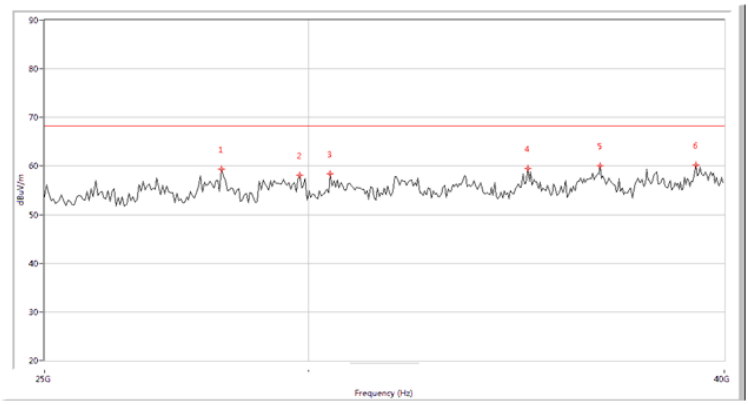
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
155.786	28.47	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
184.813	31.25	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
283.990	29.26	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2356.608	42.11	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5249.377	38.47	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
15783.042	38.16	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 48

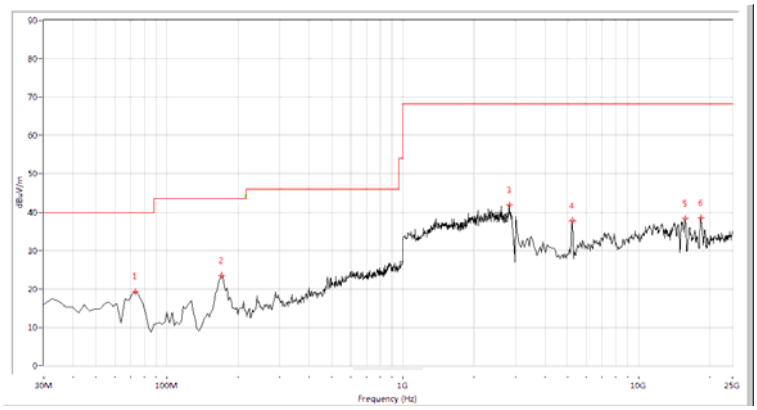


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
155.786	28.47	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
184.813	31.25	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
283.990	29.26	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2356.608	42.11	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5240.000	38.47	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
15783.042	38.16	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

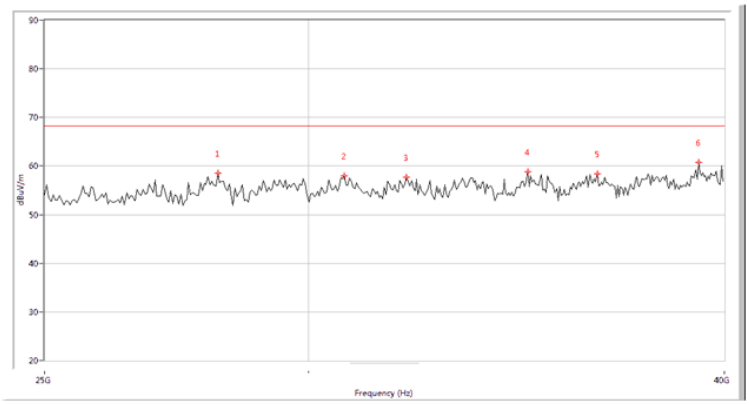


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28254.36	59.34	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29825.44	58.17	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30461.35	58.34	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34912.72	59.45	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36708.23	60.07	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39214.46	60.16	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
73.541	19.25	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
170.299	23.47	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
2830.424	41.83	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5240.000	37.74	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
15783.042	38.26	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
18361.596	38.45	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



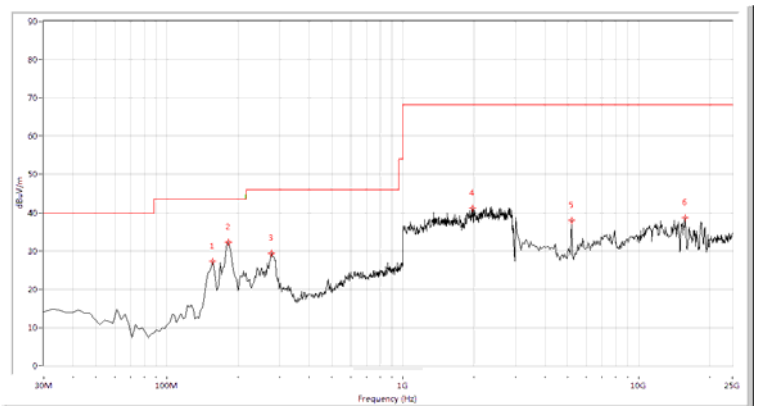
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28179.55	58.59	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30760.60	57.99	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32107.23	57.63	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34912.72	58.86	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36633.42	58.35	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39289.28	60.79	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

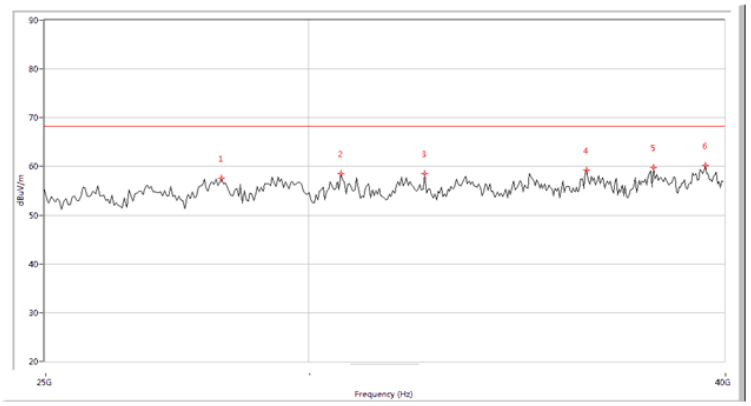
2.9.3.2. 802.11n-20MHz Test mode

B. Test Plots for the Whole Measurement Frequency Range:

Plots for Channel = 36

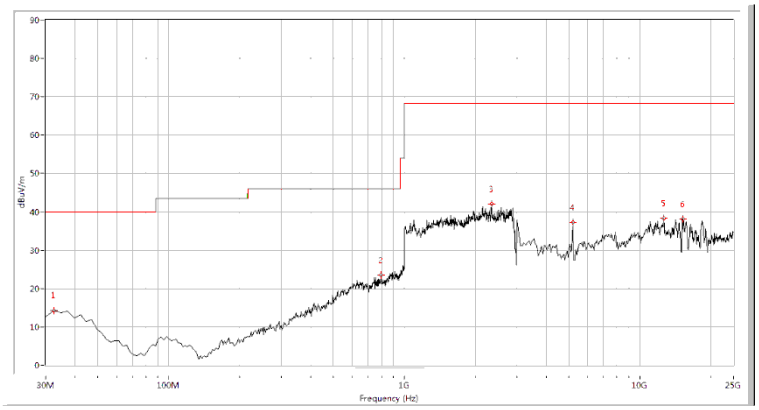


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
155.786	27.20	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
182.394	32.18	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
276.733	29.41	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
1977.556	41.21	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5180.000	37.93	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
15728.180	38.64	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

