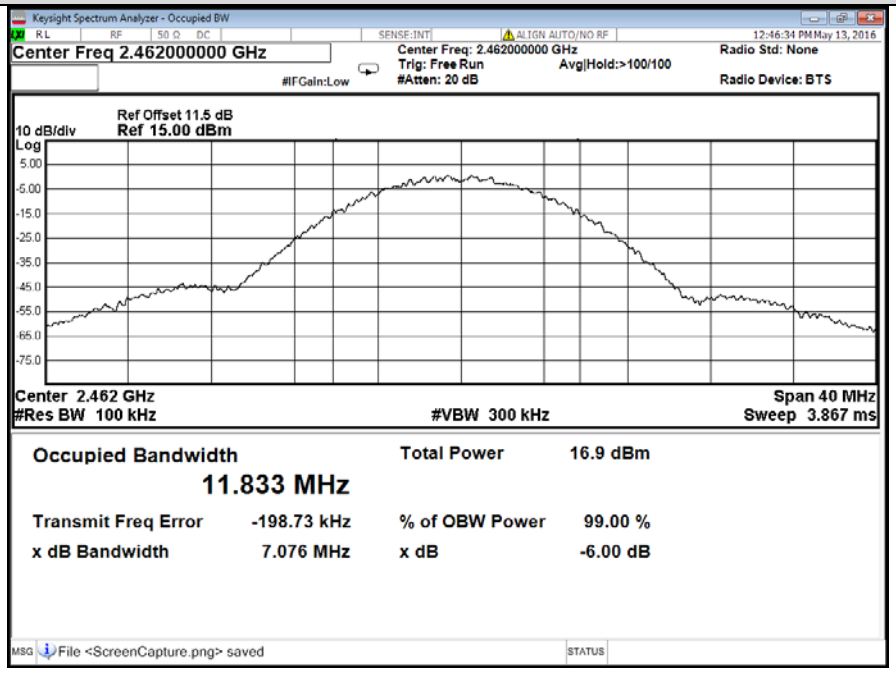
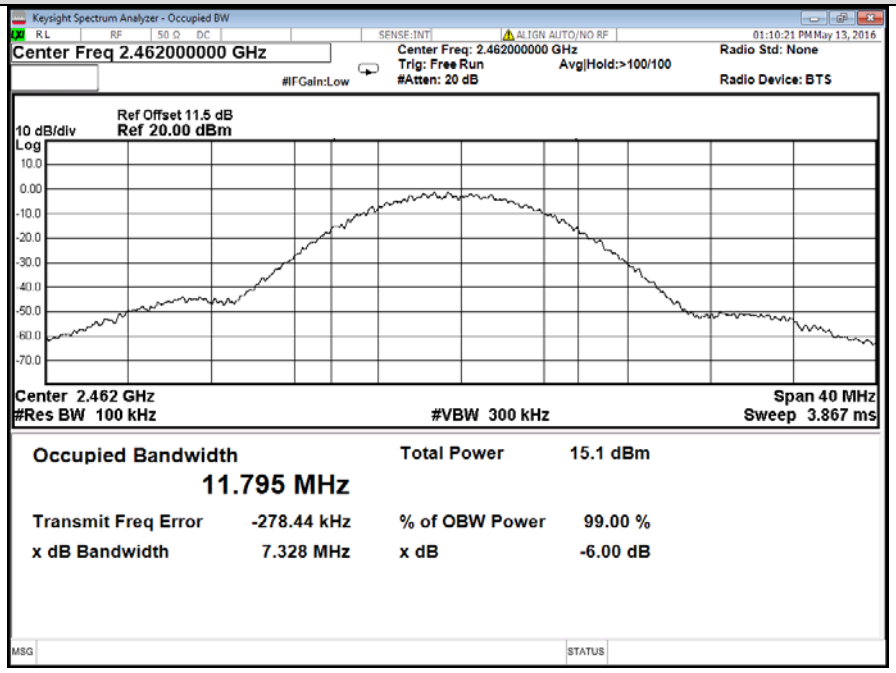
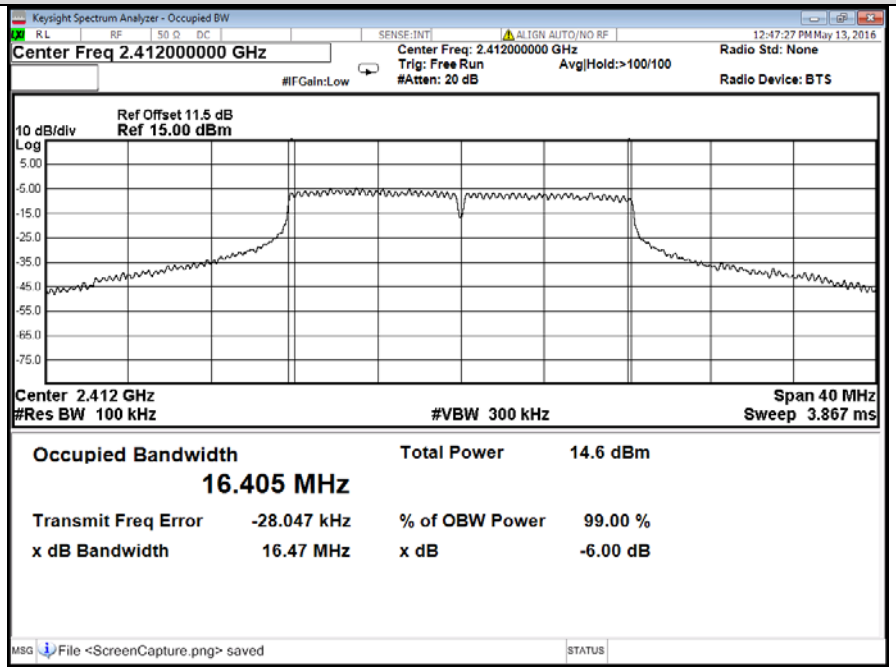
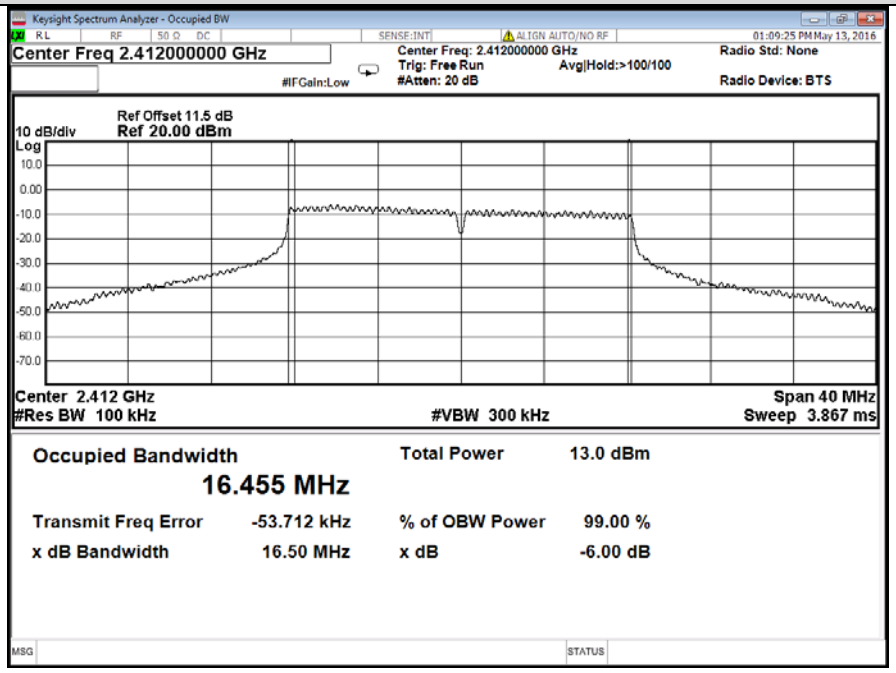
Test Mode: 802.11b_2462MHz
Chain 0

Chain 1


Test Mode: 802.11g_2412MHz
Chain 0

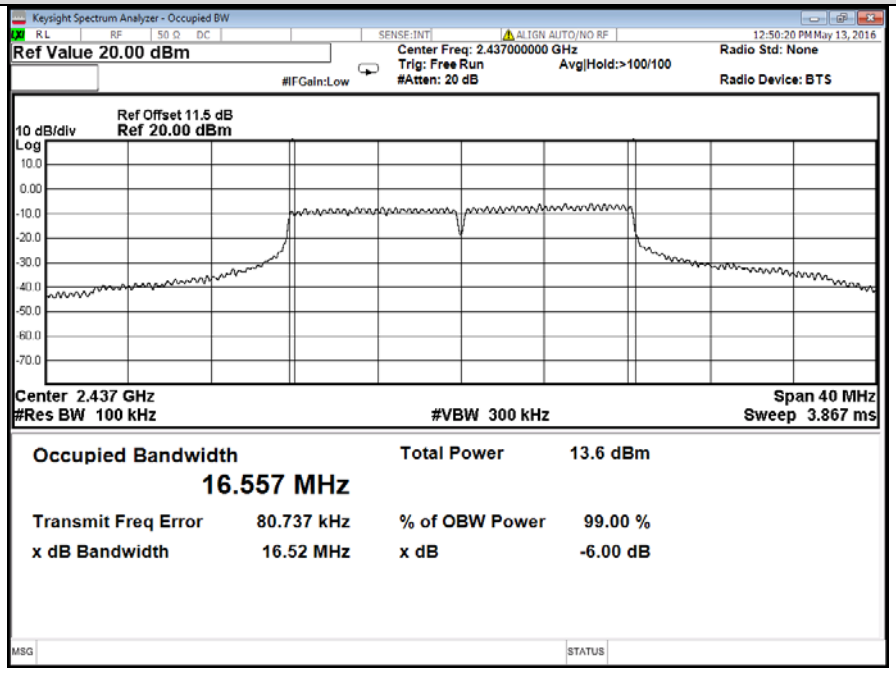


Chain 1

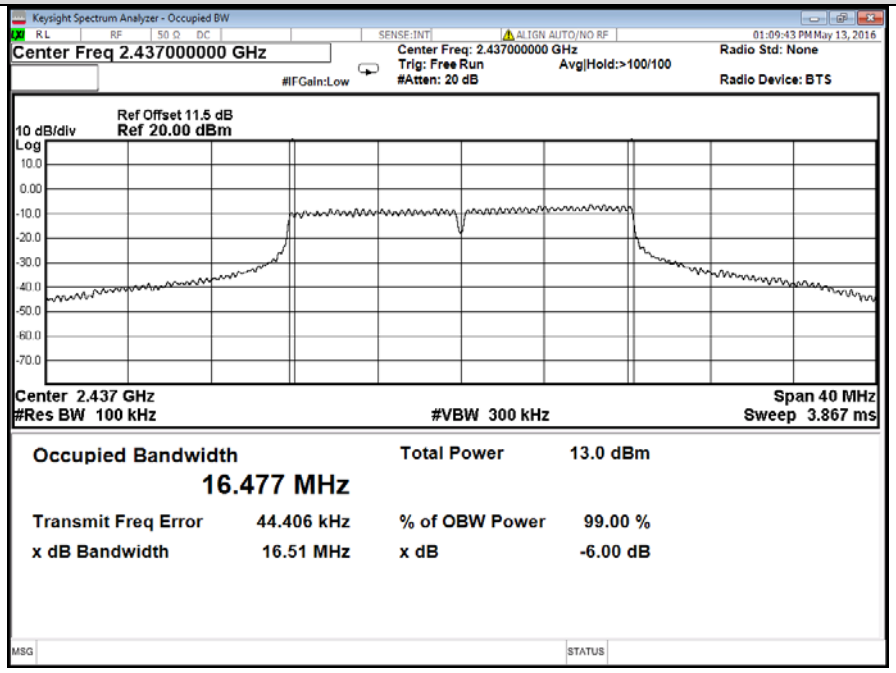


Test Mode: 802.11g_2437MHz

Chain 0

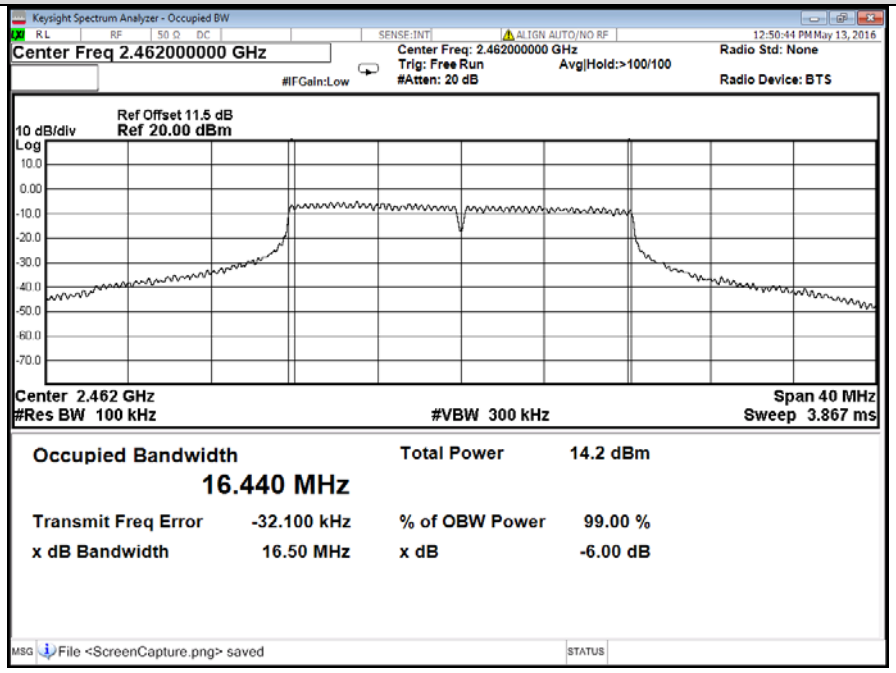


Chain 1

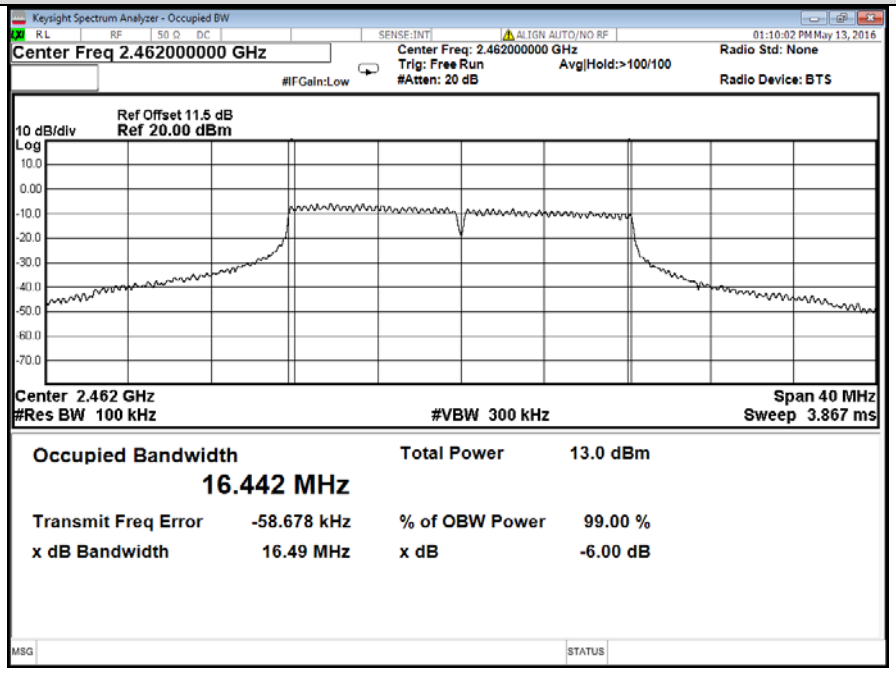


Test Mode: 802.11g_2462MHz

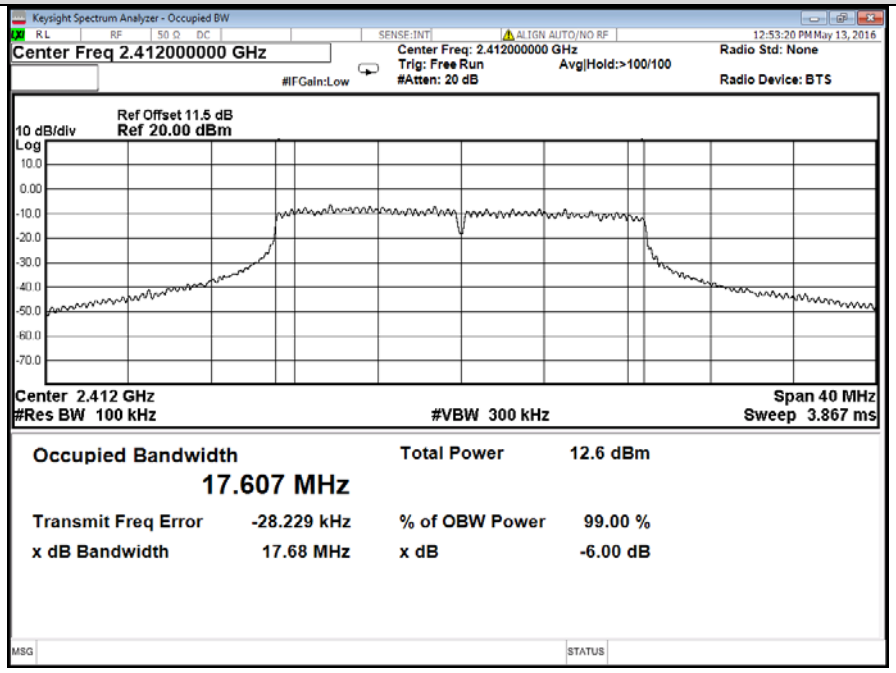
Chain 0



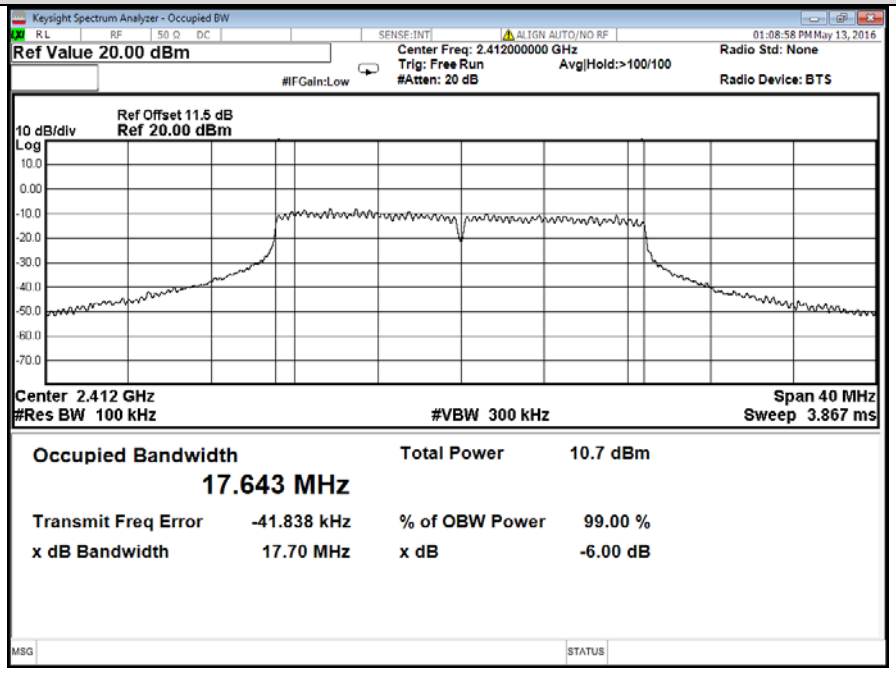
Chain 1



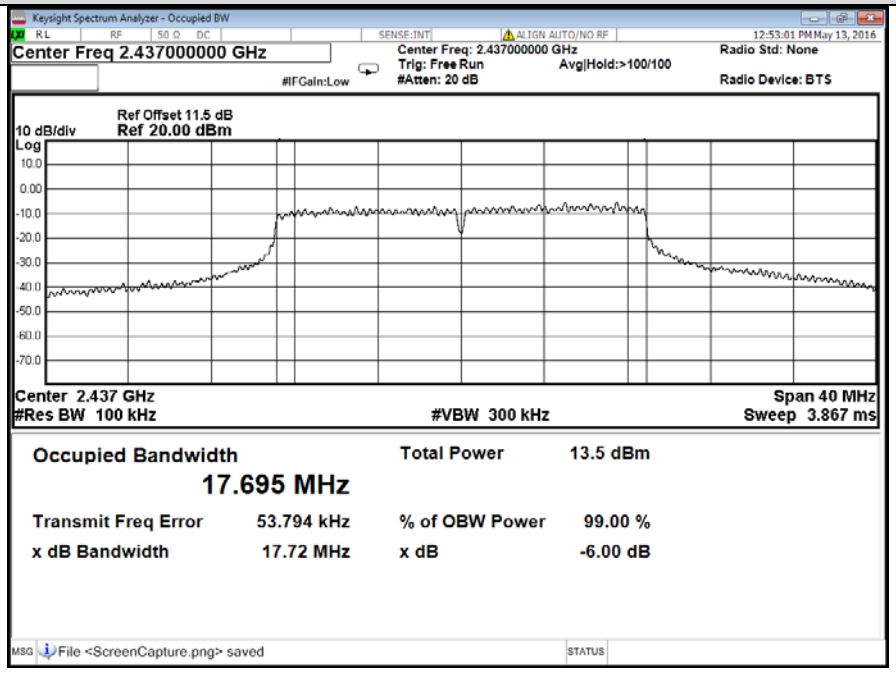
Test Mode: 802.11n(HT20)_2412MHz
Chain 0



