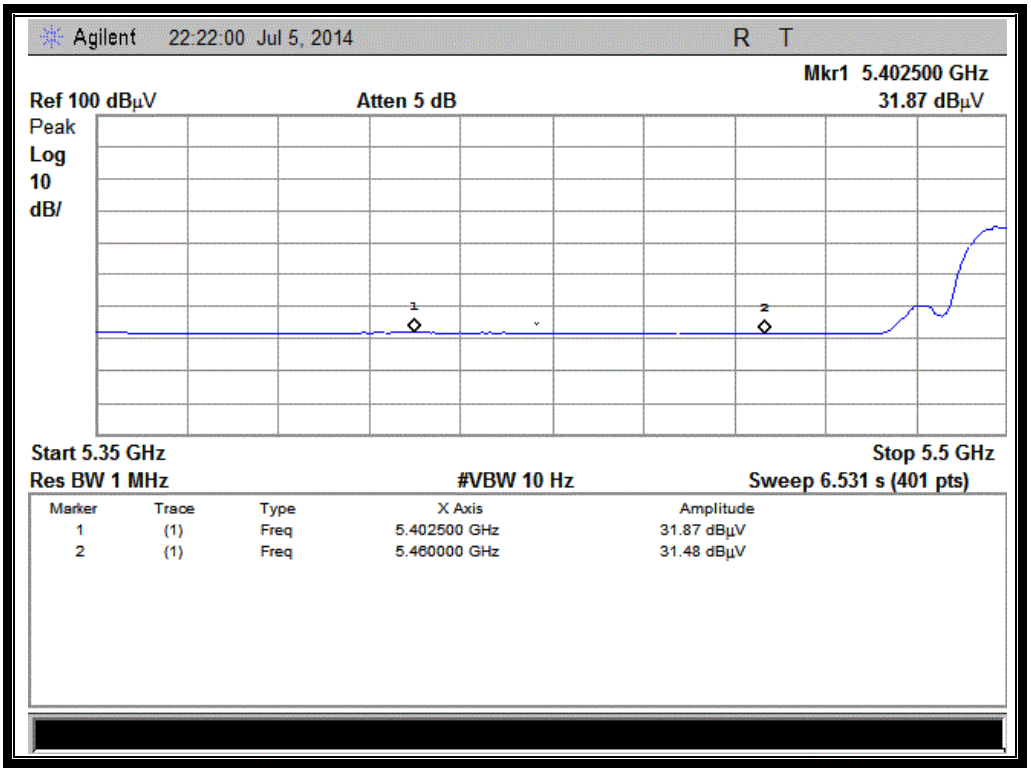
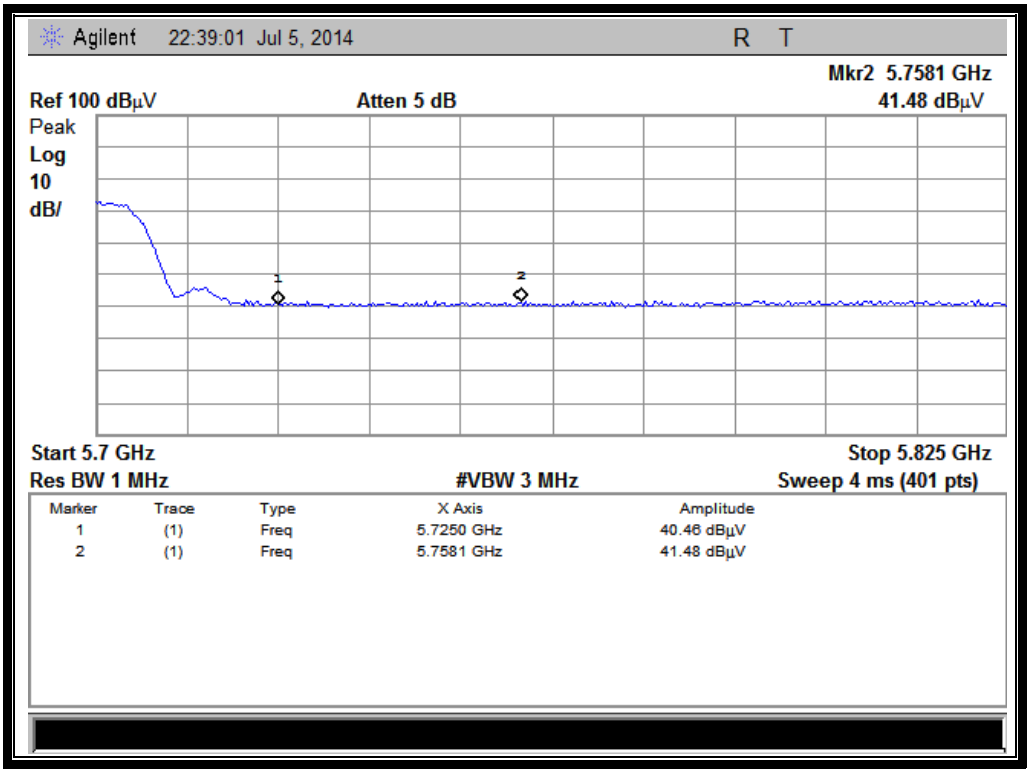
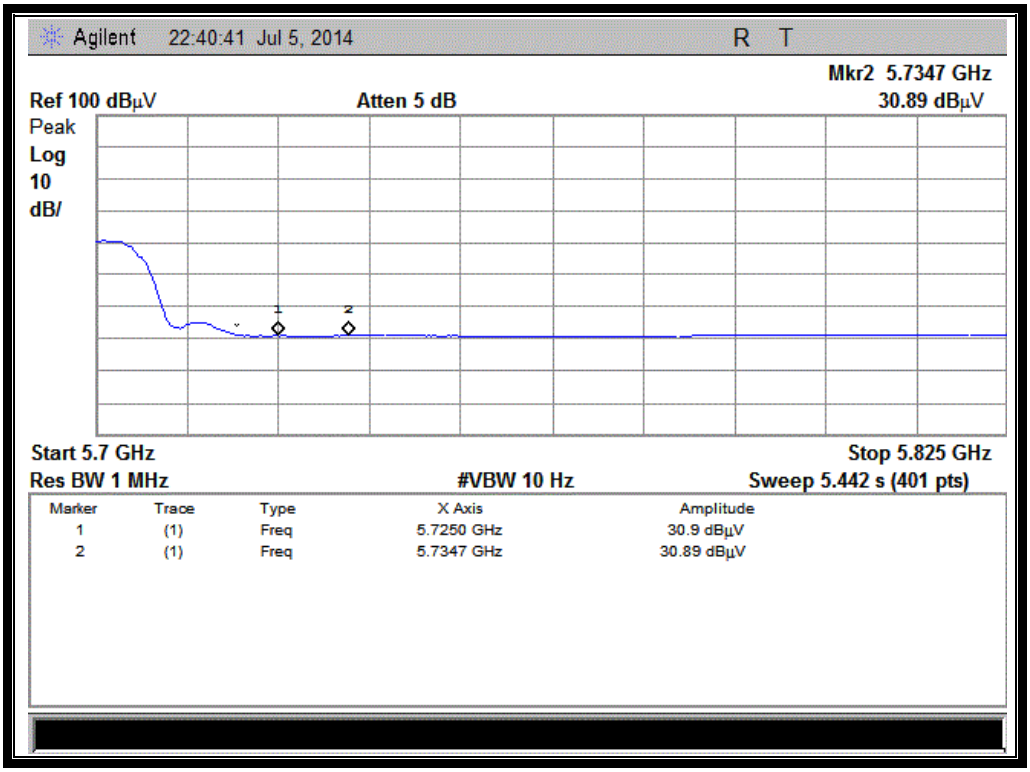


(Channel = 100 AVG @ 802.11a)



(Channel = 140 PEAK @ 802.11a)



(Channel = 140 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.

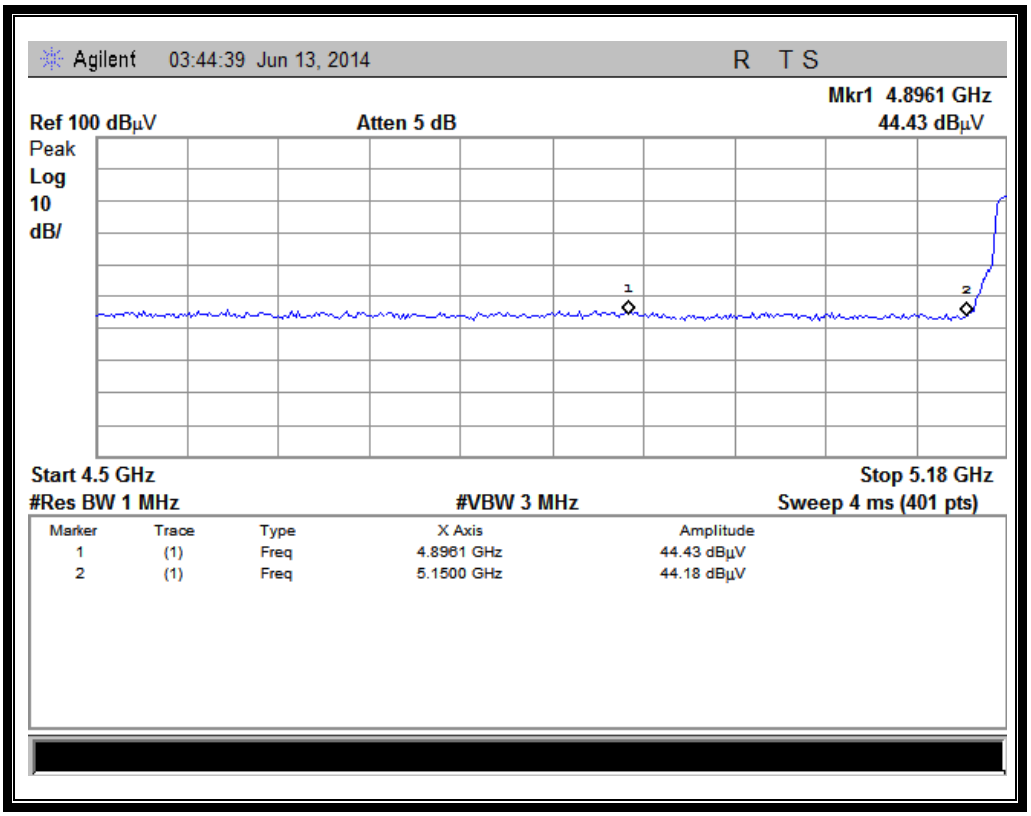
ANT 3

A. Test Verdict:

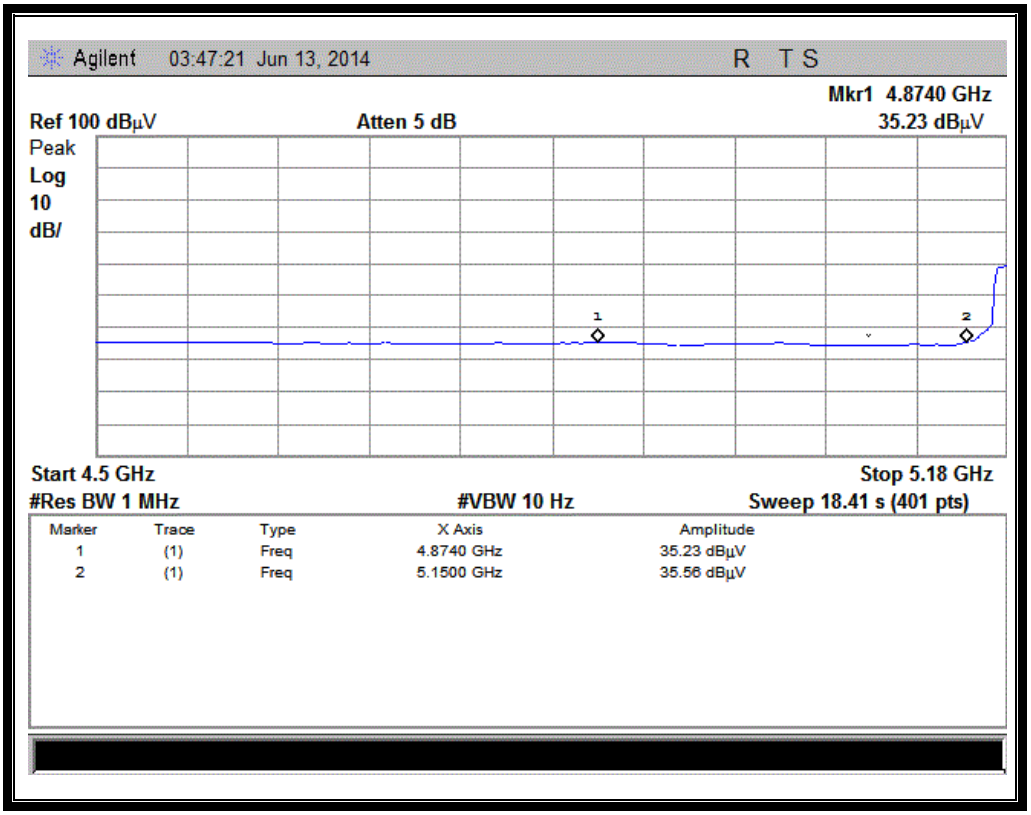
Channel	Frequency (MHz)	Detector PK/ AV	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBµV/m)	Limit (dBµV/m)	Verdict
36	4896.10	PK	44.43	-43.13	32.11	33.41	74	Pass
36	4874.00	AV	35.23	-43.13	32.11	23.91	54	Pass
64	5393.15	PK	43.89	-42.79	31.69	32.79	74	Pass
64	5350.00	AV	33.91	-42.79	31.69	22.81	54	Pass

Channel	Frequency (MHz)	Detector	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		PK/ AV						
100	5422.38	PK	44.41	-42.79	31.69	33.31	74	Pass
100	5260.00	AV	33.84	-42.79	31.69	22.74	54	Pass
140	5771.60	PK	44.36	-42.79	31.69	33.26	74	Pass
140	5795.00	AV	34.33	-42.79	31.69	23.23	54	Pass

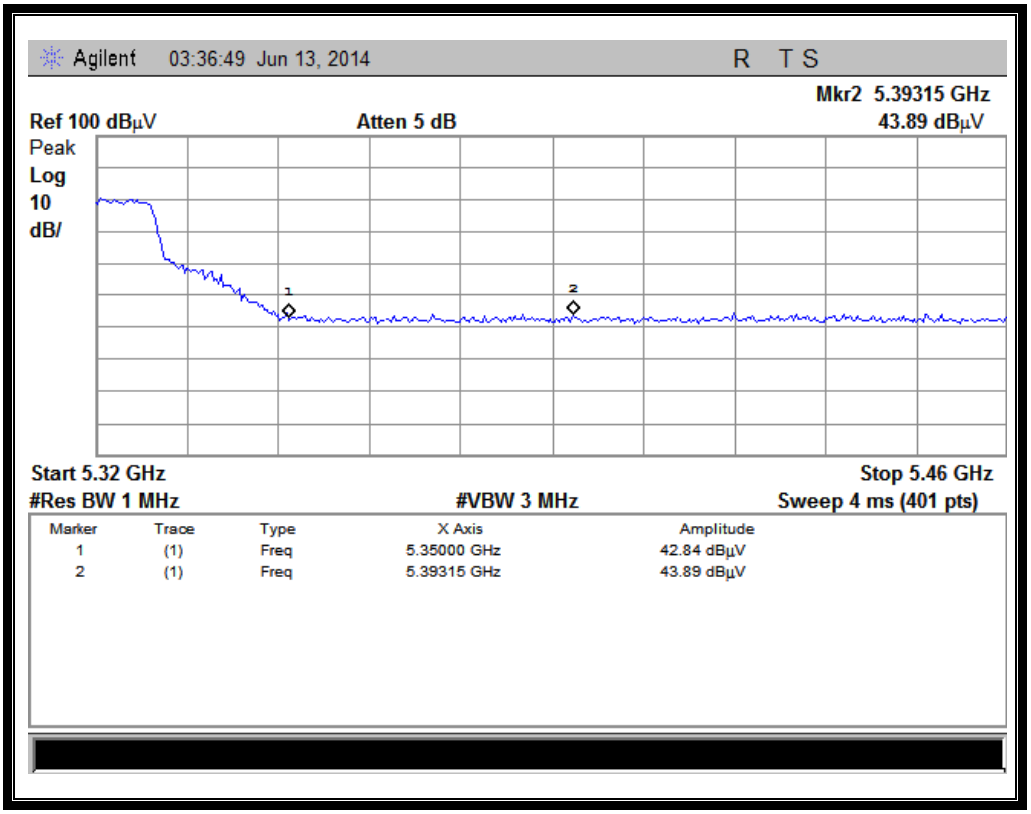
B. Test Plots:



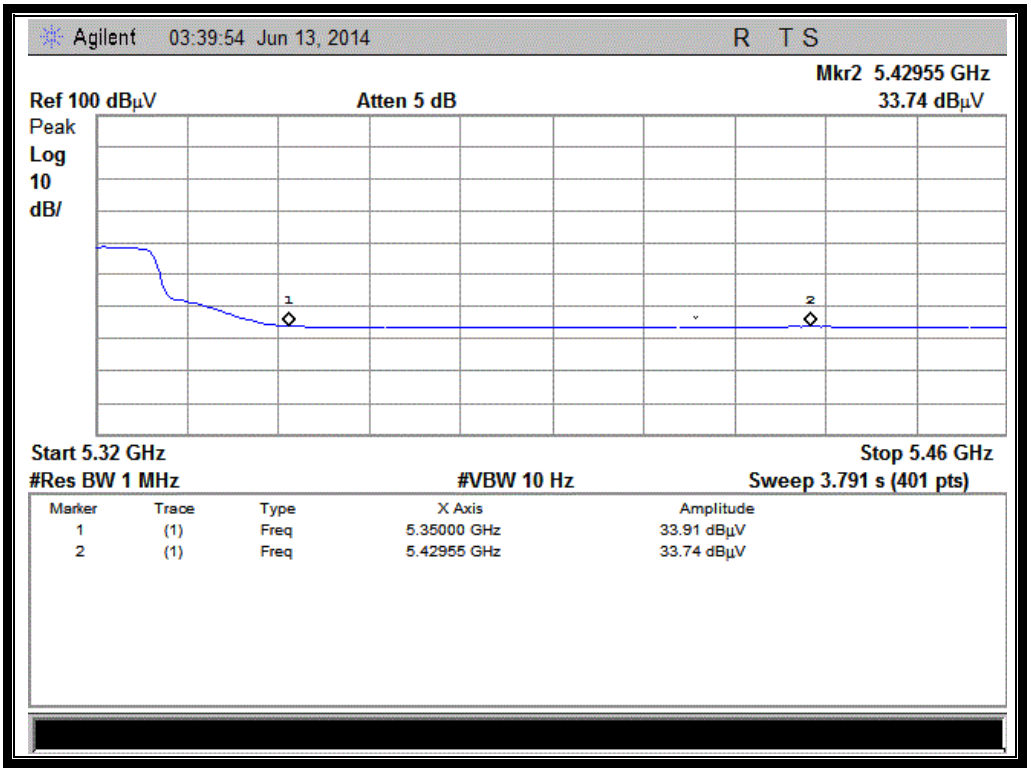
(Channel = 36 PEAK @ 802.11n-20MHz)



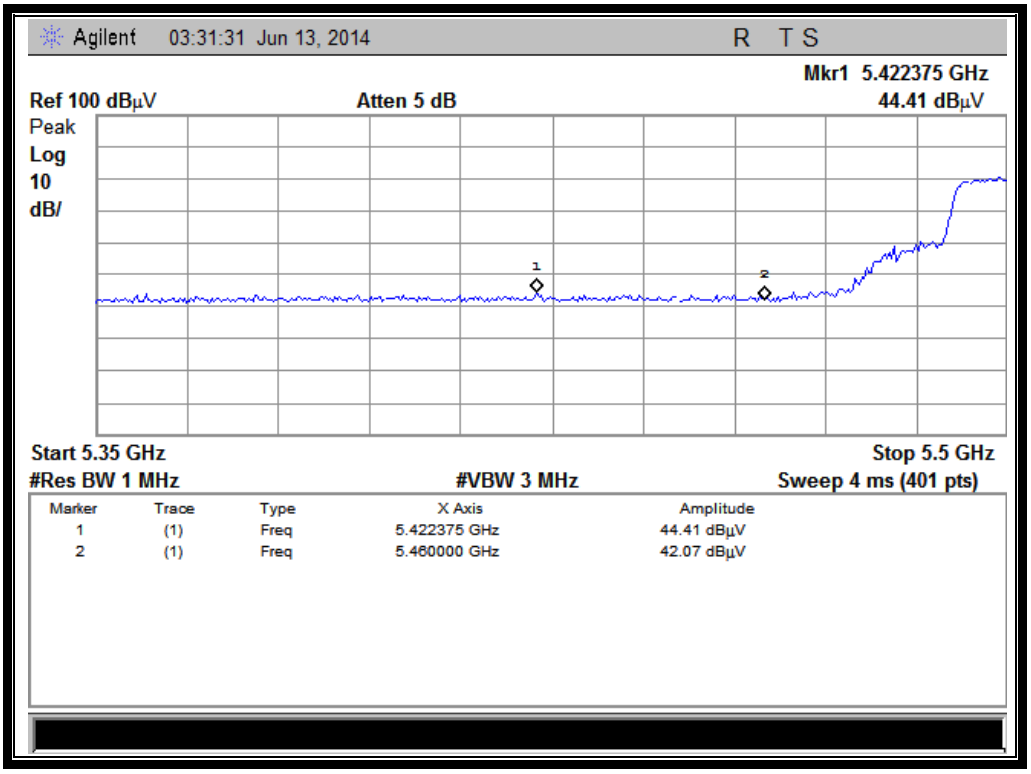
(Channel = 36 AVG @ 802.11n-20MHz)



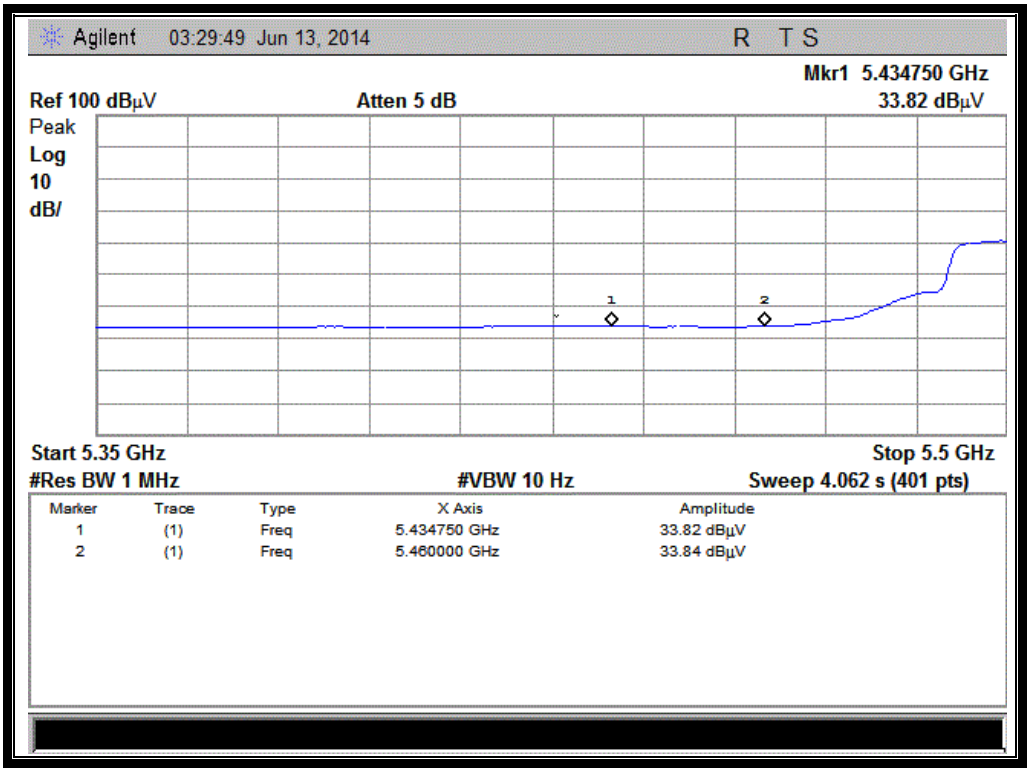
(Channel = 64 PEAK @ 802.11n-20MHz)



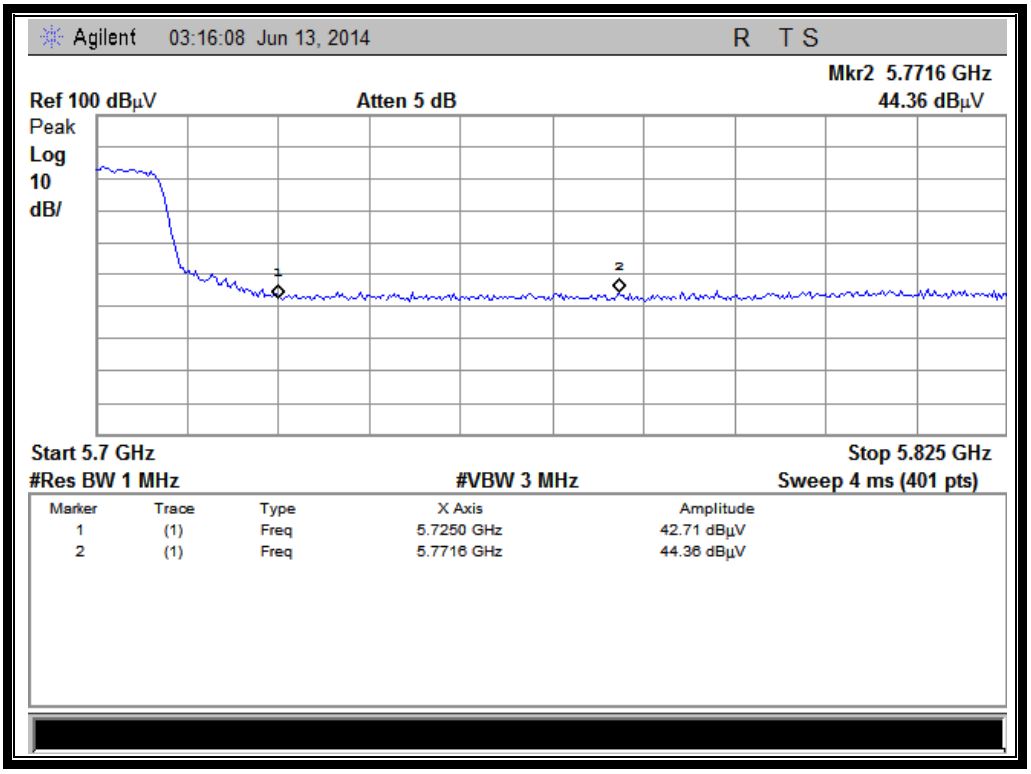
(Channel = 64 AVG @ 802.11n-20MHz))



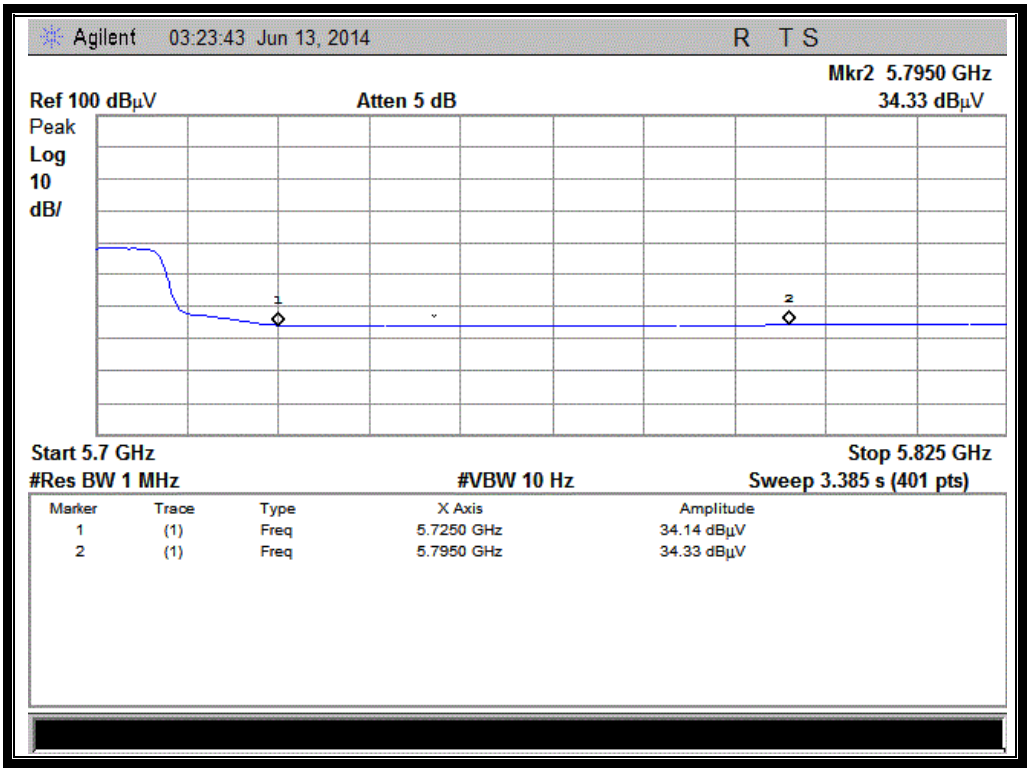
(Channel = 100 PEAK @ 802.11n-20MHz))



(Channel = 100 AVG @ 802.11n-20MHz))



(Channel = 140 PEAK @ 802.11n-20MHz))



(Channel = 140 AVG @ 802.11n-20MHz)

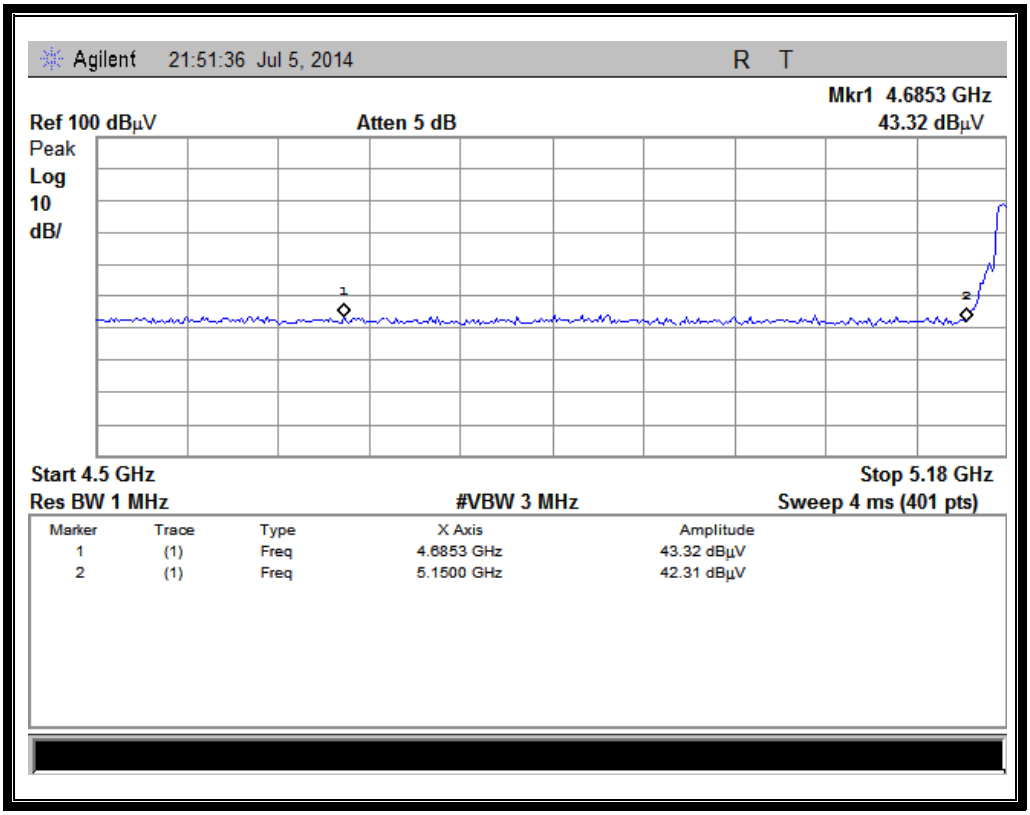
ANT 4

A. Test Verdict:

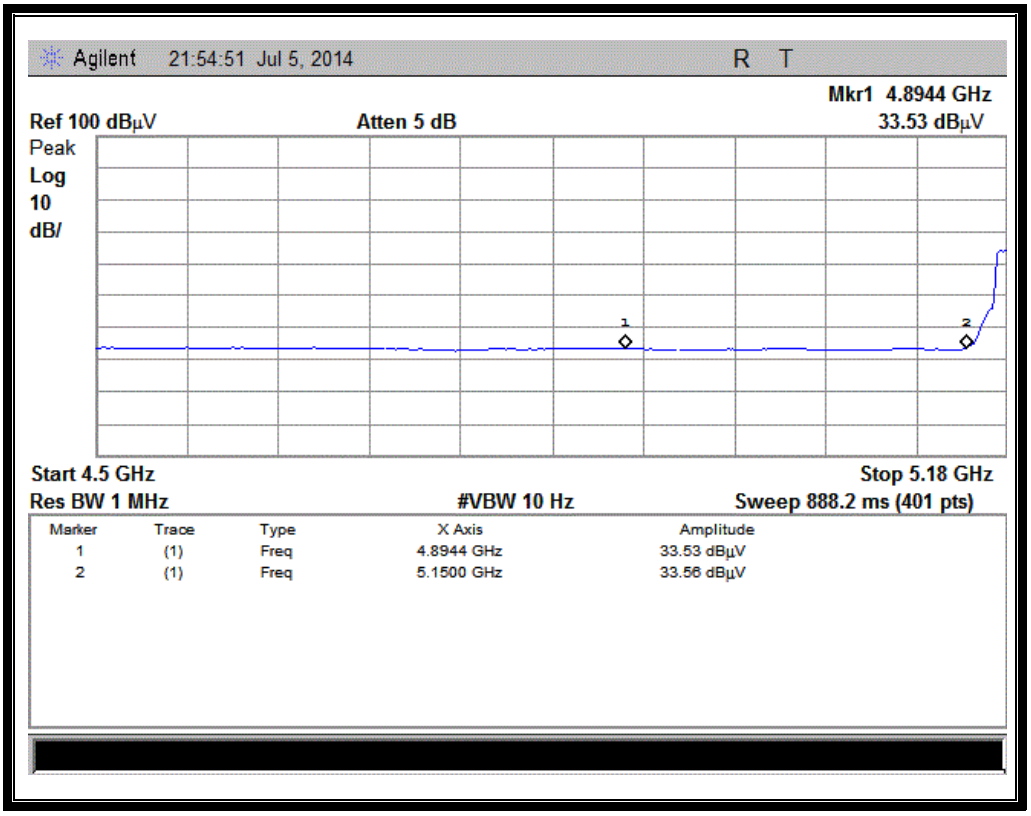
Channel	Frequency (MHz)	Detector PK/ AV	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBµV/m)	Limit (dBµV/m)	Verdict
36	4685.30	PK	43.32	-43.13	32.11	32.30	74	Pass
36	5150.00	AV	33.56	-43.13	32.11	22.54	54	Pass
64	5395.95	PK	43.30	-42.79	31.69	32.20	74	Pass
64	5350.00	AV	33.96	-42.79	31.69	22.86	54	Pass
100	5437.00	PK	42.87	-42.79	31.69	31.77	74	Pass
100	5401.75	AV	32.33	-42.79	31.69	21.23	54	Pass

Channel	Frequency (MHz)	Detector	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		PK/ AV						
140	5754.10	PK	41.94	-42.79	31.69	30.84	74	Pass
140	5751.60	AV	32.56	-42.79	31.69	21.46	54	Pass

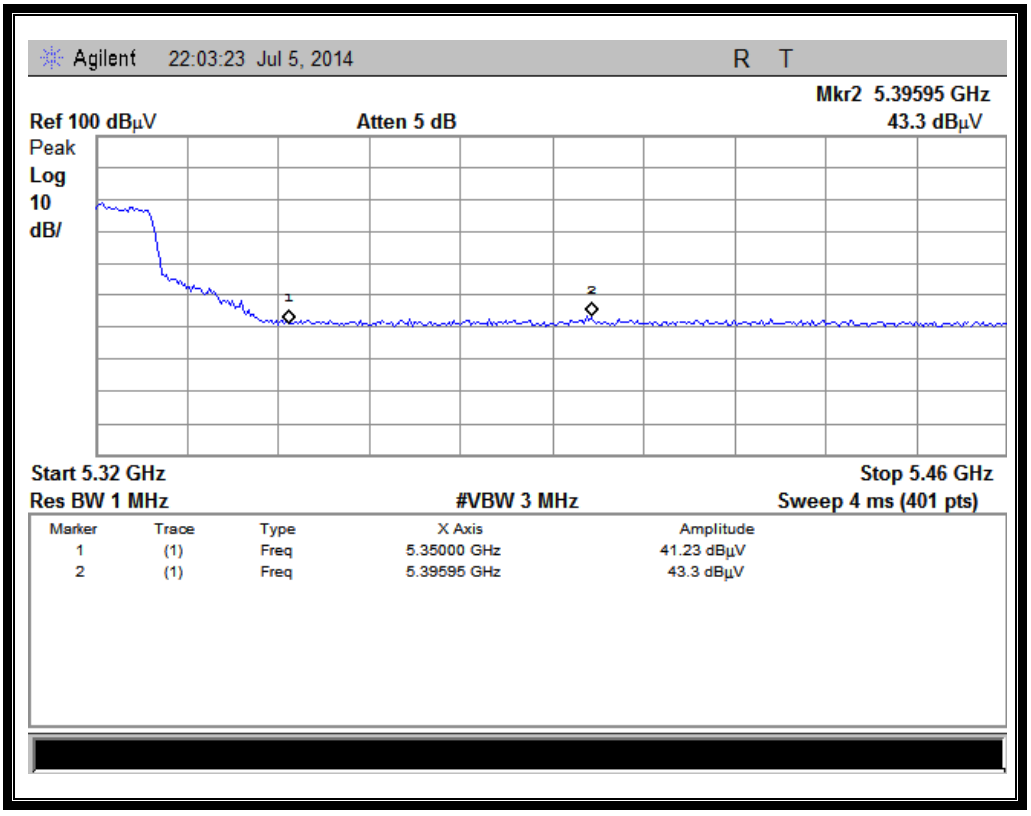
B. Test Plots:



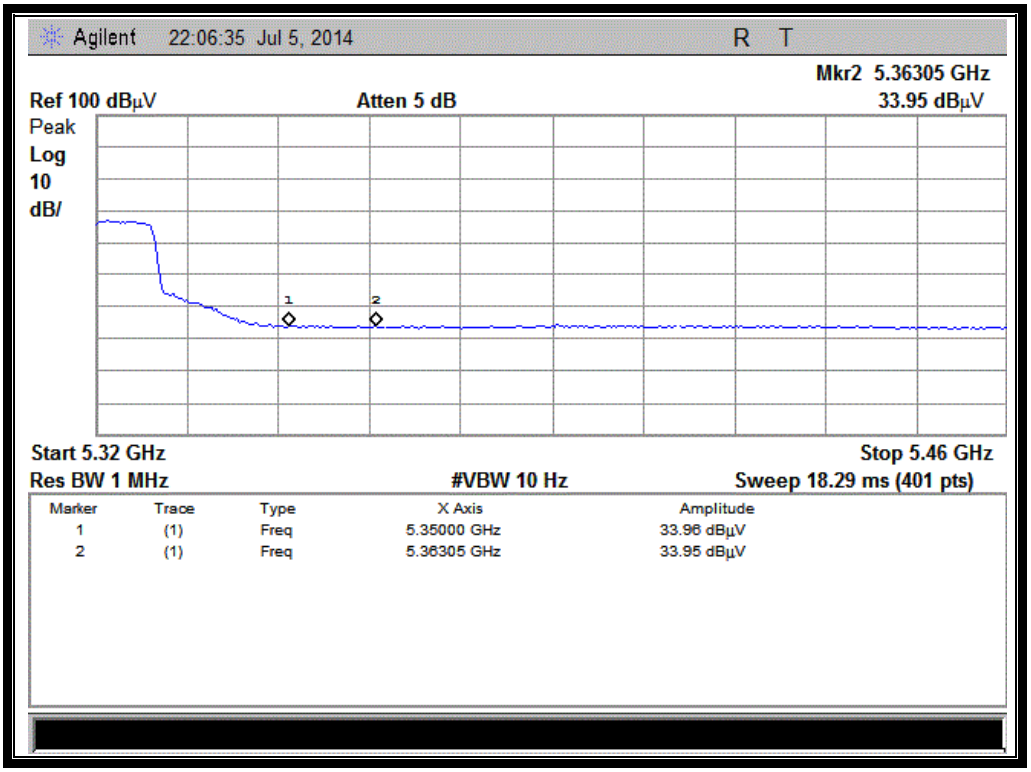
(Channel = 36 PEAK @ 802.11n-20MHz)



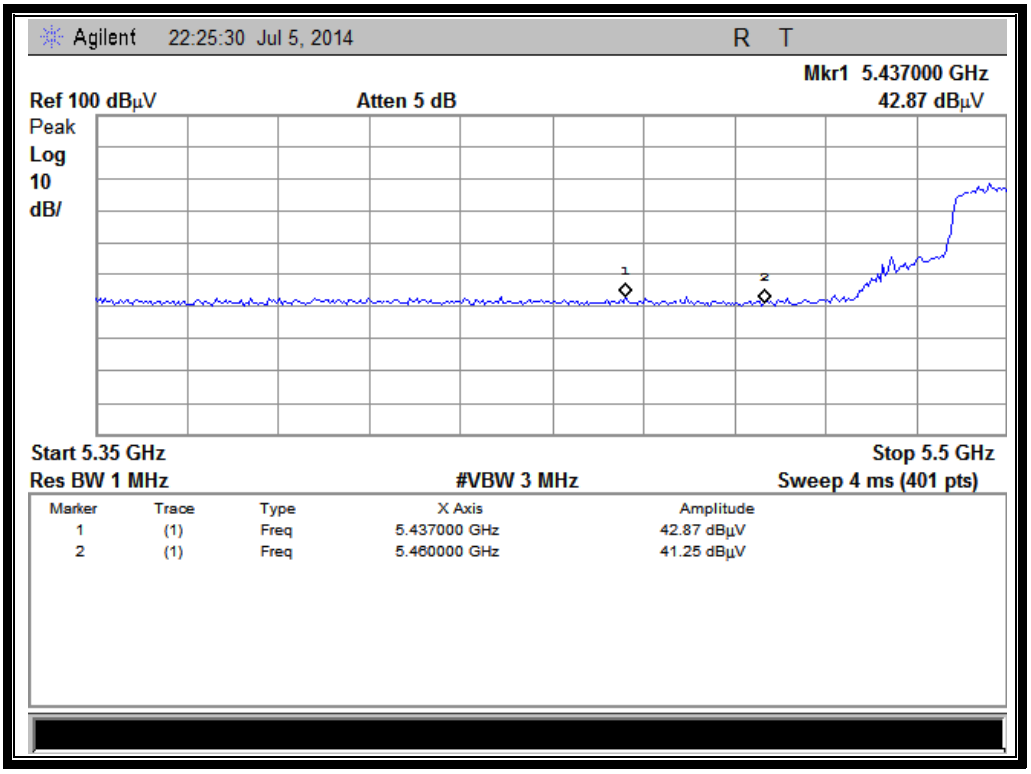
(Channel = 36 AVG @ 802.11n-20MHz)



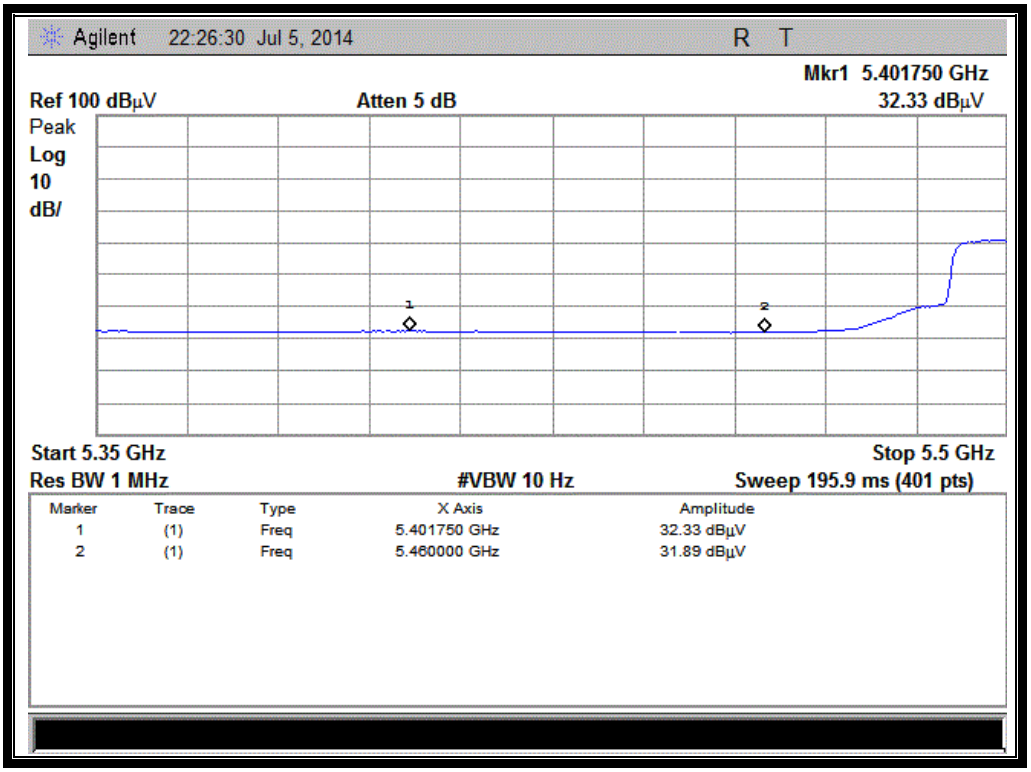
(Channel = 64 PEAK @ 802.11n-20MHz)



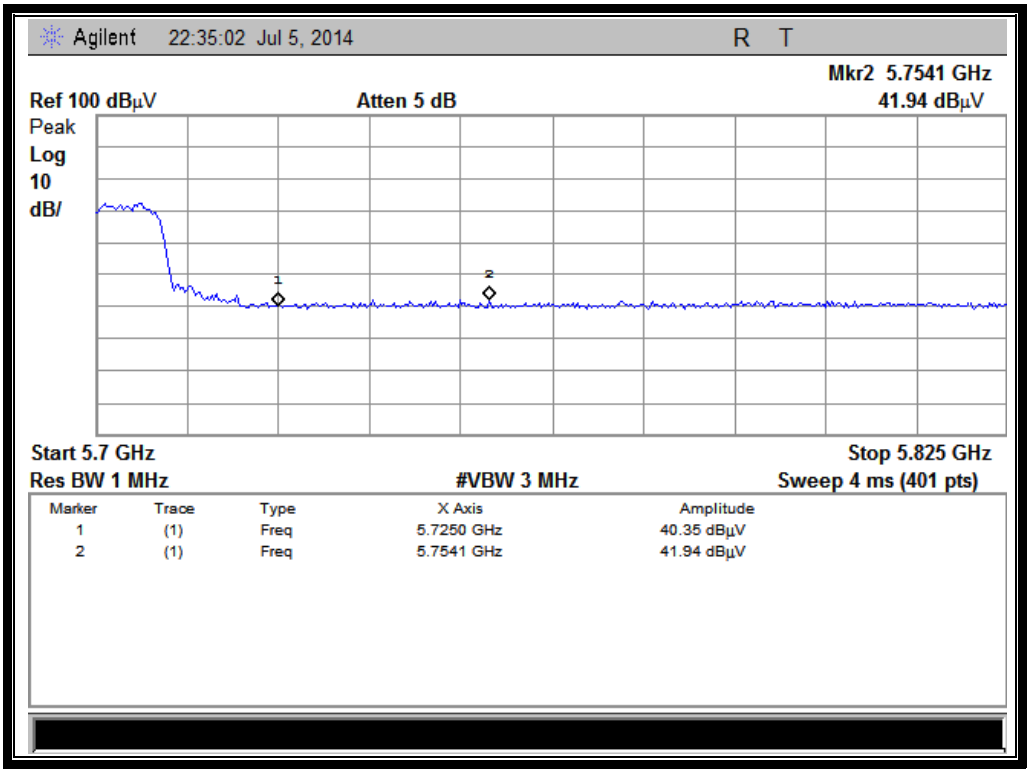
(Channel = 64 AVG @ 802.11n-20MHz))



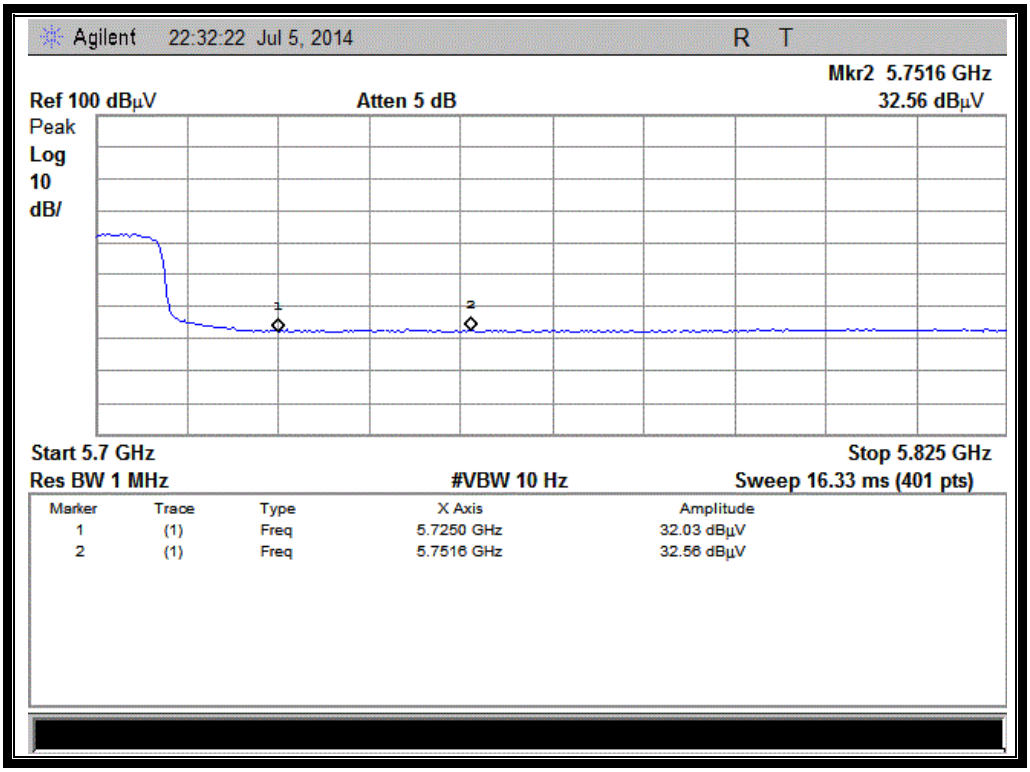
(Channel = 100 PEAK @ 802.11n-20MHz))



(Channel = 100 AVG @ 802.11n-20MHz))



(Channel = 140 PEAK @ 802.11n-20MHz))



(Channel = 140 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.