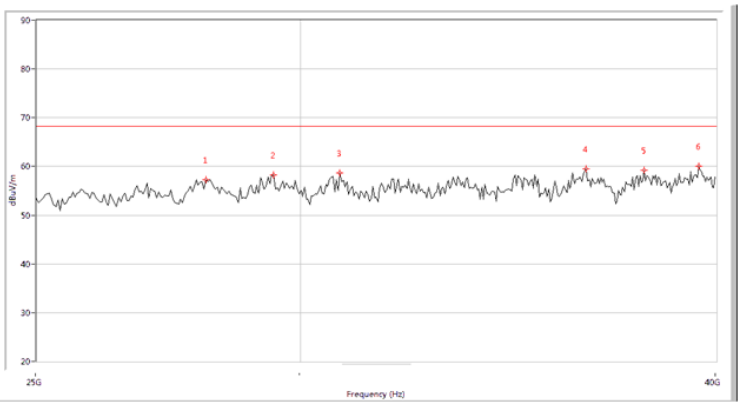


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28254.36	57.53	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30685.79	58.59	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32518.70	58.55	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36371.57	59.21	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38092.27	59.85	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39476.31	60.15	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



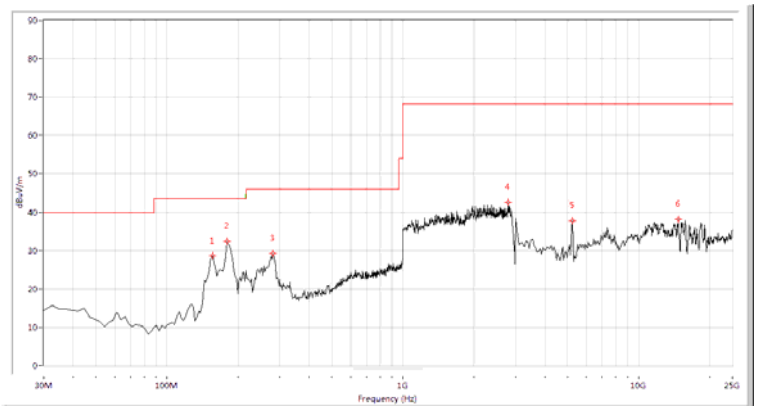
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
32.419	14.20	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
796.808	23.60	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
2346.633	42.06	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5180.000	37.28	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
12655.860	38.25	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
15234.414	38.08	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



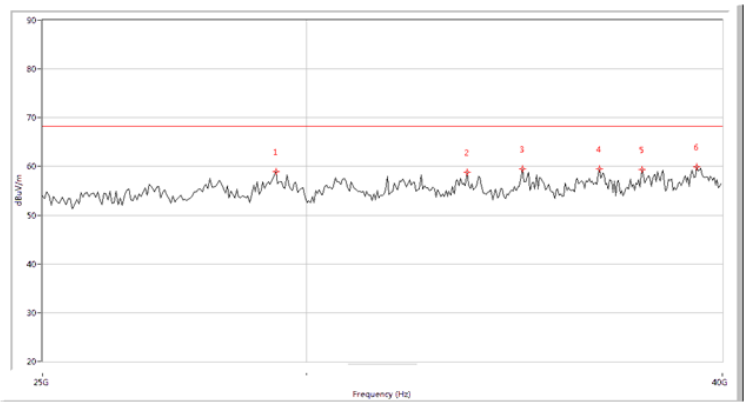
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28104.74	57.24	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29451.37	58.25	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30835.41	58.72	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36558.60	59.54	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38054.86	59.19	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39513.72	60.08	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 44

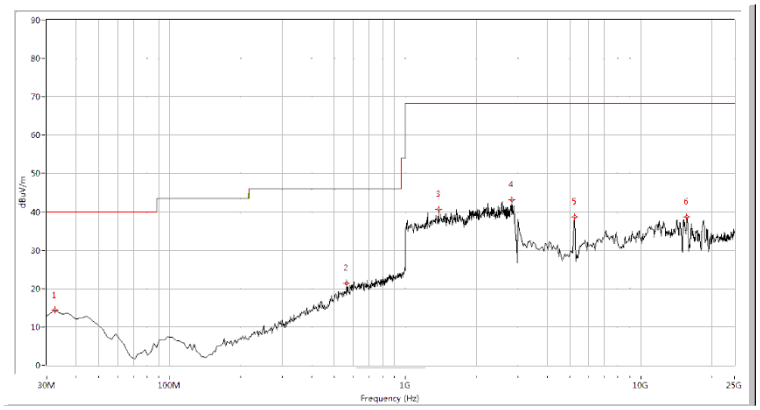


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
155.786	28.65	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
179.975	32.41	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
281.571	29.25	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2805.486	42.56	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5220.000	37.73	N.A	N.A	68.2	N.A	N.A	Horizontal	N.A
14740.648	38.14	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

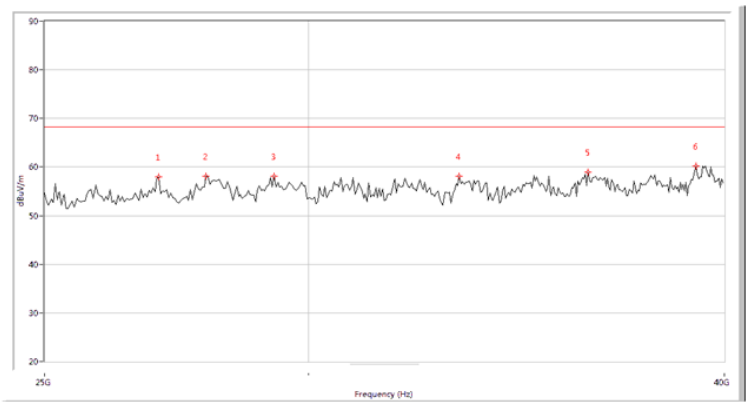


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
29376.56	58.92	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33528.68	58.74	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34837.91	59.57	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36745.64	59.47	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
37830.42	59.43	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39289.28	59.88	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