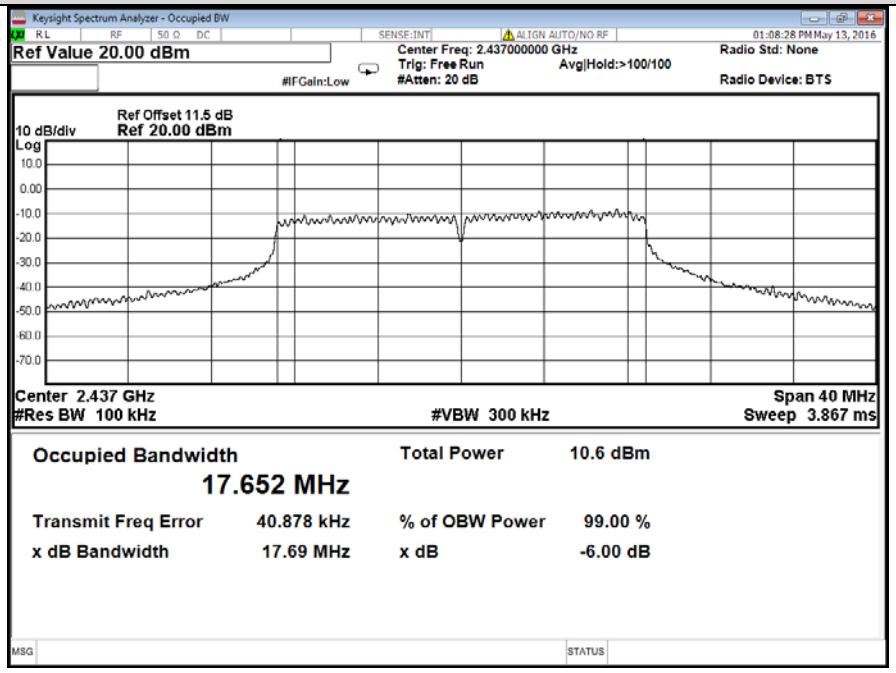
Chain 1



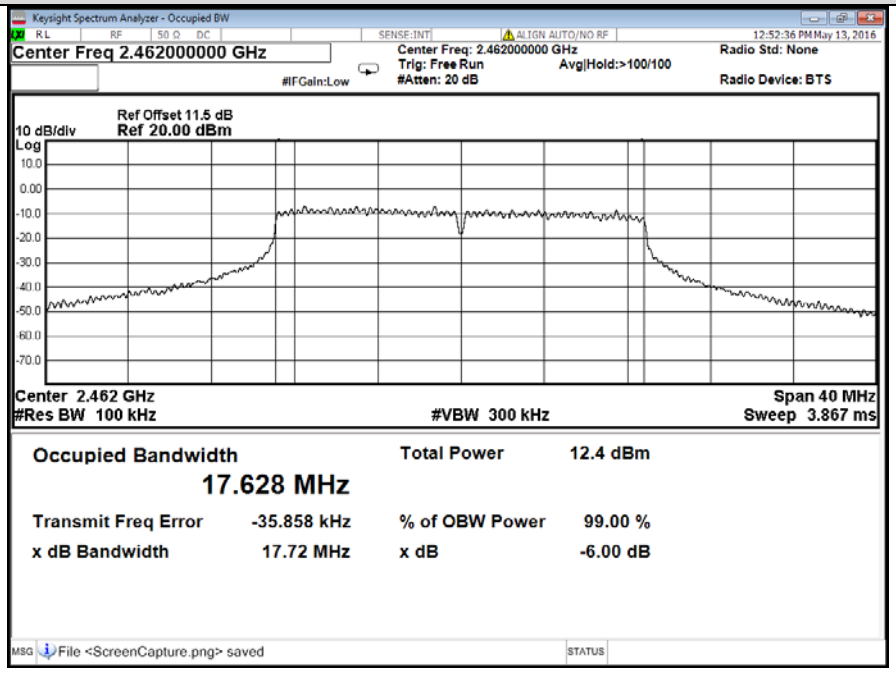
Test Mode: 802.11n(HT20)_2437MHz
Chain 0



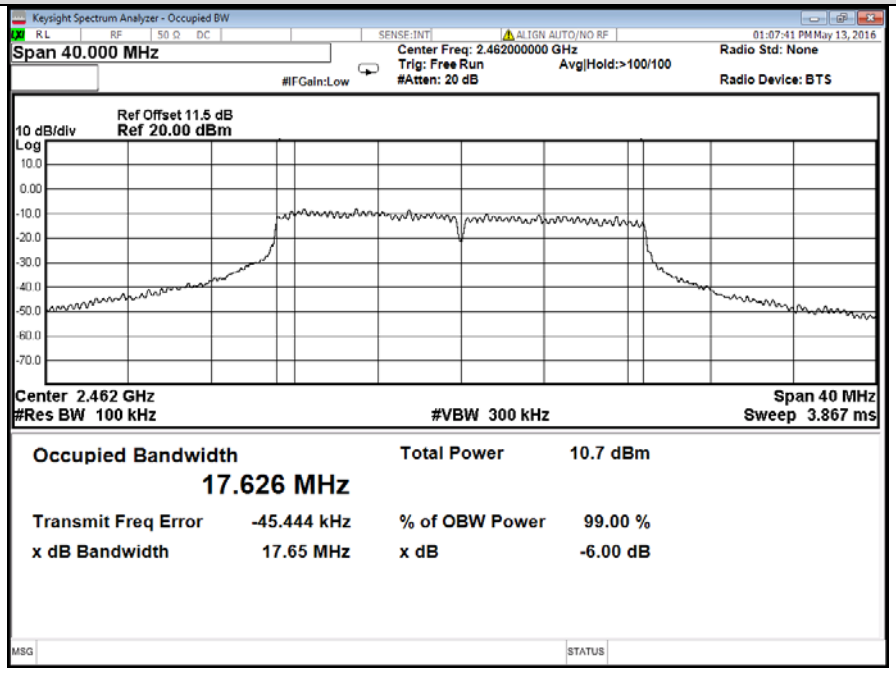
Chain 1



Test Mode: 802.11n(HT20)_2462MHz
Chain 0

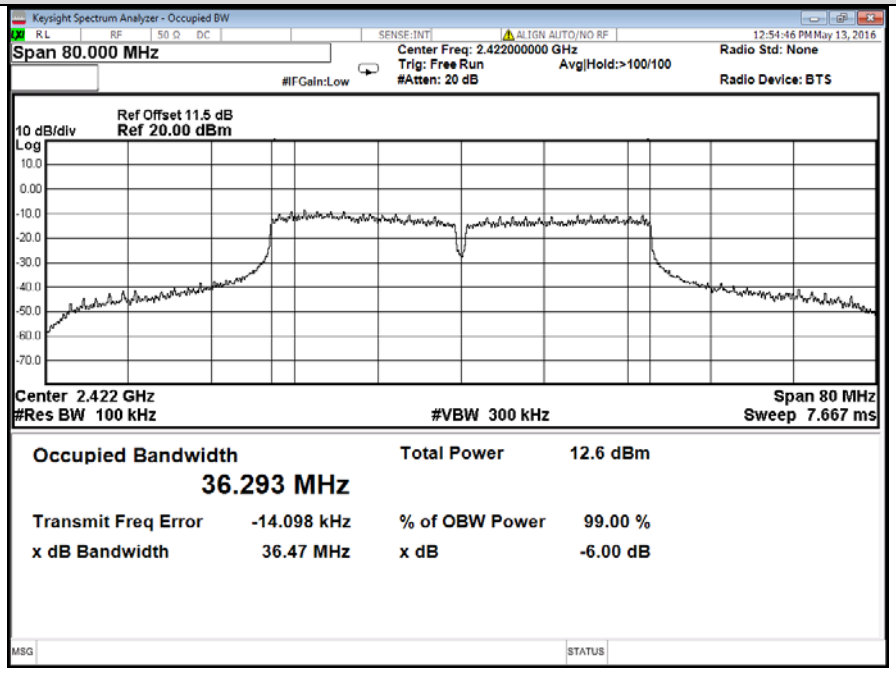


Chain 1

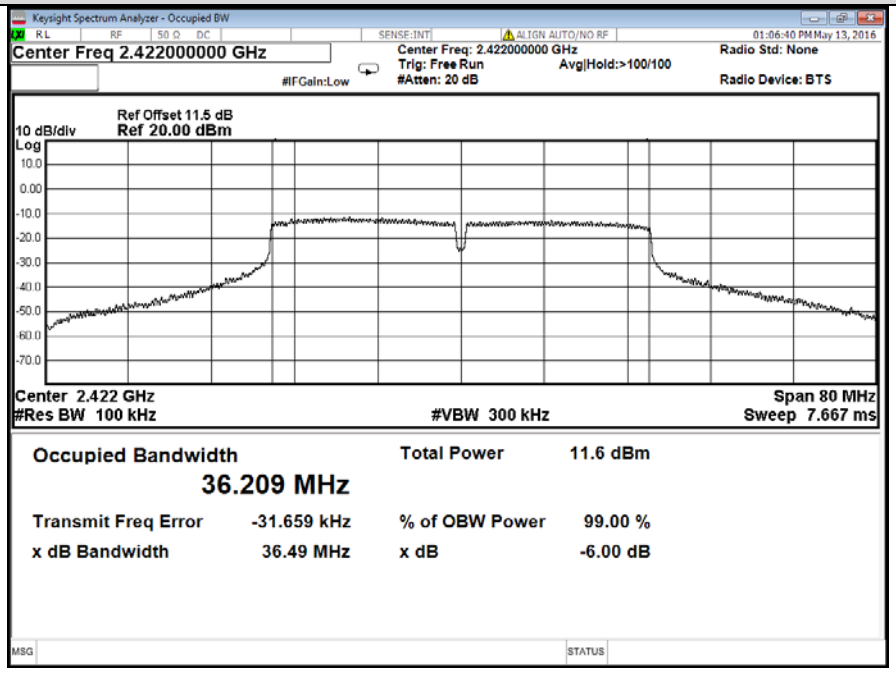


Test Mode: 802.11n(HT40)_2422MHz

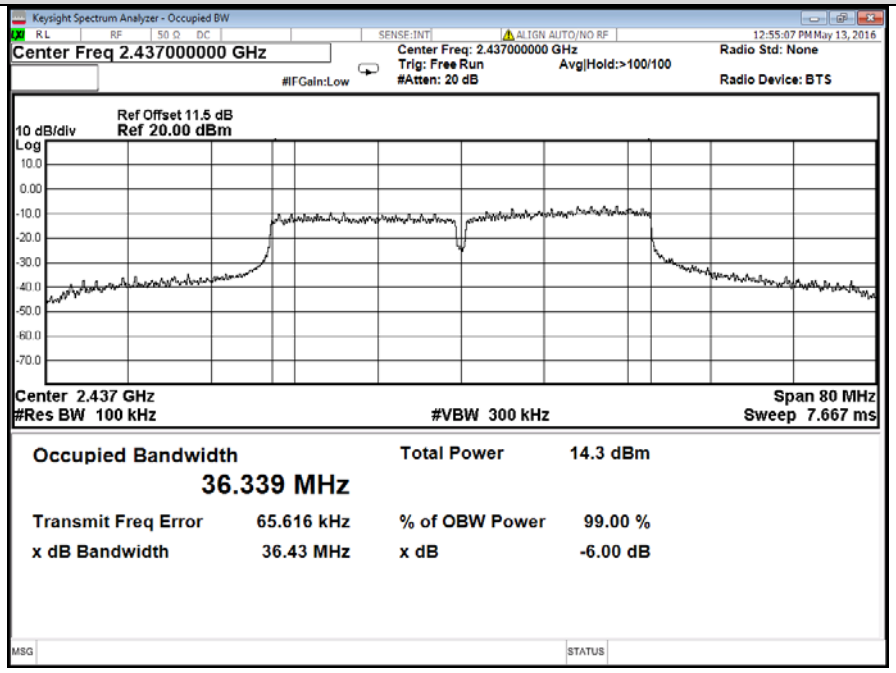
Chain 0



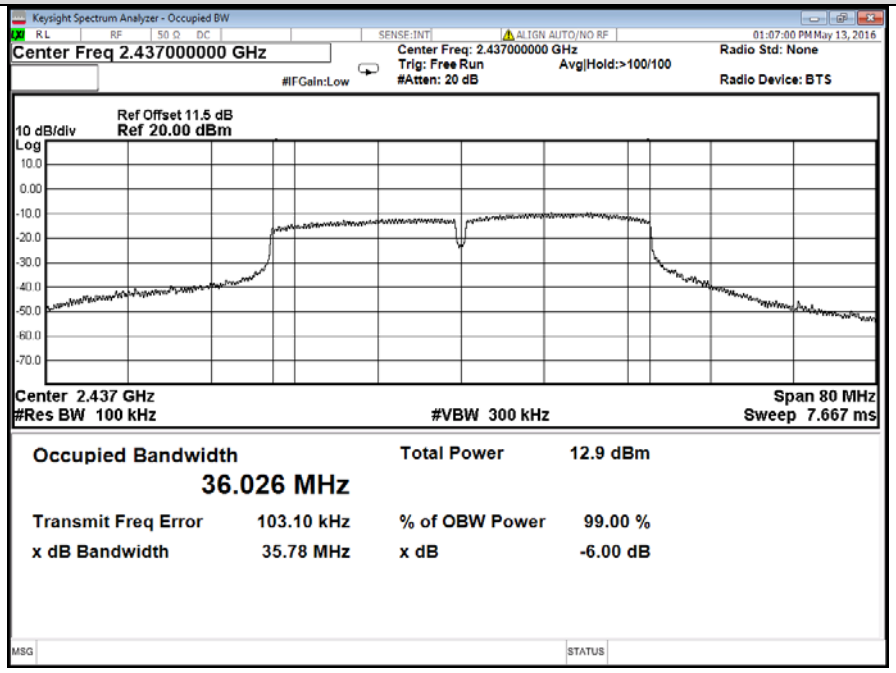
Chain 1

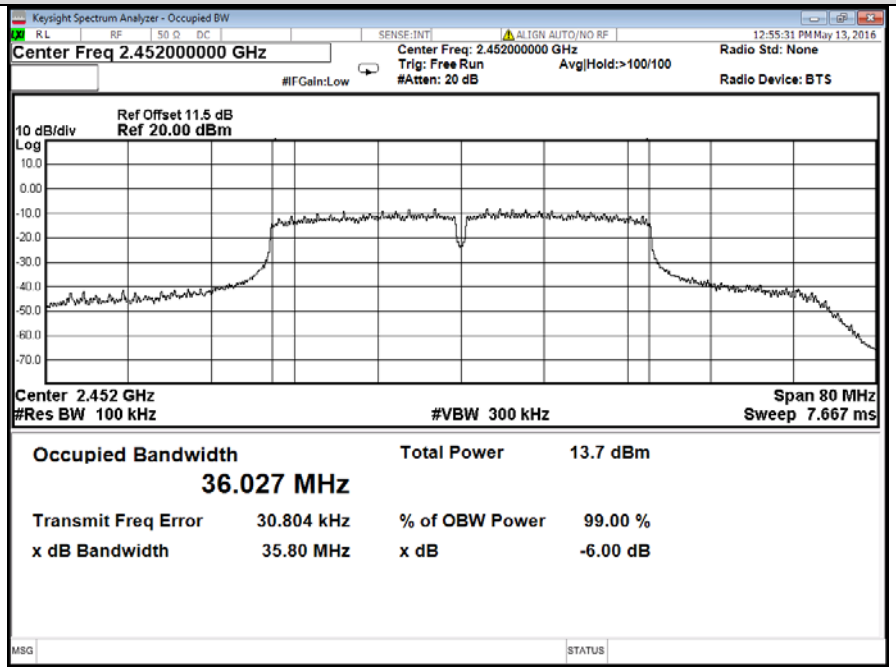
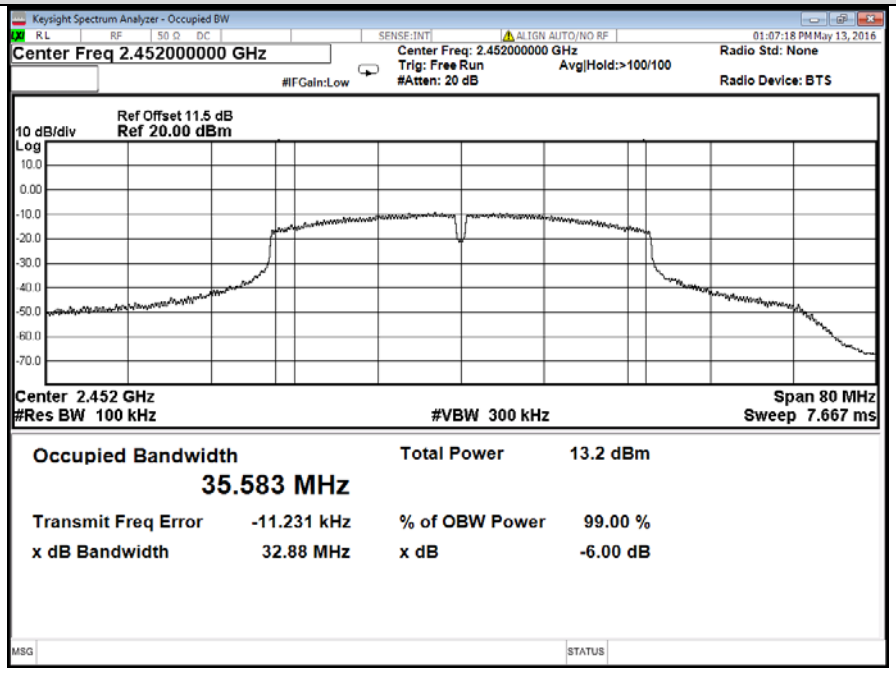


Test Mode: 802.11n(HT40)_2437MHz
Chain 0



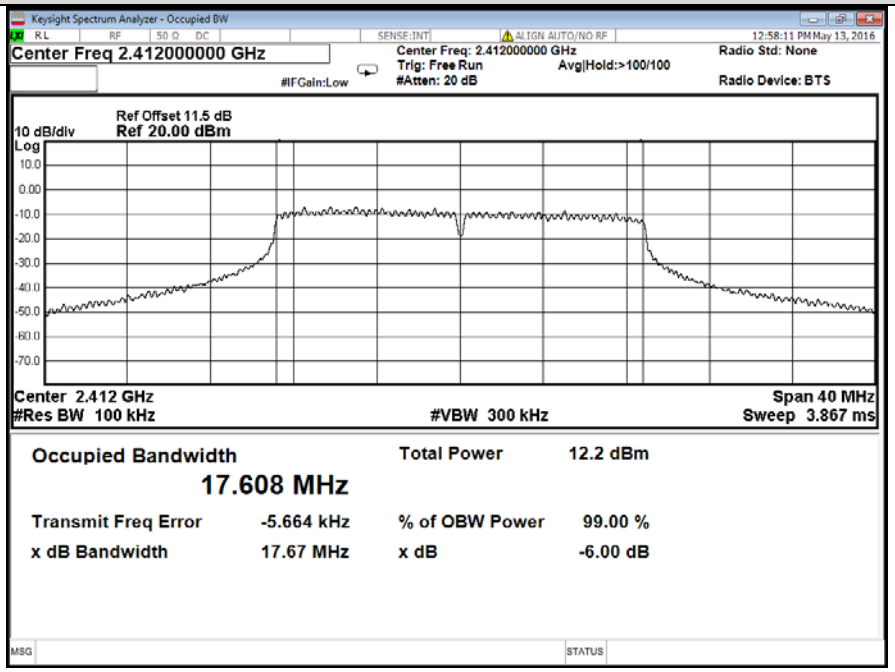
Chain 1



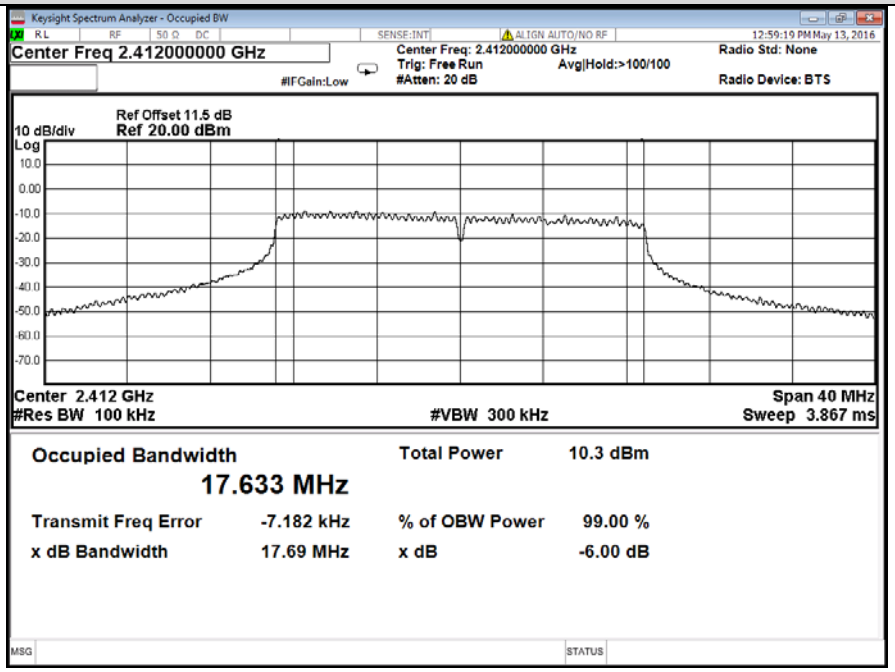
Test Mode: 802.11n(HT40)_2452MHz
Chain 0