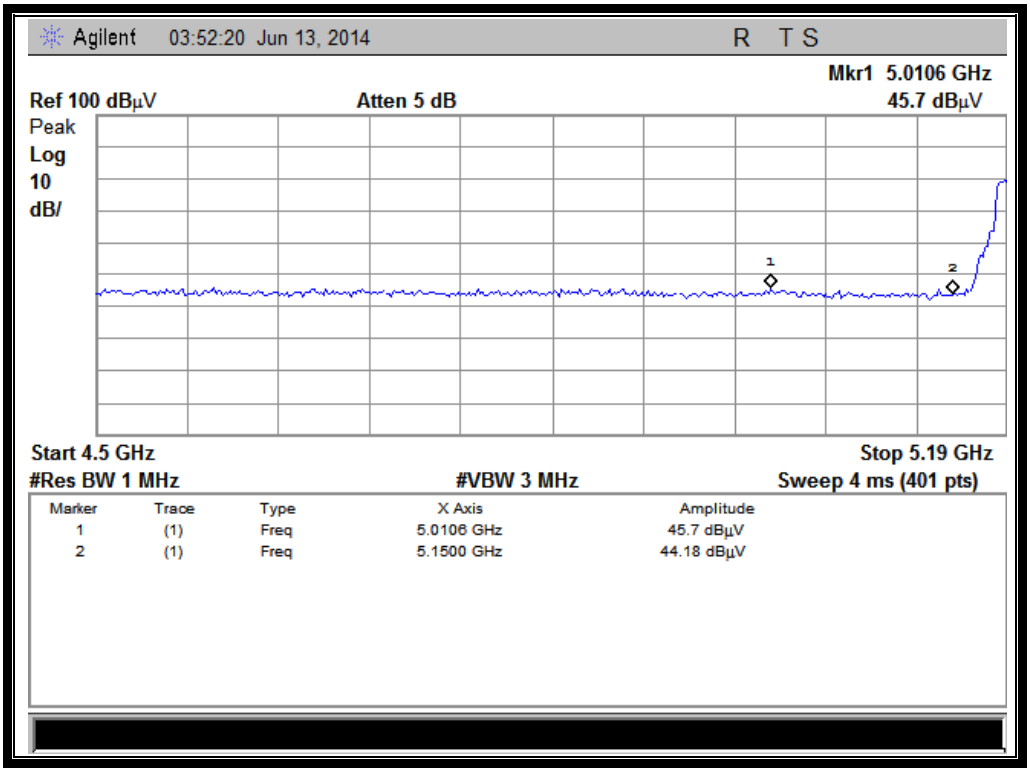
ANT 3

A. Test Verdict:

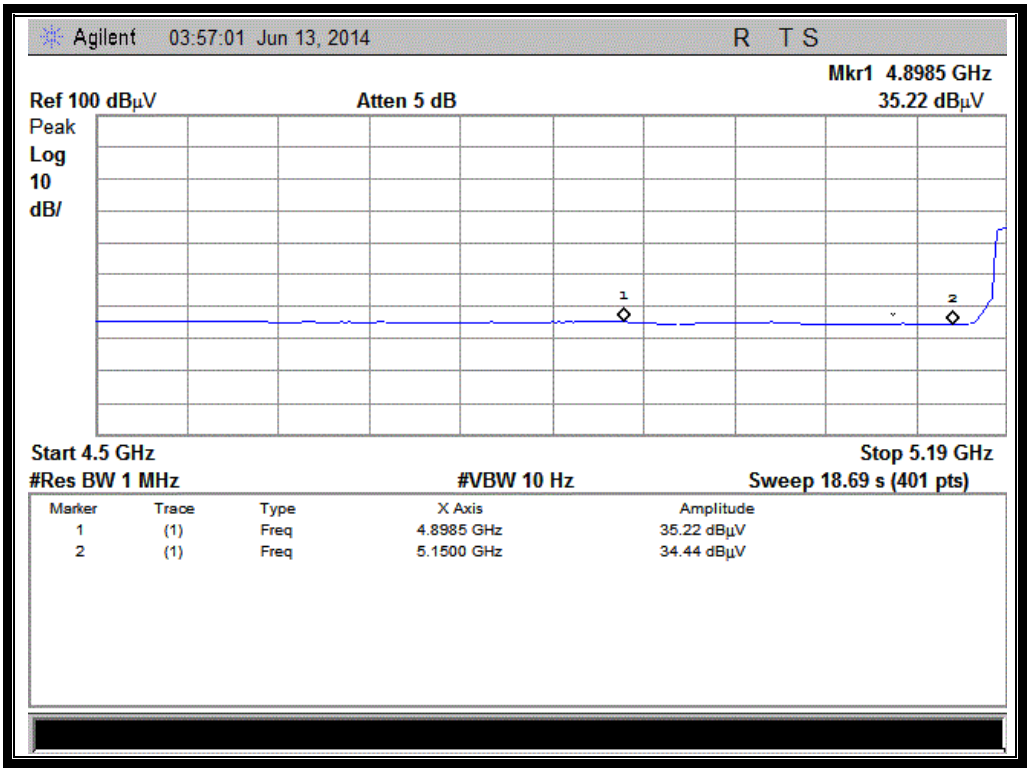
Channel	Frequency (MHz)	Detector PK/ AV	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBµV/m)	Limit (dBµV/m)	Verdict
38	5010.60	PK	45.70	-43.13	32.11	34.68	74	Pass
38	4898.50	AV	35.22	-43.13	32.11	24.20	54	Pass
62	5384.63	PK	43.33	-42.79	31.69	32.23	74	Pass
62	5387.63	AV	33.76	-42.79	31.69	22.66	54	Pass

Channel	Frequency (MHz)	Detector	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBµV/m)	Limit (dBµV/m)	Verdict
		PK/ AV						
102	5457.25	PK	49.76	-42.79	31.69	38.66	74	Pass
102	5457.63	AV	36.31	-42.79	31.69	25.21	54	Pass

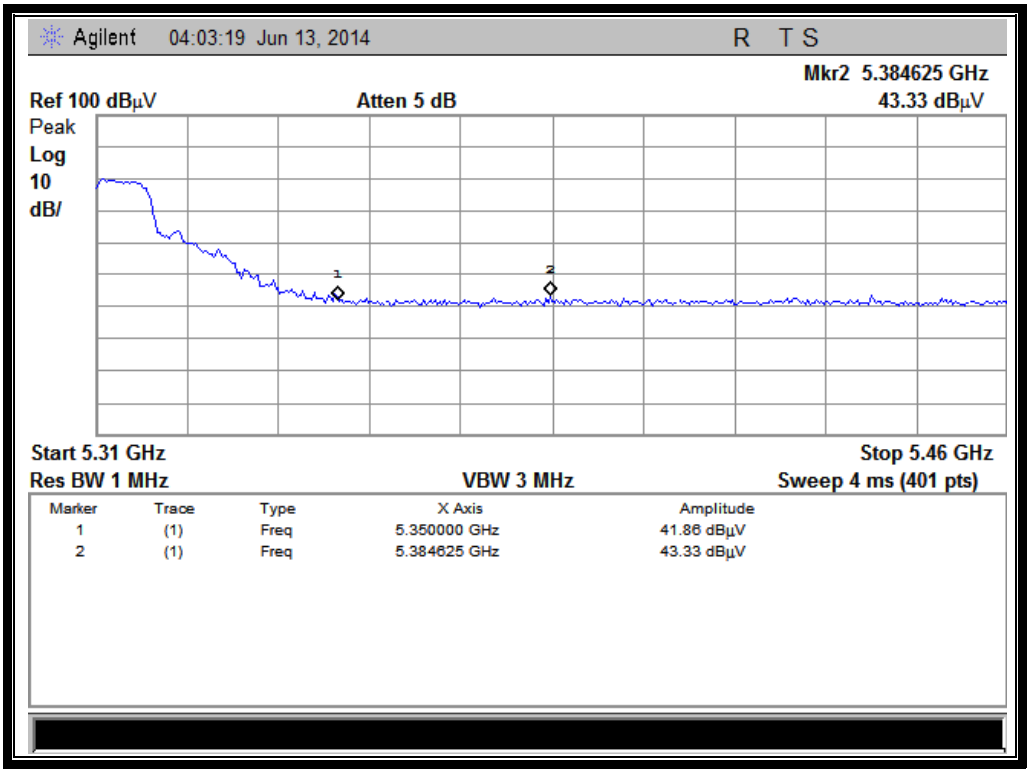
B. Test Plots:



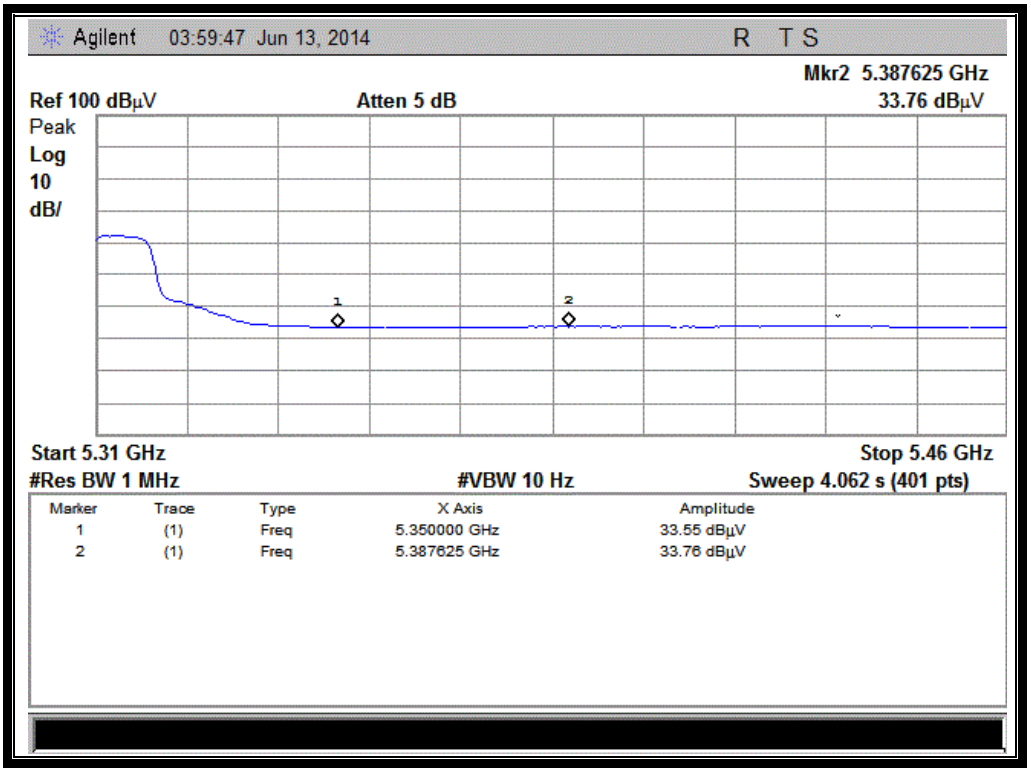
(Channel = 38 PEAK @ 802.11n-40MHz)



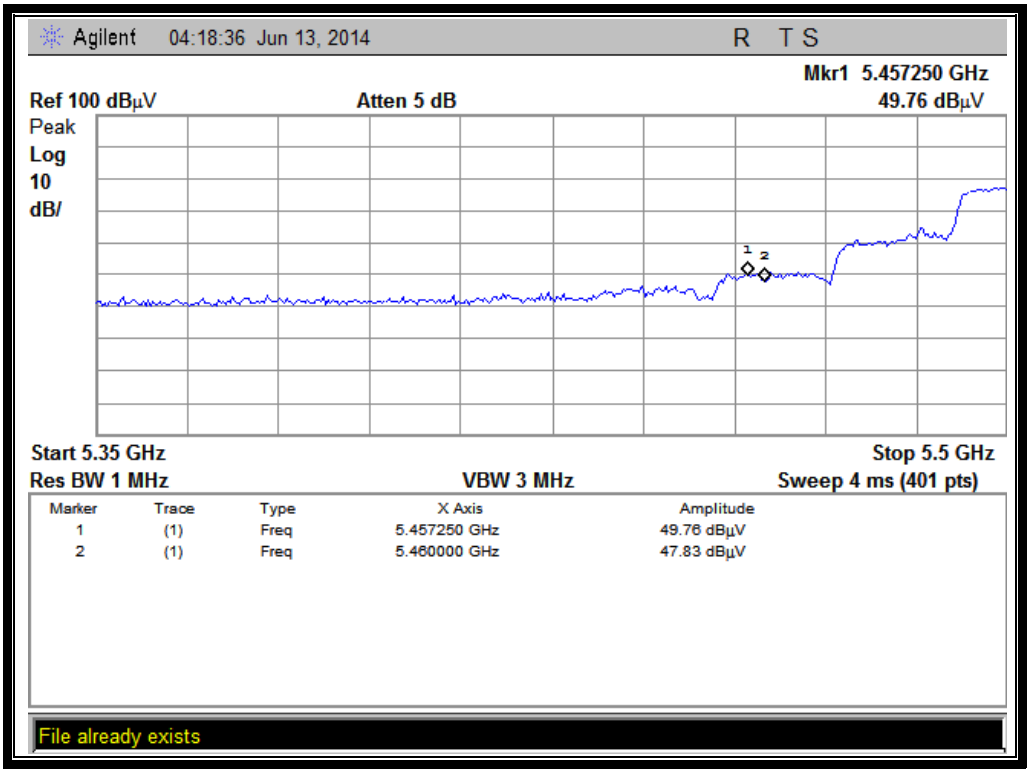
(Channel = 38 AVG @ 802.11n-40MHz)



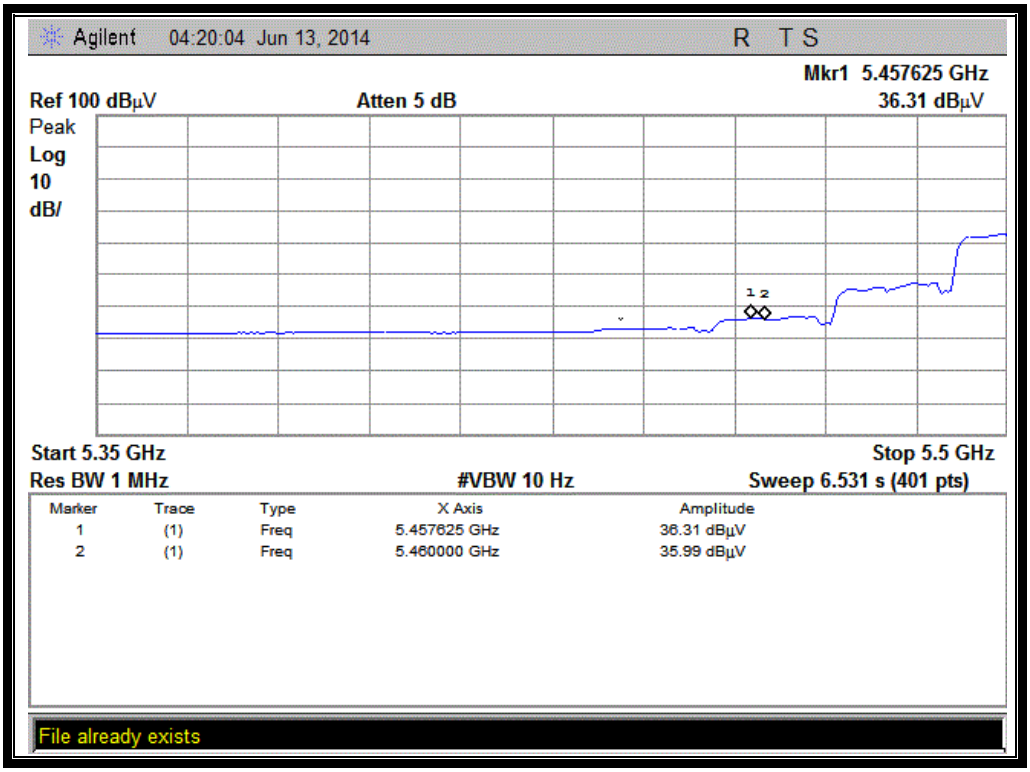
(Channel = 62 PEAK @ 802.11n-40MHz)



(Channel = 62 AVG @ 802.11n-40MHz)



(Channel = 102 PEAK @ 802.11n-40MHz)



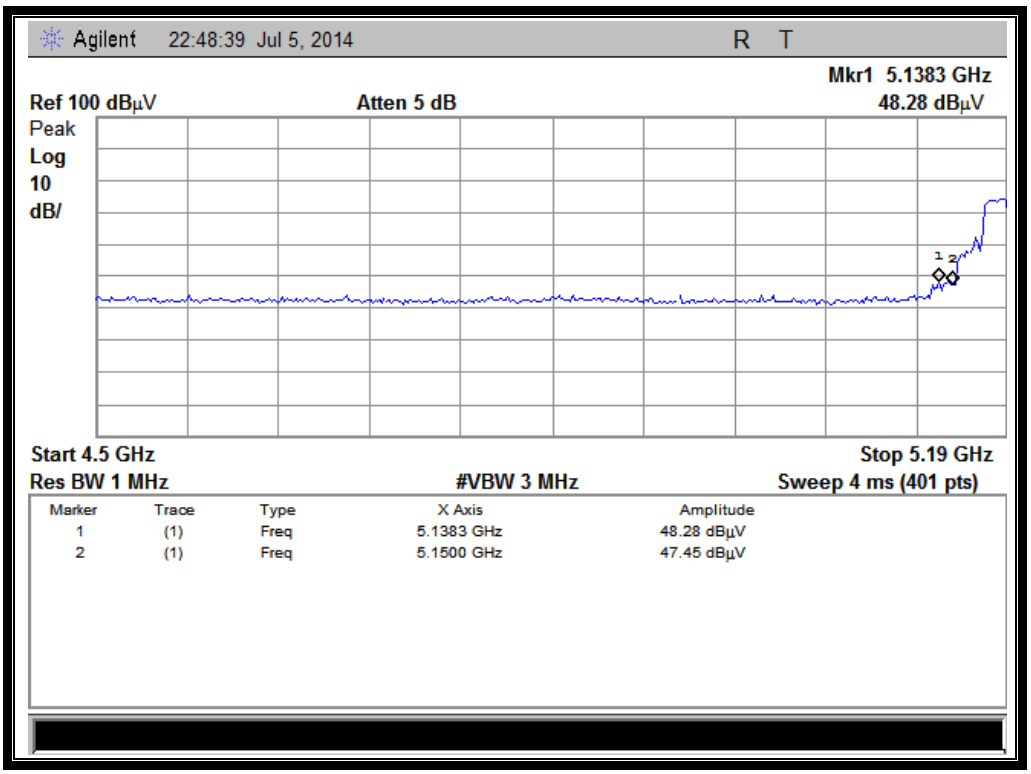
(Channel = 102 AVG @ 802.11n-40MHz)

ANT 4

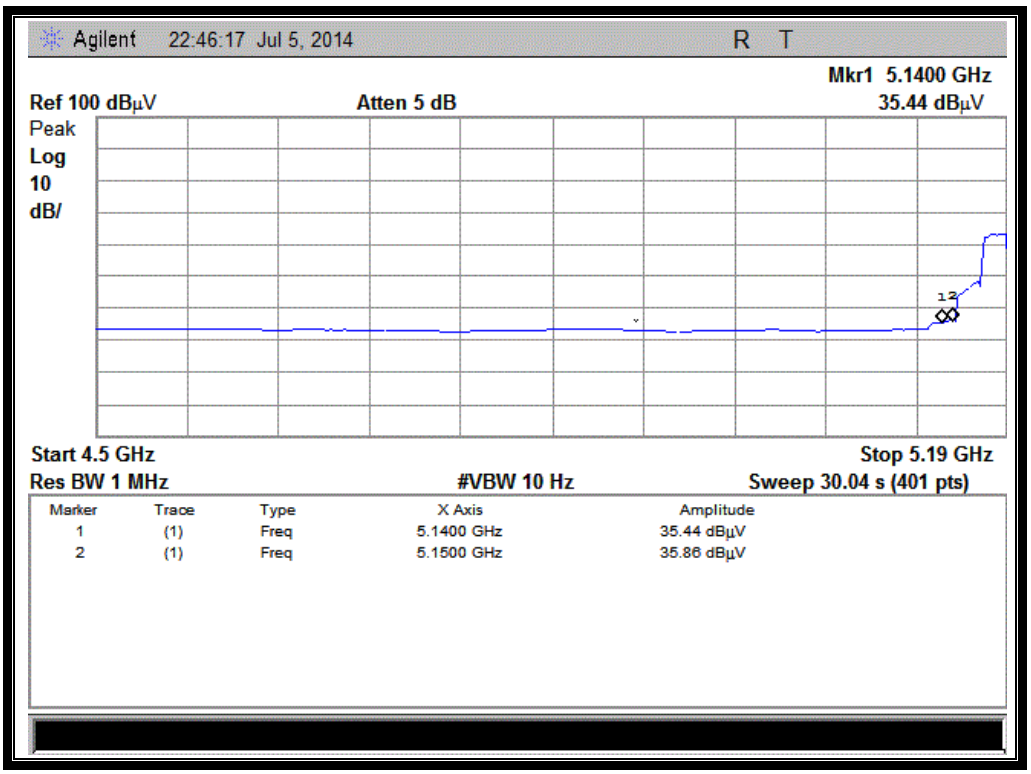
A. Test Verdict:

Channel	Frequency (MHz)	Detector PK/ AV	Receiver Reading UR (dBuV)	AT (dB)	AFactor (dB@3m)	Max. Emission E (dBµV/m)	Limit (dBµV/m)	Verdict
38	5138.30	PK	48.28	-43.13	32.11	37.26	74	Pass
38	5150.00	AV	35.86	-43.13	32.11	24.84	54	Pass
62	5352.75	PK	49.94	-42.79	31.69	38.84	74	Pass
62	5352.38	AV	37.94	-42.79	31.69	26.84	54	Pass
102	5458.00	PK	47.16	-42.79	31.69	36.06	74	Pass
102	5458.38	AV	36.23	-42.79	31.69	25.13	54	Pass

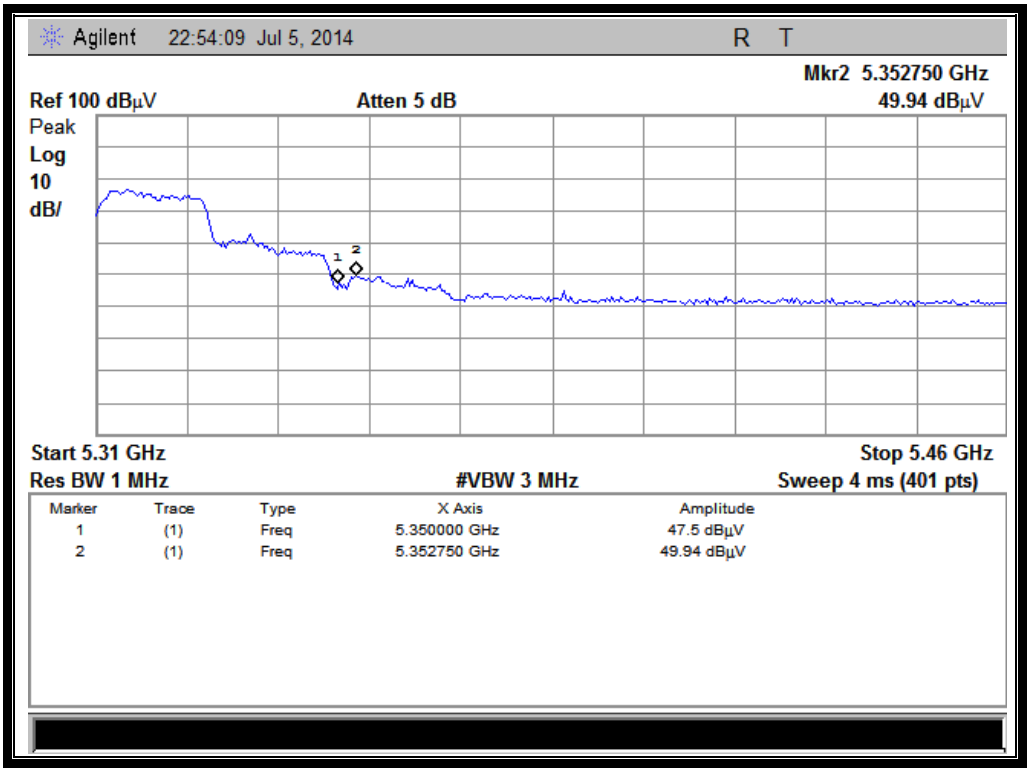
B. Test Plots:



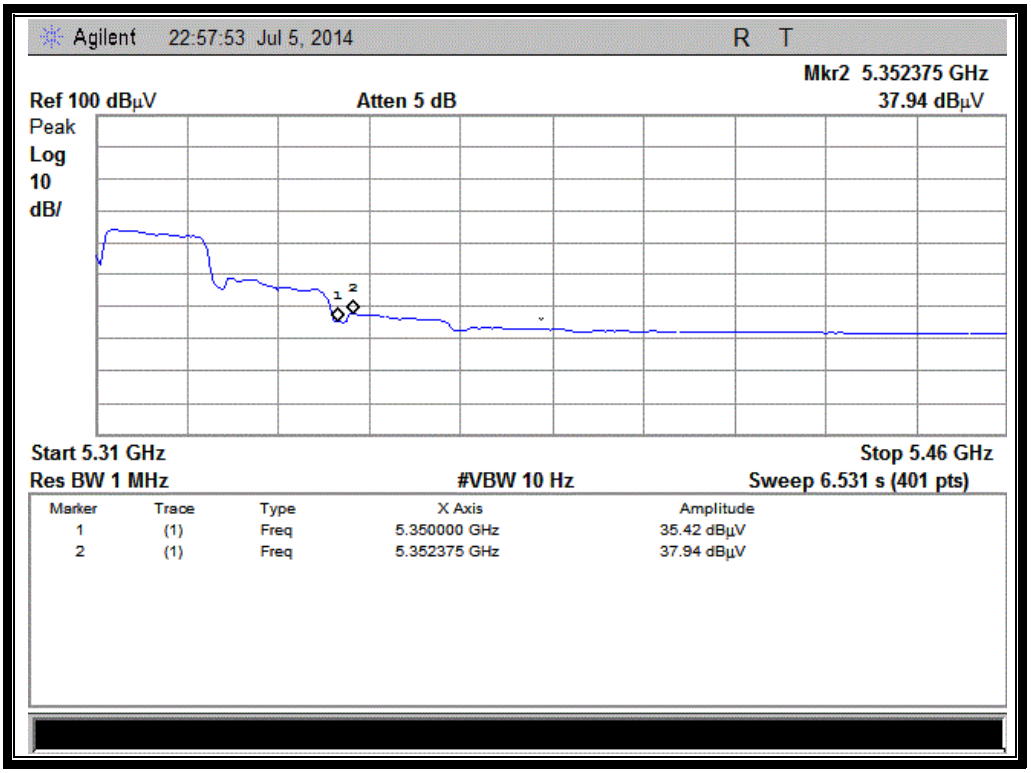
(Channel = 38 PEAK @ 802.11n-40MHz)



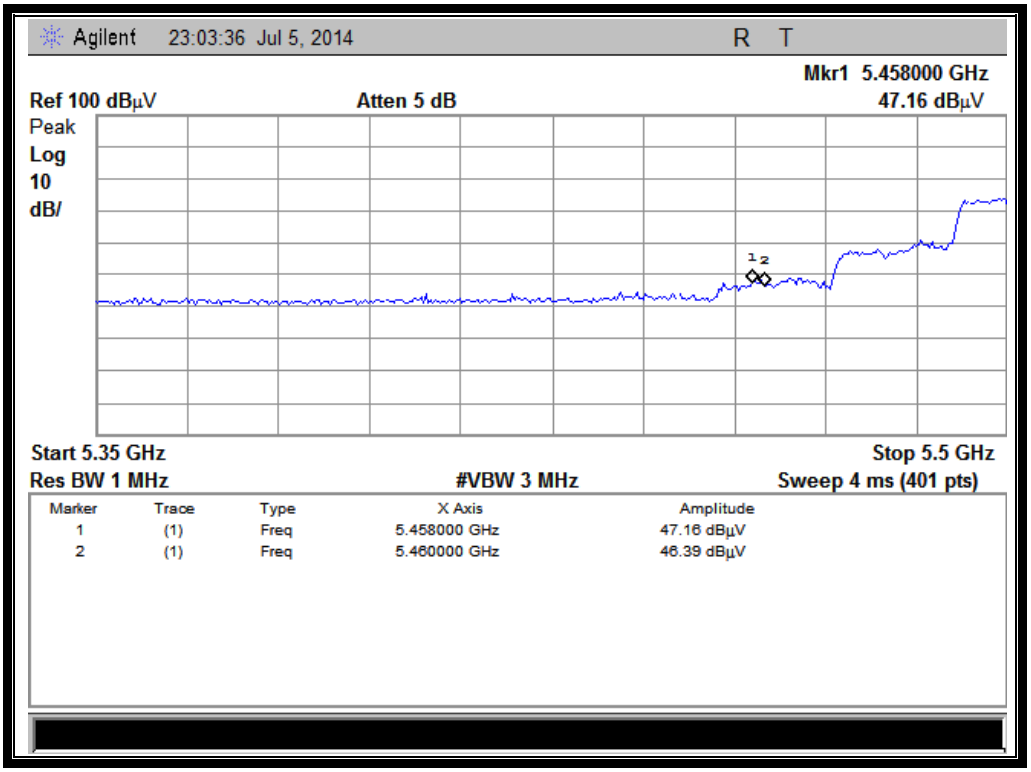
(Channel = 38 AVG @ 802.11n-40MHz)



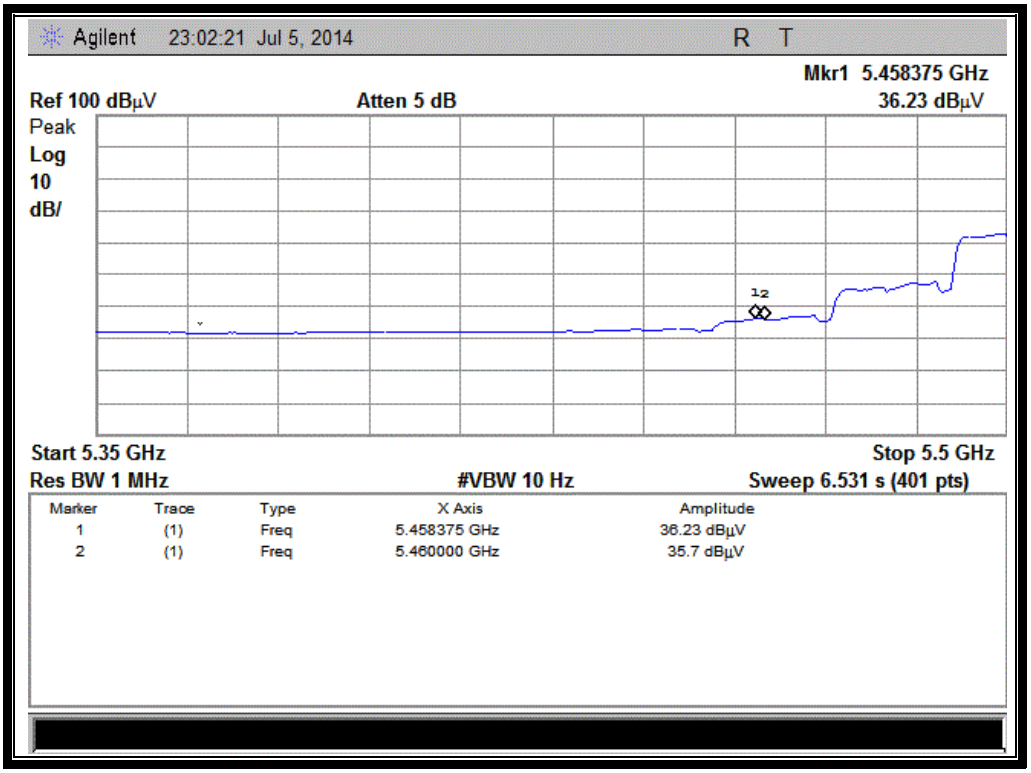
(Channel = 62 PEAK @ 802.11n-40MHz)



(Channel = 62 AVG @ 802.11n-40MHz)



(Channel = 102 PEAK @ 802.11n-40MHz)



(Channel = 102 AVG @ 802.11n-40MHz)

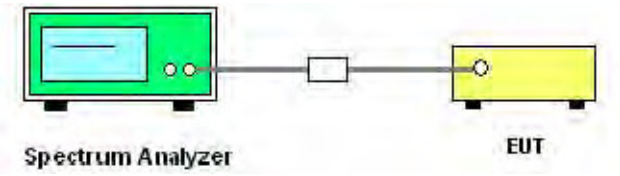
2.6. Conducted Band Edge

2.6.1. Requirement

Put the radio on the highest channel before 5600 MHz and make a conducted band edge measurement to show 20 dBc point. The 20 dBc point should be less than 5600 MHz. Put the radio on the first channel after 5650 MHz and make a conducted band edge measurement on the lower side to show that the 20 dBc point is above 5650 MHz. RBW = 100 kHz and VBW= 300 kHz with peak detector.