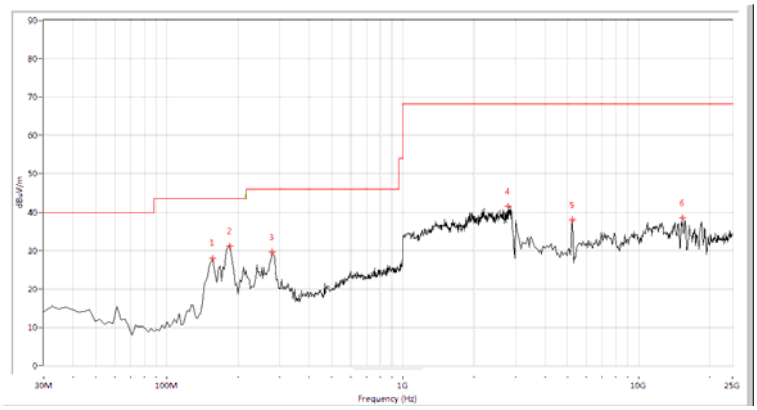
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
32.419	14.46	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
564.589	21.45	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1384.040	40.56	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
2840.399	43.04	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5220.000	38.63	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
15673.317	38.59	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



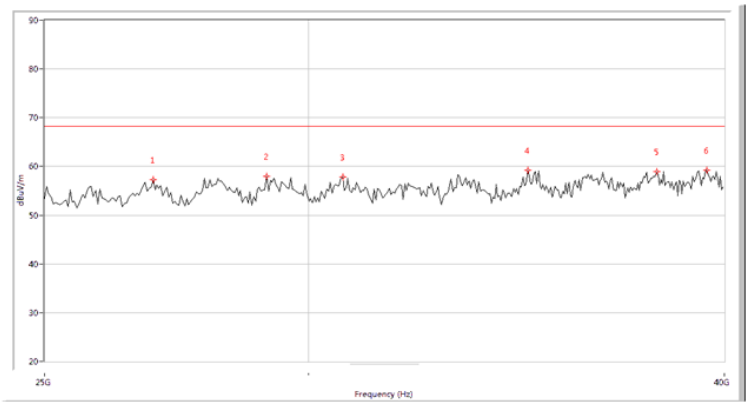
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
27057.36	57.95	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27955.11	58.08	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29301.75	58.08	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33304.24	58.17	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36408.98	58.94	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39214.46	60.20	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 48

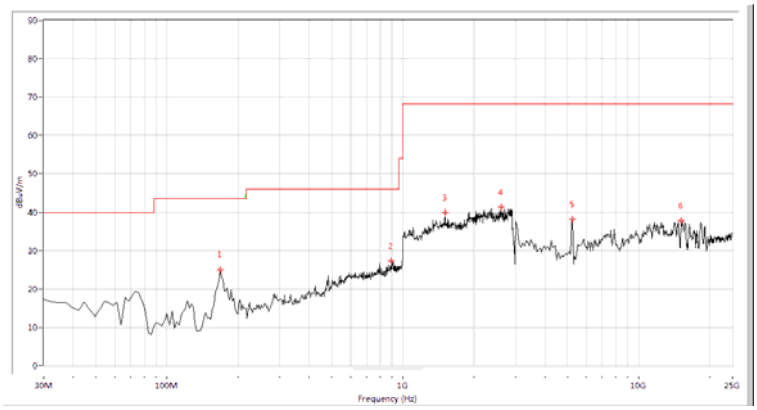


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
155.786	27.97	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
184.813	31.14	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
279.152	29.62	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2795.511	41.55	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5240.000	37.89	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
15399.002	38.47	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

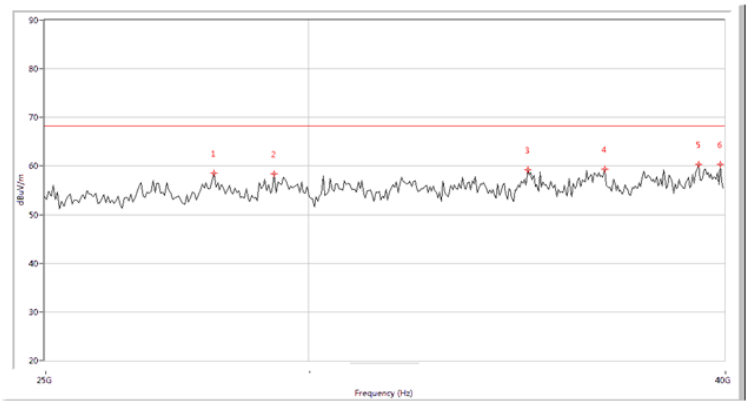


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
26945.14	57.27	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29152.12	58.02	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30723.19	57.88	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34912.72	59.22	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38167.08	58.95	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39513.72	59.23	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
167.880	24.94	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
891.147	27.26	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1508.728	39.90	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
2610.973	41.31	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5240.000	38.22	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
15179.551	37.82	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



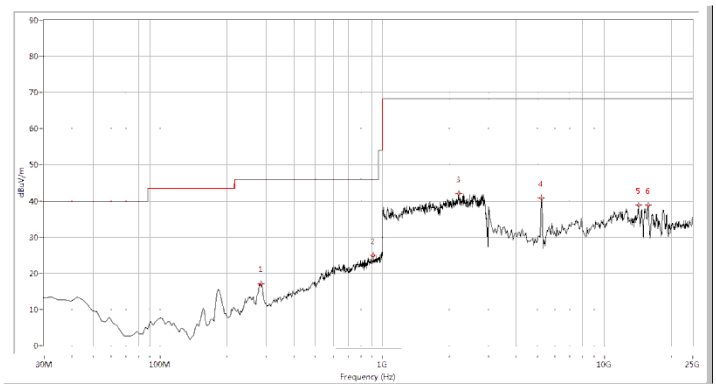
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28104.74	58.47	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29301.75	58.40	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34912.72	59.25	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36820.45	59.40	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39289.28	60.38	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39887.78	60.39	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