Chain 1


MIMO Mode-Test Data

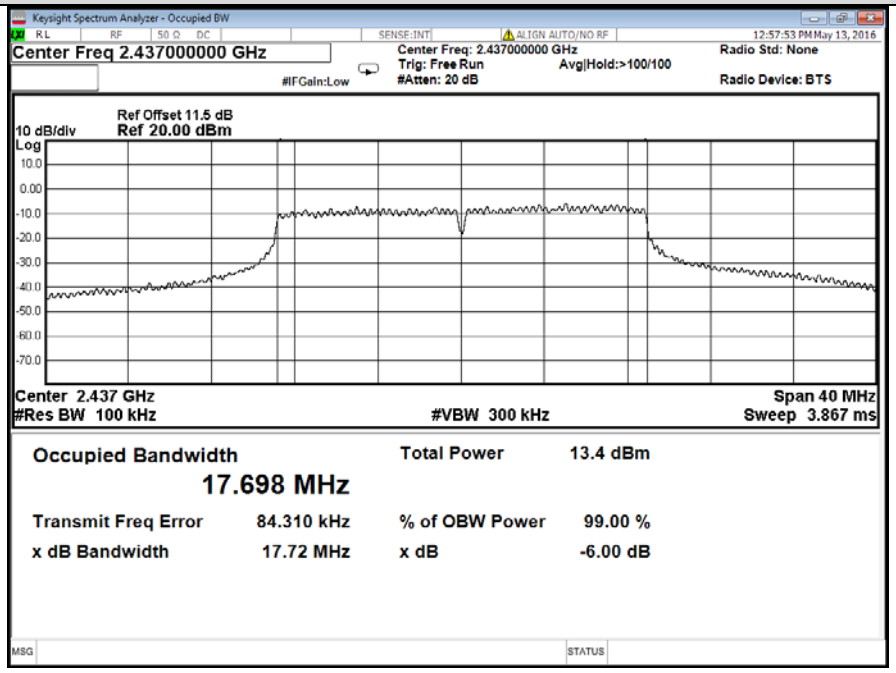
Test Mode: 802.11n(HT20)_2412MHz
Chain 0



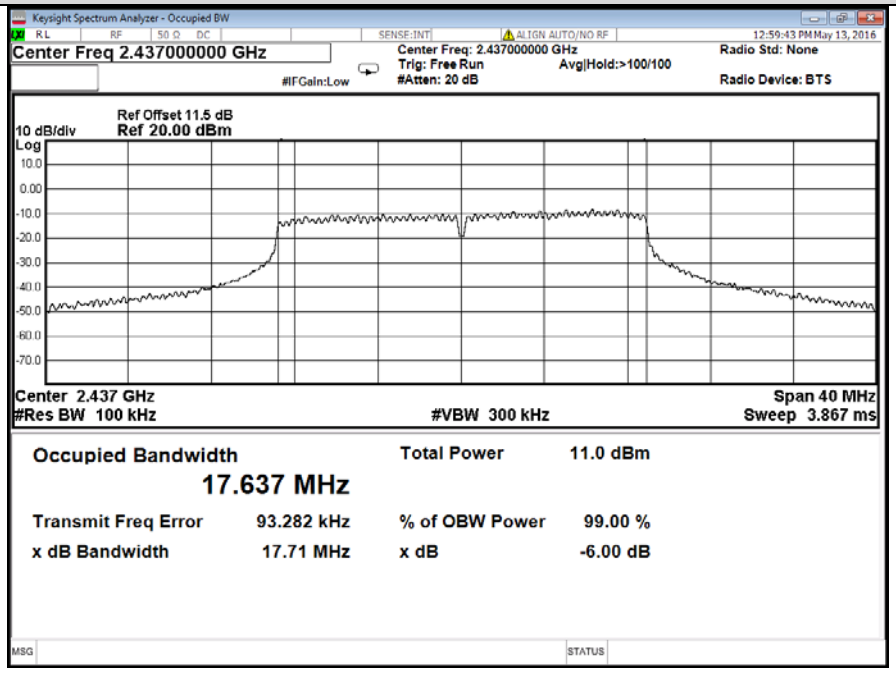
Chain 1



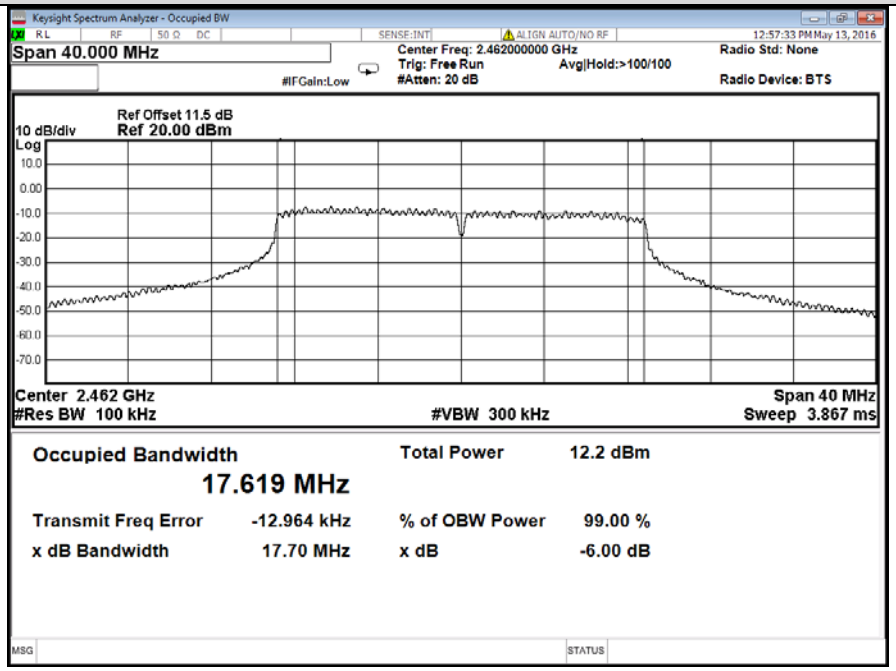
Test Mode: 802.11n(HT20)_2437MHz
Chain 0



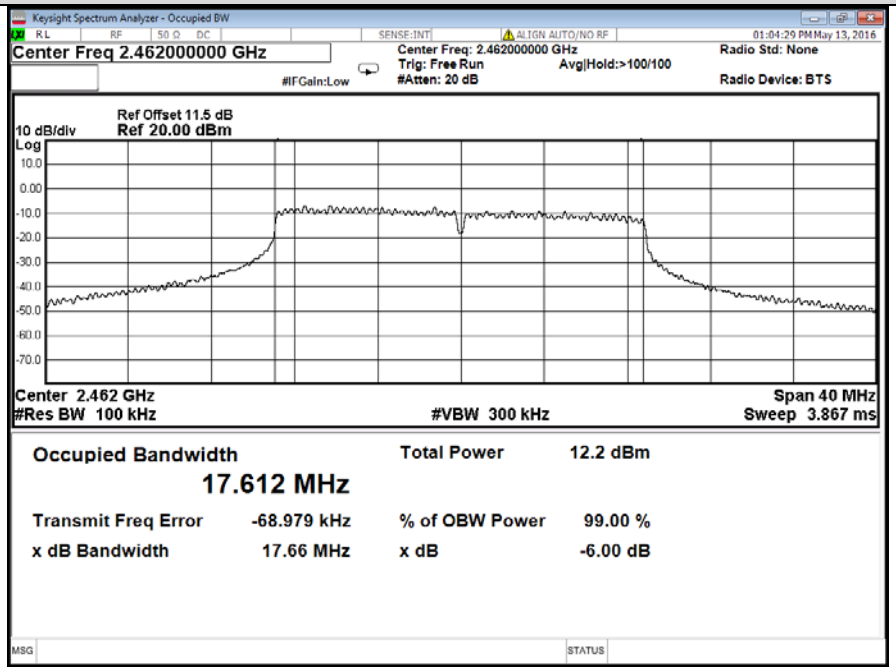
Chain 1



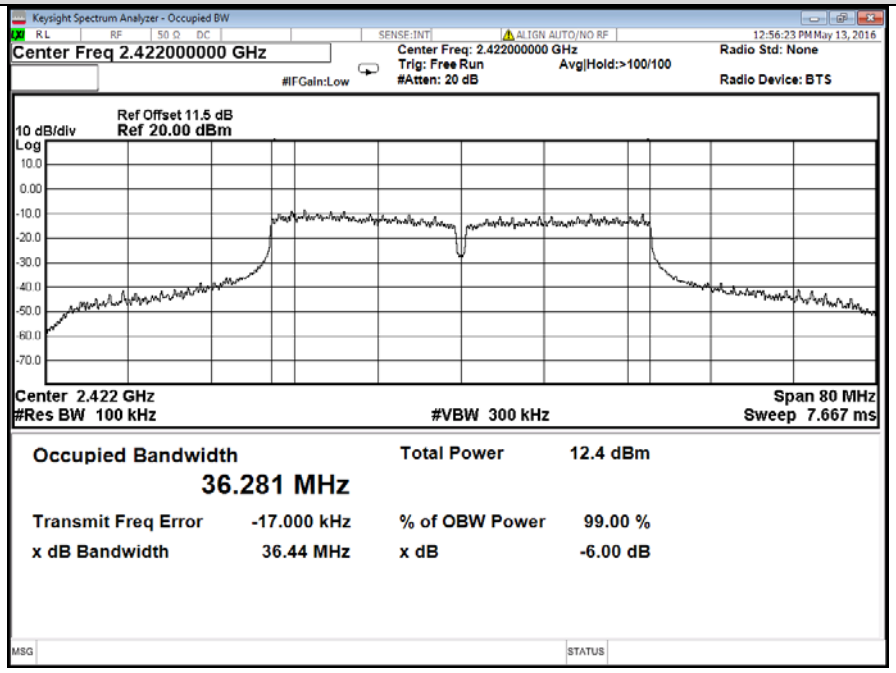
Test Mode: 802.11n(HT20)_2462MHz
Chain 0



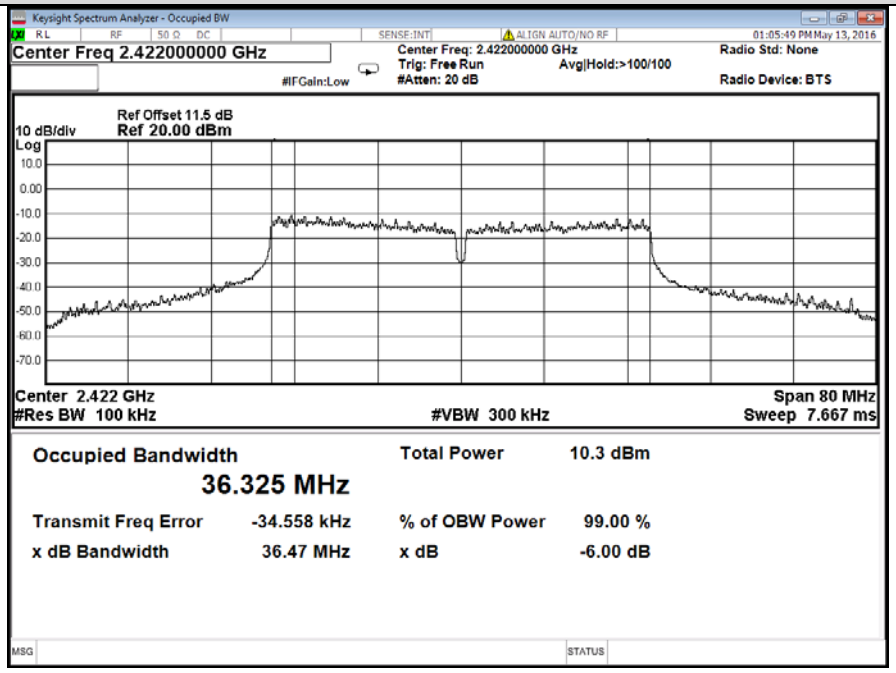
Chain 1



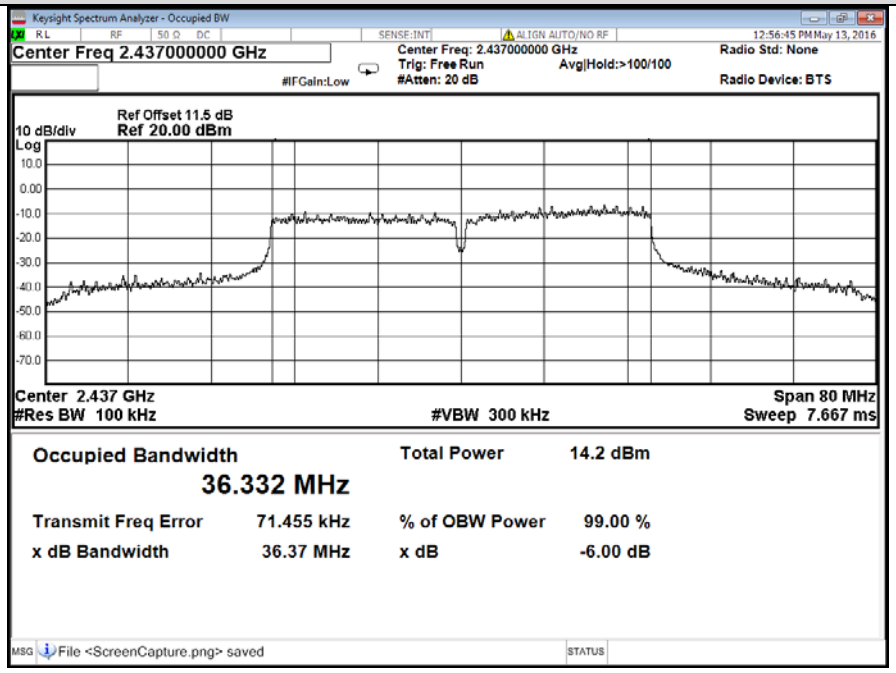
Test Mode: 802.11n(HT40)_2422MHz
Chain 0



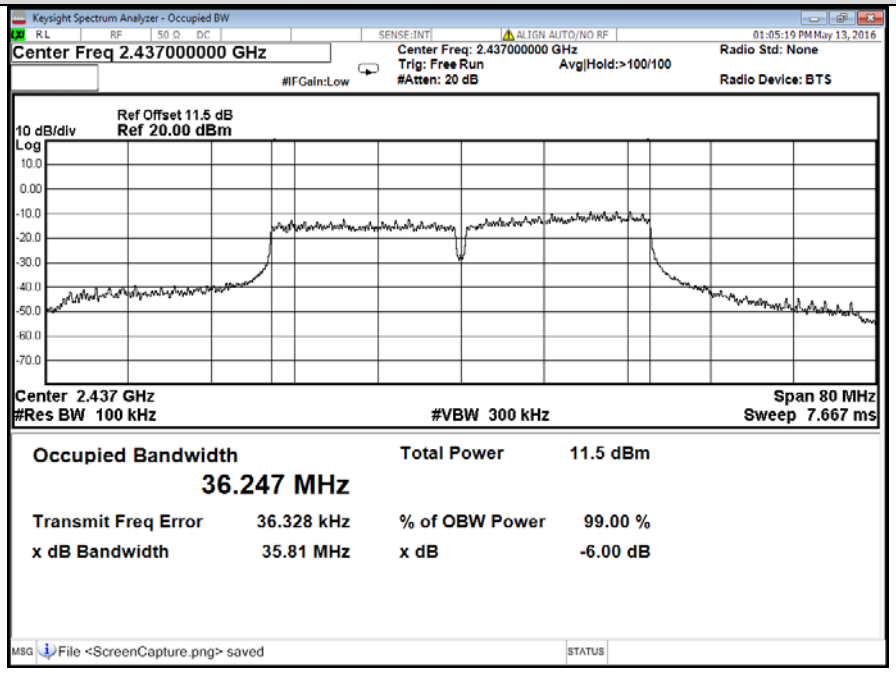
Chain 1



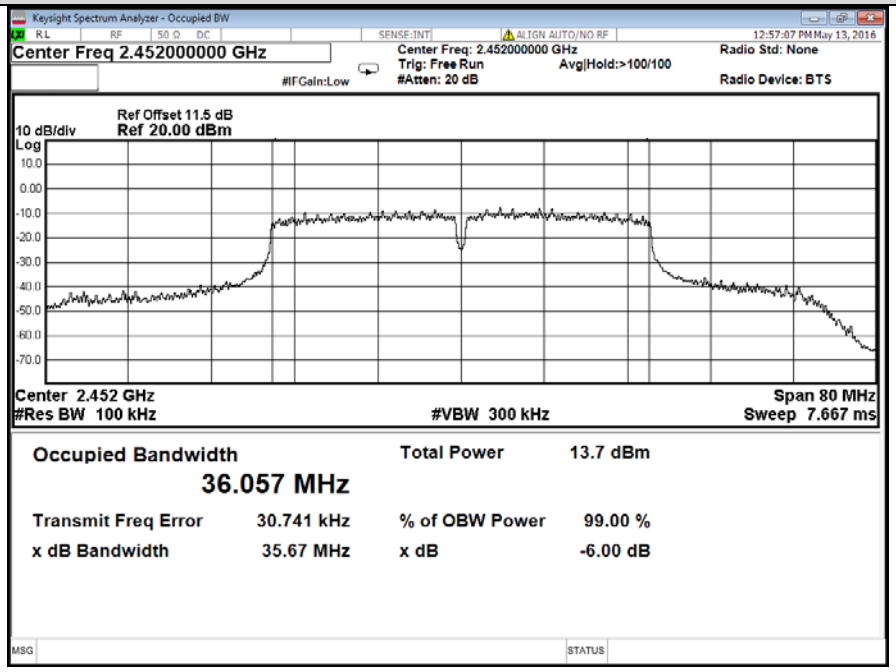
Test Mode: 802.11n(HT40)_2437MHz
Chain 0



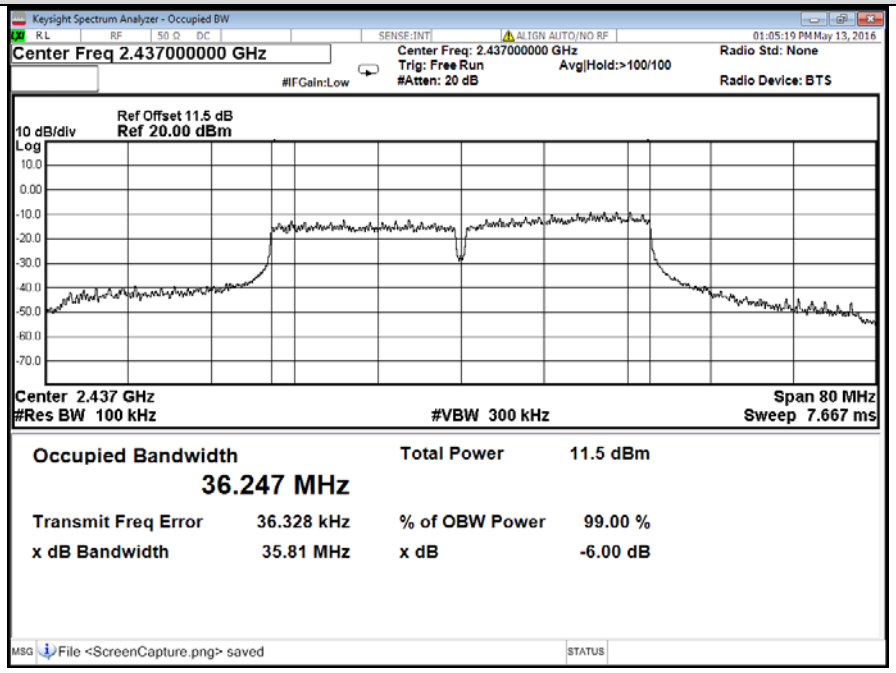
Chain 1



Test Mode: 802.11n(HT40)_2452MHz
Chain 0



Chain 1



6.4 Conducted Out of Band Emission

6.4.1 Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

6.4.2 Test Procedure (KDB 558074 D01 v03r05, Section 11)

Measurement Procedure REF

a) Set instrument center frequency to DTS channel center frequency.

b) Set the span to ≥ 1.5 times the DTS bandwidth.

c) Set the RBW = 100 kHz.

d) Set the VBW ≥ 3 x RBW.

e) Detector = peak.

f) Sweep time = auto couple.

g) Trace mode = max hold.

h) Allow trace to fully stabilize.

i) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

Measurement Procedure OOBE

a) Set RBW = 100 kHz.

b) Set VBW ≥ 300 kHz.

c) Detector = peak.

d) Sweep = auto couple.

e) Trace Mode = max hold.

f) Allow trace to fully stabilize.

g) Use the peak marker function to determine the maximum amplitude level.

6.4.3 Test Data

The EUT complied with the FCC Part 15.247 Conducted Out of Band Emission requirements.

