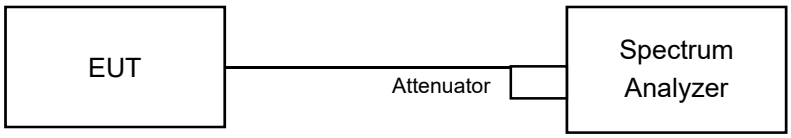
4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1	√	Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
	√	Indoor Access Point	
		Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1, U-NII-2A and U-NII-2C band:

Using method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS

c. Set Channel power measure = 1MHz

d. Sweep time = auto, trigger set to “free run”.

e. Trace average at least 100 traces in power averaging mode.

f. Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS

c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.

d. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz / 300 kHz)

e. Sweep time = auto, trigger set to “free run”.

f. Trace average at least 100 traces in power averaging mode.

g. Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

Mode A

For U-NII-1, U-NII-2A and U-NII-2C band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	-2.21	-2.12	-1.05	-1.25	0.26	4.65	10.98	Pass
40	5200	-1.99	-1.70	-1.51	-1.39	0.26	4.64	10.98	Pass
48	5240	-2.64	-1.72	-1.57	-1.40	0.26	4.47	10.98	Pass
52	5260	-4.11	-3.09	-3.12	-3.19	0.26	2.92	4.98	Pass
60	5300	-3.63	-3.06	-3.12	-3.13	0.26	3.05	4.98	Pass
64	5320	-3.69	-2.96	-3.29	-3.07	0.26	3.04	4.98	Pass
100	5500	-3.29	-2.27	-3.07	-2.77	0.26	3.45	4.98	Pass
116	5580	-3.31	-2.76	-3.18	-2.97	0.26	3.23	4.98	Pass
140	5700	-3.81	-2.73	-4.09	-3.64	0.26	2.74	4.98	Pass
144	5720 (For U-NII-2C)	-3.28	-2.65	-3.46	-3.43	0.26	3.09	4.98	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 17-(12.02-6) = 10.98dBm.
3. For U-NII-2A, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 11-(12.02-6) = 4.98dBm.
4. For U-NII-2C, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 11-(12.02-6) = 4.98dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	-1.87	-1.37	-2.60	-2.28	0.21	4.23	10.98	Pass
40	5200	-2.38	-1.65	-1.31	-0.98	0.21	4.68	10.98	Pass
48	5240	-2.17	-1.44	-1.70	-1.47	0.21	4.55	10.98	Pass
52	5260	-3.39	-2.76	-2.36	-2.50	0.21	3.50	4.98	Pass
60	5300	-3.32	-2.92	-2.40	-2.96	0.21	3.34	4.98	Pass
64	5320	-3.38	-3.02	-2.67	-2.74	0.21	3.29	4.98	Pass
100	5500	-3.30	-2.42	-3.13	-2.86	0.21	3.32	4.98	Pass
116	5580	-3.18	-2.29	-3.79	-3.06	0.21	3.18	4.98	Pass
140	5700	-3.61	-2.96	-3.72	-3.93	0.21	2.69	4.98	Pass
144	5720 (For U-NII-2C)	-2.96	-2.37	-3.97	-3.16	0.21	3.15	4.98	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 17-(12.02-6) = 10.98dBm.
3. For U-NII-2A, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 11-(12.02-6) = 4.98dBm.
4. For U-NII-2C, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 11-(12.02-6) = 4.98dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	-7.07	-7.00	-6.40	-6.43	0.20	-0.49	10.98	Pass
46	5230	-5.87	-4.38	-4.44	-4.48	0.20	1.47	10.98	Pass
54	5270	-3.58	-4.19	-2.92	-3.39	0.20	2.72	4.98	Pass
62	5310	-3.93	-2.85	-2.43	-3.43	0.20	3.10	4.98	Pass
102	5510	-4.05	-2.76	-2.85	-3.46	0.20	2.97	4.98	Pass
110	5550	-4.42	-2.19	-3.77	-2.63	0.20	3.06	4.98	Pass
134	5670	-5.10	-2.20	-4.37	-3.56	0.20	2.55	4.98	Pass
142	5710 (For U-NII-2C)	-3.10	-3.38	-3.76	-3.60	0.20	2.77	4.98	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 17-(12.02-6) = 10.98dBm.
3. For U-NII-2A, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 11-(12.02-6) = 4.98dBm.
4. For U-NII-2C, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 11-(12.02-6) = 4.98dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

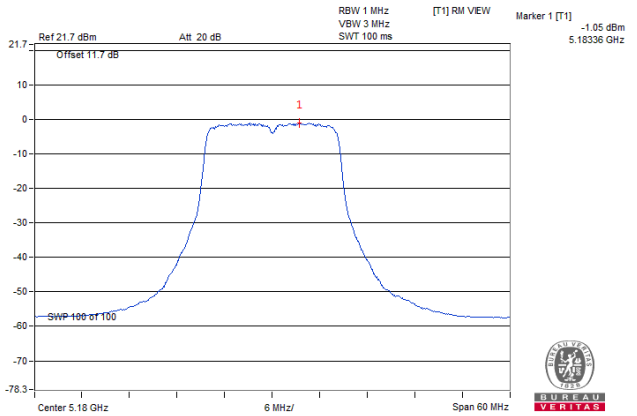
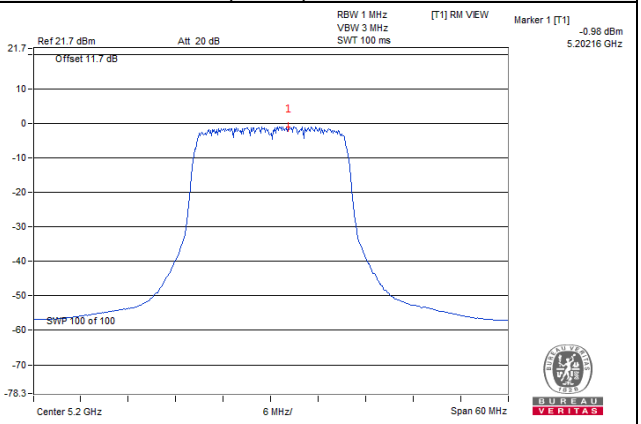
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-10.31	-9.77	-9.08	-9.74	0.25	-3.43	10.98	Pass
58	5290	-5.11	-4.17	-5.23	-5.09	0.25	1.39	4.98	Pass
106	5530	-3.15	-2.80	-4.15	-3.10	0.25	3.00	4.98	Pass
122	5610	-3.35	-2.50	-3.23	-3.61	0.25	3.12	4.98	Pass
138	5690 (For U-NII-2C)	-4.29	-3.18	-2.98	-3.36	0.25	2.85	4.98	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 17-(12.02-6) = 10.98dBm.
3. For U-NII-2A, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 11-(12.02-6) = 4.98dBm.
4. For U-NII-2C, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 11-(12.02-6) = 4.98dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80+80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58(L)	5210	-6.83	-6.72	-	-	0.21	-3.55	13.99	Pass
42+58(H)	5290	-	-	-5.93	-6.12	0.21	-2.80	7.99	Pass
106+122(L)	5530	-4.08	-2.64	-	-	0.21	-0.08	7.99	Pass
106+122(H)	5610	-	-	-3.65	-4.07	0.21	-0.63	7.99	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 17-(12.02-6) = 10.98dBm.
3. For U-NII-2A, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 11-(12.02-6) = 4.98dBm.
4. For U-NII-2C, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 11-(12.02-6) = 4.98dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / Chain 2 / CH 36	802.11ax (HE20) / Chain 3 / CH 40
	
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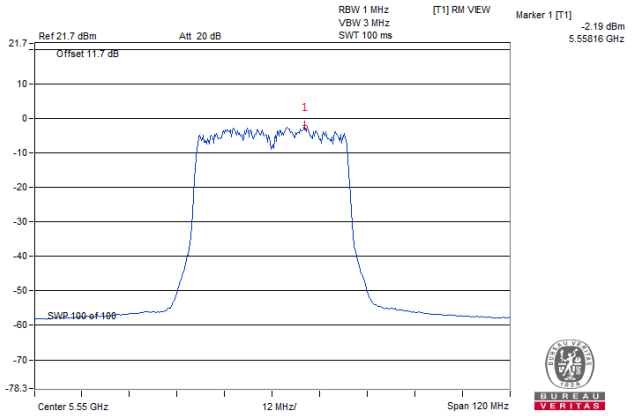
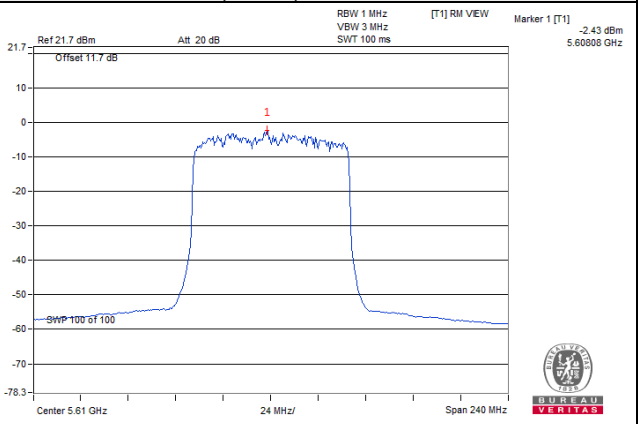
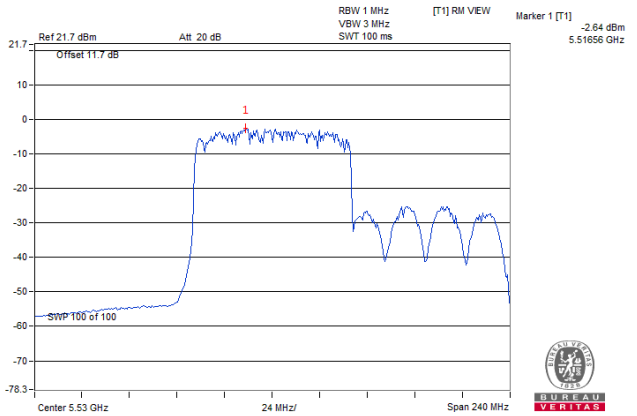
	
802.11ax (HE80+80) / Chain 1 / CH 106+122	
	

For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-12.24	-10.02	6.02	0.26	-3.74	23.98	Pass
	149	5745	-0.49	1.73	6.02	0.26	8.01	23.98	Pass
	157	5785	-0.73	1.49	6.02	0.26	7.77	23.98	Pass
	165	5825	-0.73	1.49	6.02	0.26	7.77	23.98	Pass
1	144	5720 (For U-NII-3)	-10.25	-8.03	6.02	0.26	-1.75	23.98	Pass
	149	5745	0.41	2.63	6.02	0.26	8.91	23.98	Pass
	157	5785	0.13	2.35	6.02	0.26	8.63	23.98	Pass
	165	5825	0.08	2.30	6.02	0.26	8.58	23.98	Pass
2	144	5720 (For U-NII-3)	-11.33	-9.11	6.02	0.26	-2.83	23.98	Pass
	149	5745	-1.08	1.14	6.02	0.26	7.42	23.98	Pass
	157	5785	-0.95	1.27	6.02	0.26	7.55	23.98	Pass
	165	5825	-1.04	1.18	6.02	0.26	7.46	23.98	Pass
3	144	5720 (For U-NII-3)	-11.64	-9.42	6.02	0.26	-3.14	23.98	Pass
	149	5745	-0.68	1.54	6.02	0.26	7.82	23.98	Pass
	157	5785	-0.91	1.31	6.02	0.26	7.59	23.98	Pass
	165	5825	-0.84	1.38	6.02	0.26	7.66	23.98	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 30-(12.02-6) = 23.98dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-13.04	-10.82	6.02	0.21	-4.59	23.98	Pass
	149	5745	-1.43	0.79	6.02	0.21	7.02	23.98	Pass
	157	5785	-1.67	0.55	6.02	0.21	6.78	23.98	Pass
	165	5825	-1.72	0.50	6.02	0.21	6.73	23.98	Pass
1	144	5720 (For U-NII-3)	-11.57	-9.35	6.02	0.21	-3.12	23.98	Pass
	149	5745	-0.67	1.55	6.02	0.21	7.78	23.98	Pass
	157	5785	-0.89	1.33	6.02	0.21	7.56	23.98	Pass
	165	5825	-0.83	1.39	6.02	0.21	7.62	23.98	Pass
2	144	5720 (For U-NII-3)	-13.12	-10.90	6.02	0.21	-4.67	23.98	Pass
	149	5745	-1.81	0.41	6.02	0.21	6.64	23.98	Pass
	157	5785	-1.91	0.31	6.02	0.21	6.54	23.98	Pass
	165	5825	-1.88	0.34	6.02	0.21	6.57	23.98	Pass
3	144	5720 (For U-NII-3)	-12.96	-10.74	6.02	0.21	-4.51	23.98	Pass
	149	5745	-1.36	0.86	6.02	0.21	7.09	23.98	Pass
	157	5785	-1.68	0.54	6.02	0.21	6.77	23.98	Pass
	165	5825	-1.62	0.60	6.02	0.21	6.83	23.98	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 30-(12.02-6) = 23.98dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142	5710 (For U-NII-3)	-14.42	-12.20	6.02	0.20	-5.98	23.98	Pass
	151	5755	-2.43	-0.21	6.02	0.20	6.01	23.98	Pass
	159	5795	-2.67	-0.45	6.02	0.20	5.77	23.98	Pass
1	142	5710 (For U-NII-3)	-12.95	-10.73	6.02	0.20	-4.51	23.98	Pass
	151	5755	-2.19	0.03	6.02	0.20	6.25	23.98	Pass
	159	5795	-2.43	-0.21	6.02	0.20	6.01	23.98	Pass
2	142	5710 (For U-NII-3)	-13.95	-11.73	6.02	0.20	-5.51	23.98	Pass
	151	5755	-2.90	-0.68	6.02	0.20	5.54	23.98	Pass
	159	5795	-3.08	-0.86	6.02	0.20	5.36	23.98	Pass
3	142	5710 (For U-NII-3)	-13.96	-11.74	6.02	0.20	-5.52	23.98	Pass
	151	5755	-2.39	-0.17	6.02	0.20	6.05	23.98	Pass
	159	5795	-2.72	-0.50	6.02	0.20	5.72	23.98	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 30-(12.02-6) = 23.98dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

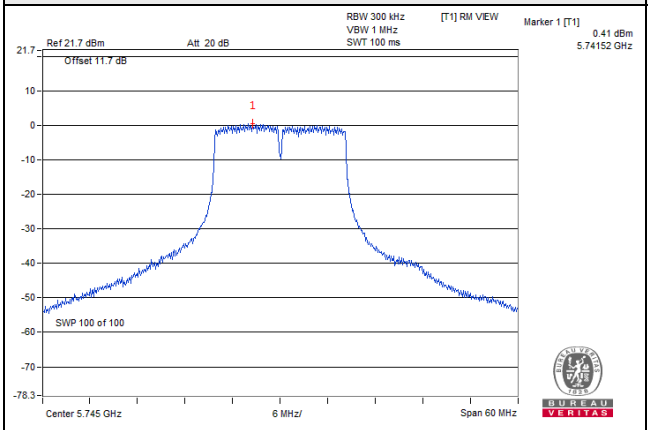
802.11ax (HE80)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690 (For U-NII-3)	-16.59	-14.37	6.02	0.25	-8.10	23.98	Pass
	155	5775	-9.77	-7.55	6.02	0.25	-1.28	23.98	Pass
1	138	5690 (For U-NII-3)	-15.24	-13.02	6.02	0.25	-6.75	23.98	Pass
	155	5775	-9.07	-6.85	6.02	0.25	-0.58	23.98	Pass
2	138	5690 (For U-NII-3)	-16.05	-13.83	6.02	0.25	-7.56	23.98	Pass
	155	5775	-10.35	-8.13	6.02	0.25	-1.86	23.98	Pass
3	138	5690 (For U-NII-3)	-15.81	-13.59	6.02	0.25	-7.32	23.98	Pass
	155	5775	-10.07	-7.85	6.02	0.25	-1.58	23.98	Pass

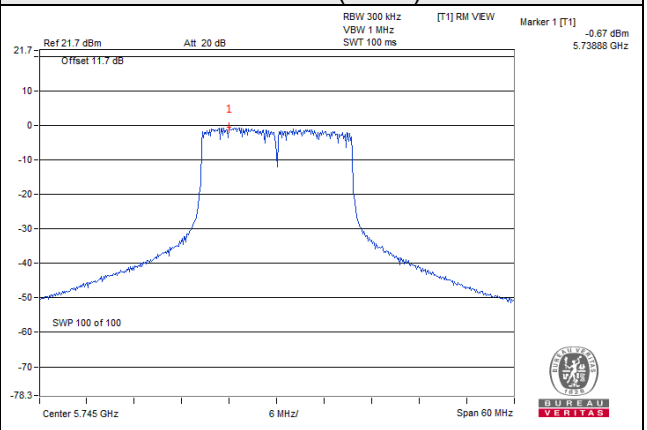
Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 6 dBi + 10log(4) = 12.02dBi > 6dBi, so the power density limit shall be reduced to 30-(12.02-6) = 23.98dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

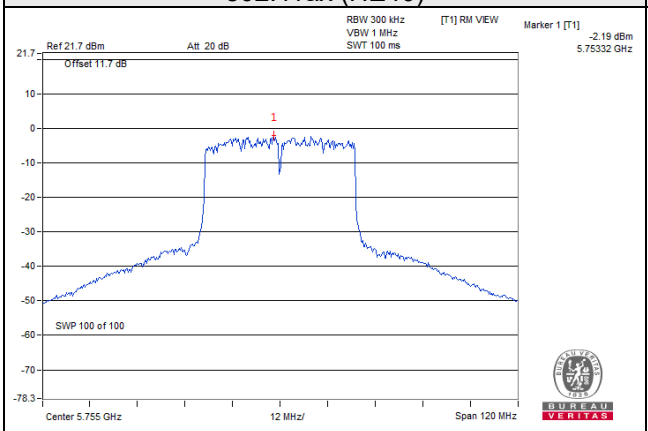
802.11a



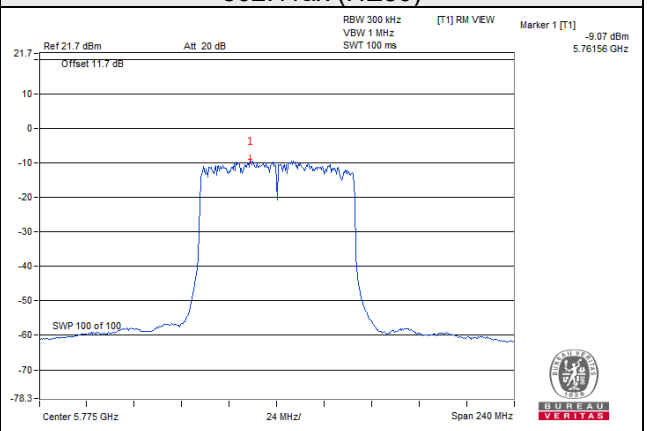
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



Mode B

For U-NII-1, U-NII-2A and U-NII-2C band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	-4.42	-3.23	-3.05	-3.31	0.28	2.83	2.98	Pass
40	5200	-4.75	-3.24	-2.99	-3.80	0.28	2.66	2.98	Pass
48	5240	-4.26	-3.60	-3.21	-3.23	0.28	2.75	2.98	Pass
52	5260	-8.67	-10.33	-9.82	-9.09	0.28	-3.13	-3.02	Pass
60	5300	-9.04	-9.87	-10.26	-9.28	0.28	-3.29	-3.02	Pass
64	5320	-9.07	-9.67	-10.14	-10.11	0.28	-3.42	-3.02	Pass
100	5500	-9.07	-9.79	-8.74	-10.10	0.28	-3.09	-3.02	Pass
116	5580	-9.18	-9.58	-9.17	-9.69	0.28	-3.10	-3.02	Pass
140	5700	-9.10	-10.51	-8.84	-9.92	0.28	-3.24	-3.02	Pass
144	5720 (For U-NII-2C)	-8.85	-10.16	-8.77	-9.75	0.28	-3.04	-3.02	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 17-(20.02-6) = 2.98dBm.
3. For U-NII-2A, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 11-(20.02-6) = -3.02dBm.
4. For U-NII-2C, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 11-(20.02-6) =-3.02Bm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	-4.36	-3.52	-3.18	-3.47	0.23	2.64	2.98	Pass
40	5200	-4.18	-3.14	-3.06	-3.20	0.23	2.88	2.98	Pass
48	5240	-4.83	-3.53	-3.18	-3.43	0.23	2.55	2.98	Pass
52	5260	-9.15	-10.47	-9.81	-9.48	0.23	-3.45	-3.02	Pass
60	5300	-8.67	-9.60	-9.99	-10.09	0.23	-3.30	-3.02	Pass
64	5320	-9.19	-9.66	-9.48	-9.97	0.23	-3.32	-3.02	Pass
100	5500	-9.35	-9.70	-9.21	-10.00	0.23	-3.30	-3.02	Pass
116	5580	-9.26	-10.08	-9.13	-10.15	0.23	-3.38	-3.02	Pass
140	5700	-8.87	-9.81	-9.33	-9.79	0.23	-3.18	-3.02	Pass
144	5720 (For U-NII-2C)	-8.70	-10.31	-9.45	-9.78	0.23	-3.27	-3.02	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 17-(20.02-6) = 2.98dBm.
3. For U-NII-2A, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 11-(20.02-6) = -3.02dBm.
4. For U-NII-2C, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 11-(20.02-6) =-3.02Bm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	-7.14	-5.34	-5.29	-5.86	0.20	0.37	2.98	Pass
46	5230	-3.44	-3.69	-3.34	-3.12	0.20	2.83	2.98	Pass
54	5270	-10.12	-9.13	-9.88	-8.99	0.20	-3.28	-3.02	Pass
62	5310	-10.21	-9.95	-9.42	-8.98	0.20	-3.39	-3.02	Pass
102	5510	-9.85	-9.44	-9.89	-9.25	0.20	-3.38	-3.02	Pass
110	5550	-9.90	-9.21	-9.72	-9.34	0.20	-3.31	-3.02	Pass
134	5670	-9.96	-8.97	-9.92	-9.83	0.20	-3.43	-3.02	Pass
142	5710 (For U-NII-2C)	-11.44	-8.89	-11.01	-9.95	0.20	-3.99	-3.02	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 17-(20.02-6) = 2.98dBm.
3. For U-NII-2A, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 11-(20.02-6) = -3.02dBm.
4. For U-NII-2C, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 11-(20.02-6) =-3.02Bm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

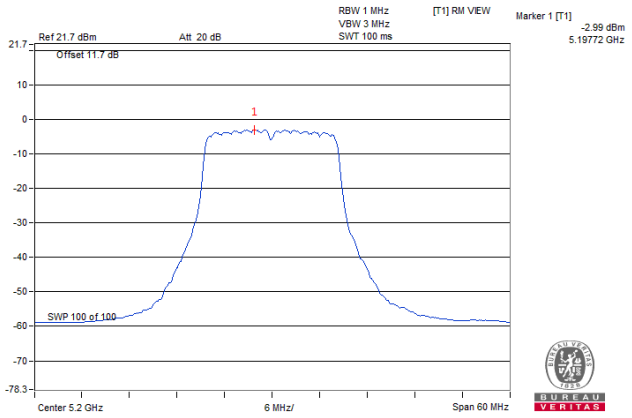
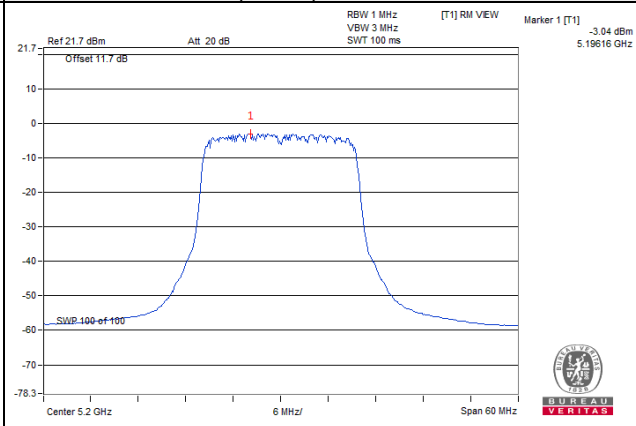
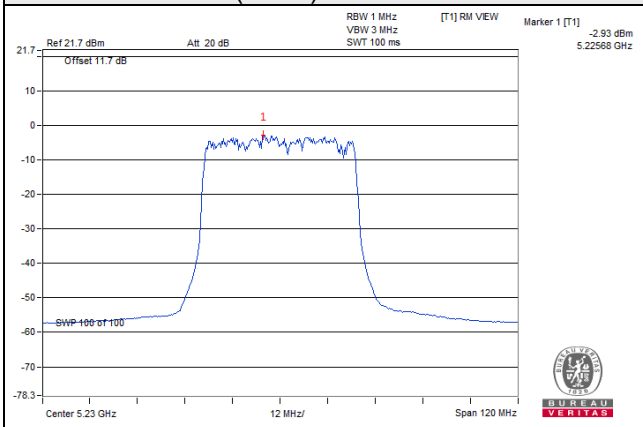
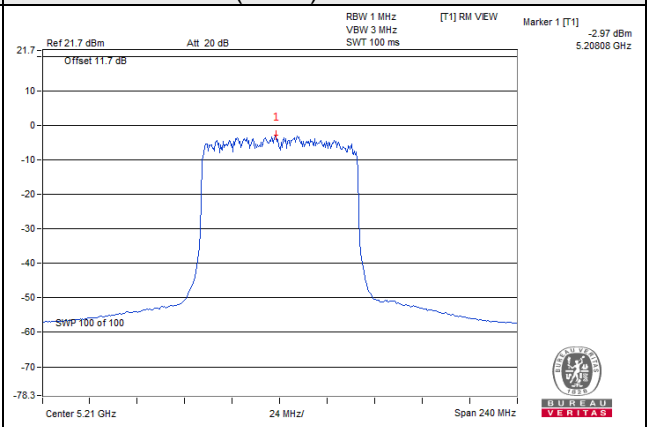
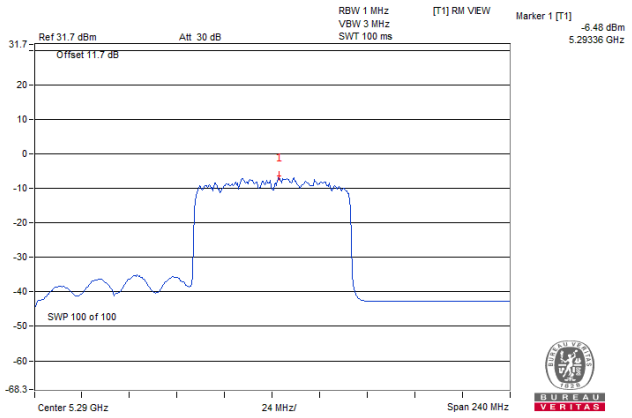
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-4.18	-3.44	-3.12	-3.20	0.25	2.81	2.98	Pass
58	5290	-9.83	-9.12	-9.01	-9.64	0.25	-3.12	-3.02	Pass
106	5530	-9.94	-9.35	-9.98	-9.35	0.25	-3.37	-3.02	Pass
122	5610	-9.83	-9.18	-9.87	-9.64	0.25	-3.35	-3.02	Pass
138	5690 (For U-NII-2C)	-10.19	-8.74	-10.96	-9.68	0.25	-3.55	-3.02	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 17-(20.02-6) = 2.98dBm.
3. For U-NII-2A, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 11-(20.02-6) = -3.02dBm.
4. For U-NII-2C, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 11-(20.02-6) =-3.02Bm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80+80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58(L)	5210	-7.34	-6.60			0.21	-3.73	5.99	Pass
42+58(H)	5290			-6.51	-6.61	0.21	-3.34	-0.01	Pass
106+122(L)	5530	-9.90	-9.31			0.21	-6.37	-0.01	Pass
106+122(H)	5610			-10.36	-10.31	0.21	-7.11	-0.01	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 14 dBi + 10log(2) = 17.01dBi > 6dBi, so the power density limit shall be reduced to 17-(17.01-6) = 5.99dBm.
3. For U-NII-2A, Directional gain = 14 dBi + 10log(2) = 17.01dBi > 6dBi, so the power density limit shall be reduced to 11-(17.01-6) = -0.01dBm.
4. For U-NII-2A, Directional gain = 14 dBi + 10log(2) = 17.01dBi > 6dBi, so the power density limit shall be reduced to 11-(17.01-6) = -0.01dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / Chain 2 / CH 40	802.11ax (HE20) / Chain 2 / CH 40
	
802.11ax (HE40) / Chain 3 / CH 46	802.11ax (HE80) / Chain 2 / CH 42
	
802.11ax (HE80+80) / Chain 2 / CH 42+58	
	

For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-17.19	-14.97	6.02	0.28	-8.67	15.98	Pass
	149	5745	-4.73	-2.51	6.02	0.28	3.79	15.98	Pass
	157	5785	-4.49	-2.27	6.02	0.28	4.03	15.98	Pass
	165	5825	-4.44	-2.22	6.02	0.28	4.08	15.98	Pass
1	144	5720 (For U-NII-3)	-19.26	-17.04	6.02	0.28	-10.74	15.98	Pass
	149	5745	-3.99	-1.77	6.02	0.28	4.53	15.98	Pass
	157	5785	-3.45	-1.23	6.02	0.28	5.07	15.98	Pass
	165	5825	-3.59	-1.37	6.02	0.28	4.93	15.98	Pass
2	144	5720 (For U-NII-3)	-16.45	-14.23	6.02	0.28	-7.93	15.98	Pass
	149	5745	-5.32	-3.10	6.02	0.28	3.20	15.98	Pass
	157	5785	-5.23	-3.01	6.02	0.28	3.29	15.98	Pass
	165	5825	-5.19	-2.97	6.02	0.28	3.33	15.98	Pass
3	144	5720 (For U-NII-3)	-17.88	-15.66	6.02	0.28	-9.36	15.98	Pass
	149	5745	-4.95	-2.73	6.02	0.28	3.57	15.98	Pass
	157	5785	-4.75	-2.53	6.02	0.28	3.77	15.98	Pass
	165	5825	-4.78	-2.56	6.02	0.28	3.74	15.98	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 30-(20.02-6) = 15.98dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-16.69	-14.47	6.02	0.23	-8.22	15.98	Pass
	149	5745	-7.71	-5.49	6.02	0.23	0.76	15.98	Pass
	157	5785	-7.43	-5.21	6.02	0.23	1.04	15.98	Pass
	165	5825	-7.52	-5.30	6.02	0.23	0.95	15.98	Pass
1	144	5720 (For U-NII-3)	-18.64	-16.42	6.02	0.23	-10.17	15.98	Pass
	149	5745	-8.47	-6.25	6.02	0.23	0.00	15.98	Pass
	157	5785	-8.03	-5.81	6.02	0.23	0.44	15.98	Pass
	165	5825	-8.01	-5.79	6.02	0.23	0.46	15.98	Pass
2	144	5720 (For U-NII-3)	-17.29	-15.07	6.02	0.23	-8.82	15.98	Pass
	149	5745	-10.01	-7.79	6.02	0.23	-1.54	15.98	Pass
	157	5785	-9.79	-7.57	6.02	0.23	-1.32	15.98	Pass
	165	5825	-9.87	-7.65	6.02	0.23	-1.40	15.98	Pass
3	144	5720 (For U-NII-3)	-18.50	-16.28	6.02	0.23	-10.03	15.98	Pass
	149	5745	-9.34	-7.12	6.02	0.23	-0.87	15.98	Pass
	157	5785	-9.26	-7.04	6.02	0.23	-0.79	15.98	Pass
	165	5825	-9.06	-6.84	6.02	0.23	-0.59	15.98	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 30-(20.02-6) = 15.98dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142	5710 (For U-NII-3)	-21.98	-19.76	6.02	0.20	-13.54	15.98	Pass
	151	5755	-11.08	-8.86	6.02	0.20	-2.64	15.98	Pass
	159	5795	-11.22	-9.00	6.02	0.20	-2.78	15.98	Pass
1	142	5710 (For U-NII-3)	-21.33	-19.11	6.02	0.20	-12.89	15.98	Pass
	151	5755	-10.39	-8.17	6.02	0.20	-1.95	15.98	Pass
	159	5795	-10.46	-8.24	6.02	0.20	-2.02	15.98	Pass
2	142	5710 (For U-NII-3)	-22.77	-20.55	6.02	0.20	-14.33	15.98	Pass
	151	5755	-11.71	-9.49	6.02	0.20	-3.27	15.98	Pass
	159	5795	-12.06	-9.84	6.02	0.20	-3.62	15.98	Pass
3	142	5710 (For U-NII-3)	-23.29	-21.07	6.02	0.20	-14.85	15.98	Pass
	151	5755	-10.74	-8.52	6.02	0.20	-2.30	15.98	Pass
	159	5795	-11.15	-8.93	6.02	0.20	-2.71	15.98	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 30-(20.02-6) = 15.98dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