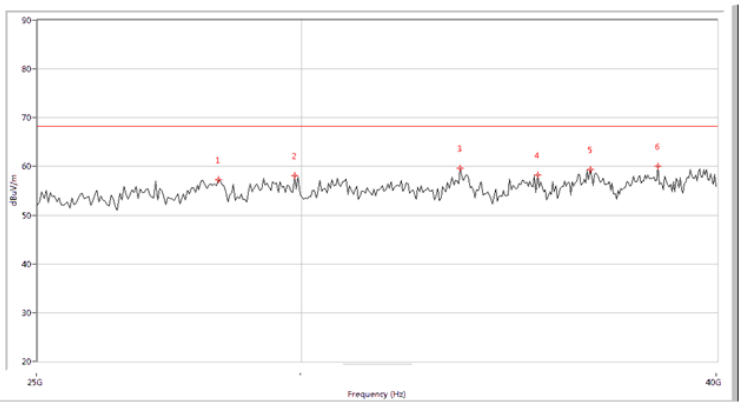
2.9.3.3. 802.11n-40MHz Test mode

A. Test Plots for the Whole Measurement Frequency Range:

Plots for Channel = 38

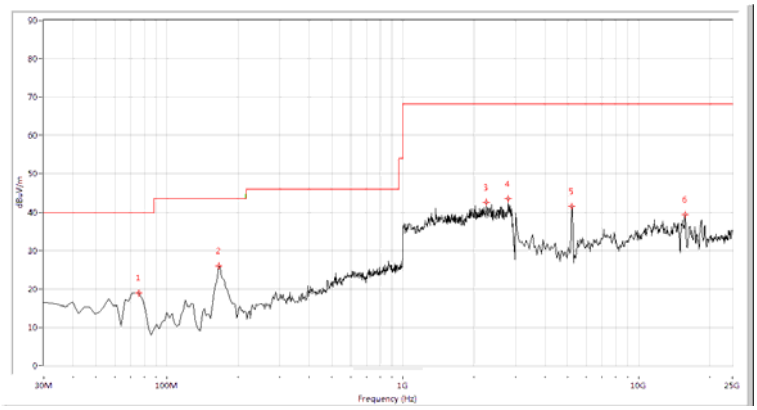


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
283.990	17.18	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
910.499	24.88	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2206.983	41.99	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5190.000	40.73	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
14246.883	38.77	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
15728.180	38.92	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

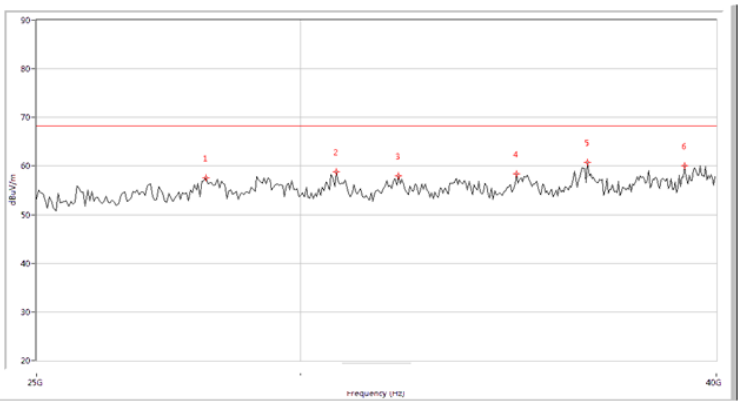


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28329.18	57.32	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29862.84	58.08	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33491.27	59.63	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
35324.19	58.26	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36633.42	59.38	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38391.52	60.06	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



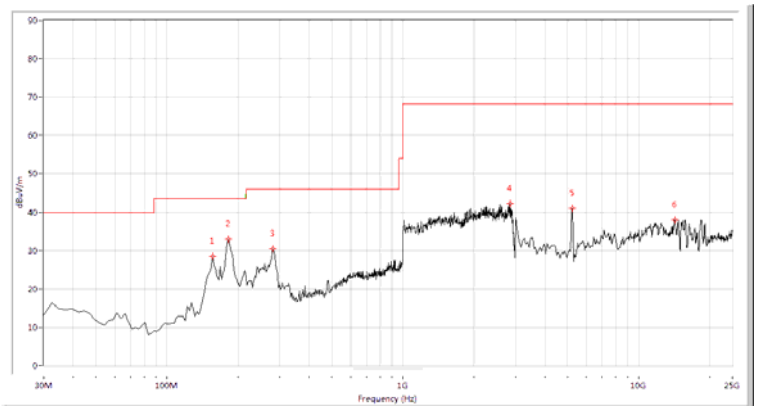
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
75.960	18.92	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
165.461	26.06	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
2256.858	42.53	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
2795.511	43.45	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5190.000	41.49	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
15728.180	39.36	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



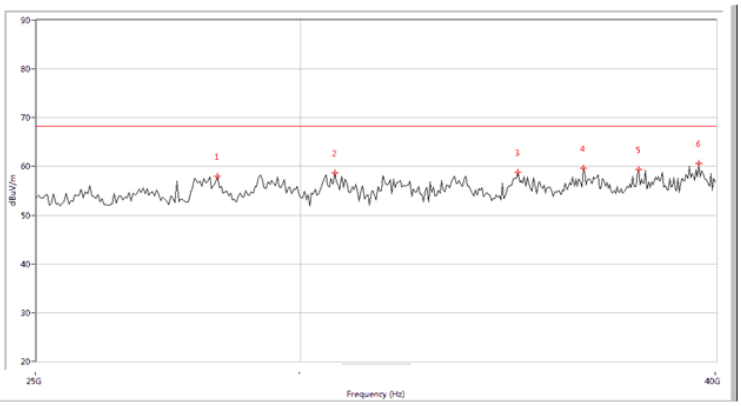
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28104.74	57.53	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30760.60	58.79	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32107.23	57.98	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34837.91	58.41	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36596.01	60.78	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39139.65	60.01	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 46

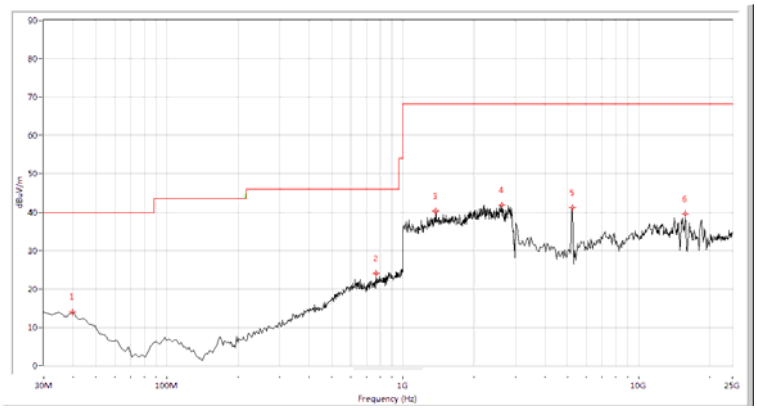


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
155.786	28.46	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
182.394	32.93	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
281.571	30.52	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2845.387	42.31	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5230.000	41.01	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
14246.883	37.94	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