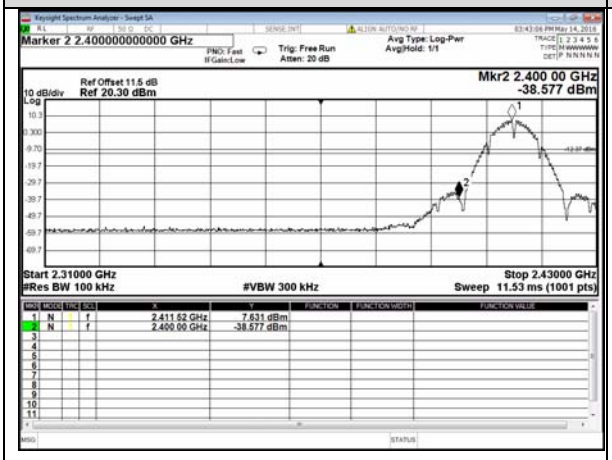
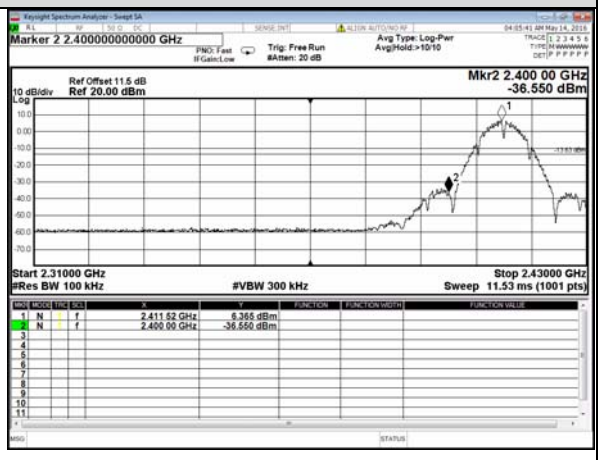
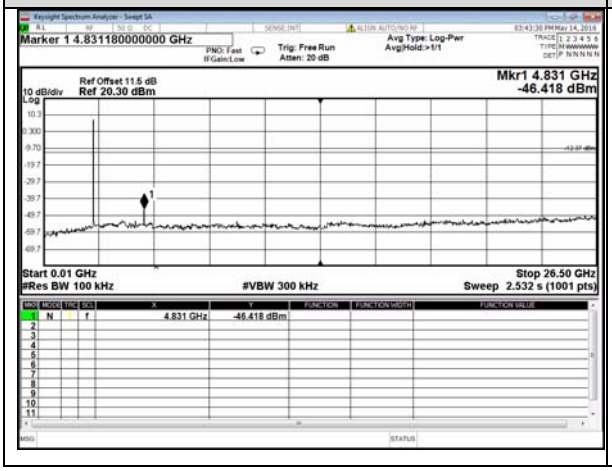
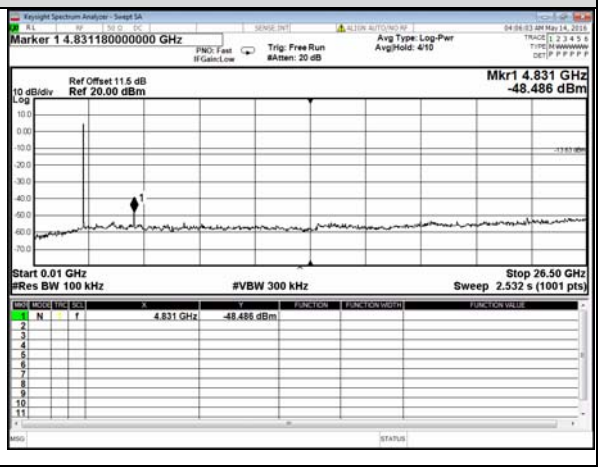
Table 9 provides the test results for Conducted Out of Band Emission.(all the data attached was use the worst case data rate)

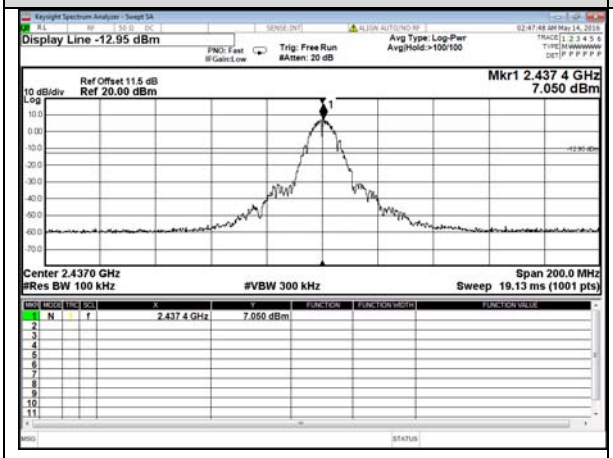
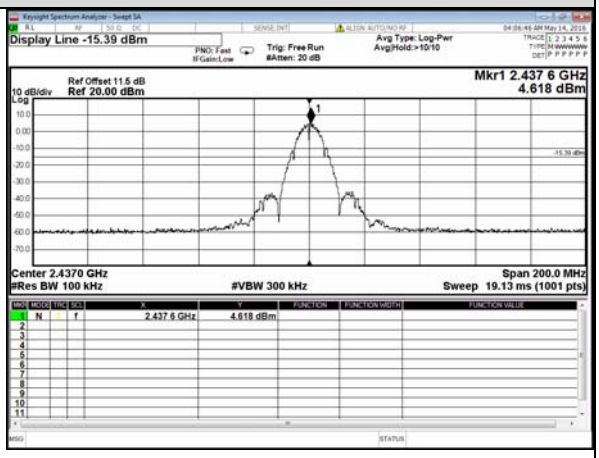
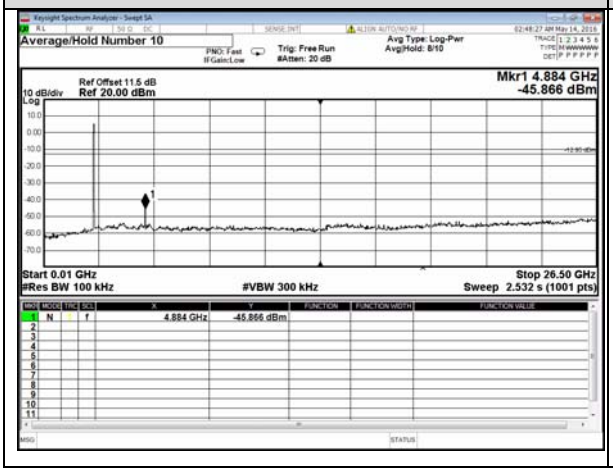
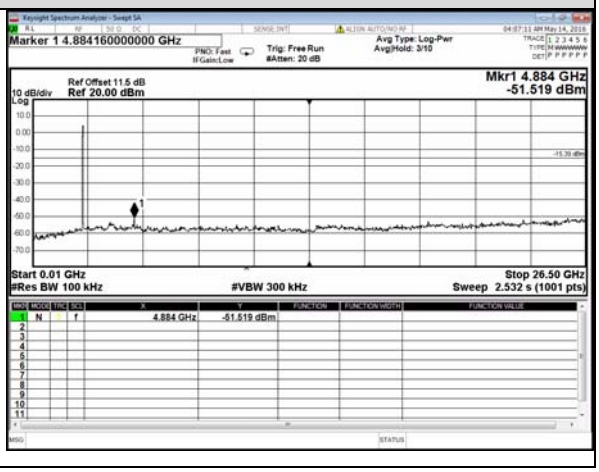
6.4.4 Areas of Concern

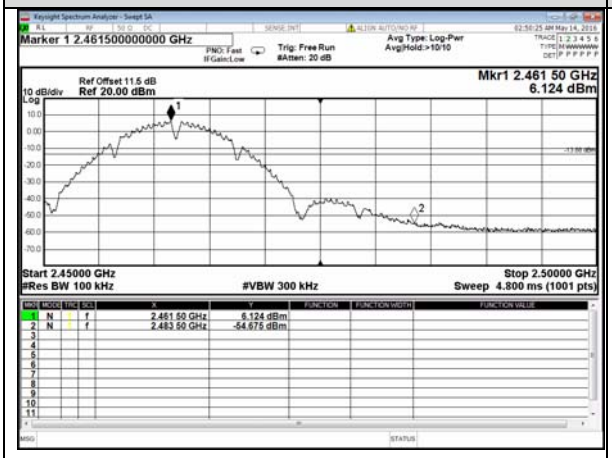
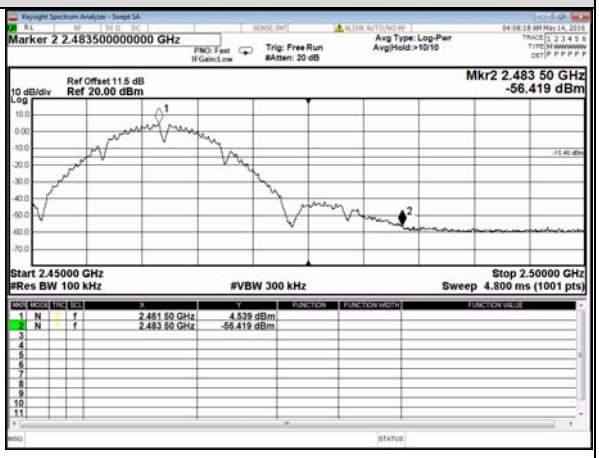
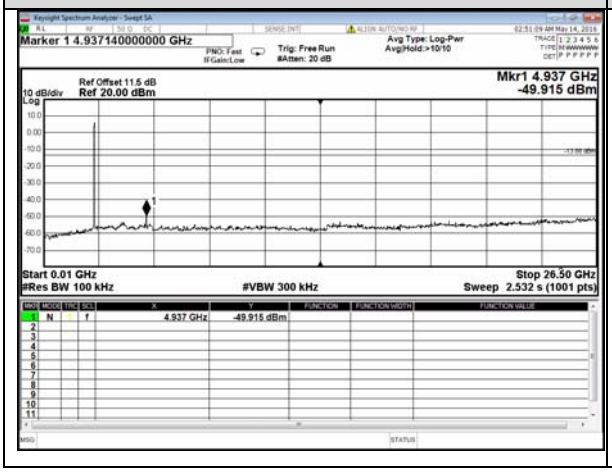
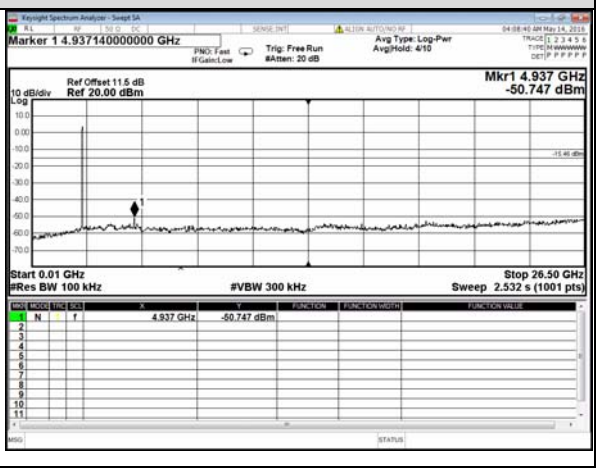
None.

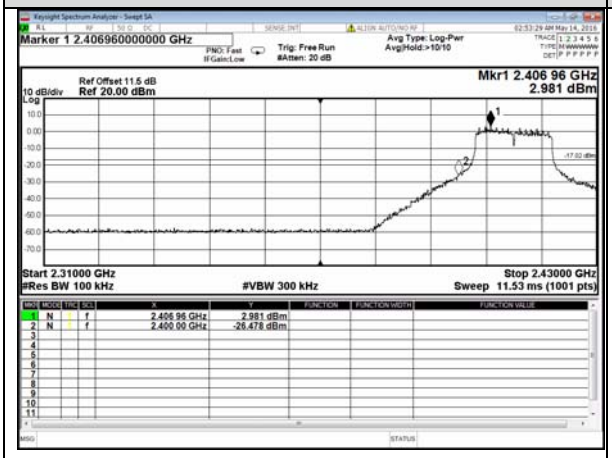
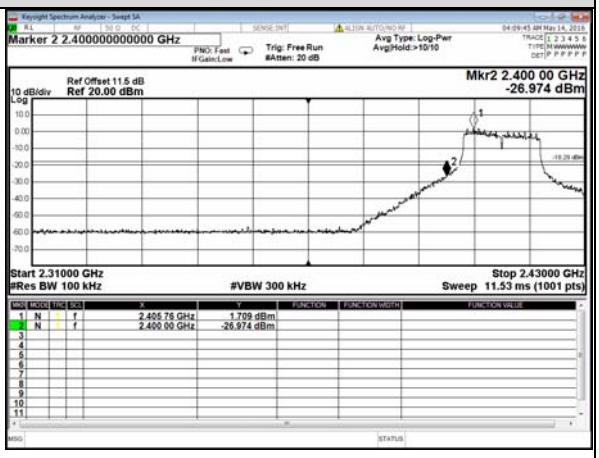
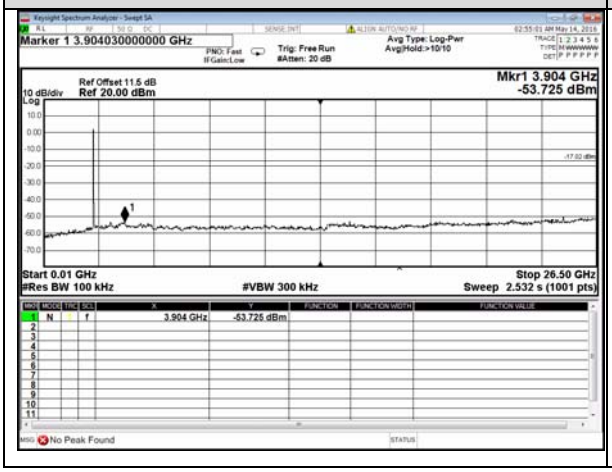
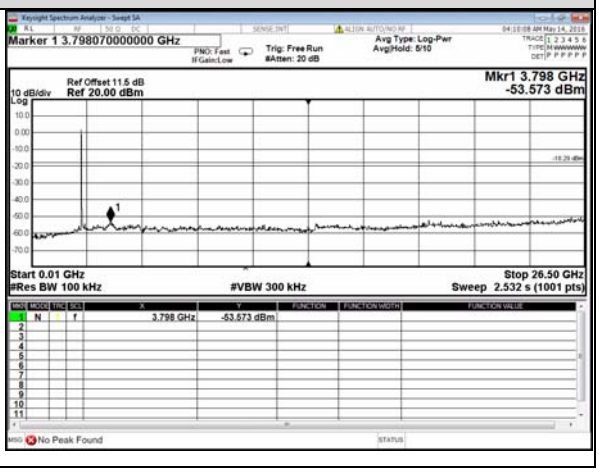
Table 9: Conducted Out of Band Emission Results

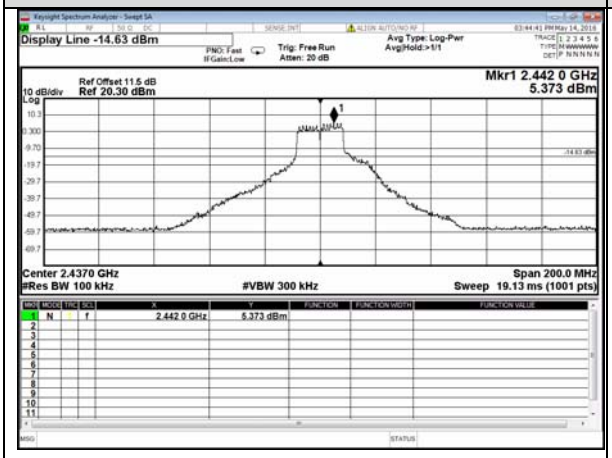
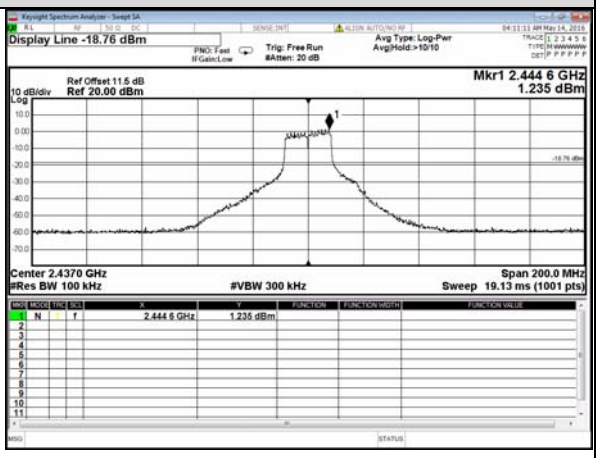
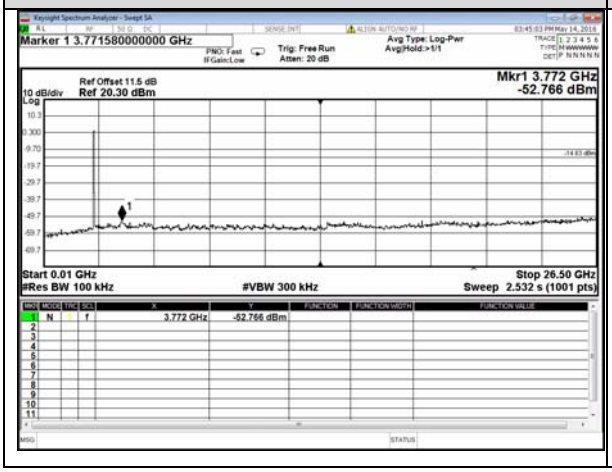
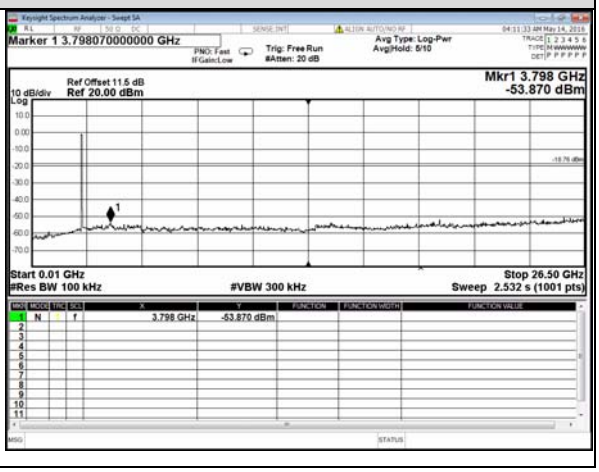
SISO Mode-Test Data

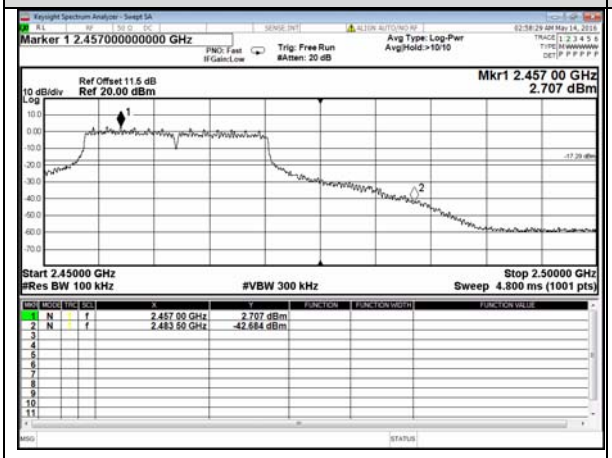
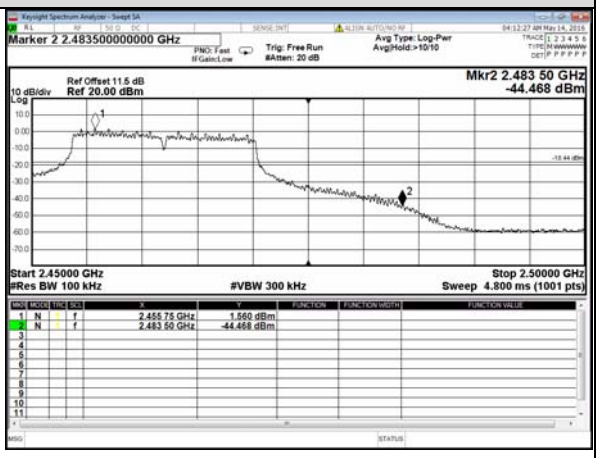
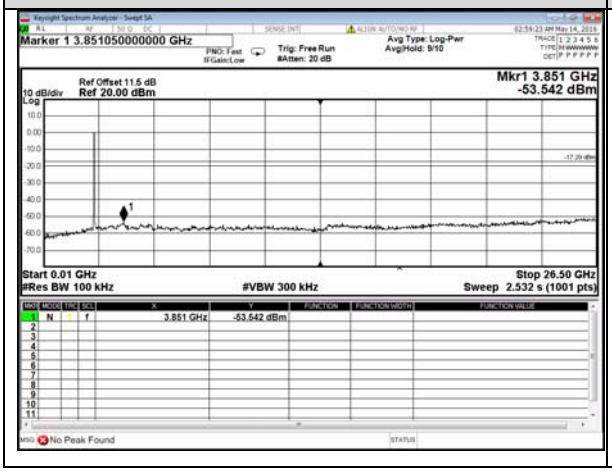
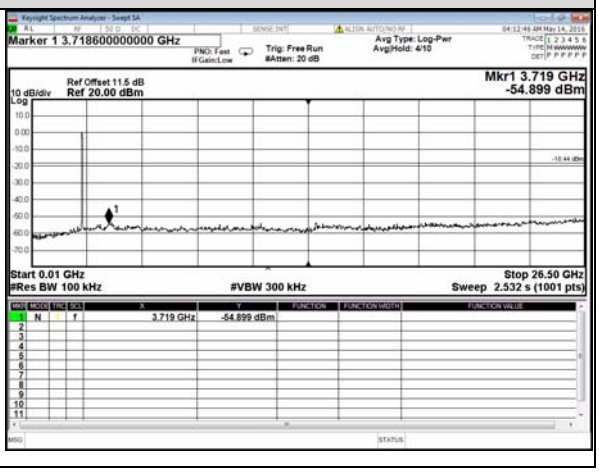
Test Mode: 802.11b_2412MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