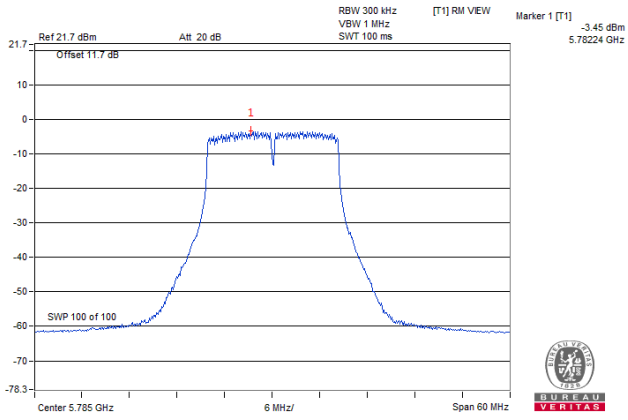
802.11ax (HE80)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690 (For U-NII-3)	-20.78	-18.56	6.02	0.25	-12.29	15.98	Pass
	155	5775	-11.67	-9.45	6.02	0.25	-3.18	15.98	Pass
1	138	5690 (For U-NII-3)	-20.48	-18.26	6.02	0.25	-11.99	15.98	Pass
	155	5775	-10.91	-8.69	6.02	0.25	-2.42	15.98	Pass
2	138	5690 (For U-NII-3)	-20.85	-18.63	6.02	0.25	-12.36	15.98	Pass
	155	5775	-12.56	-10.34	6.02	0.25	-4.07	15.98	Pass
3	138	5690 (For U-NII-3)	-20.16	-17.94	6.02	0.25	-11.67	15.98	Pass
	155	5775	-12.03	-9.81	6.02	0.25	-3.54	15.98	Pass

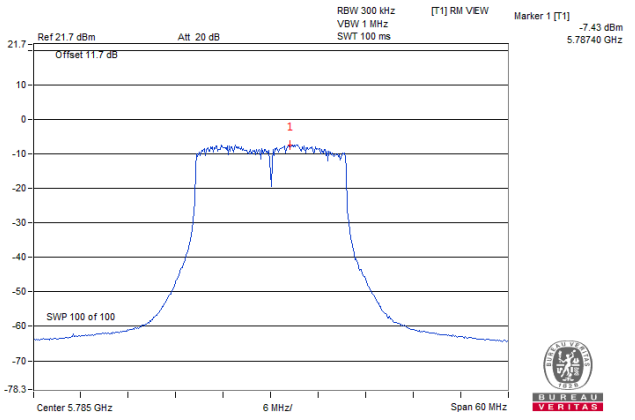
Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 14 dBi + 10log(4) = 20.02dBi > 6dBi, so the power density limit shall be reduced to 30-(20.02-6) = 15.98dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

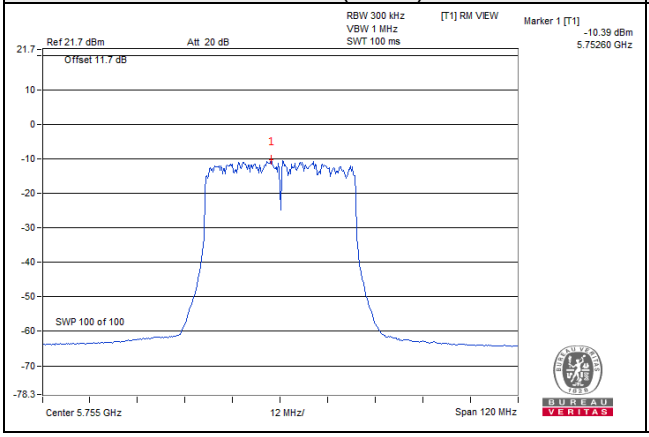
802.11a



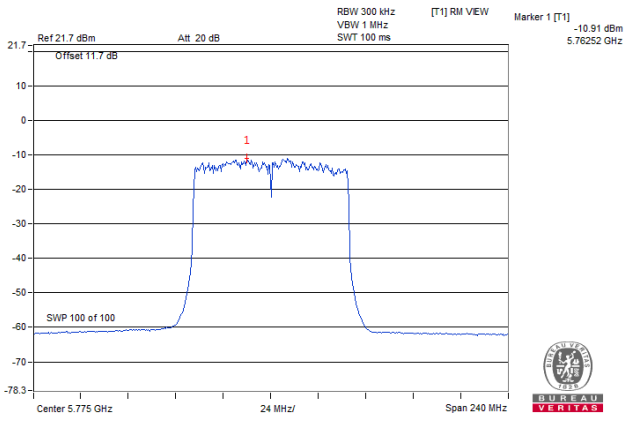
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



Mode C

For U-NII-1, U-NII-2A and U-NII-2C band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	3.29	3.98	4.30	4.10	0.26	10.21	10.48	Pass
40	5200	3.47	4.21	4.40	4.00	0.26	10.31	10.48	Pass
48	5240	3.29	3.90	4.23	4.18	0.26	10.20	10.48	Pass
52	5260	-3.95	-3.26	-3.08	-3.24	0.26	2.91	4.48	Pass
60	5300	-3.79	-3.14	-3.33	-3.32	0.26	2.89	4.48	Pass
64	5320	-4.26	-3.32	-3.70	-3.13	0.26	2.70	4.48	Pass
100	5500	-2.86	-1.40	-2.27	-1.89	0.26	4.21	4.48	Pass
116	5580	-2.63	-1.45	-2.62	-2.23	0.26	4.08	4.48	Pass
140	5700	-1.90	-1.39	-2.50	-2.24	0.26	4.29	4.48	Pass
144	5720 (For U-NII-2C)	-2.16	-1.19	-2.41	-2.08	0.26	4.35	4.48	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 17-(12.52-6) = 10.48dBm.
3. For U-NII-2A, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 11-(12.52-6) = 4.48dBm.
4. For U-NII-2C, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 11-(12.52-6) = 4.48dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	3.29	4.01	4.19	4.12	0.19	10.13	10.48	Pass
40	5200	3.58	4.19	4.55	4.28	0.19	10.37	10.48	Pass
48	5240	3.56	4.20	4.30	4.16	0.19	10.28	10.48	Pass
52	5260	-3.57	-2.74	-3.13	-2.53	0.19	3.24	4.48	Pass
60	5300	-3.72	-2.85	-3.00	-2.76	0.19	3.14	4.48	Pass
64	5320	-3.44	-2.91	-2.72	-2.60	0.19	3.30	4.48	Pass
100	5500	-2.63	-1.56	-2.21	-1.95	0.19	4.14	4.48	Pass
116	5580	-2.10	-1.36	-2.12	-1.64	0.19	4.42	4.48	Pass
140	5700	-1.93	-1.21	-2.38	-2.17	0.19	4.31	4.48	Pass
144	5720 (For U-NII-2C)	-2.02	-1.15	-2.10	-2.29	0.19	4.34	4.48	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 17-(12.52-6) = 10.48dBm.
3. For U-NII-2A, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 11-(12.52-6) = 4.48dBm.
4. For U-NII-2C, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 11-(12.52-6) = 4.48dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	-1.41	-0.94	-1.17	-1.17	0.24	5.09	10.48	Pass
46	5230	0.72	0.70	1.13	0.80	0.24	7.10	10.48	Pass
54	5270	-4.16	-3.25	-2.82	-3.00	0.24	2.98	4.48	Pass
62	5310	-4.46	-2.73	-4.43	-3.49	0.24	2.54	4.48	Pass
102	5510	-2.56	-1.44	-2.17	-1.65	0.24	4.33	4.48	Pass
110	5550	-2.30	-1.43	-2.30	-1.79	0.24	4.32	4.48	Pass
134	5670	-2.45	-1.51	-2.33	-2.13	0.24	4.17	4.48	Pass
142	5710 (For U-NII-2C)	-2.04	-1.41	-2.30	-2.14	0.24	4.30	4.48	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 17-(12.52-6) = 10.48dBm.
3. For U-NII-2A, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 11-(12.52-6) = 4.48dBm.
4. For U-NII-2C, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 11-(12.52-6) = 4.48dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

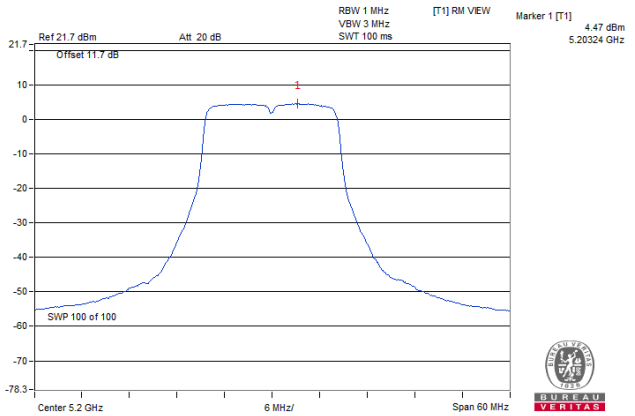
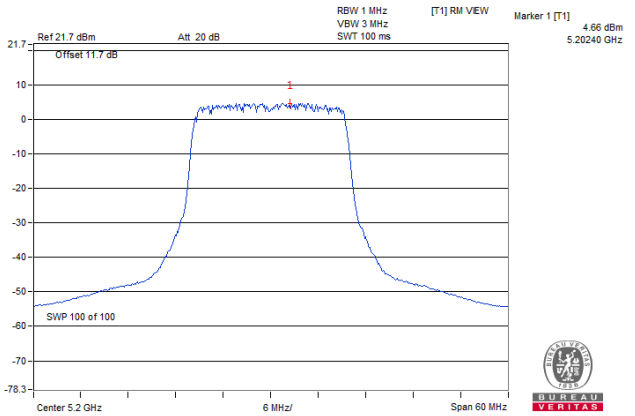
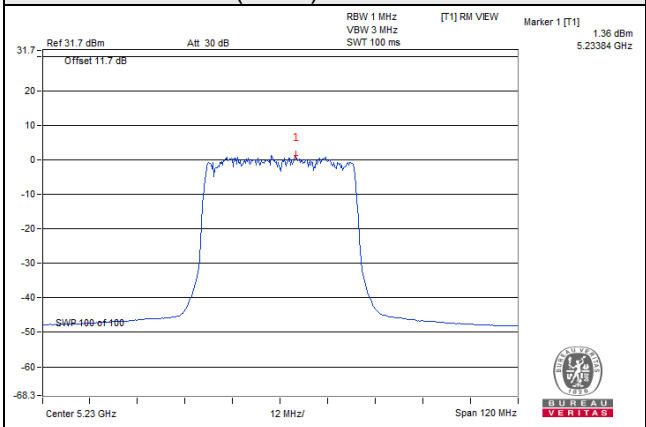
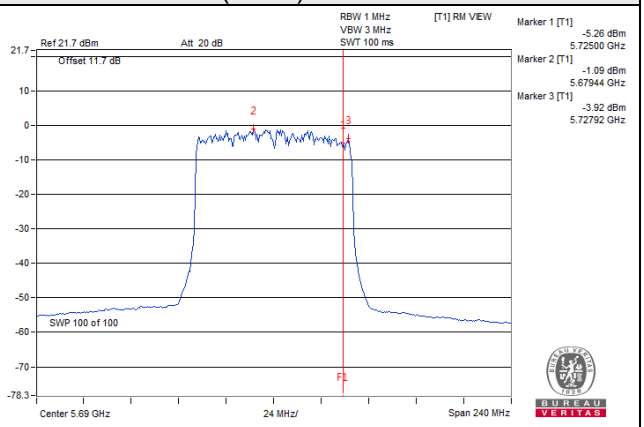
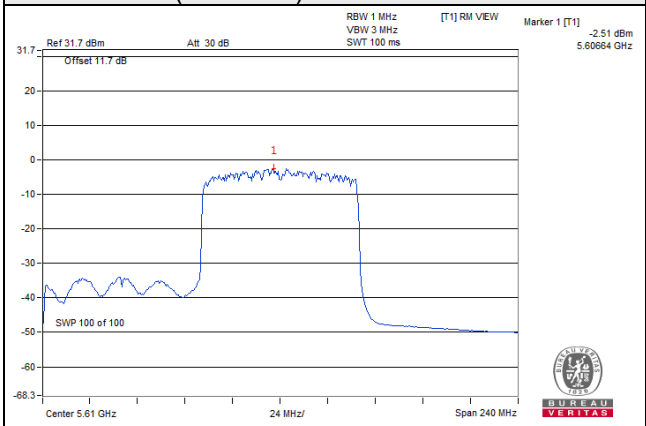
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-4.15	-2.80	-4.18	-4.14	0.25	2.49	10.48	Pass
58	5290	-5.57	-4.54	-5.46	-5.28	0.25	1.08	4.48	Pass
106	5530	-5.25	-3.28	-3.52	-3.04	0.25	2.58	4.48	Pass
122	5610	-4.47	-3.83	-3.82	-3.22	0.25	2.46	4.48	Pass
138	5690 (For U-NII-2C)	-2.44	-1.74	-2.57	-2.46	0.25	3.98	4.48	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 17-(12.52-6) = 10.48dBm.
3. For U-NII-2A, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 11-(12.52-6) = 4.48dBm.
4. For U-NII-2C, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 11-(12.52-6) = 4.48dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80+80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58(L)	5210	-4.69	-4.20	-	-	0.21	-1.22	13.49	Pass
42+58(H)	5290	-	-	-5.45	-4.38	0.21	-1.66	7.49	Pass
106+122(L)	5530	-3.10	-2.79	-	-	0.21	0.28	7.49	Pass
106+122(H)	5610	-	-	-3.09	-2.62	0.21	0.37	7.49	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 17-(12.52-6) = 10.48dBm.
3. For U-NII-2A, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 11-(12.52-6) = 4.48dBm.
4. For U-NII-2C, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 11-(12.52-6) = 4.48dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / Chain 2 / CH 40	802.11ax (HE20) / Chain 2 / CH 40
	
802.11ax (HE40) / Chain 2 / CH 46	802.11ax (HE80) / Chain 1 / CH 138
	
802.11ax (HE80+80) / Chain 3 / CH 106+122	
	

For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-11.09	-8.87	6.02	0.26	-2.59	23.48	Pass
	149	5745	1.03	3.25	6.02	0.26	9.53	23.48	Pass
	157	5785	1.00	3.22	6.02	0.26	9.50	23.48	Pass
	165	5825	1.10	3.32	6.02	0.26	9.60	23.48	Pass
1	144	5720 (For U-NII-3)	-11.31	-9.09	6.02	0.26	-2.81	23.48	Pass
	149	5745	2.02	4.24	6.02	0.26	10.52	23.48	Pass
	157	5785	1.91	4.13	6.02	0.26	10.41	23.48	Pass
	165	5825	1.81	4.03	6.02	0.26	10.31	23.48	Pass
2	144	5720 (For U-NII-3)	-11.78	-9.56	6.02	0.26	-3.28	23.48	Pass
	149	5745	0.94	3.16	6.02	0.26	9.44	23.48	Pass
	157	5785	1.02	3.24	6.02	0.26	9.52	23.48	Pass
	165	5825	0.94	3.16	6.02	0.26	9.44	23.48	Pass
3	144	5720 (For U-NII-3)	-11.55	-9.33	6.02	0.26	-3.05	23.48	Pass
	149	5745	0.97	3.19	6.02	0.26	9.47	23.48	Pass
	157	5785	1.12	3.34	6.02	0.26	9.62	23.48	Pass
	165	5825	-0.84	1.38	6.02	0.26	7.66	23.48	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 30-(12.52-6) = 23.48dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-11.92	-9.70	6.02	0.19	-3.49	23.48	Pass
	149	5745	-0.06	2.16	6.02	0.19	8.37	23.48	Pass
	157	5785	-0.08	2.14	6.02	0.19	8.35	23.48	Pass
	165	5825	-0.09	2.13	6.02	0.19	8.34	23.48	Pass
1	144	5720 (For U-NII-3)	-10.96	-8.74	6.02	0.19	-2.53	23.48	Pass
	149	5745	0.51	2.73	6.02	0.19	8.94	23.48	Pass
	157	5785	0.58	2.80	6.02	0.19	9.01	23.48	Pass
	165	5825	0.48	2.70	6.02	0.19	8.91	23.48	Pass
2	144	5720 (For U-NII-3)	-11.73	-9.51	6.02	0.19	-3.30	23.48	Pass
	149	5745	-0.34	1.88	6.02	0.19	8.09	23.48	Pass
	157	5785	-0.40	1.82	6.02	0.19	8.03	23.48	Pass
	165	5825	-0.31	1.91	6.02	0.19	8.12	23.48	Pass
3	144	5720 (For U-NII-3)	-12.16	-9.94	6.02	0.19	-3.73	23.48	Pass
	149	5745	-0.21	2.01	6.02	0.19	8.22	23.48	Pass
	157	5785	-0.40	1.82	6.02	0.19	8.03	23.48	Pass
	165	5825	-0.22	2.00	6.02	0.19	8.21	23.48	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 30-(12.52-6) = 23.48dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142	5710 (For U-NII-3)	-14.41	-12.19	6.02	0.24	-5.93	23.48	Pass
	151	5755	-2.85	-0.63	6.02	0.24	5.63	23.48	Pass
	159	5795	-3.06	-0.84	6.02	0.24	5.42	23.48	Pass
1	142	5710 (For U-NII-3)	-13.90	-11.68	6.02	0.24	-5.42	23.48	Pass
	151	5755	-1.89	0.33	6.02	0.24	6.59	23.48	Pass
	159	5795	-1.95	0.27	6.02	0.24	6.53	23.48	Pass
2	142	5710 (For U-NII-3)	-12.94	-10.72	6.02	0.24	-4.46	23.48	Pass
	151	5755	-3.44	-1.22	6.02	0.24	5.04	23.48	Pass
	159	5795	-3.70	-1.48	6.02	0.24	4.78	23.48	Pass
3	142	5710 (For U-NII-3)	-13.10	-10.88	6.02	0.24	-4.62	23.48	Pass
	151	5755	-2.84	-0.62	6.02	0.24	5.64	23.48	Pass
	159	5795	-3.18	-0.96	6.02	0.24	5.30	23.48	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 30-(12.52-6) = 23.48dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

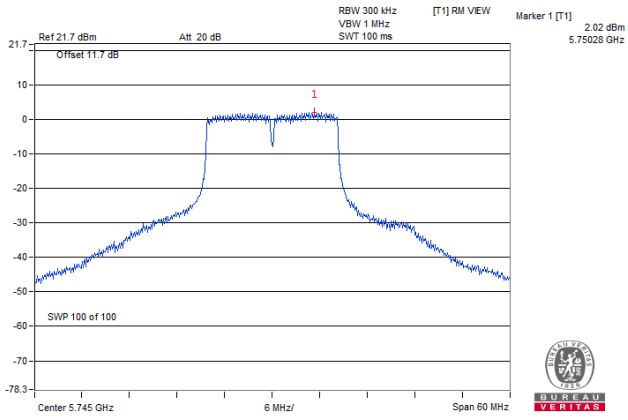
802.11ax (HE80)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690 (For U-NII-3)	-14.38	-12.16	6.02	0.25	-5.89	23.48	Pass
	155	5775	-8.11	-5.89	6.02	0.25	0.38	23.48	Pass
1	138	5690 (For U-NII-3)	-13.82	-11.60	6.02	0.25	-5.33	23.48	Pass
	155	5775	-7.11	-4.89	6.02	0.25	1.38	23.48	Pass
2	138	5690 (For U-NII-3)	-14.22	-12.00	6.02	0.25	-5.73	23.48	Pass
	155	5775	-8.85	-6.63	6.02	0.25	-0.36	23.48	Pass
3	138	5690 (For U-NII-3)	-14.47	-12.25	6.02	0.25	-5.98	23.48	Pass
	155	5775	-8.12	-5.90	6.02	0.25	0.37	23.48	Pass

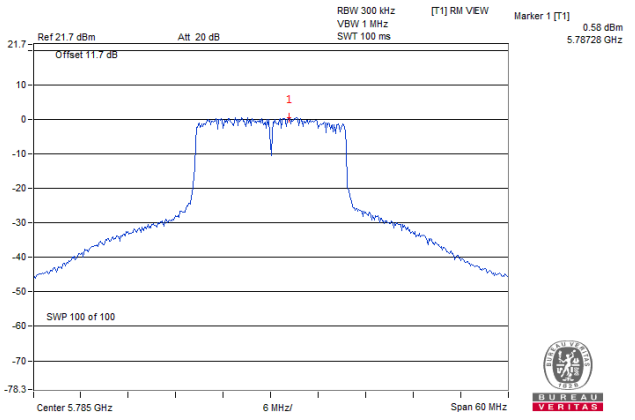
Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. For U-NII-3, Directional gain = 6.5 dBi + 10log(4) = 12.52dBi > 6dBi, so the power density limit shall be reduced to 30-(12.52-6) = 23.48dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

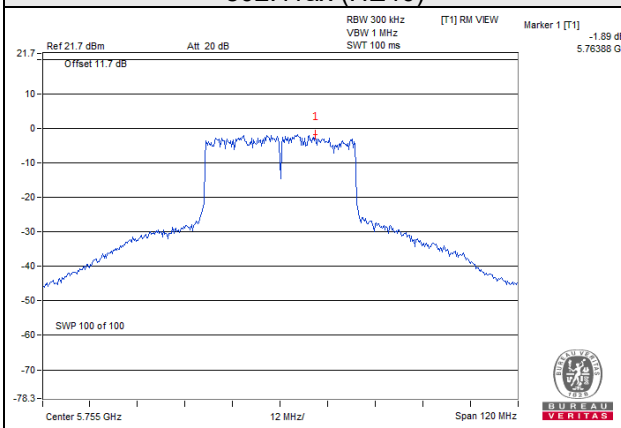
802.11a



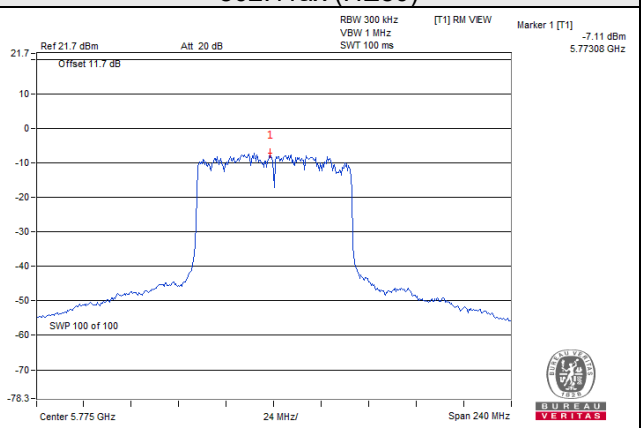
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)

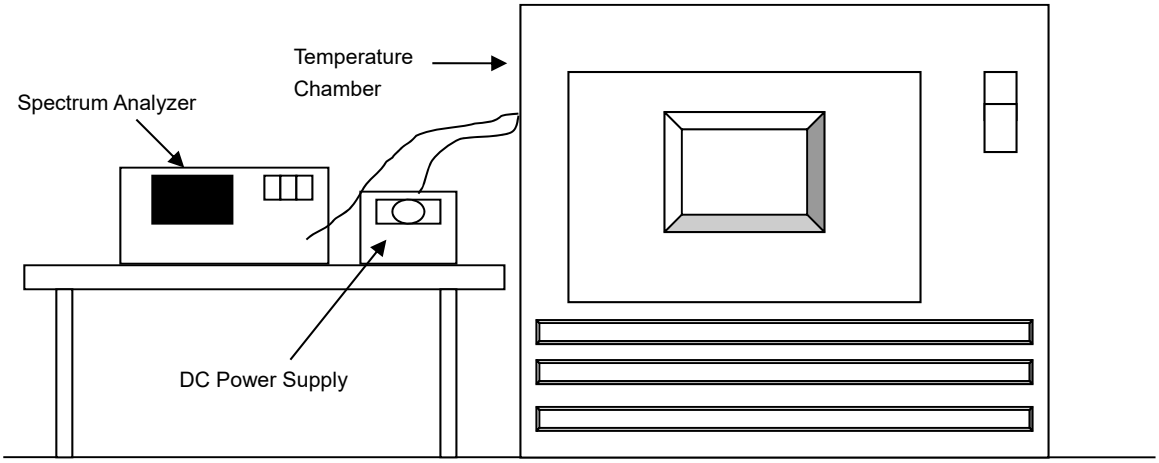


4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation

4.6.2 Test Setup



4.6.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 15, 2021	Sep. 14, 2022
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	May 30, 2022	May 29, 2023
Digital Multimeter Fluke	87-III	70360742	Jun. 23, 2022	Jun. 22, 2023
DC Power Supply TOPWARD	6306A	727263	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Test Date: Jul. 17, 2022

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.

b. Turn the EUT on and couple its output to a spectrum analyzer.

c. Turn the EUT off and set the chamber to the highest temperature specified.

d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.

e. Repeat step d with the temperature chamber set to the next desired temperature.

f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.7 Test Results

Mode A

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
60	54	5180.0119	Pass	5180.0134	Pass	5180.0105	Pass	5180.0121	Pass
50	54	5180.0145	Pass	5180.0154	Pass	5180.0114	Pass	5180.0161	Pass
40	54	5180.0150	Pass	5180.0143	Pass	5180.0154	Pass	5180.0167	Pass
30	54	5180.0060	Pass	5180.0040	Pass	5180.0046	Pass	5180.0059	Pass
20	54	5180.0094	Pass	5180.0117	Pass	5180.0095	Pass	5180.0108	Pass
10	54	5180.0182	Pass	5180.0190	Pass	5180.0177	Pass	5180.0184	Pass
0	54	5179.9913	Pass	5179.9913	Pass	5179.9922	Pass	5179.9928	Pass
-10	54	5180.0215	Pass	5180.0245	Pass	5180.0239	Pass	5180.0235	Pass
-20	54	5180.0101	Pass	5180.0106	Pass	5180.0135	Pass	5180.0104	Pass
-30	54	5180.0182	Pass	5180.0202	Pass	5180.0199	Pass	5180.0192	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	62.1	5179.9989	Pass	5180.0008	Pass	5179.9997	Pass	5180.0004	Pass
	54	5180.0094	Pass	5180.0117	Pass	5180.0095	Pass	5180.0108	Pass
	45.9	5180.0028	Pass	5180.0023	Pass	5179.9992	Pass	5180.0033	Pass

Mode B

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
60	54	5179.9768	Pass	5179.9798	Pass	5179.9758	Pass	5179.9764	Pass
50	54	5180.0006	Pass	5179.9972	Pass	5179.9966	Pass	5179.9995	Pass
40	54	5180.0045	Pass	5180.0046	Pass	5180.0065	Pass	5180.0058	Pass
30	54	5179.9948	Pass	5179.9990	Pass	5179.9972	Pass	5179.9985	Pass
20	54	5179.9818	Pass	5179.9860	Pass	5179.9813	Pass	5179.9857	Pass
10	54	5180.0196	Pass	5180.0194	Pass	5180.0218	Pass	5180.0197	Pass
0	54	5180.0108	Pass	5180.0109	Pass	5180.0149	Pass	5180.0119	Pass
-10	54	5179.9929	Pass	5179.9948	Pass	5179.9929	Pass	5179.9944	Pass
-20	54	5179.9731	Pass	5179.9768	Pass	5179.9733	Pass	5179.9744	Pass
-30	54	5179.9769	Pass	5179.9813	Pass	5179.9794	Pass	5179.9815	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	62.1	5179.9886	Pass	5179.9920	Pass	5179.9899	Pass	5179.9887	Pass
	54	5179.9818	Pass	5179.9860	Pass	5179.9813	Pass	5179.9857	Pass
	45.9	5179.9770	Pass	5179.9801	Pass	5179.9776	Pass	5179.9778	Pass

Mode C

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
60	54	5180.0009	Pass	5179.9973	Pass	5179.9975	Pass	5180.0010	Pass
50	54	5179.9977	Pass	5179.9954	Pass	5179.9967	Pass	5179.9938	Pass
40	54	5179.9933	Pass	5179.9905	Pass	5179.9906	Pass	5179.9903	Pass
30	54	5180.0217	Pass	5180.0241	Pass	5180.0226	Pass	5180.0232	Pass
20	54	5179.9932	Pass	5179.9935	Pass	5179.9954	Pass	5179.9956	Pass
10	54	5179.9812	Pass	5179.9805	Pass	5179.9843	Pass	5179.9832	Pass
0	54	5179.9999	Pass	5179.9979	Pass	5179.9978	Pass	5179.9966	Pass
-10	54	5179.9735	Pass	5179.9727	Pass	5179.9737	Pass	5179.9769	Pass
-20	54	5179.9837	Pass	5179.9823	Pass	5179.9839	Pass	5179.9853	Pass
-30	54	5179.9811	Pass	5179.9796	Pass	5179.9799	Pass	5179.9808	Pass

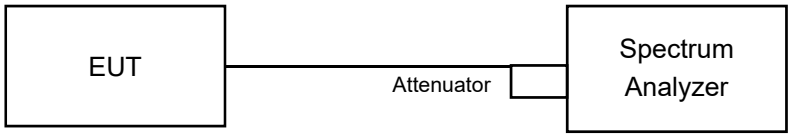
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	62.1	5179.9906	Pass	5179.9887	Pass	5179.9921	Pass	5179.9902	Pass
	54	5179.9932	Pass	5179.9935	Pass	5179.9954	Pass	5179.9956	Pass
	45.9	5179.9858	Pass	5179.9865	Pass	5179.9857	Pass	5179.9862	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.7.7 Test Results

Mode A

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720 (For U-NII-3)	3.16	3.13	3.15	3.16	0.5	Pass
149	5745	16.35	16.30	16.10	16.36	0.5	Pass
157	5785	16.35	16.33	15.59	16.36	0.5	Pass
165	5825	16.31	16.32	16.07	16.36	0.5	Pass

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720 (For U-NII-3)	4.49	4.40	4.47	4.45	0.5	Pass
149	5745	18.67	18.84	18.69	18.95	0.5	Pass
157	5785	18.74	18.92	18.47	18.86	0.5	Pass
165	5825	18.20	18.53	18.66	18.95	0.5	Pass

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE40)

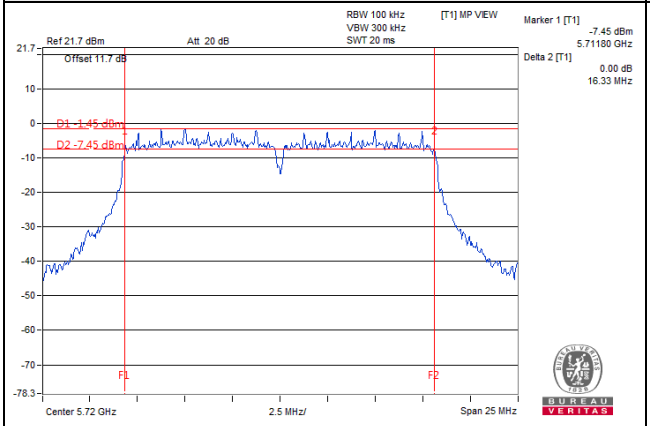
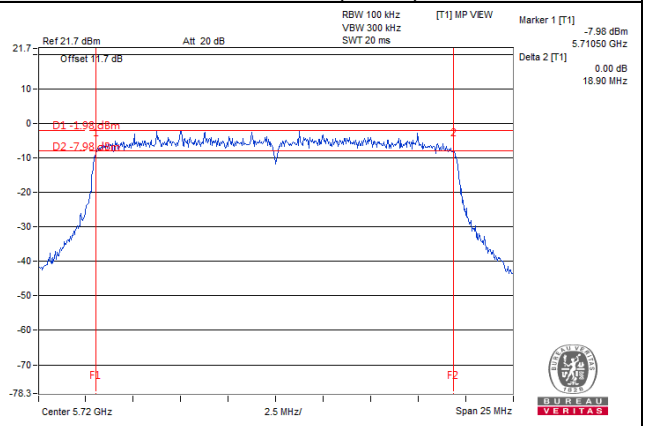
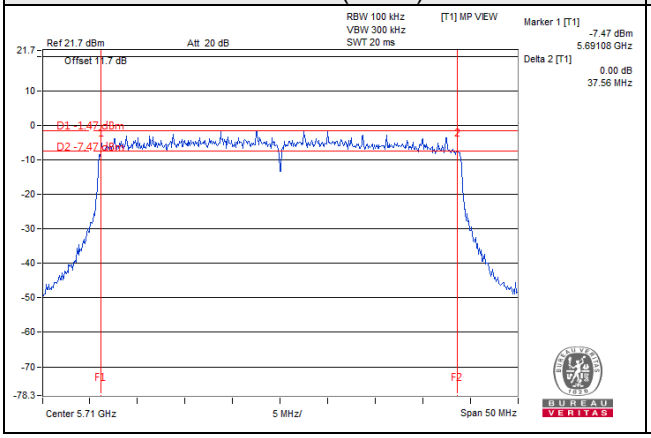
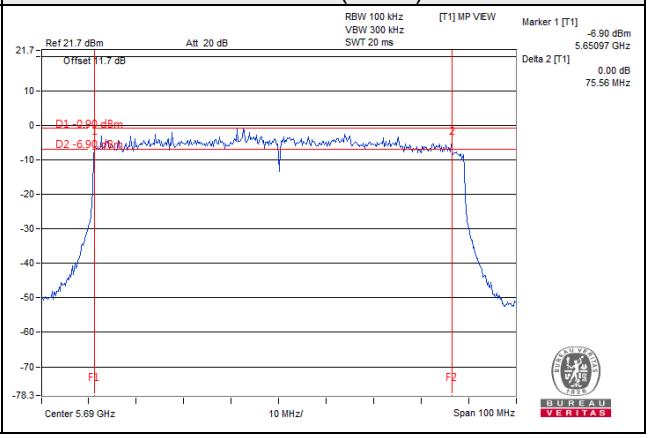
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
142	5710 (For U-NII-3)	3.68	3.84	4.01	3.64	0.5	Pass
151	5755	37.50	37.84	37.84	37.75	0.5	Pass
159	5795	37.85	37.97	38.06	38.06	0.5	Pass