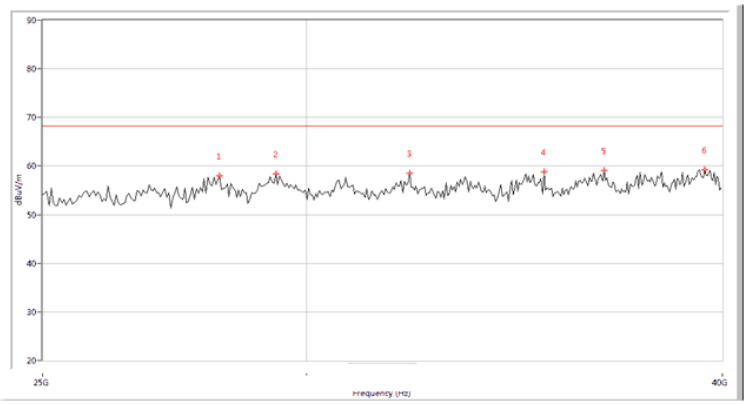


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28329.18	57.93	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30723.19	58.63	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34875.31	58.75	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36483.79	59.71	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
37905.24	59.32	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39513.72	60.59	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
39.676	13.94	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
770.200	24.06	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1379.052	40.27	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
2625.935	41.87	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5230.000	41.11	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
15783.042	39.65	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



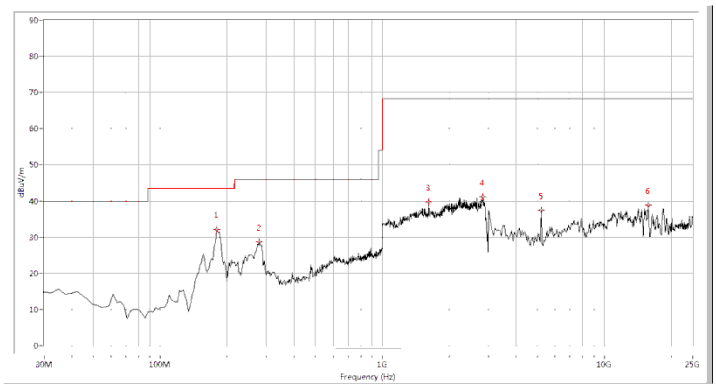
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28254.36	58.00	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29376.56	58.39	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32219.45	58.54	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
35361.60	58.74	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36857.86	59.13	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39513.72	59.24	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

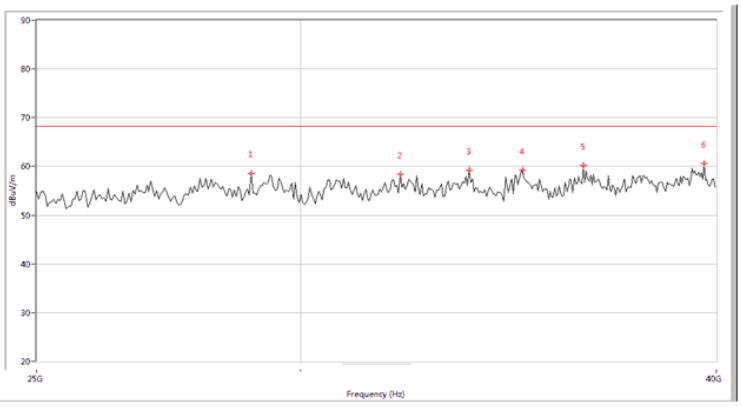
2.9.3.4. 802.11ac-20MHz Test mode

B. Test Plots for the Whole Measurement Frequency Range:

Plots for Channel = 36

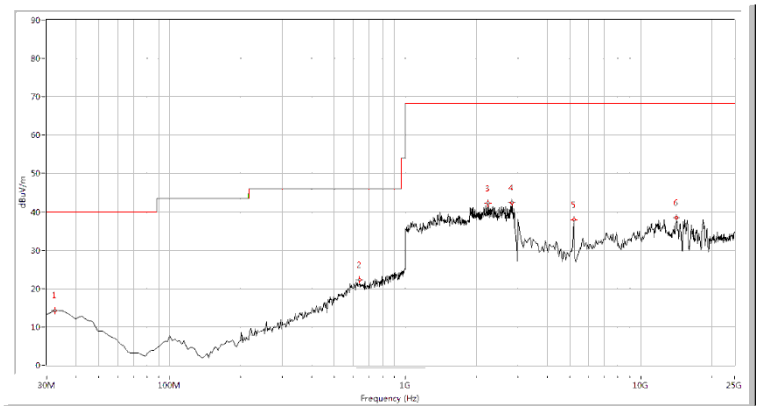


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
179.975	32.03	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
279.152	28.61	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
1618.454	39.74	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
2840.399	41.24	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5180.000	37.50	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
15783.042	38.84	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

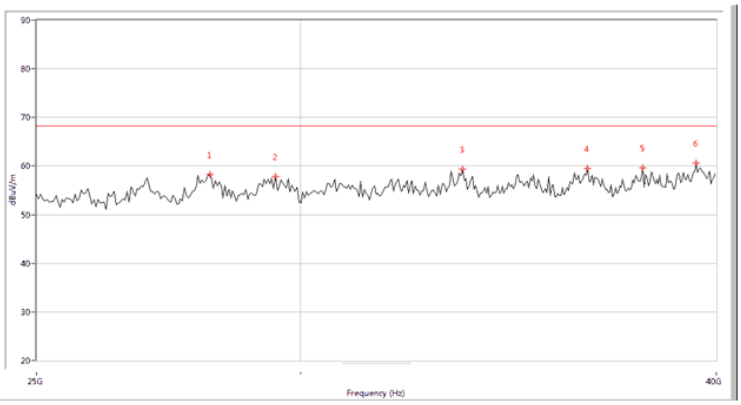


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
29002.49	58.50	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32144.64	58.40	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33715.71	59.28	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34987.53	59.25	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36483.79	60.22	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39663.34	60.63	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