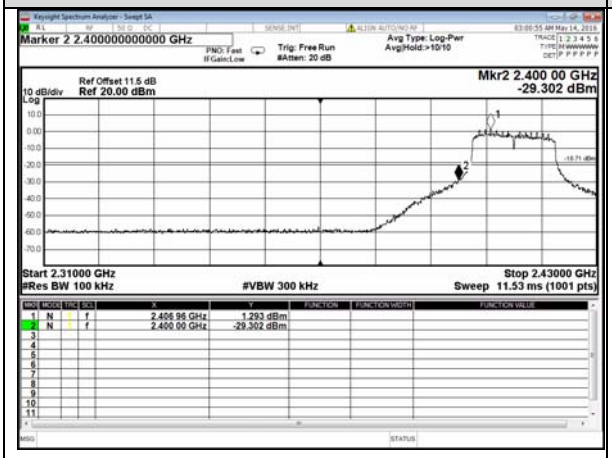
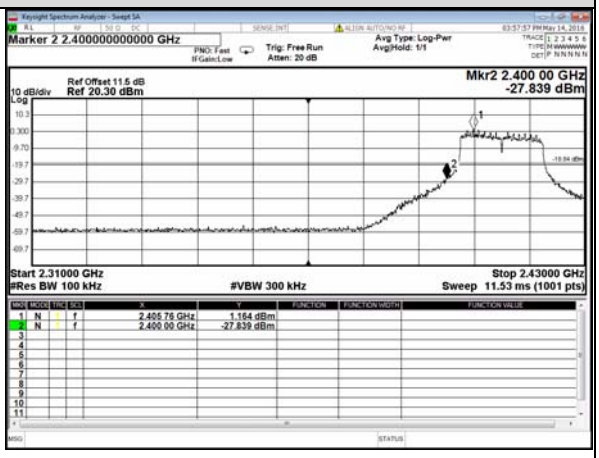
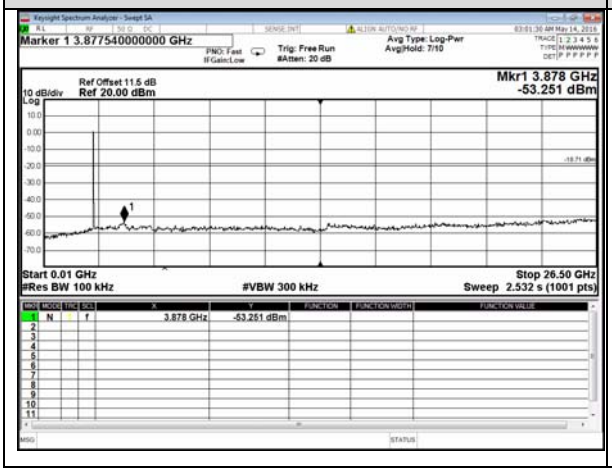
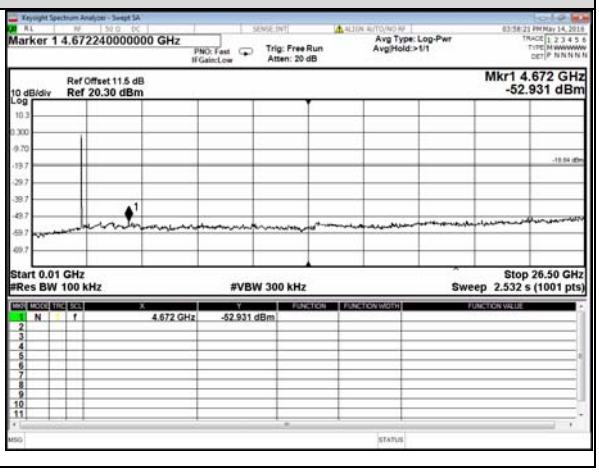
Test Mode: 802.11b_2437MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

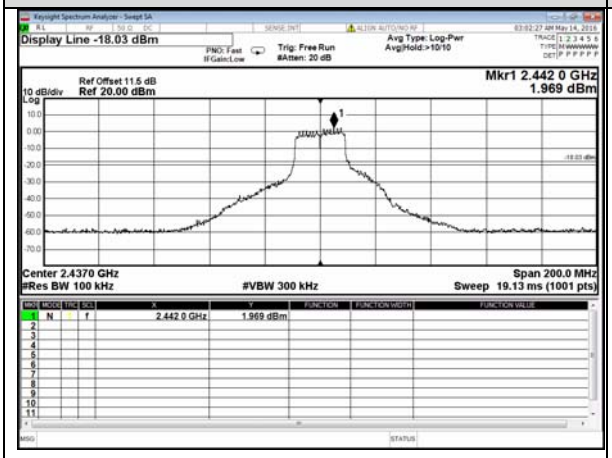
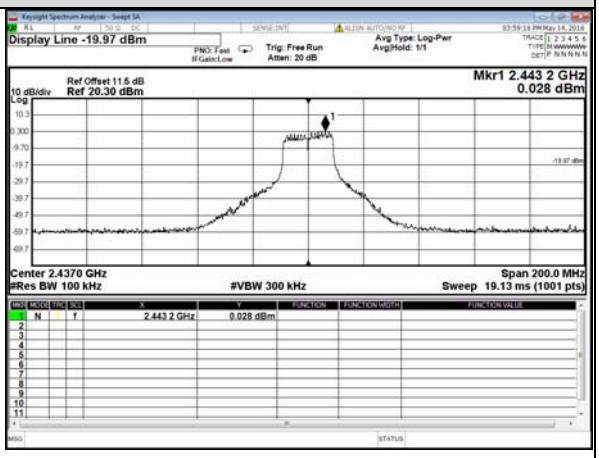
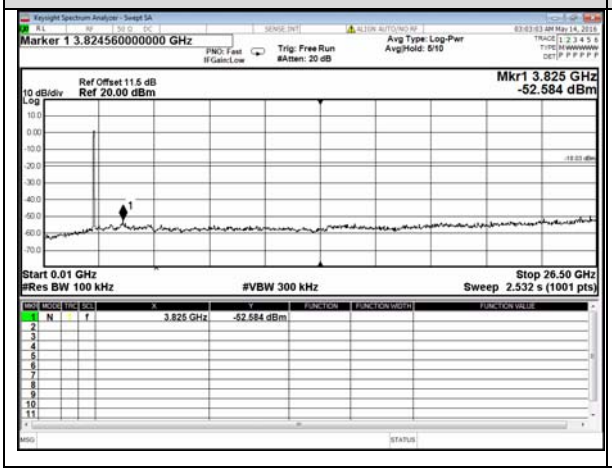
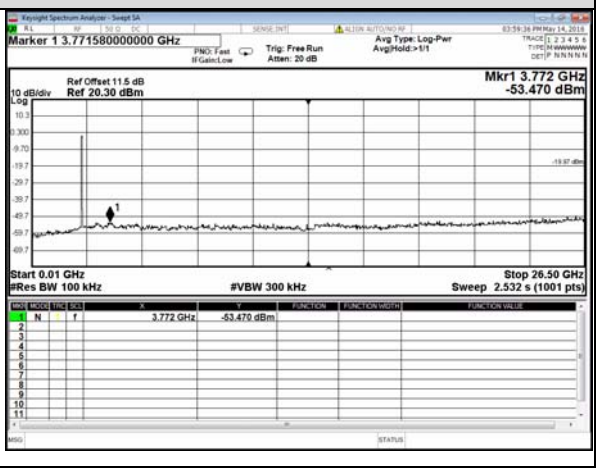
Test Mode: 802.11b_2462MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

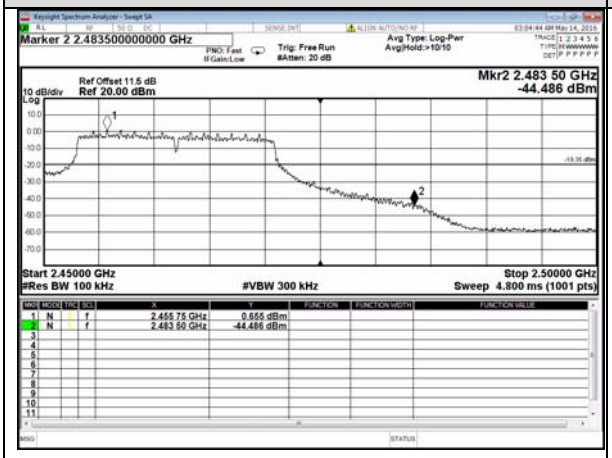
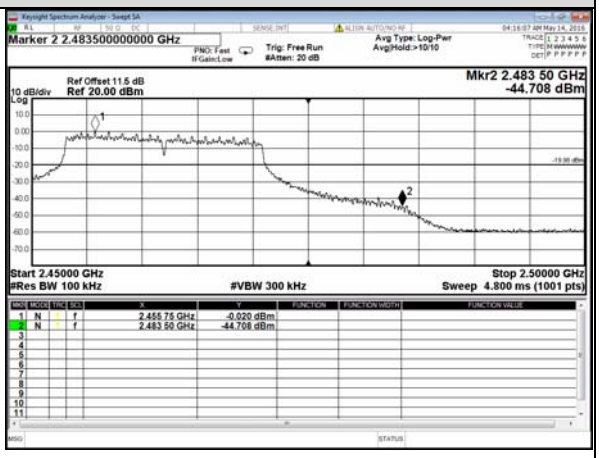
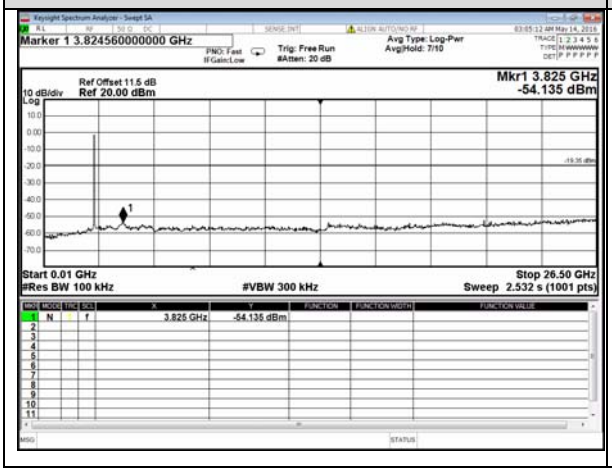
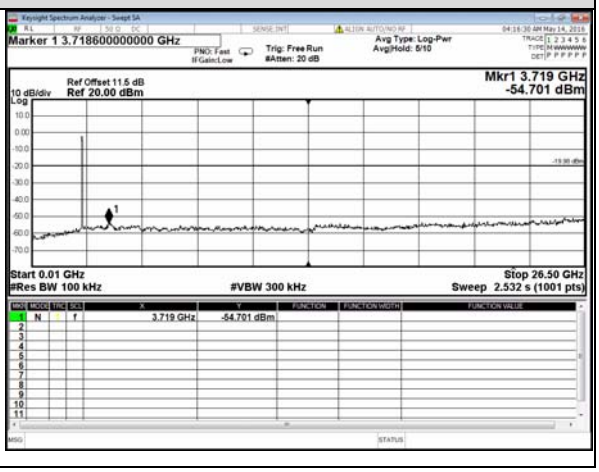
Test Mode: 802.11g_2412MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

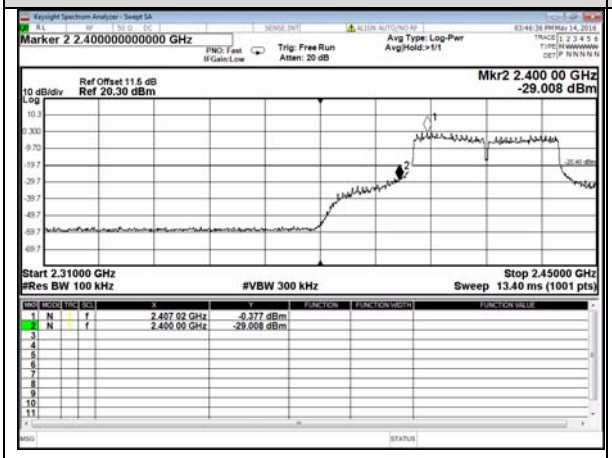
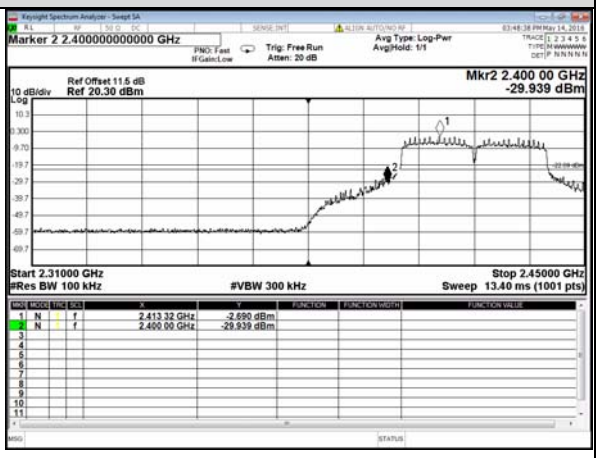
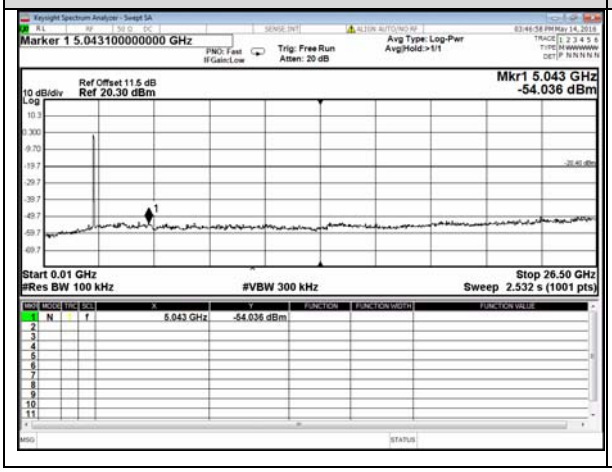
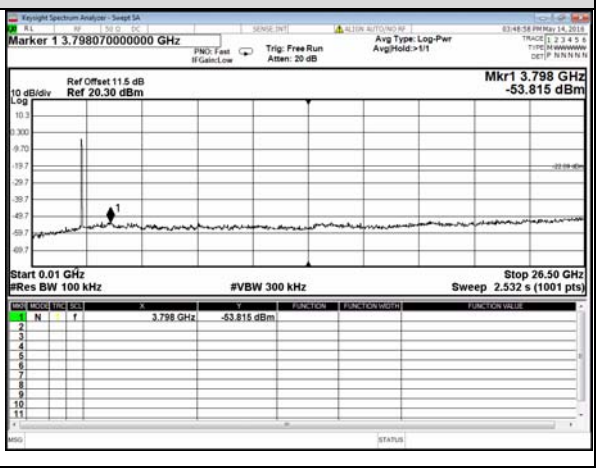
Test Mode: 802.11g_2437MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

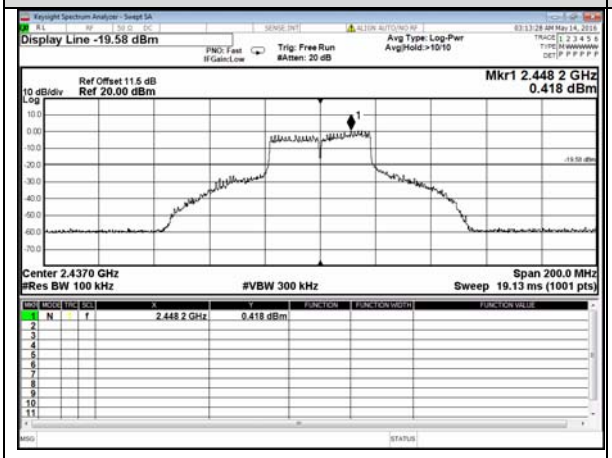
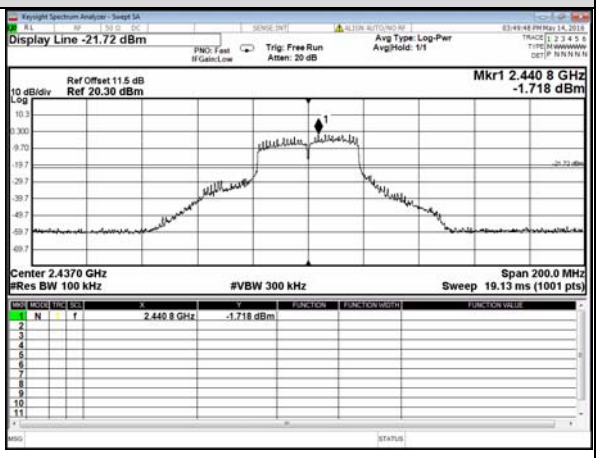
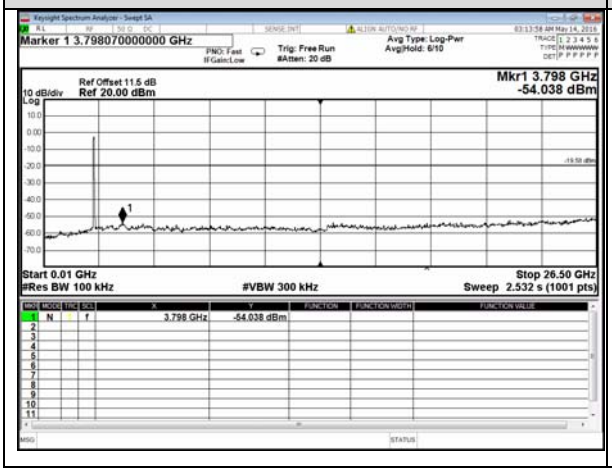
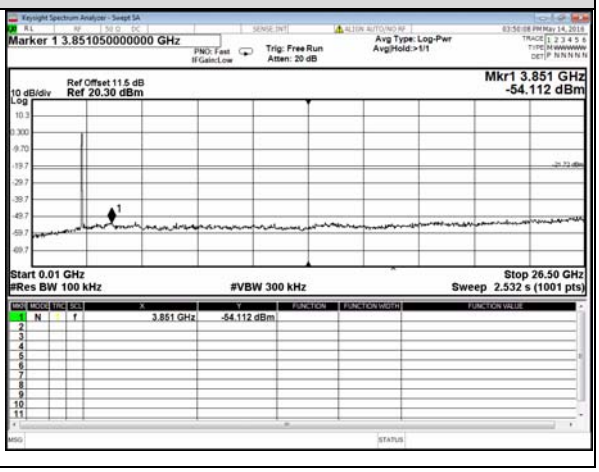
Test Mode: 802.11g_2462MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

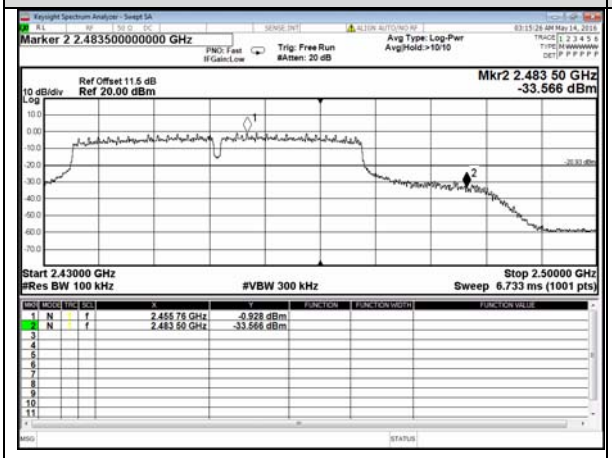
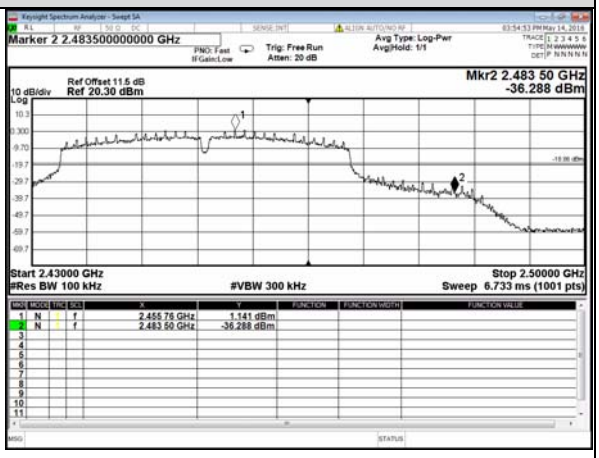
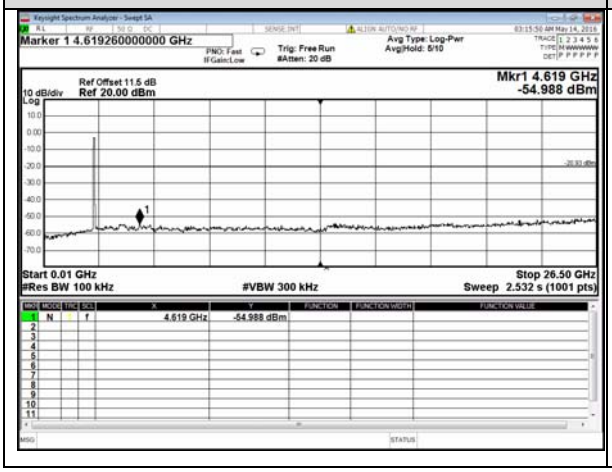
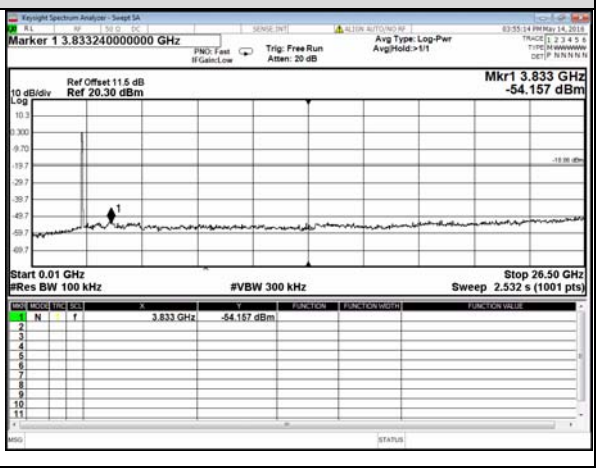
Test Mode: 802.11n(HT20)_2412MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

Test Mode: 802.11n(HT20)_2437MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