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

(1) Set RBW = 100 KHz. VBW ≥ 300 KHz. 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) Record the frequency of 20dBc point

C. Equipments List:

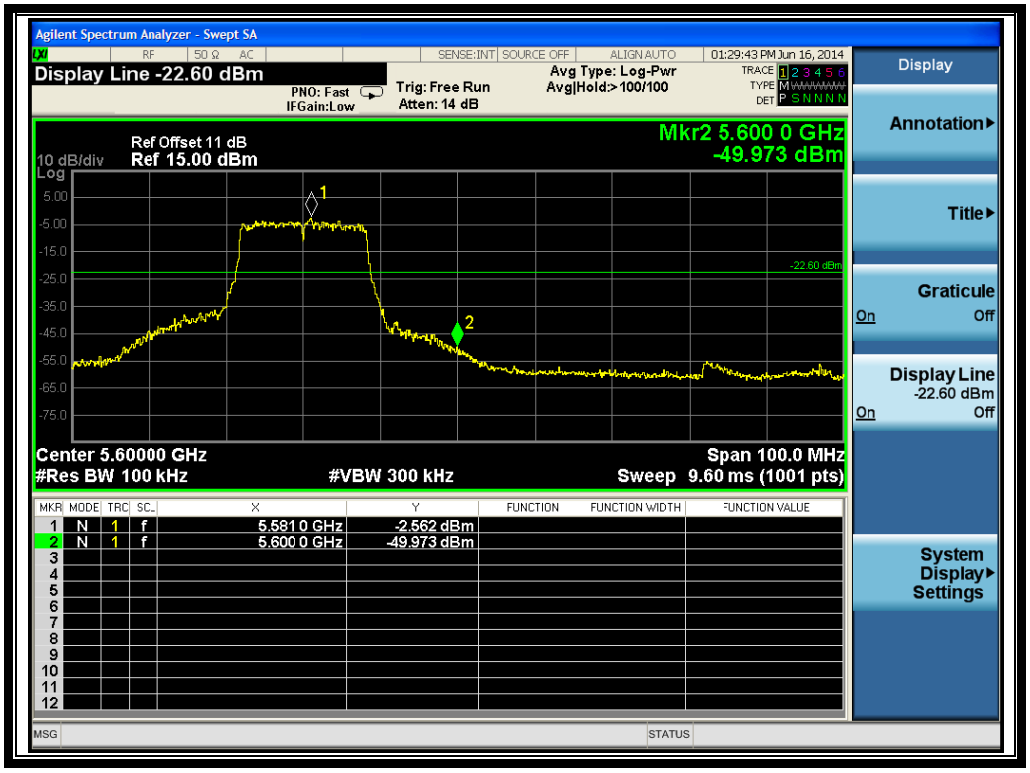
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2014.02.26	2015.02.25

2.6.3. Test Result

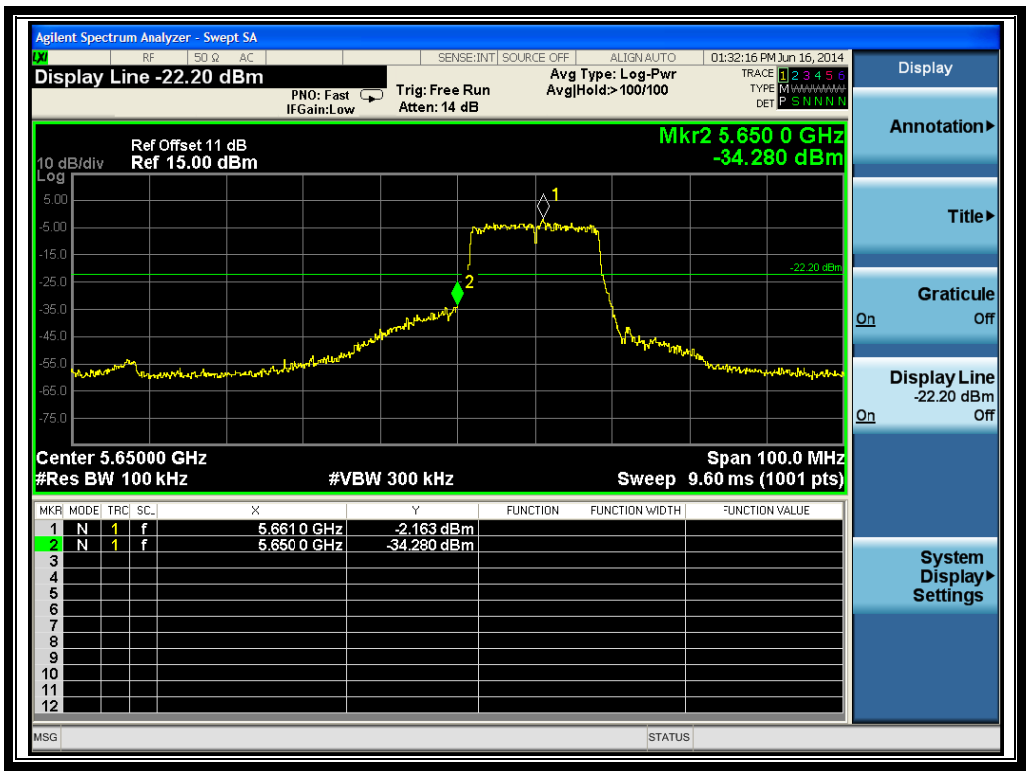
2.6.3.1. 802.11a Test mode

ANT 3

A. Test Plots:



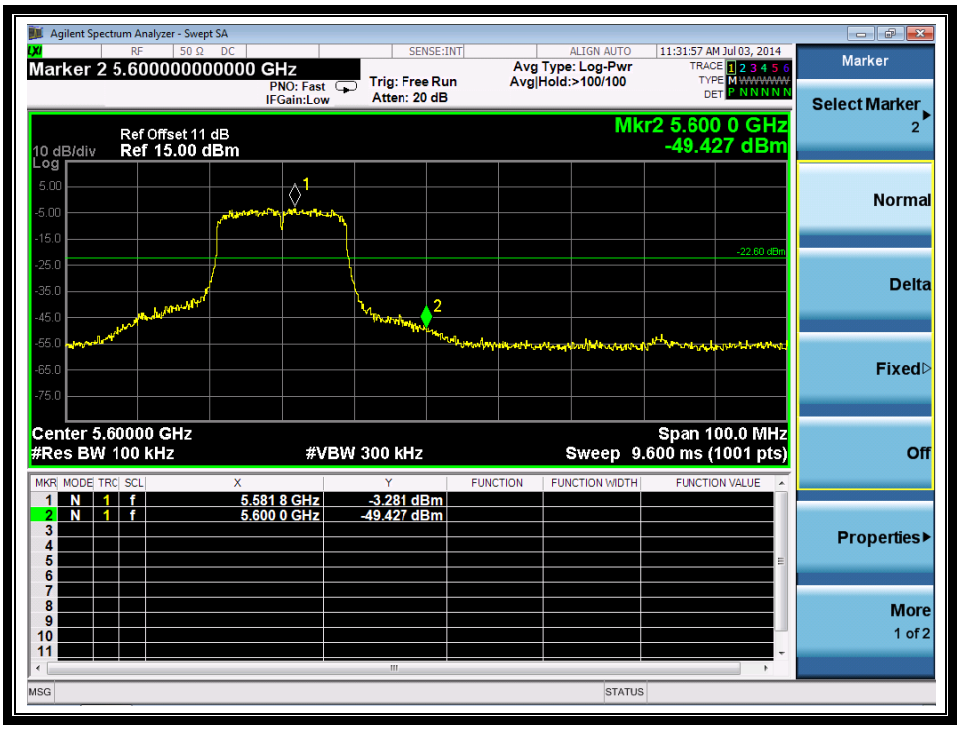
(Channel 116: 5580MHz @ 802.11a)



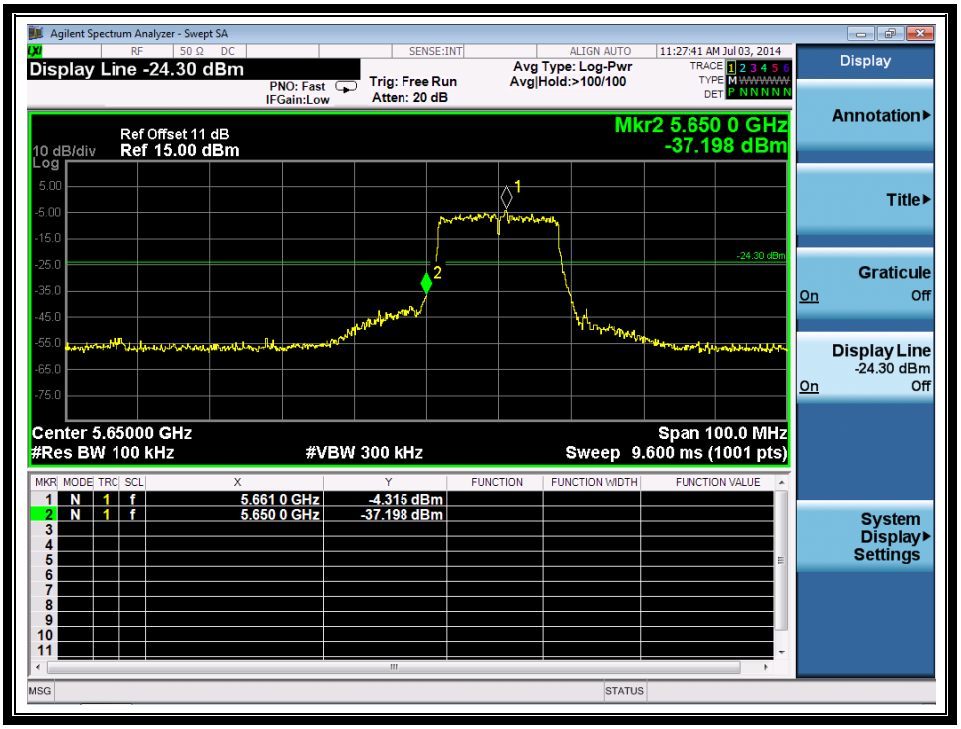
(Channel 132: 5660 MHz @ 802.11a)

ANT 4

A. Test Plots:



(Channel 116: 5580MHz @ 802.11a)



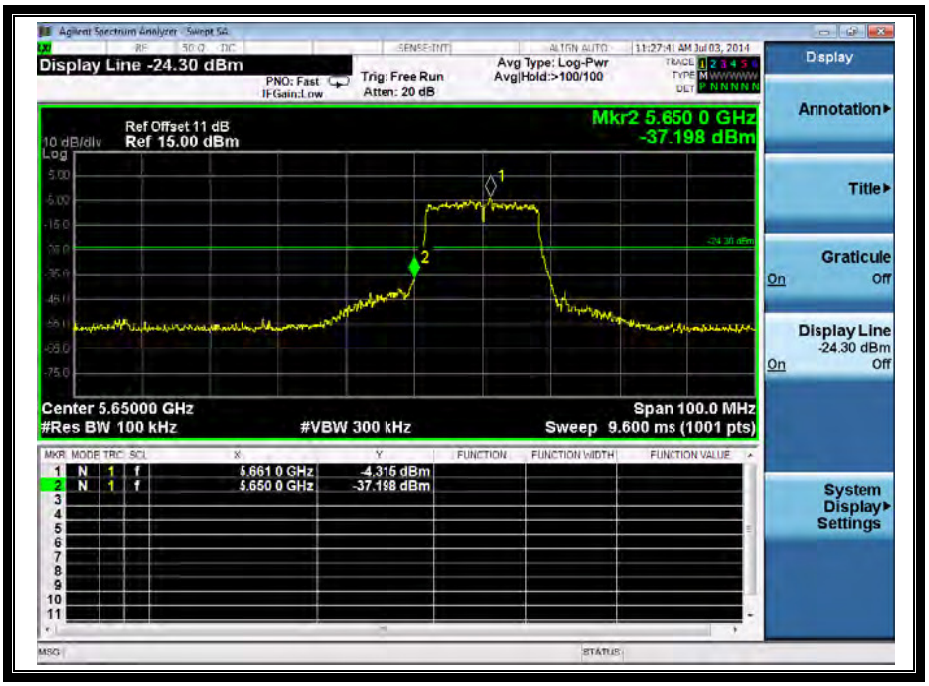
(Channel 132: 5660 MHz @ 802.11a)

2.6.3.2. 802.11n-20MHz Test mode

ANT 3

A. Test Plots:

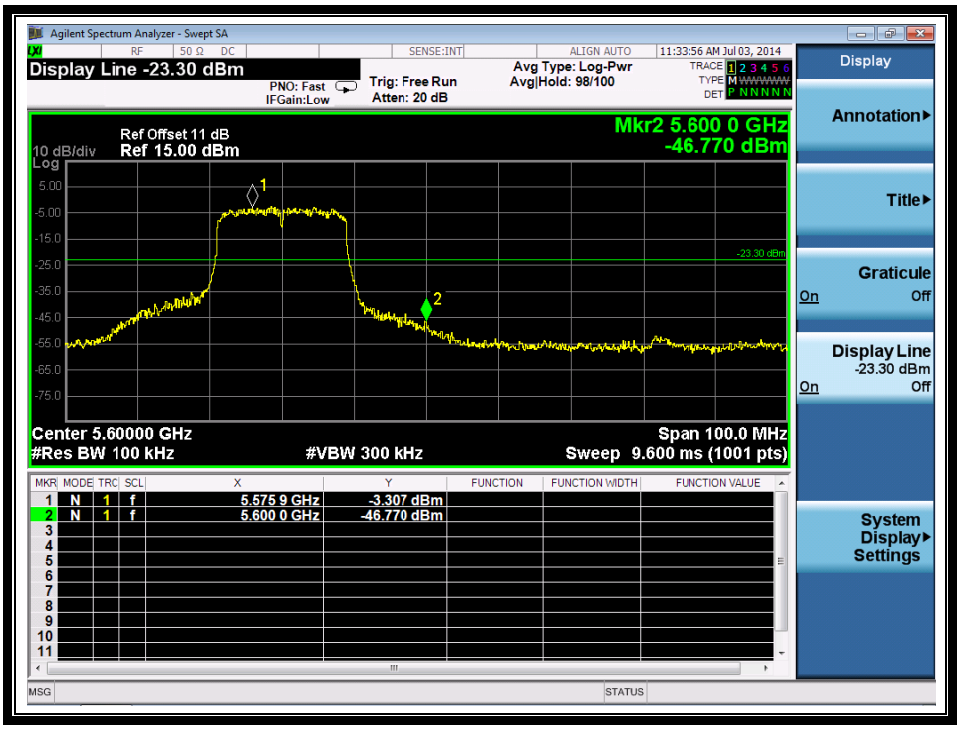
(Channel 116: 5580MHz @ 802.11n-20MHz)



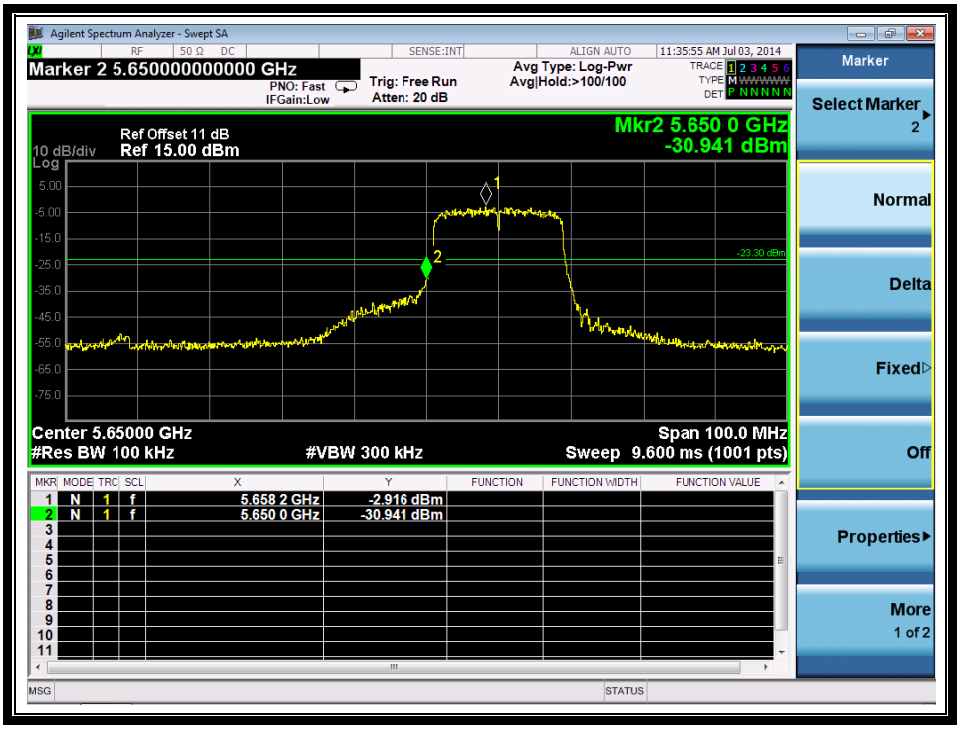
(Channel 132: 5660 MHz @ 802.11n-20MHz)

ANT 4

B. Test Plots:



(Channel 116: 5580MHz @ 802.11n-20MHz)



(Channel 132: 5660 MHz @ 802.11n-20MHz)

2.6.3.3. 802.11n-40MHz Test mode

ANT 3

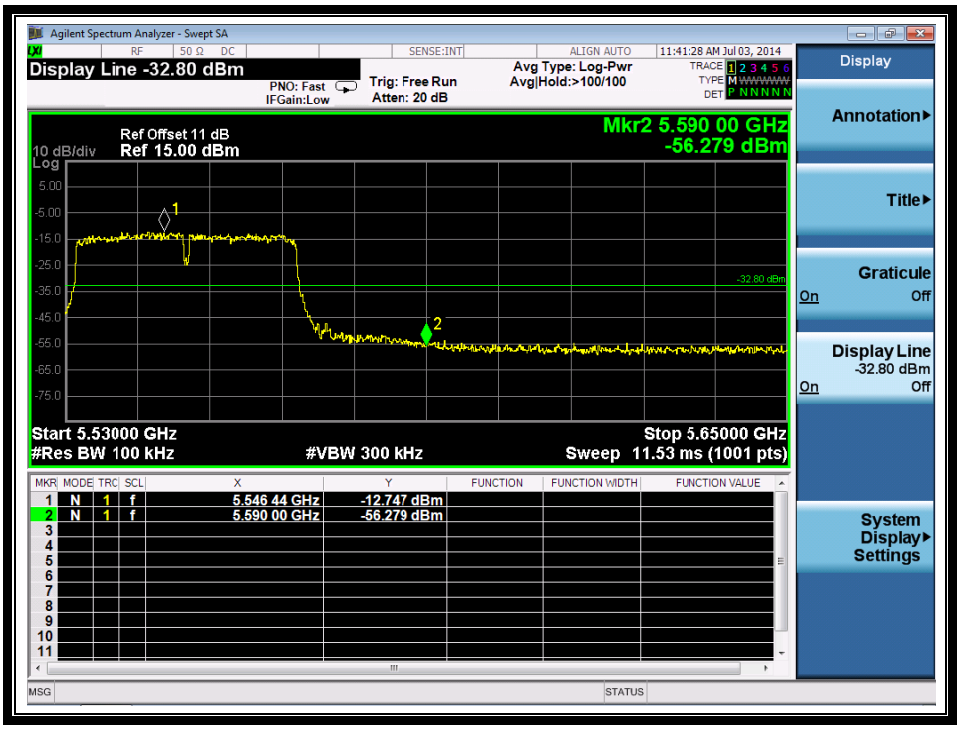
A. Test Plots:

(Channel 110: 5550MHz @ 802.11n-40MHz)

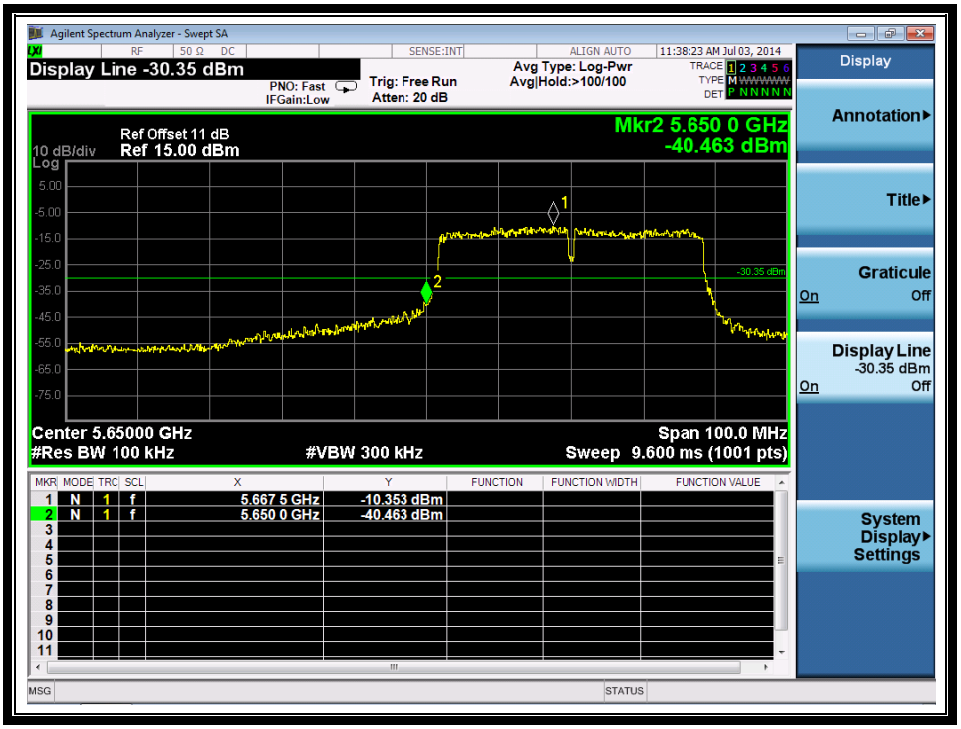
(Channel 134: 5670 MHz @ 802.11n-40MHz)

ANT 4

A. Test Plots:



(Channel 110: 5550MHz @ 802.11n-40MHz)



(Channel 134: 5670 MHz @ 802.11n-40MHz)

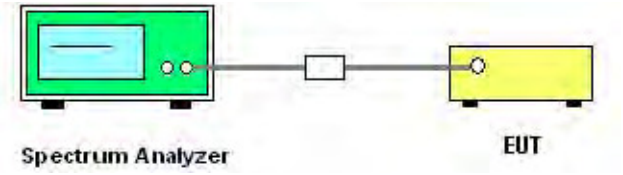
2.7. Peak Excursion

2.7.1. 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.

2.7.2. 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

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

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

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

(8) measure the PPSD.

(9) 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

2.7.3. Test Result

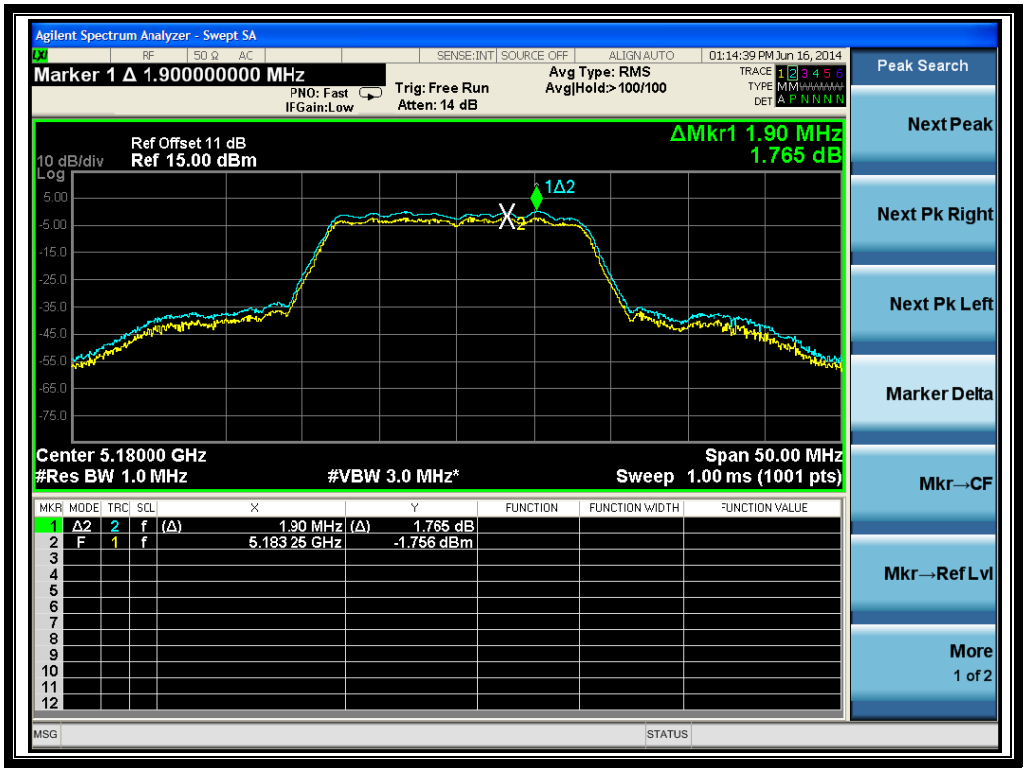
2.7.3.1. 802.11a Test mode

ANT 3

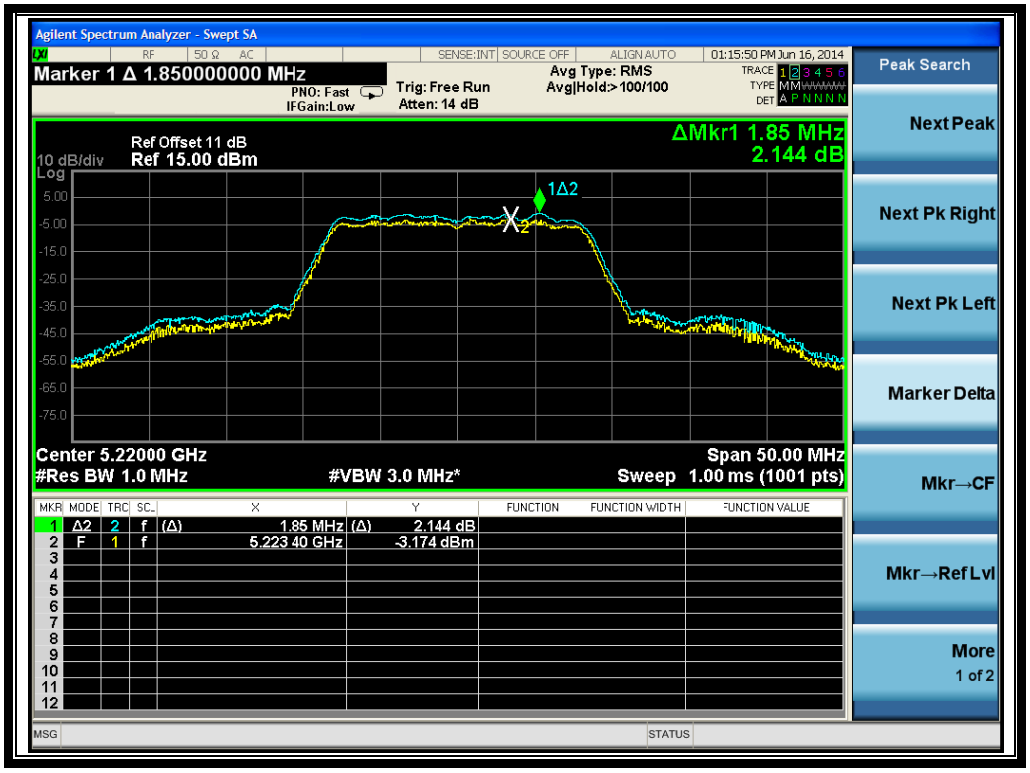
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
36	5180	1.765	13	PASS
44	5220	2.144	13	PASS
48	5240	2.022	13	PASS
52	5260	2.093	13	PASS
60	5300	1.948	13	PASS
64	5320	1.790	13	PASS
100	5500	2.006	13	PASS
116	5580	2.016	13	PASS
140	5700	2.316	13	PASS
149	5745	1.862	13	PASS
157	5785	1.857	13	PASS
161	5805	1.912	13	PASS

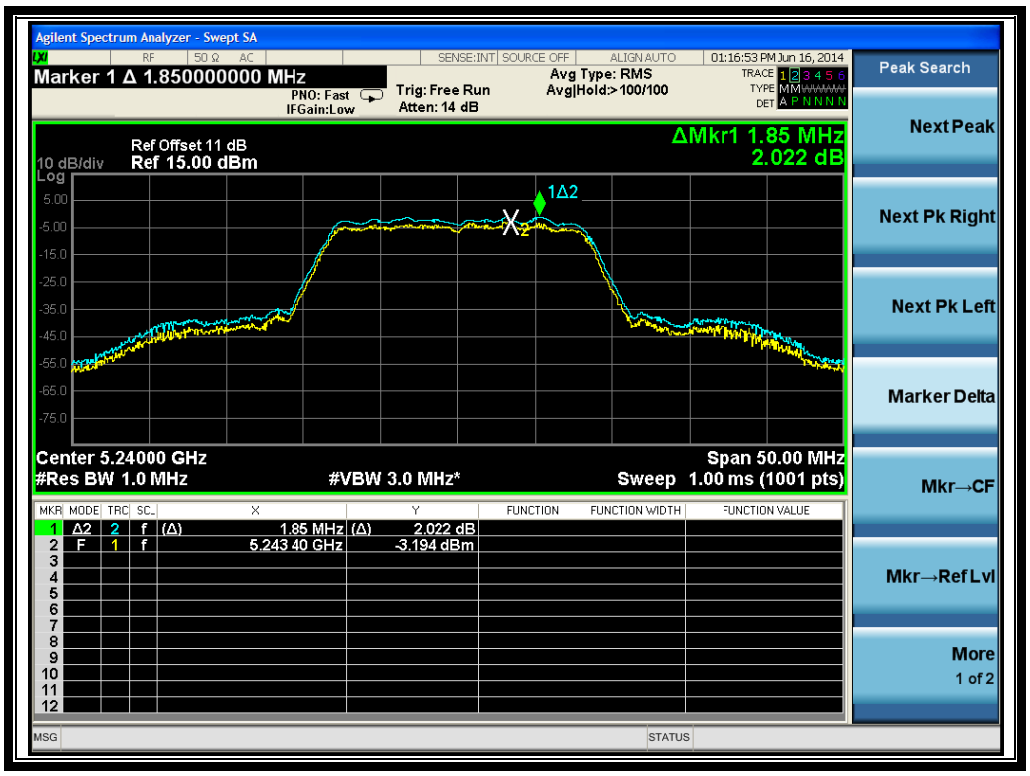
B. Test Plots:



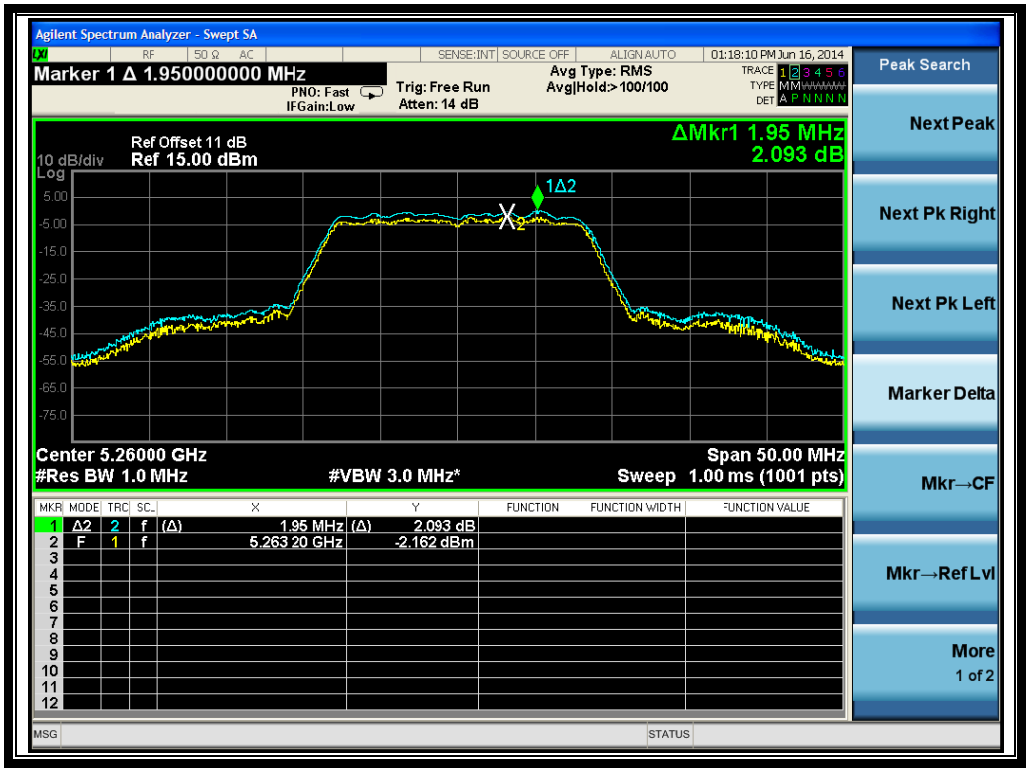
(Channel 36: 5180MHz @ 802.11a)



(Channel 44: 5220 MHz @ 802.11a)

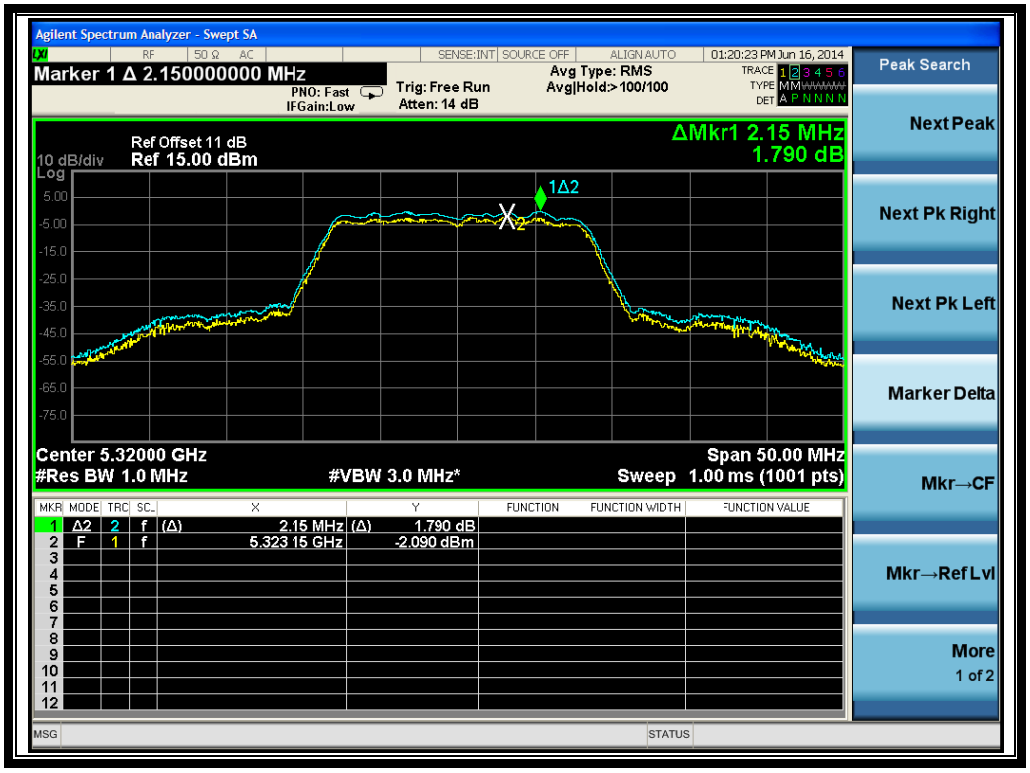


(Channel 48: 5240MHz @ 802.11a)



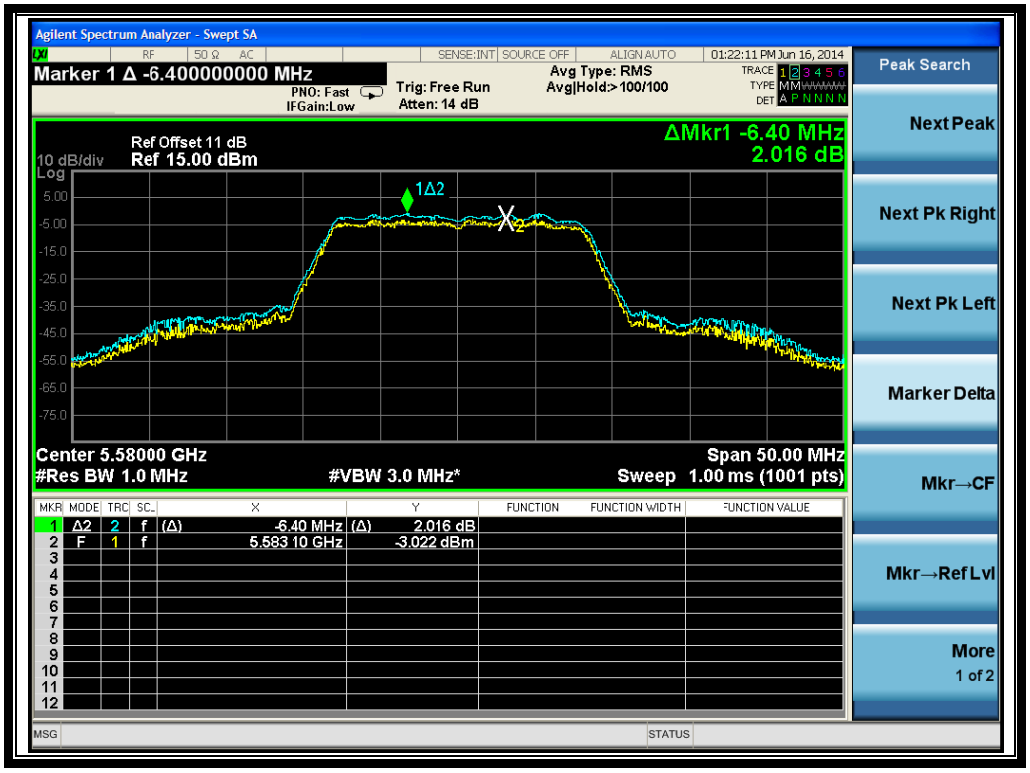
(Channel 52: 5260MHz @ 802.11a)

(Channel 60: 5300 MHz @ 802.11a)

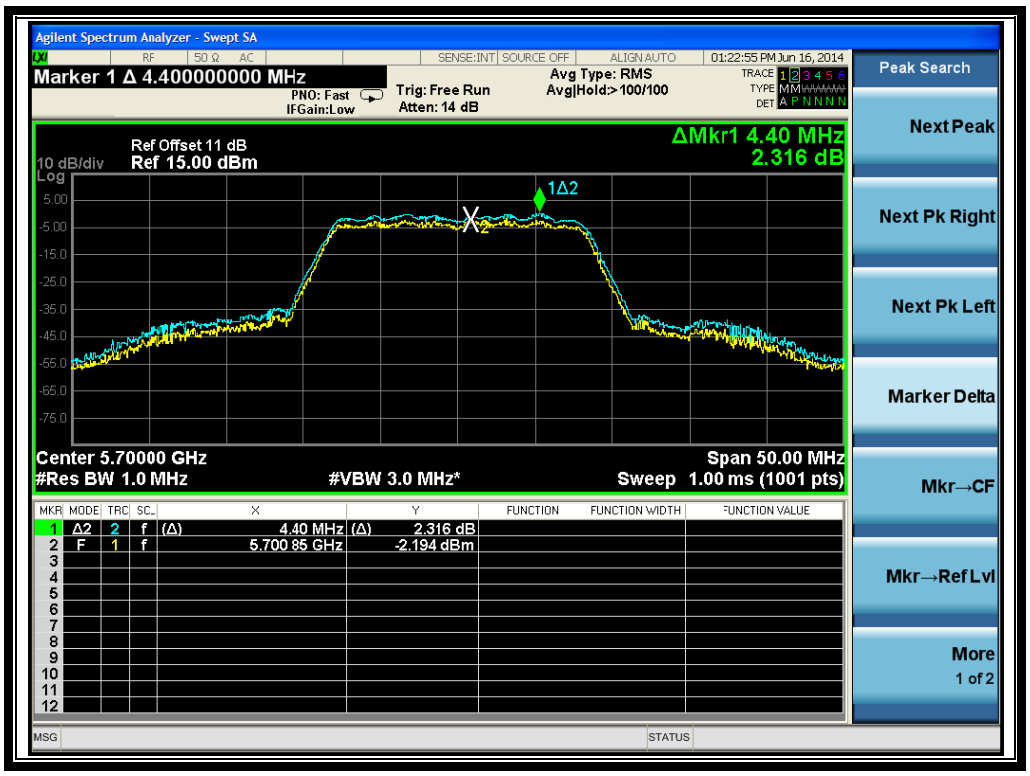


(Channel 64: 5320MHz @ 802.11a)

(Channel 100: 5500MHz @ 802.11a)

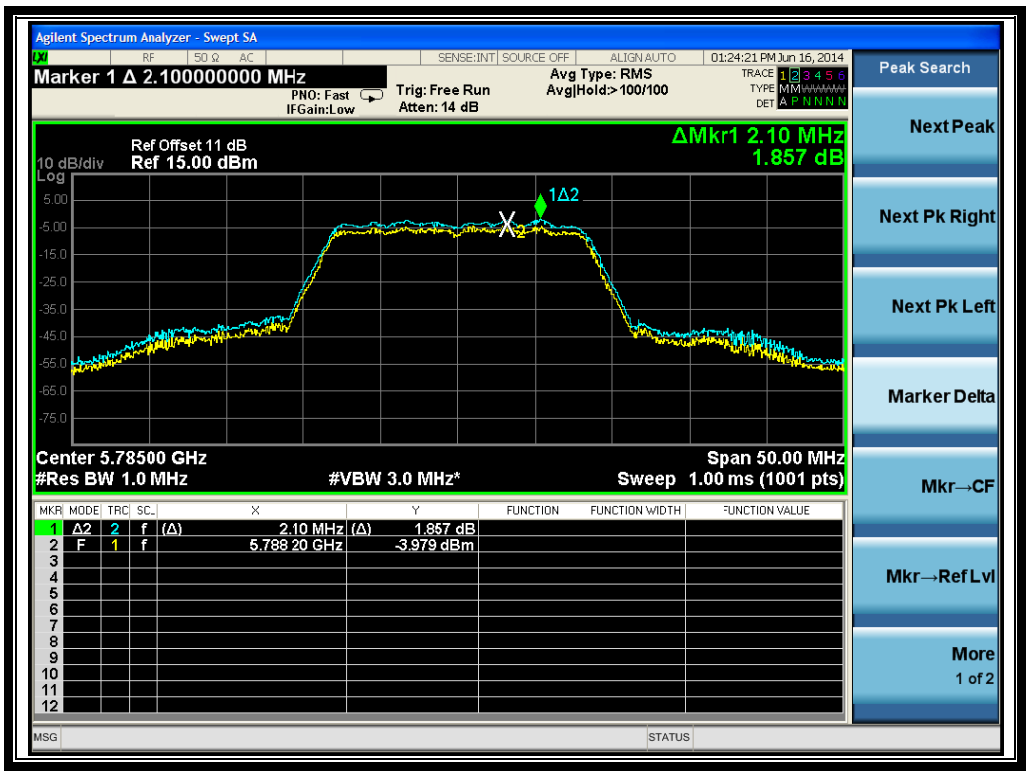


(Channel 116: 5580 MHz @ 802.11a)

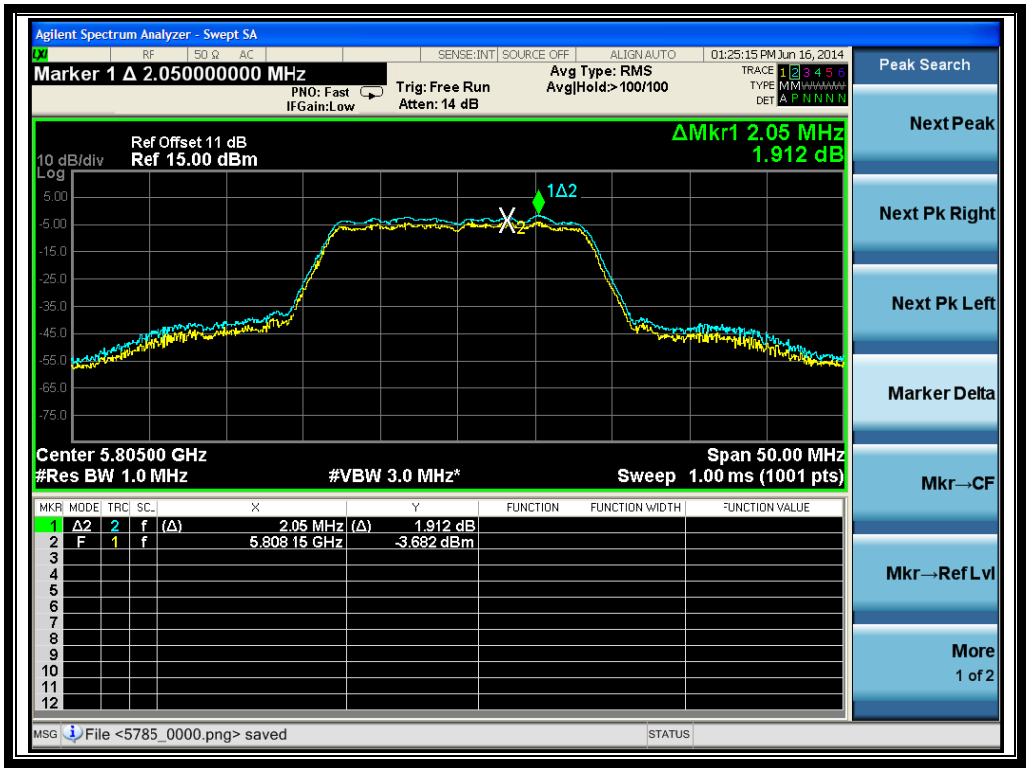


(Channel 140: 5700MHz @ 802.11a)

(Channel 149: 5745MHz @ 802.11a)



(Channel 157: 5785MHz @ 802.11a)



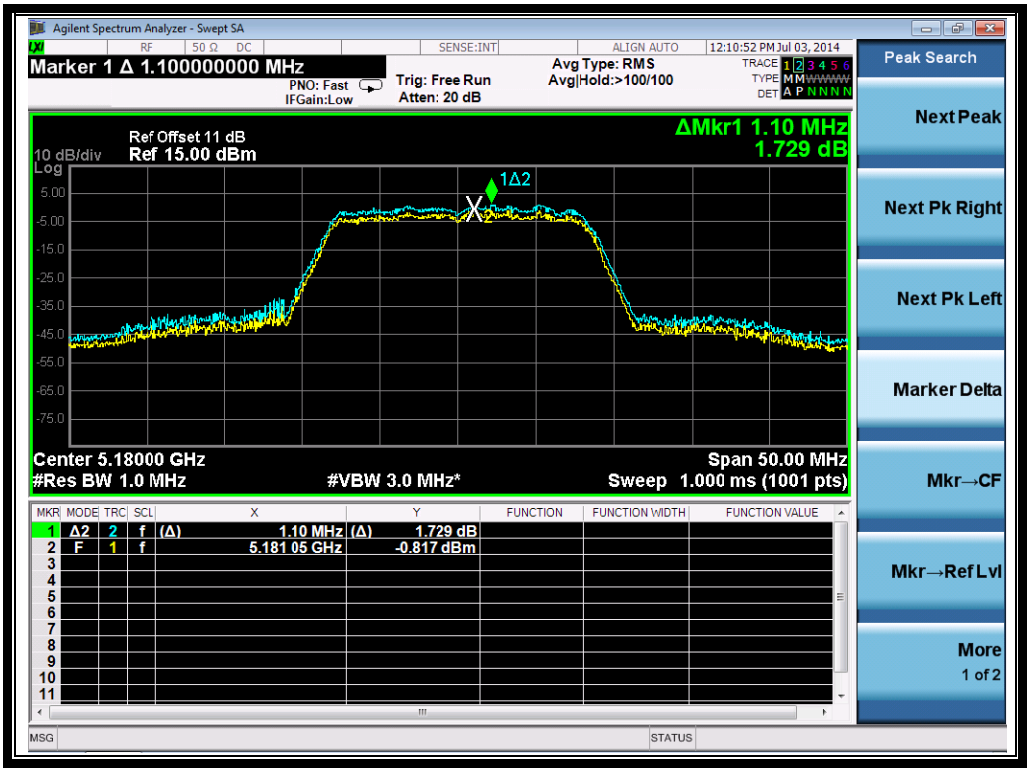
(Channel 161: 5805MHz @ 802.11a)

ANT 4

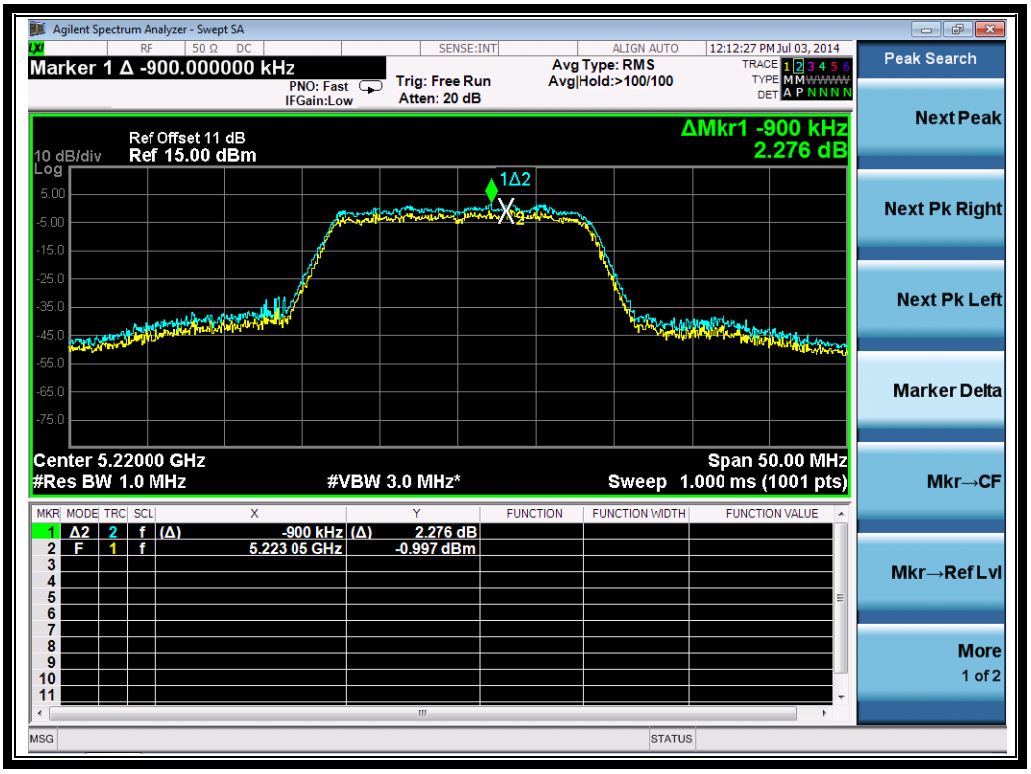
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
36	5180	1.729	13	PASS
44	5220	2.276	13	PASS
48	5240	1.576	13	PASS
52	5260	2.236	13	PASS
60	5300	2.158	13	PASS
64	5320	2.309	13	PASS
100	5500	2.558	13	PASS
116	5580	2.681	13	PASS
140	5700	2.156	13	PASS
149	5745	2.753	13	PASS
157	5785	2.449	13	PASS
161	5805	2.740	13	PASS