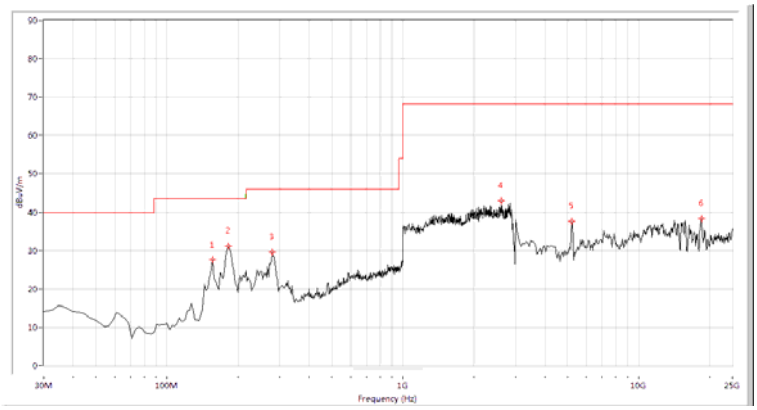
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
32.419	14.34	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
639.576	22.34	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
2246.883	42.23	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
2830.424	42.34	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5180.000	38.04	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
14137.157	38.56	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



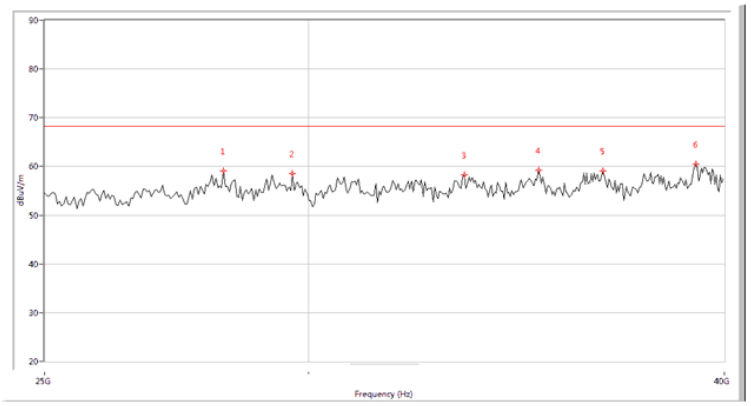
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28179.55	58.30	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29488.78	57.89	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33566.08	59.39	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36596.01	59.55	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38017.46	59.66	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39438.90	60.62	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 44

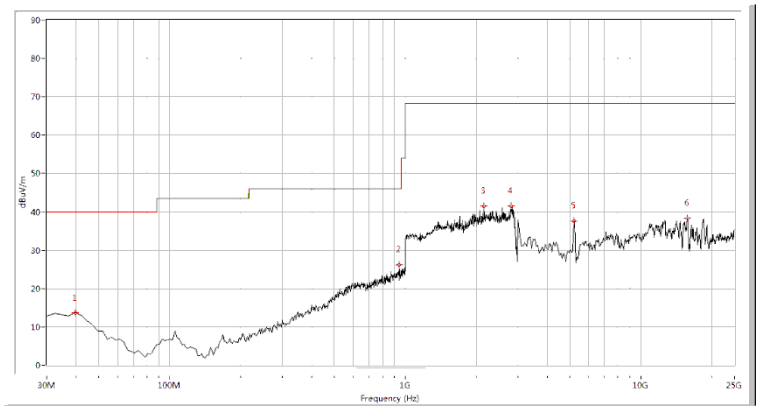


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
155.786	27.70	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
182.394	31.16	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
279.152	29.60	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2620.948	42.98	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5220.000	37.57	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
18471.322	38.35	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

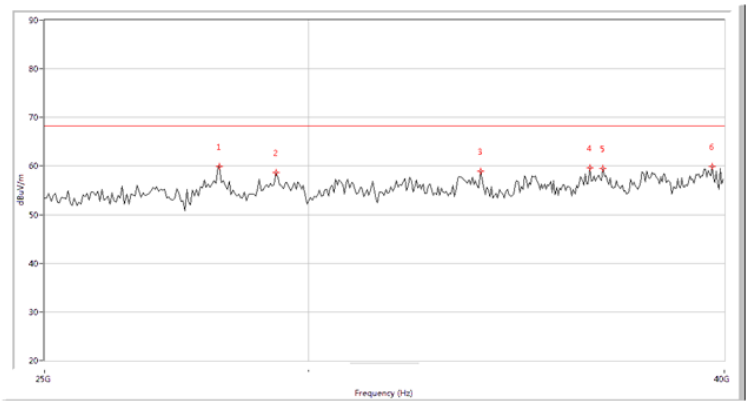


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28291.77	59.10	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29675.81	58.48	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33416.46	58.24	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
35174.56	59.17	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36783.04	59.05	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39214.46	60.43	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



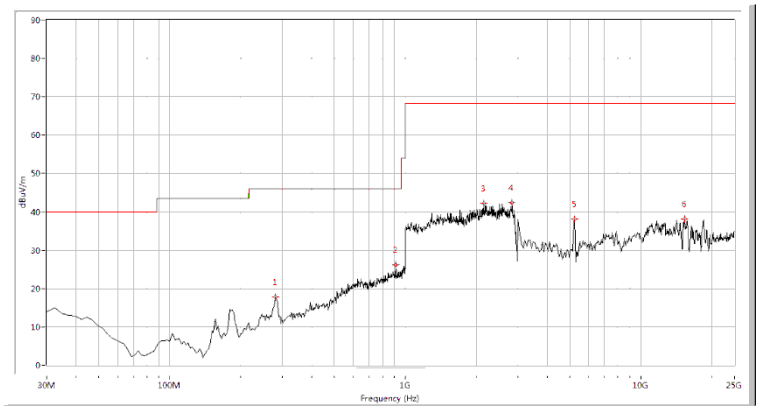
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
39.676	13.77	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
944.364	26.22	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
2162.095	41.45	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
2815.461	41.60	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5220.000	37.62	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
15728.180	38.37	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



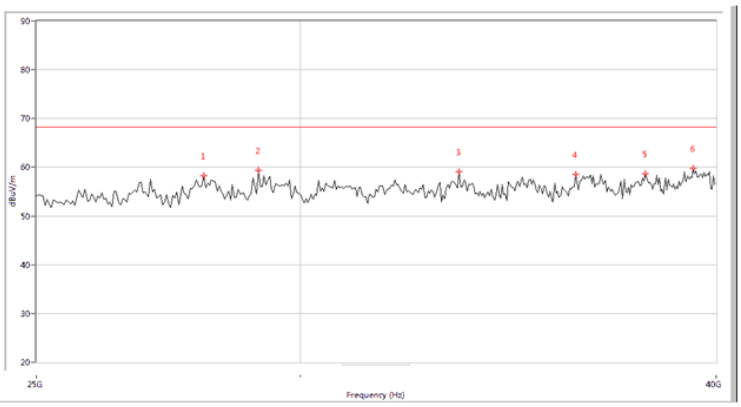
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28216.96	59.86	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29339.15	58.65	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33790.52	58.93	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36446.38	59.66	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36783.04	59.48	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39663.34	59.96	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 48