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
138	5690 (For U-NII-3)	1.53	4.02	2.49	1.81	0.5	Pass
155	5775	76.76	76.30	77.81	77.07	0.5	Pass

For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

Mode B

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720 (For U-NII-3)	3.23	2.87	3.26	3.25	0.5	Pass
149	5745	15.97	16.37	16.37	16.40	0.5	Pass
157	5785	16.38	16.10	16.39	16.38	0.5	Pass
165	5825	16.05	16.37	16.37	16.36	0.5	Pass

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720 (For U-NII-3)	4.48	4.44	4.47	4.33	0.5	Pass
149	5745	19.02	18.91	18.94	18.95	0.5	Pass
157	5785	19.01	19.01	18.61	18.81	0.5	Pass
165	5825	18.98	18.56	18.68	18.91	0.5	Pass

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE40)

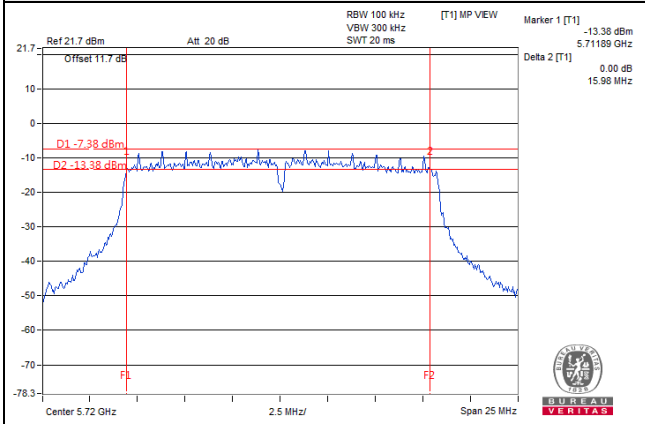
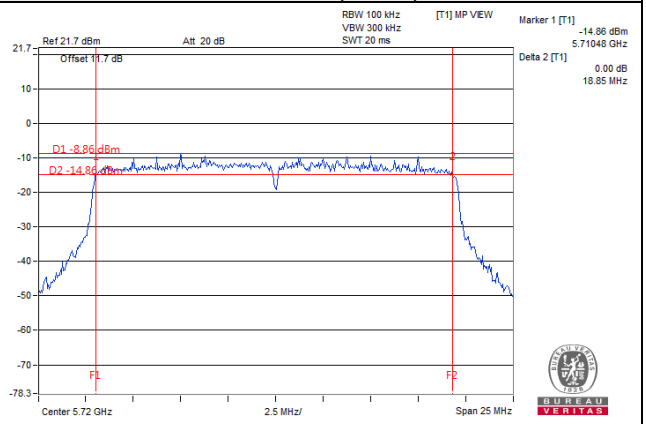
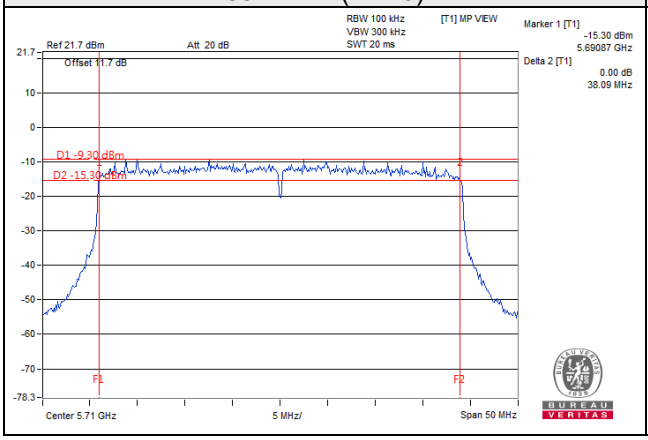
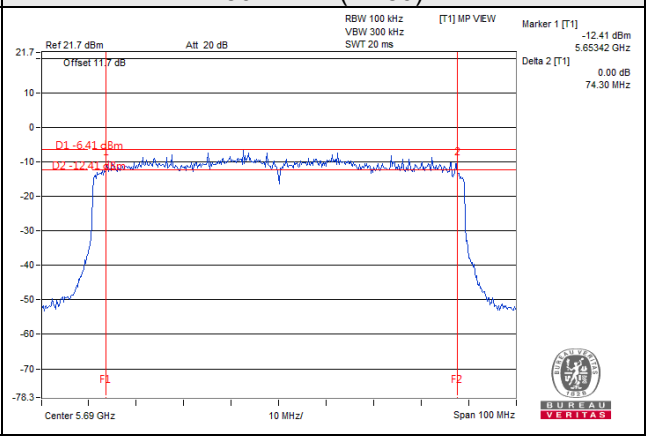
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
142	5710 (For U-NII-3)	4.01	4.04	3.99	3.96	0.5	Pass
151	5755	37.96	37.84	37.84	37.75	0.5	Pass
159	5795	37.50	37.93	37.88	37.70	0.5	Pass

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
138	5690 (For U-NII-3)	3.50	2.72	3.06	3.51	0.5	Pass
155	5775	75.32	76.62	77.93	76.55	0.5	Pass

For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

Mode C

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720 (For U-NII-3)	3.15	2.90	3.15	3.17	0.5	Pass
149	5745	16.33	15.85	15.94	16.33	0.5	Pass
157	5785	15.66	16.07	16.30	16.33	0.5	Pass
165	5825	15.92	16.31	16.35	16.31	0.5	Pass

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720 (For U-NII-3)	4.21	4.46	4.45	4.45	0.5	Pass
149	5745	18.59	17.95	18.65	18.78	0.5	Pass
157	5785	18.89	18.75	18.77	18.89	0.5	Pass
165	5825	18.99	18.76	18.98	18.60	0.5	Pass

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE40)

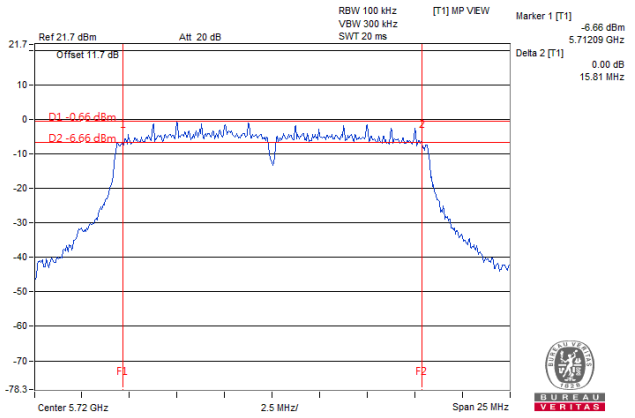
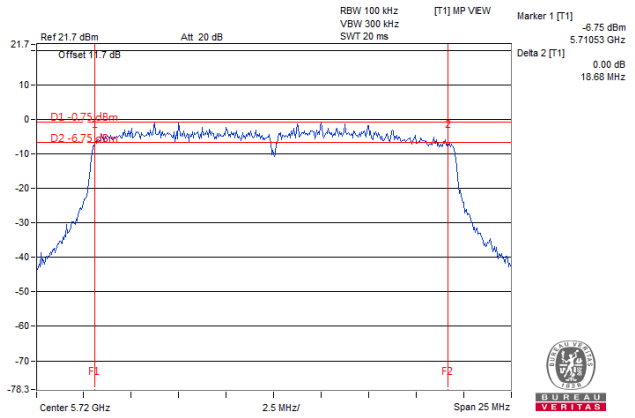
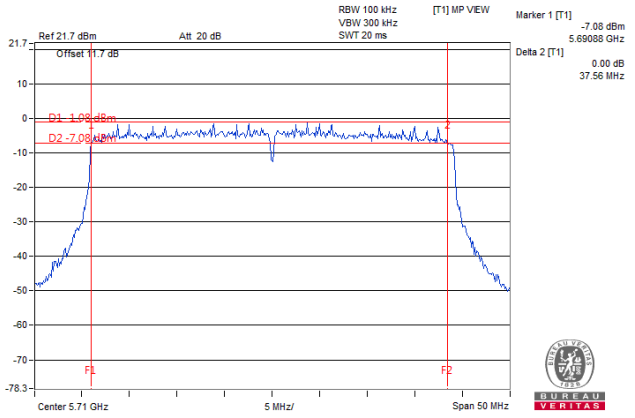
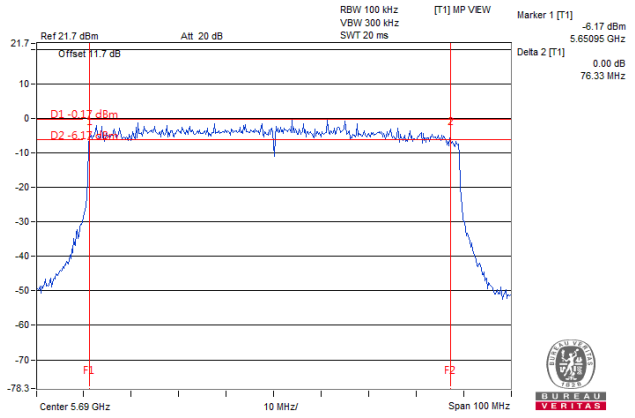
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
142	5710 (For U-NII-3)	3.54	3.71	3.84	3.44	0.5	Pass
151	5755	37.50	37.84	37.84	37.75	0.5	Pass
159	5795	37.85	37.97	38.06	38.06	0.5	Pass

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
138	5690 (For U-NII-3)	2.28	2.68	4.00	3.02	0.5	Pass
155	5775	76.76	76.30	77.81	77.07	0.5	Pass

For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

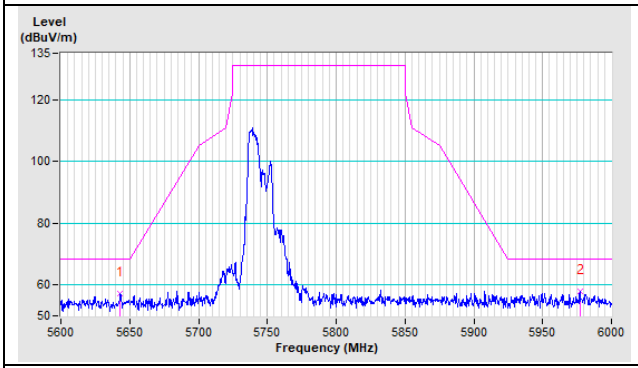
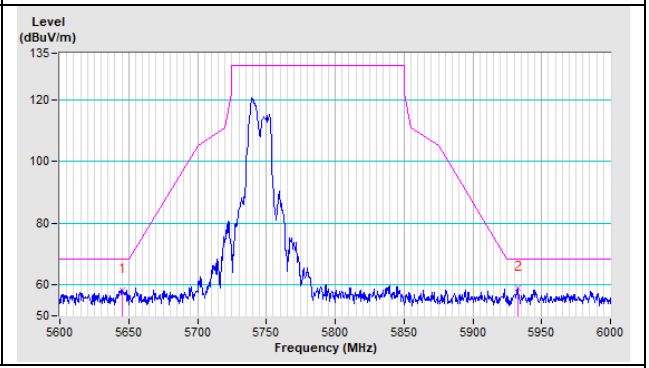
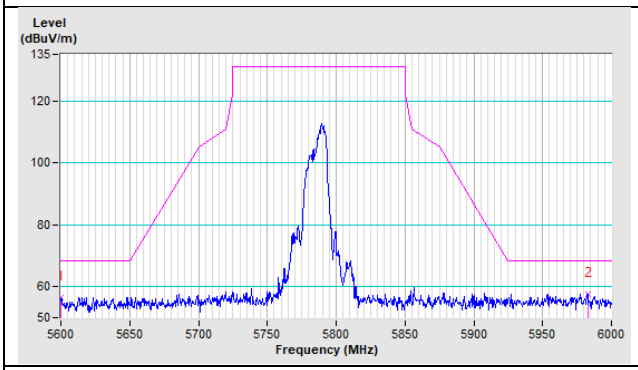
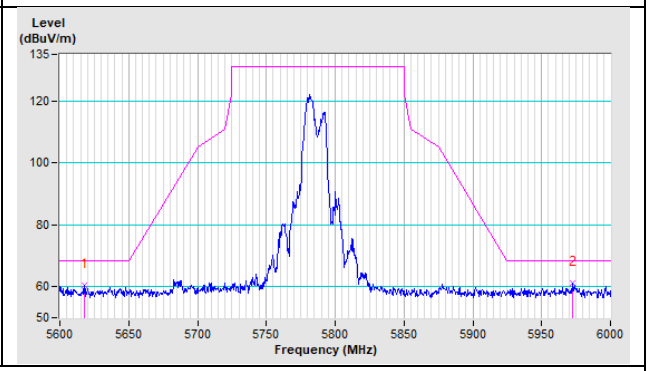
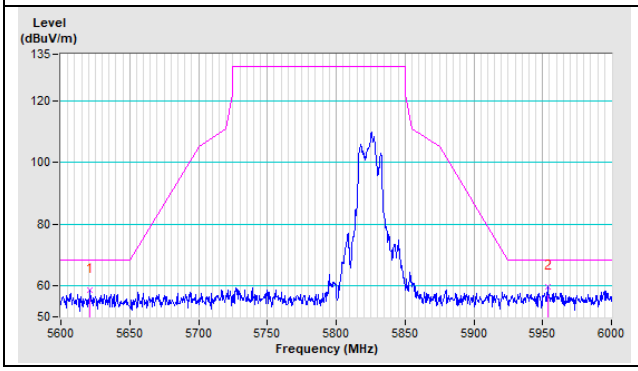
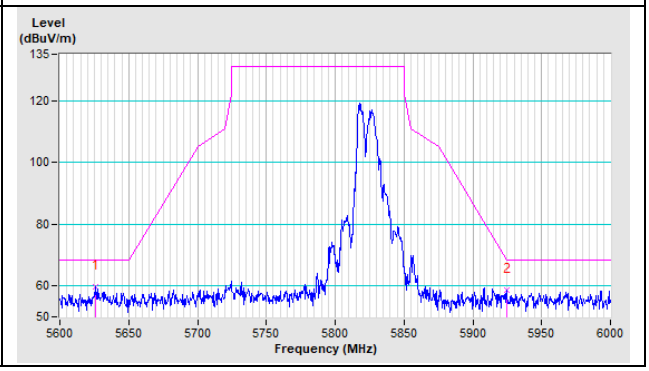
5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

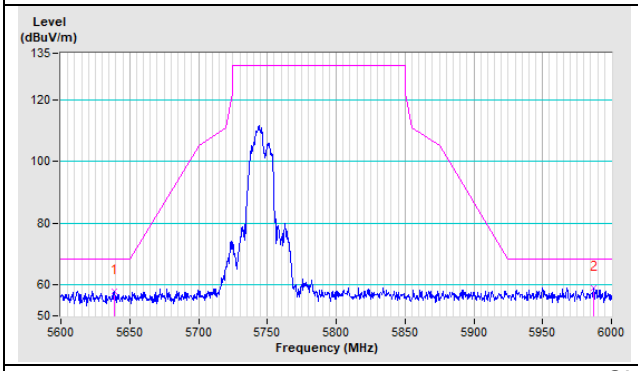
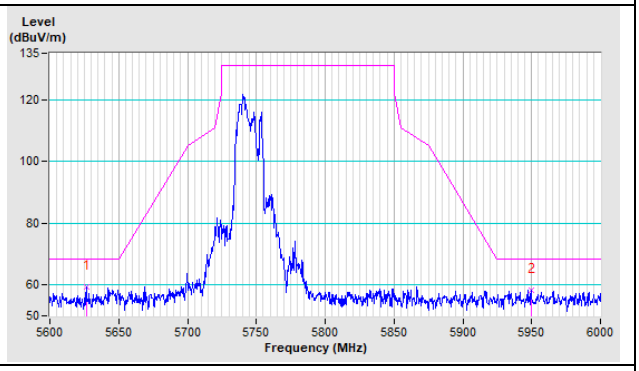
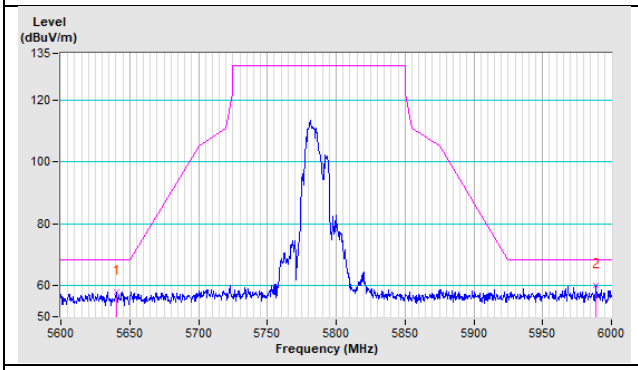
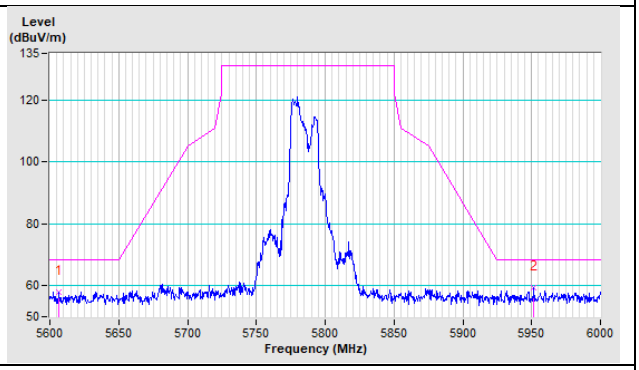
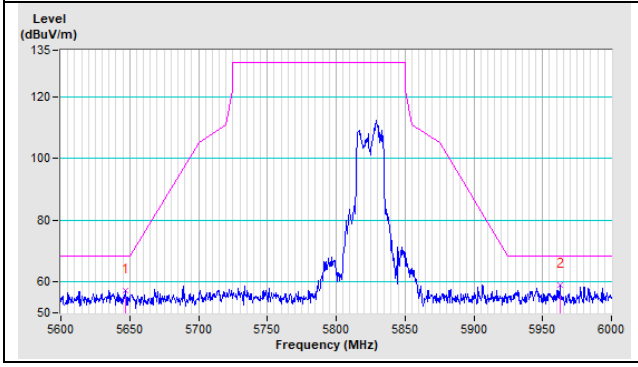
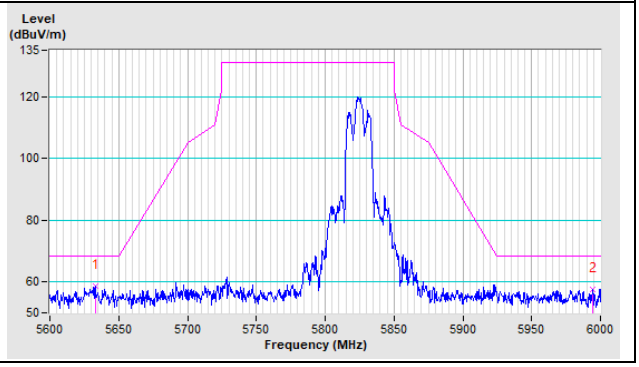
Annex A- Radiated out of Band Emission (OOBE) Measurement (For U-NII-3 band)

Mode A

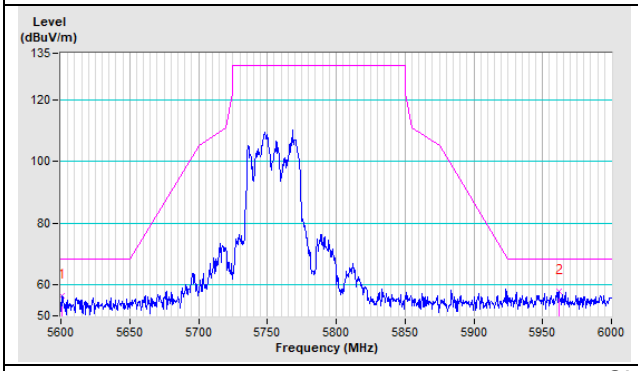
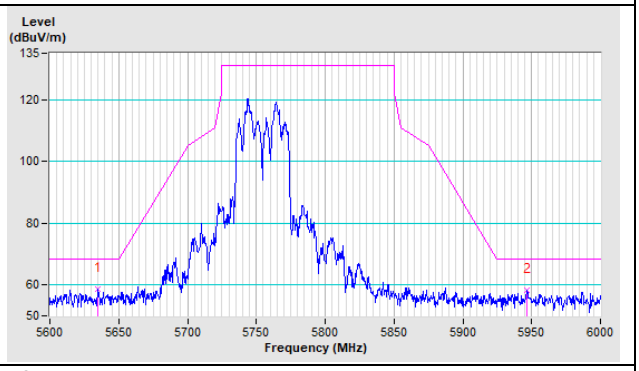
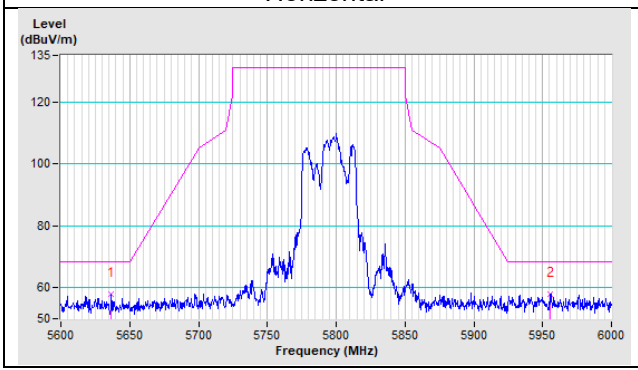
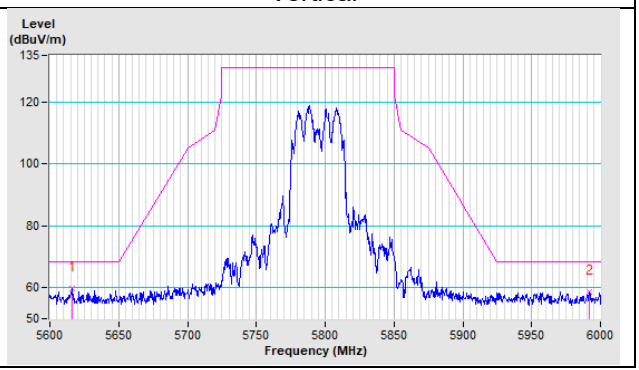
802.11a

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

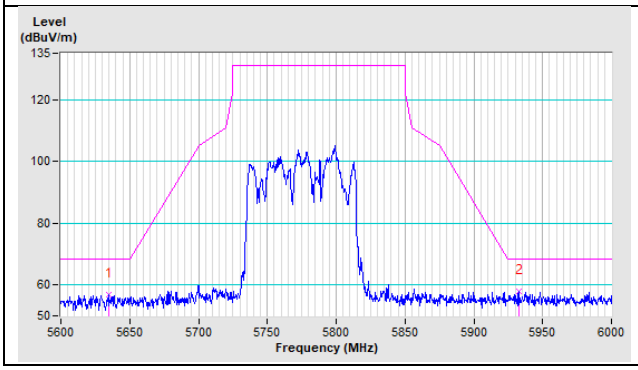
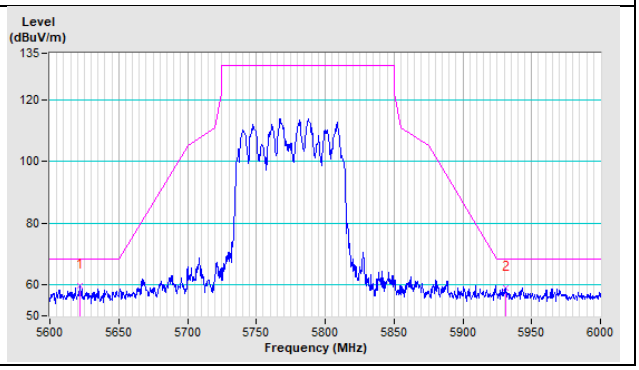
802.11ax (HE20)

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

802.11ax (HE40)

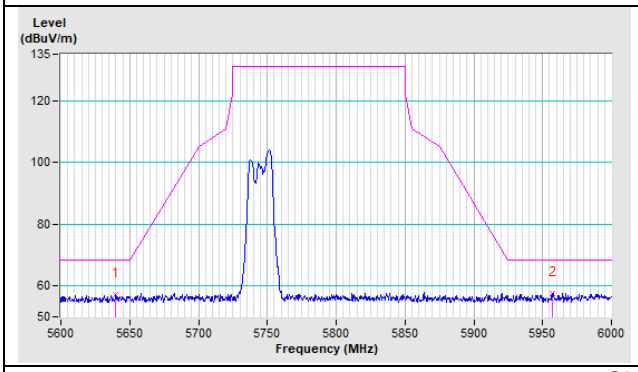
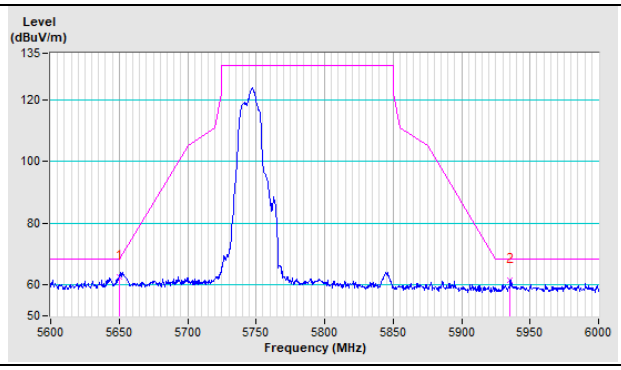
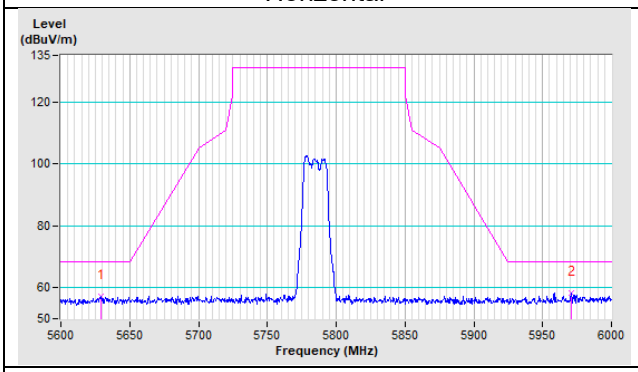
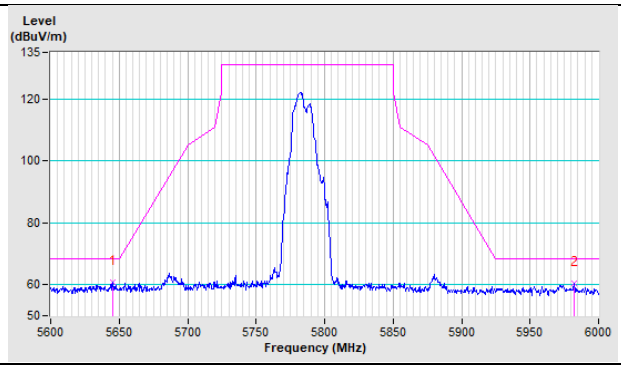
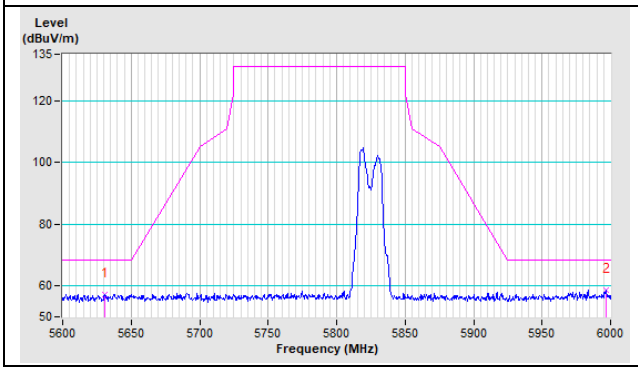
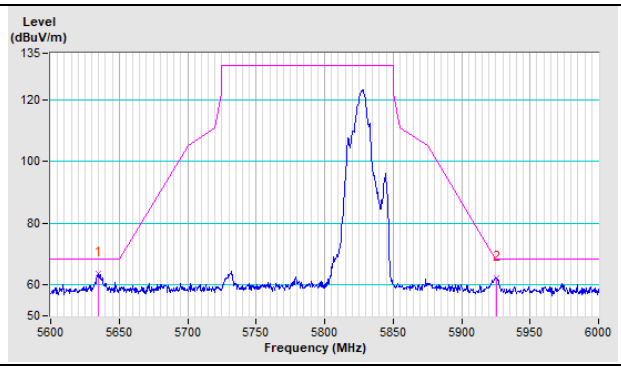
CH151	
Horizontal	Vertical
	
CH159	
Horizontal	Vertical
	

802.11ax (HE80)

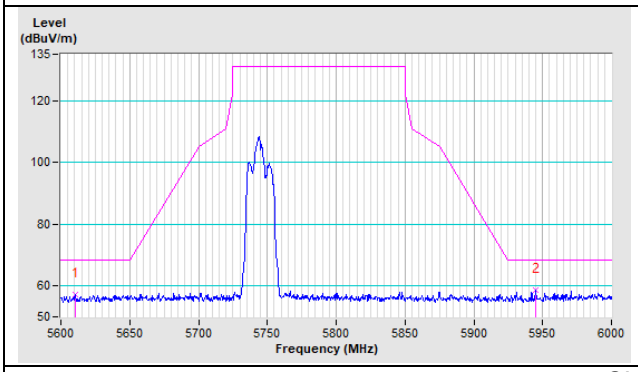
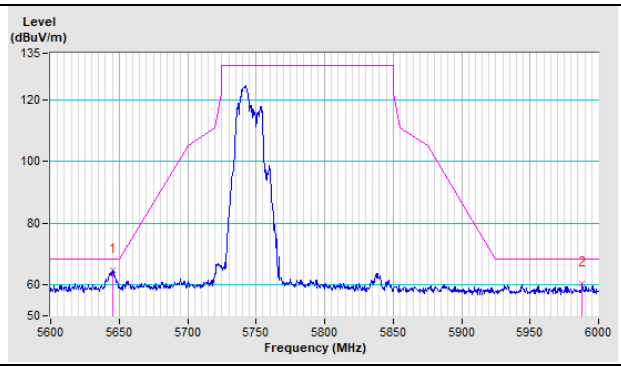
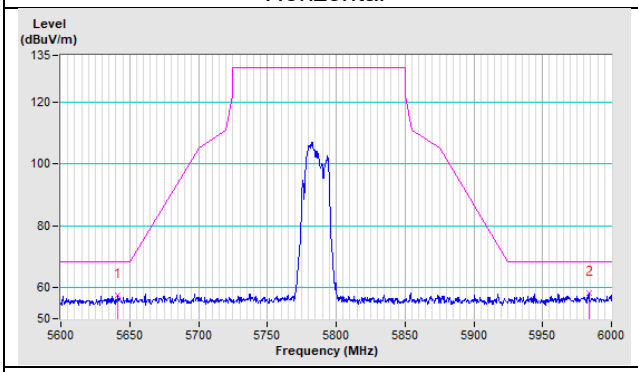
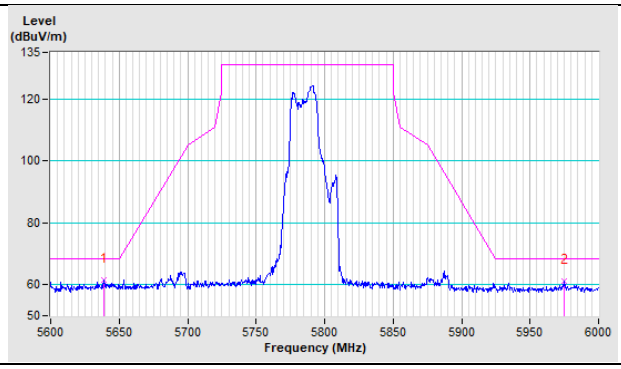
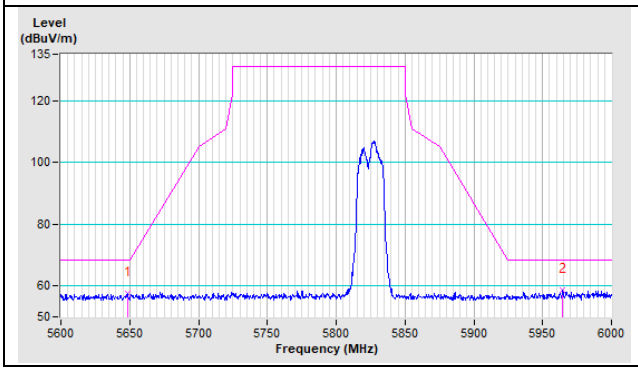
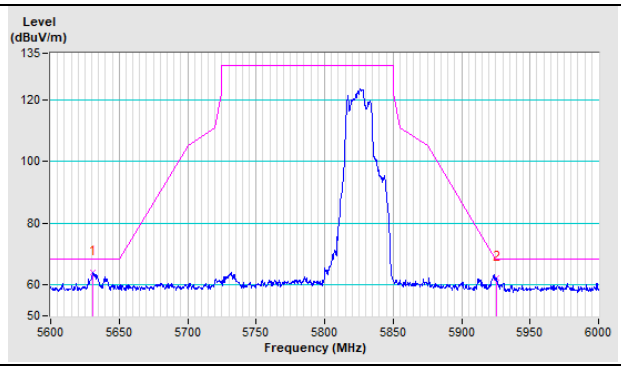
CH155	
Horizontal	Vertical
	