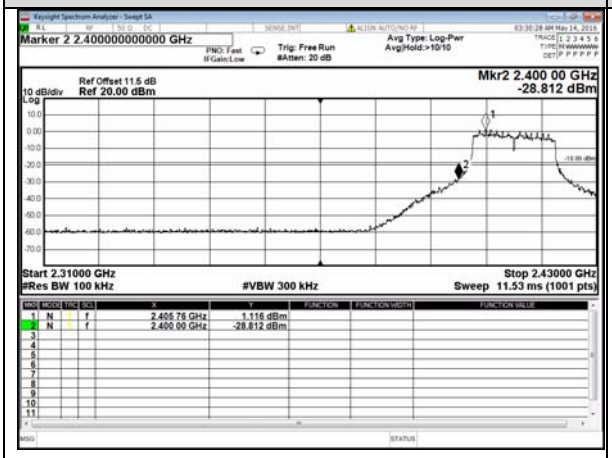
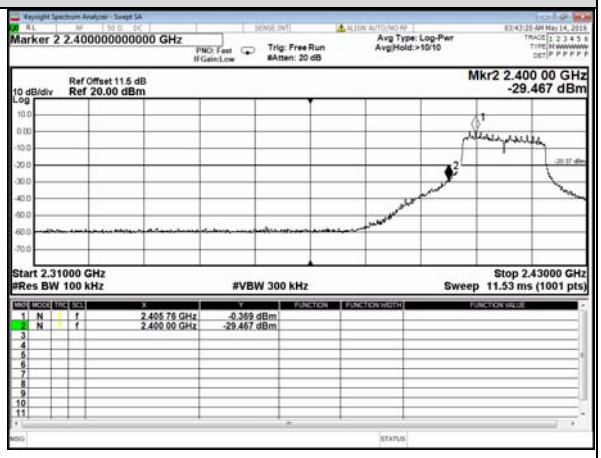
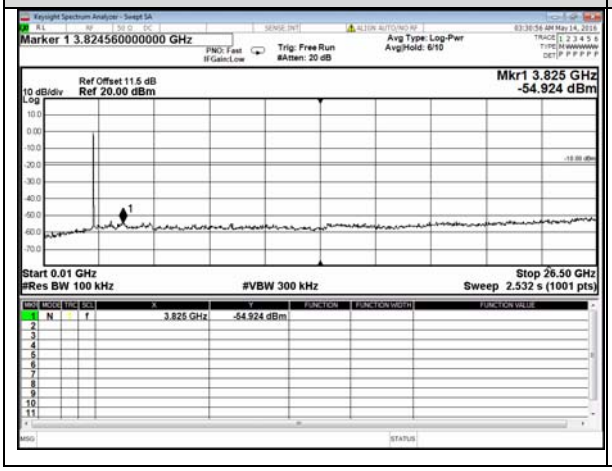
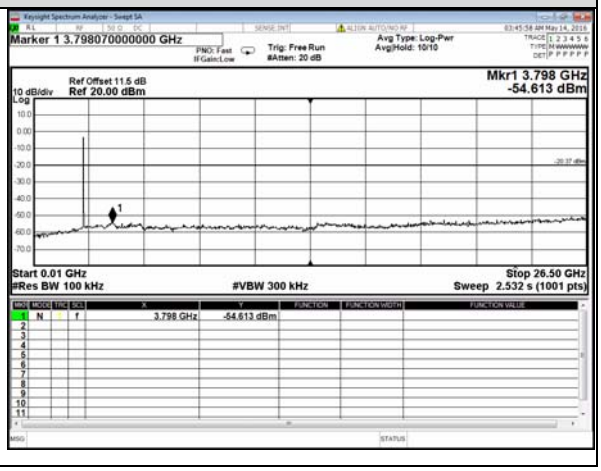
Test Mode: 802.11N(HT20)_2462MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

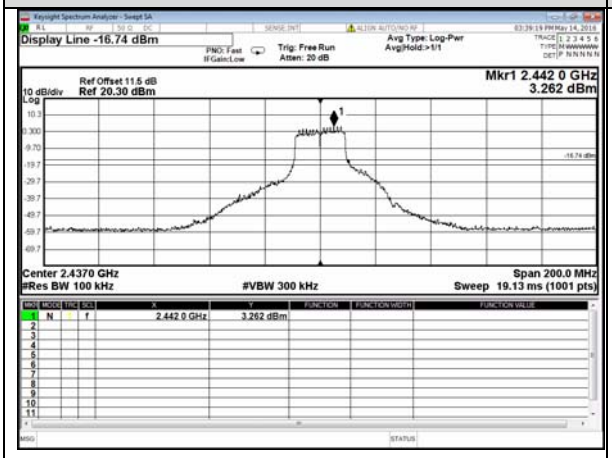
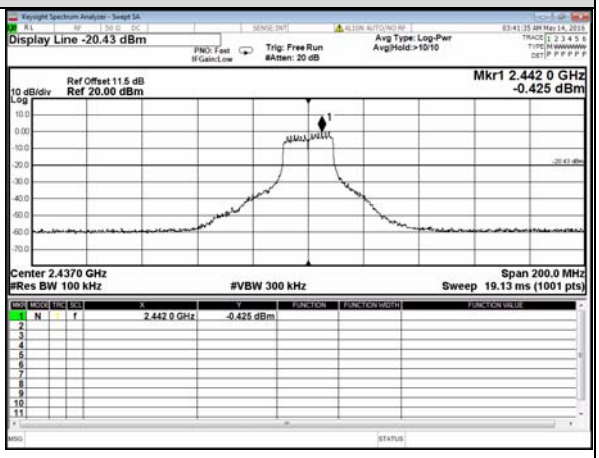
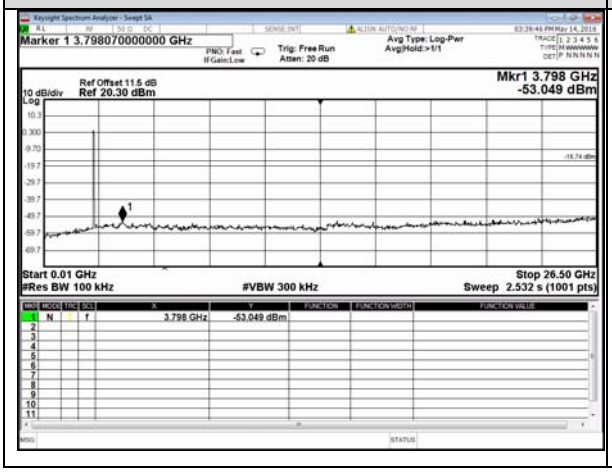
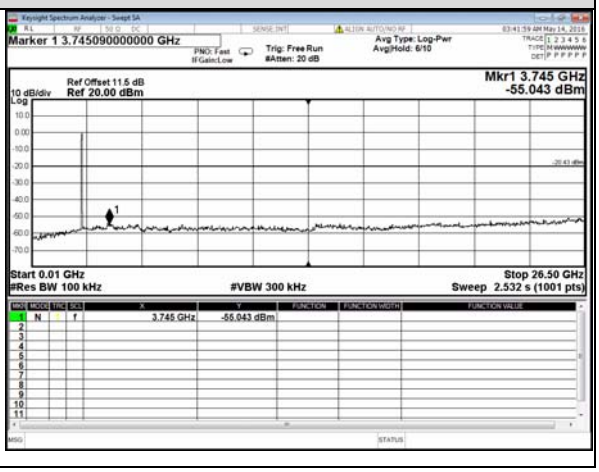
Test Mode: 802.11n(HT40)_2422MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

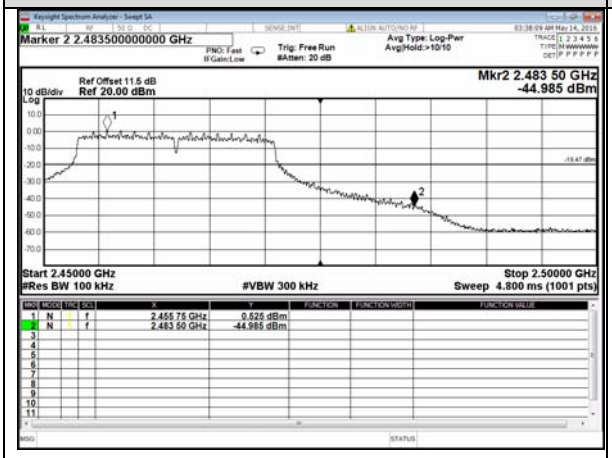
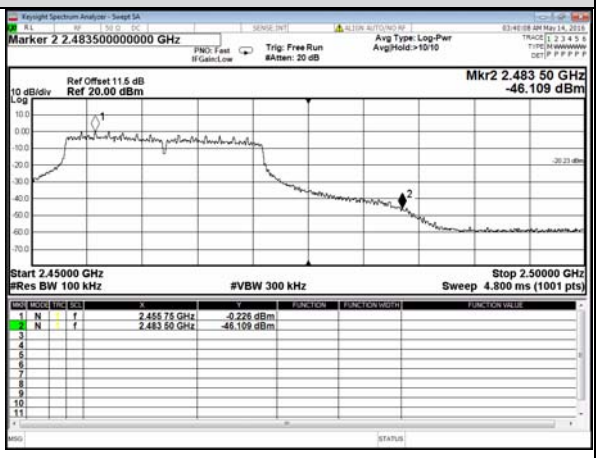
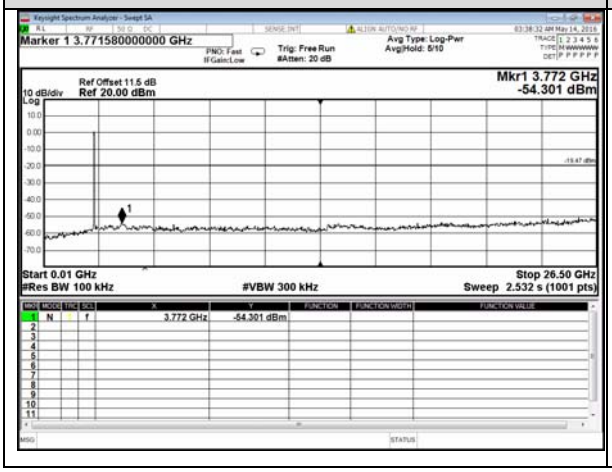
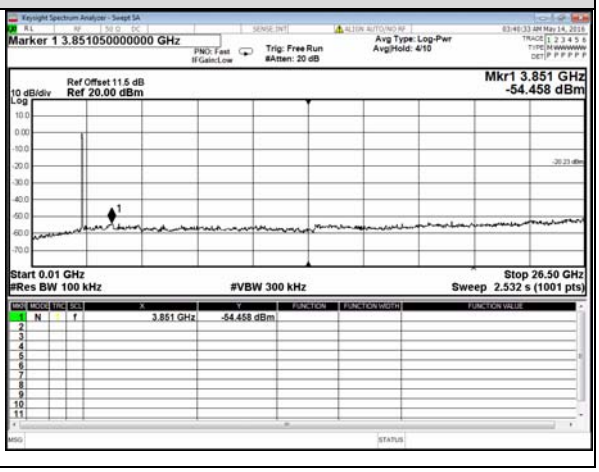
Test Mode: 802.11n(HT40)_2437MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

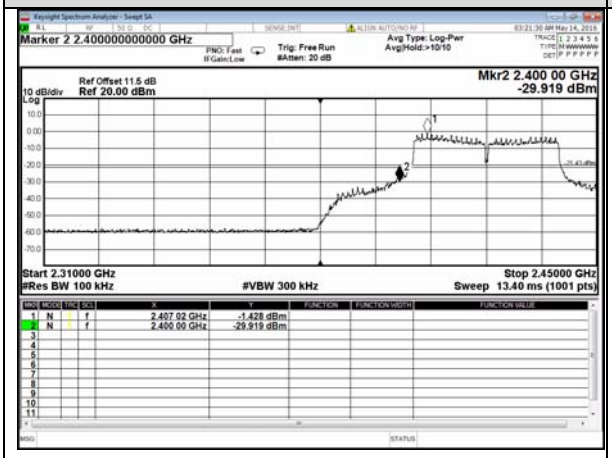
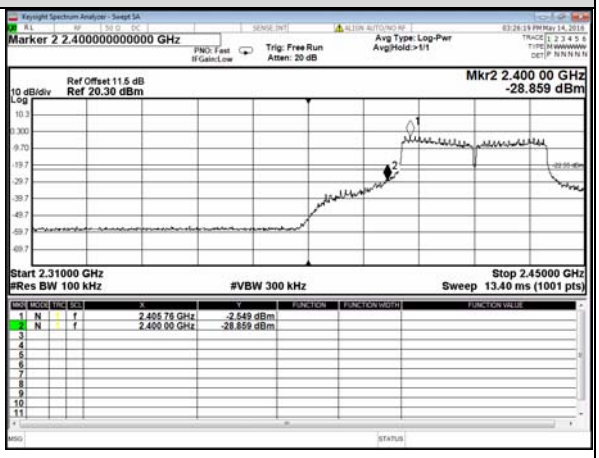
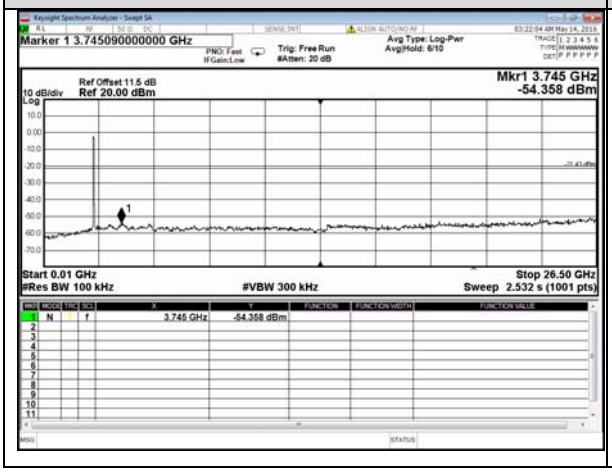
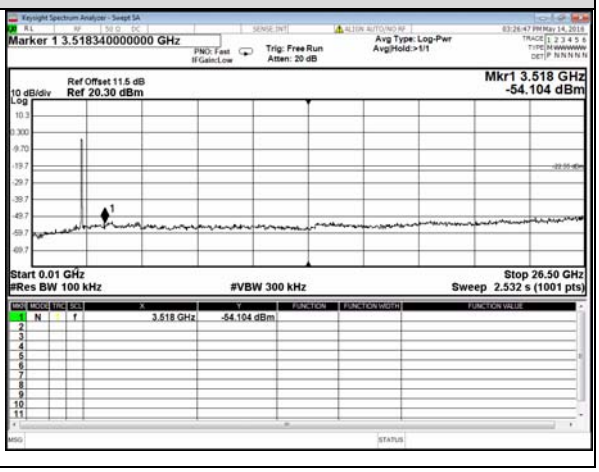
Test Mode: 802.11N(HT40)_2452MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

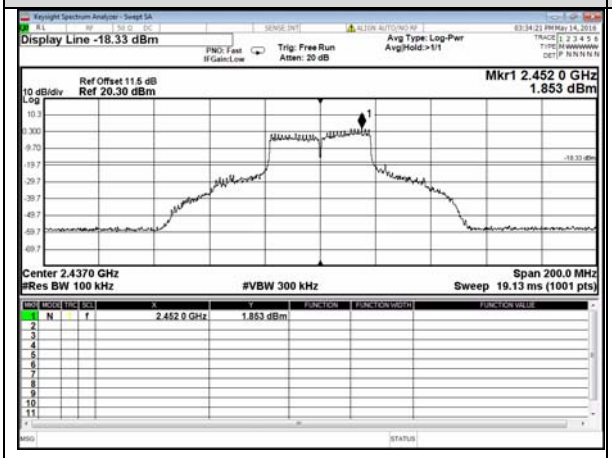
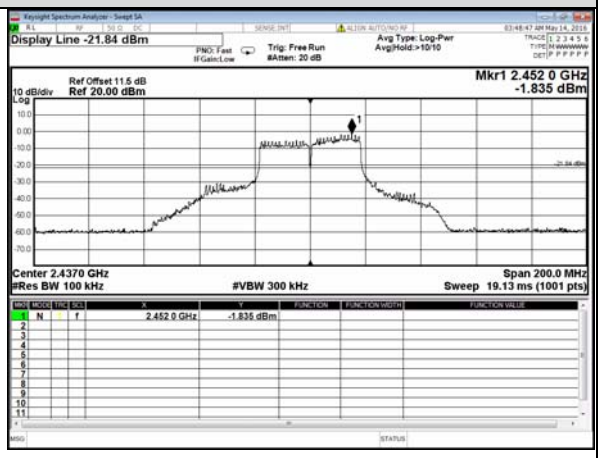
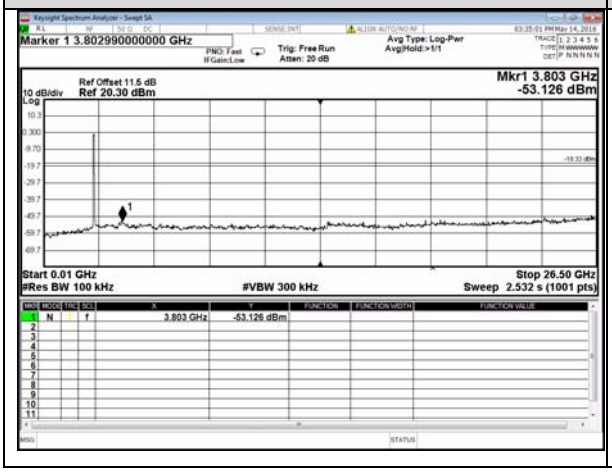
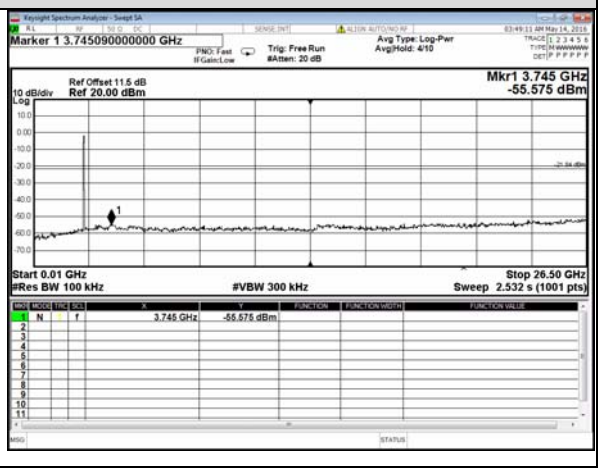
MIMO Mode- Test Data

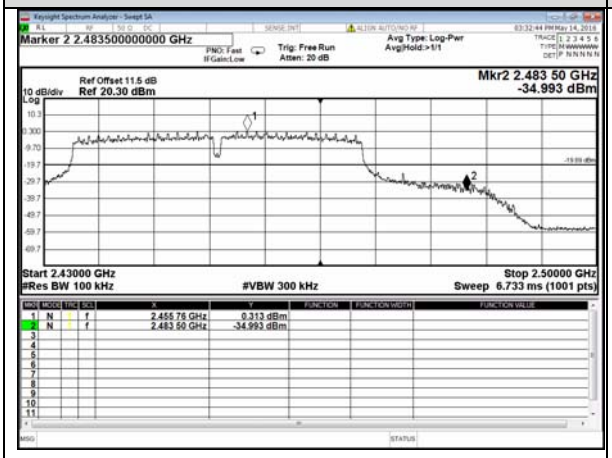
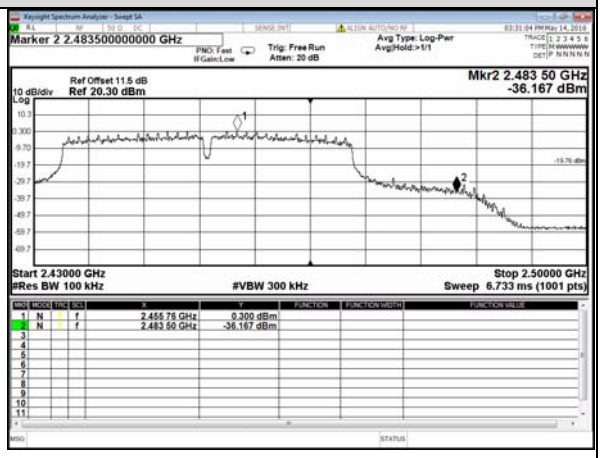
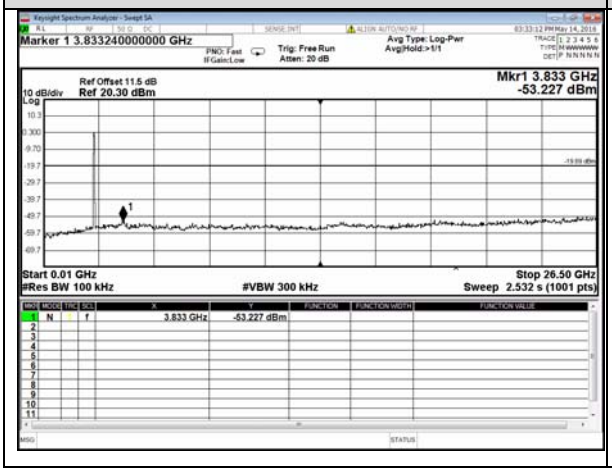
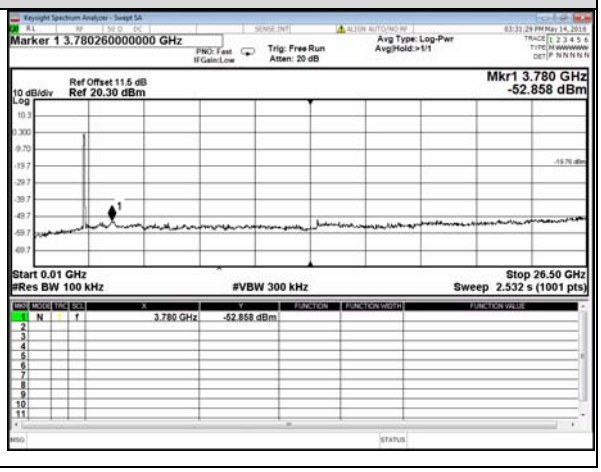
Test Mode: 802.11n(HT20)_2412MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

Test Mode: 802.11n(HT20)_2437MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

Test Mode: 802.11N(HT20)_2462MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

Test Mode: 802.11n(HT40)_2422MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

Test Mode: 802.11n(HT40)_2437MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

Test Mode: 802.11N(HT40)_2452MHz	
Chain 0	**Chain 1**
In-Band Reference Level	**In-Band Reference Level**
	
Out of Band	**Out of Band**
	

6.5 Radiated spurious emissions

6.5.1 Limits

Radiated emissions that fall in the restricted bands must comply with the general emissions limits in 15.209(a) as below table. Other emissions shall be at least 20 dB below the highest level of the desired power.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

The emissions were measured using the following resolution bandwidths:

Frequency Range	Resolution Bandwidth	Video Bandwidth
30MHz-1000 MHz	120kHz	>30 kHz
>1000 MHz	1 MHz	<30 Hz

Harmonic and Spurious emissions that were identified as coming from the EUT were checked in Peak and in Average Mode. The high frequency, which started from 10 to26.5GHz, which above 10GHz are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured was not reported.