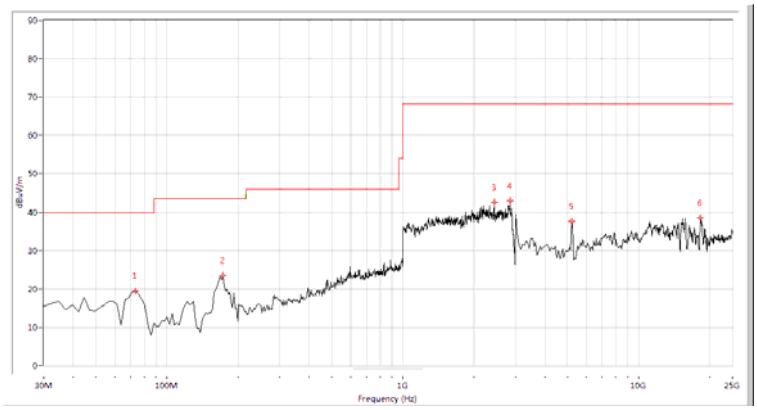


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
281.571	17.82	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
908.080	26.13	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2157.107	42.22	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
2830.424	42.35	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5240.000	38.07	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
15399.002	38.20	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

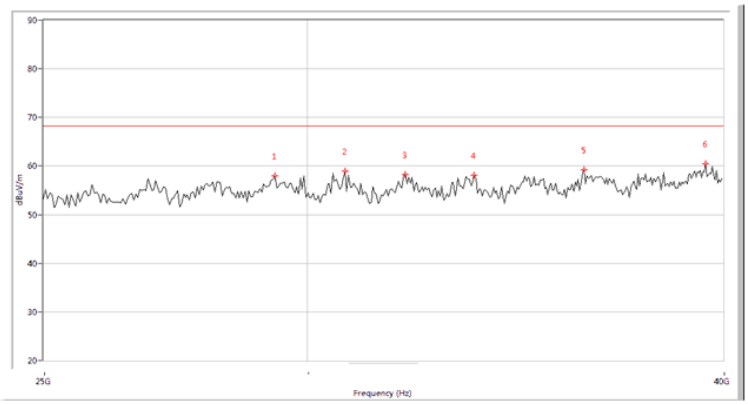


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28067.33	58.23	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29152.12	59.33	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33491.27	59.09	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36296.76	58.57	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38092.27	58.74	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39364.09	59.80	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
73.541	19.44	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
172.718	23.54	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
2441.397	42.64	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
2850.374	42.87	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5240.000	37.52	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
18306.733	38.57	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



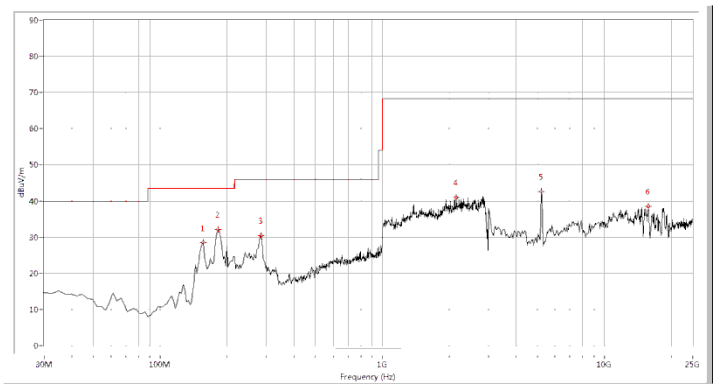
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
29339.15	58.01	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30798.00	59.00	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32107.23	58.31	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33678.30	58.05	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36334.16	59.25	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39513.72	60.51	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

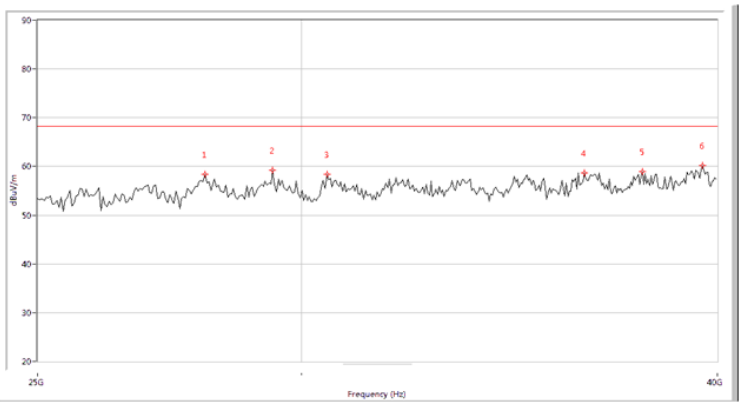
2.9.3.5. 802.11ac-40MHz Test mode

A. Test Plots for the Whole Measurement Frequency Range:

Plots for Channel = 38

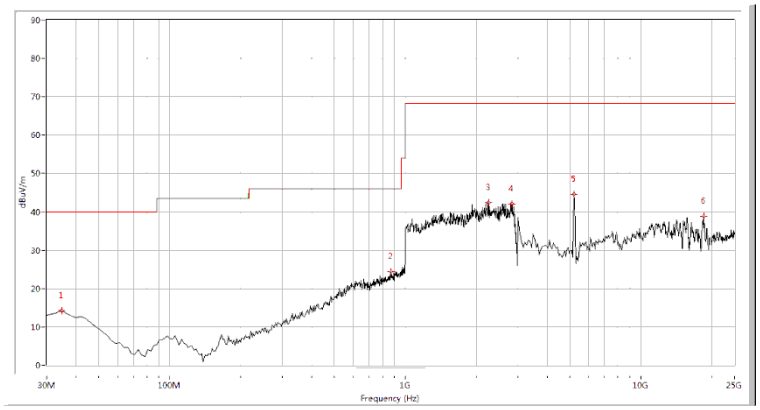


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
155.786	28.48	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
182.394	32.08	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
283.990	30.42	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2157.107	40.91	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5190.000	42.60	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
15783.042	38.46	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