Mode B

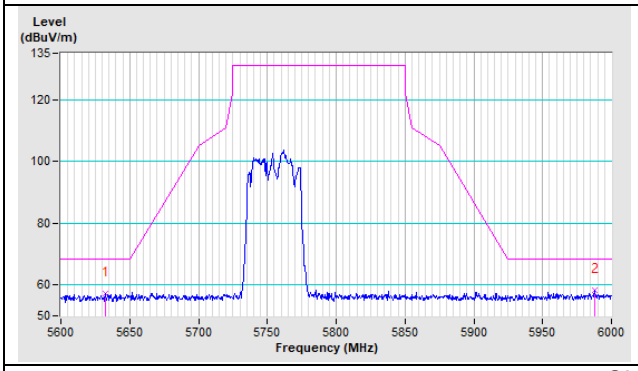
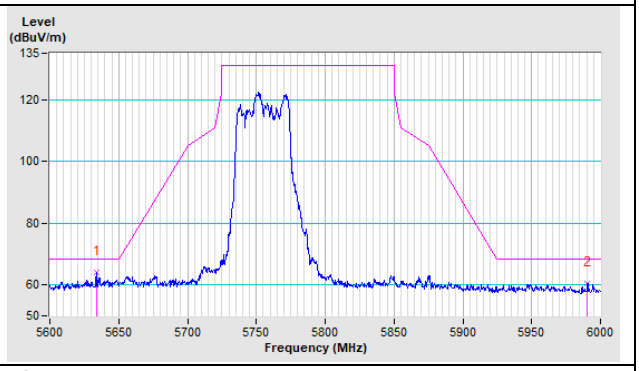
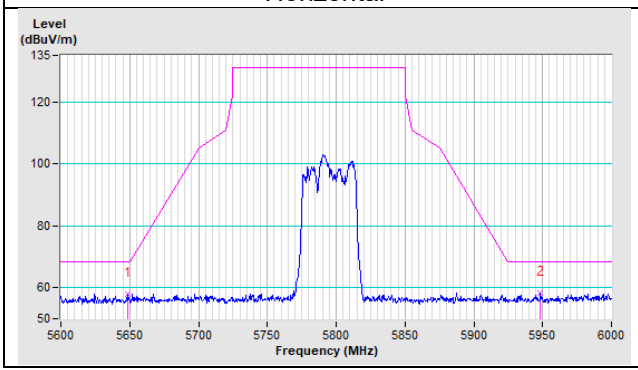
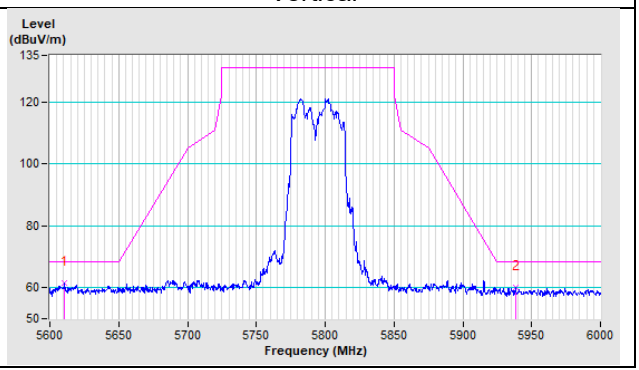
802.11a

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

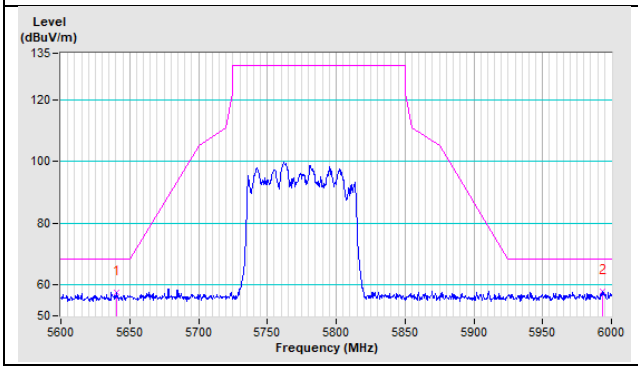
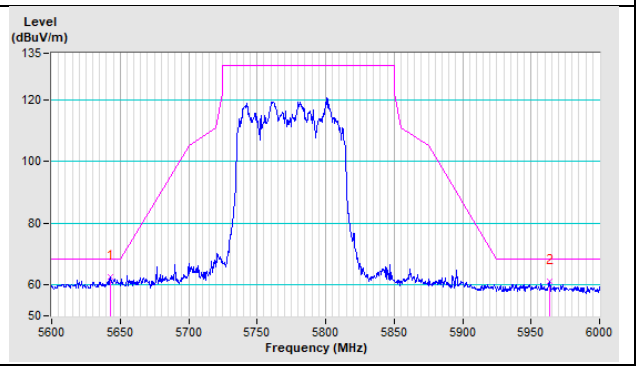
802.11ax (HE20)

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

802.11ax (HE40)

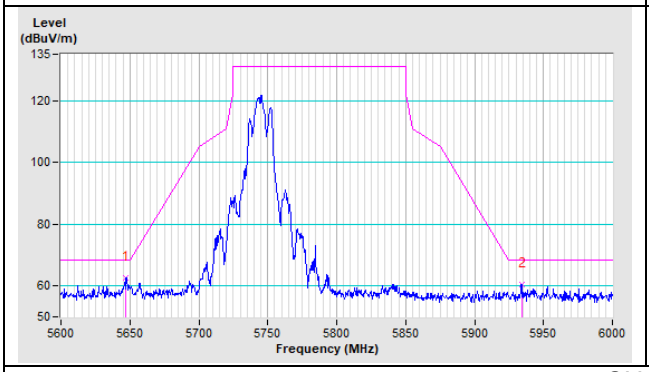
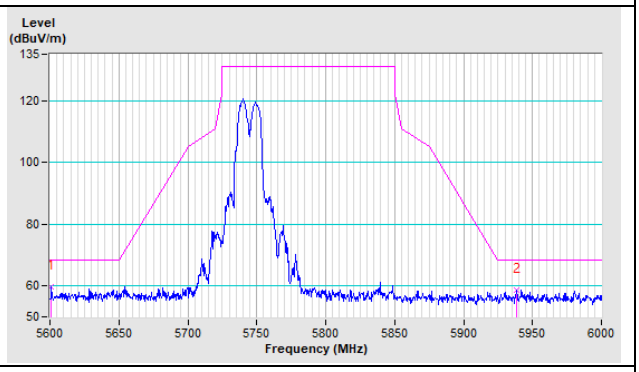
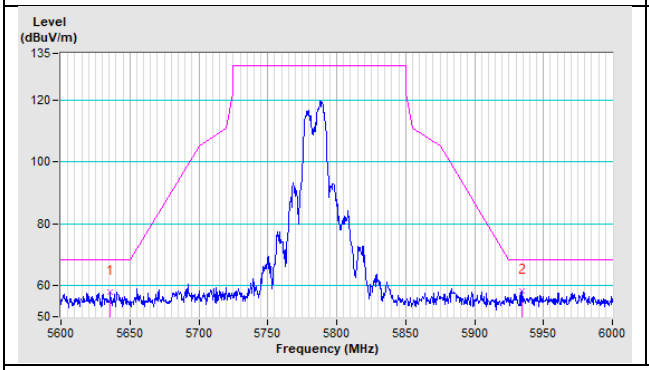
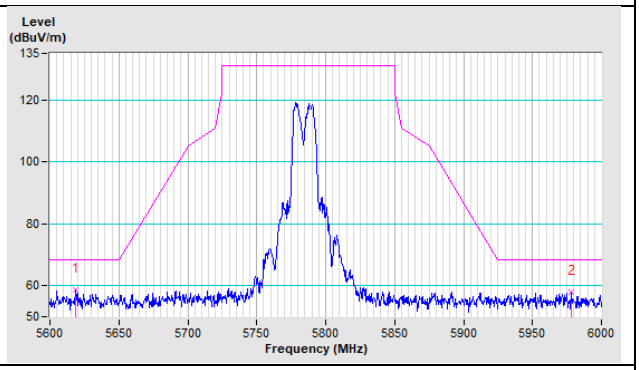
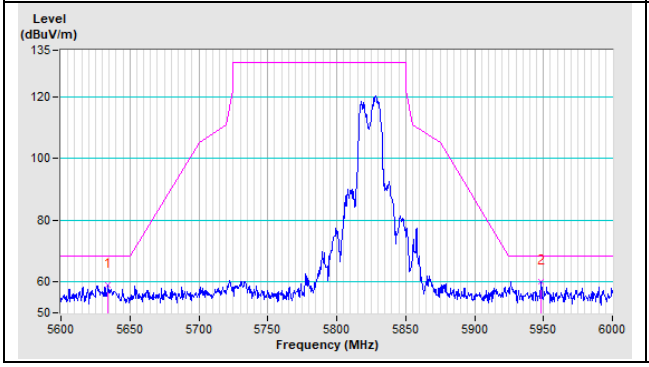
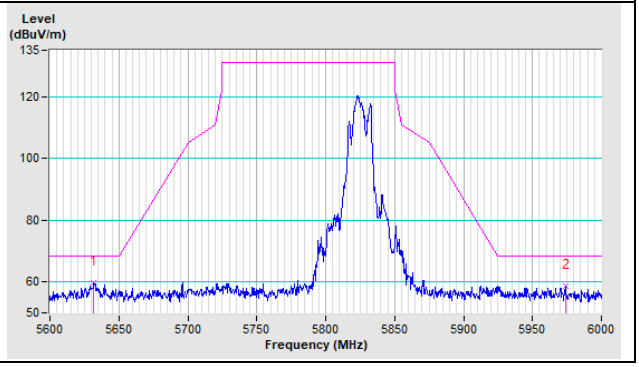
CH151	
Horizontal	Vertical
	
CH159	
Horizontal	Vertical
	

802.11ax (HE80)

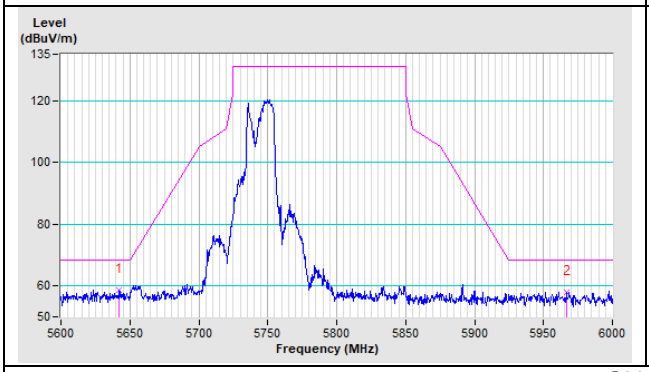
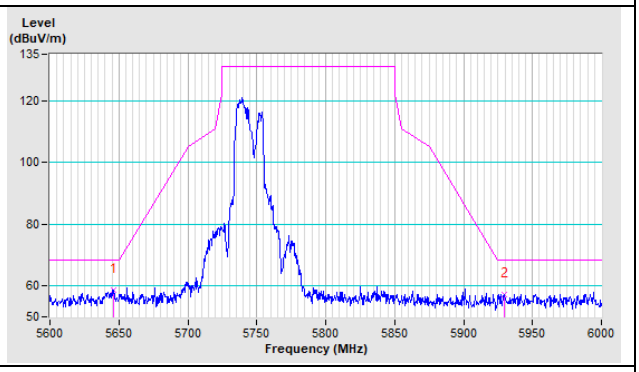
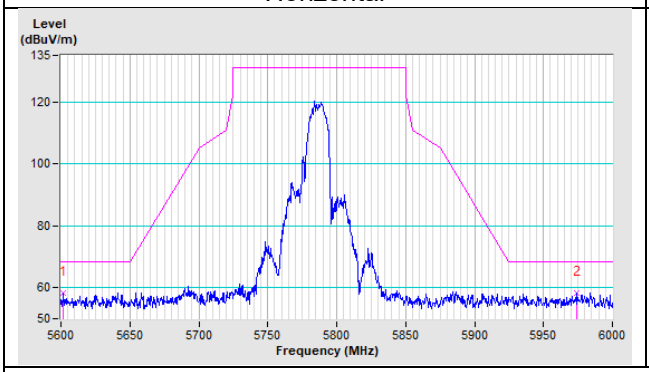
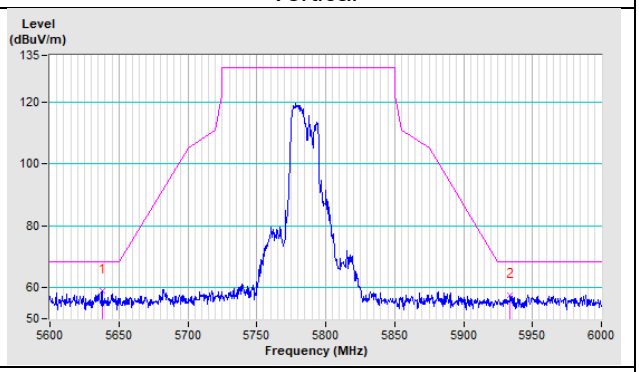
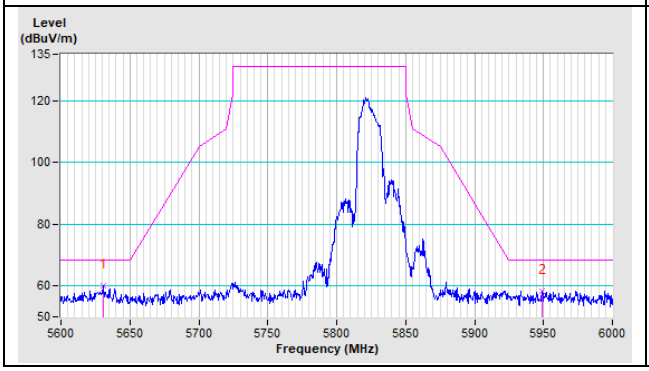
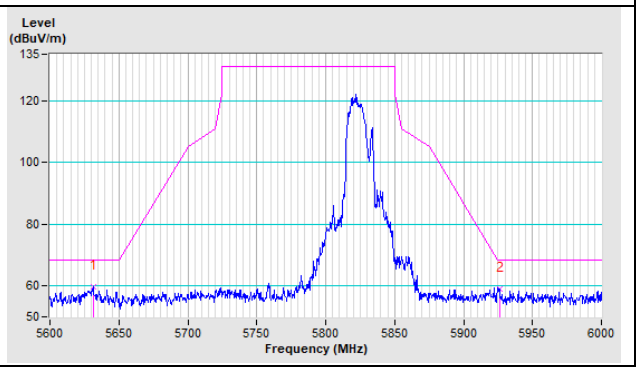
CH155	
Horizontal	Vertical
	

Mode C

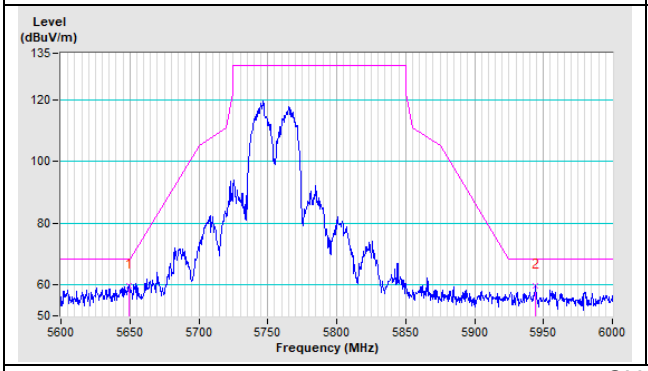
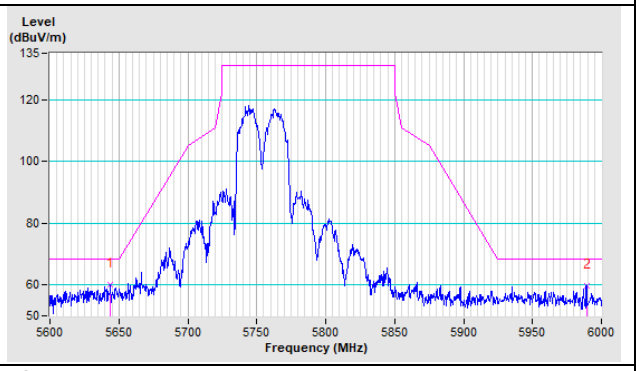
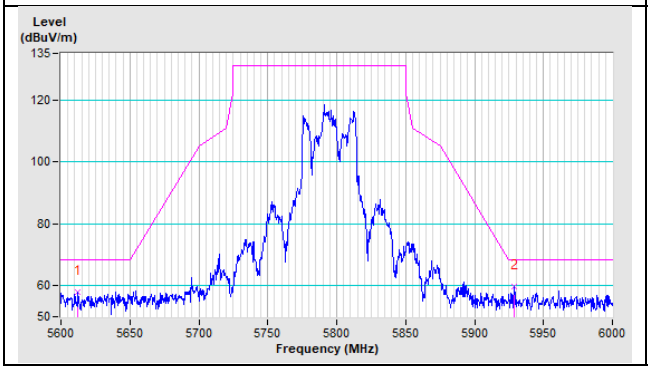
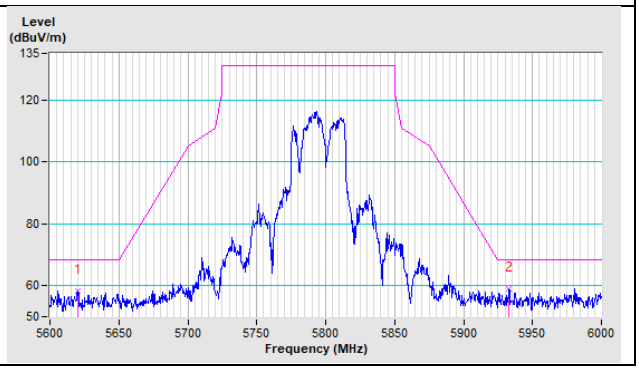
802.11a

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

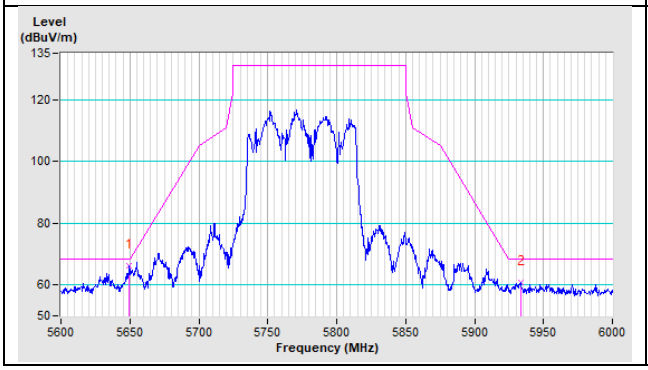
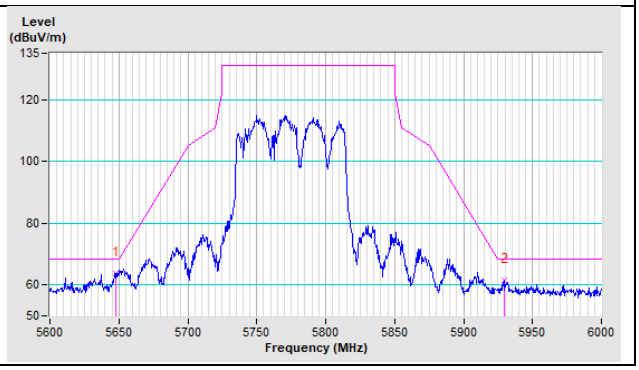
802.11ax (HE20)

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

802.11ax (HE40)

CH151	
Horizontal	Vertical
	
CH159	
Horizontal	Vertical
	

802.11ax (HE80)

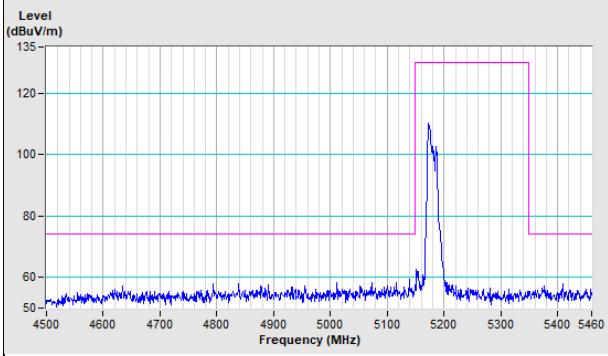
CH155	
Horizontal	Vertical
	

Annex B- Band Edge Measurement

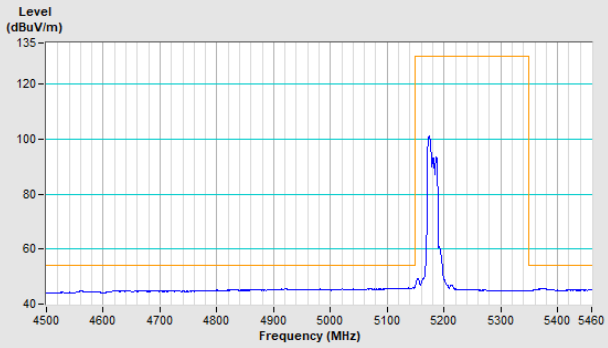
Mode A

802.11a Channel 36

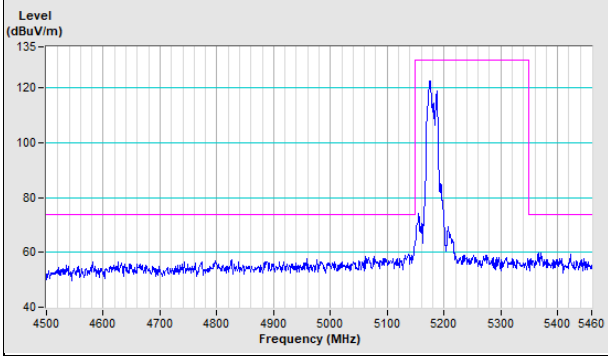
Horizontal (Peak)



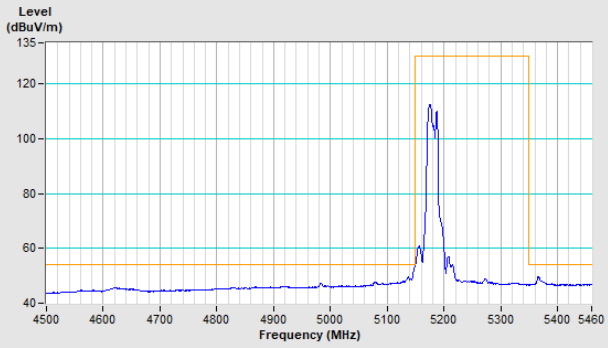
Horizontal (Average)



Vertical (Peak)

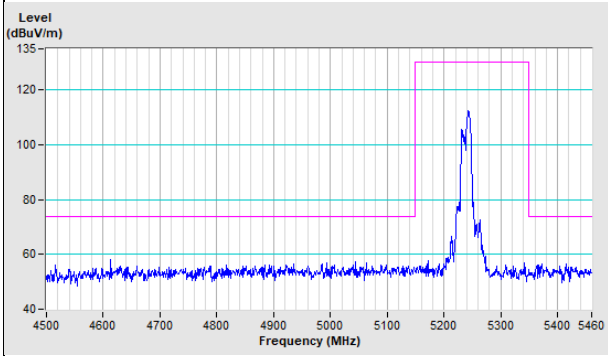


Vertical (Average)

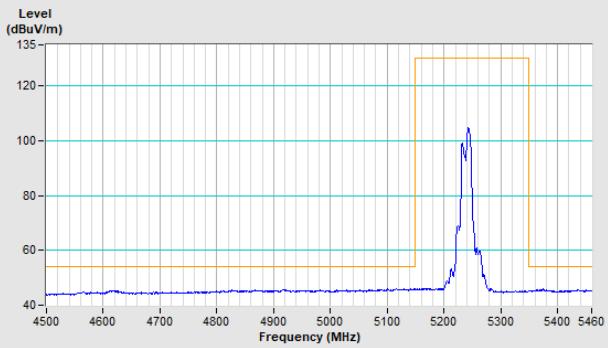


802.11a Channel 48

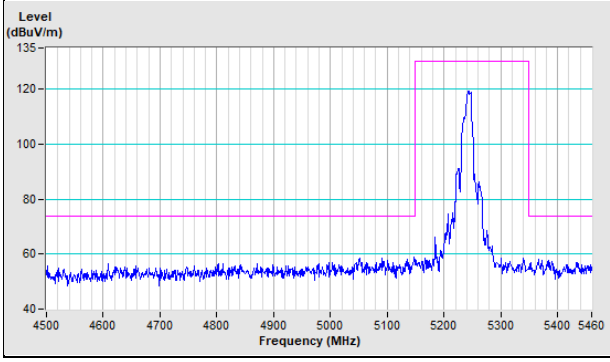
Horizontal (Peak)



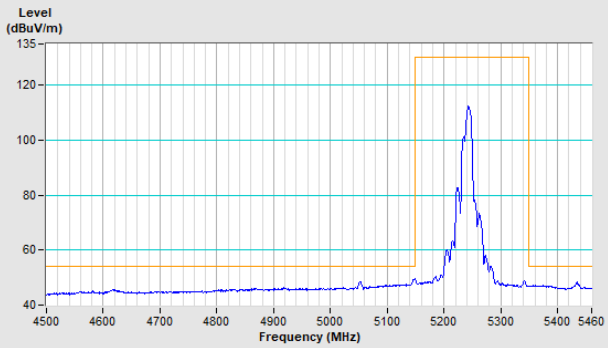
Horizontal (Average)

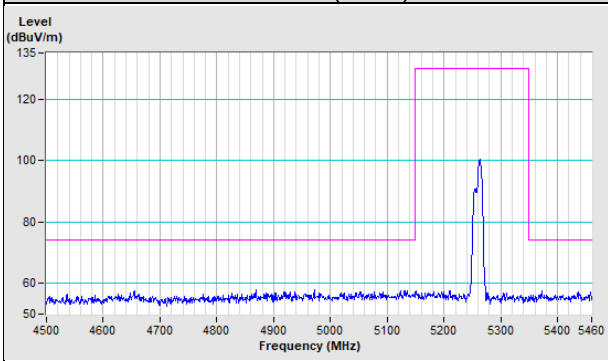
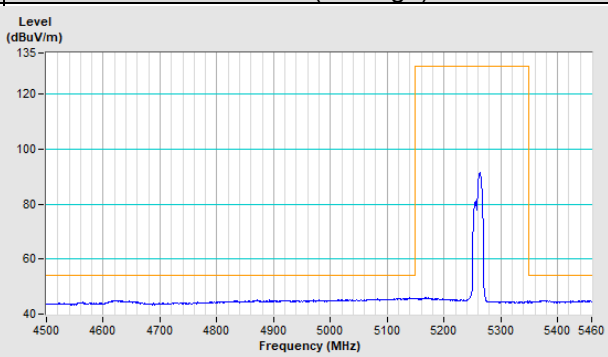
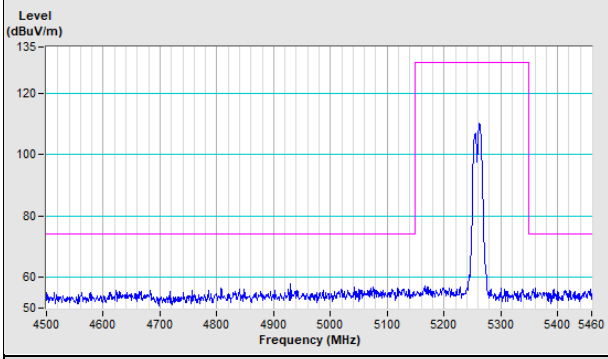
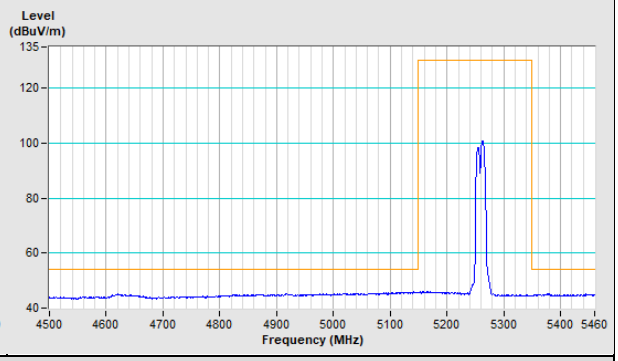
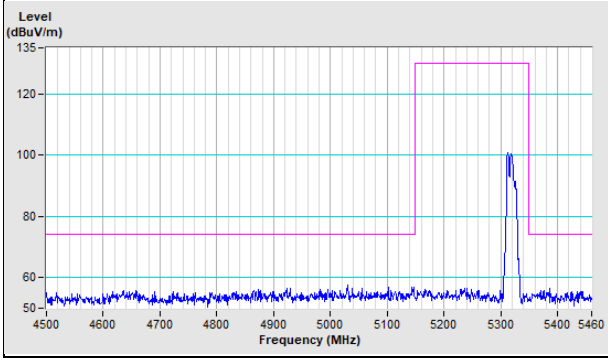
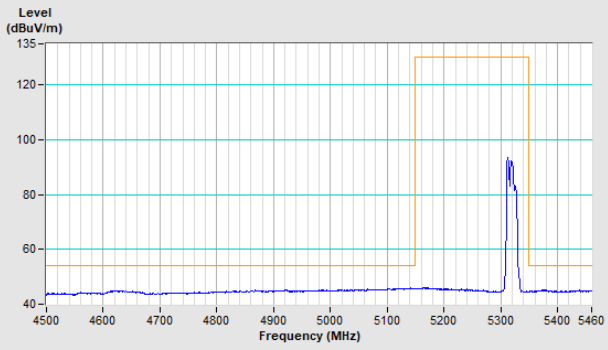
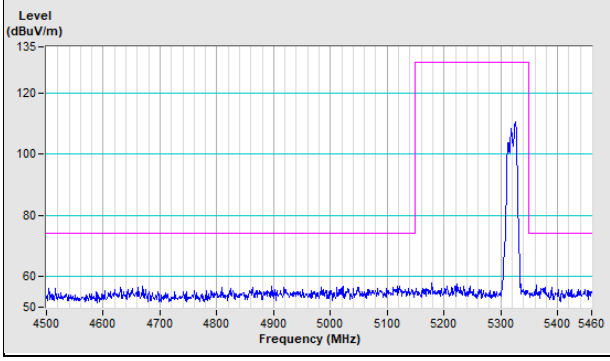
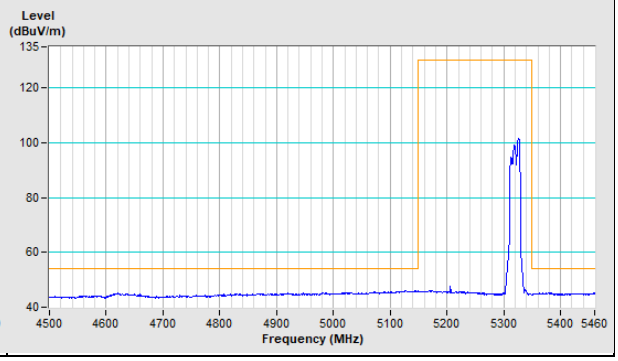