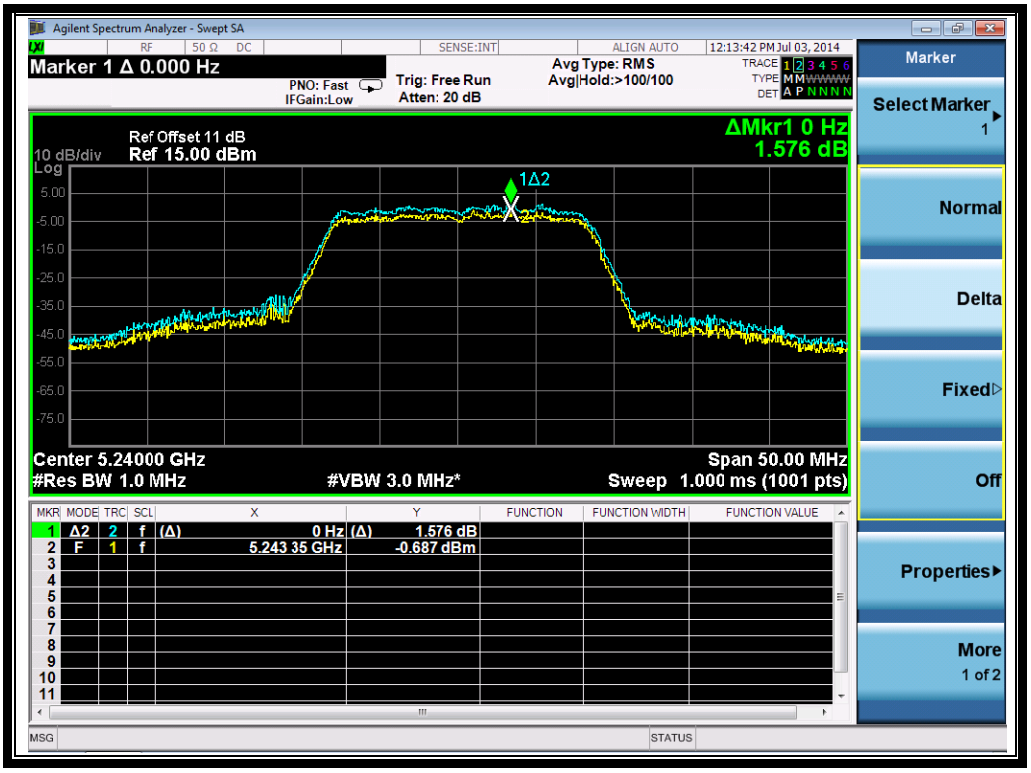
B. Test Plots:



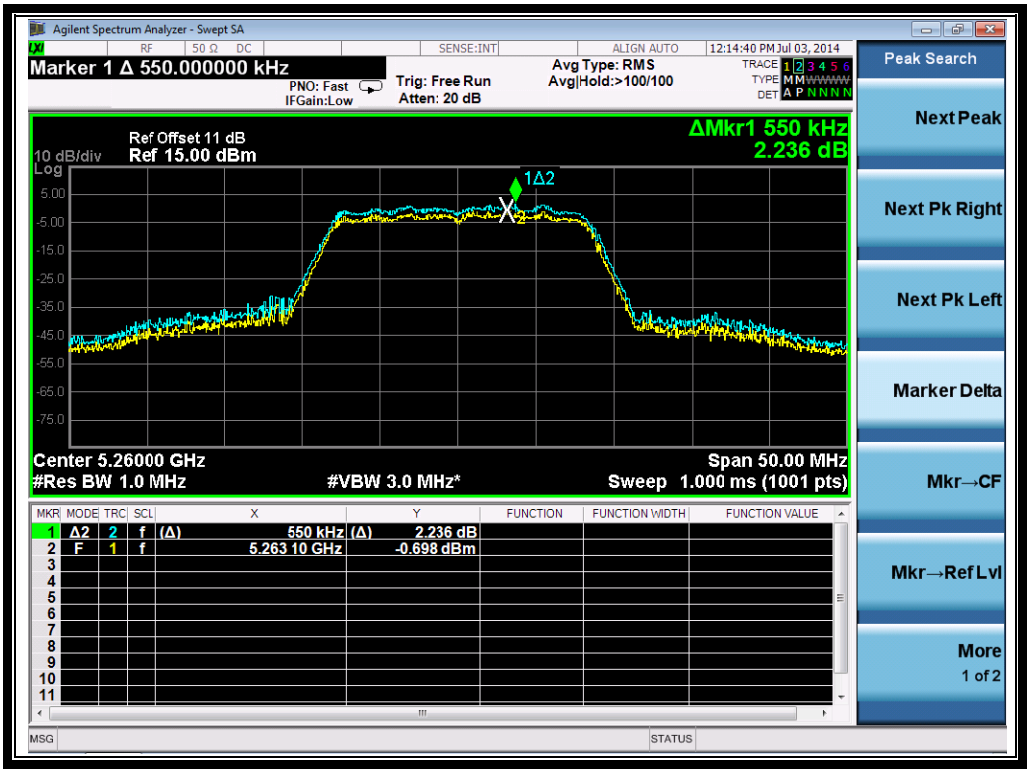
(Channel 36: 5180MHz @ 802.11a)



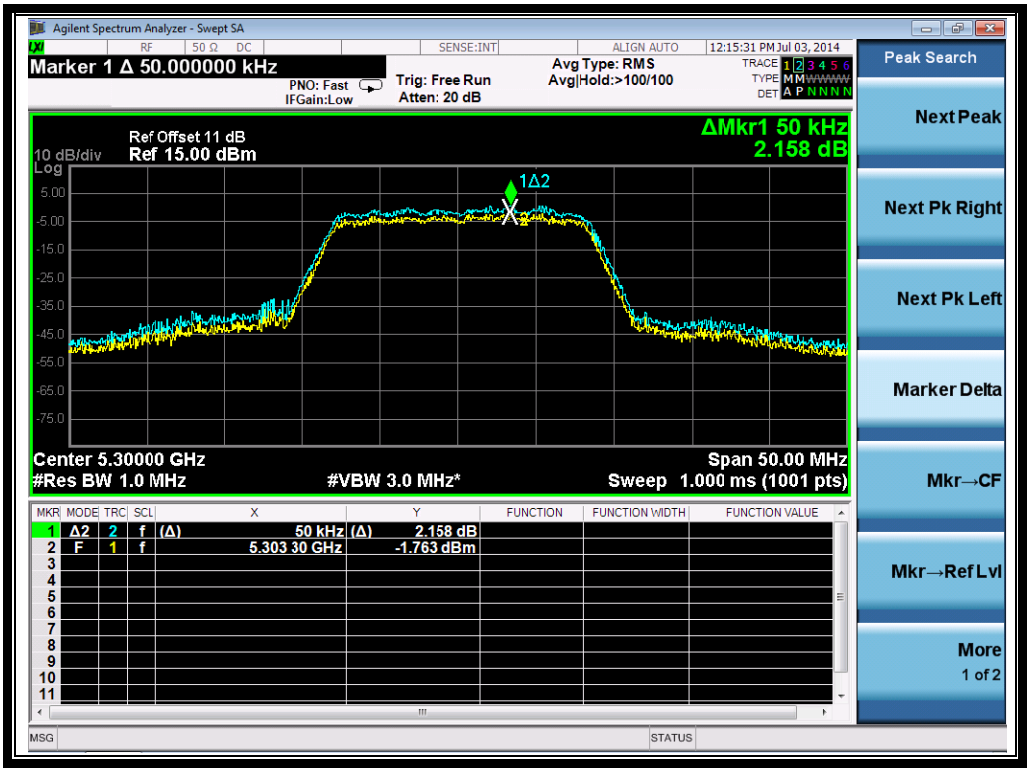
(Channel 44: 5220 MHz @ 802.11a)



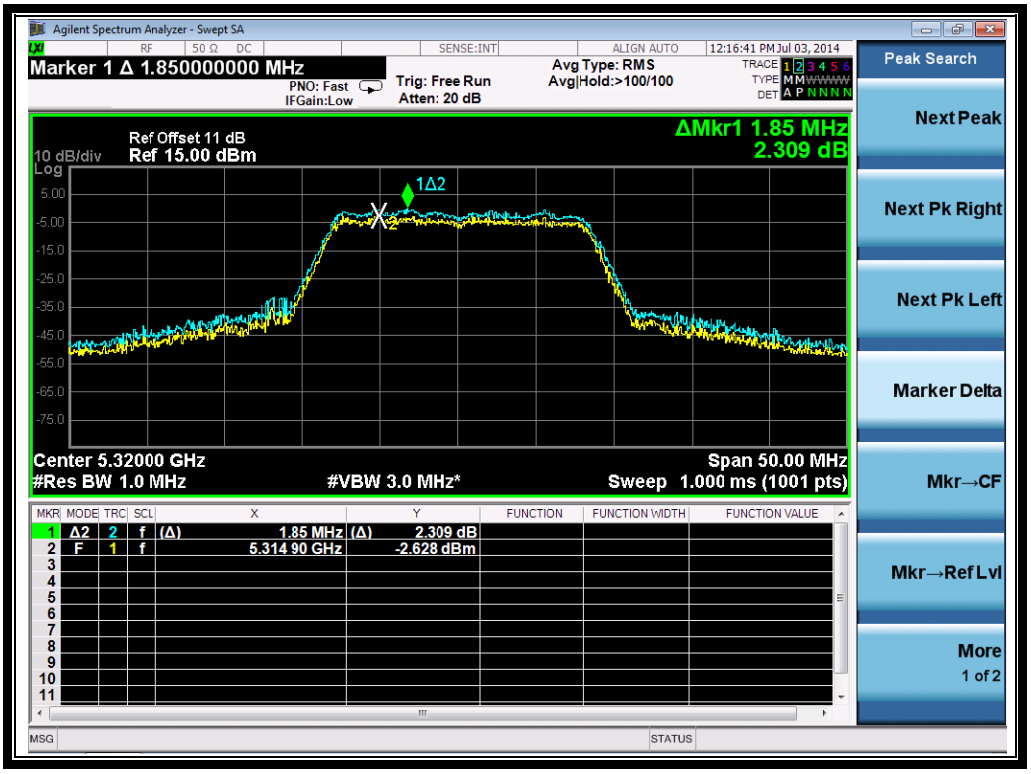
(Channel 48: 5240MHz @ 802.11a)



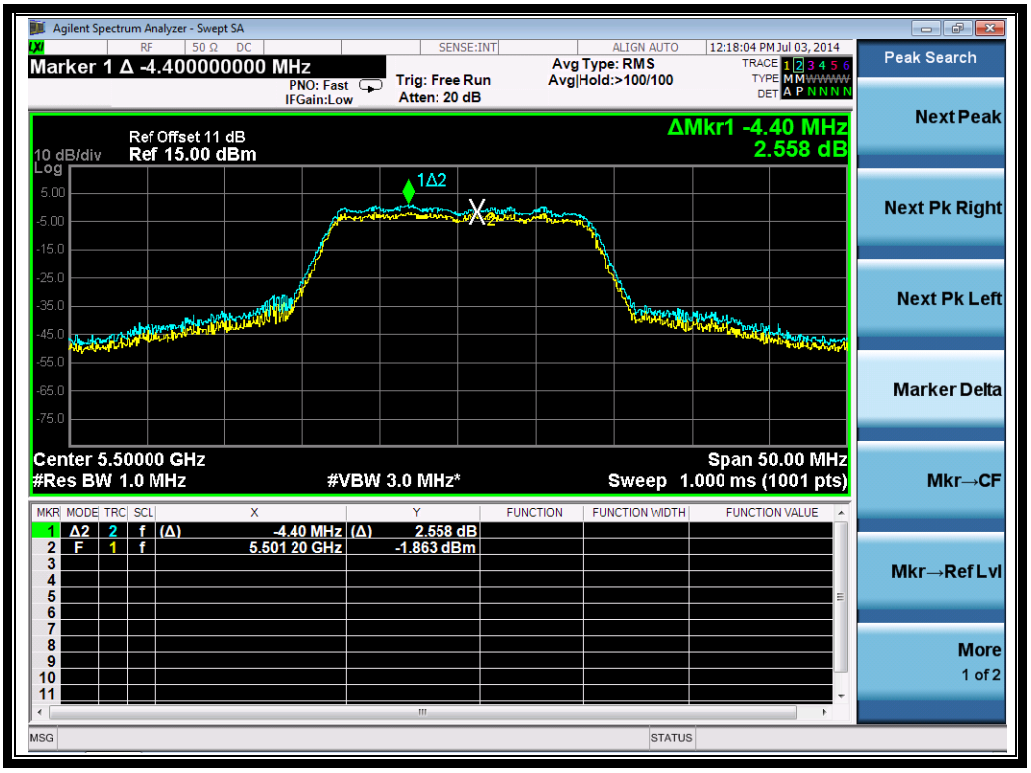
(Channel 52: 5260MHz @ 802.11a)



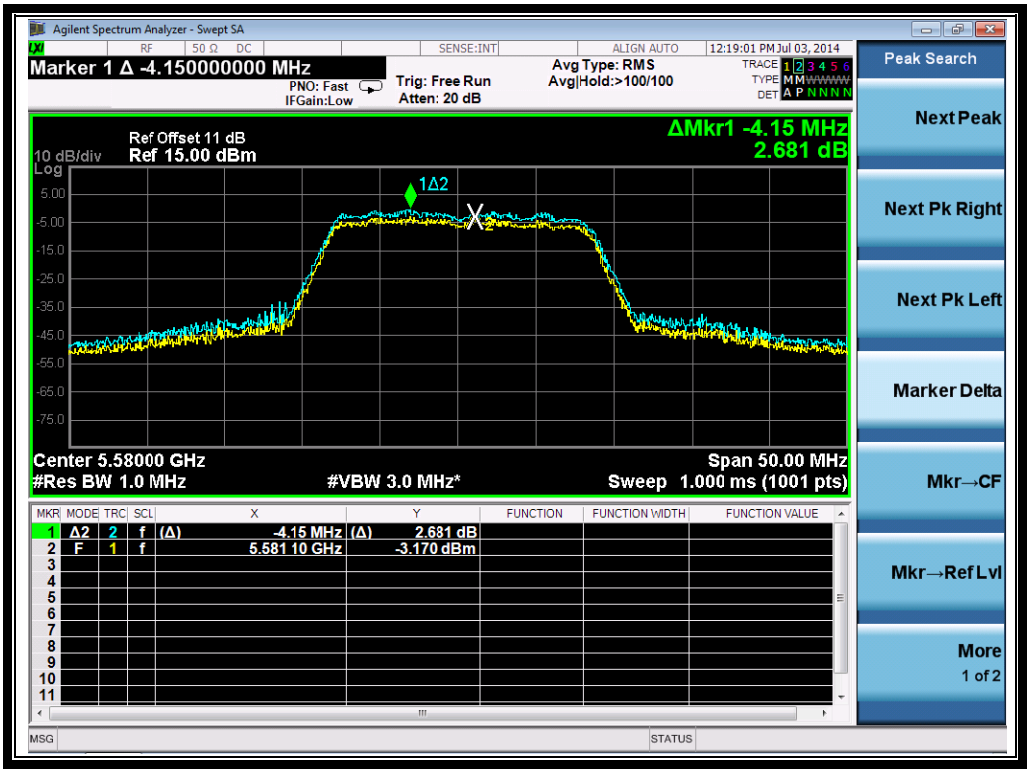
(Channel 60: 5300 MHz @ 802.11a)



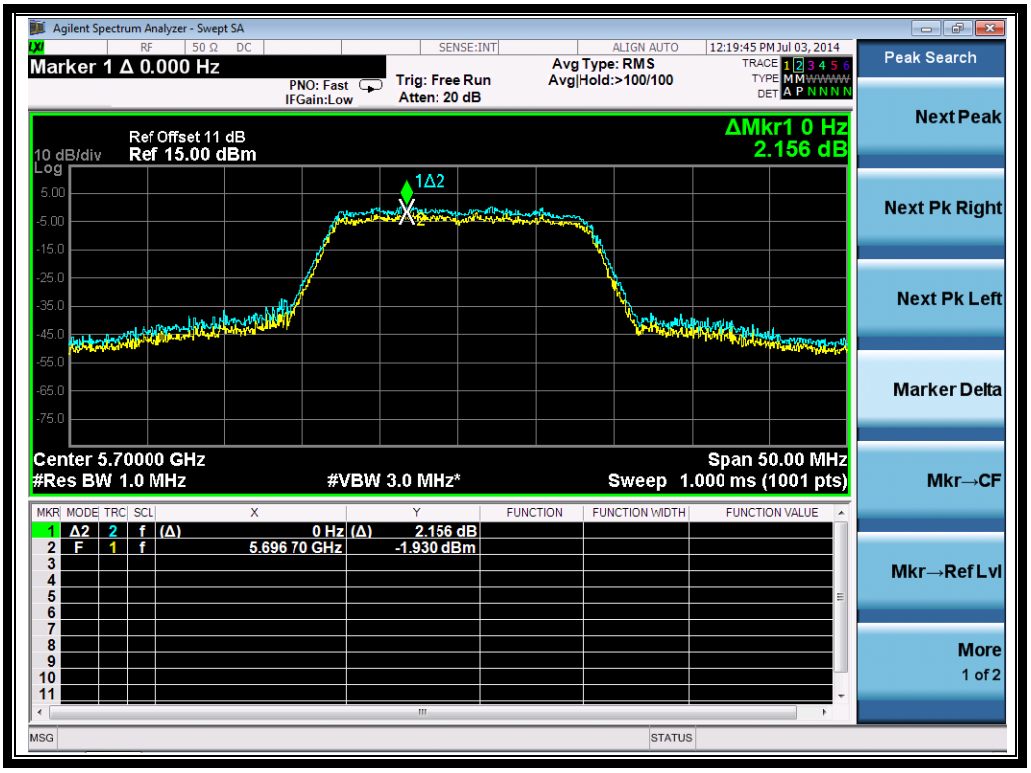
(Channel 64: 5320MHz @ 802.11a)



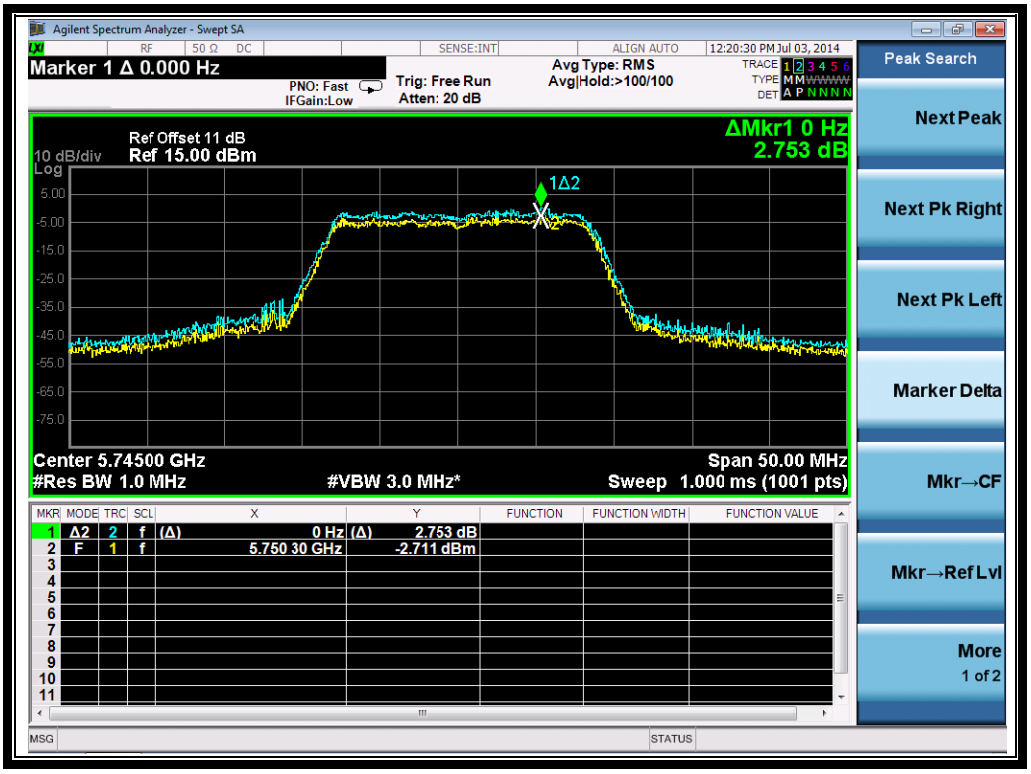
(Channel 100: 5500MHz @ 802.11a)



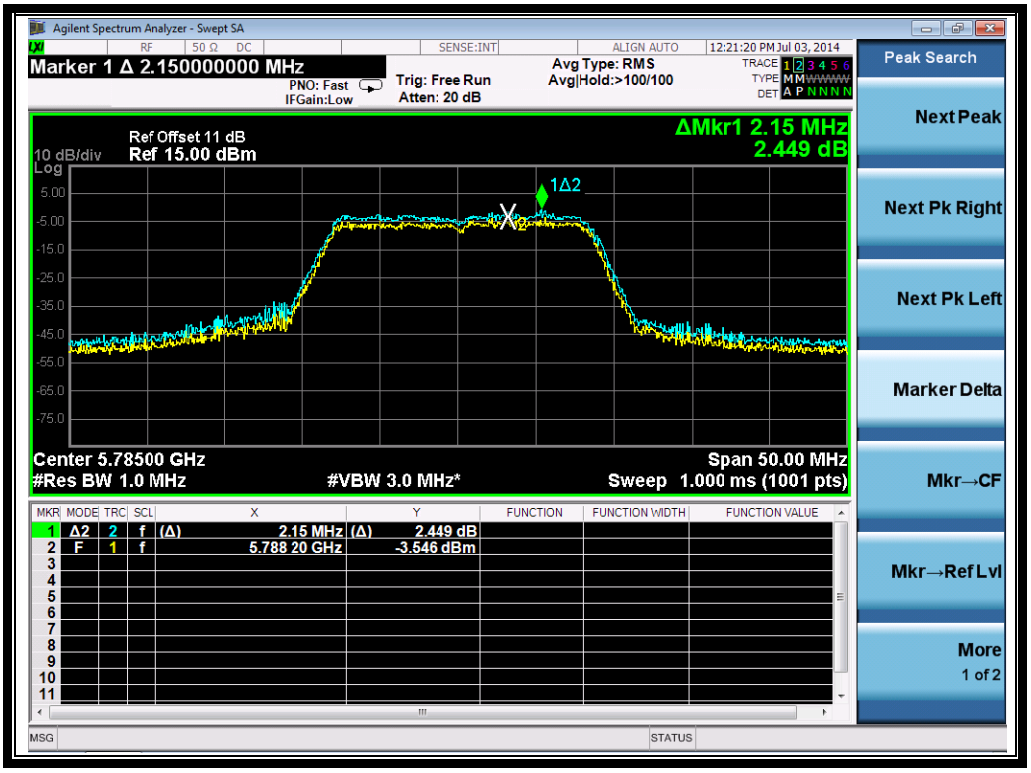
(Channel 116: 5580 MHz @ 802.11a)



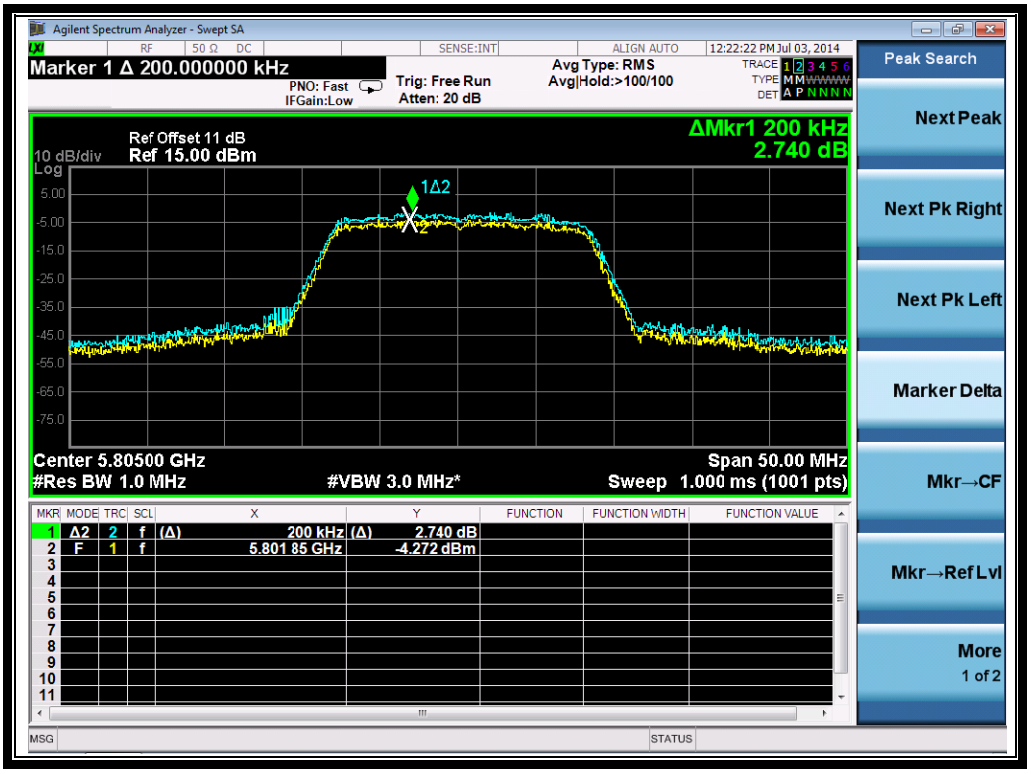
(Channel 140: 5700MHz @ 802.11a)



(Channel 149: 5745MHz @ 802.11a)



(Channel 157: 5785MHz @ 802.11a)



(Channel 161: 5805MHz @ 802.11a)

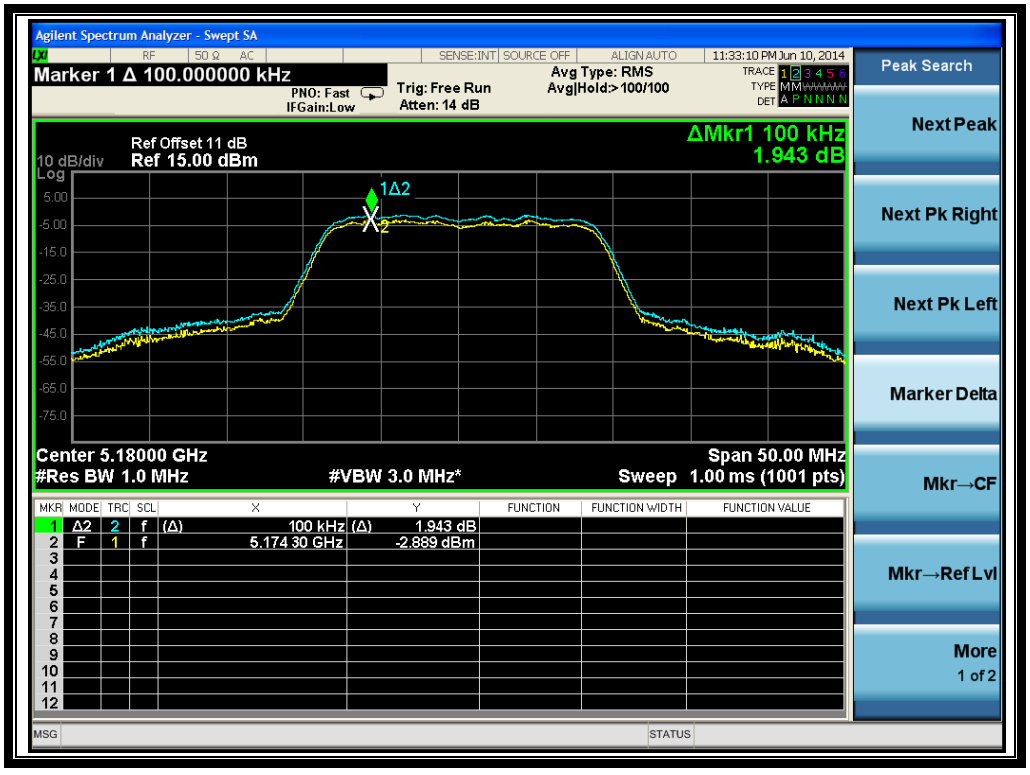
2.7.3.2. 802.11n-20MHz Test mode

ANT 3

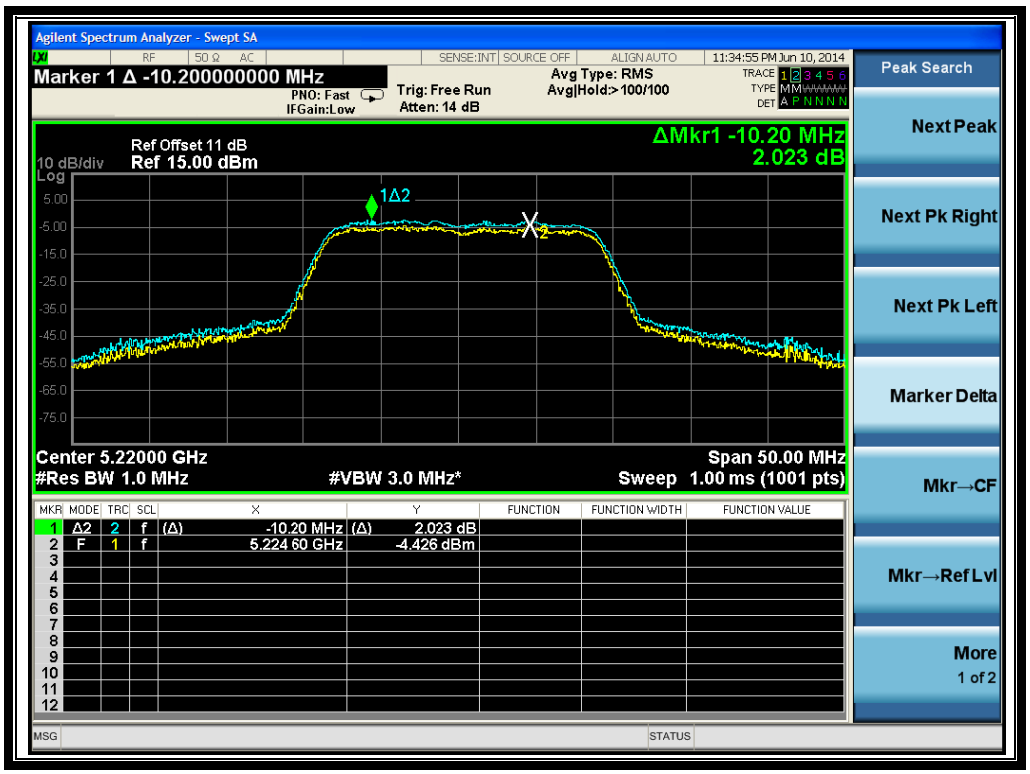
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
36	5180	1.943	13	PASS
44	5220	2.023	13	PASS
48	5240	1.953	13	PASS
52	5260	2.024	13	PASS
60	5300	1.937	13	PASS
64	5320	1.999	13	PASS
100	5500	2.161	13	PASS
116	5580	2.445	13	PASS
140	5700	2.013	13	PASS
149	5745	2.076	13	PASS
157	5785	2.072	13	PASS
161	5805	1.898	13	PASS

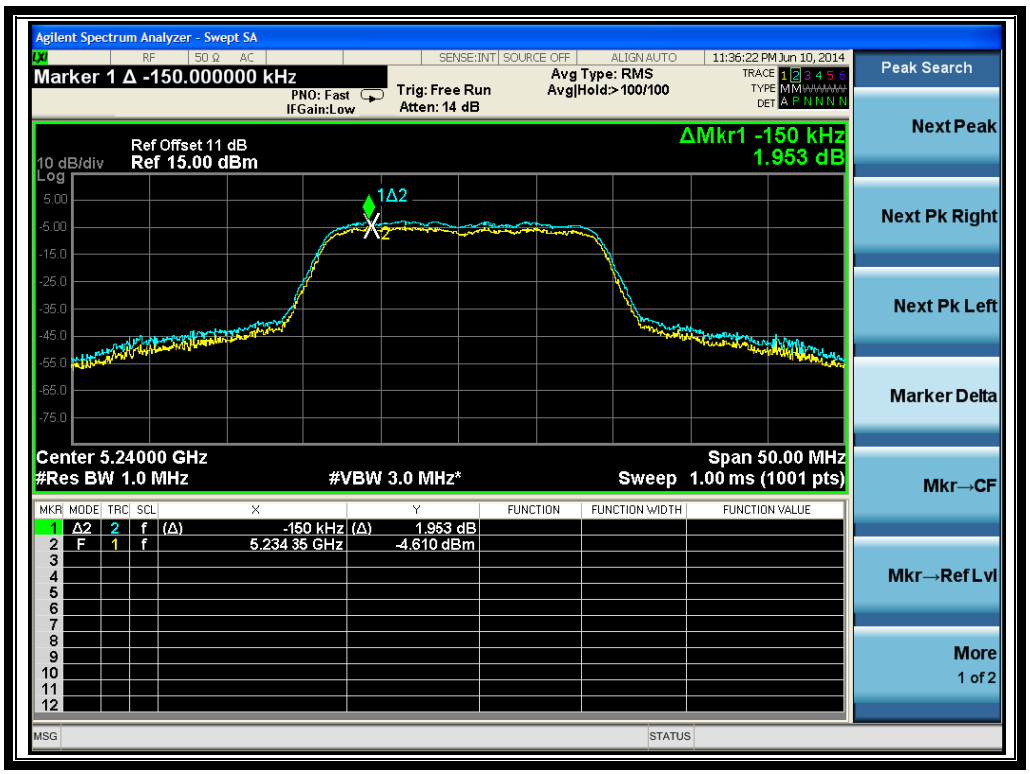
B. Test Plots:



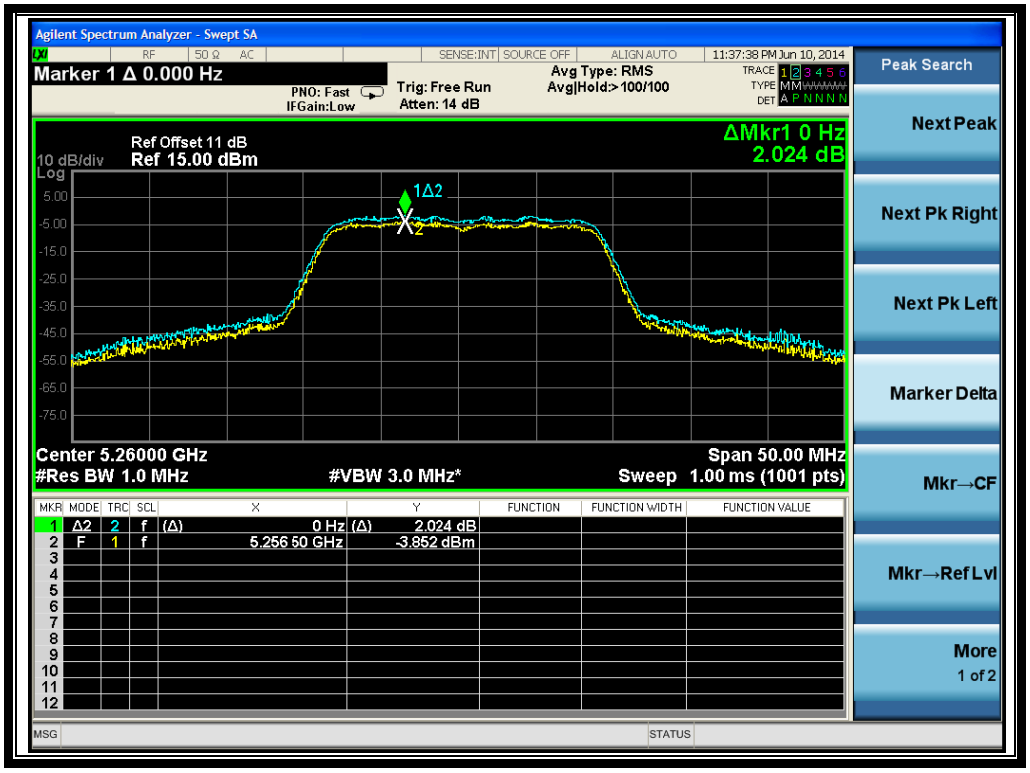
(Channel 36: 5180MHz @ 802.11n-20MHz)



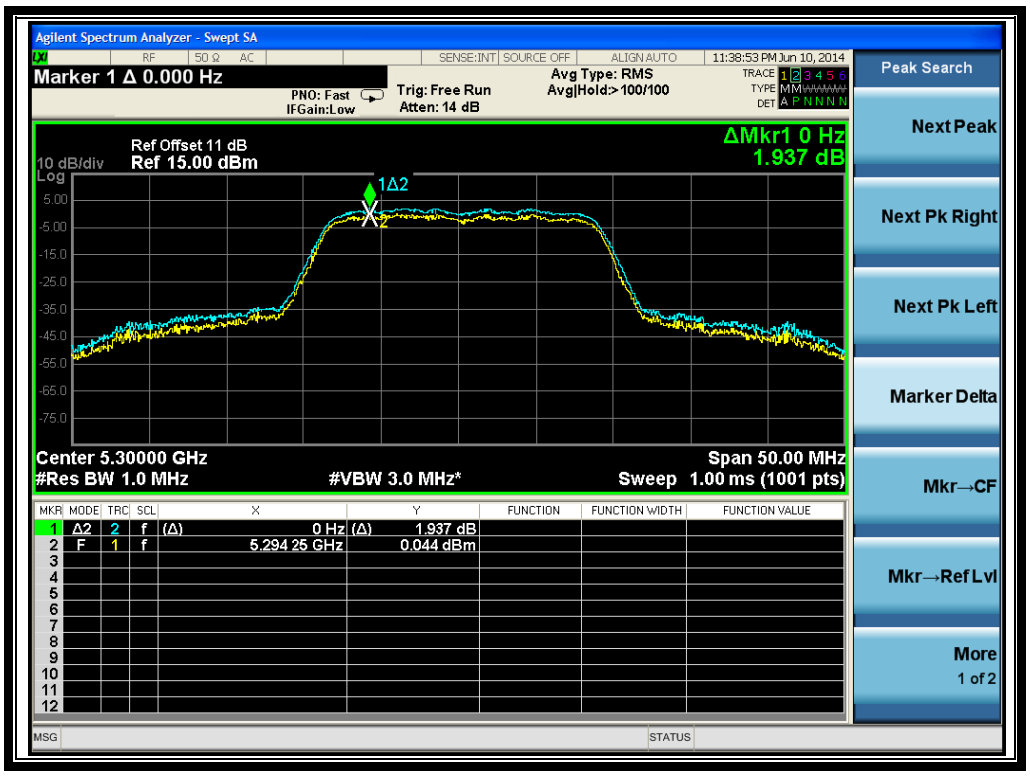
(Channel 44: 5220 MHz @ 802.11n-20MHz)



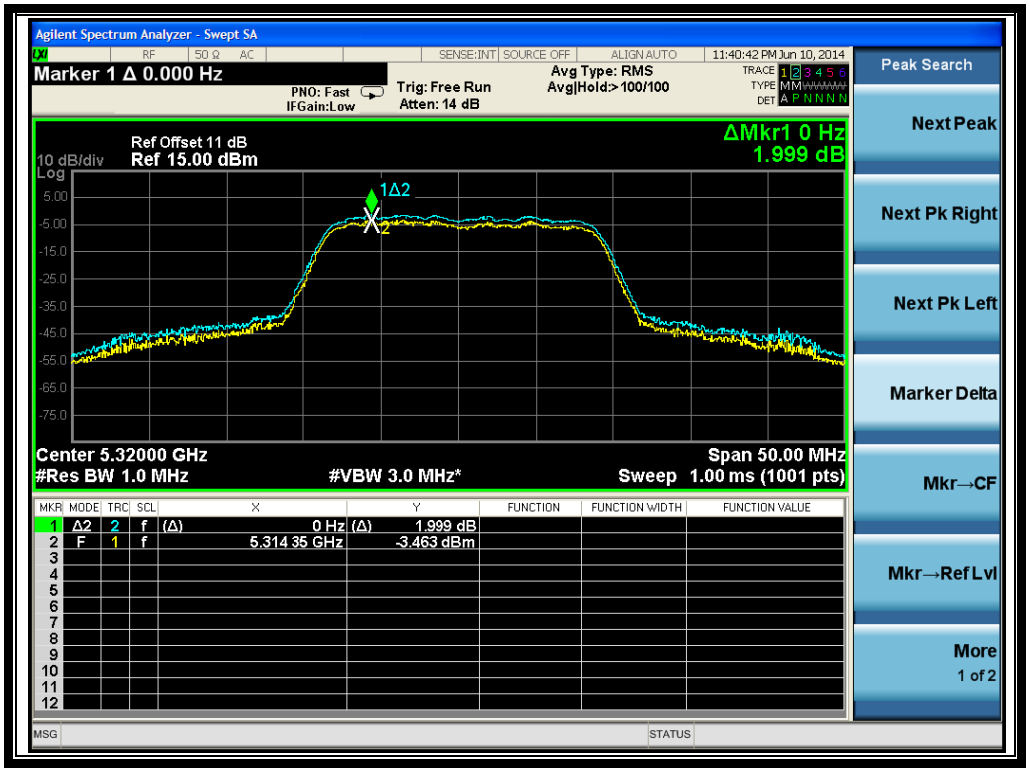
(Channel 48: 5240MHz @ 802.11n-20MHz)



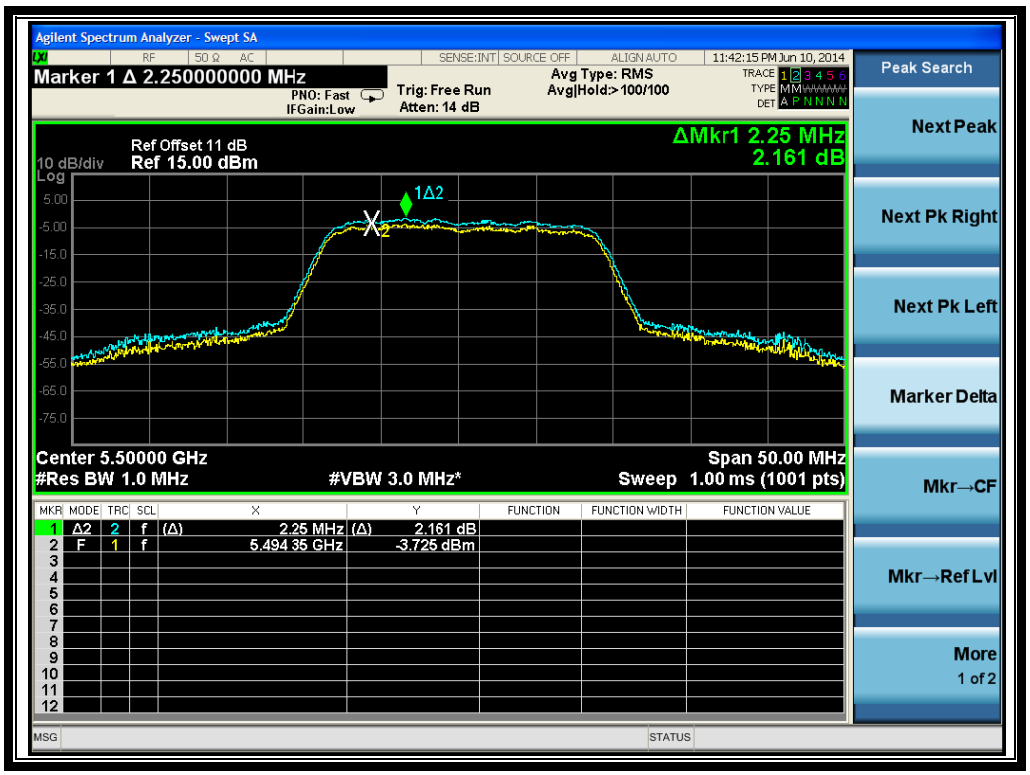
(Channel 52: 5260MHz @ 802.11n-20MHz)