Peak measurements and average measurements are made. All emissions were determined to have a peak-to-average ratio of less than 20dB.

6.5.2 Test Procedure (KDB 558074 D01 v03r05, Section 12.1 and Section12.2.5.3)

The EUT was placed on motorized turntable for radiated testing on a 3-meter open field test site. The emissions from the EUT were measured continuously at every azimuth by rotating the turntable. Receiving antennas were mounted on an antenna mast to determine the height of maximum emissions. The height of the antenna was varied between 1 and 4 meters. The peripherals were placed on the table in accordance with ANSI C63.10-2013. Cables were varied in position to produce maximum emissions. Both the horizontal and vertical field components were measured.

6.5.3 Test Data

The EUT complied with the FCC Part 15.247 Radiated spurious emissions requirements.

Table 10 Provide the test results for Radiated spurious emissions. (All the data attached was use the worst case data rate)

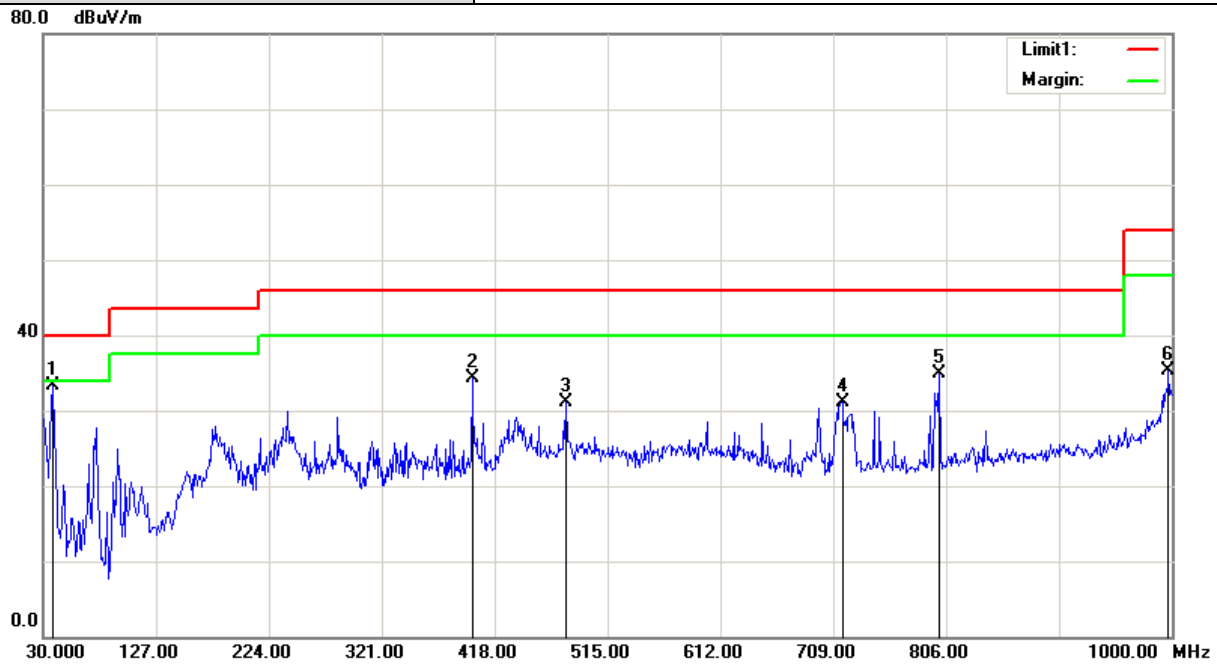
6.5.4 Areas of Concern

None

Table 10: Radiated Emission Test Data

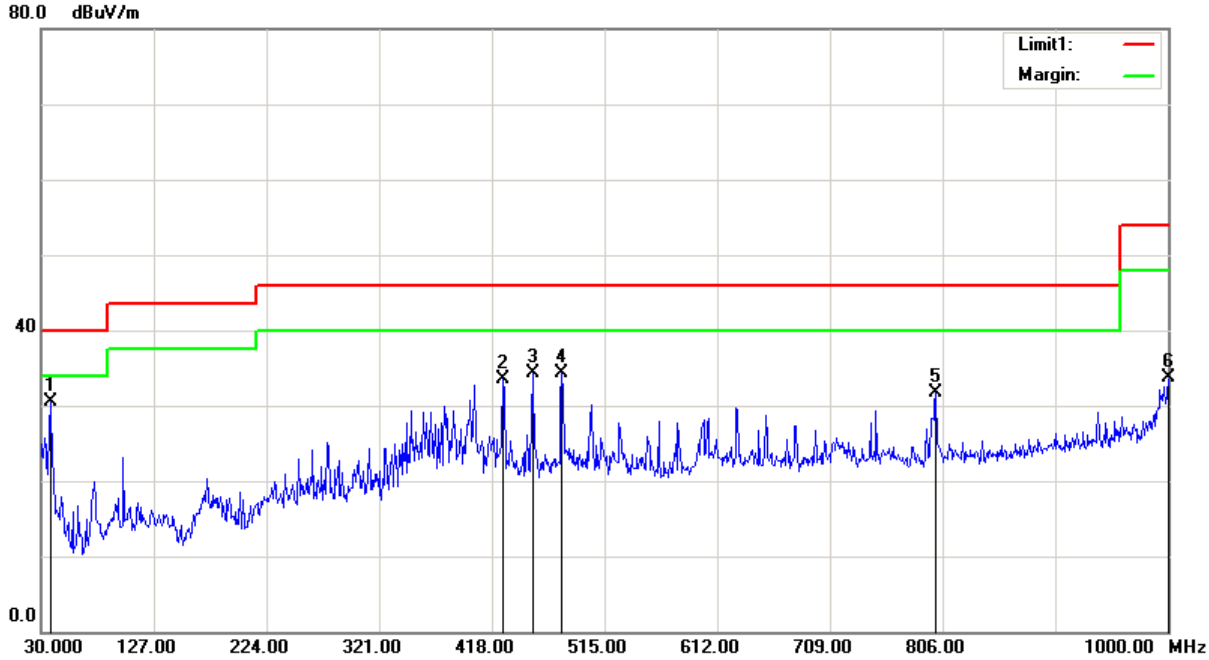
Radiated Emission Test Data (Below 1 GHz Worst Case):

Mode	802.11n(HT20)	Power Source	DC 7.4V
Antenna	Chain 0+1	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	1	Test By	Paul Pan
Ant. Polar.		Horizontal	



.No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1*	37.7600	48.71	-15.48	33.23	40.00	-6.77	QP
2	398.6000	50.46	-16.14	34.32	46.00	-11.68	QP
3	479.1100	45.55	-14.39	31.16	46.00	-14.84	QP
4	716.7600	43.02	-11.87	31.15	46.00	-14.85	QP
5	800.1800	45.99	-11.11	34.88	46.00	-11.12	QP
6	997.0900	44.57	-9.34	35.23	54.00	-18.77	QP

Mode	802.11n(HT20)	Power Source	DC 7.4V
Antenna	Chain 0+1	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	1	Test By	Paul Pan
Ant. Polar.		Vertical	

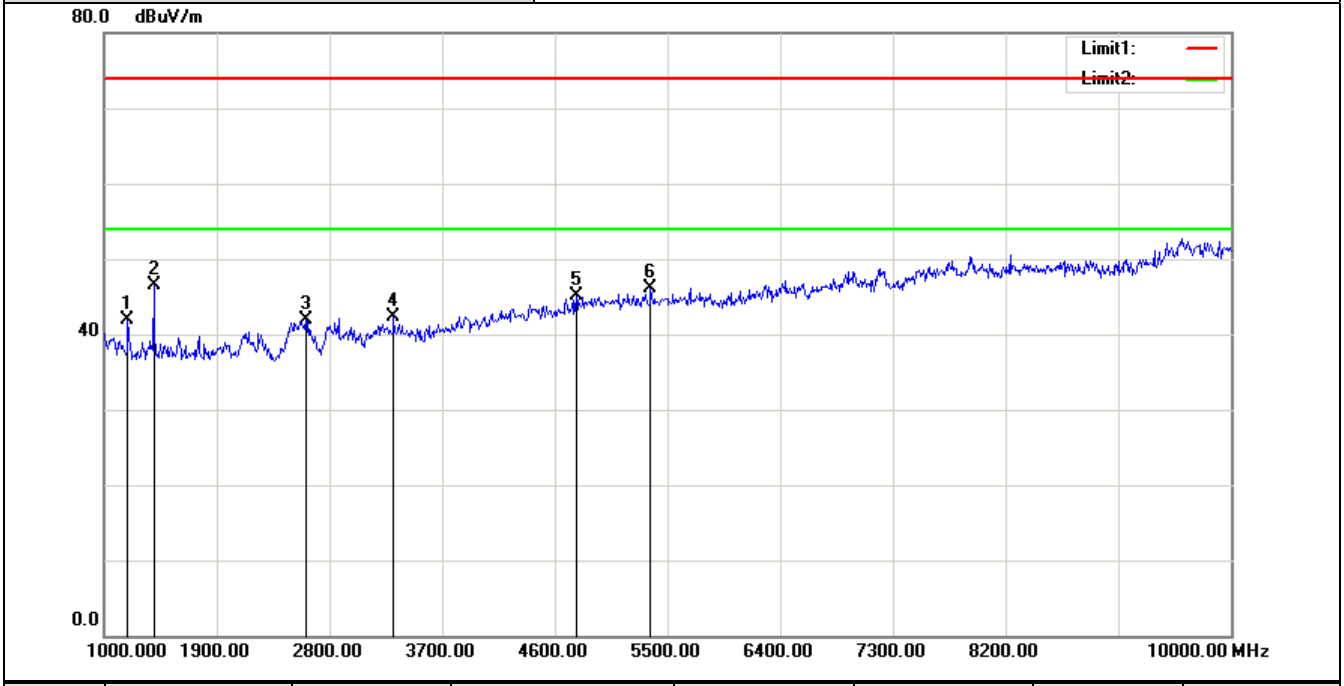


.No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1*	37.7600	45.93	-15.48	30.45	40.00	-9.55	QP
2	427.7000	48.98	-15.55	33.43	46.00	-12.57	QP
3	452.9200	49.65	-15.38	34.27	46.00	-11.73	QP
4	478.1400	48.66	-14.43	34.23	46.00	-11.77	QP
5	800.1800	42.87	-11.11	31.76	46.00	-14.24	QP
6	1000.0000	43.00	-9.36	33.64	54.00	-20.36	QP

Radiated Emission Test Data (Above 1GHz):

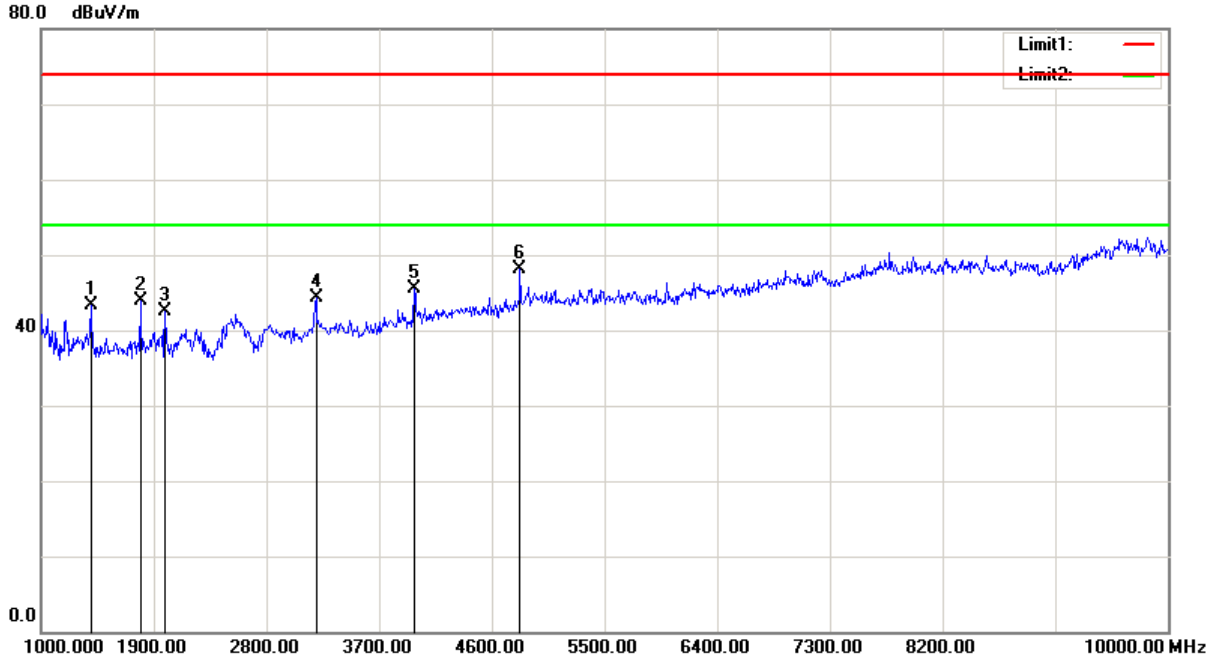
SISO Mode_ Test Data

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 0	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	1	Test By	Paul Pan
Ant. Polar.		Horizontal	



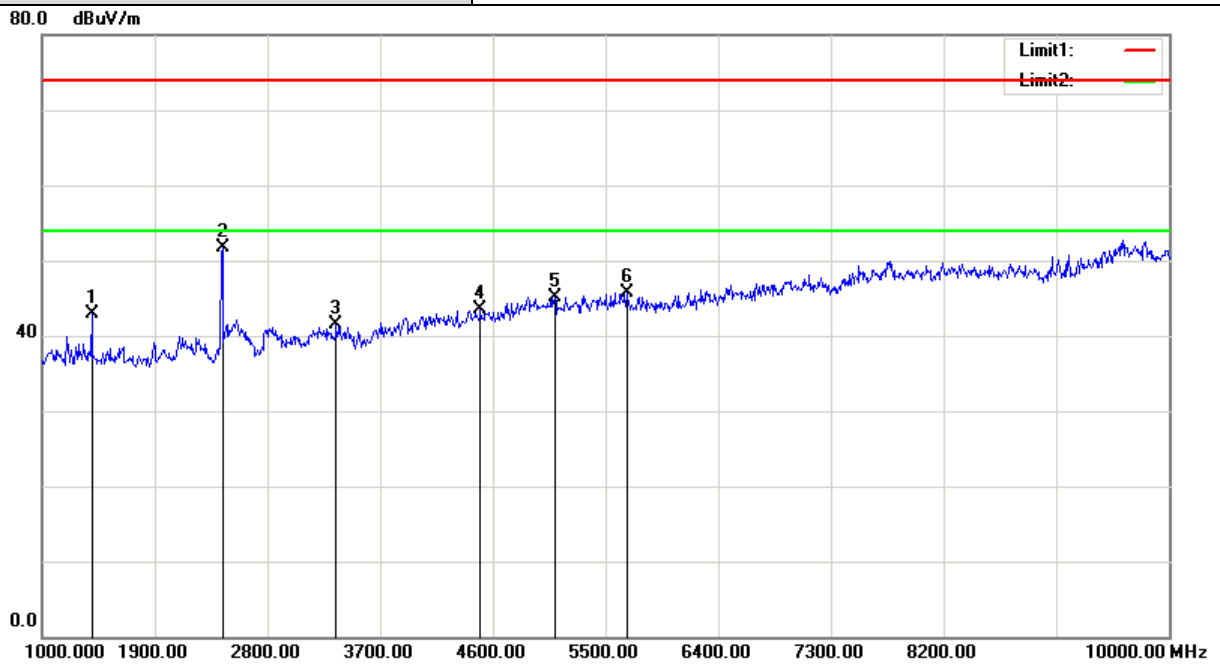
.No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1*	1189.000	49.73	-7.83	41.90	74.00	-32.10	peak
2	1396.000	53.64	-7.07	46.57	74.00	-27.43	peak
3	2611.000	43.91	-2.06	41.85	74.00	-32.15	peak
4	3313.000	43.11	-0.83	42.28	74.00	-31.72	peak
5	4771.000	40.78	4.23	45.01	74.00	-28.99	peak
6	5365.000	40.39	5.63	46.02	74.00	-27.98	peak

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 0	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	1	Test By	Paul Pan
Ant. Polar.		Vertical	



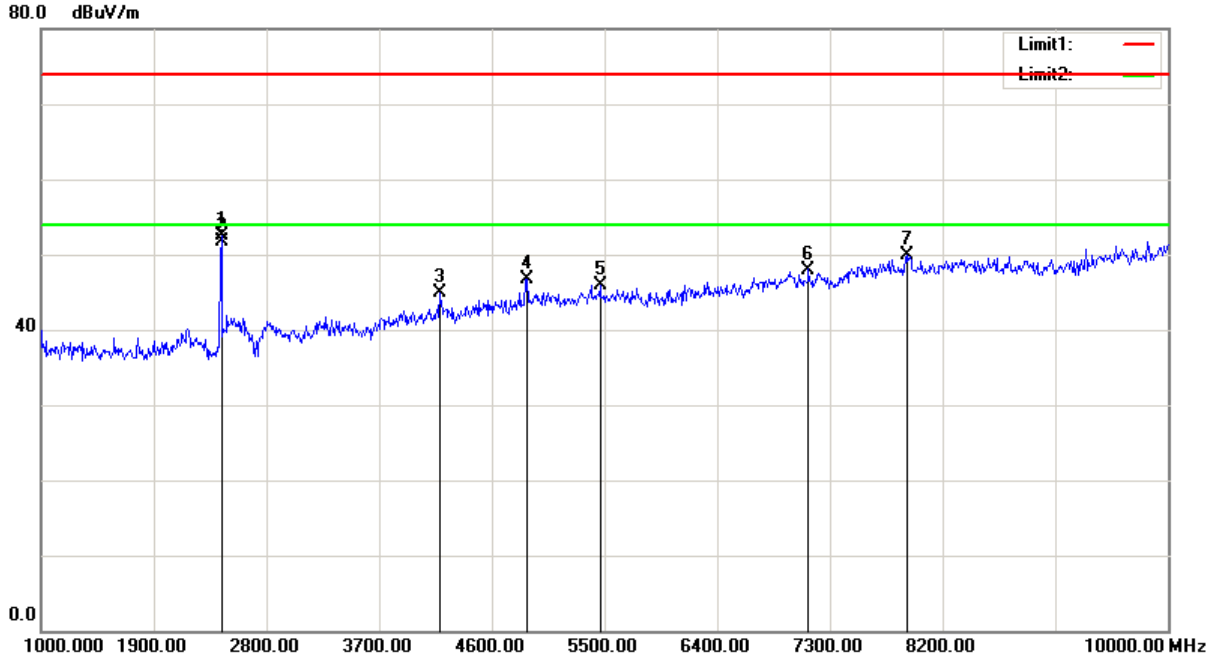
.No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1*	1396.000	50.31	-7.07	43.24	74.00	-30.76	peak
2	1792.000	50.21	-6.29	43.92	74.00	-30.08	peak
3	1990.000	47.49	-5.06	42.43	74.00	-31.57	peak
4	3196.000	45.24	-1.03	44.21	74.00	-29.79	peak
5	3979.000	43.97	1.50	45.47	74.00	-28.53	peak
6	4825.000	43.71	4.41	48.12	74.00	-25.88	peak

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 0	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	6	Test By	Paul Pan
Ant. Polar.		Horizontal	