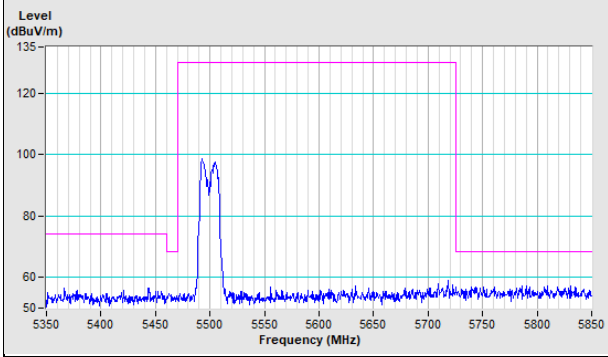
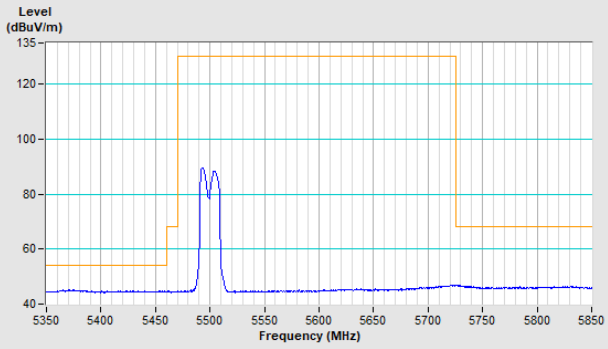
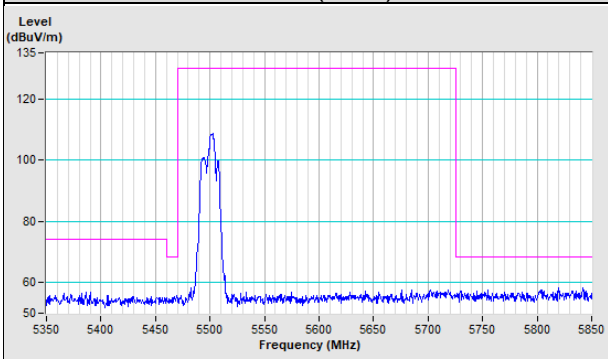
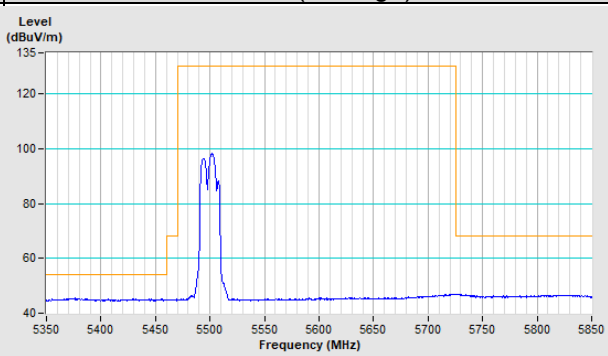
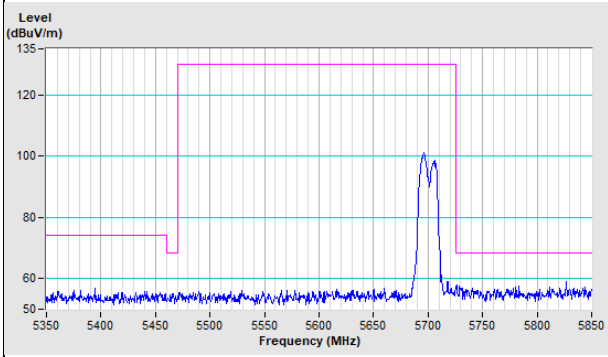
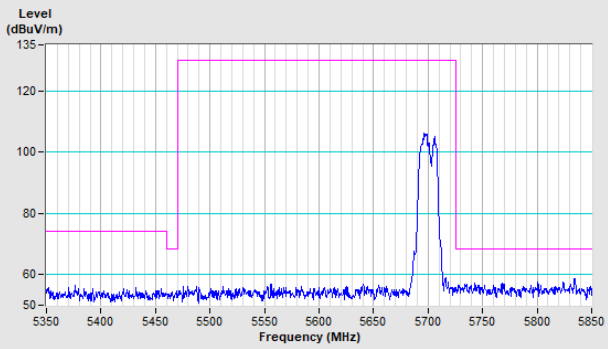
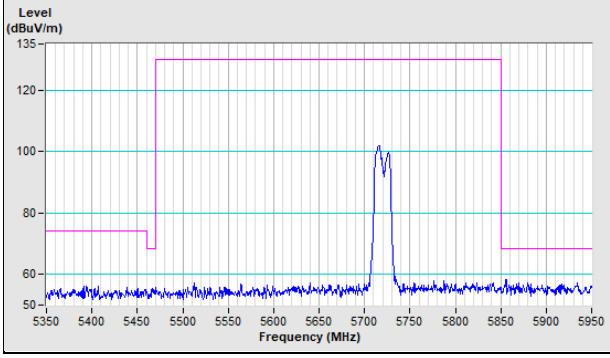
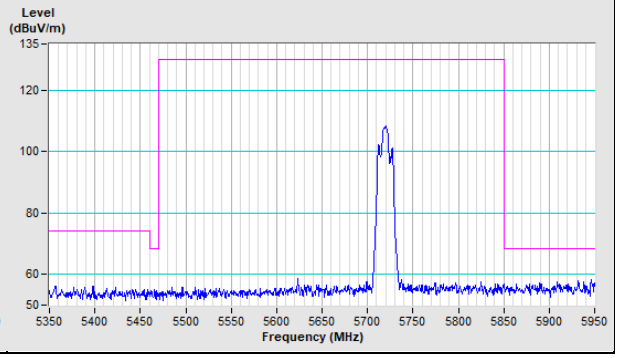
Vertical (Peak)

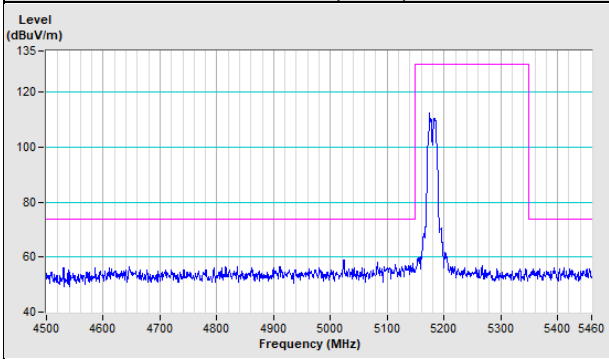
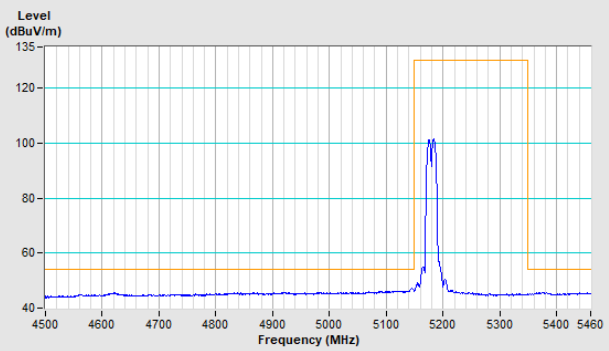
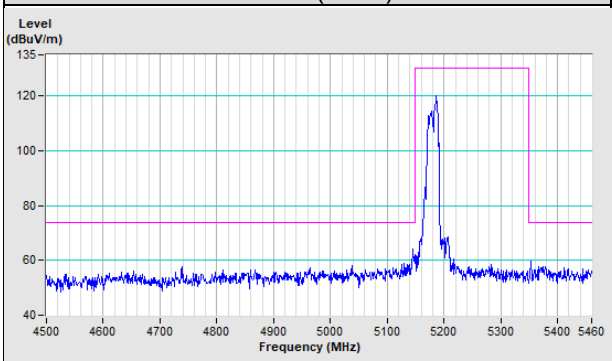
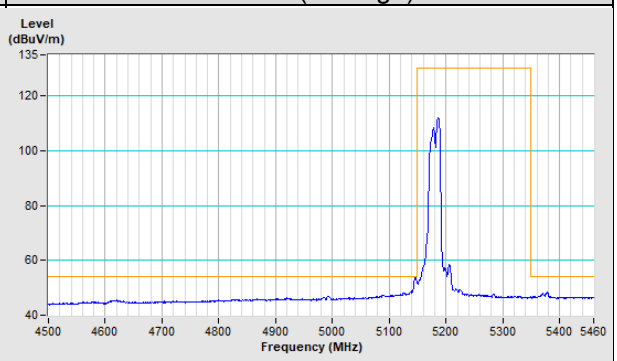
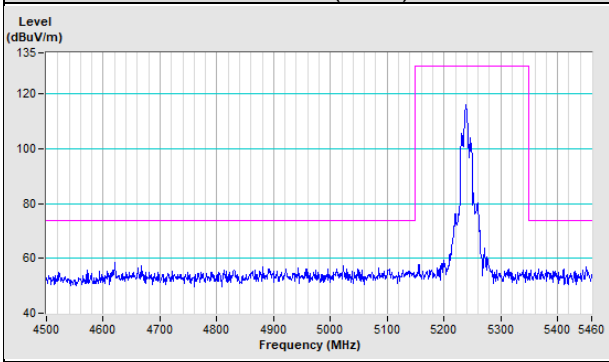
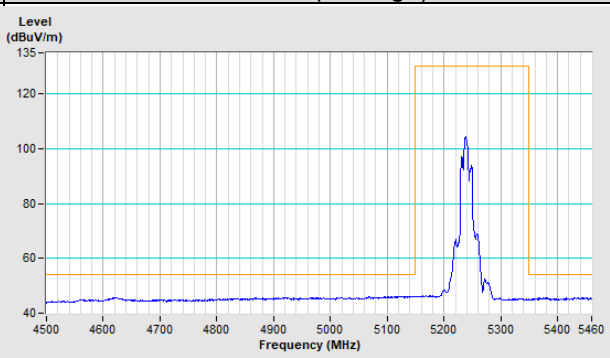
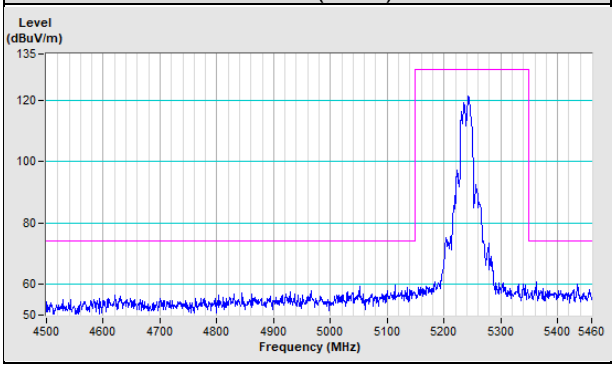
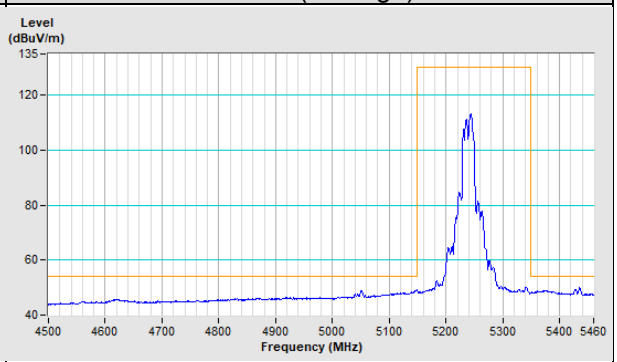


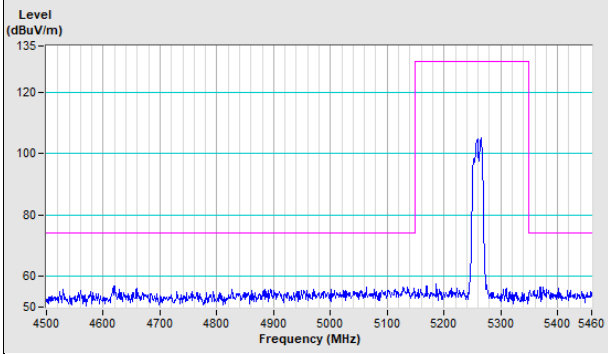
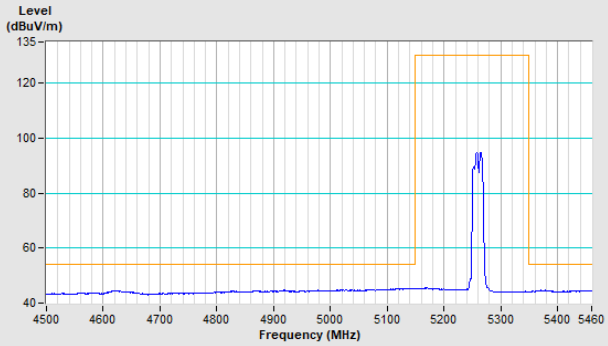
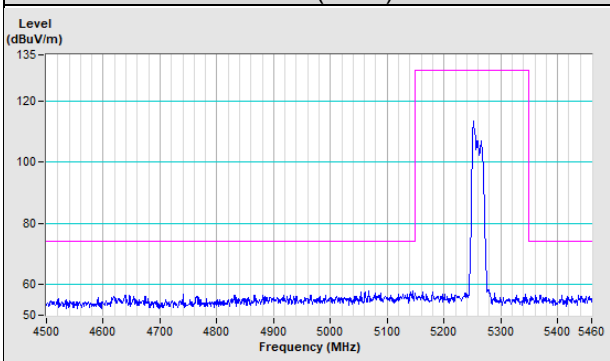
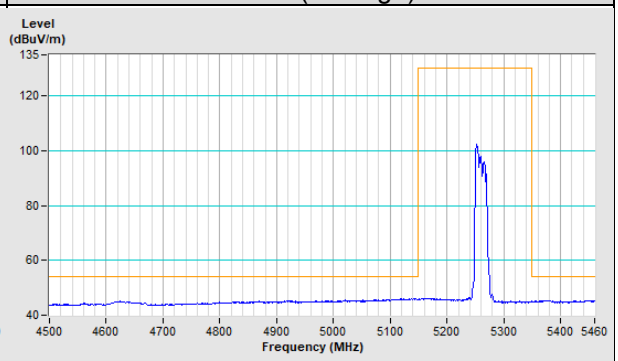
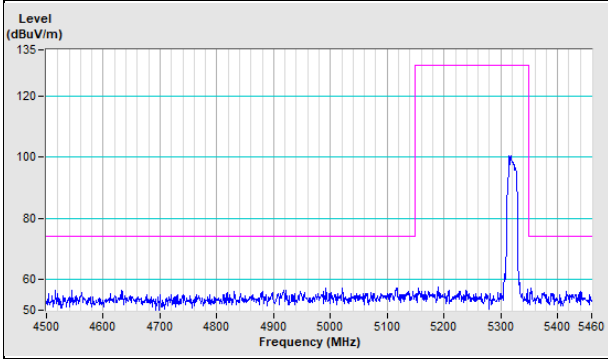
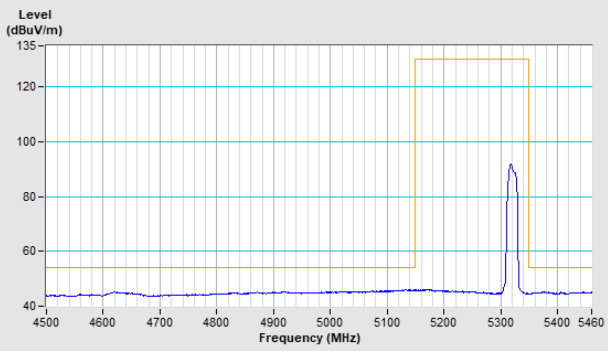
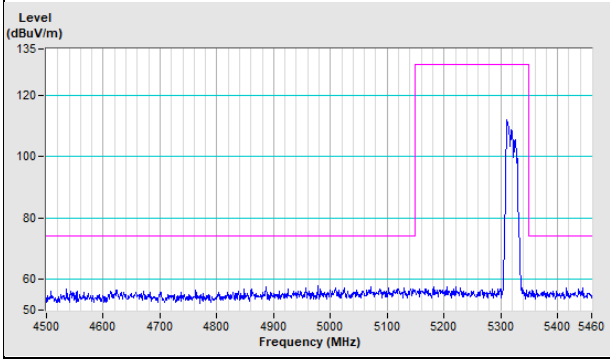
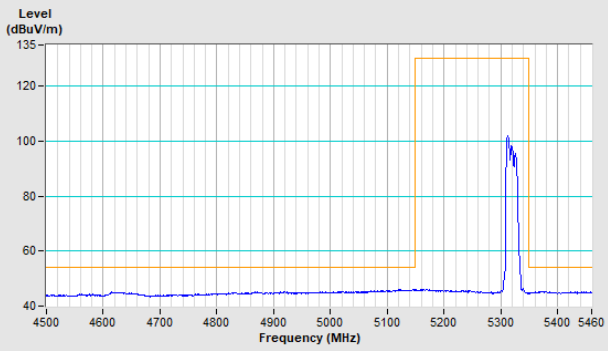
Vertical (Average)

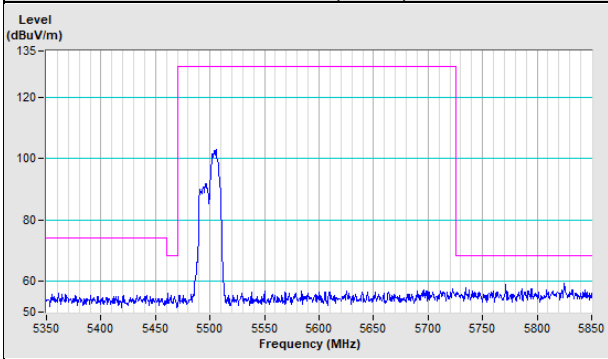
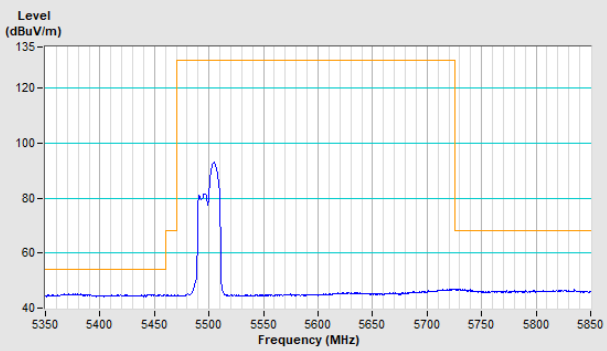
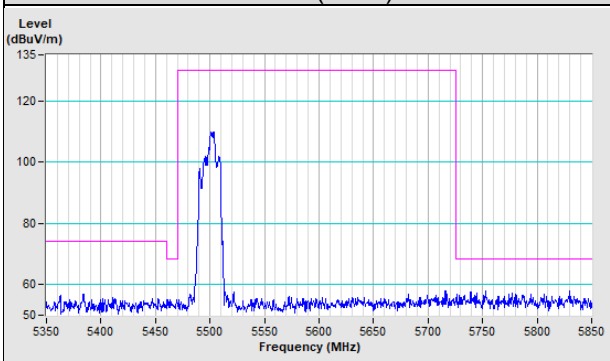
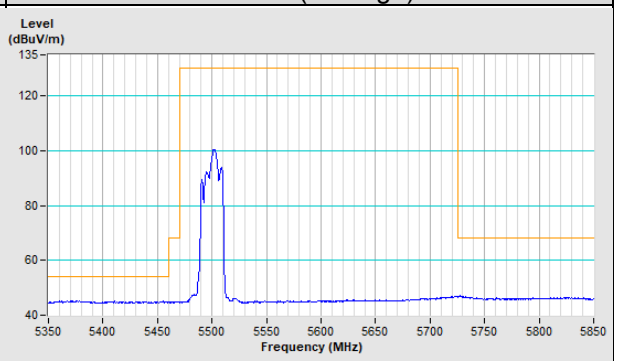
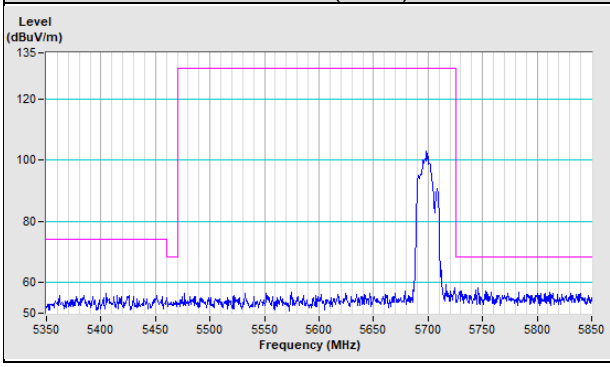
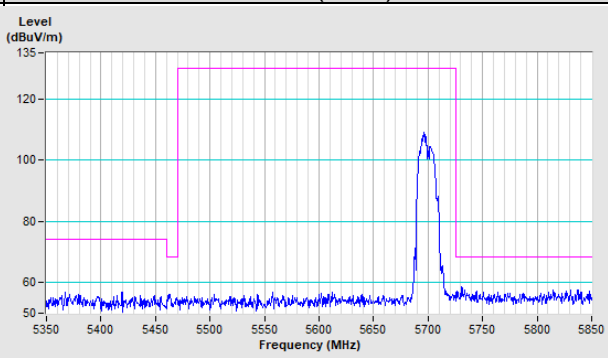


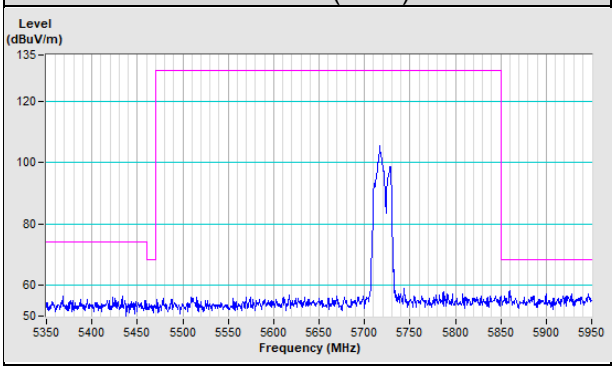
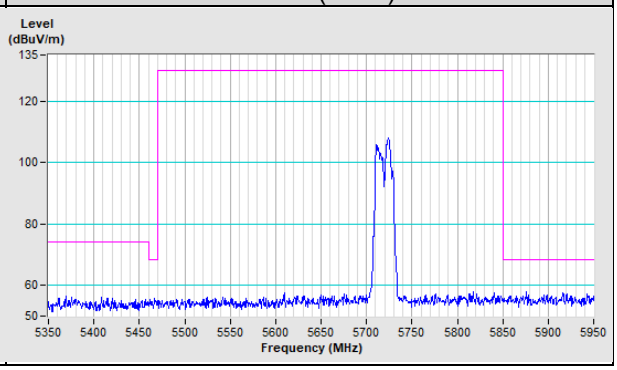
802.11a Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11a Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

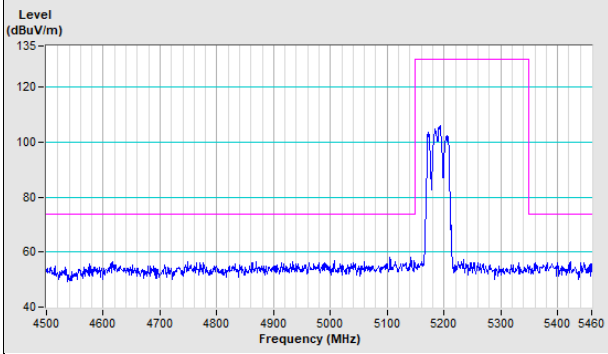
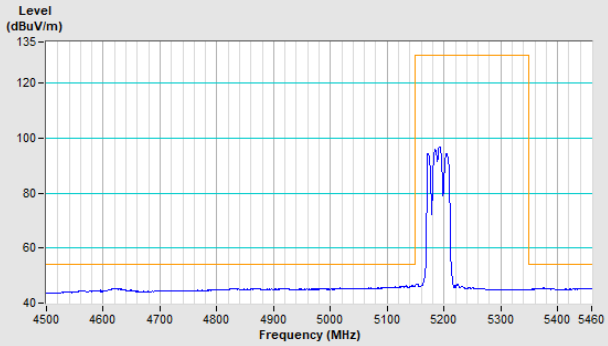
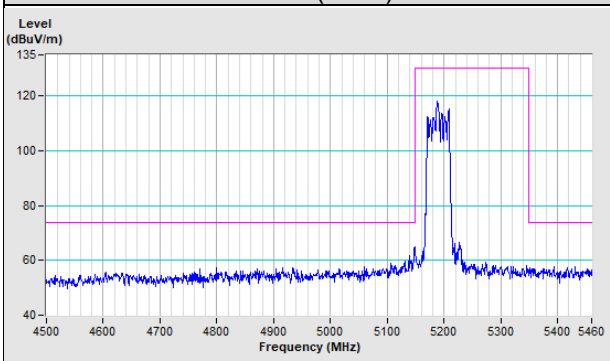
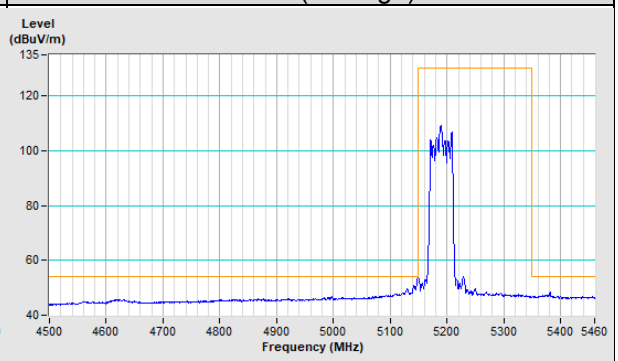
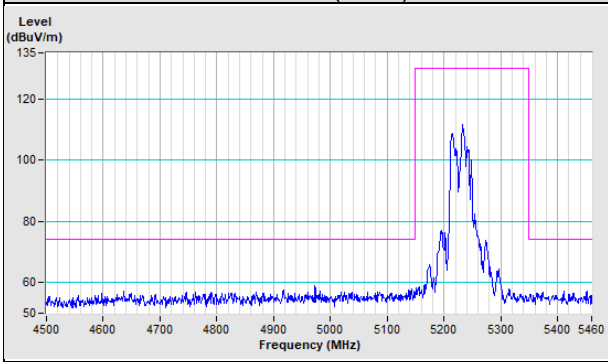
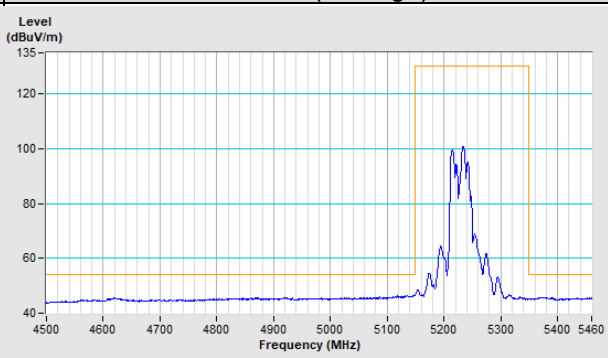
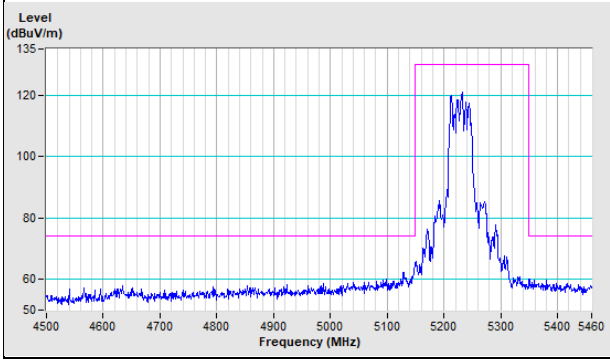
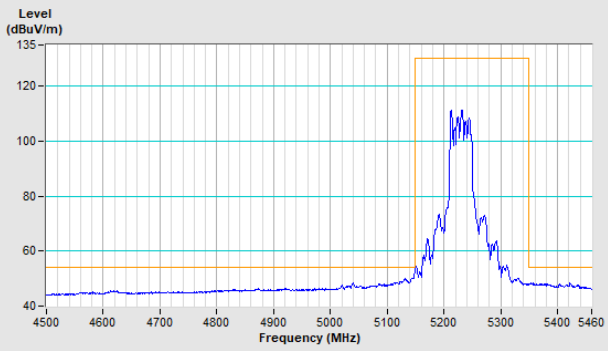
802.11a Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11a Channel 140	
Horizontal (Peak)	Vertical (Peak)
	
802.11a Channel 144	
Horizontal (Peak)	Vertical (Peak)
	

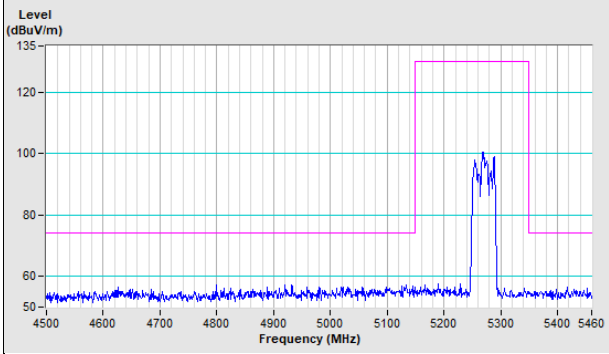
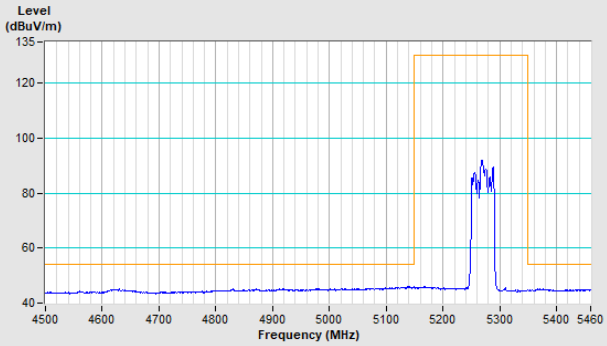
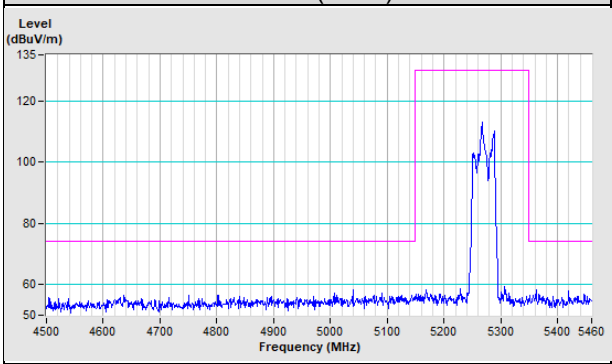
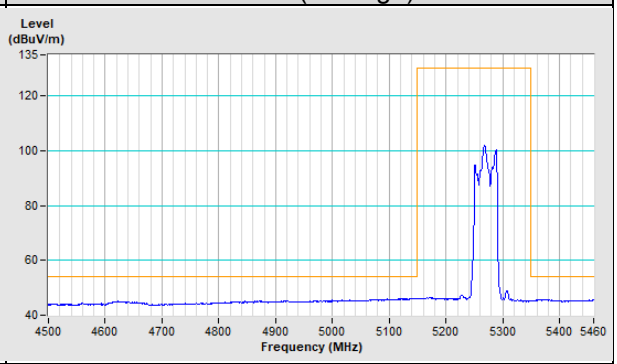
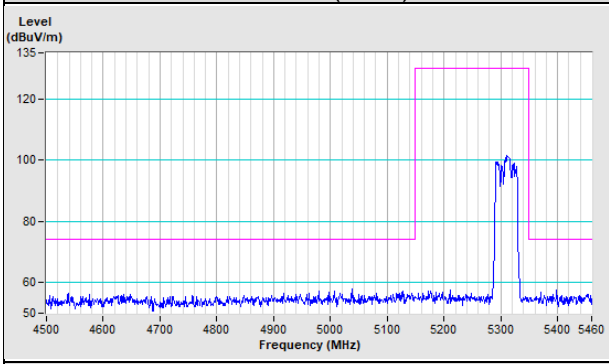
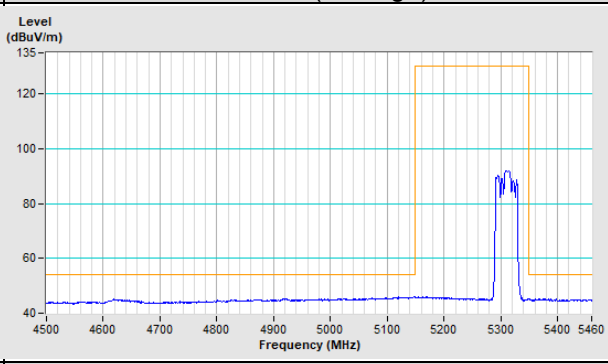
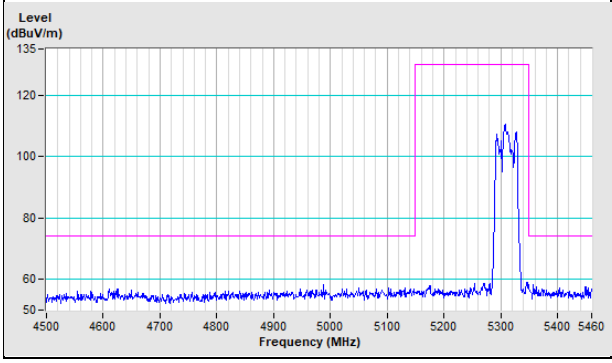
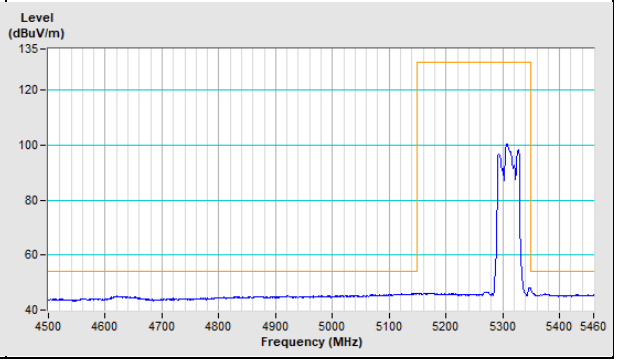
802.11ax (HE20) Channel 36	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE20) Channel 48	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