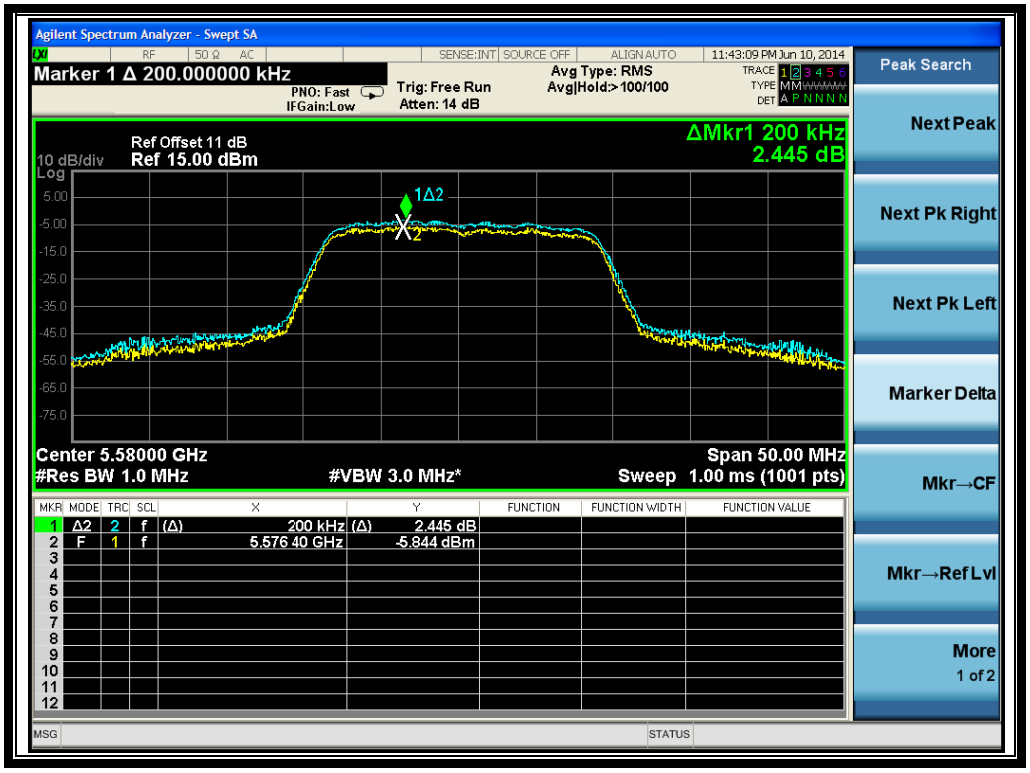
(Channel 60: 5300 MHz @ 802.11n-20MHz)



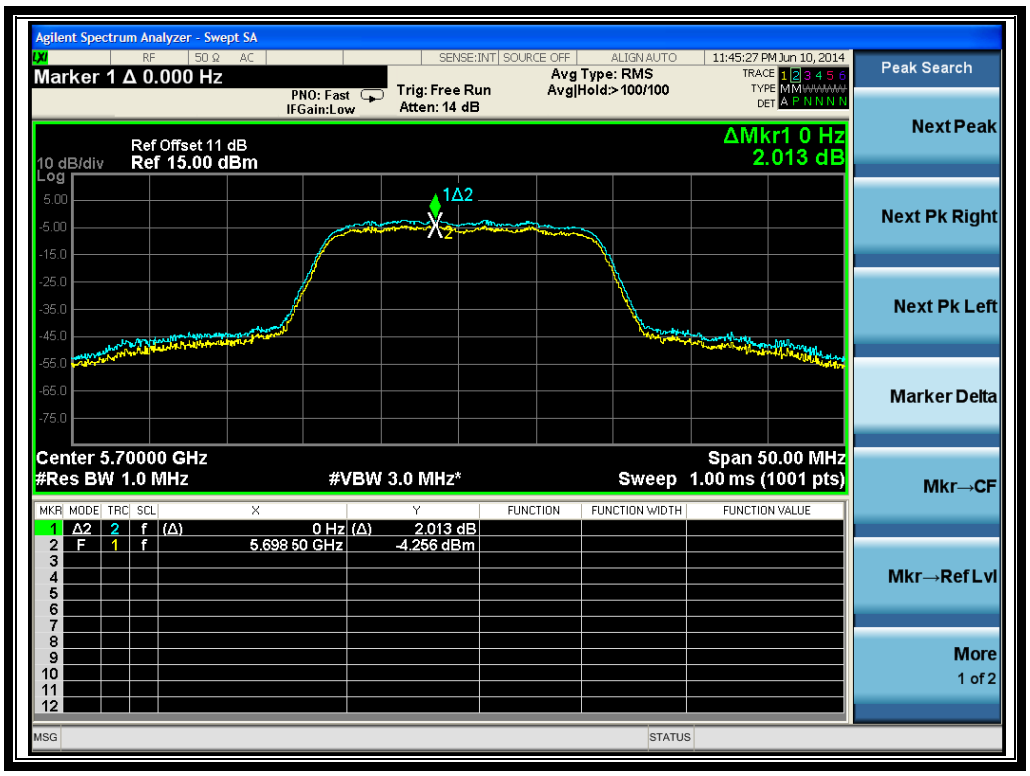
(Channel 64: 5320MHz @ 802.11n-20MHz)



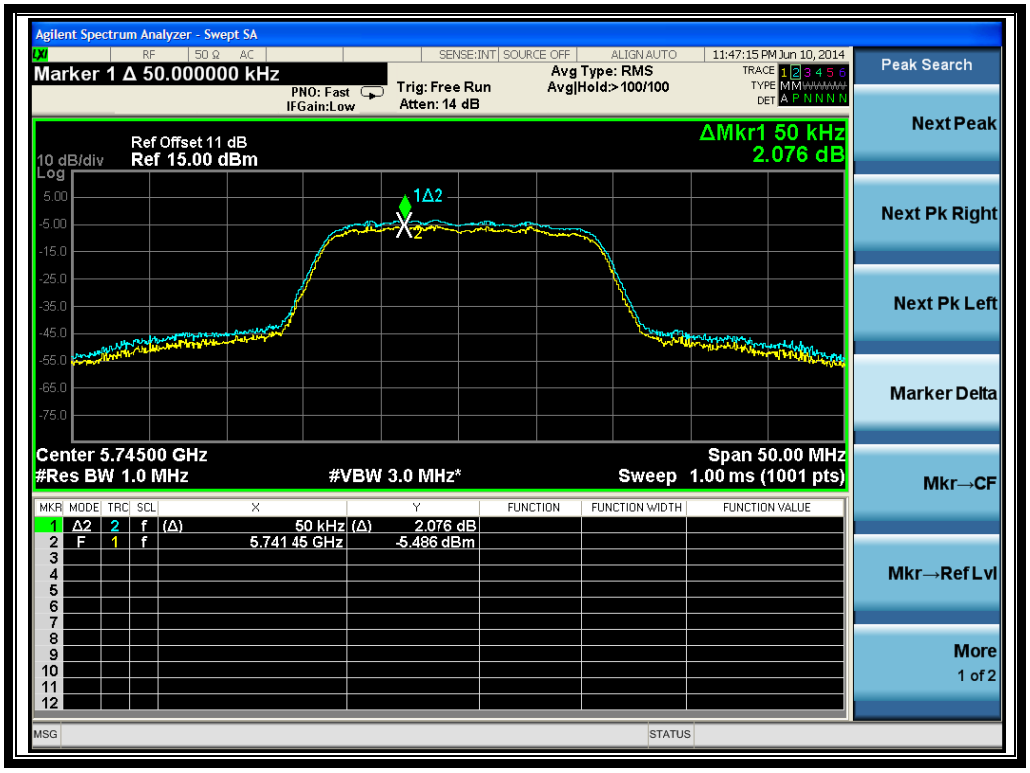
(Channel 100: 5500MHz @ 802.11n-20MHz)



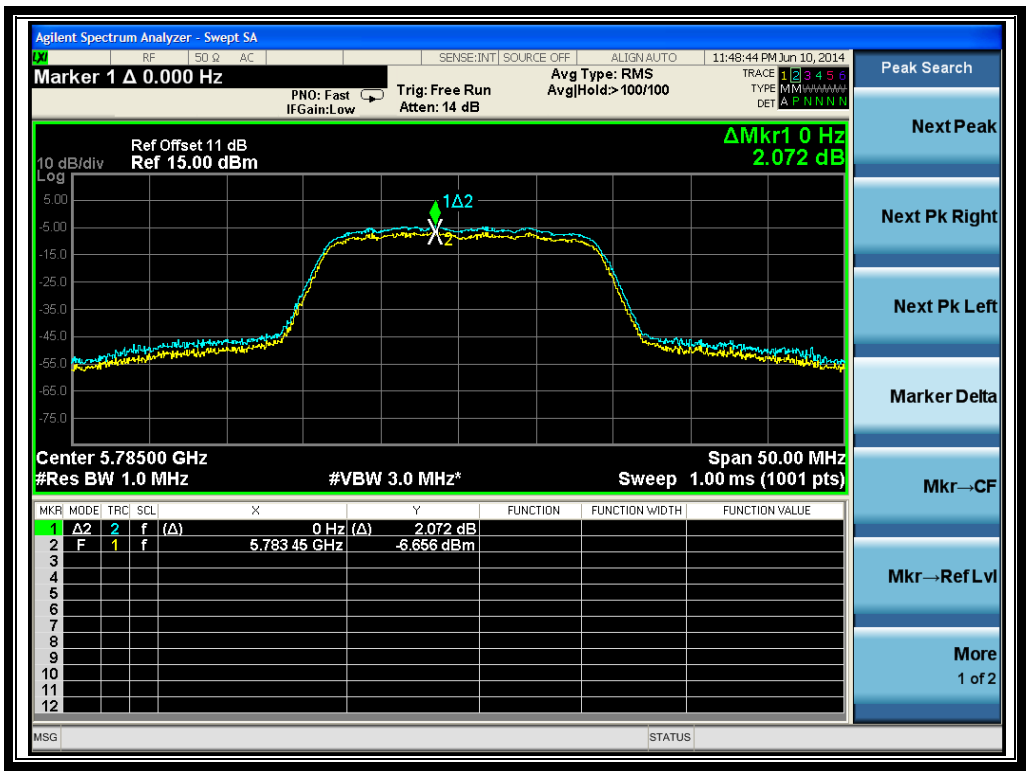
(Channel 116: 5580 MHz @ 802.11n-20MHz)



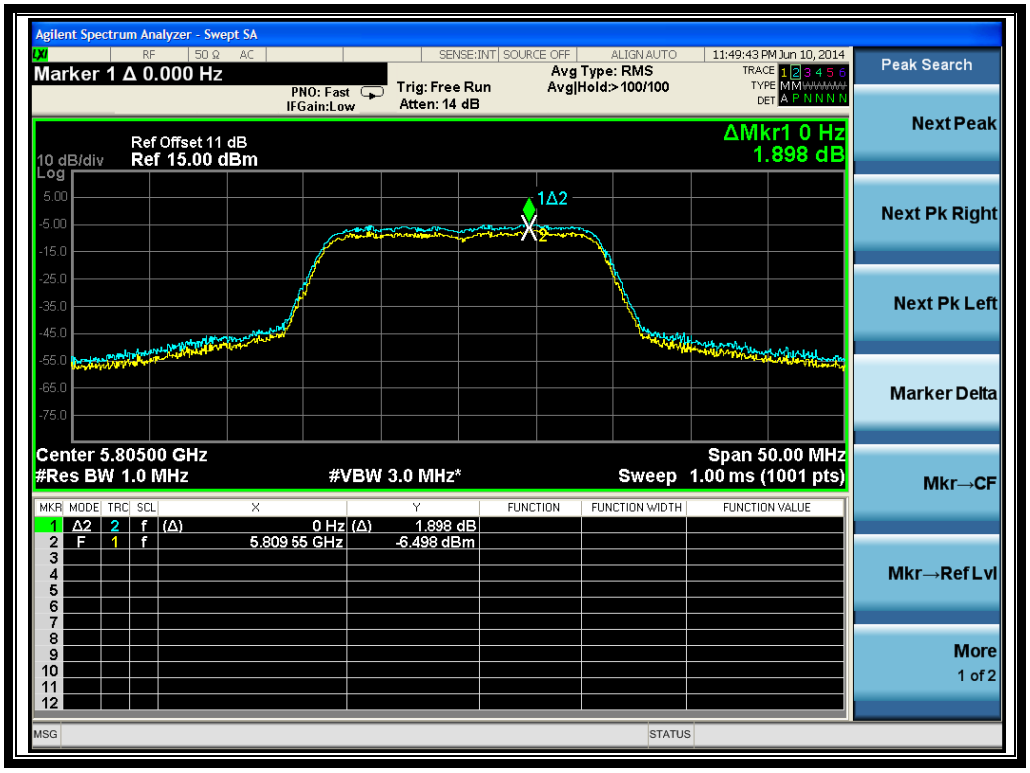
(Channel 140: 5700MHz @ 802.11n-20MHz)



(Channel 149: 5745MHz @ 802.11n-20MHz)



(Channel 157: 5785MHz @ 802.11n-20MHz)



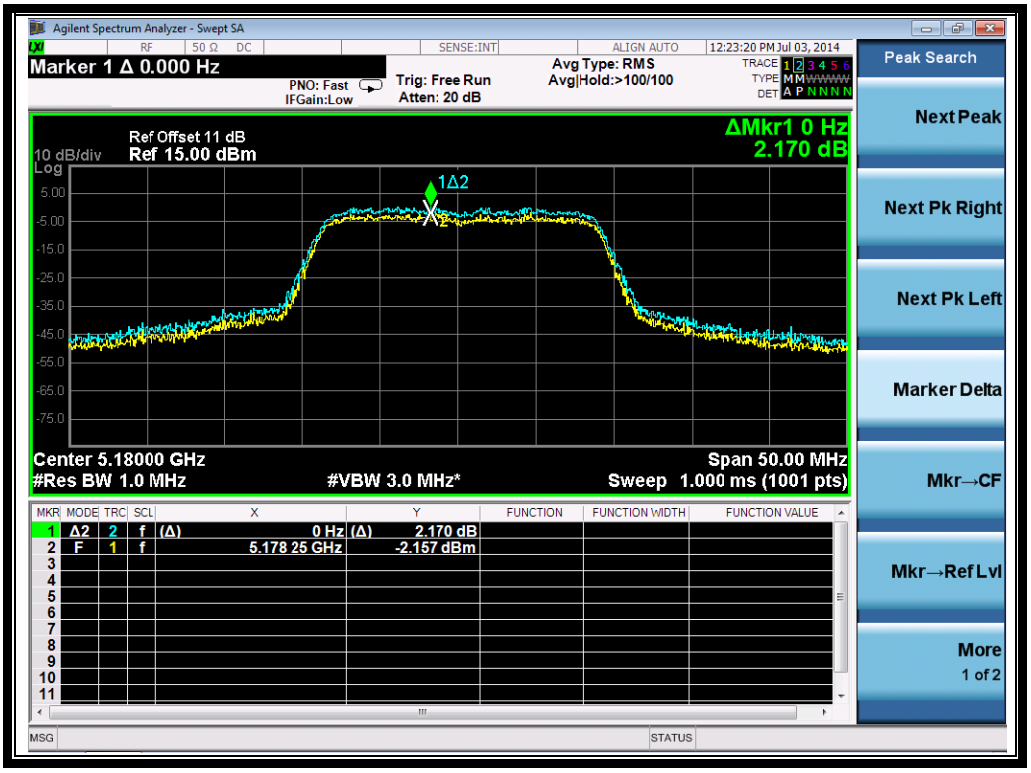
(Channel 161: 5805MHz @ 802.11n-20MHz)

ANT 4

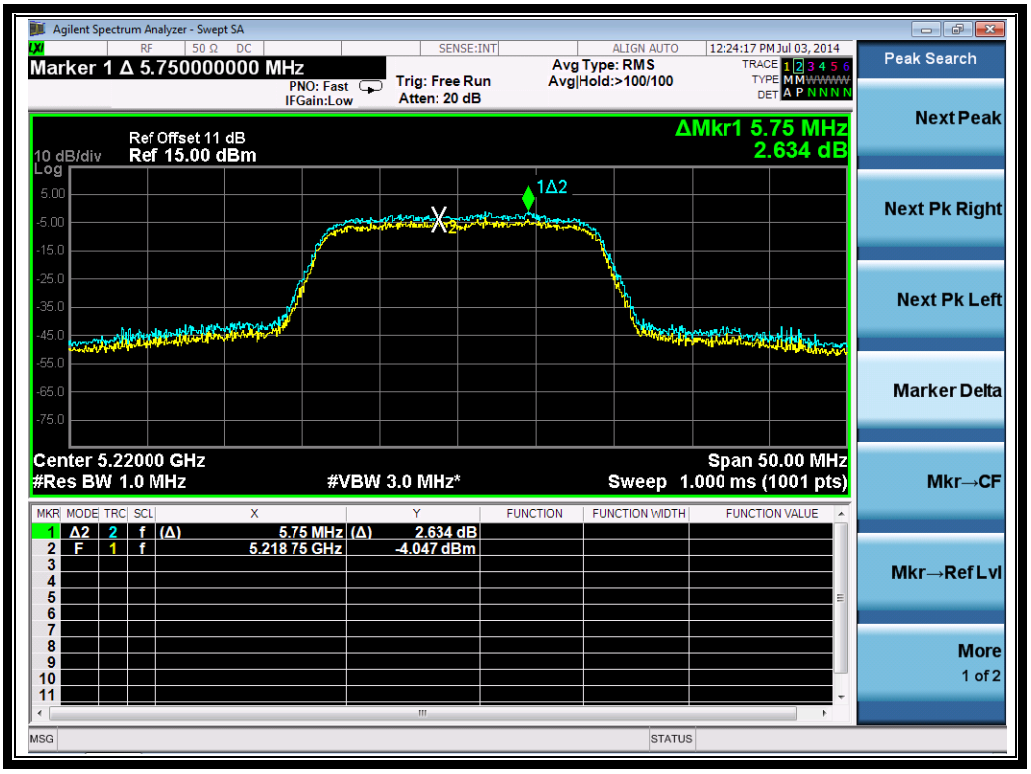
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
36	5180	2.170	13	PASS
44	5220	2.634	13	PASS
48	5240	2.053	13	PASS
52	5260	2.087	13	PASS
60	5300	2.345	13	PASS
64	5320	3.119	13	PASS
100	5500	2.459	13	PASS
116	5580	2.715	13	PASS
140	5700	2.263	13	PASS
149	5745	2.301	13	PASS
157	5785	2.064	13	PASS
161	5805	2.363	13	PASS

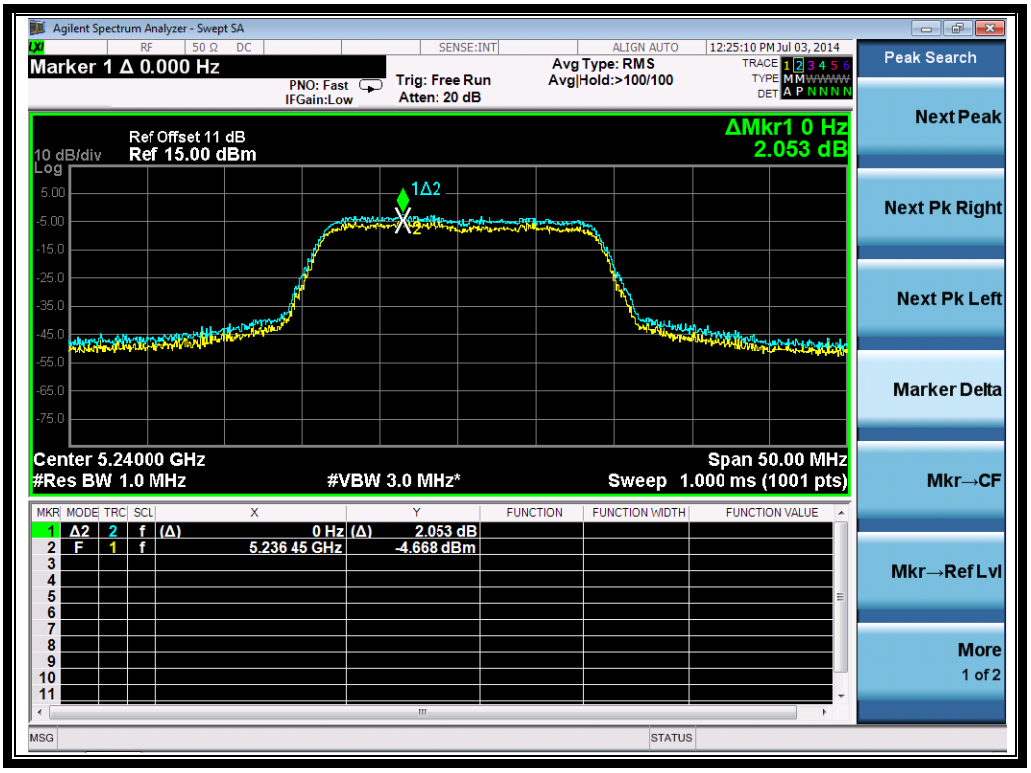
B. Test Plots:



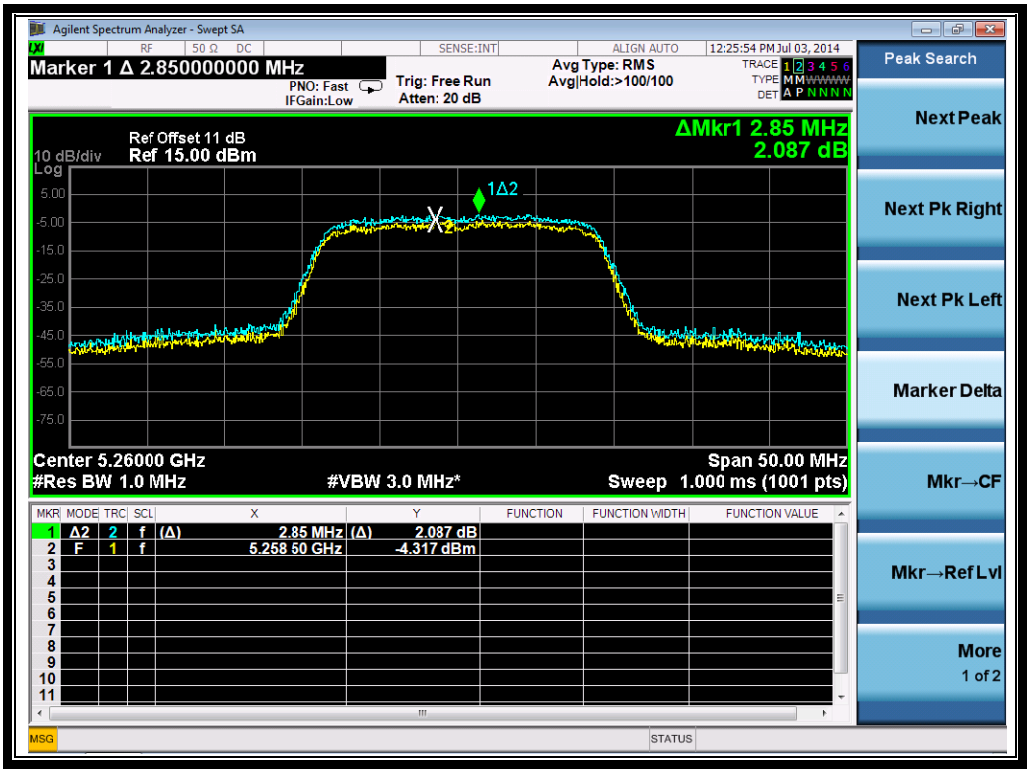
(Channel 36: 5180MHz @ 802.11n-20MHz)



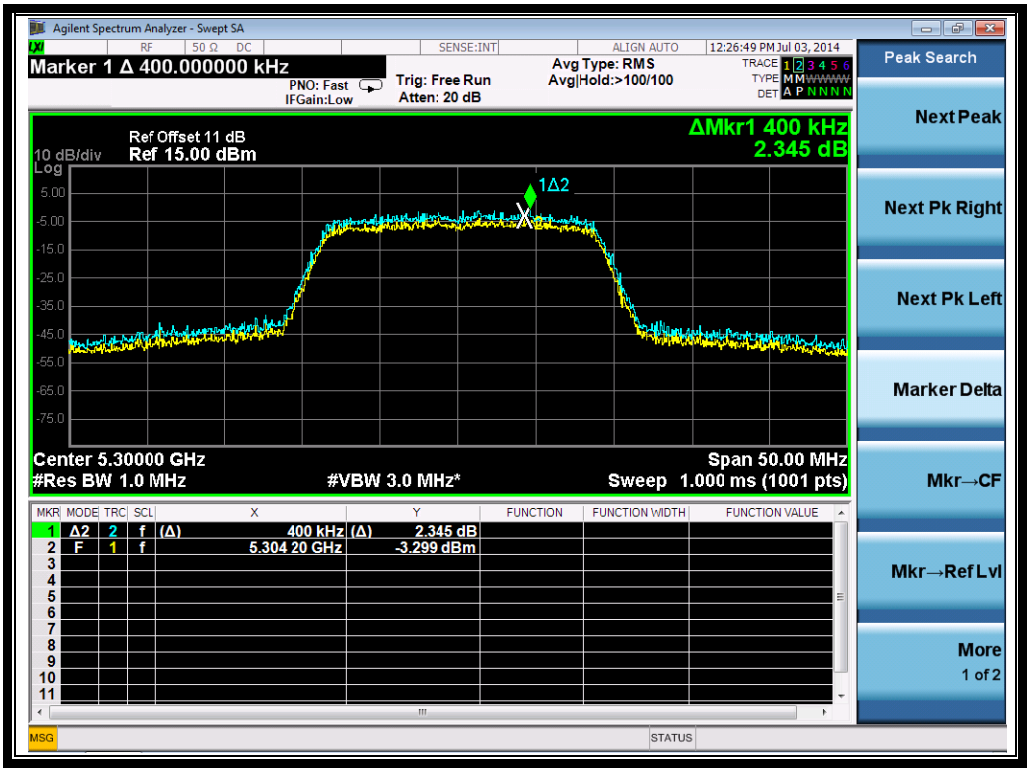
(Channel 44: 5220 MHz @ 802.11n-20MHz)



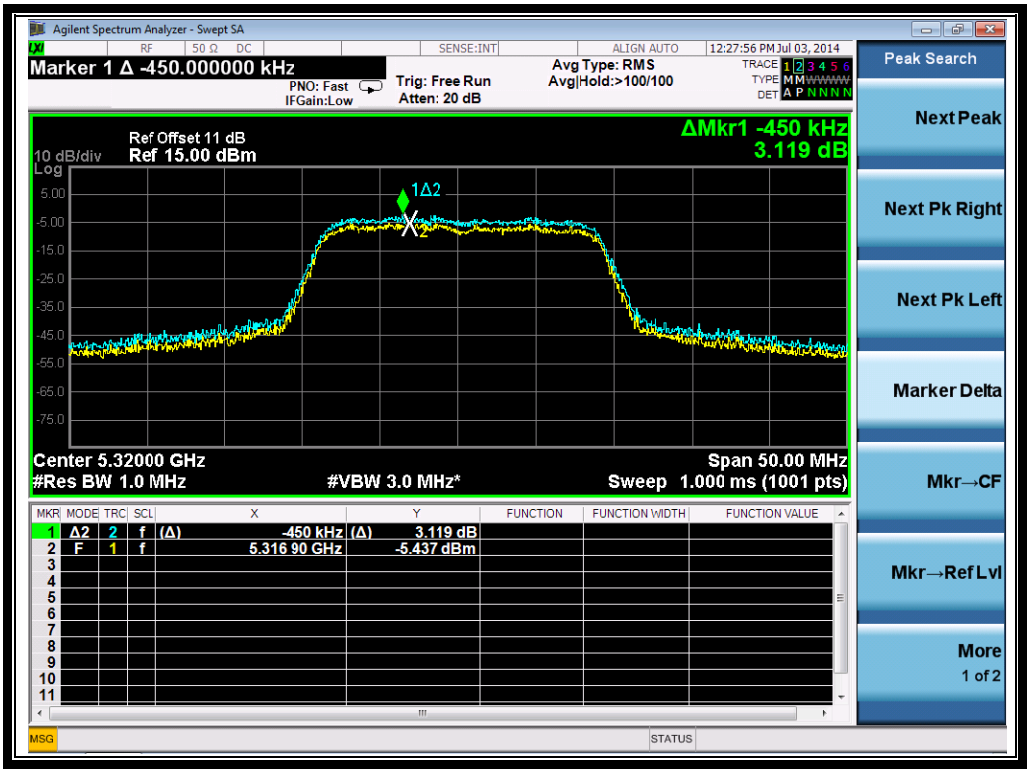
(Channel 48: 5240MHz @ 802.11n-20MHz)



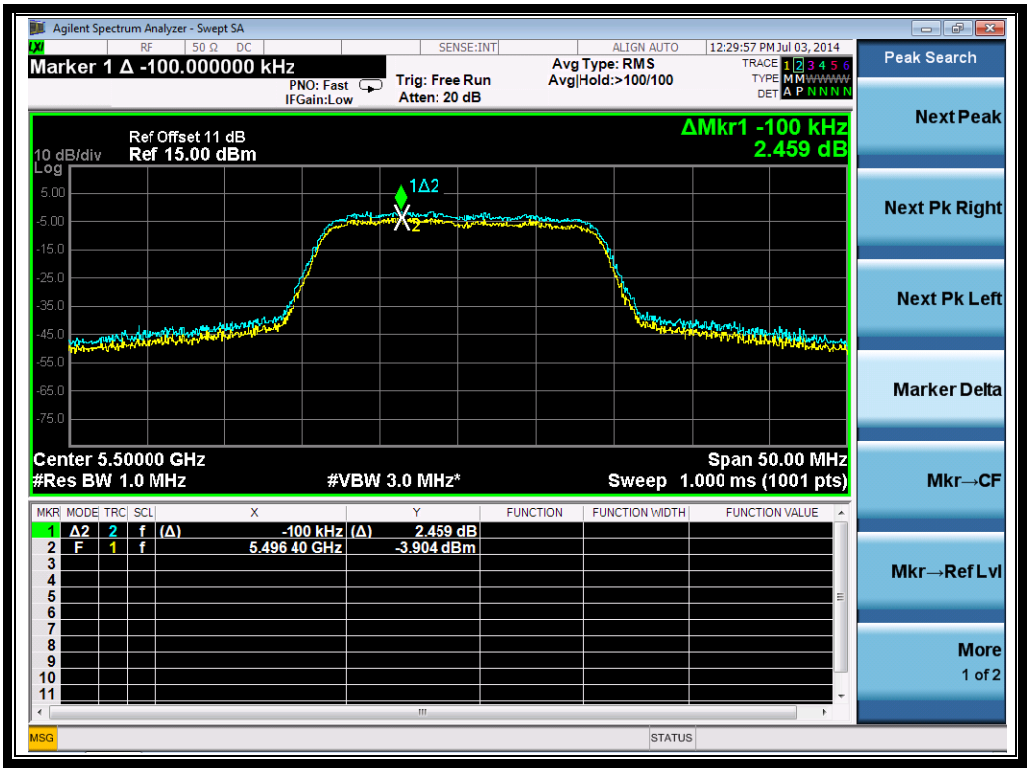
(Channel 52: 5260MHz @ 802.11n-20MHz)



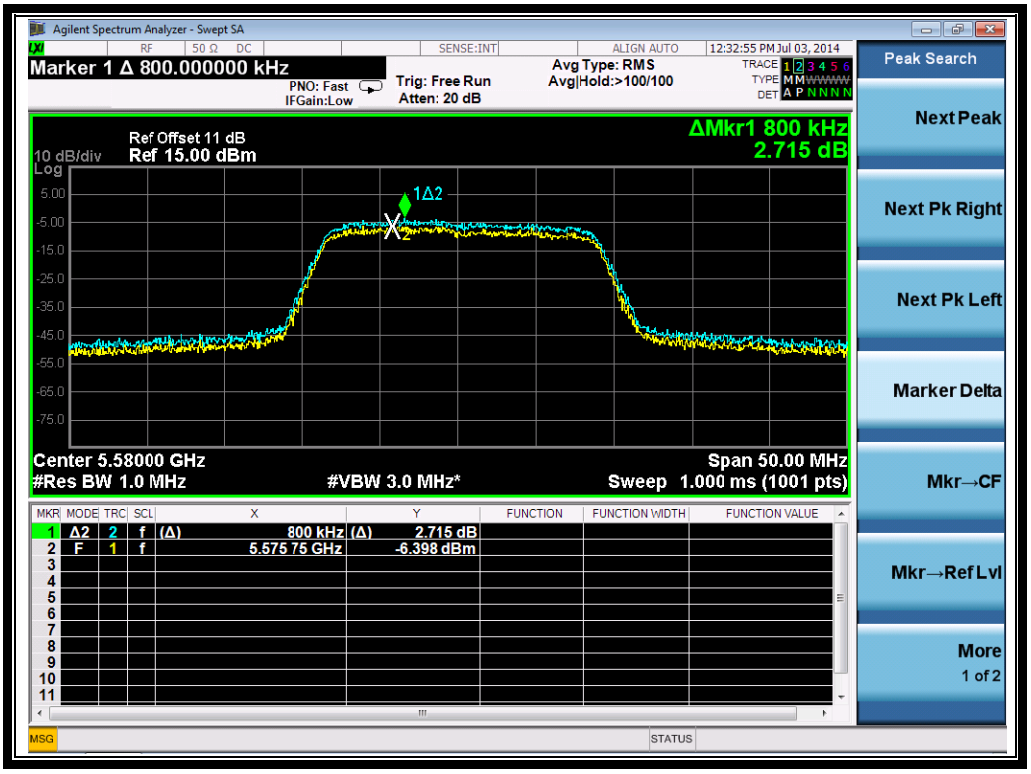
(Channel 60: 5300 MHz @ 802.11n-20MHz)



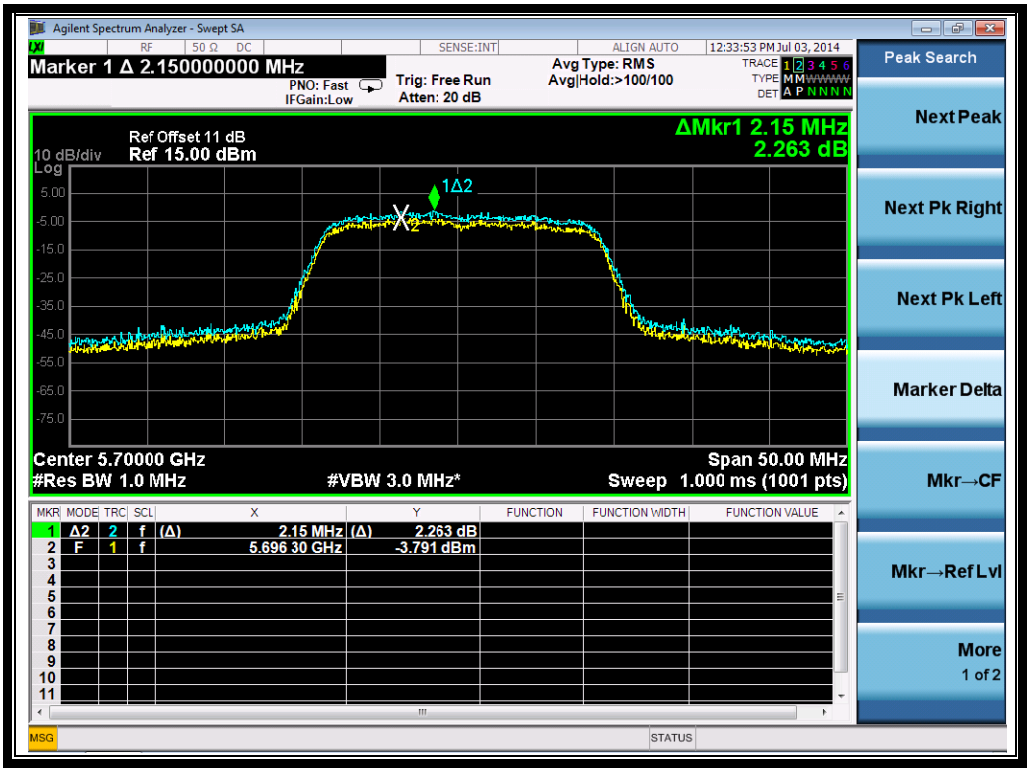
(Channel 64: 5320MHz @ 802.11n-20MHz)



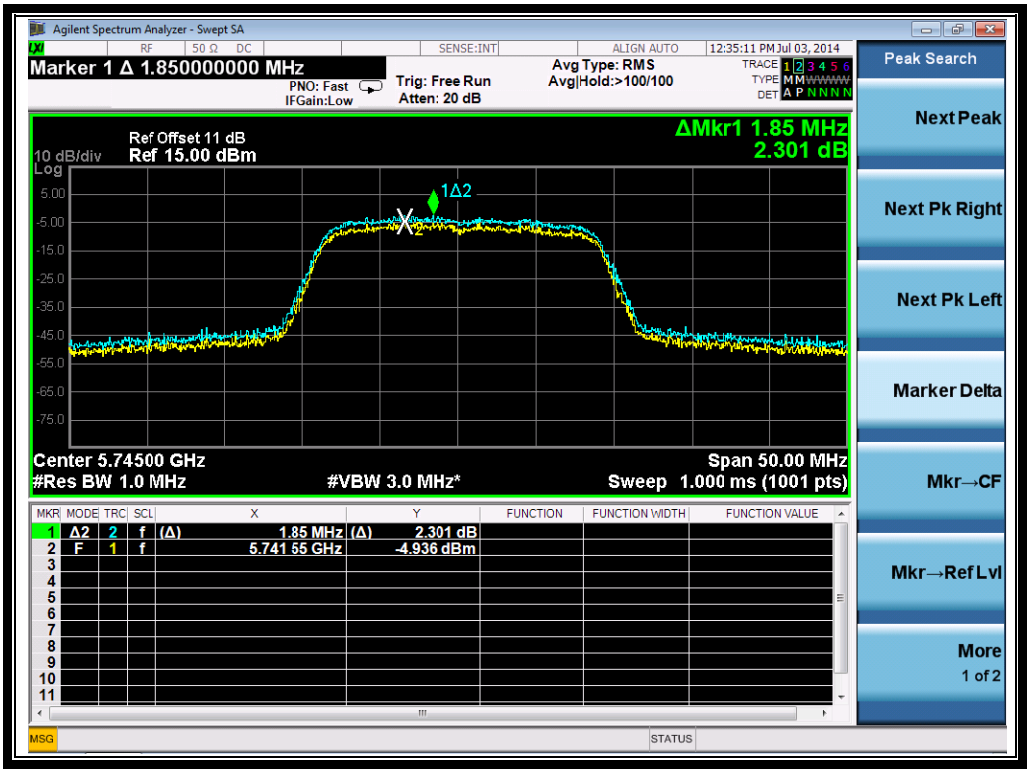
(Channel 100: 5500MHz @ 802.11n-20MHz)



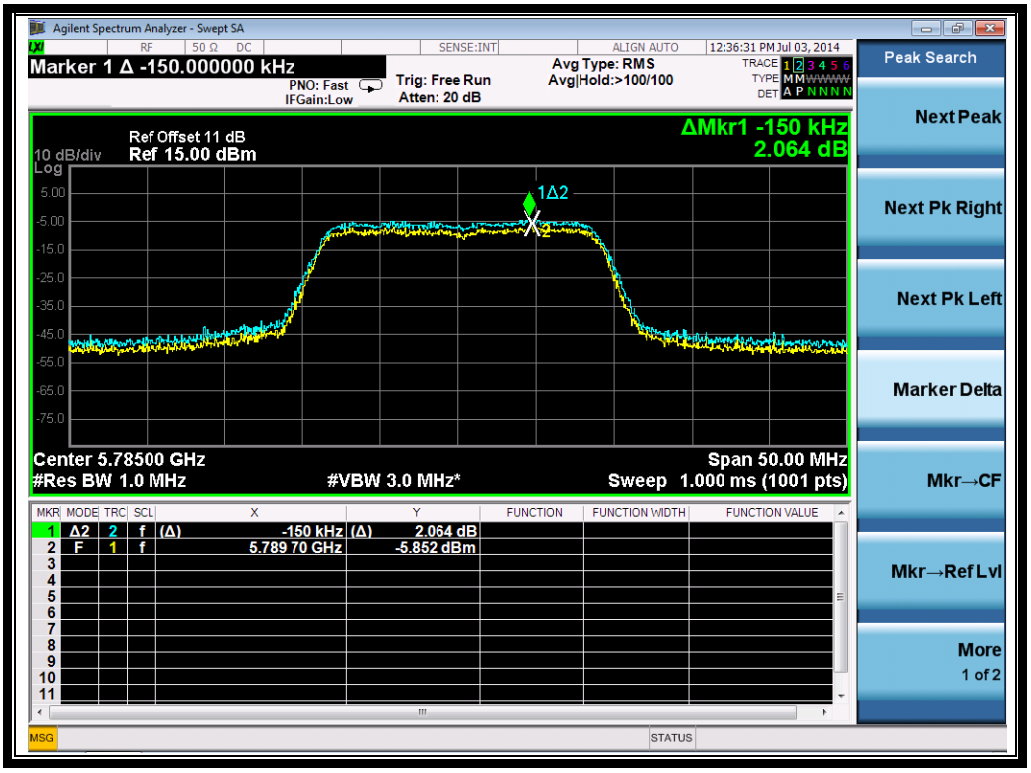
(Channel 116: 5580 MHz @ 802.11n-20MHz)



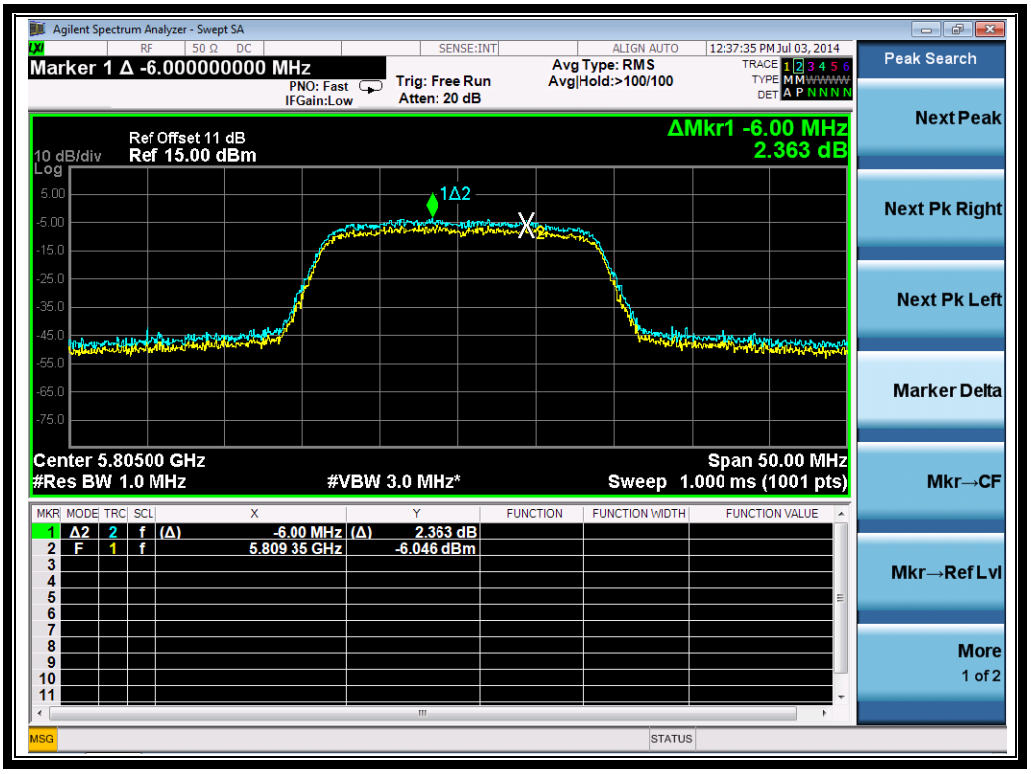
(Channel 140: 5700MHz @ 802.11n-20MHz)



(Channel 149: 5745MHz @ 802.11n-20MHz)



(Channel 157: 5785MHz @ 802.11n-20MHz)



(Channel 161: 5805MHz @ 802.11n-20MHz)