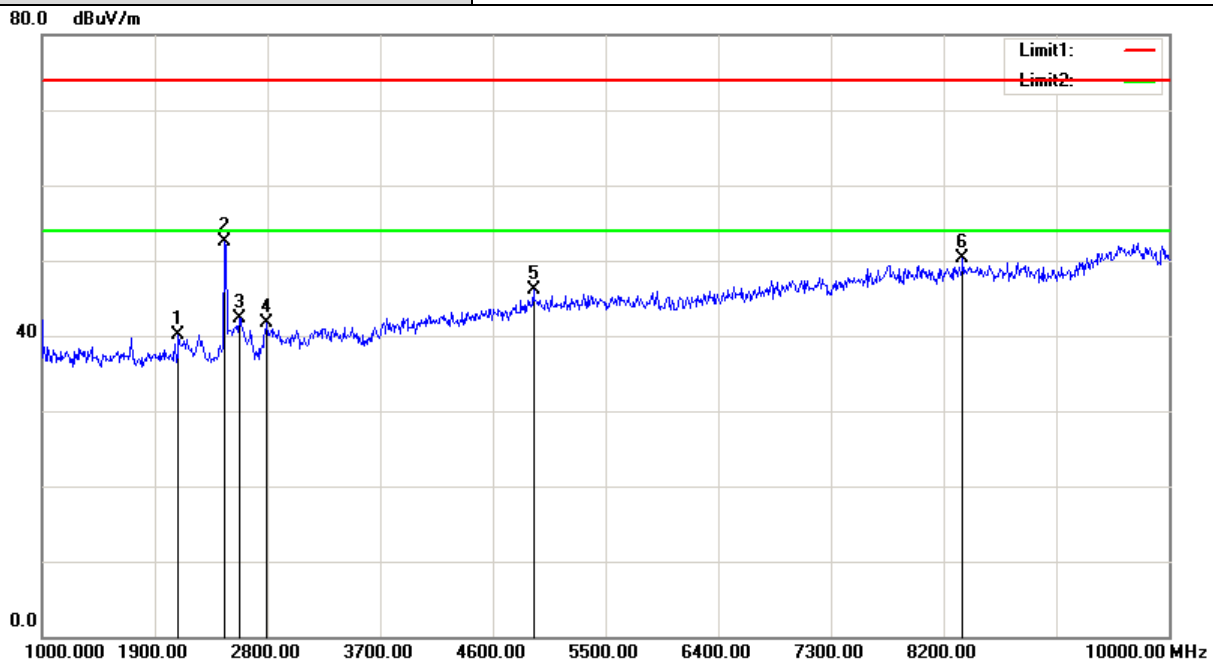
.No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1*	1396.000	49.95	-7.07	42.88	74.00	-31.12	peak
2	2440.000	54.34	-2.59	51.75	74.00	-22.25	peak
3	3349.000	42.24	-0.77	41.47	74.00	-32.53	peak
4	4501.000	40.15	3.35	43.50	74.00	-30.50	peak
5	5095.000	39.96	5.15	45.11	74.00	-28.89	peak
6	5671.000	39.69	5.94	45.63	74.00	-28.37	peak

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 0	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	6	Test By	Paul Pan
Ant. Polar.		Vertical	



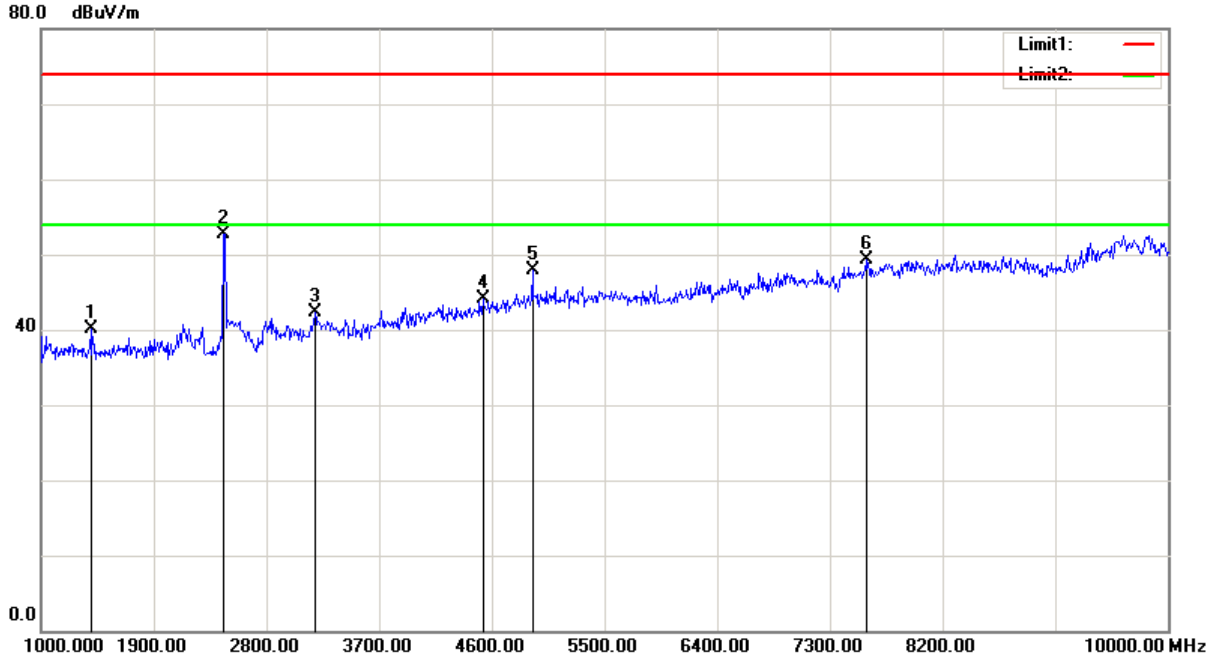
.No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1*	2440.000	55.13	-2.59	52.54	74.00	-21.46	peak
2	2440.000	54.32	-2.59	51.73	54.00	-2.27	AVG
3	4186.000	42.67	2.24	44.91	74.00	-29.09	peak
4	4879.000	42.19	4.59	46.78	74.00	-27.22	peak
5	5464.000	40.15	5.81	45.96	74.00	-28.04	peak
6	7129.000	40.05	7.95	48.00	74.00	-26.00	peak
7	7912.000	40.36	9.48	49.84	74.00	-24.16	peak

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 0	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	11	Test By	Paul Pan
Ant. Polar.		Horizontal	



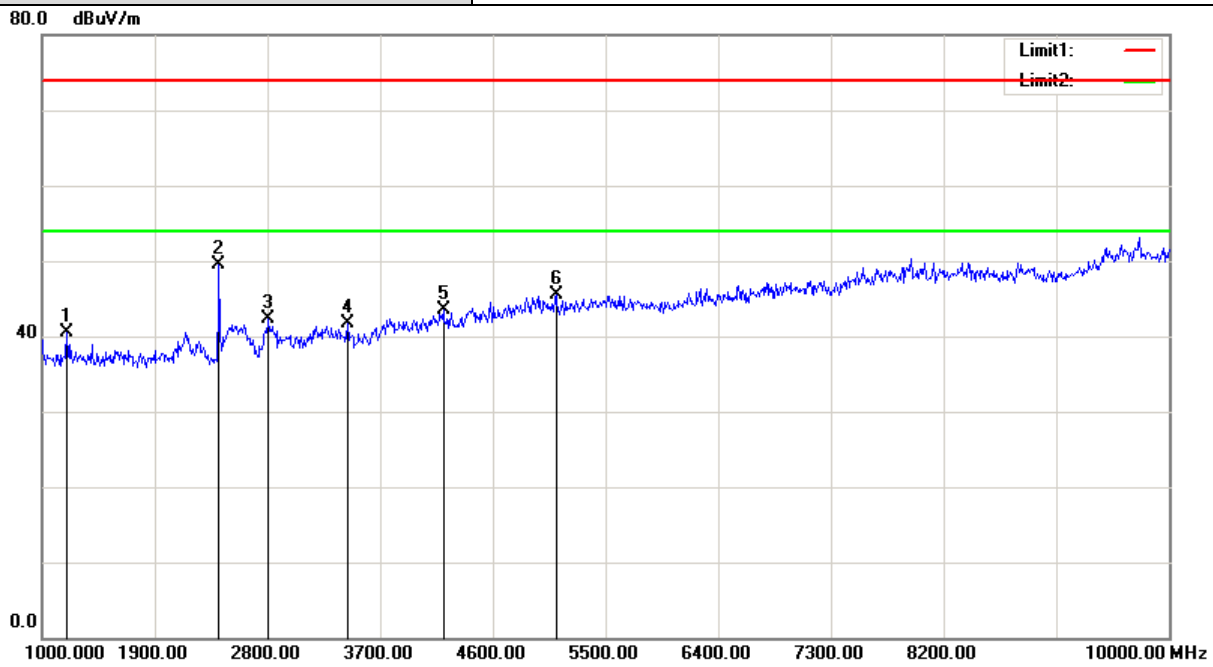
.No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1*	2089.000	44.65	-4.51	40.14	74.00	-33.86	peak
2	2458.000	55.01	-2.49	52.52	74.00	-21.48	peak
3	2575.000	44.50	-2.12	42.38	74.00	-31.62	peak
4	2791.000	43.46	-1.74	41.72	74.00	-32.28	peak
5	4924.000	41.35	4.73	46.08	74.00	-27.92	peak
6	8353.000	40.87	9.46	50.33	74.00	-23.67	peak

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 0	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	11	Test By	Paul Pan
Ant. Polar.		Vertical	



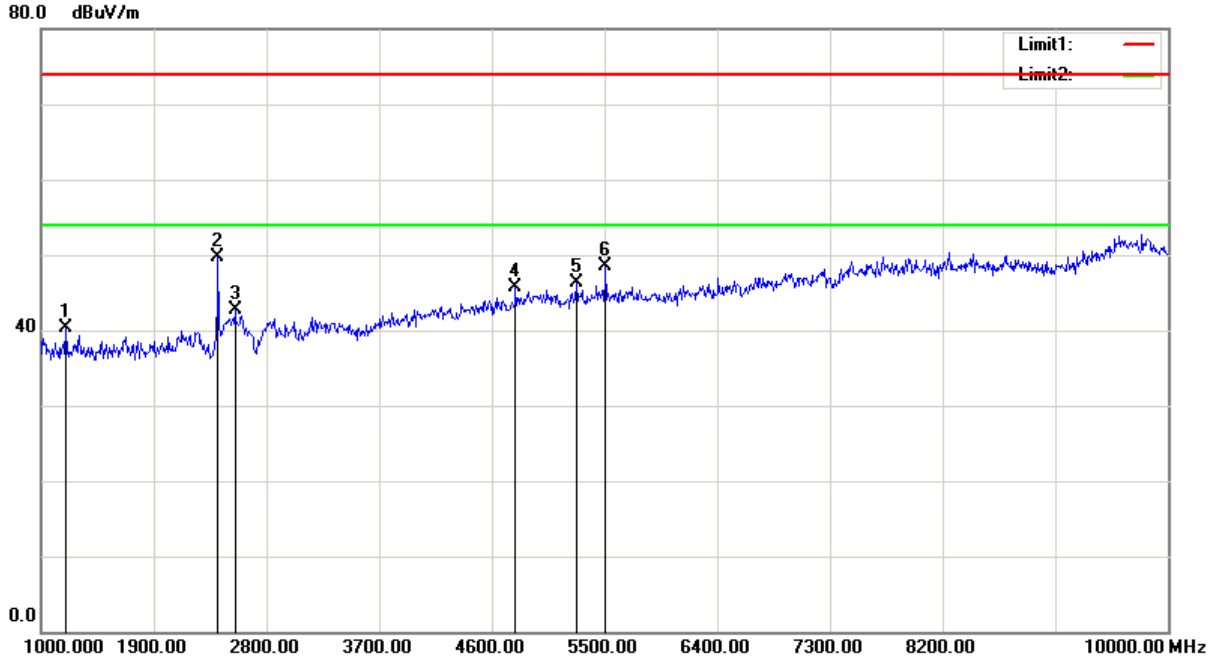
.No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1*	1396.000	47.20	-7.07	40.13	74.00	-33.87	peak
2	2458.000	55.13	-2.49	52.64	74.00	-21.36	peak
3	3187.000	43.44	-1.05	42.39	74.00	-31.61	peak
4	4528.000	40.72	3.44	44.16	74.00	-29.84	peak
5	4924.000	43.27	4.73	48.00	74.00	-26.00	peak
6	7588.000	40.54	8.85	49.39	74.00	-24.61	peak

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 1	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	1	Test By	Paul Pan
Ant. Polar.		Horizontal	



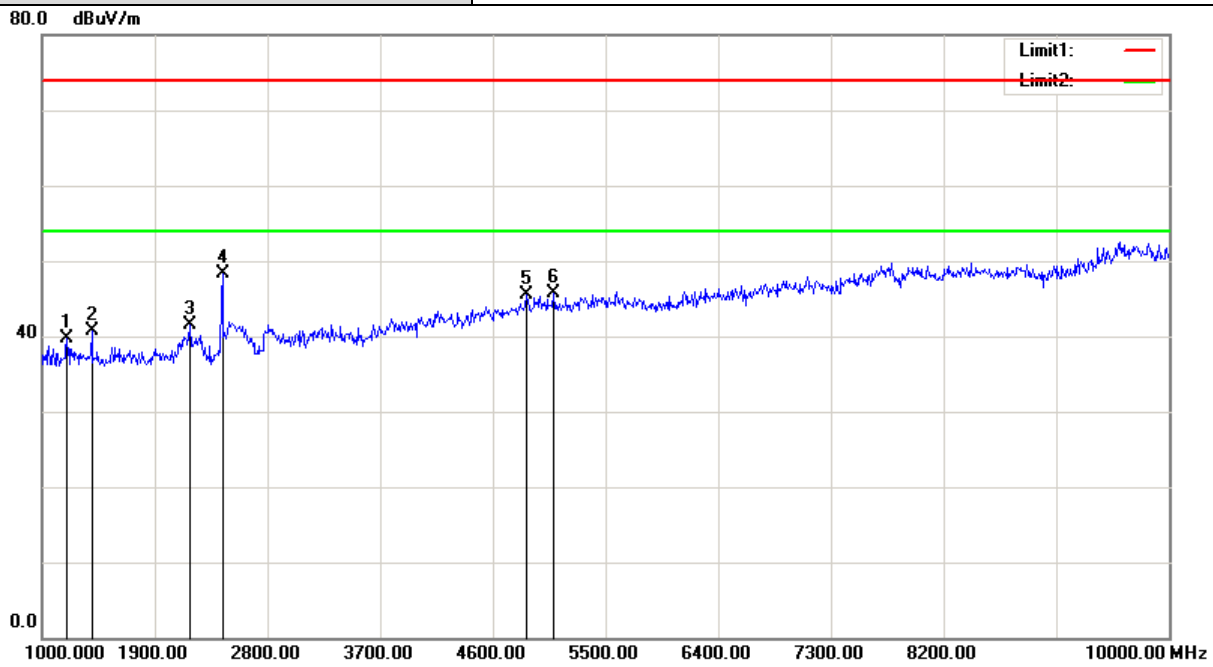
.No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1*	1198.000	48.22	-7.80	40.42	74.00	-33.58	peak
2	2413.000	52.32	-2.74	49.58	74.00	-24.42	peak
3	2809.000	43.98	-1.70	42.28	74.00	-31.72	peak
4	3439.000	42.25	-0.62	41.63	74.00	-32.37	peak
5	4204.000	41.18	2.31	43.49	74.00	-30.51	peak
6	5104.000	40.24	5.17	45.41	74.00	-28.59	peak

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 1	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	1	Test By	Paul Pan
Ant. Polar.		Vertical	



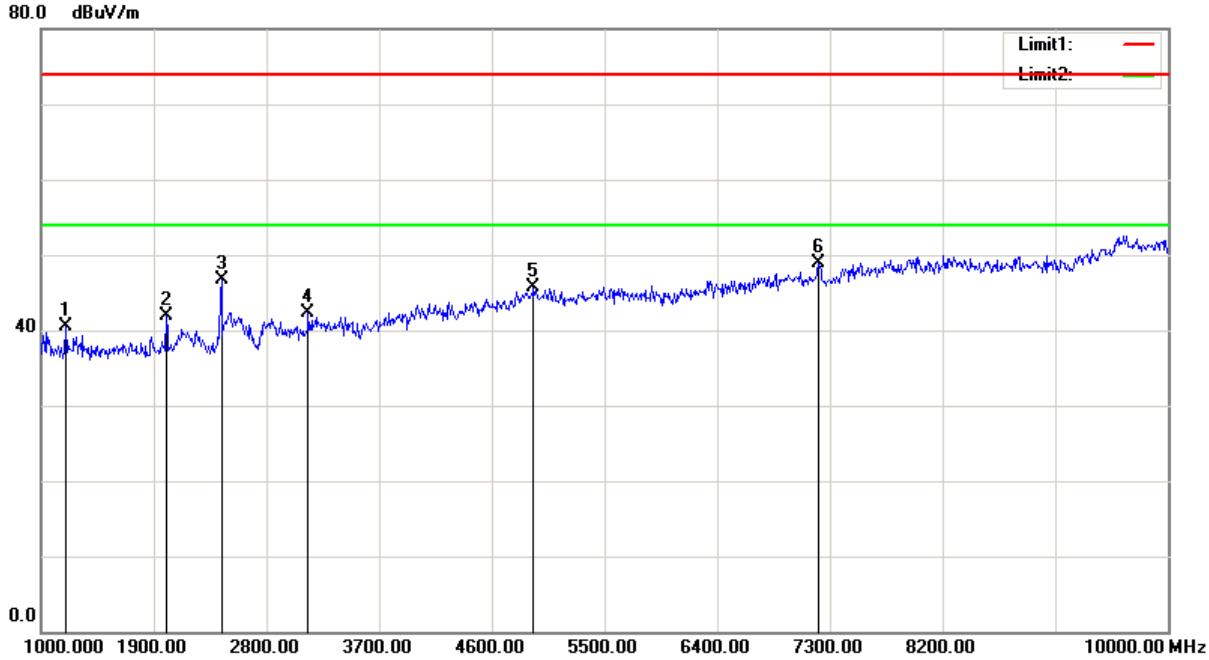
.No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1*	1198.000	48.06	-7.80	40.26	74.00	-33.74	peak
2	2413.000	52.51	-2.74	49.77	74.00	-24.23	peak
3	2548.000	44.91	-2.17	42.74	74.00	-31.26	peak
4	4789.000	41.34	4.29	45.63	74.00	-28.37	peak
5	5275.000	40.76	5.47	46.23	74.00	-27.77	peak
6	5509.000	42.68	5.87	48.55	74.00	-25.45	peak

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 1	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	6	Test By	Paul Pan
Ant. Polar.		Horizontal	



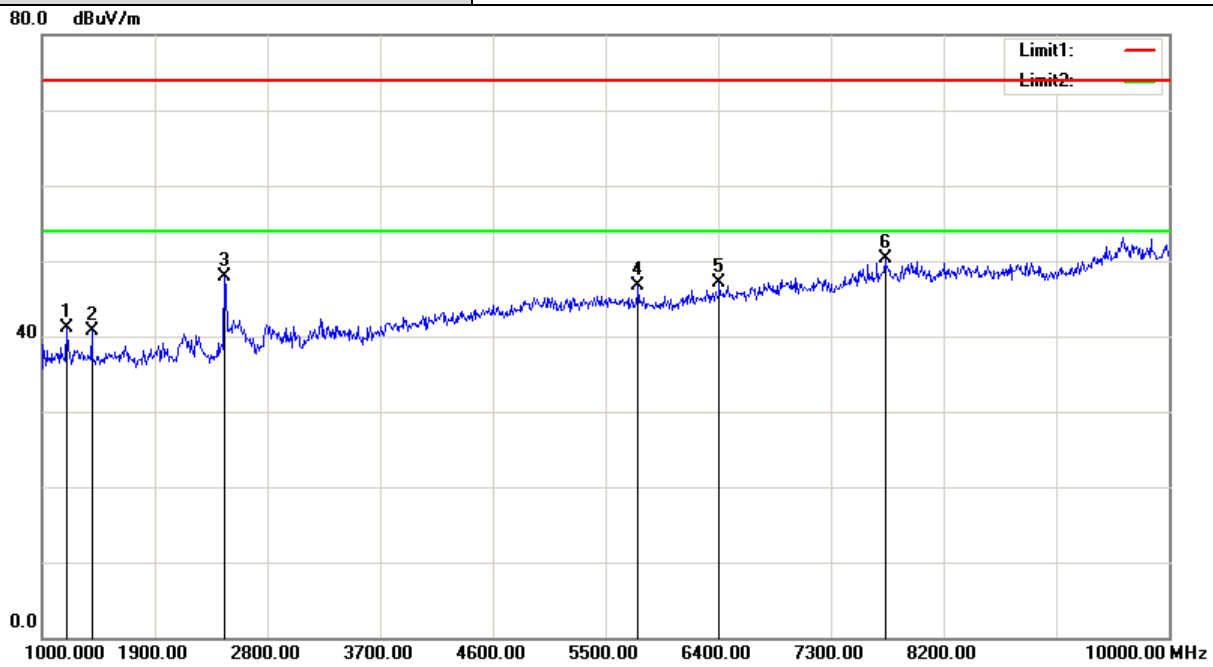
.No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1*	1198.000	47.44	-7.80	39.64	74.00	-34.36	peak
2	1396.000	47.78	-7.07	40.71	74.00	-33.29	peak
3	2179.000	45.61	-4.02	41.59	74.00	-32.41	peak
4	2440.000	50.85	-2.59	48.26	74.00	-25.74	peak
5	4870.000	40.85	4.56	45.41	74.00	-28.59	peak
6	5086.000	40.48	5.13	45.61	74.00	-28.39	peak

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 1	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	6	Test By	Paul Pan
Ant. Polar.		Vertical	



.No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1198.000	48.38	-7.80	40.58	74.00	-33.42	peak
2	1999.000	46.83	-5.01	41.82	74.00	-32.18	peak
3	2440.000	49.37	-2.59	46.78	74.00	-27.22	peak
4	3133.000	43.44	-1.14	42.30	74.00	-31.70	peak
5	4933.000	40.89	4.76	45.65	74.00	-28.35	peak
6*	7210.000	40.75	8.11	48.86	74.00	-25.14	peak

Mode	802.11b	Power Source	DC 7.4V
Antenna	Chain 1	Environmental Conditions	25.4 deg. C, 55 % RH
Channel	11	Test By	Paul Pan
Ant. Polar.		Horizontal	



.No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1198.000	48.95	-7.80	41.15	74.00	-32.85	peak
2	1396.000	47.79	-7.07	40.72	74.00	-33.28	peak
3	2458.000	50.32	-2.49	47.83	74.00	-26.17	peak
4	5761.000	40.66	5.98	46.64	74.00	-27.36	peak
5	6409.000	40.41	6.74	47.15	74.00	-26.85	peak
6*	7732.000	41.18	9.13	50.31	74.00	-23.69	peak