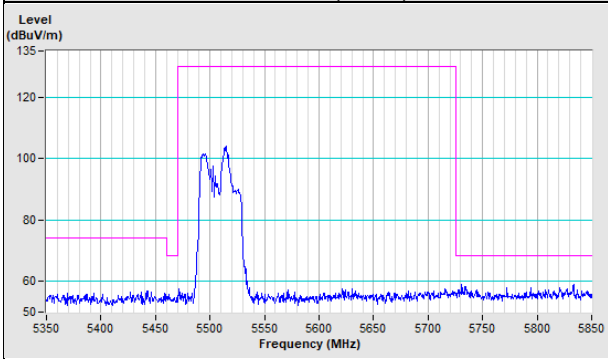
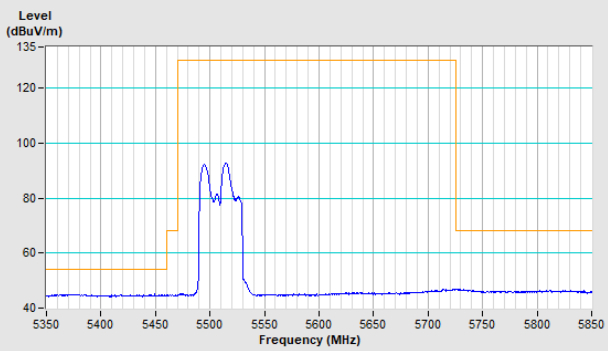
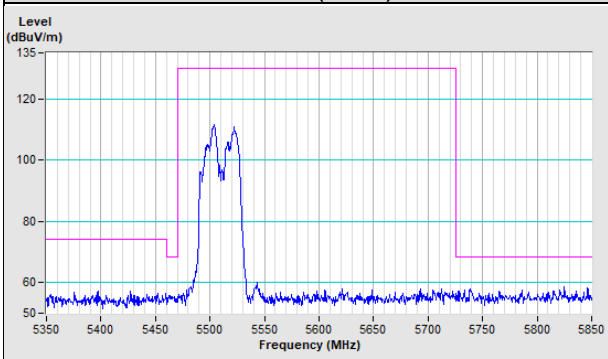
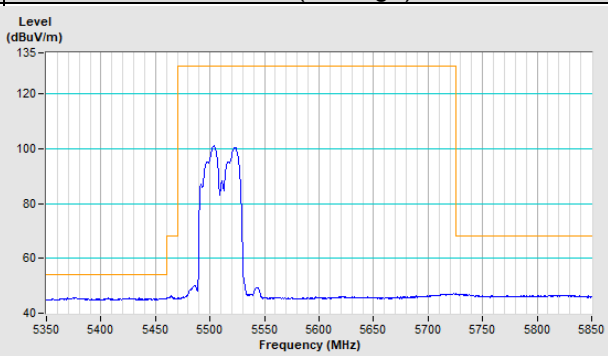
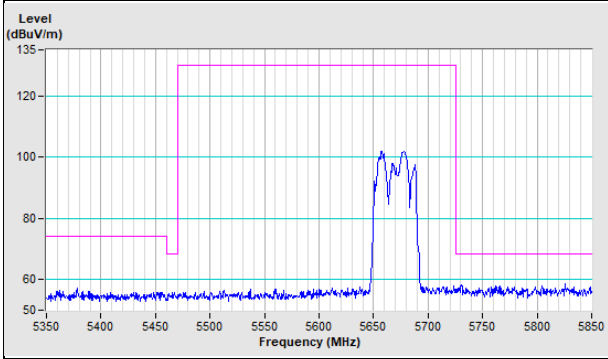
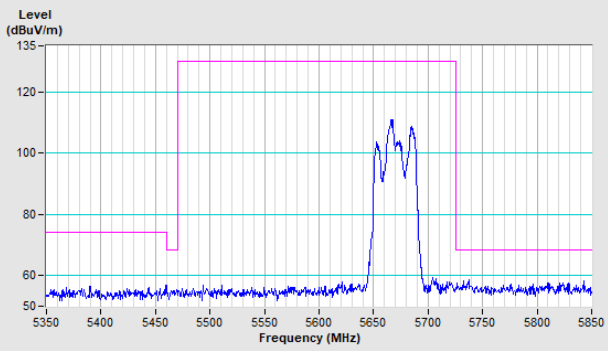
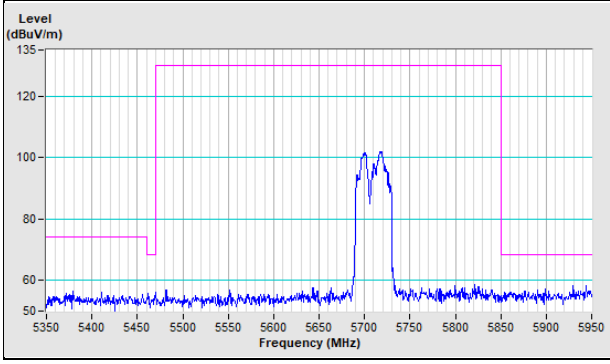
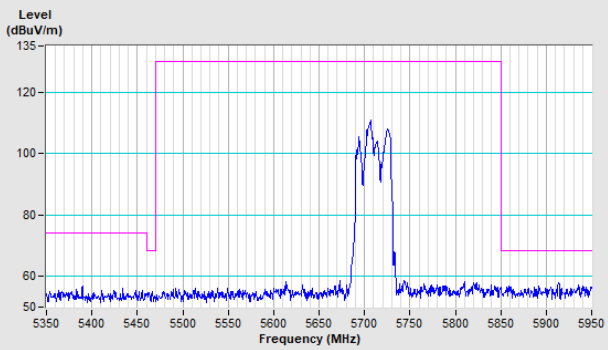
802.11ax (HE20) Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE20) Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

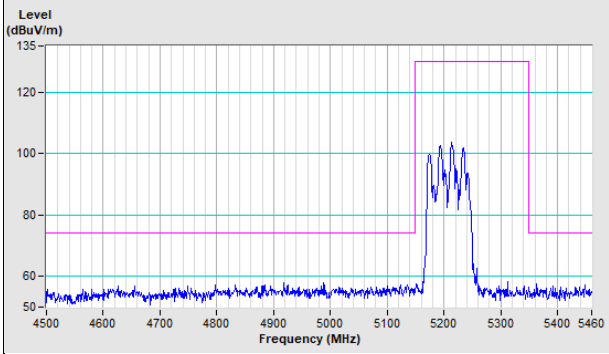
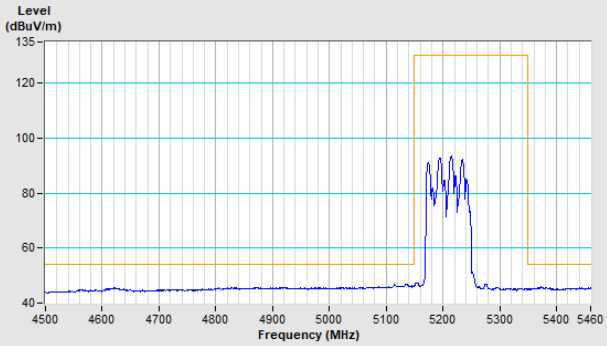
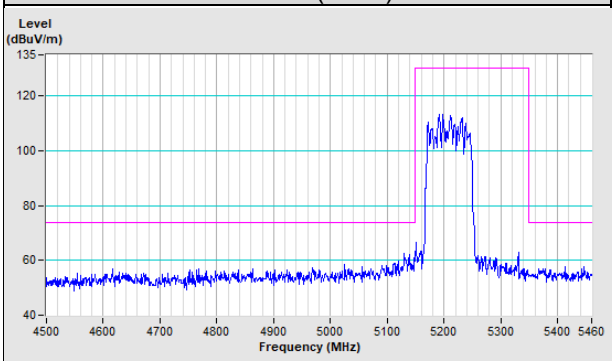
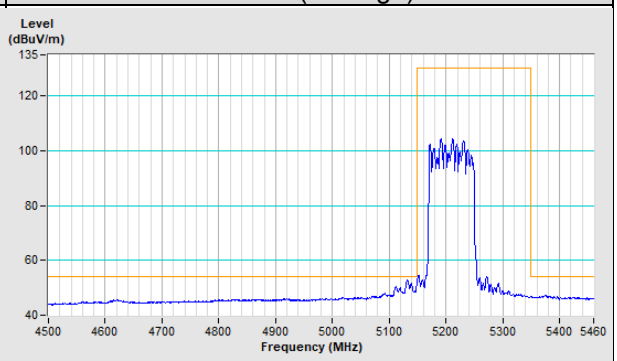
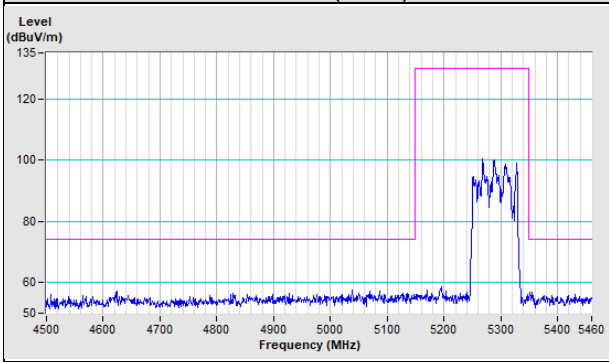
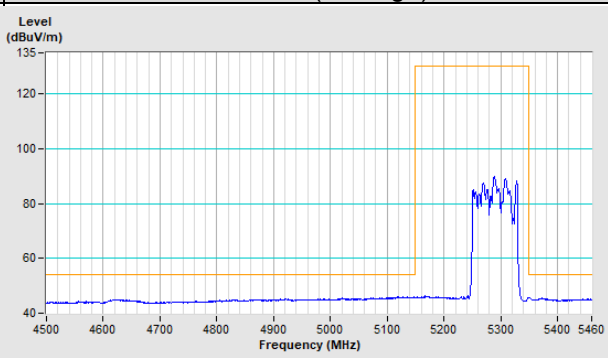
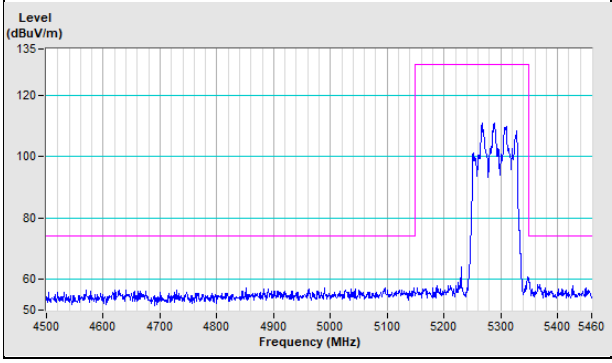
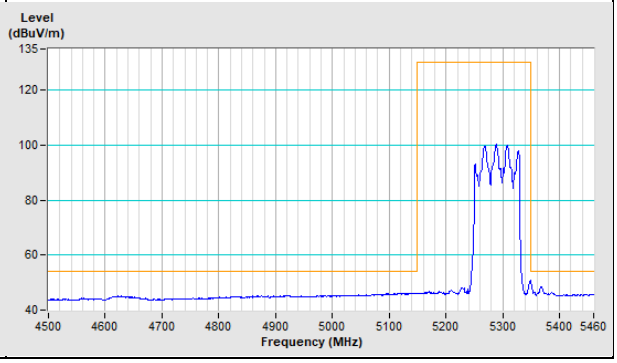
802.11ax (HE20) Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE20) Channel 140	
Horizontal (Peak)	Vertical (Peak)
	

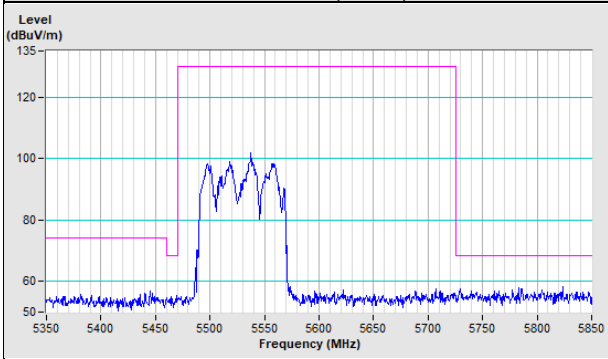
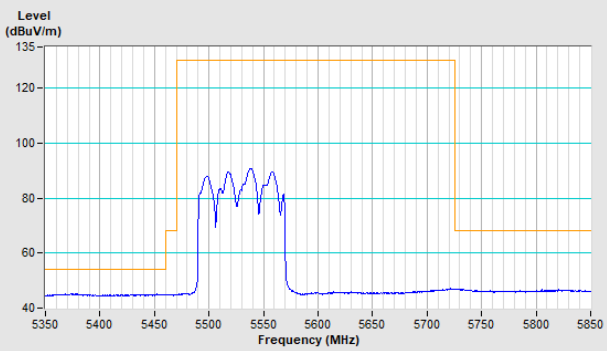
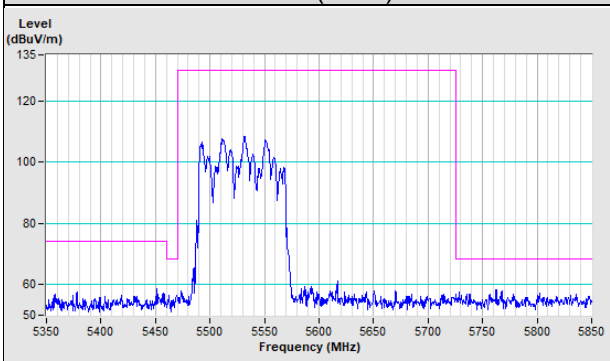
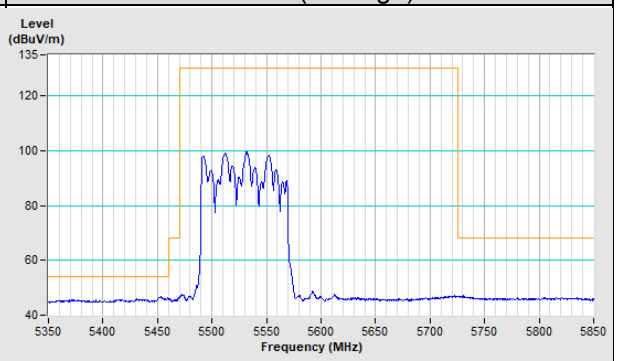
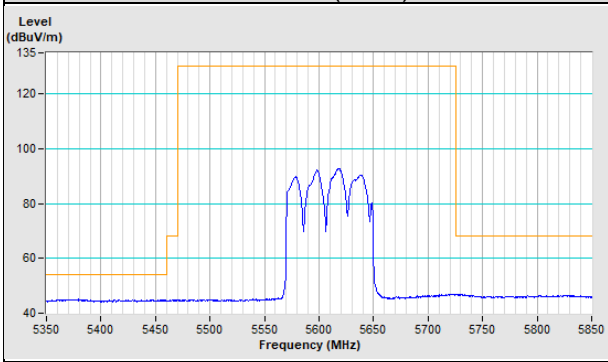
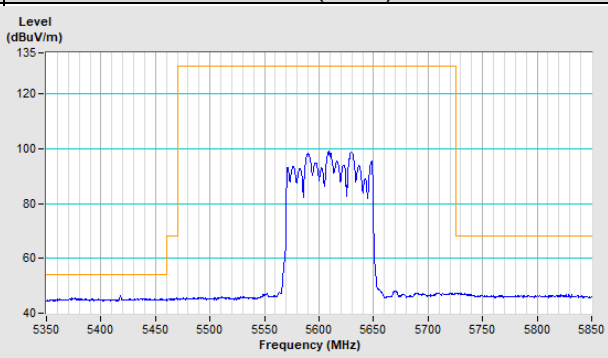
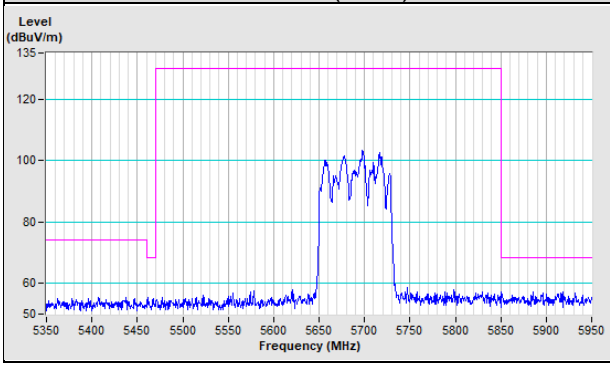
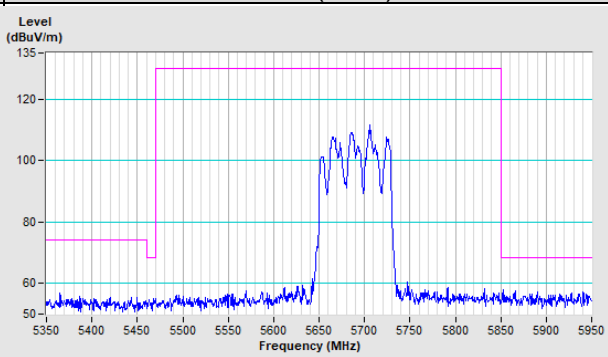
802.11ac (VHT20) Channel 144	
Horizontal (Peak)	Vertical (Peak)
	

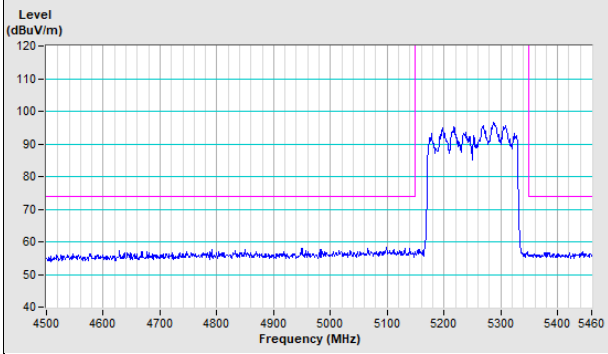
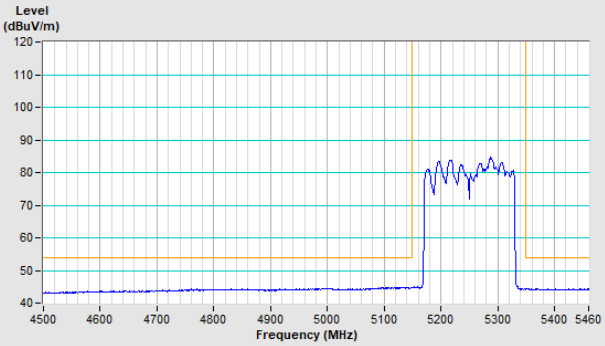
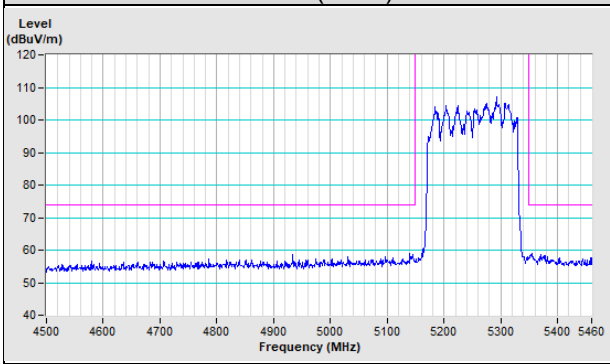
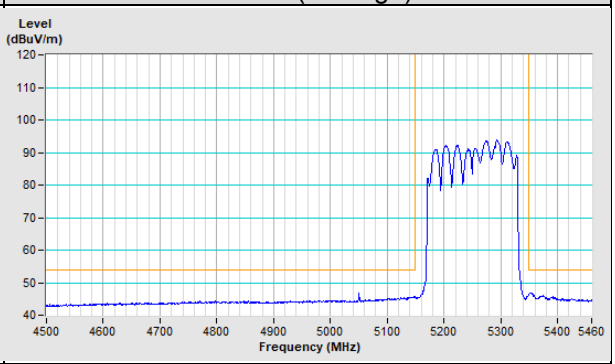
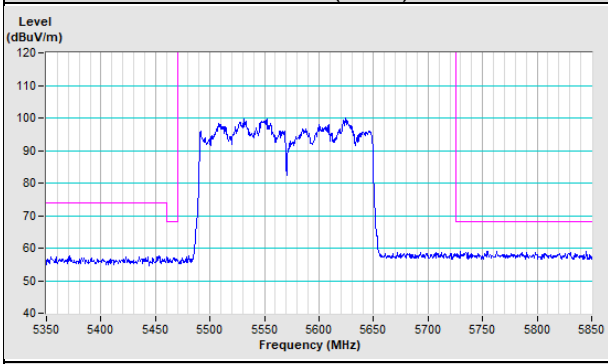
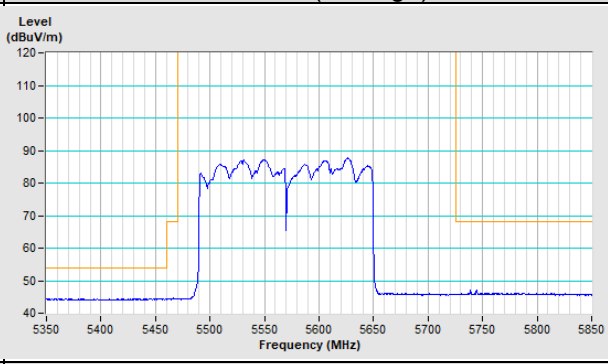
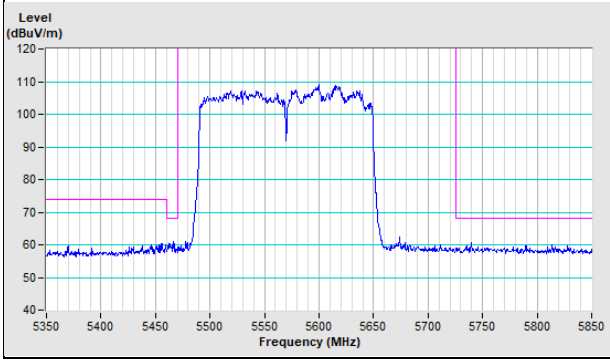
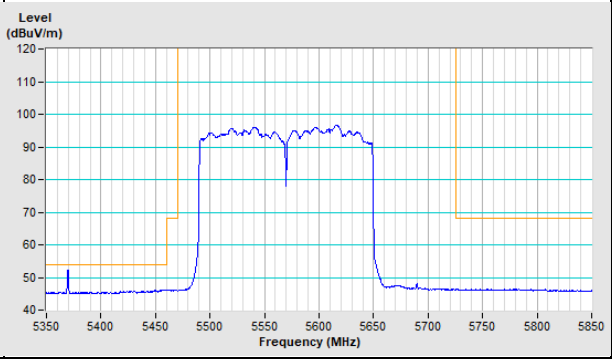
802.11ax (HE40) Channel 38	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 46	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE40) Channel 54	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 62	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE40) Channel 102	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 134	
Horizontal (Peak)	Vertical (Peak)
	
802.11ax (HE40) Channel 142	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE80) Channel 42	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80) Channel 58	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

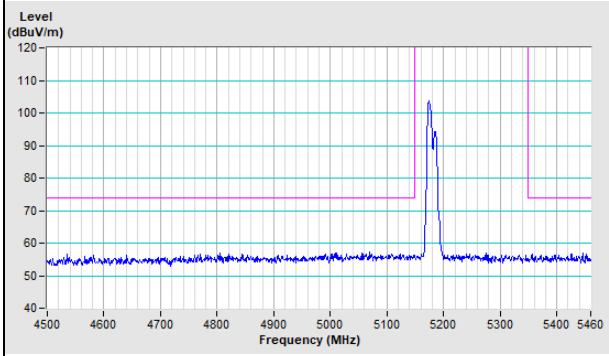
802.11ax (HE80) Channel 106	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80) Channel 122	
Horizontal (Peak)	Vertical (Peak)
	
802.11ax (HE80) Channel 138	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE80+80) Channel 42+58	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80+80) Channel 106+122	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

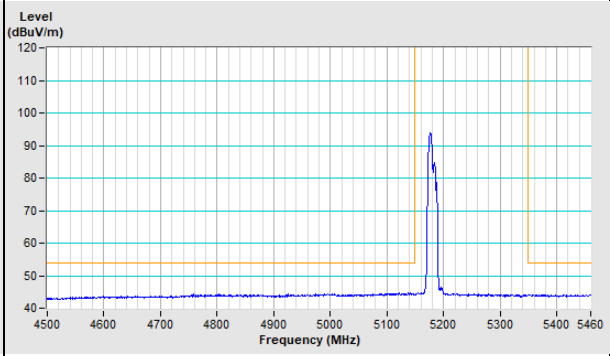
Mode B

802.11a Channel 36

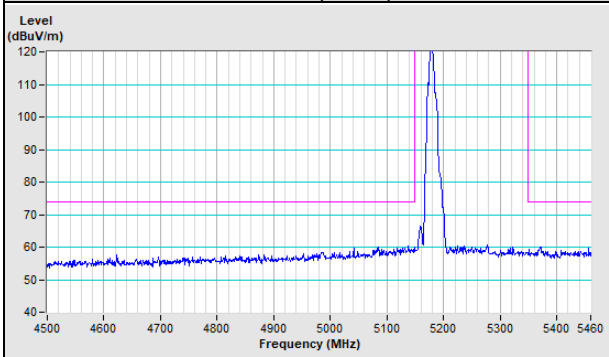
Horizontal (Peak)



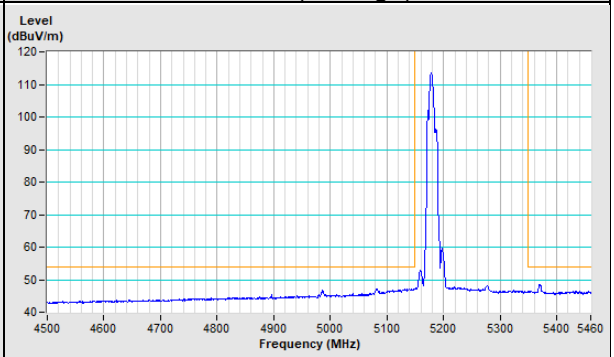
Horizontal (Average)



Vertical (Peak)

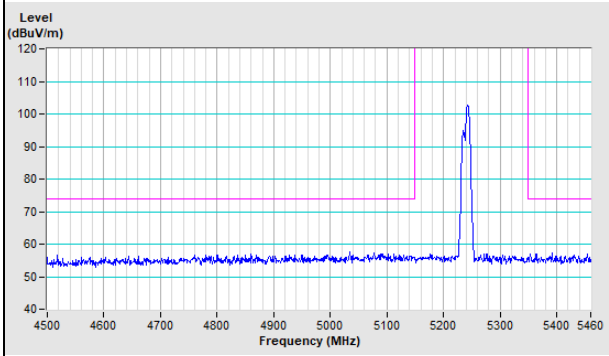


Vertical (Average)

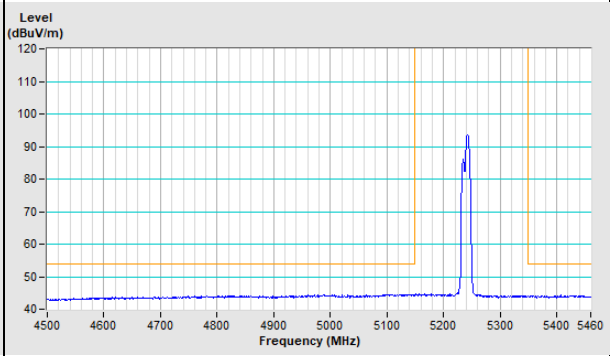


802.11a Channel 48

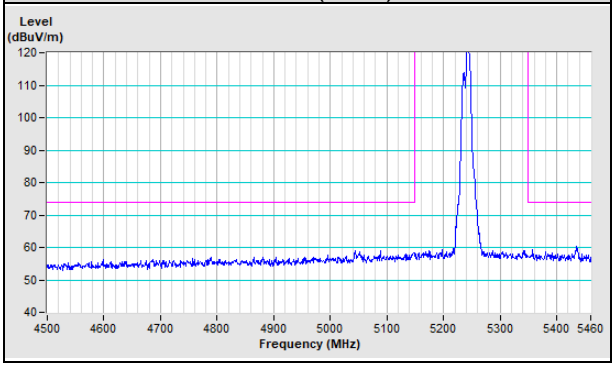
Horizontal (Peak)



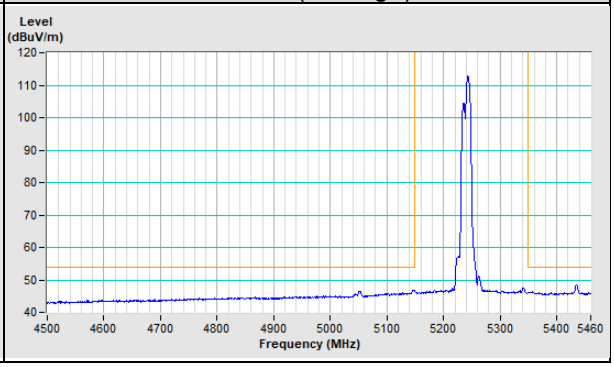
Horizontal (Average)