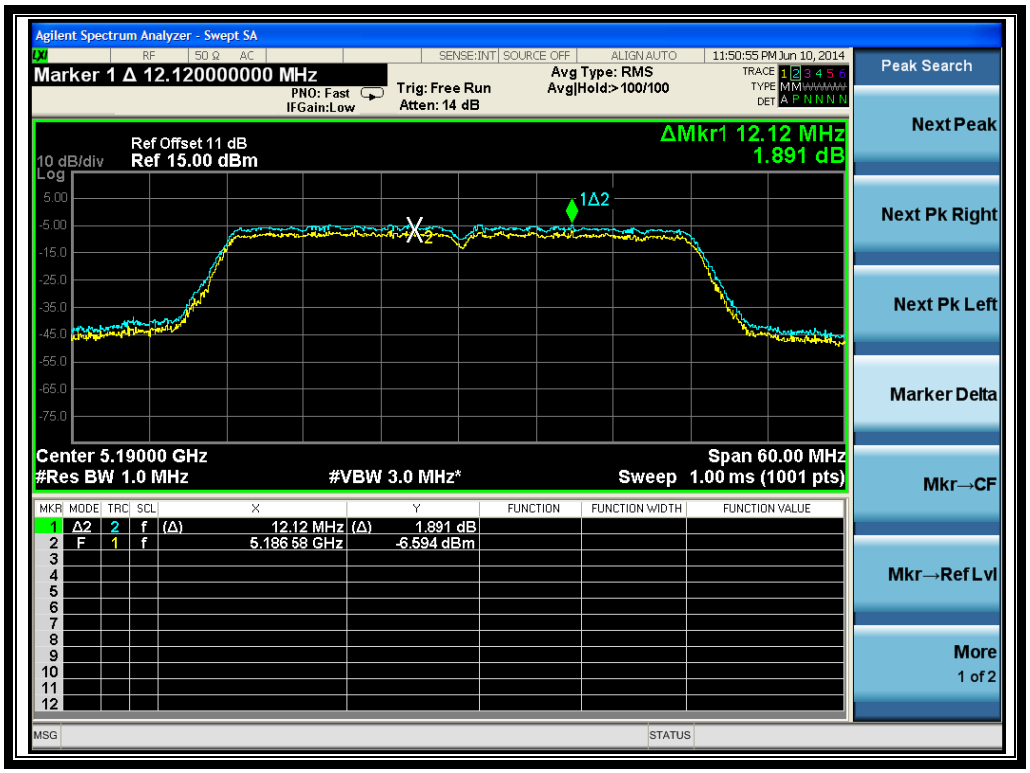
2.7.3.3. 802.11n-40MHz Test mode

ANT 3

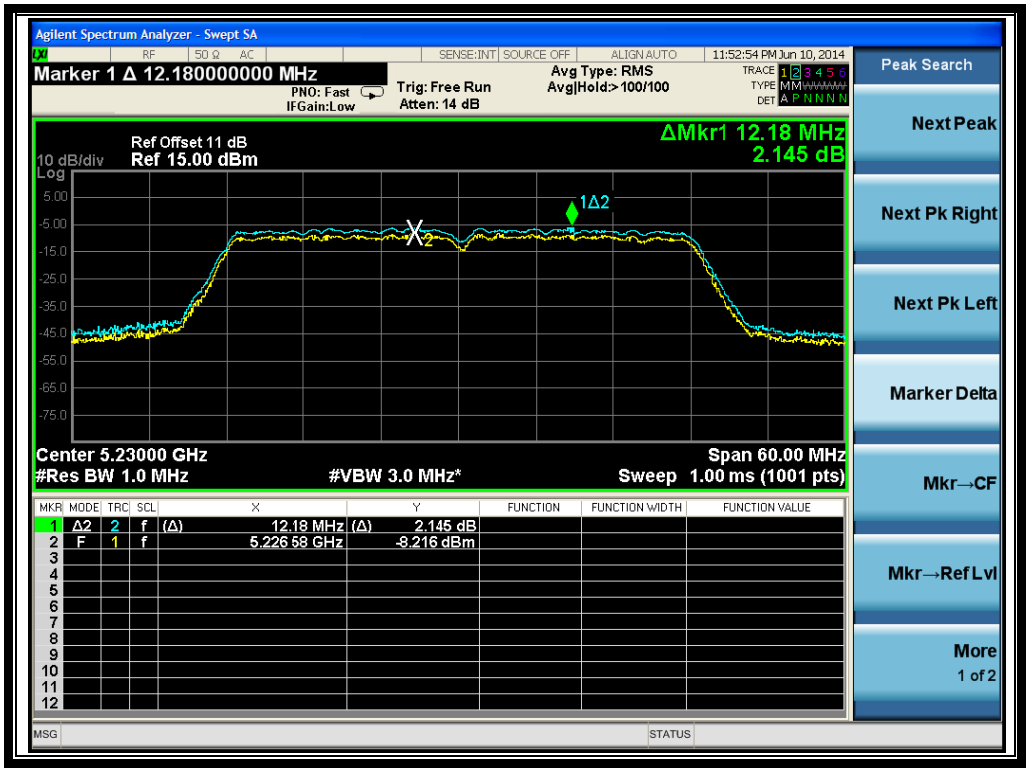
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
38	5190	1.891	13	PASS
46	5230	2.145	13	PASS
54	5270	2.164	13	PASS
62	5310	1.895	13	PASS
102	5510	2.073	13	PASS
110	5550	1.780	13	PASS
134	5670	2.165	13	PASS
151	5755	2.163	13	PASS
159	5795	2.034	13	PASS

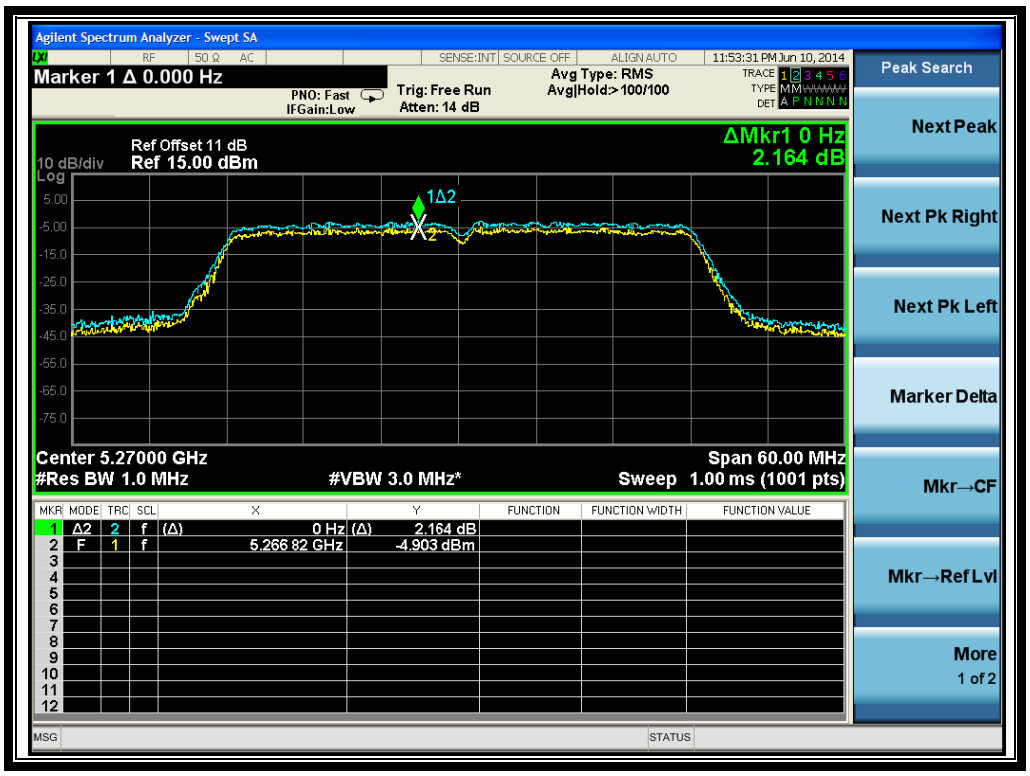
B. Test Plots:



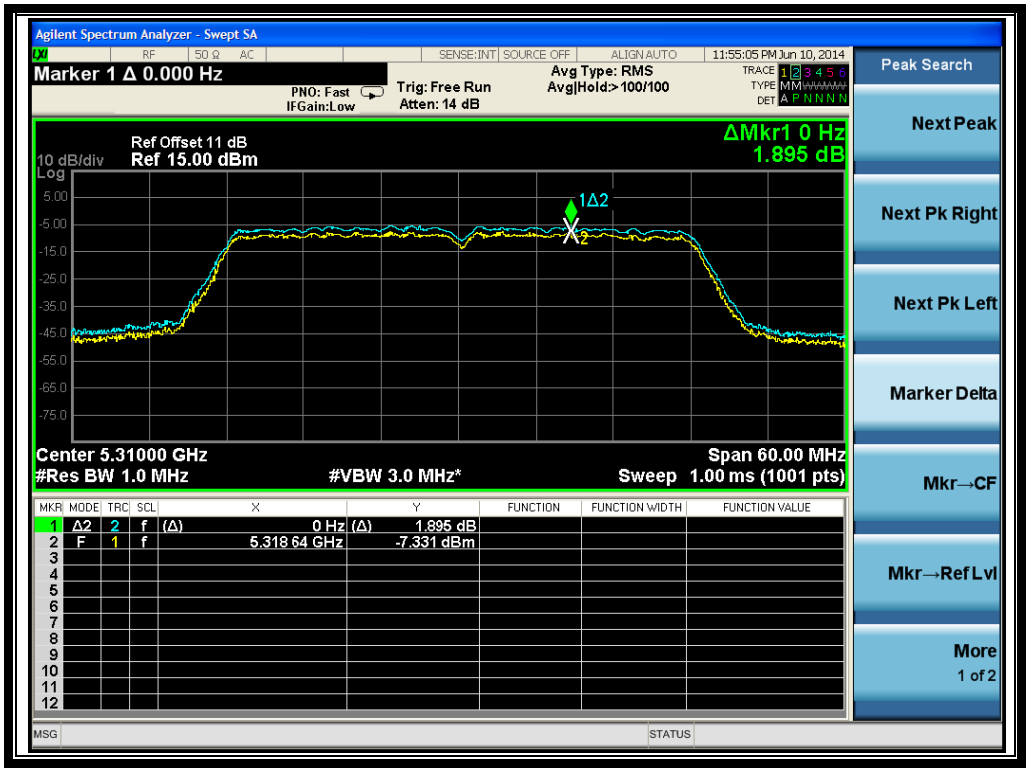
(Channel 38: 5190MHz @ 802.11n-40MHz)



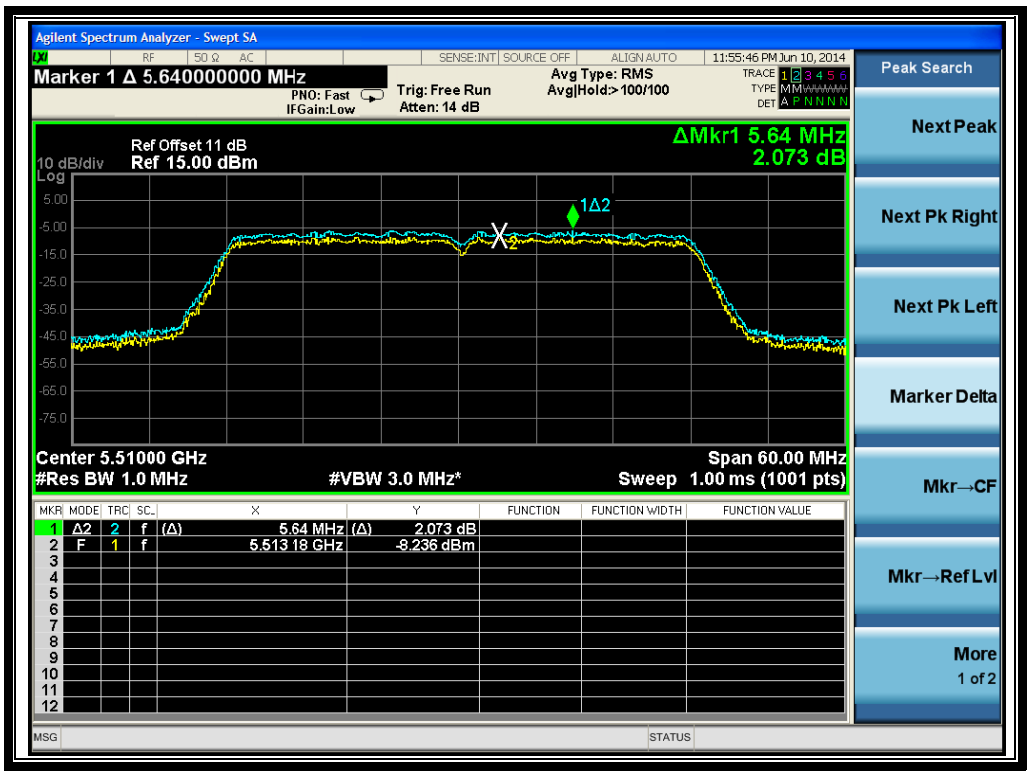
(Channel 46: 5230MHz @ 802.11n-40MHz)



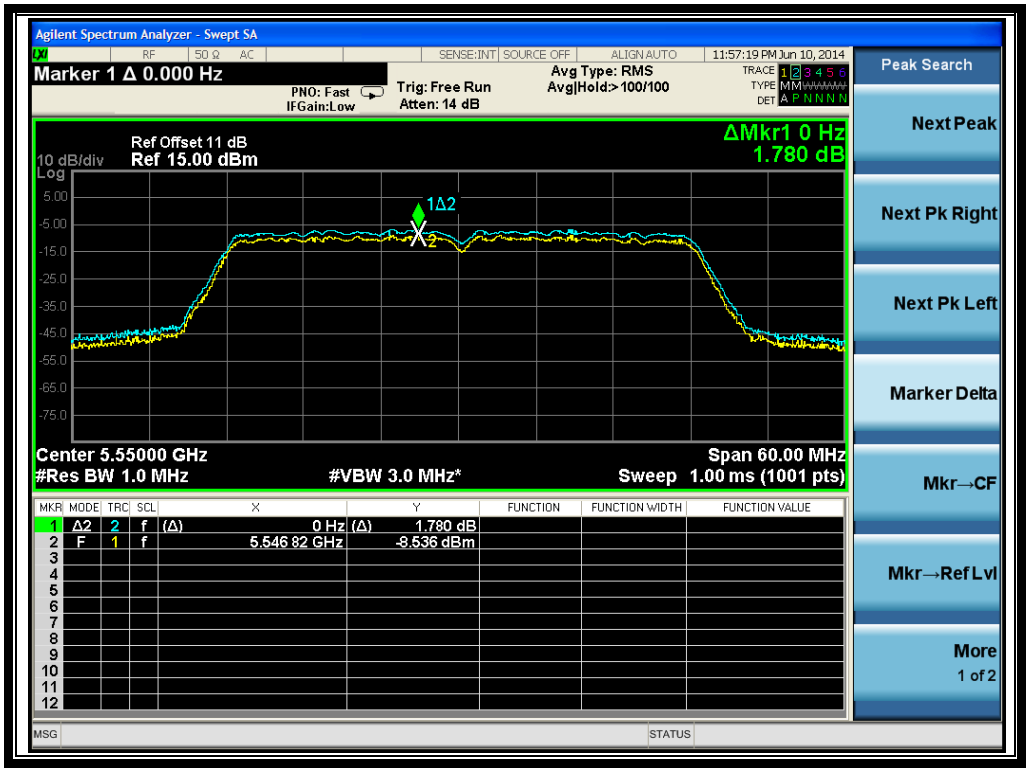
(Channel 54: 5270MHz @ 802.11n-40MHz)



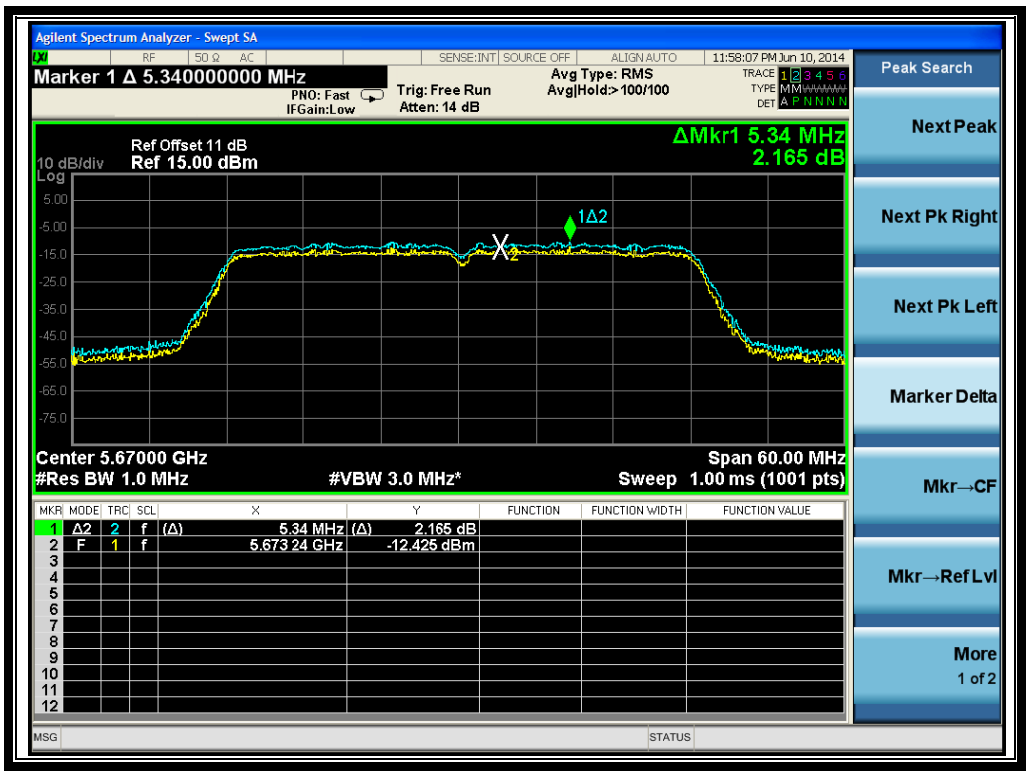
(Channel 62: 5310MHz @ 802.11n-40MHz)



(Channel 102: 5510 MHz @ 802.11n-40MHz)

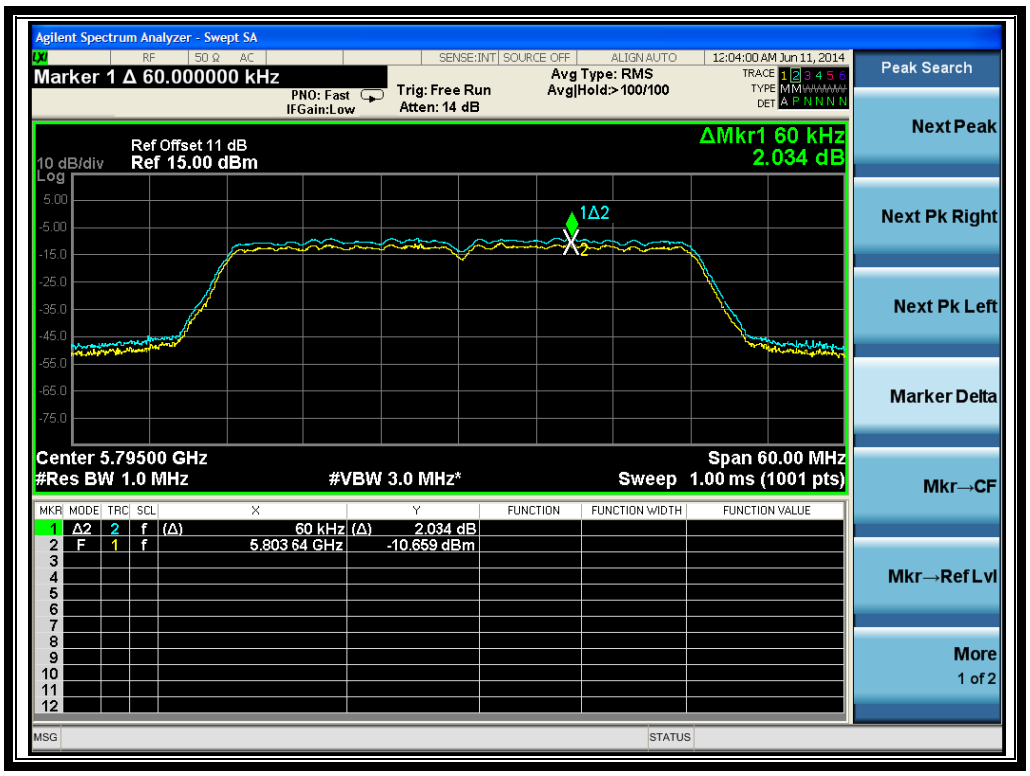


(Channel 110: 5550MHz @ 802.11n-40MHz)



(Channel 134: 5670MHz @ 802.11n-40MHz)

(Channel 151: 5755MHz @ 802.11n-40MHz)



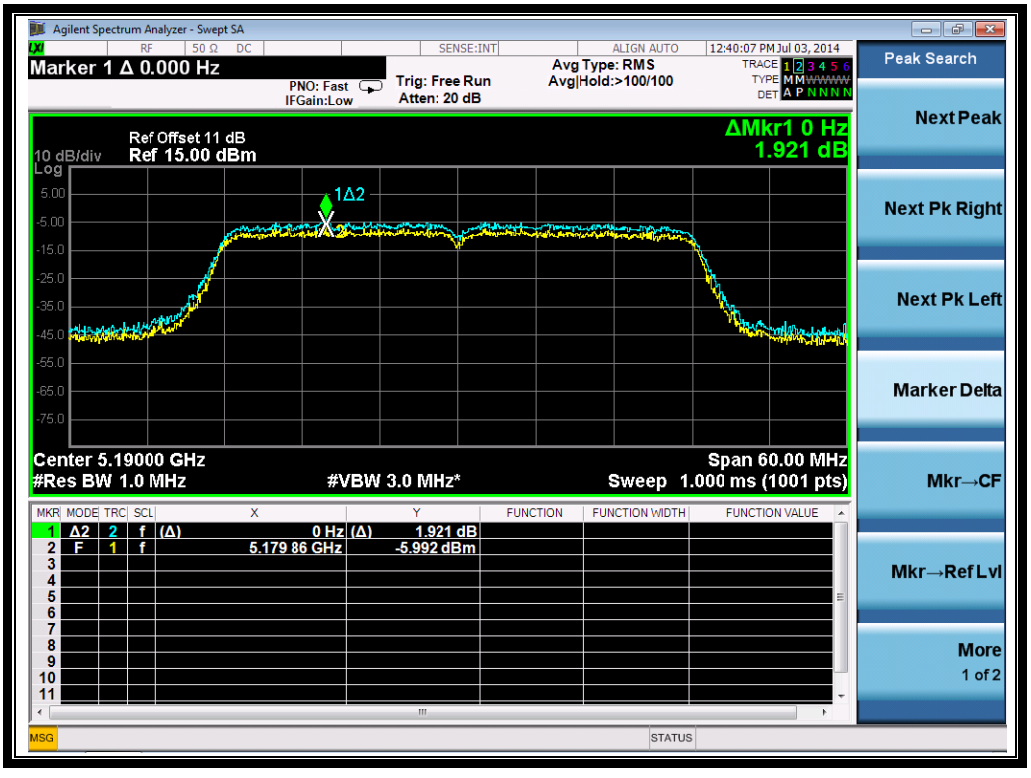
(Channel 159: 5795MHz @ 802.11n-40MHz)

ANT 4

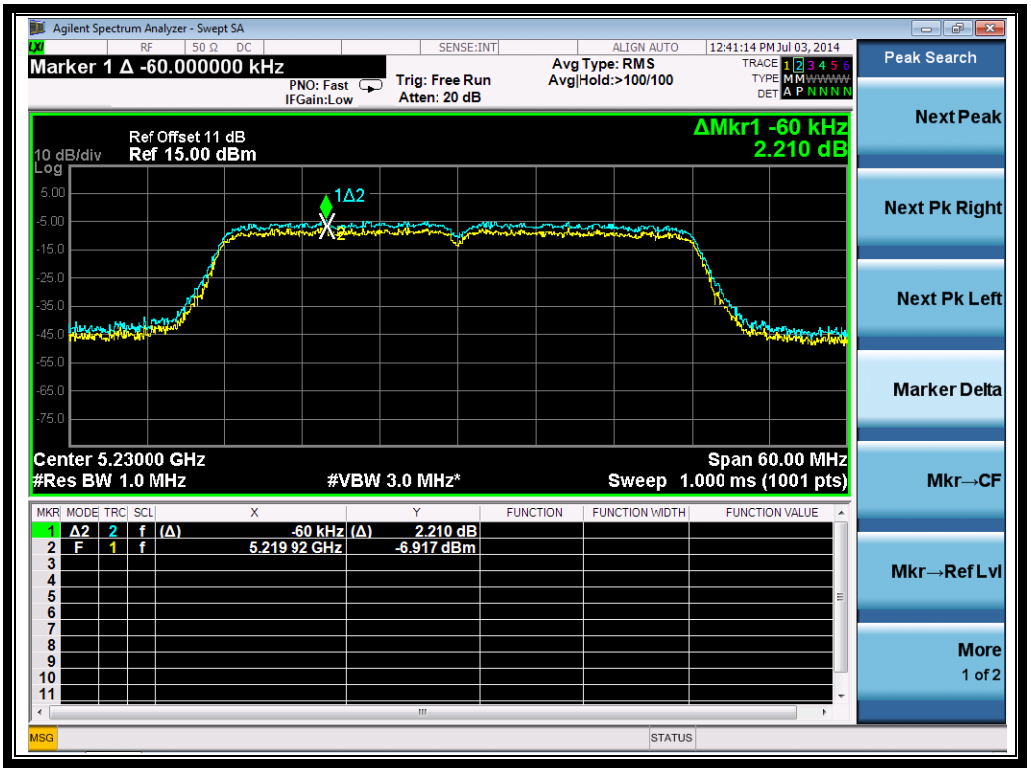
A. Test Verdict:

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Verdict
38	5190	1.921	13	PASS
46	5230	2.210	13	PASS
54	5270	2.412	13	PASS
62	5310	2.123	13	PASS
102	5510	2.042	13	PASS
110	5550	2.099	13	PASS
134	5670	1.819	13	PASS
151	5755	2.060	13	PASS
159	5795	2.177	13	PASS

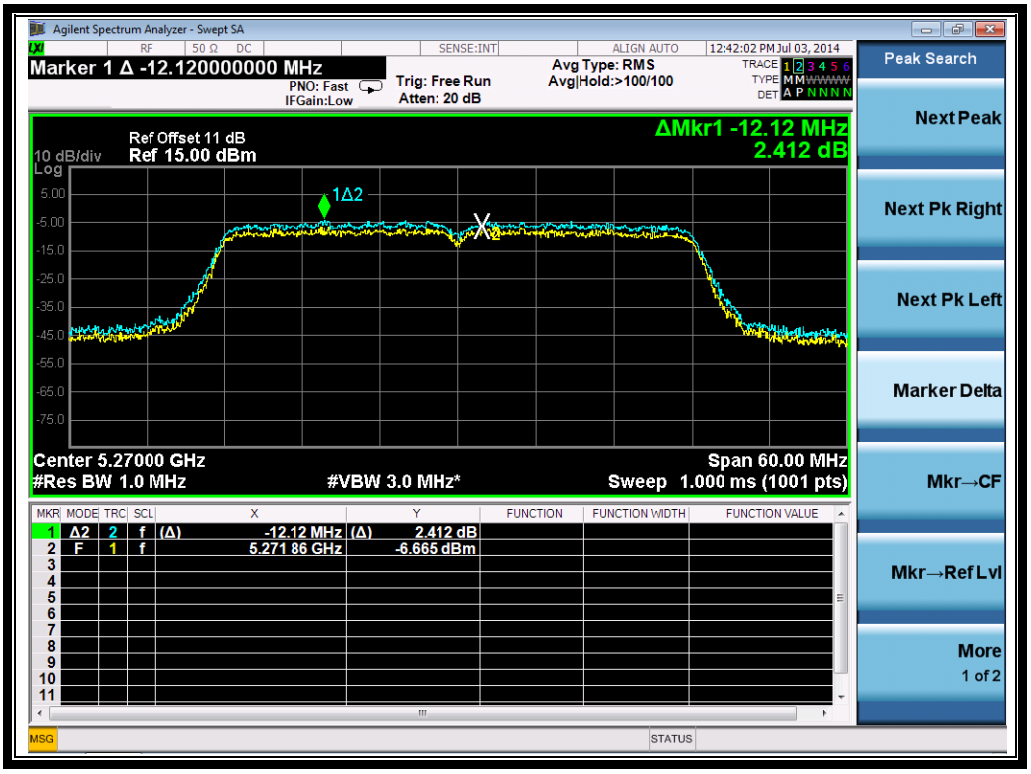
B. Test Plots:



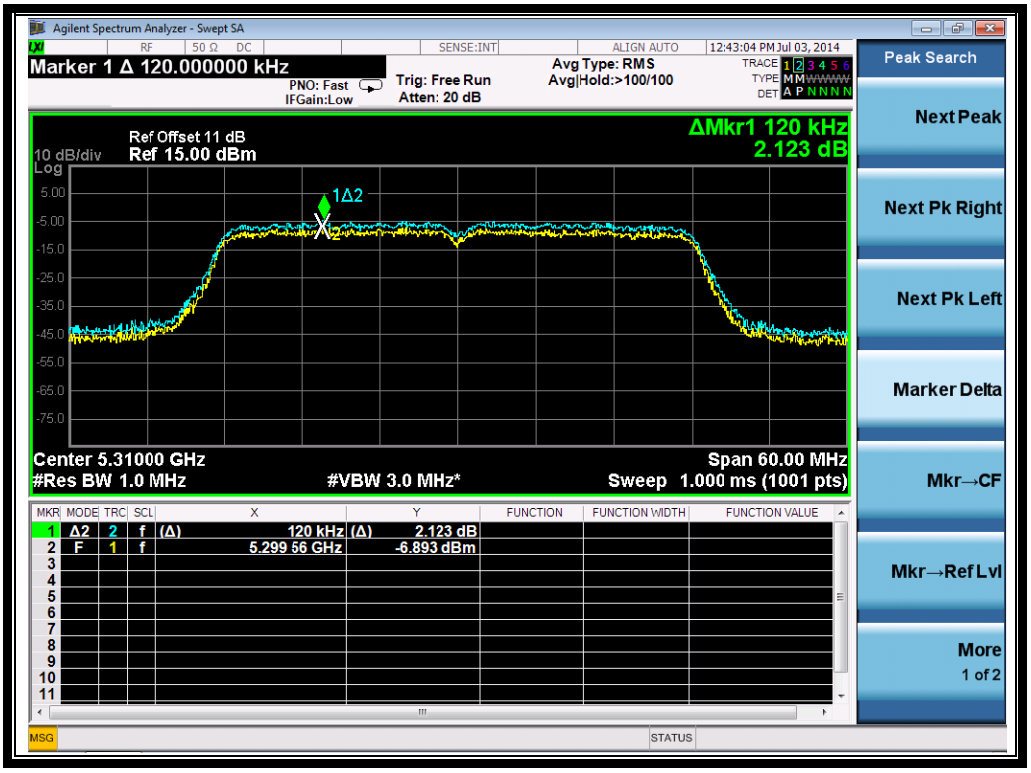
(Channel 38: 5190MHz @ 802.11n-40MHz)



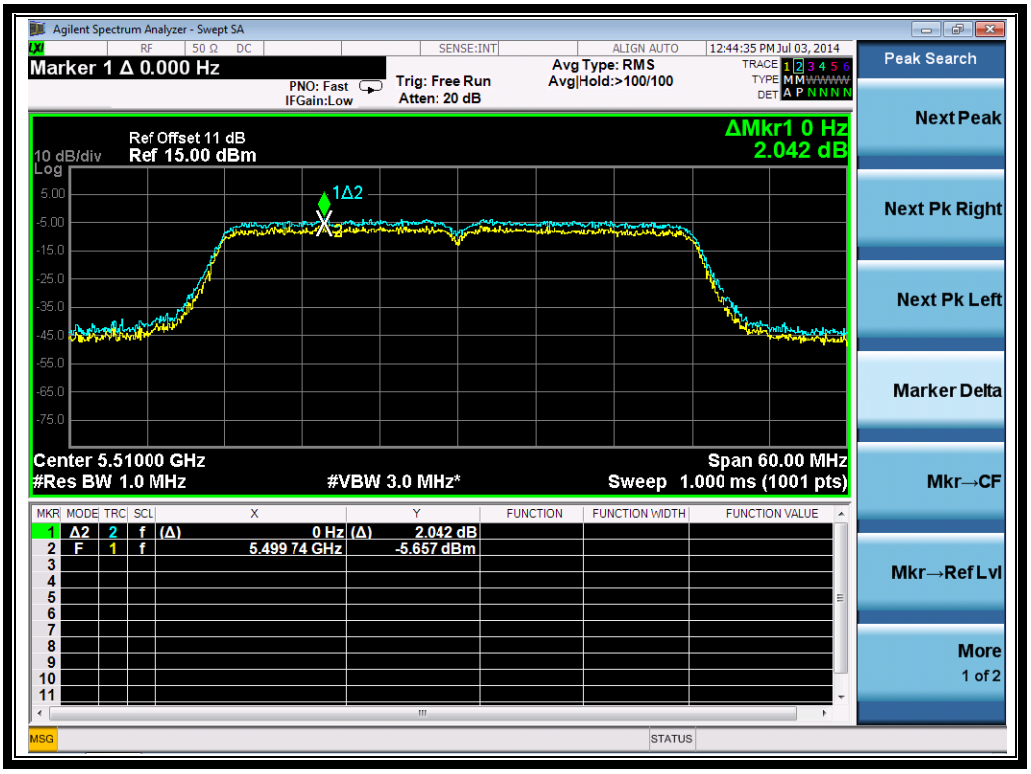
(Channel 46: 5230MHz @ 802.11n-40MHz)



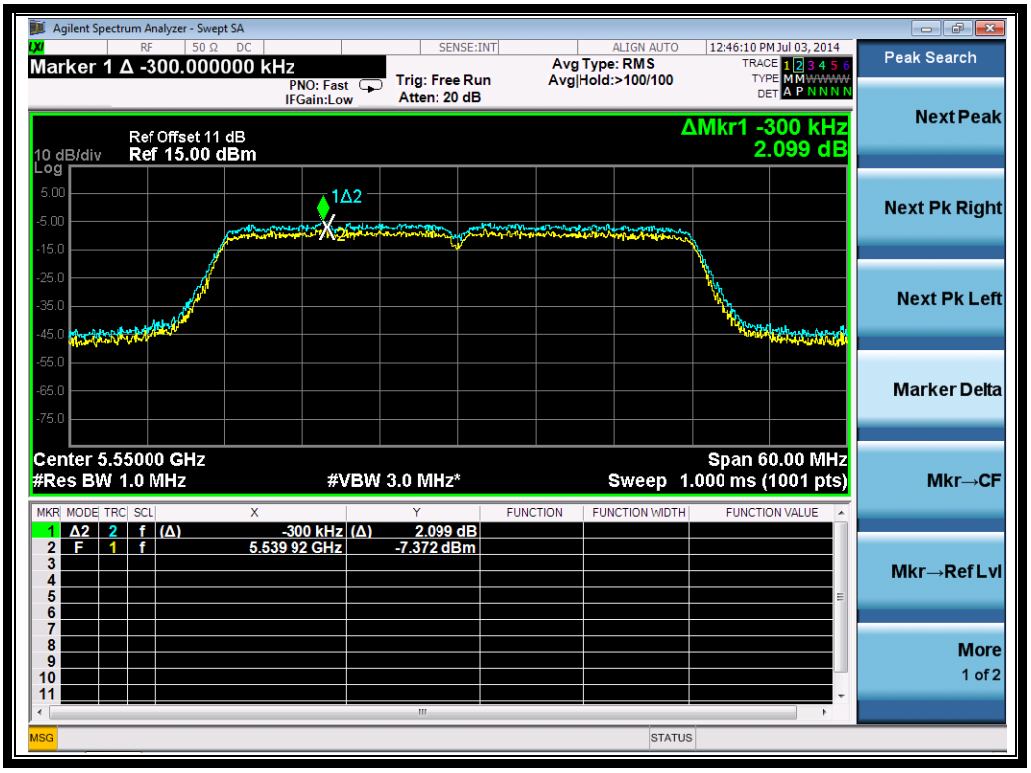
(Channel 54: 5270MHz @ 802.11n-40MHz)



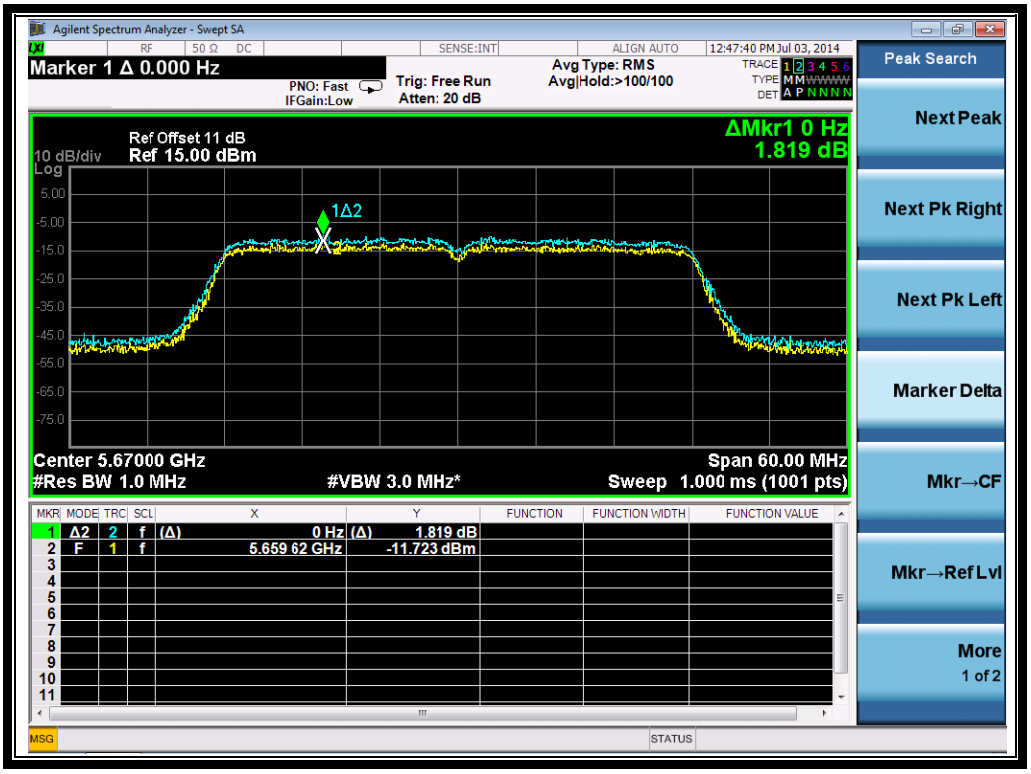
(Channel 62: 5310MHz @ 802.11n-40MHz)



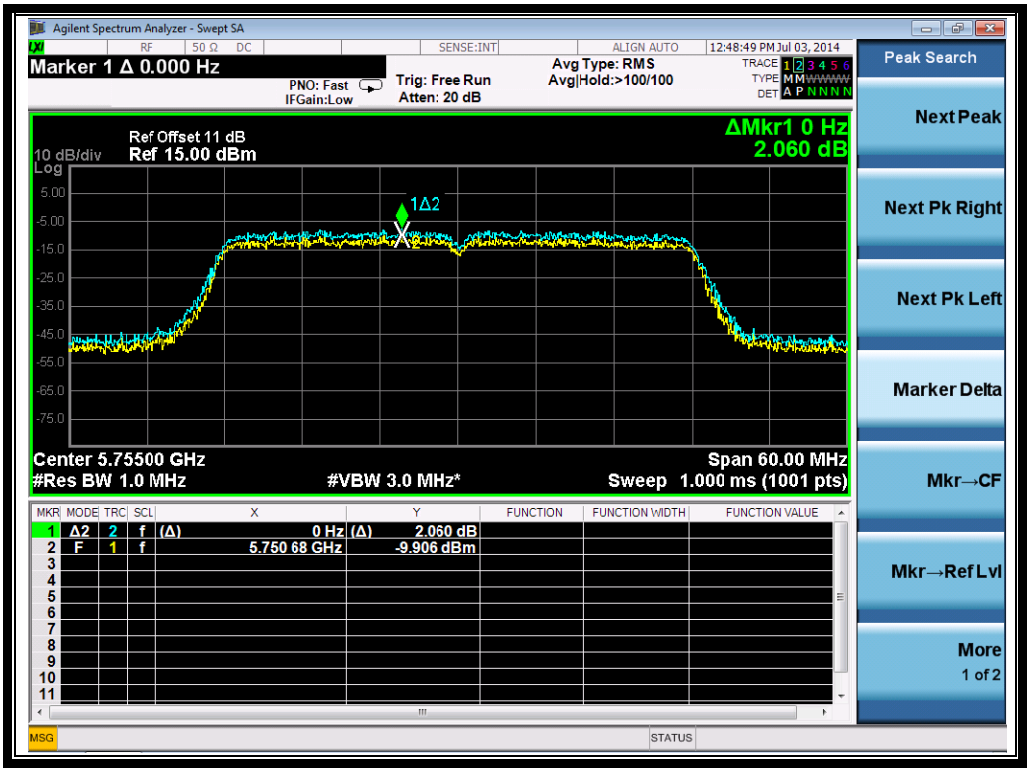
(Channel 102: 5510 MHz @ 802.11n-40MHz)



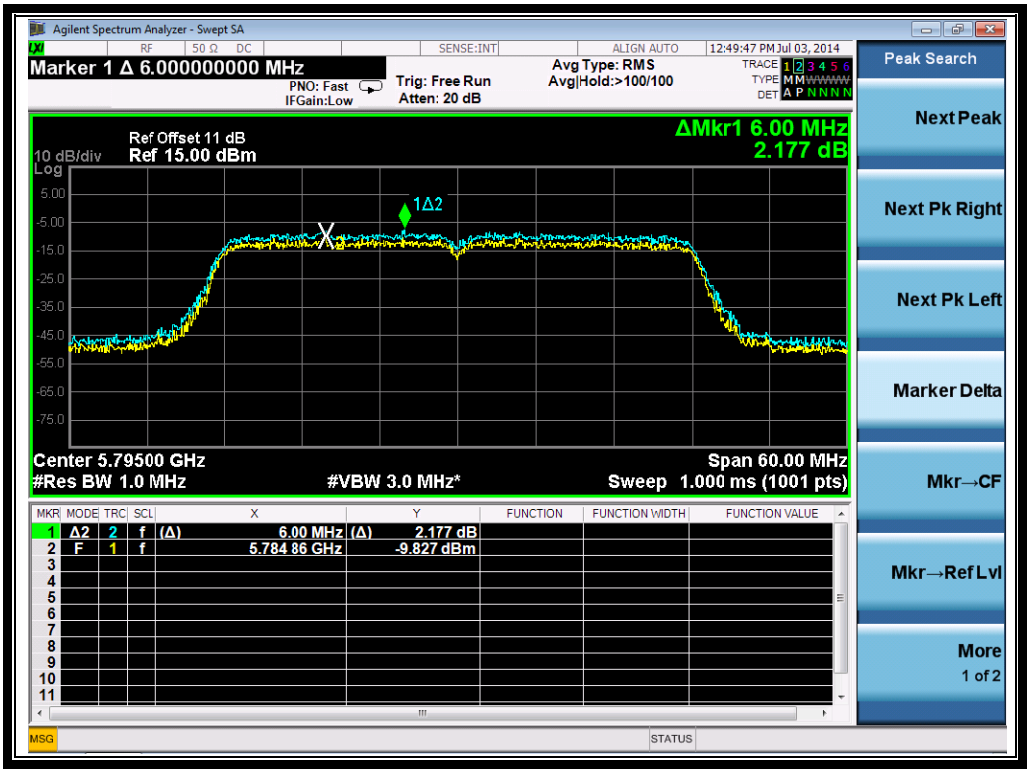
(Channel 110: 5550MHz @ 802.11n-40MHz)



(Channel 134: 5670MHz @ 802.11n-40MHz)



(Channel 151: 5755MHz @ 802.11n-40MHz)



(Channel 159: 5795MHz @ 802.11n-40MHz)

2.8. Frequency Stability

2.8.1. 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.

2.8.2. 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 10o 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	2013.05.13	2014.05.12
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2013.05.13	2014.05.12

2.1.1. Test Result

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

VOLTAGE (%)	POWER (VDC)	TEMP (℃)	FREQUENCY (Hz)	Freq Dev. (Hz)	Deviation (%)
100%	5.0	+20(Ref)	5,179,999,985	-15	-0.00000029
100%		-30	5,179,999,984	-16	-0.00000031
100%		-20	5,180,000,007	7	0.00000014
100%		-10	5,179,999,985	-15	-0.00000029
100%		0	5,179,999,992	-8	-0.00000015
100%		+10	5,179,999,986	-14	-0.00000027
100%		+20	5,179,999,991	-9	-0.00000017
100%		+30	5,180,000,001	1	0.00000002
100%		+40	5,180,000,009	9	0.00000017
100%		+50	5,179,999,997	-3	-0.00000006
105%	5.25	+20	5,180,000,010	10	0.00000019
BATT.ENDPOINT	4.75	+20	5,179,999,986	-14	-0.00000027

Frequency Stability Measurements for UNII Band 2 (Ch. 52)

VOLTAGE (%)	POWER (VDC)	TEMP (℃)	FREQUENCY (Hz)	Freq Dev. (Hz)	Deviation (%)
100%	5.0	+20(Ref)	5,260,000,003	3	0.00000006
100%		-30	5,260,000,007	7	0.00000013
100%		-20	5,259,999,997	-3	-0.00000006
100%		-10	5,259,999,993	-7	-0.00000013
100%		0	5,260,000,004	4	0.00000008
100%		+10	5,260,000,001	1	0.00000002
100%		+20	5,260,000,004	4	0.00000008
100%		+30	5,260,000,011	11	0.00000021
100%		+40	5,260,000,008	8	0.00000015
100%		+50	5,259,999,988	-12	-0.00000023
105%	5.25	+20	5,260,000,016	16	0.00000030
BATT.ENDPOINT	4.75	+20	5,260,000,007	7	0.00000013

Frequency Stability Measurements for UNII Band 3 (Ch. 100)

VOLTAGE (%)	POWER (VDC)	TEMP (℃)	FREQUENCY (Hz)	Freq Dev. (Hz)	Deviation (%)
100%	5.0	+20(Ref)	5,500,000,009	9	0.00000016
100%		-30	5,499,999,988	-12	-0.00000022
100%		-20	5,500,000,004	4	0.00000007
100%		-10	5,499,999,993	-7	-0.00000013
100%		0	5,500,000,004	4	0.00000007
100%		+10	5,499,999,991	-9	-0.00000016
100%		+20	5,500,000,013	13	0.00000024
100%		+30	5,500,000,007	7	0.00000013
100%		+40	5,499,999,986	-14	-0.00000025
100%		+50	5,500,000,001	1	0.00000002
105%	5.25	+20	5,500,000,003	3	0.00000005
BATT.ENDPOINT	4.75	+20	5,499,999,995	-5	-0.00000009

Frequency Stability Measurements for UNII Band 4 (Ch. 149)

VOLTAGE (%)	POWER (VDC)	TEMP (℃)	FREQUENCY (Hz)	Freq Dev. (Hz)	Deviation (%)
100%	5.0	+20(Ref)	5,745,000,000	0	0.00000000
100%		-30	5,745,000,011	11	0.00000019
100%		-20	5,744,999,986	-14	-0.00000024
100%		-10	5,744,999,997	-3	-0.00000005
100%		0	5,744,999,991	-9	-0.00000016
100%		+10	5,745,000,006	6	0.00000010
100%		+20	5,744,999,995	-5	-0.00000009
100%		+30	5,745,000,017	17	0.00000030
100%		+40	5,745,000,003	3	0.00000005
100%		+50	5,744,999,987	-13	-0.00000023
105%	5.25	+20	5,745,000,005	5	0.00000009
BATT.ENDPOINT	4.75	+20	5,744,999,993	-7	-0.00000012

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.