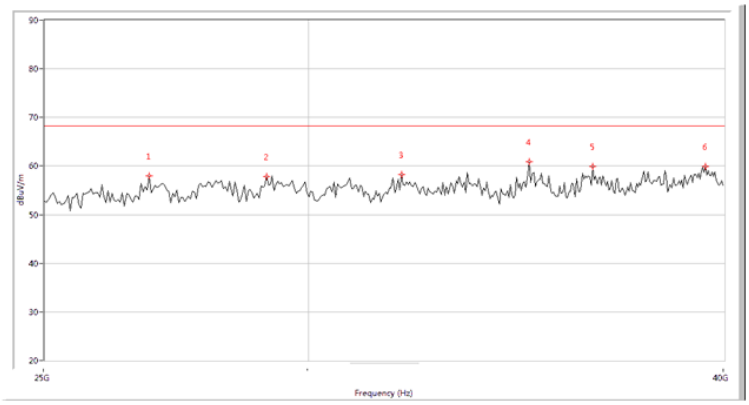


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28067.33	58.42	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29413.97	59.20	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30536.16	58.39	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36483.79	58.66	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
37980.05	58.91	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39588.53	60.14	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



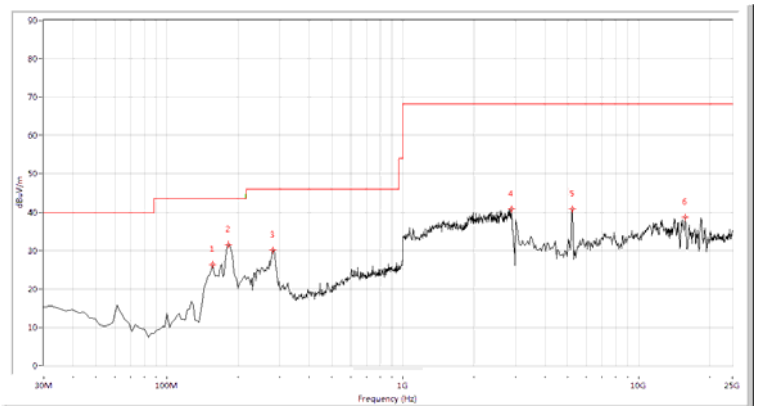
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
34.838	14.21	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
866.958	24.50	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
2251.870	42.42	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
2830.424	42.01	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5190.000	44.64	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
18471.322	38.82	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



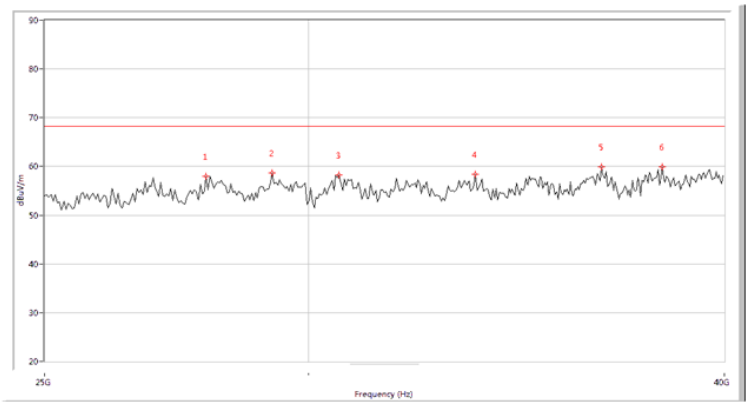
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
26870.32	57.93	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29152.12	57.81	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31995.01	58.21	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34950.12	60.82	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36521.20	59.86	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39476.31	59.88	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 46

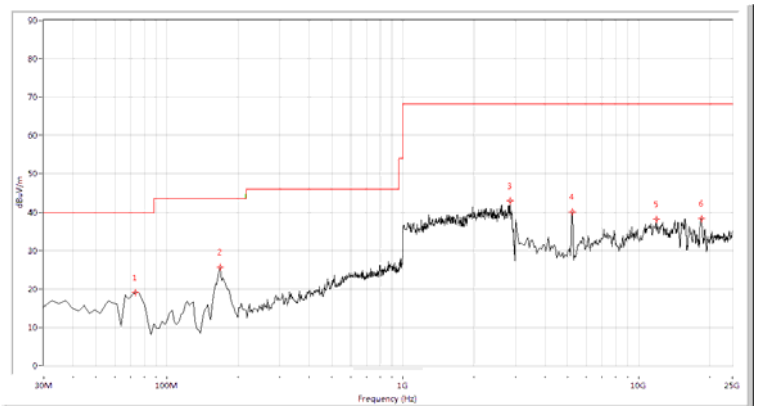


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
155.786	26.32	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
182.394	31.49	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
281.571	30.17	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
2885.287	40.89	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5230.000	40.77	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
15783.042	38.61	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

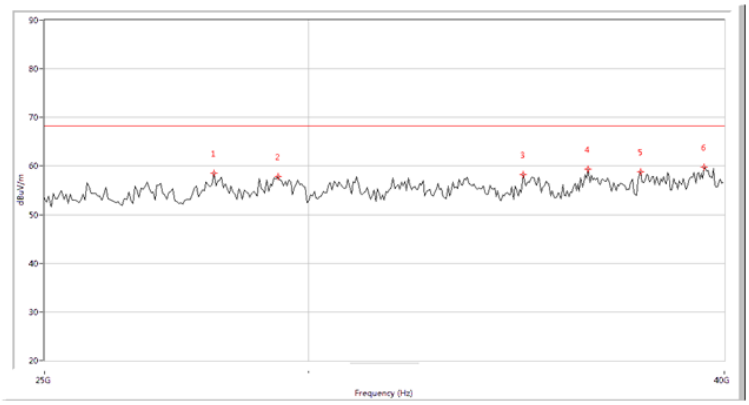


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
27955.11	58.01	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29264.34	58.71	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30648.38	58.21	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33678.30	58.42	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36745.64	59.90	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38316.71	59.92	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
73.541	19.11	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
167.880	25.65	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
2845.387	42.94	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5230.000	40.03	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
11887.781	38.10	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
18471.322	38.34	N.A	N.A	68.2	N.A	N.A	Vertical	PASS



Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28104.74	58.56	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29376.56	57.83	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34800.50	58.26	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36408.98	59.36	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37755.61	58.77	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39438.90	59.83	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

2.10. RF exposure evaluation

2.10.1. Requirement

According to § 1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy lever in excess of Commission's guideline.

2.10.2. Result

Please refer to SAR report.

** END OF REPORT **