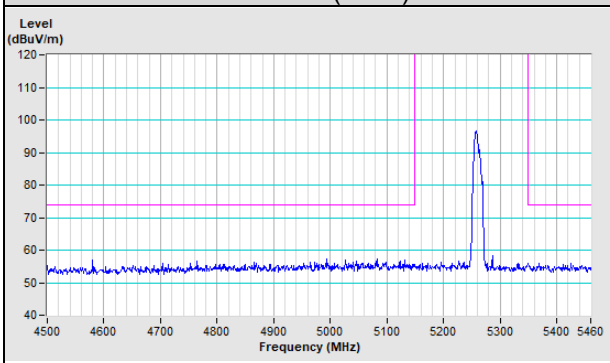
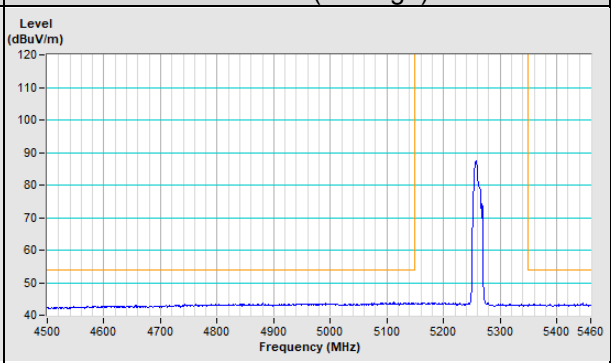
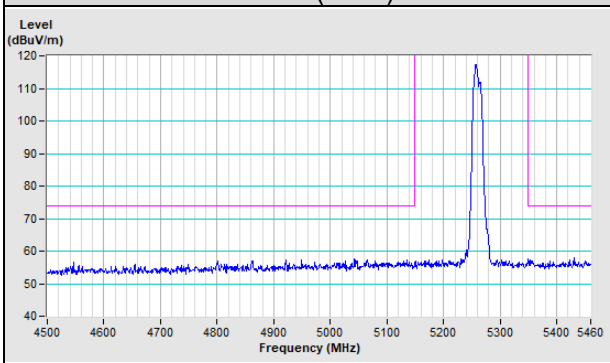
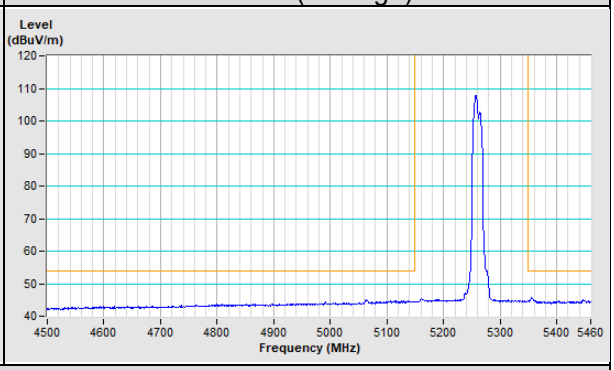
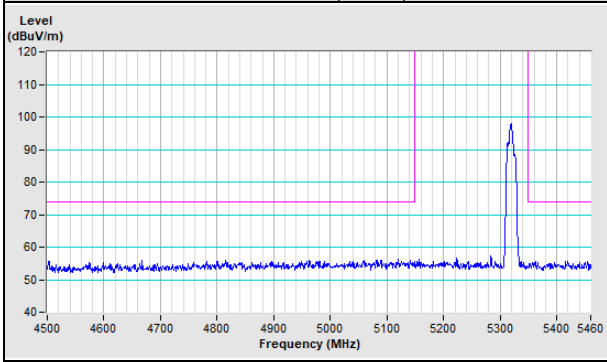
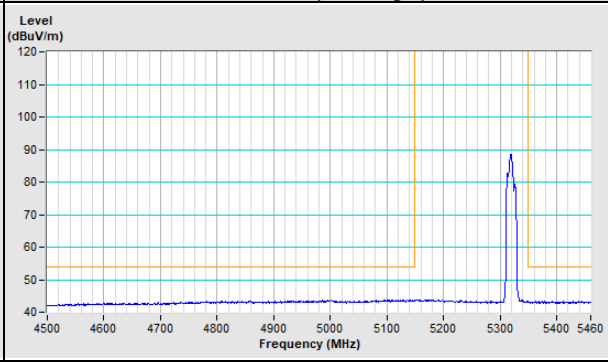
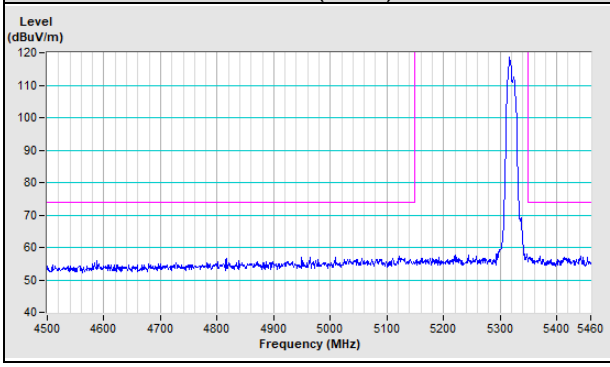
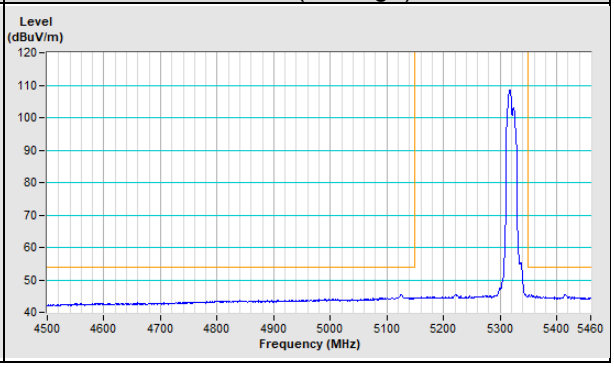


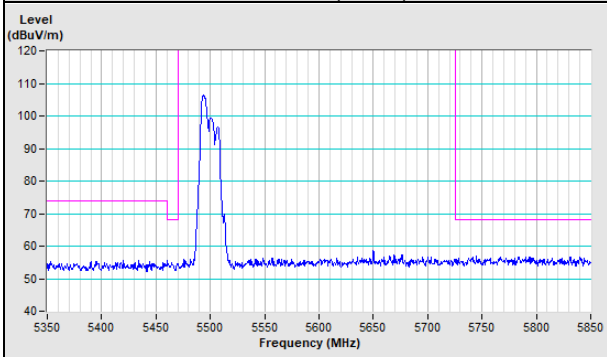
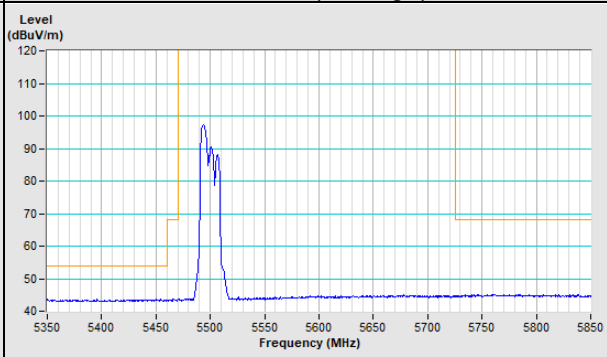
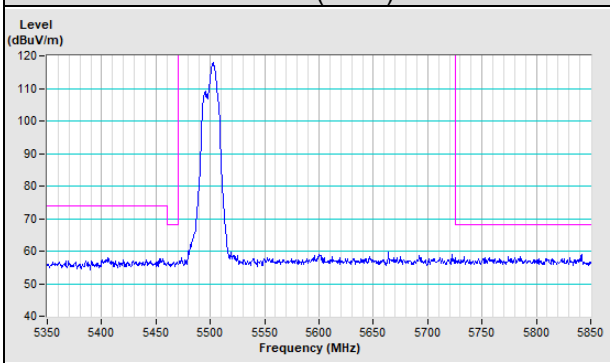
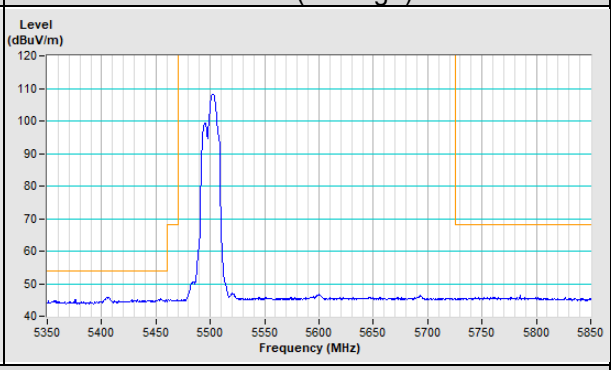
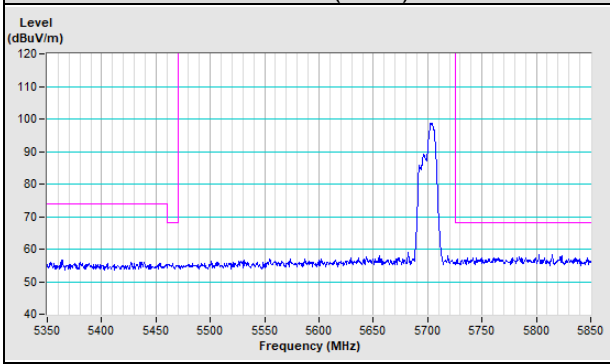
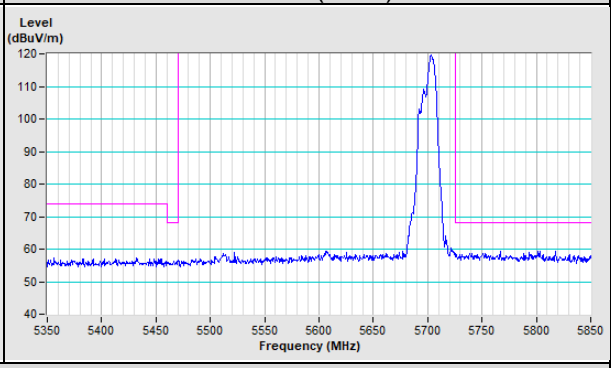
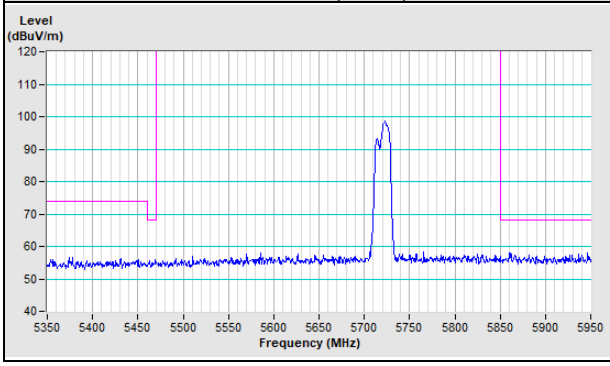
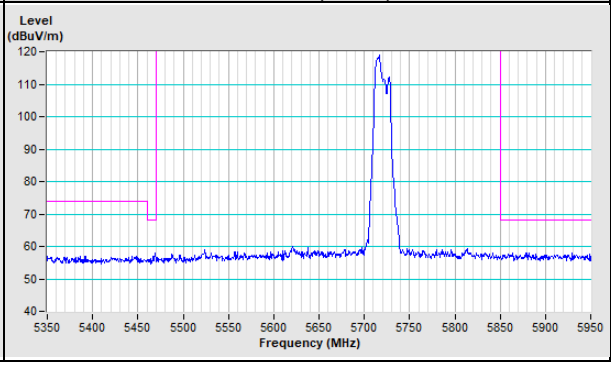
Vertical (Peak)

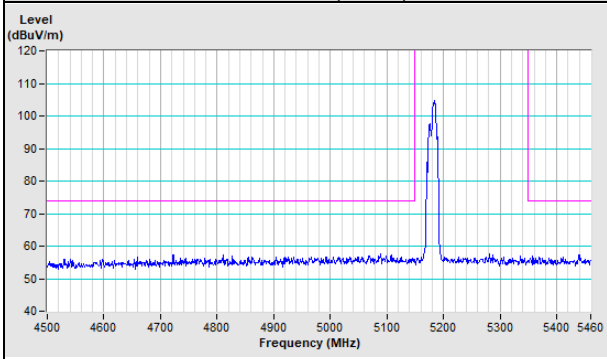
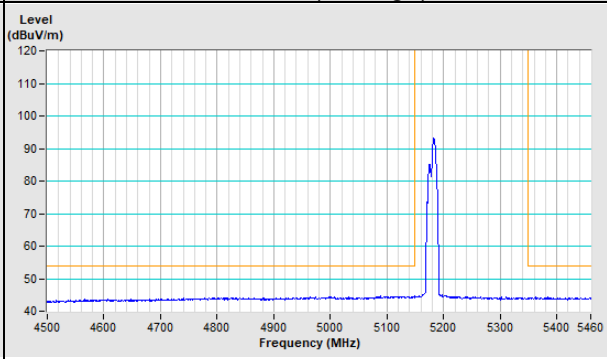
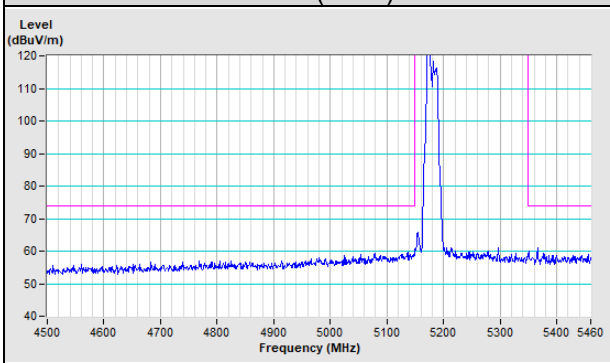
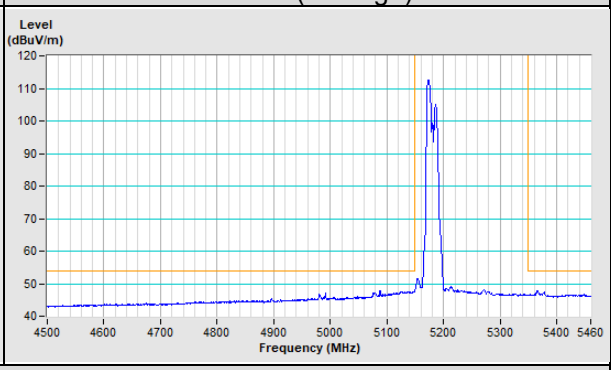
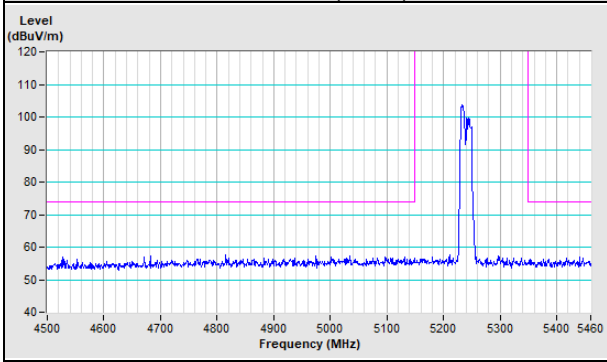
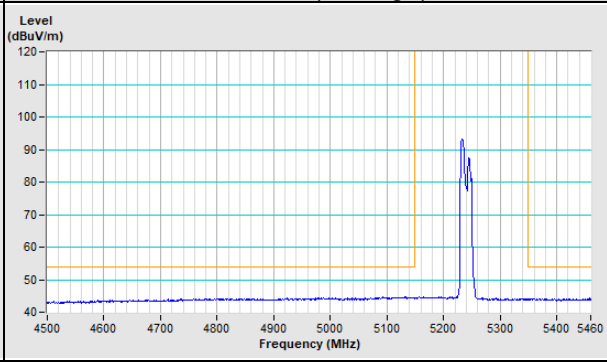
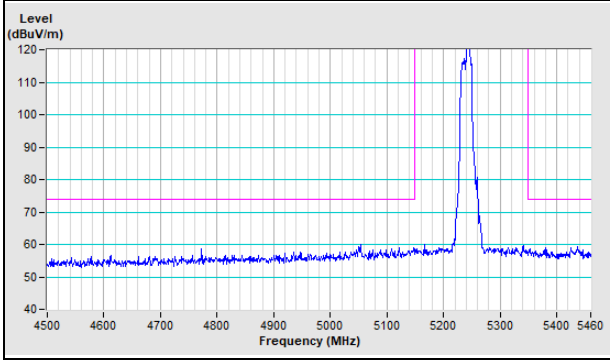
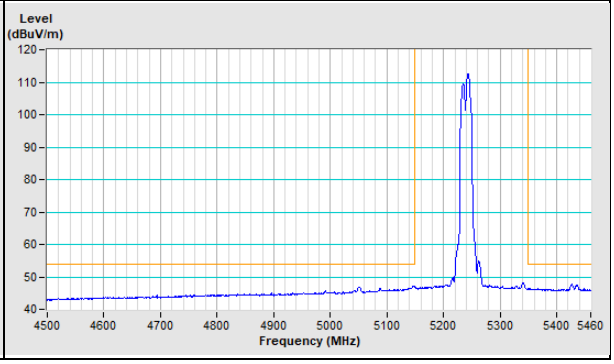


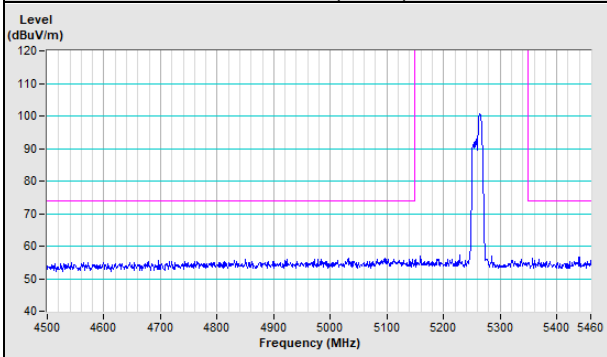
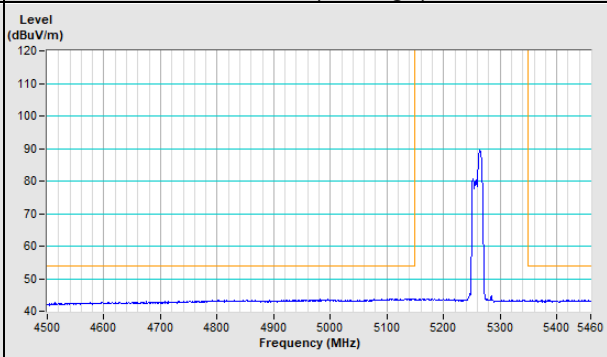
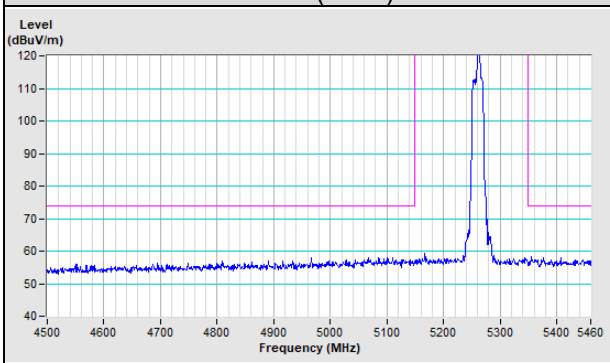
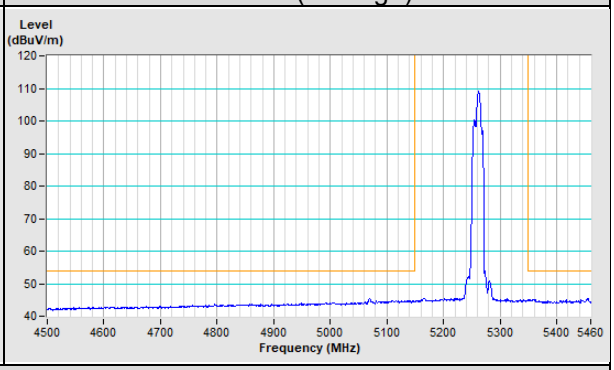
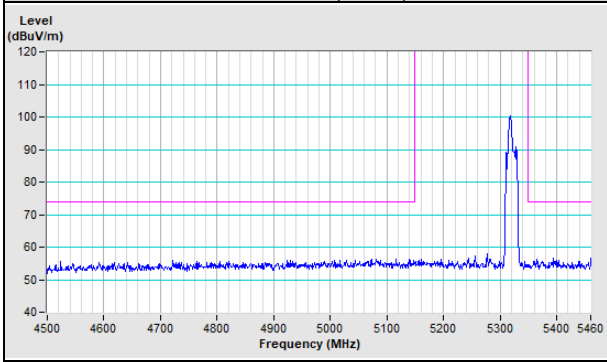
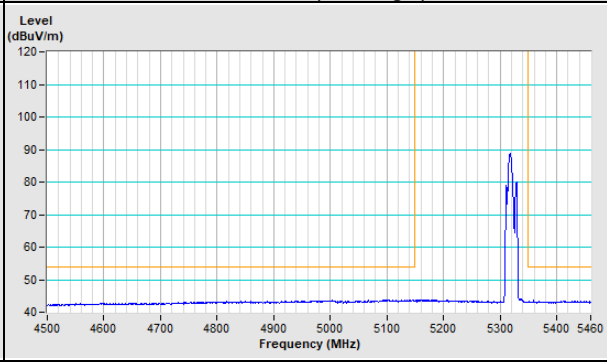
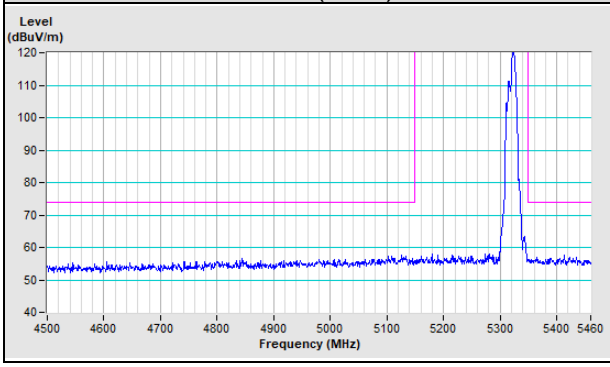
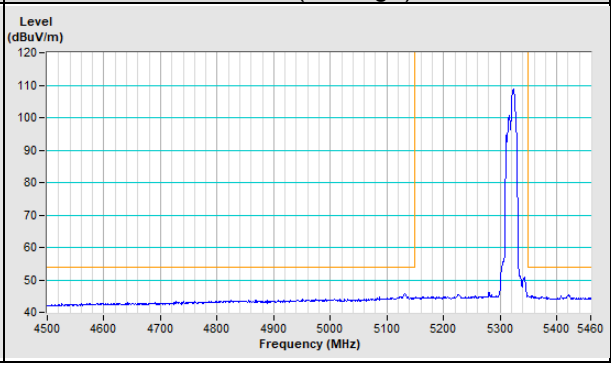
Vertical (Average)

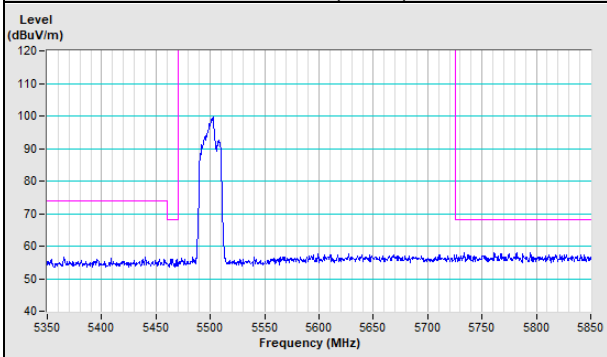
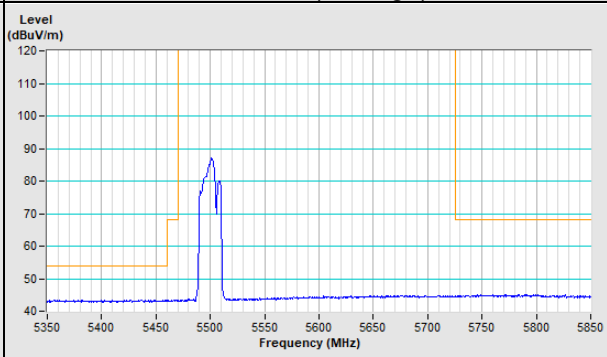
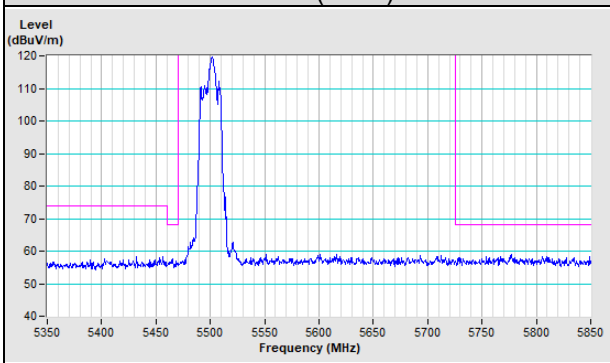
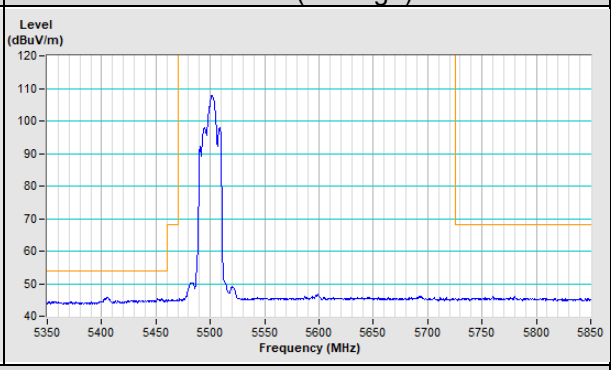
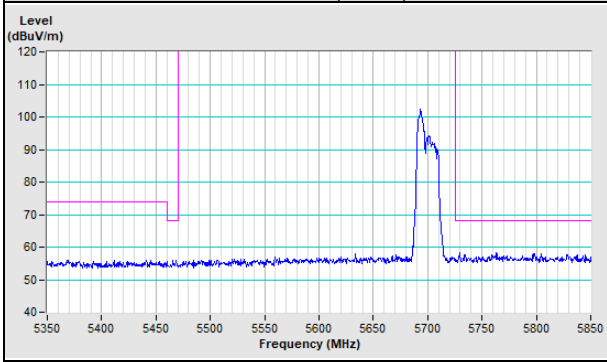
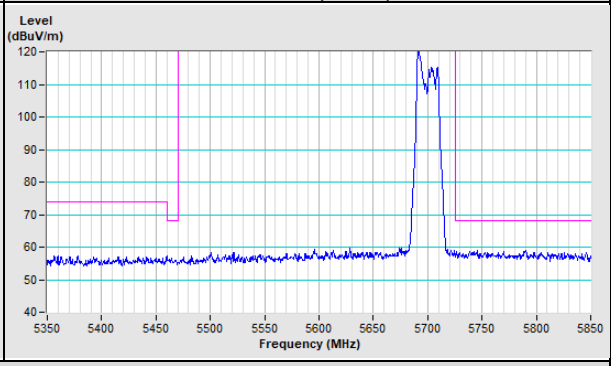
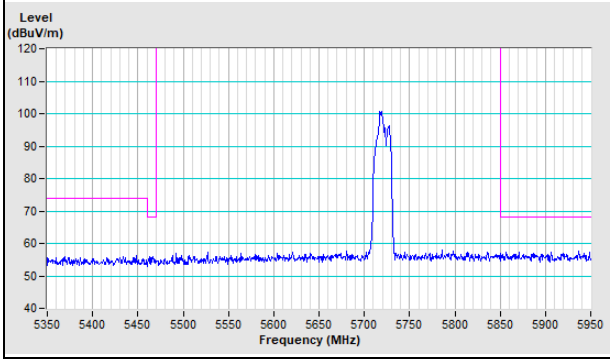
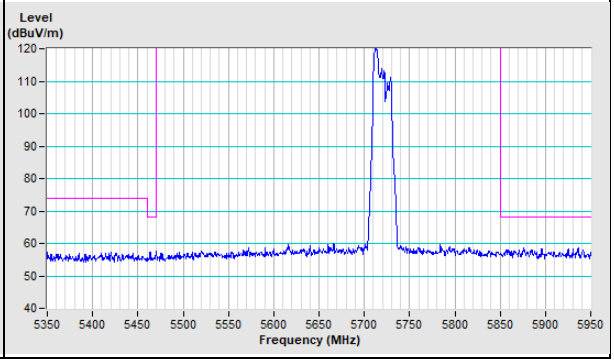


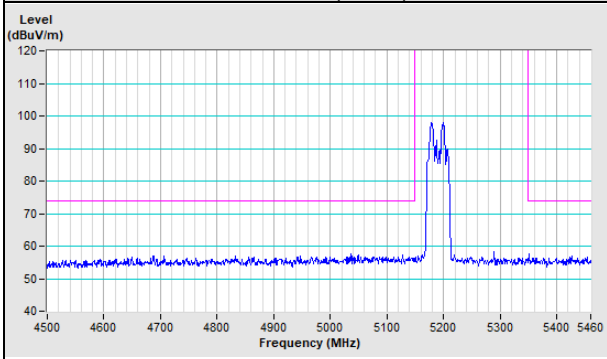
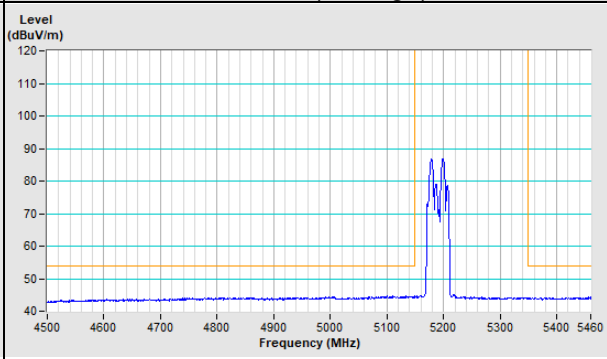
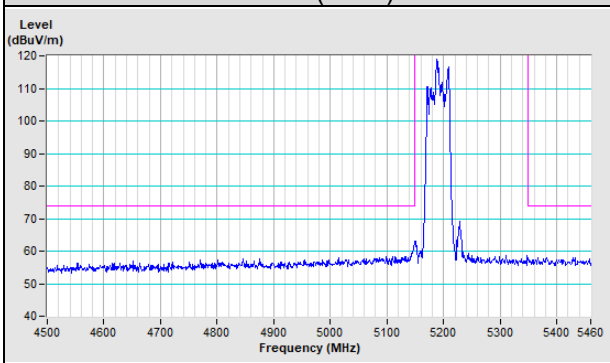
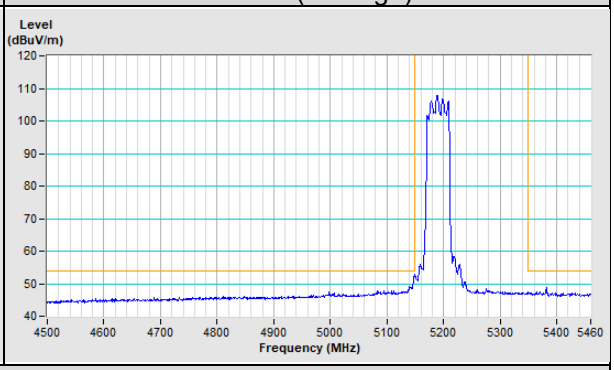
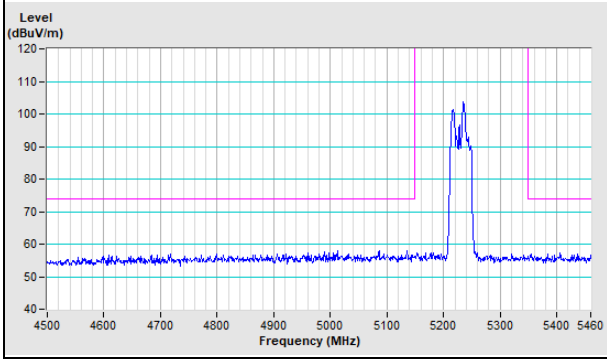
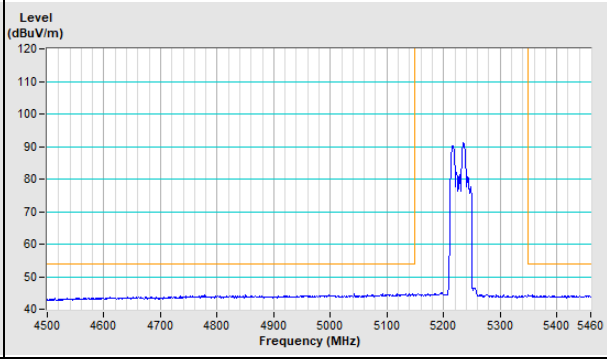
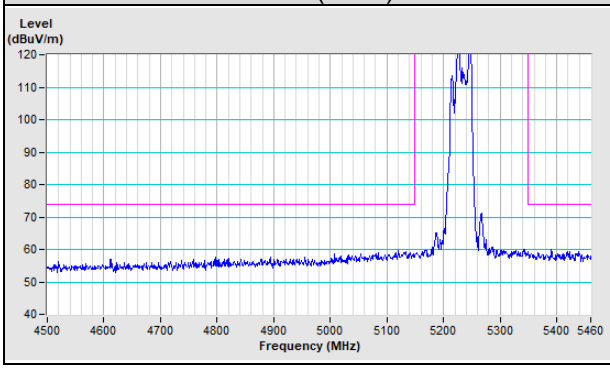
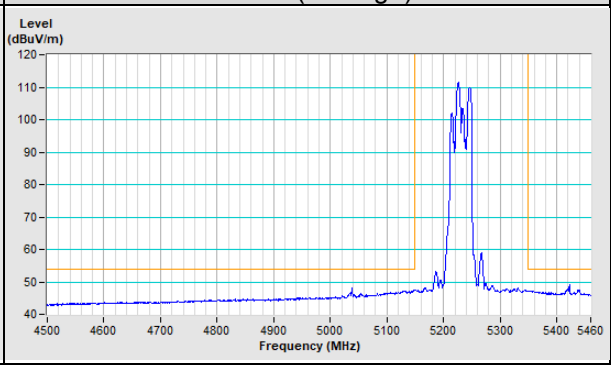
802.11a Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11a Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