2.9. Conducted Emission

2.9.1. 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

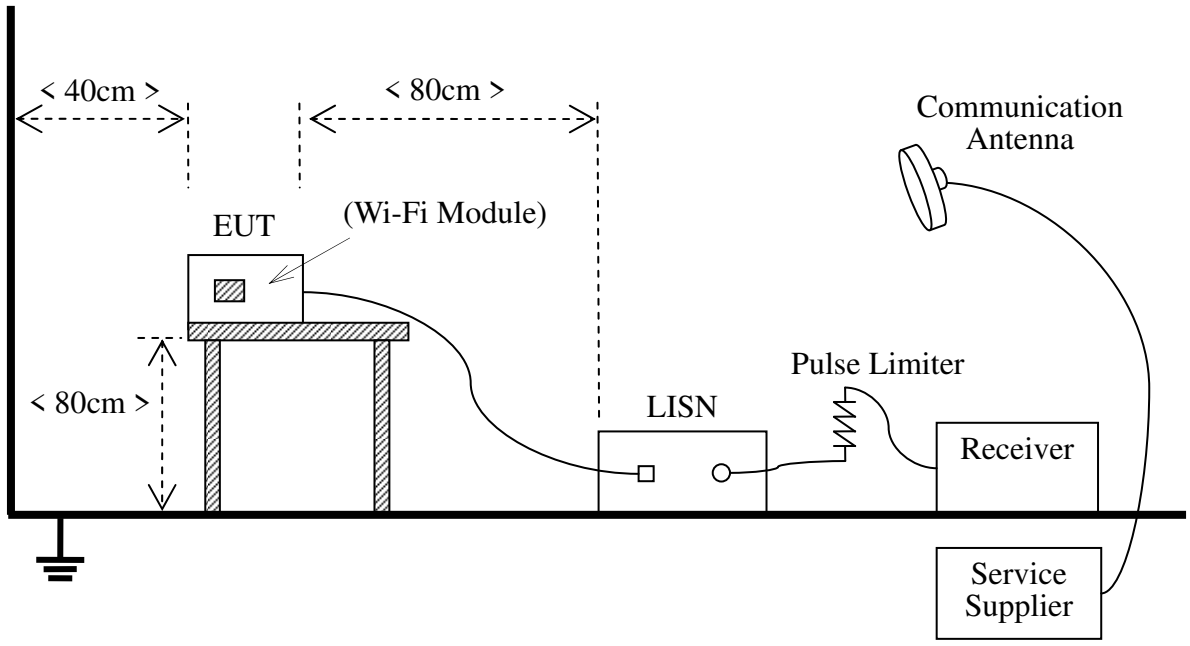
NOTE:

(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.

2.9.2. 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.)

2.9.3. Test Result

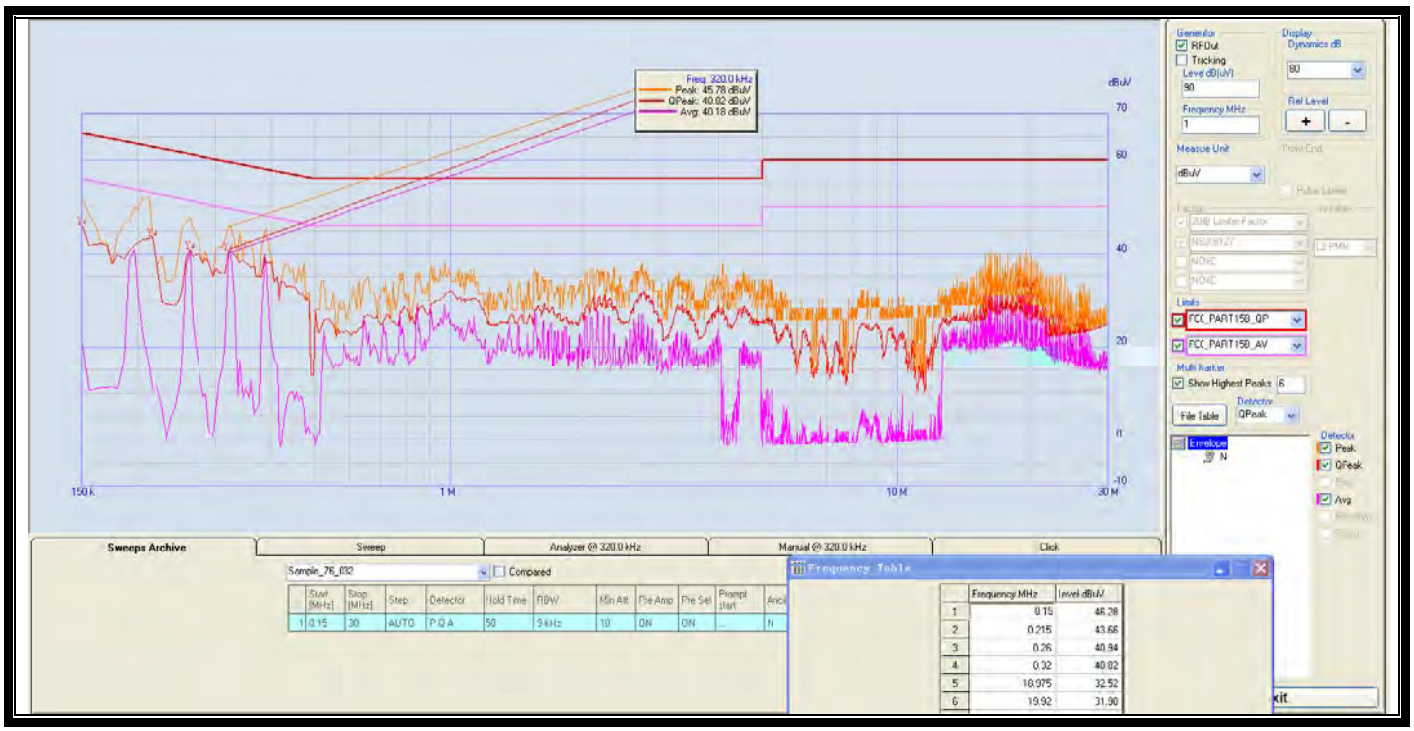
The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT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

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

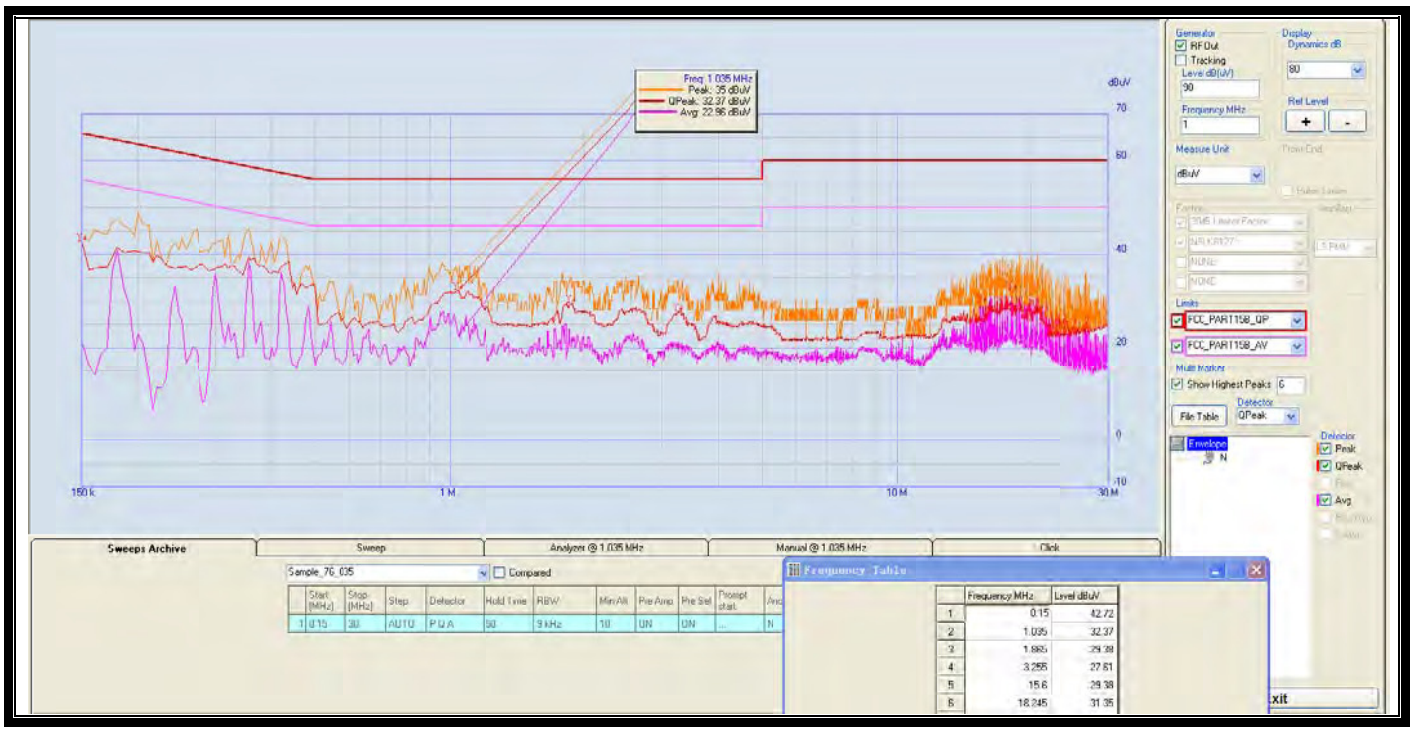
A. Test setup:

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

B. Test Plots:



(Plot A: L Phase)



(Plot B: N Phase)

2.10. Radiated Emission

2.10.1. 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);

$$E = 1000000 \times \sqrt{30P} / 3 \ \mu V/m$$

where P is the EIRP in Watts

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:

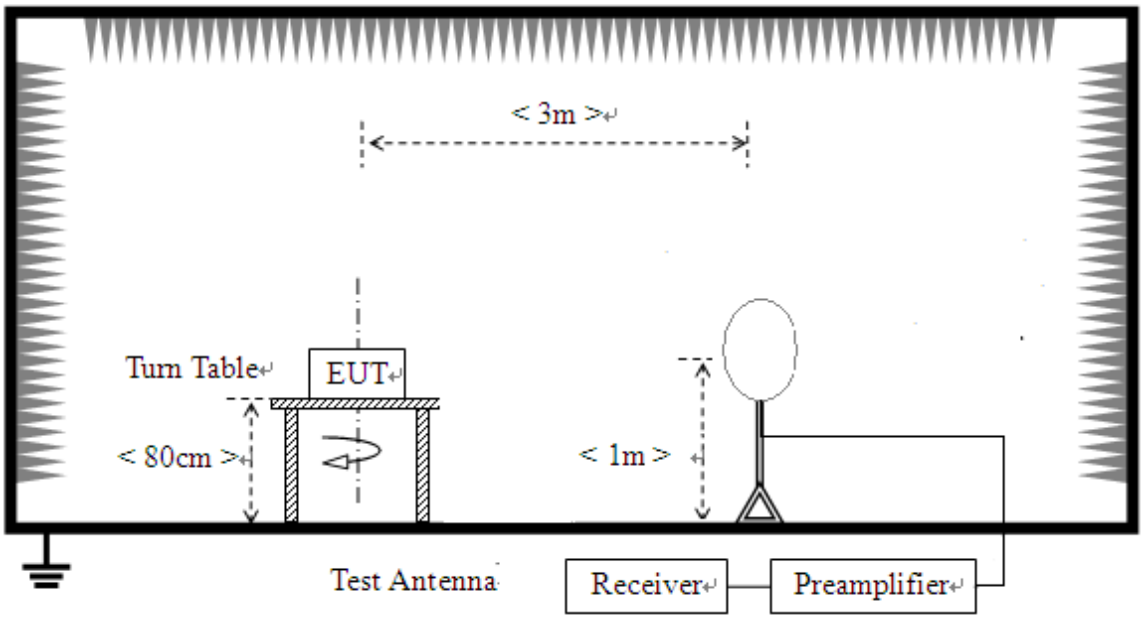
1. For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

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)

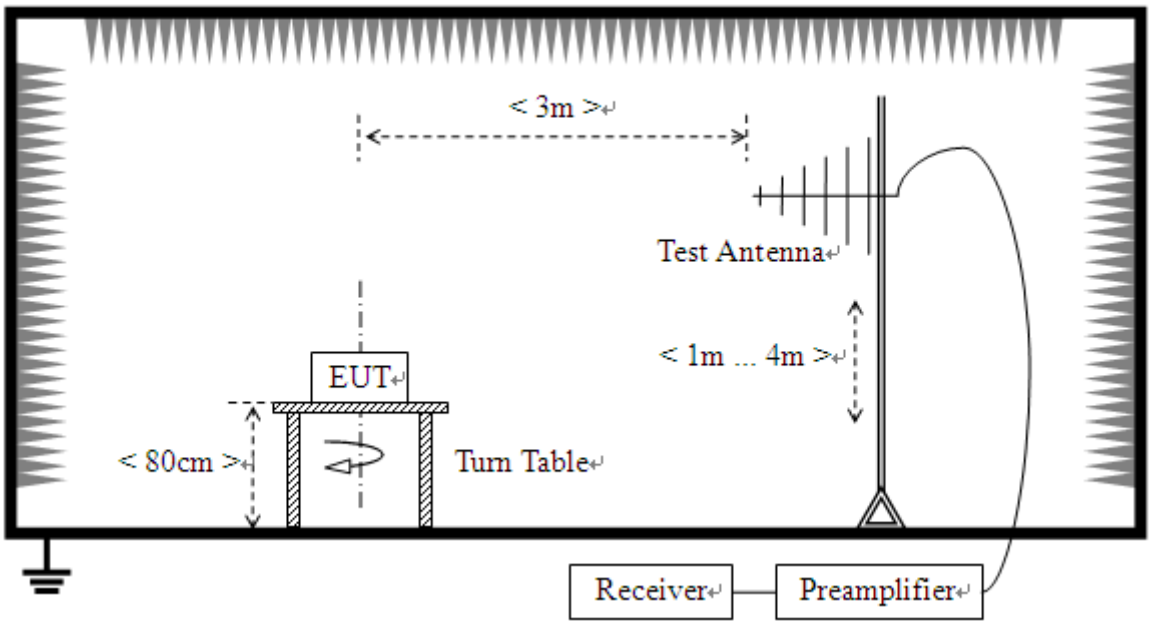
2.10.2. Test Description

A. Test Setup:

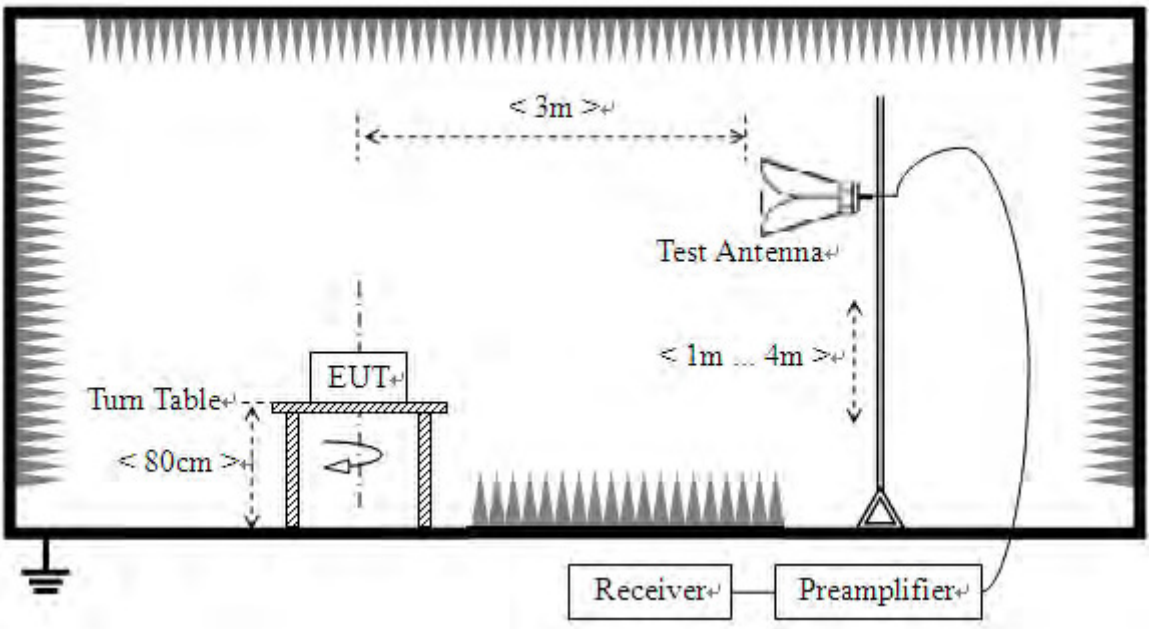
1) For radiated emissions from 9kHz to 30MHz



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
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2014.02.26	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

2.10.3. 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.

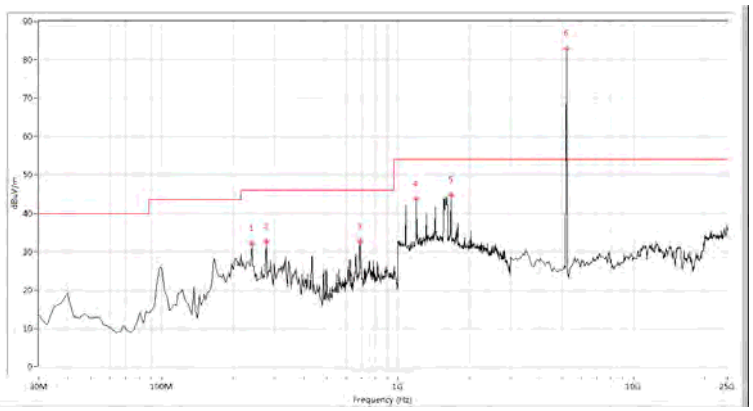
The low frequency, which started from 9KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

2.10.3.1. 802.11a Test mode

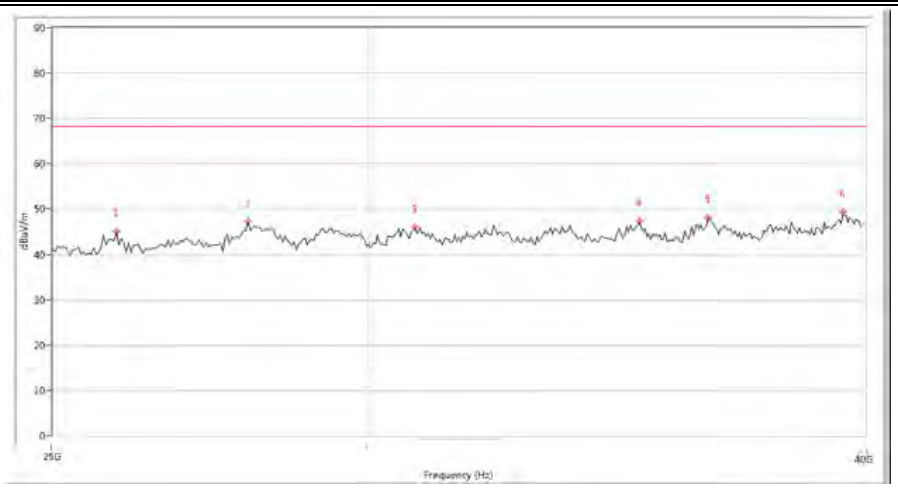
A. Test Plots for the Whole Measurement Frequency Range:

ANT 3

Plots for Channel = 36

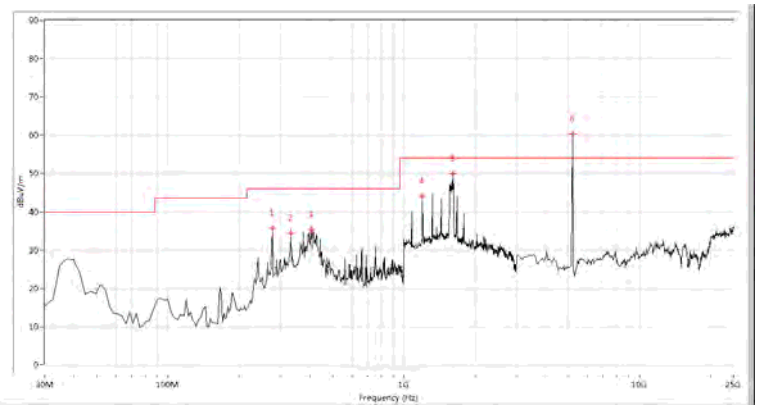


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
240.449	32.12	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
276.733	32.58	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
690.374	32.66	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
1199.501	43.67	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1678.304	44.65	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5180.000	82.88	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

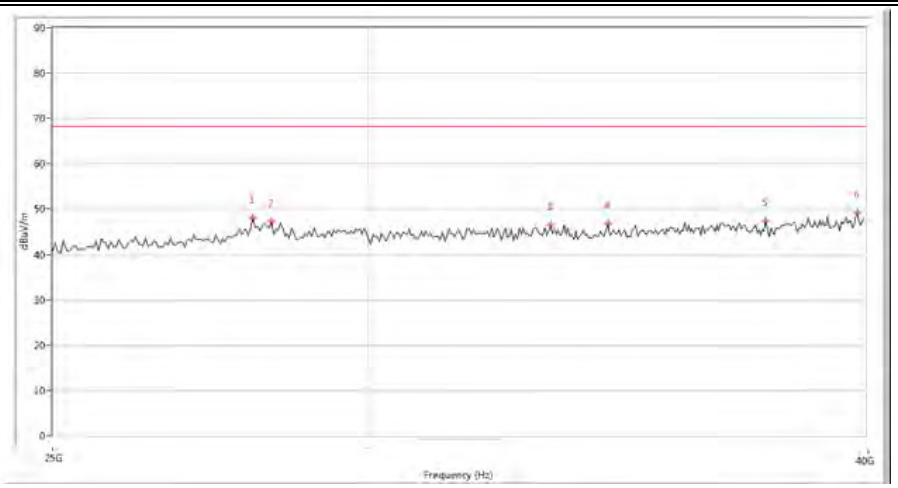


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
25937.516	45.08	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
27909.252	47.29	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30833.541	46.01	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
35049.975	47.35	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36520.120	48.10	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39477.631	49.31	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



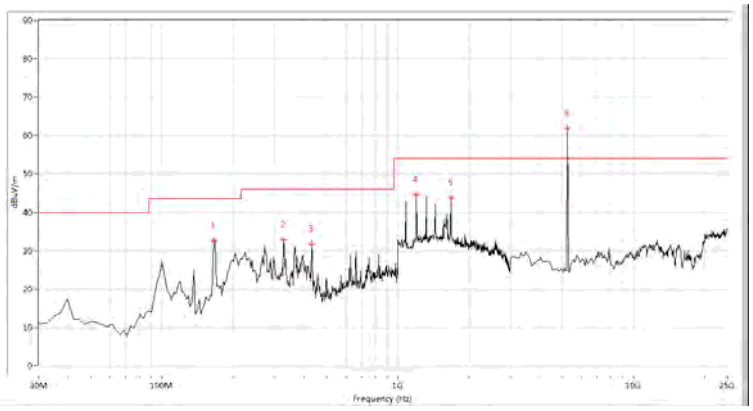
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
276.733	35.72	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
332.369	34.41	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
404.938	35.37	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1199.501	44.01	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1618.454	49.94	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5180.000	60.16	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



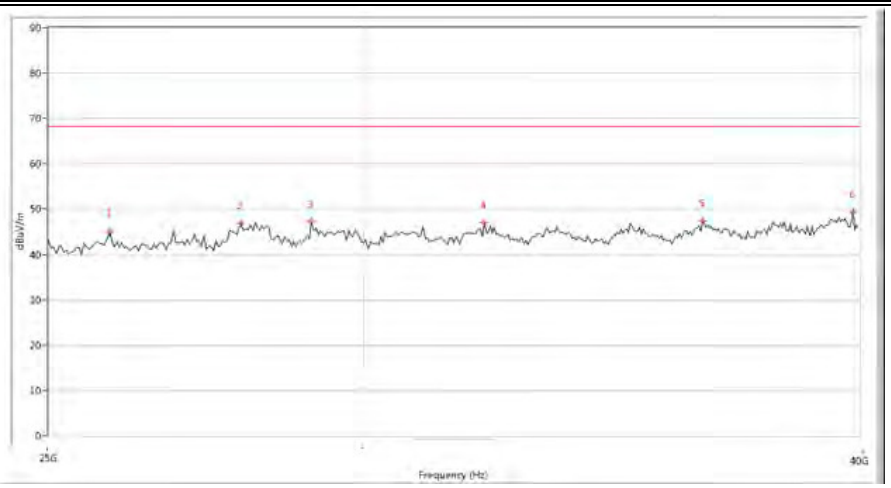
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28016.733	48.07	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28367.658	47.27	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33345.165	46.52	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34466.384	46.88	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37754.561	47.38	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39801.297	49.15	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 44

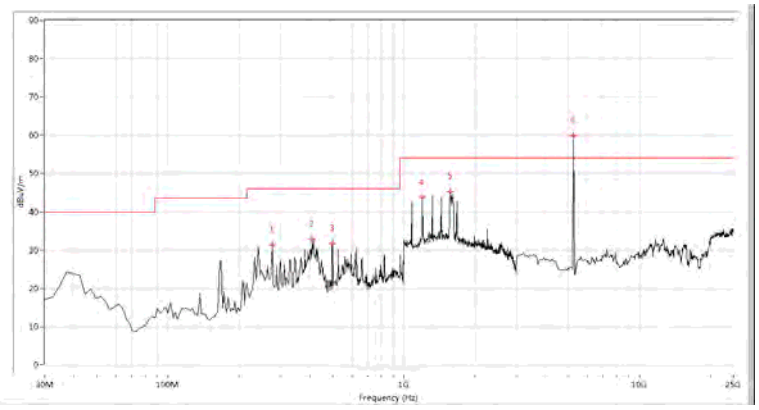


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
165.461	32.64	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
327.531	32.84	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
431.546	31.77	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
1199.501	44.62	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1678.304	43.64	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5220.000	61.88	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

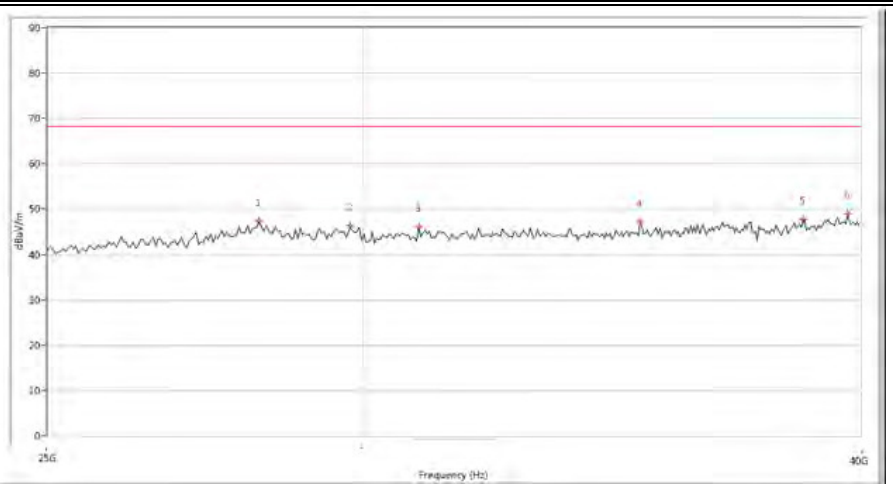


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
25819.776	45.15	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
27953.511	46.79	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29117.471	47.16	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32180.204	47.02	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36524.120	47.49	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39815.037	49.32	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



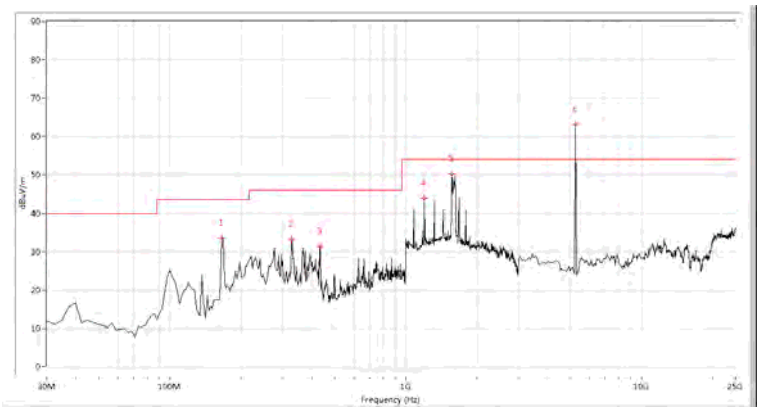
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
276.733	31.32	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
407.357	32.77	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
499.277	31.74	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1199.501	43.70	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1578.554	45.18	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5220.000	59.91	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



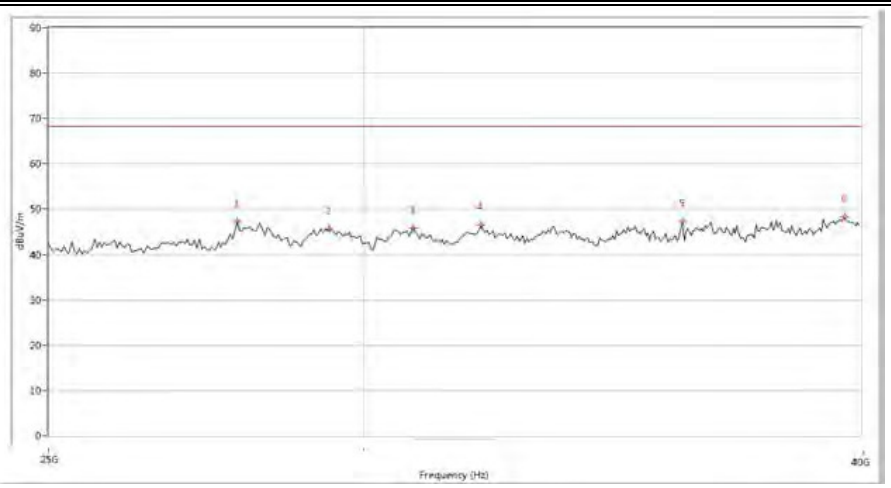
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28205.436	47.40	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29781.803	46.29	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30938.504	46.21	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
366218.197	47.24	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38669.077	47.71	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39730.075	48.93	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 48

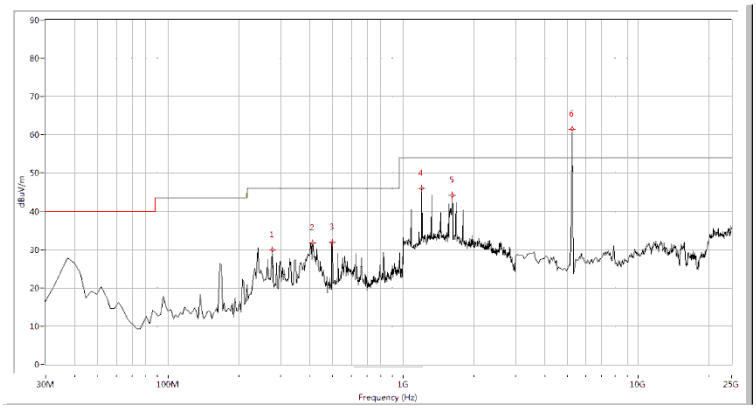


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
165.461	33.59	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
327.531	33.23	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
433.965	31.28	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
1199.501	43.76	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1568.579	50.26	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5240.000	63.01	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

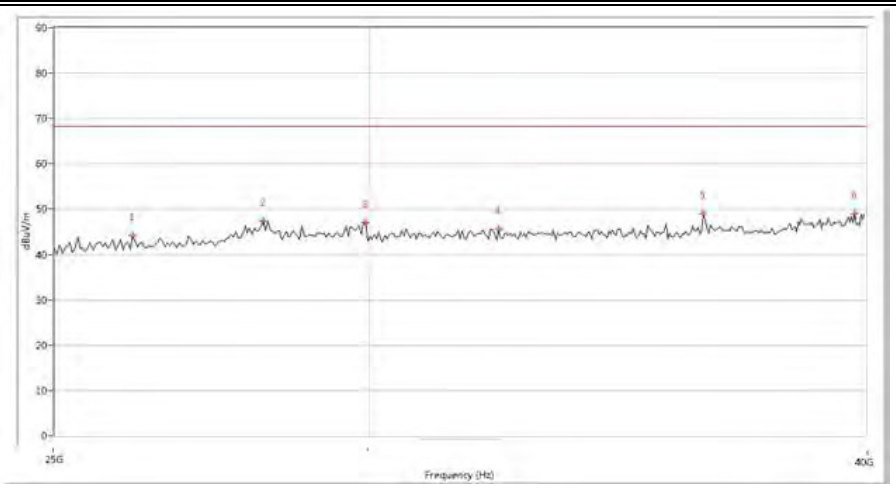


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
27808.030	47.26	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29416.397	45.69	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30872.282	45.77	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32109.723	46.52	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36071.232	47.23	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39620.594	48.28	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



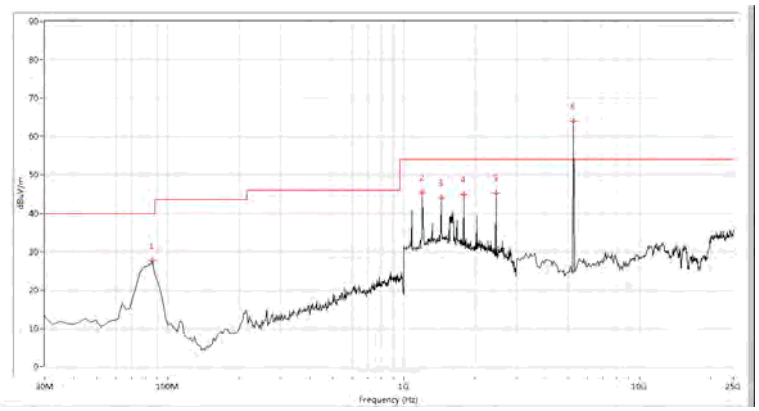
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
276.733	30.03	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
412.195	31.70	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
499.277	31.87	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1199.501	45.92	N.A	N.A	68.2	N.A	54.0	Vertical	PASS
1618.454	44.24	N.A	N.A	68.2	N.A	54.0	Vertical	PASS
5240.000	61.44	N.A	N.A	N.A	N.A	54.0	Vertical	N.A



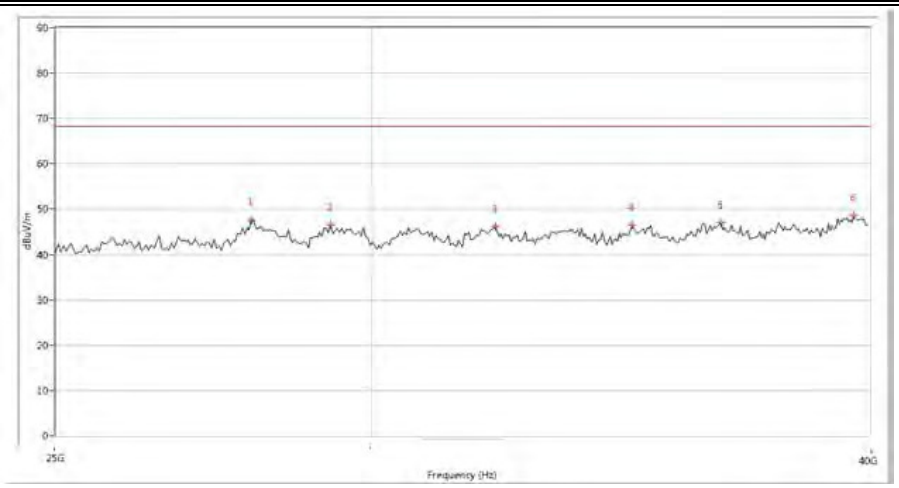
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
26158.960	44.18	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28210.696	47.45	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29933.766	47.02	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32339.167	45.64	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36405.898	49.01	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39753.815	49.07	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plots for Channel = 52

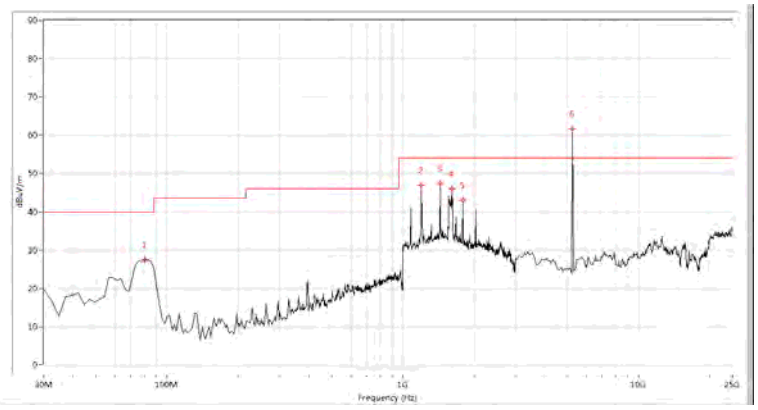


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
85.636	27.67	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
1199.501	45.50	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1438.903	44.08	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1798.005	44.84	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
2456.359	45.22	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5260.000	63.96	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

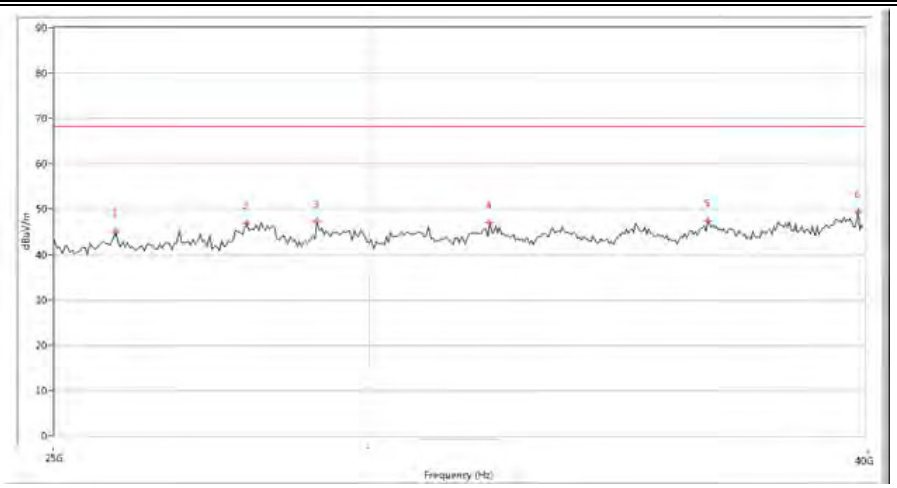


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
27909.252	47.53	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29304.175	46.52	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32281.945	46.14	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34873.531	46.54	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36707.823	46.96	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39612.594	48.67	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



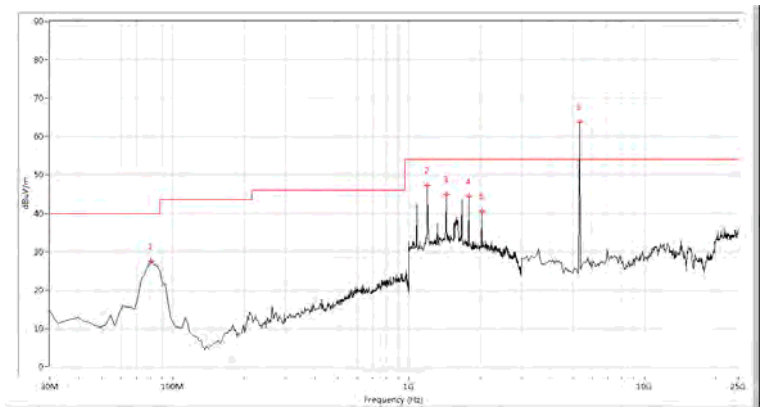
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
80.798	27.50	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
1199.501	46.82	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1438.903	47.35	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1618.454	45.97	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1798.005	42.97	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5260.000	61.65	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



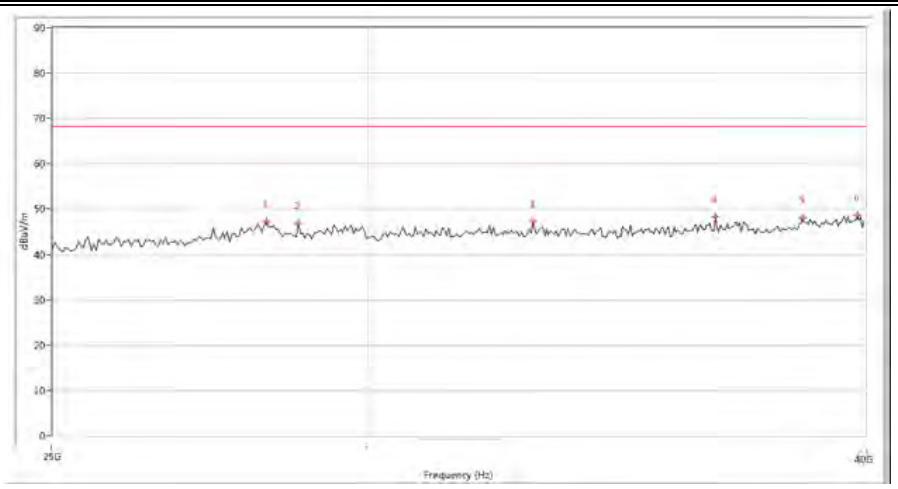
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
25819.776	45.15	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
27953.511	46.79	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29117.471	47.16	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32180.204	47.02	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36524.120	47.49	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39815.037	49.32	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 60

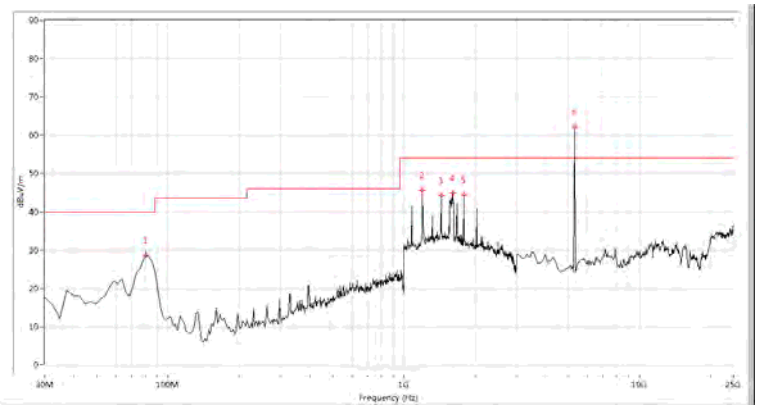


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
80.798	27.51	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
1199.501	47.29	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1438.903	44.93	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1798.005	44.41	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
2037.406	40.38	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5300.000	63.72	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

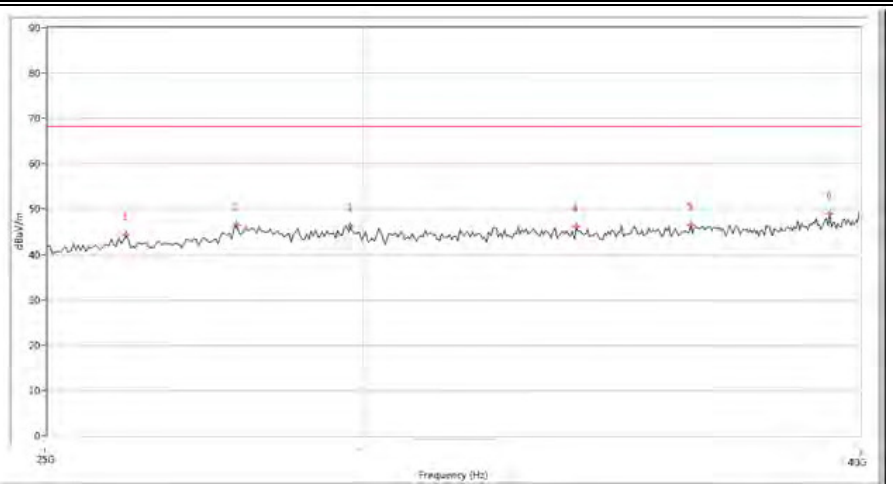


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28290.177	47.14	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28817.546	46.80	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33003.499	47.15	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36677.082	48.32	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38578.855	48.08	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39813.297	48.71	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Horizontal, 30MHz to 40GHz)



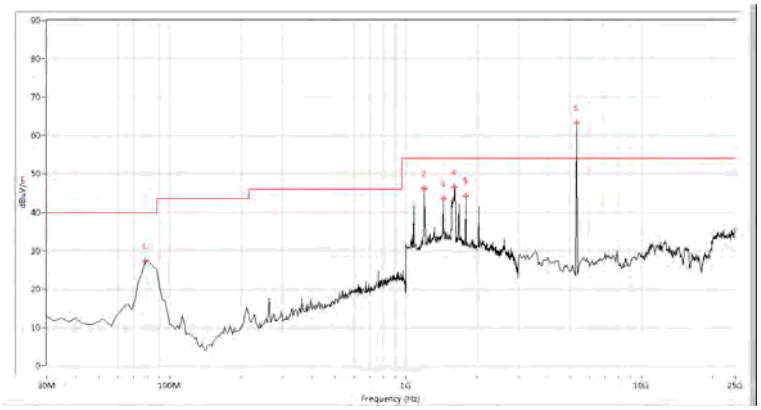
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
80.798	28.72	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
1199.501	45.59	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1438.903	44.21	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1618.454	44.89	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1798.005	44.32	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5300.000	62.11	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



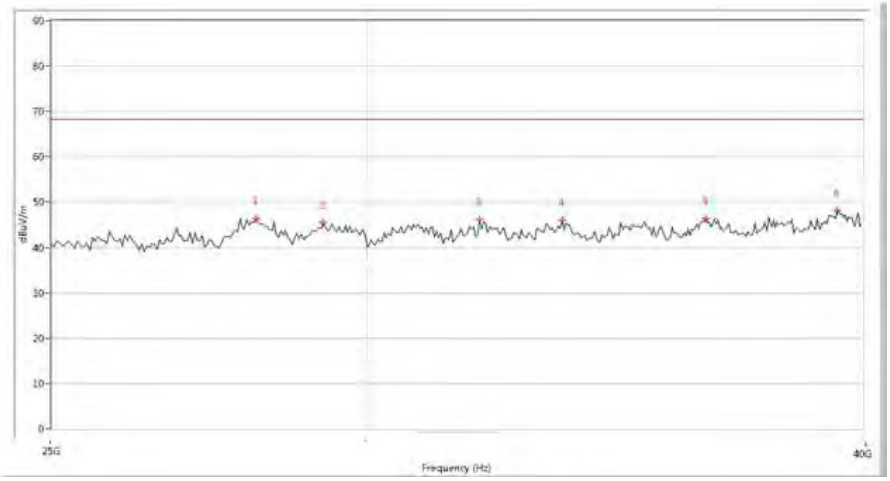
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
26150.960	44.36	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27818.030	46.52	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29738.803	46.42	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33947.015	46.08	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36253.935	46.56	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39289.928	49.03	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 64

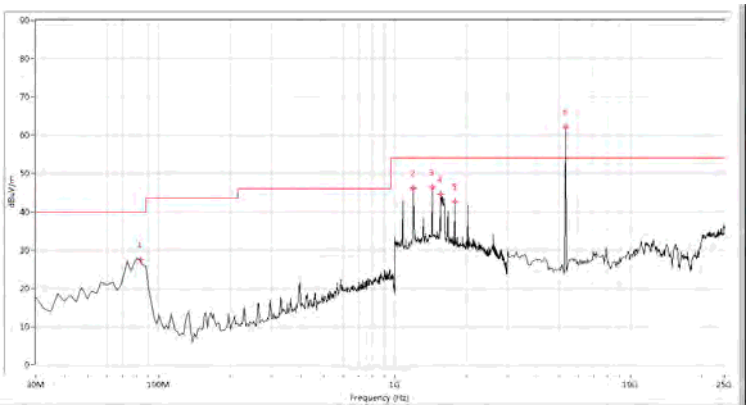


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
78.379	27.32	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
1199.501	46.11	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1438.903	43.51	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1608.479	46.59	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1798.005	44.21	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5320.000	63.23	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

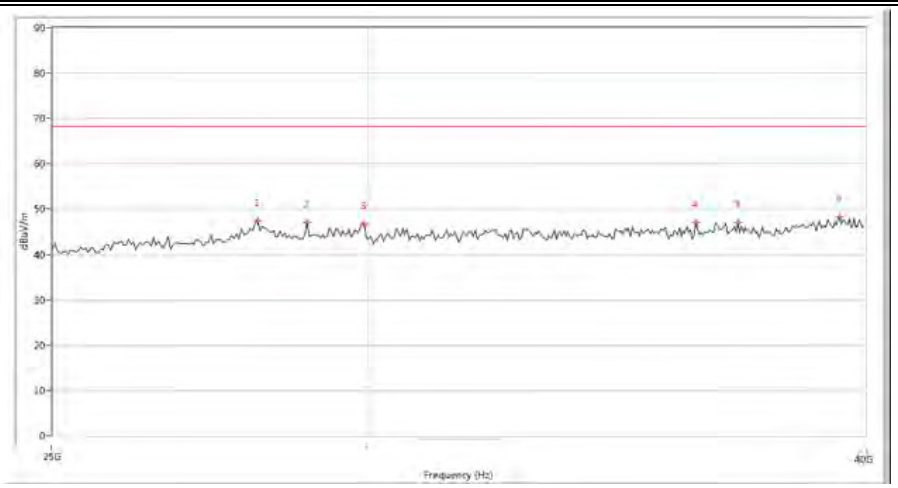


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28147.214	46.30	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29264.434	45.50	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32036.242	46.21	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33630.349	45.90	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36527.120	46.29	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39440.150	48.06	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



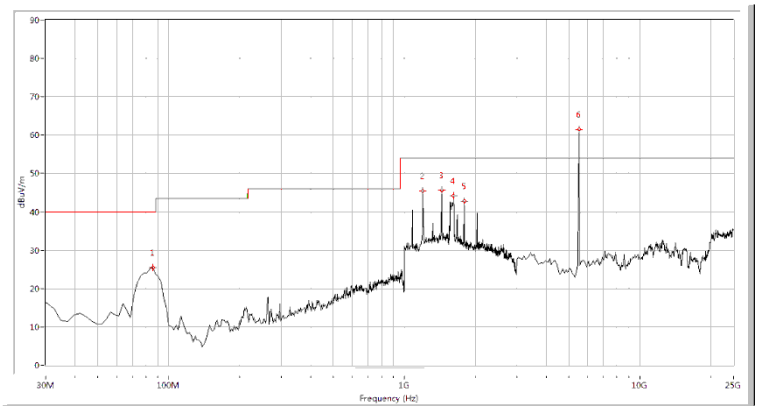
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
83.217	27.46	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
1199.501	46.16	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1438.903	46.38	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1568.579	44.48	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1798.005	42.66	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5320.000	62.21	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



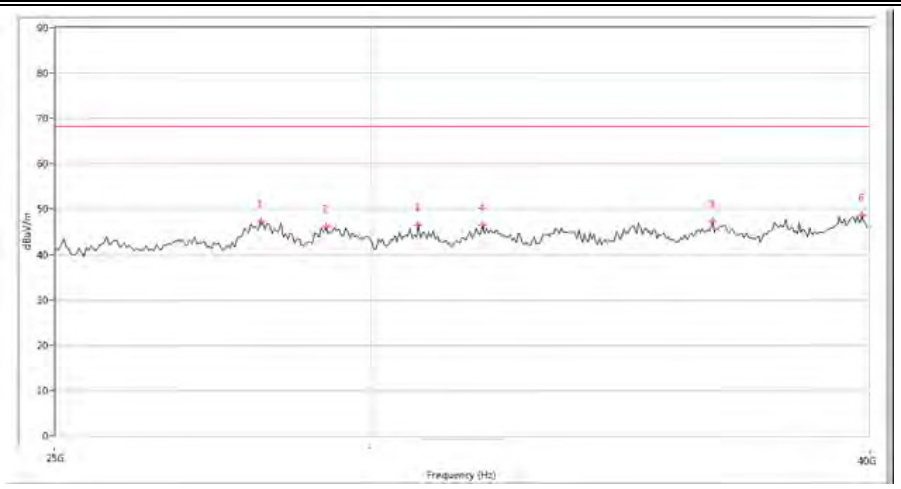
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28145.214	47.35	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28963.509	47.13	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29938.766	46.78	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36251.935	46.98	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37154.711	46.97	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39406.150	48.38	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plots for Channel = 100

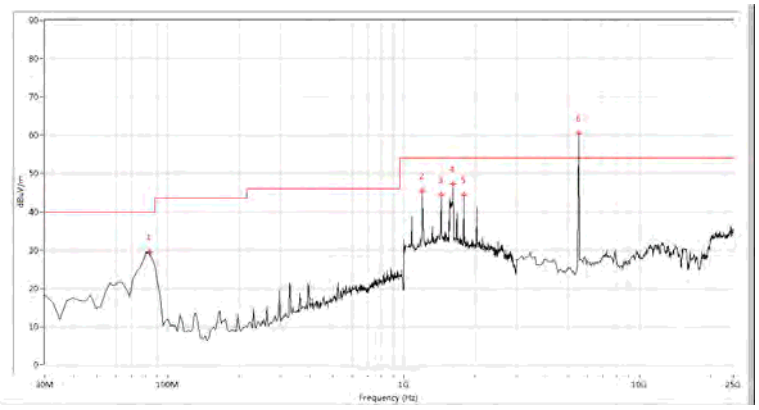


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
85.636	25.40	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
1199.501	45.51	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1438.903	45.56	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1618.454	44.22	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1798.005	42.84	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5500.000	61.45	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

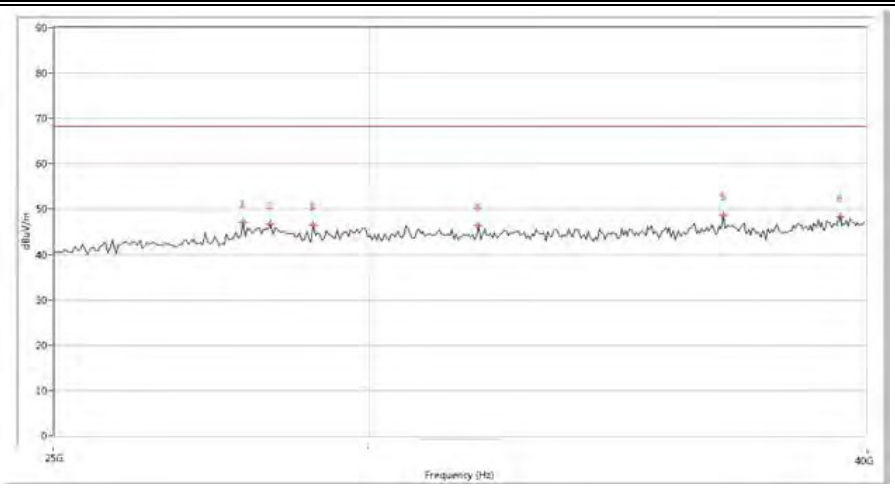


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28148.214	47.22	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29224.693	46.22	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30836.541	46.60	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
31990.501	46.47	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36505.860	47.27	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39857.037	48.71	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



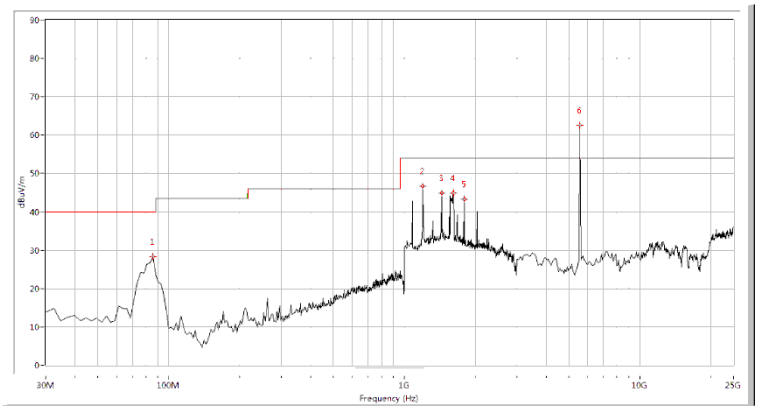
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
83.217	29.43	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
1199.501	45.52	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1438.903	44.40	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1618.454	47.27	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1798.005	44.34	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5500.000	60.37	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



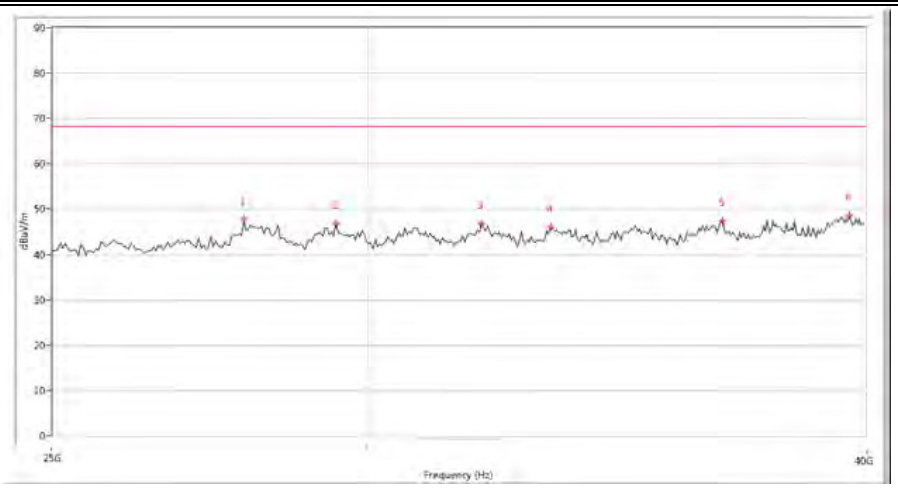
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
27887.030	47.01	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28362.918	46.66	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29030.990	46.44	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31915.761	46.27	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36802.045	48.64	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39410.150	48.36	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 116

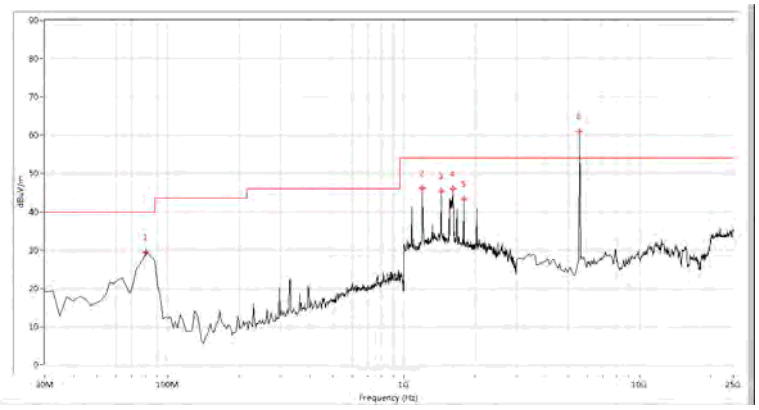


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
85.636	28.25	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
1199.501	46.65	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1438.903	44.88	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1618.454	44.93	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1798.005	43.28	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5580.000	62.58	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

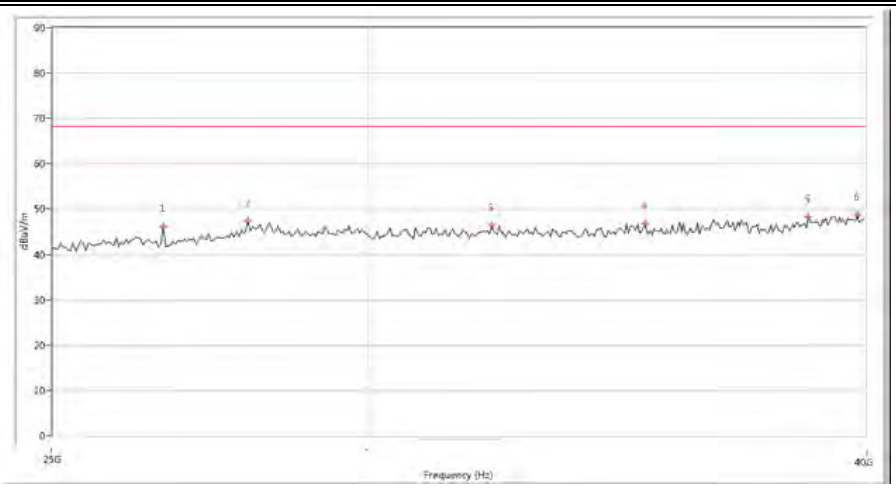


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
27917.771	47.73	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29450.137	46.91	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32038.242	46.79	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33344.165	45.99	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36826.045	47.44	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39602.594	48.68	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



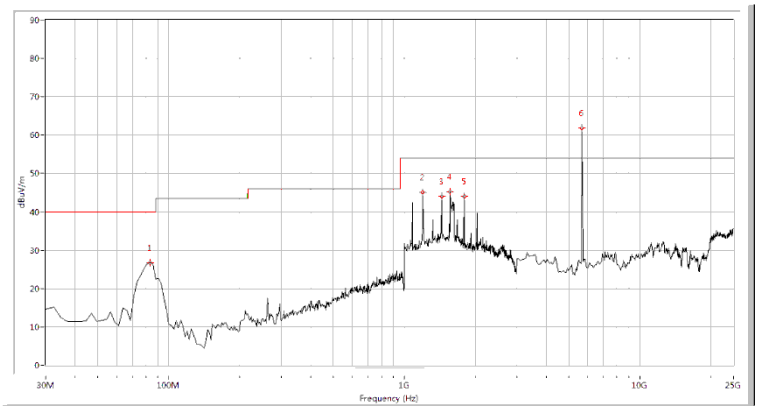
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
80.798	29.41	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
1199.501	46.13	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1438.903	45.42	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1618.454	45.95	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1798.005	43.32	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5580.000	61.00	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



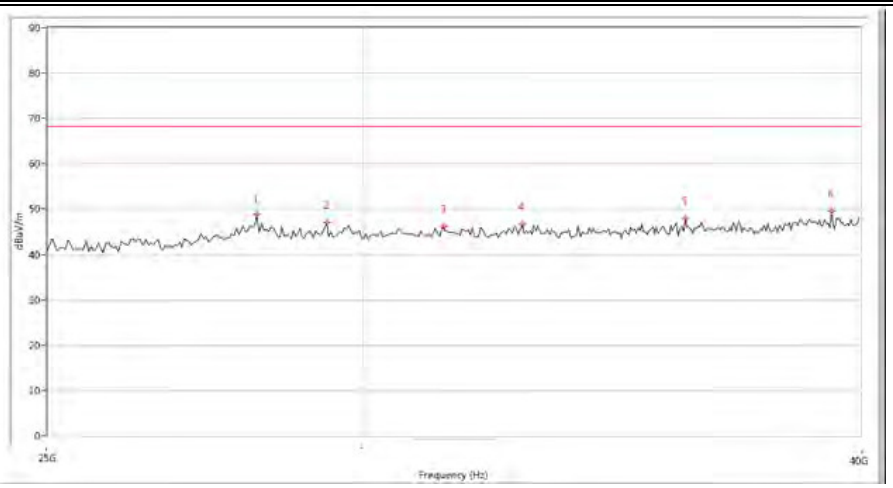
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
26647.589	46.12	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
27993.252	47.35	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
32211.945	46.57	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
35201.197	46.93	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38697.077	48.23	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39813.297	48.84	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 140

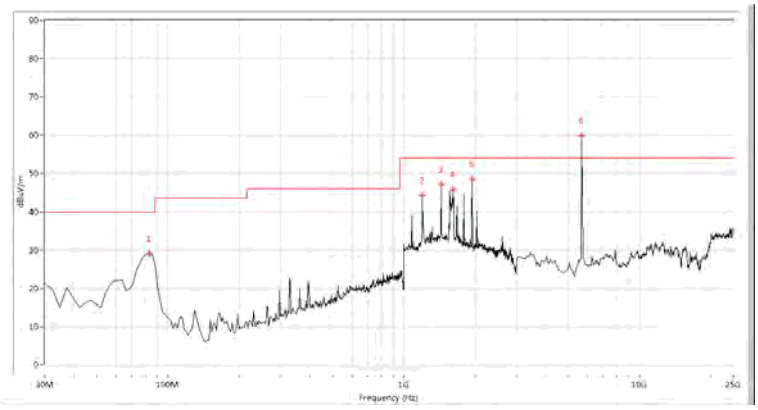


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
83.217	26.76	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
1199.501	45.10	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1438.903	44.08	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1568.579	45.24	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1798.005	43.98	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5700.000	61.82	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

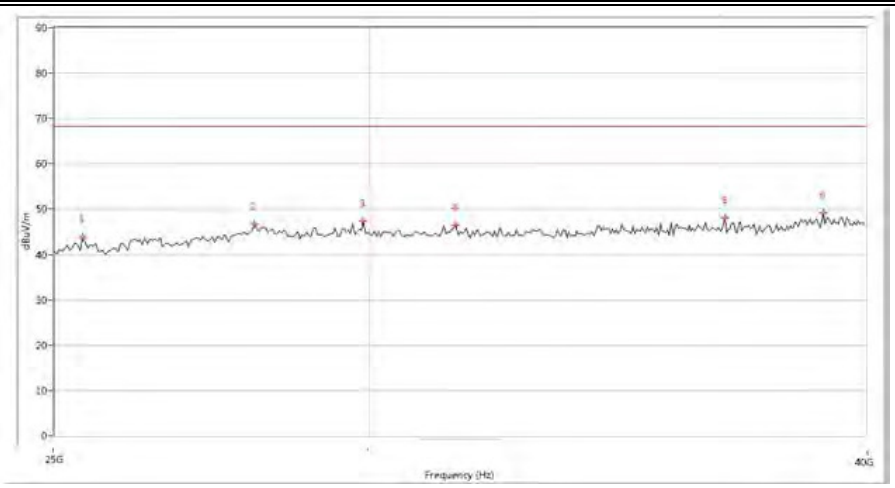


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28219.696	48.86	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29307.656	47.07	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
31436.392	46.24	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32891.277	46.66	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36140.713	47.87	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39312.668	49.52	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



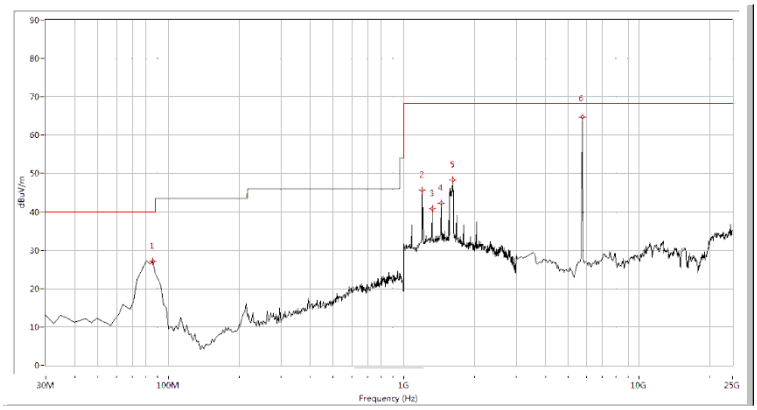
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
83.217	29.04	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
1199.501	44.24	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1438.903	47.09	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1618.454	45.81	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1947.631	48.51	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5700.000	59.96	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



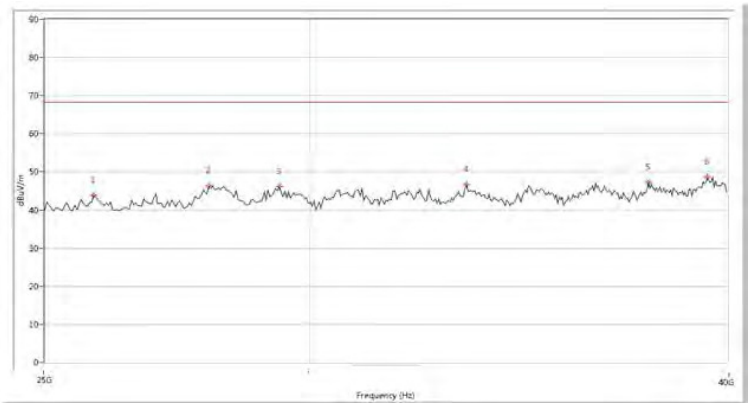
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
25411.147	43.86	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28006.733	46.70	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29909.025	47.38	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31547.613	46.44	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36853.786	48.06	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39012.743	49.22	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 149

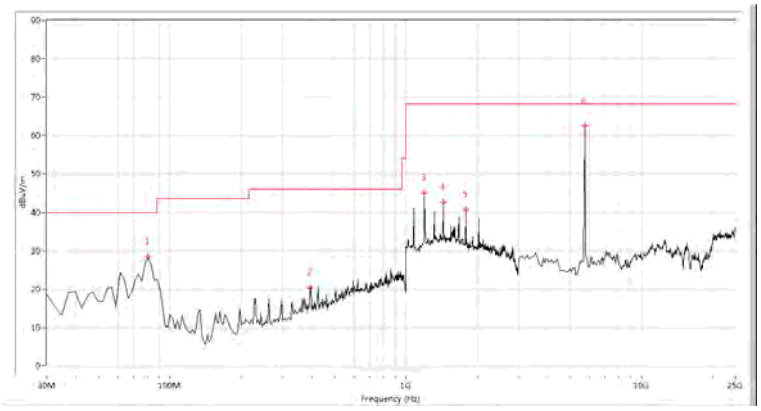


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
85.636	27.01	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
1199.501	45.60	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1319.202	40.76	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1438.903	42.20	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1618.454	48.29	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5745.000	64.75	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

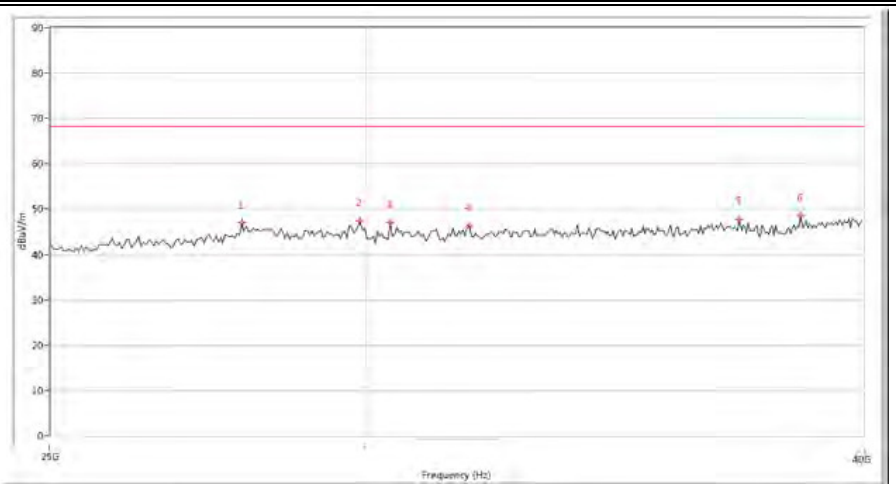


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
25864.035	43.90	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
27909.252	46.32	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29376.656	46.17	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33414.646	46.60	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
37863.783	47.20	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39437.890	48.72	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



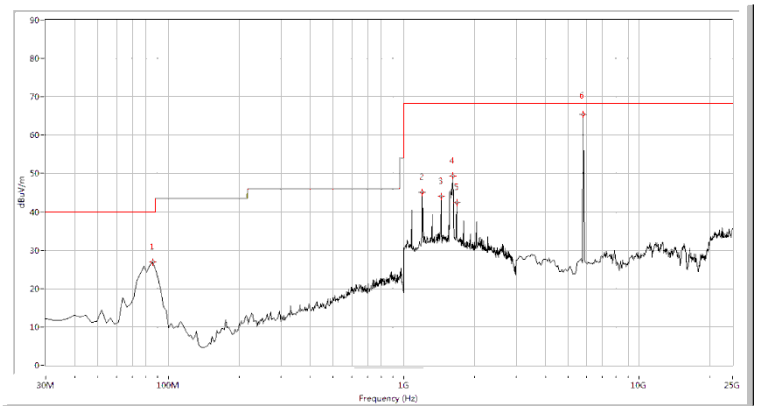
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
80.798	28.30	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
392.843	20.27	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1199.501	45.18	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1438.903	42.65	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1798.005	40.68	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5745.000	62.52	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



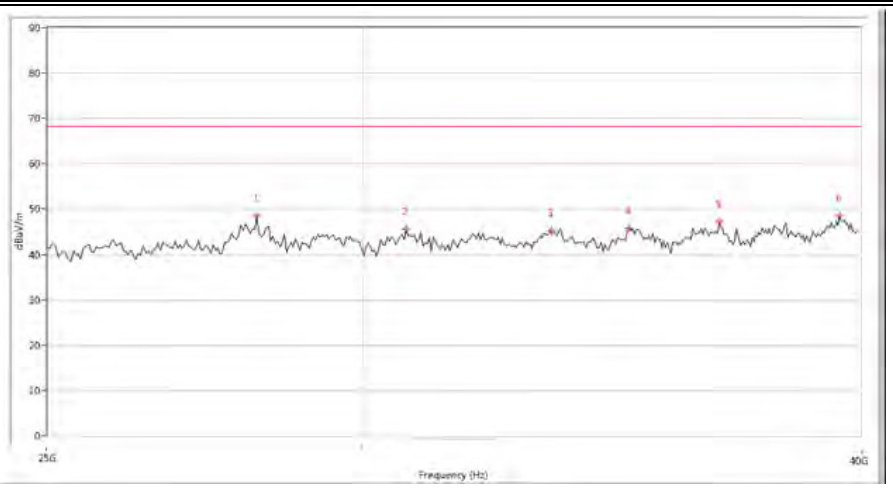
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
27919.771	47.00	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29910.025	47.43	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30424.394	47.01	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31844.539	46.34	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37263.192	47.70	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
38507.855	48.39	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 157

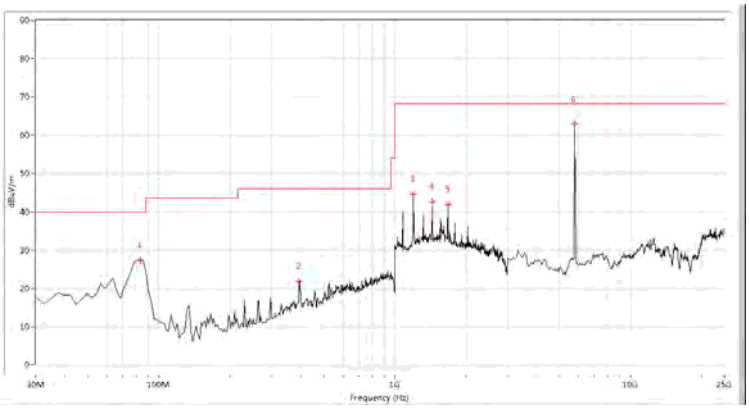


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
85.636	26.90	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
1199.501	45.04	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1438.903	44.05	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1618.454	49.41	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1678.304	42.33	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5785.000	65.47	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

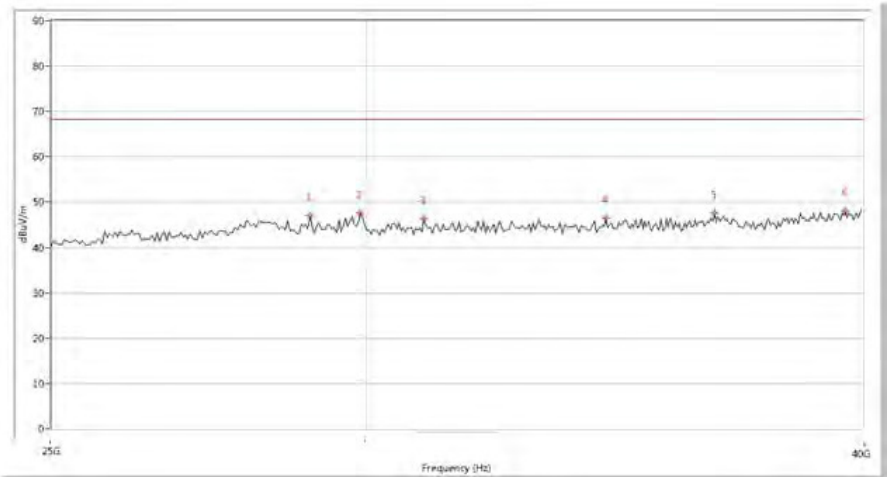


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28201.696	48.41	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
30767.060	45.71	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33456.387	45.26	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34983.753	45.80	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36805.786	47.15	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39517.372	48.50	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



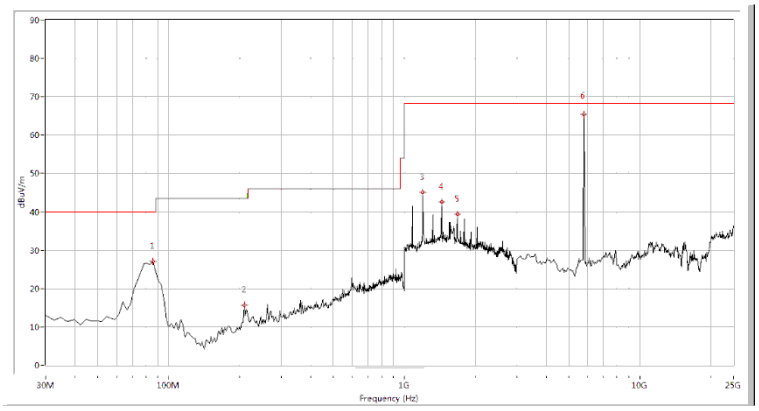
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
83.217	27.32	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
392.843	21.69	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1199.501	44.59	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1438.903	42.56	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1678.304	41.96	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5785.000	62.96	N.A	N.A	N.A	N.A	N.A	Vertical	N.A



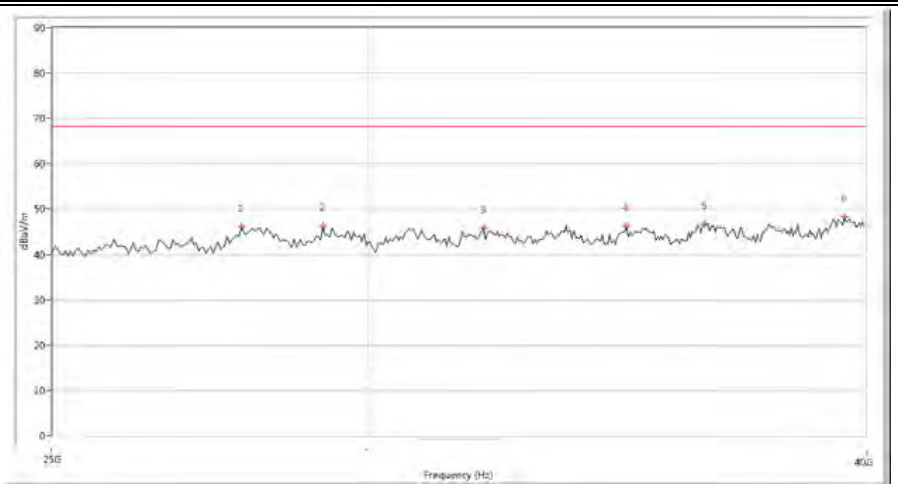
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
29039.990	47.04	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29940.025	47.54	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31012.244	46.40	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34463.384	46.54	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36770.823	47.50	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39585.853	48.08	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

(Antenna Vertical, 30MHz to 40GHz)

Plot for Channel = 161

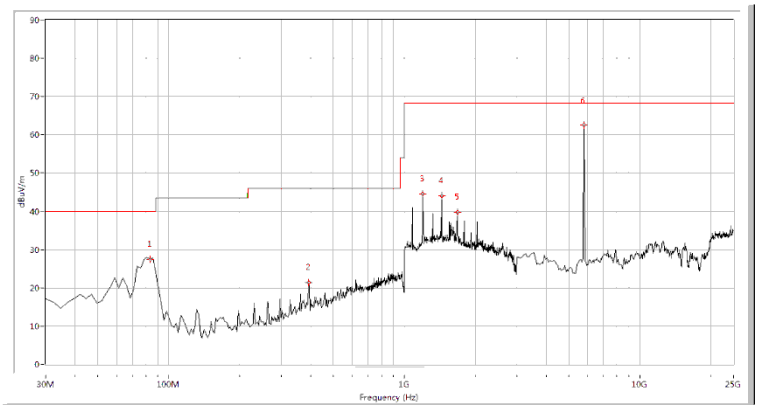


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
85.636	27.10	N.A	N.A	N.A	40.0	N.A	Horizontal	PASS
209.002	15.72	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
1199.501	45.07	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1438.903	42.63	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
1678.304	39.42	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
5805.000	65.39	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A

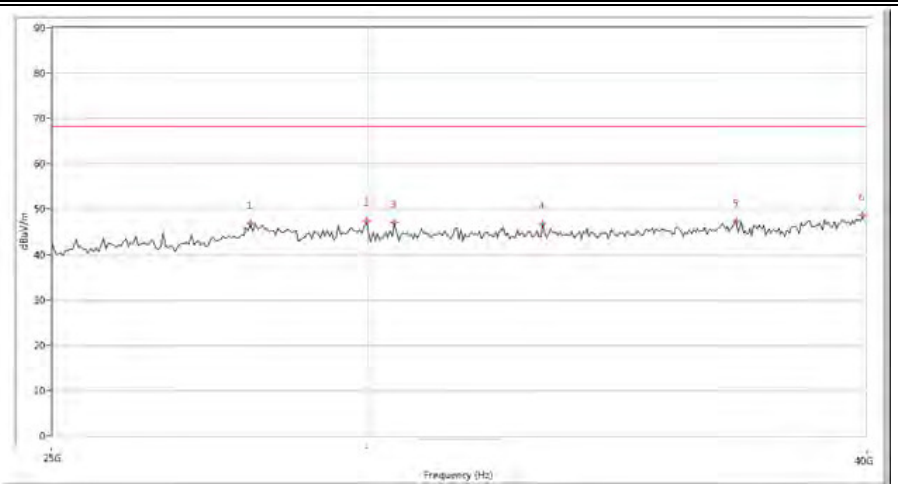


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
27818.030	46.21	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29227.693	46.38	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
32036.983	45.79	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
34839.791	46.38	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
36447.638	46.76	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
39521.372	48.25	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
83.217	27.42	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
392.843	21.42	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1199.501	44.47	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1438.903	44.04	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
1678.304	39.70	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5805.000	62.57	N.A	N.A	N.A	N.A	N.A	Vertical	N.A

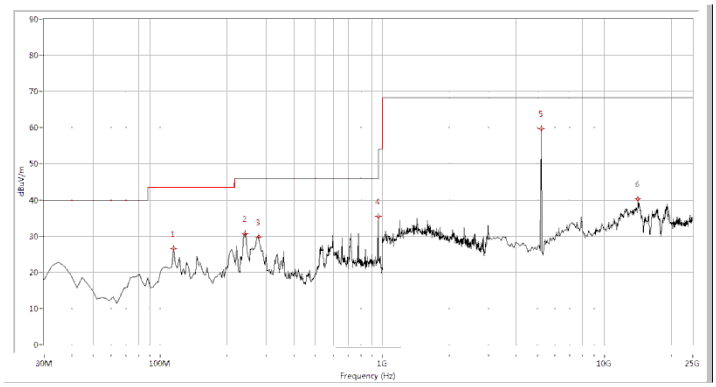


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28027.993	46.83	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
29937.506	47.49	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
30465.135	47.10	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
33190.202	46.63	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37141.970	47.15	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
39902.519	48.65	N.A	N.A	68.2	N.A	N.A	Vertical	PASS

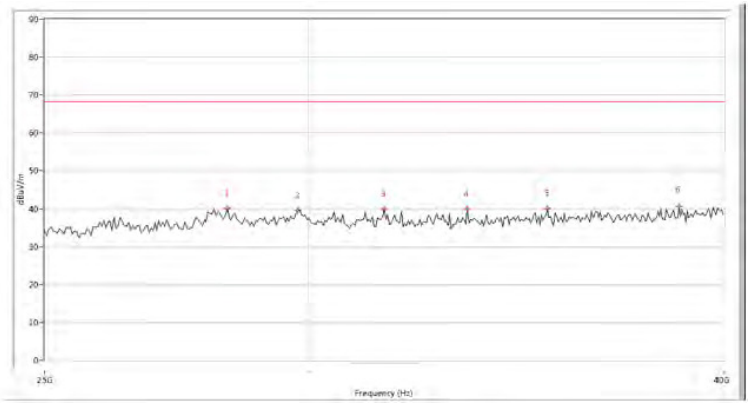
(Antenna Vertical, 30MHz to 40GHz)

ANT 4

Plots for Channel = 36

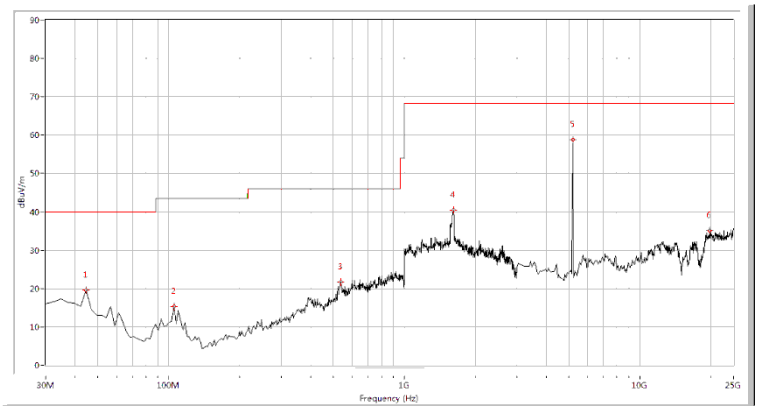


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
114.663	26.50	N.A	N.A	N.A	43.5	N.A	Horizontal	PASS
240.449	30.57	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
276.733	29.75	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
958.878	35.45	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
5180.000	59.76	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
14192.020	40.28	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

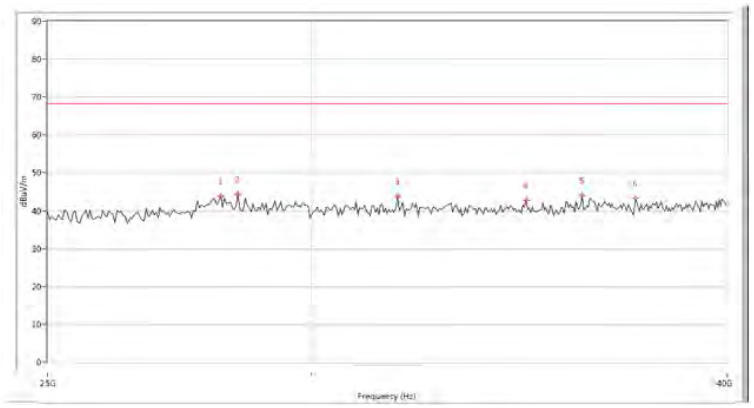


Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
28366.58	40.04	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
29788.03	39.50	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
31620.95	39.95	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
33491.27	39.88	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
35399.00	40.11	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS
38765.59	40.56	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 40GHz)



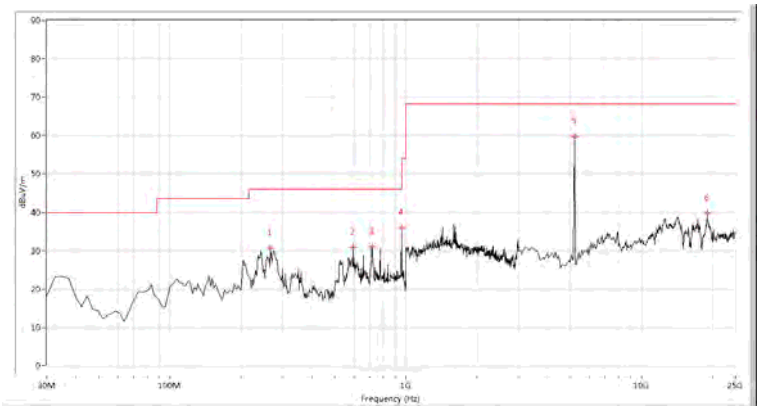
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Antenna	Verdict
44.514	19.55	N.A	N.A	N.A	40.0	N.A	Vertical	PASS
104.988	15.40	N.A	N.A	N.A	43.5	N.A	Vertical	PASS
535.561	21.73	N.A	N.A	N.A	46.0	N.A	Vertical	PASS
1613.466	40.46	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
5180.000	58.88	N.A	N.A	N.A	N.A	N.A	Vertical	N.A
19842.893	35.06	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	43.87	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
28516.21	44.37	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
31845.39	43.89	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
34800.50	42.79	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
36184.54	44.03	N.A	N.A	68.2	N.A	N.A	Vertical	PASS
37531.17	43.30	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
267.057	30.57	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
598.454	30.84	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
719.401	31.03	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
958.878	36.06	N.A	N.A	N.A	46.0	N.A	Horizontal	PASS
5220.000	59.79	N.A	N.A	N.A	N.A	N.A	Horizontal	N.A
18965.087	39.71	N.A	N.A	68.2	N.A	N.A	Horizontal	PASS