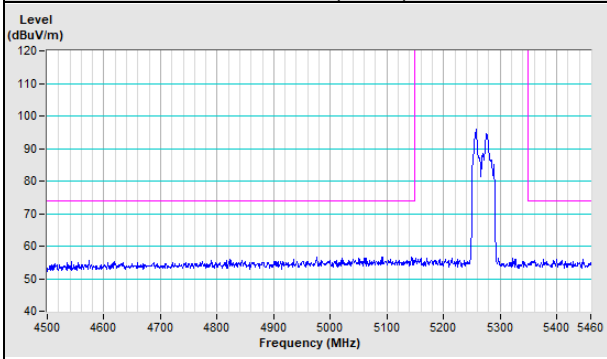
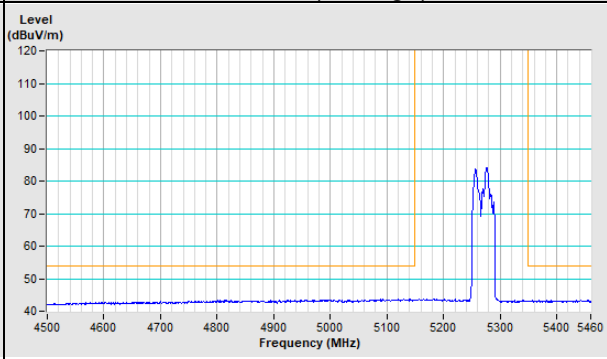
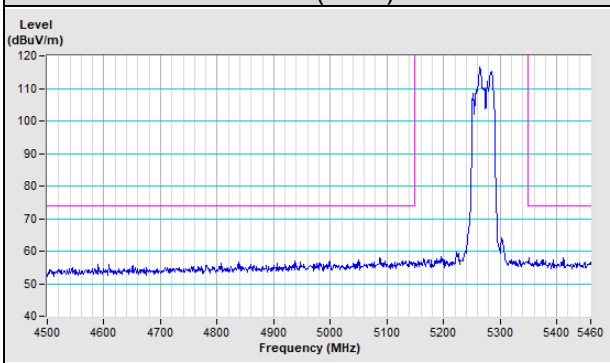
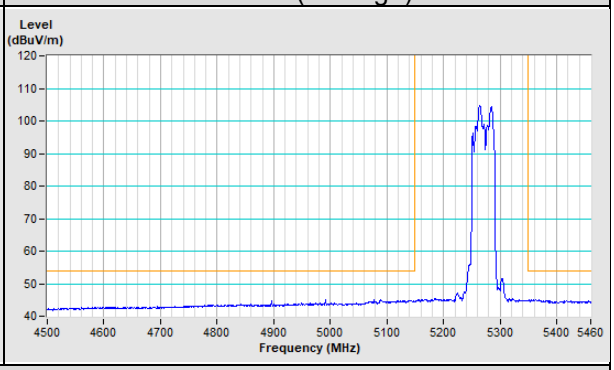
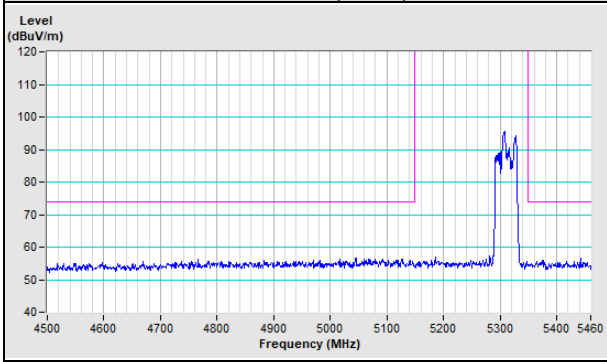
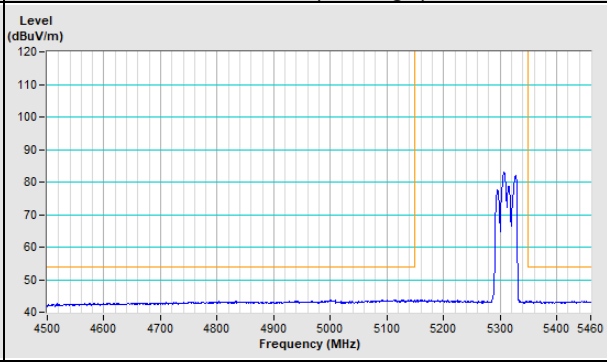
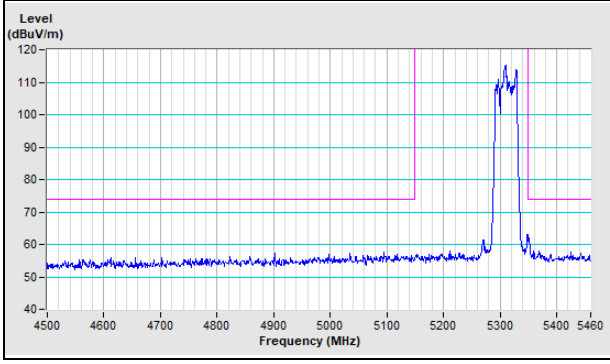
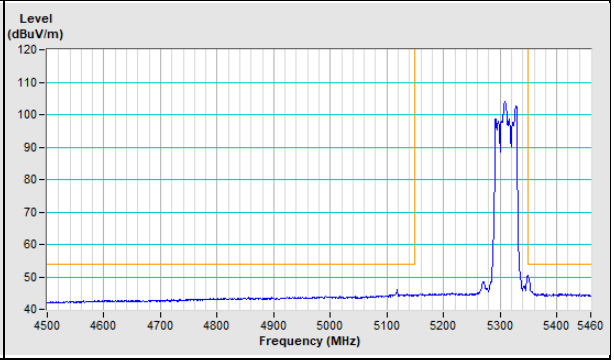
802.11a Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11a Channel 140	
Horizontal (Peak)	Vertical (Peak)
	
802.11a Channel 144	
Horizontal (Peak)	Vertical (Peak)
	

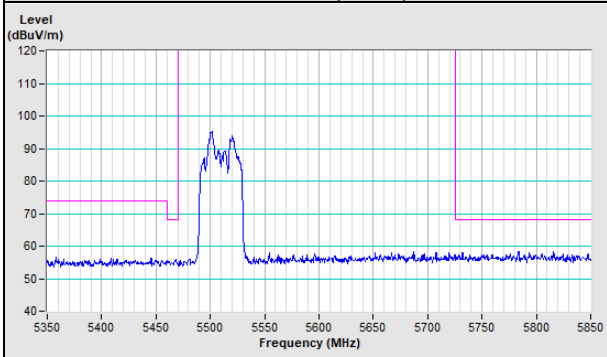
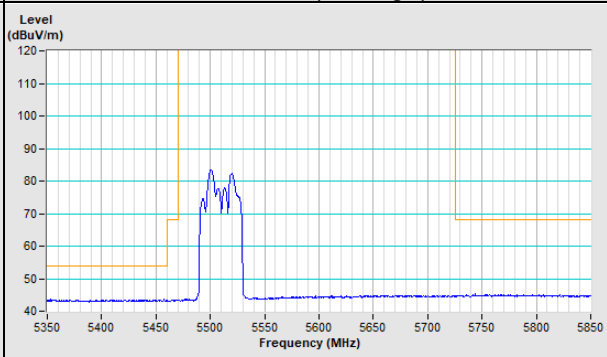
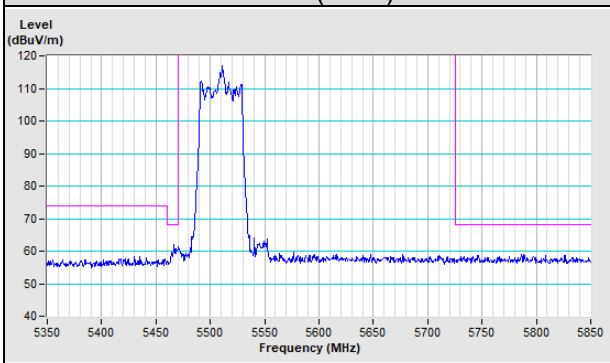
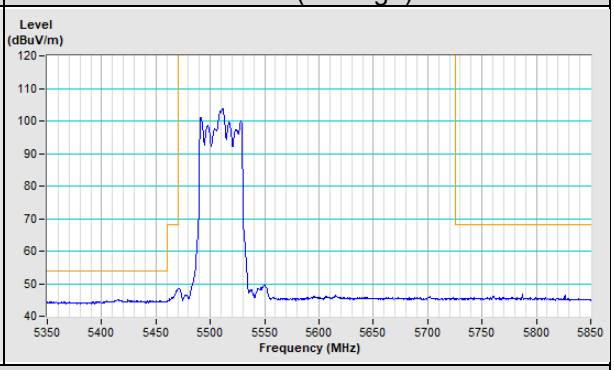
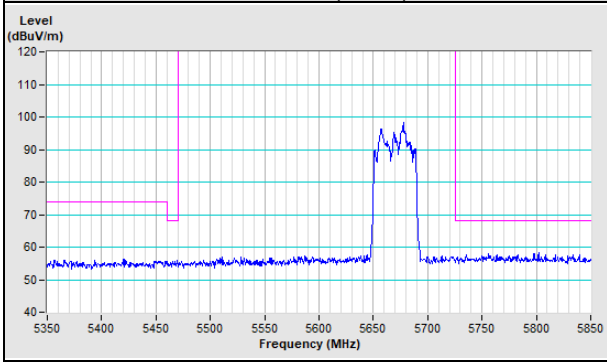
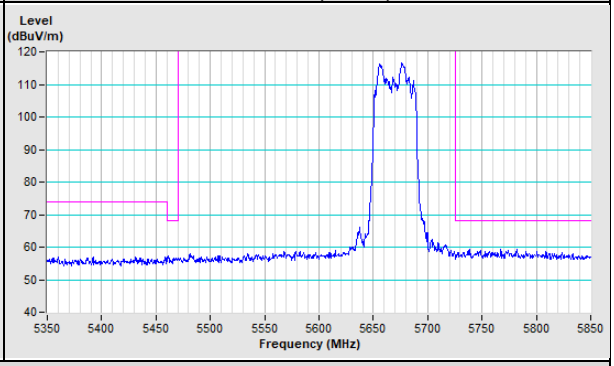
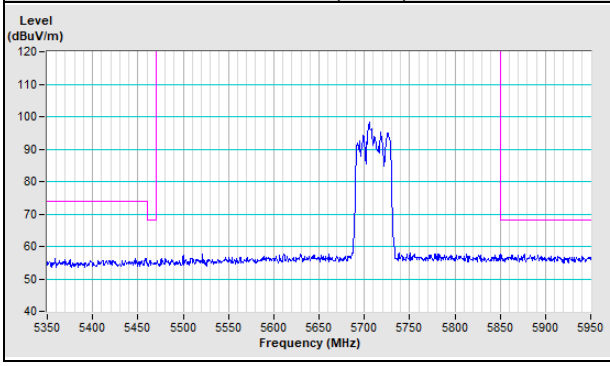
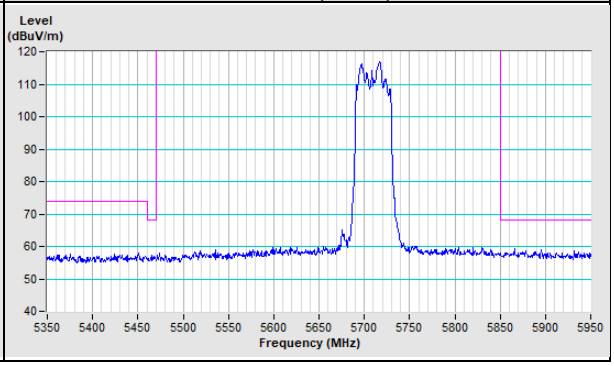
802.11ax (HE20) Channel 36	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE20) Channel 48	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

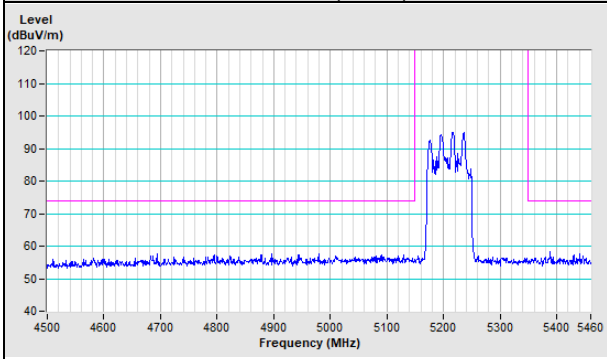
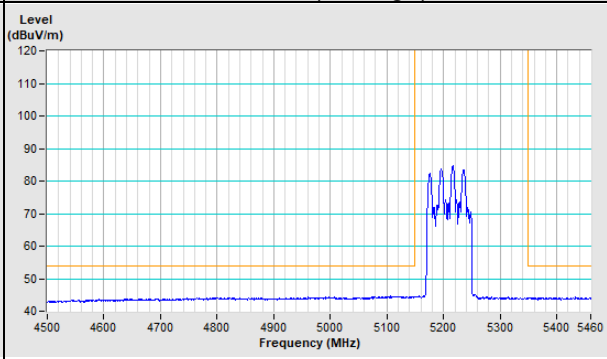
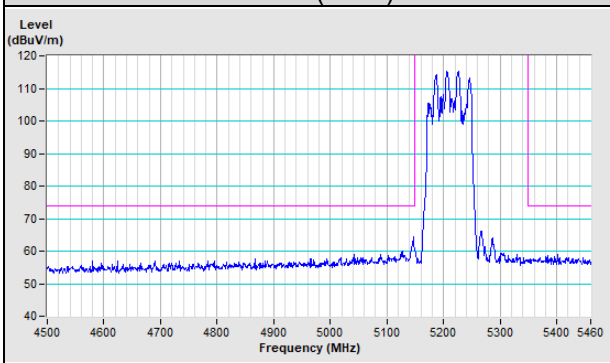
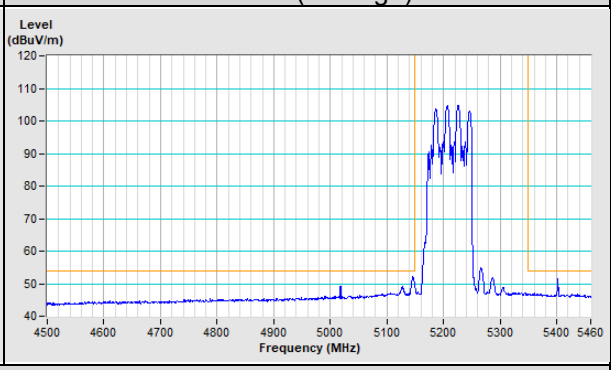
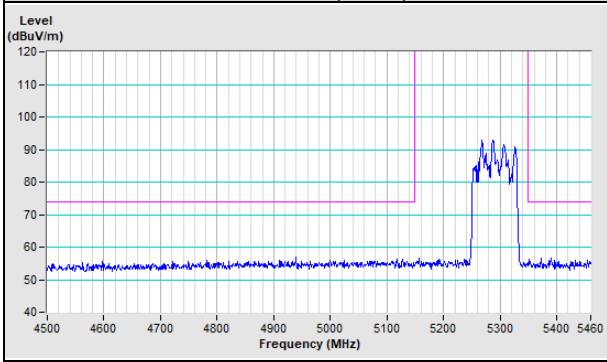
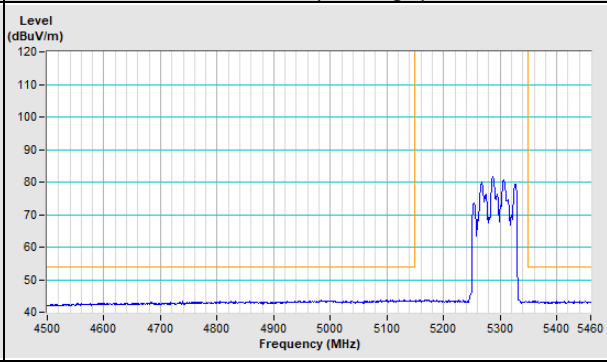
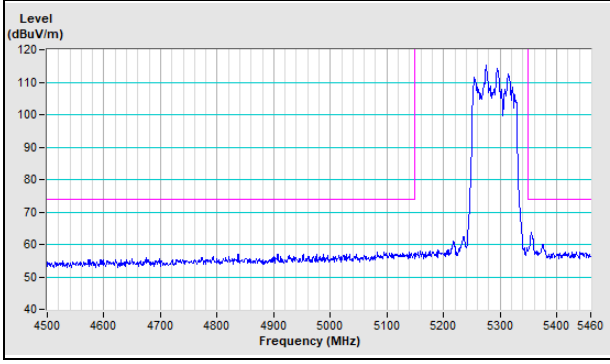
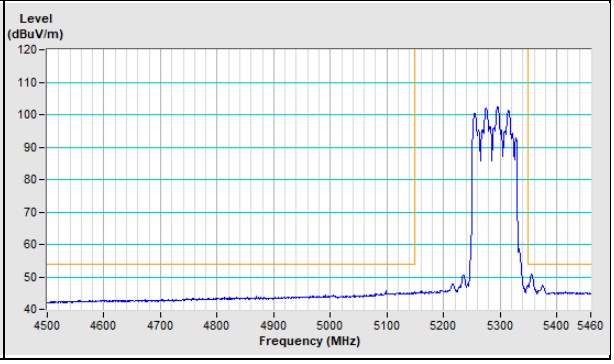
802.11ax (HE20) Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE20) Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

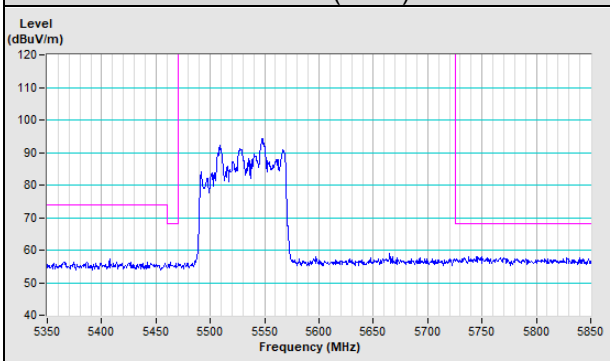
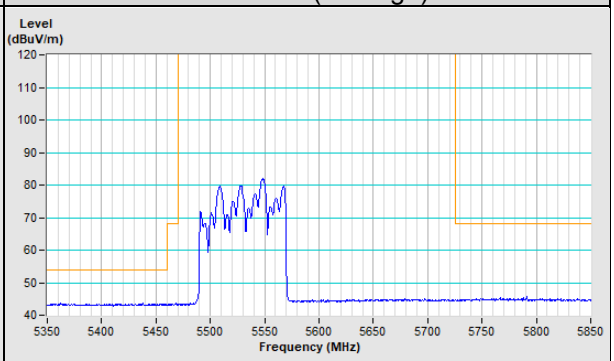
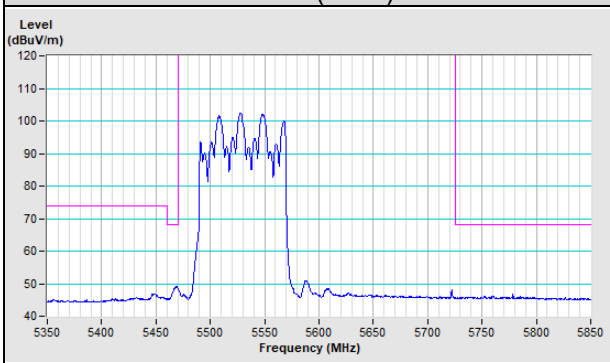
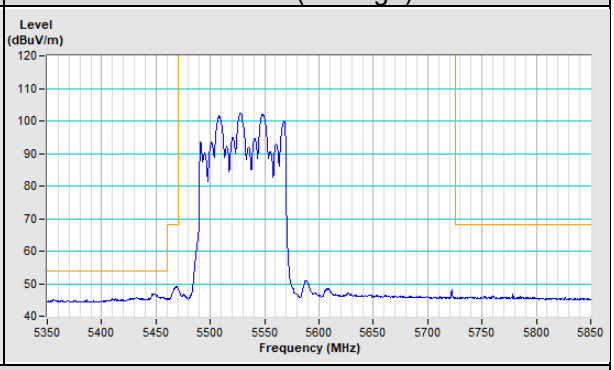
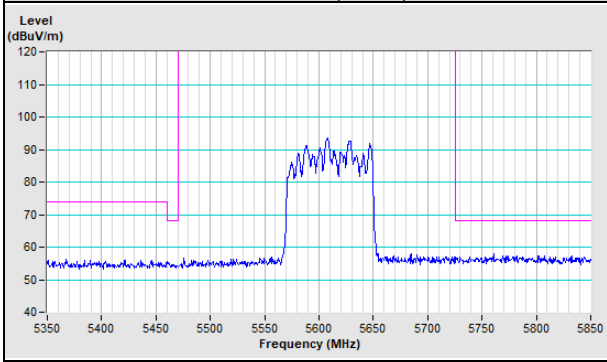
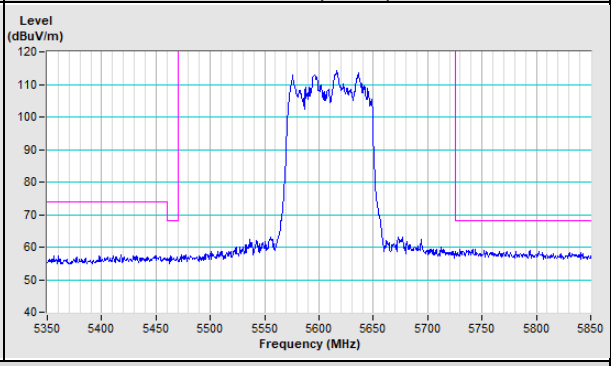
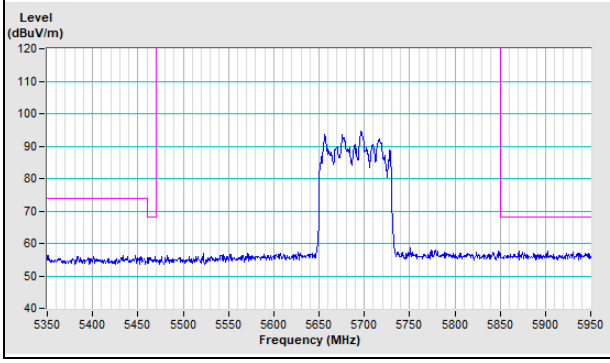
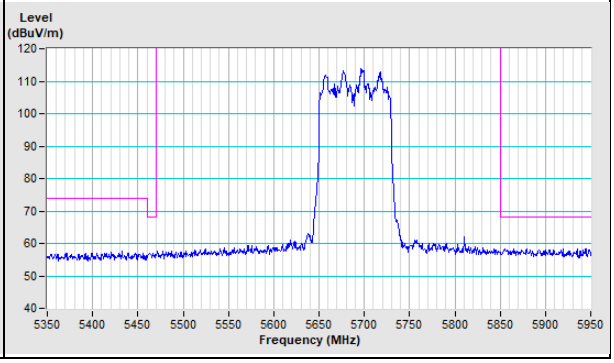
802.11ax (HE20) Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE20) Channel 140	
Horizontal (Peak)	Vertical (Peak)
	
802.11ax (HE20) Channel 144	
Horizontal (Peak)	Vertical (Peak)
	

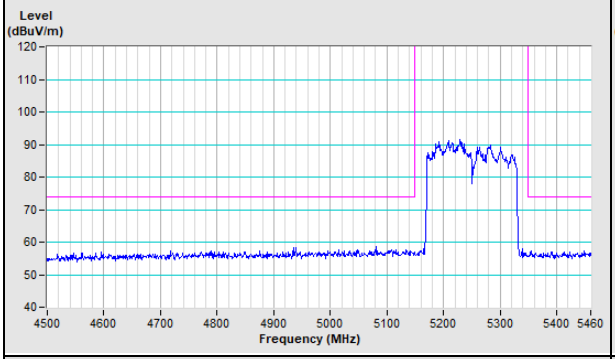
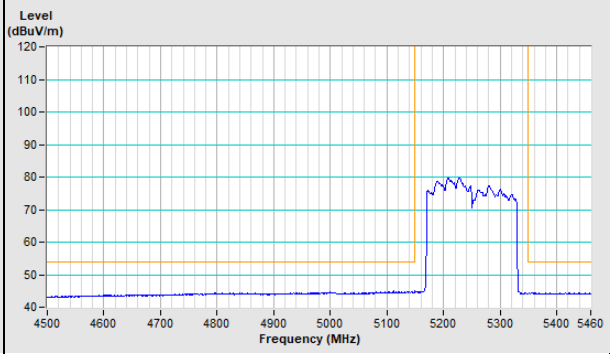
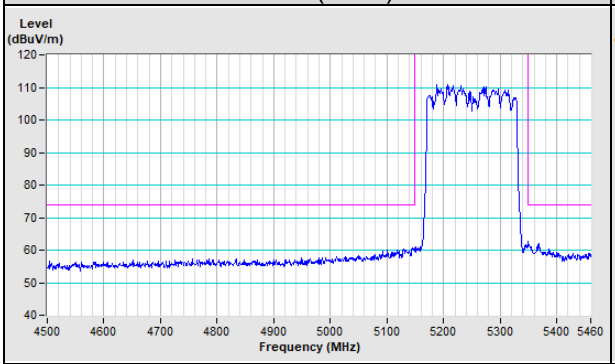
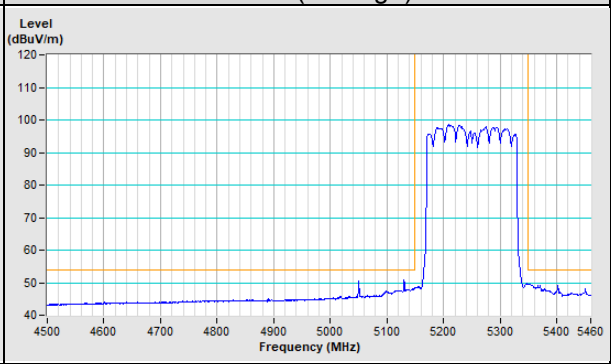
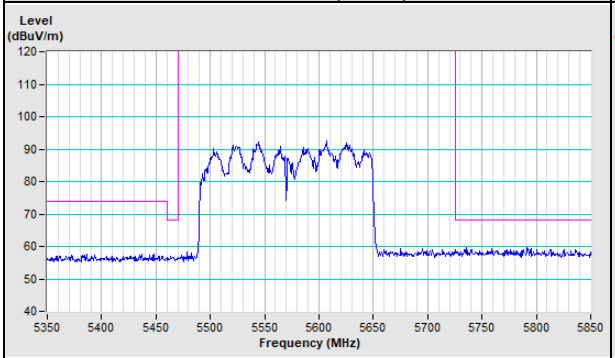
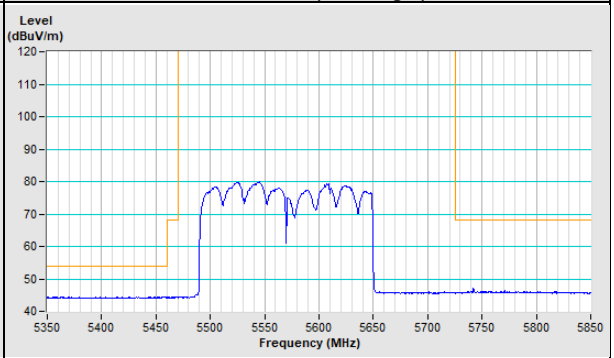
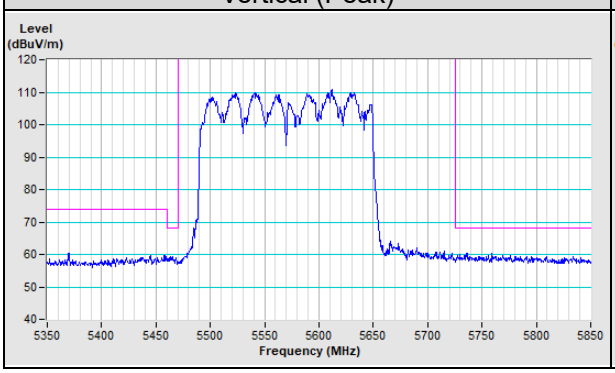
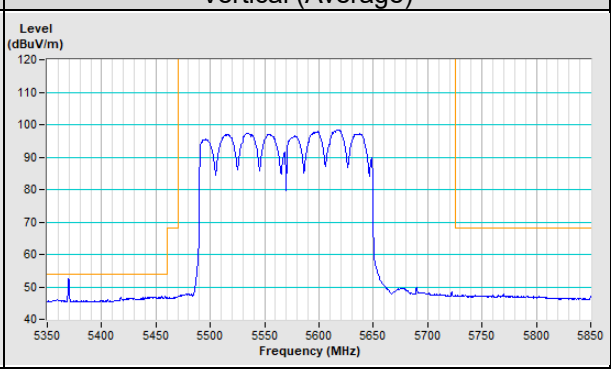
802.11ax (HE40) Channel 38	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 46	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE40) Channel 54	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 62	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

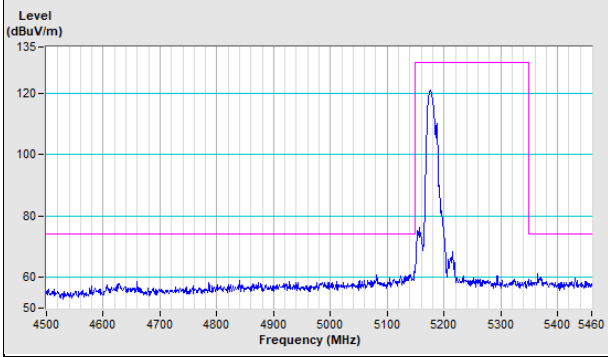
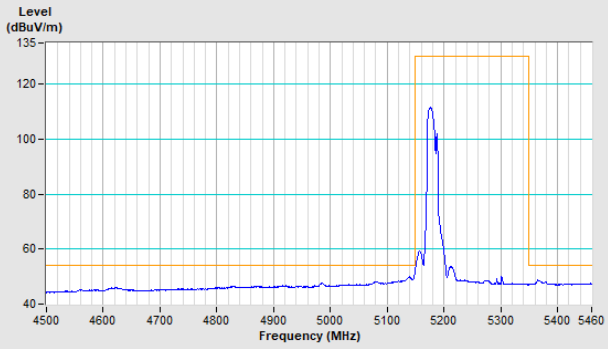
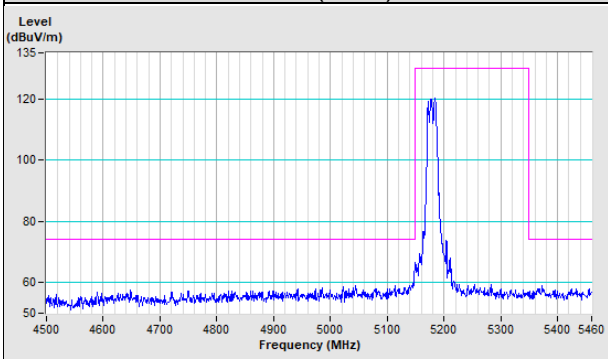
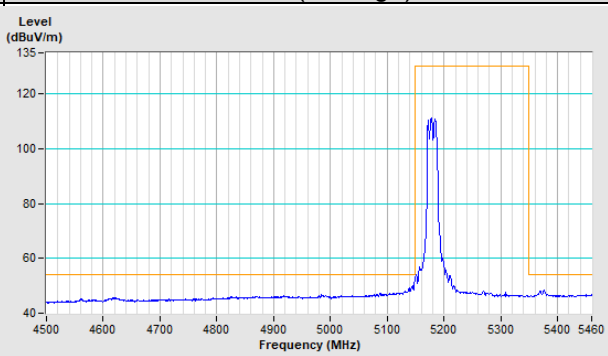
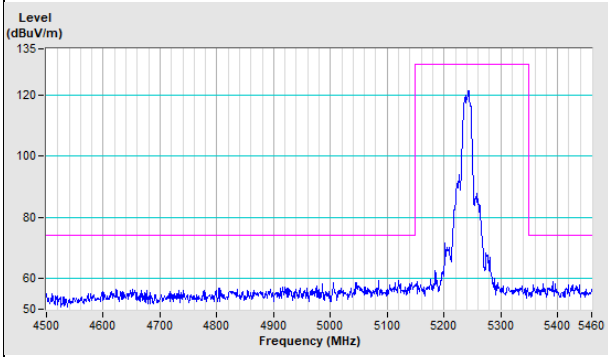
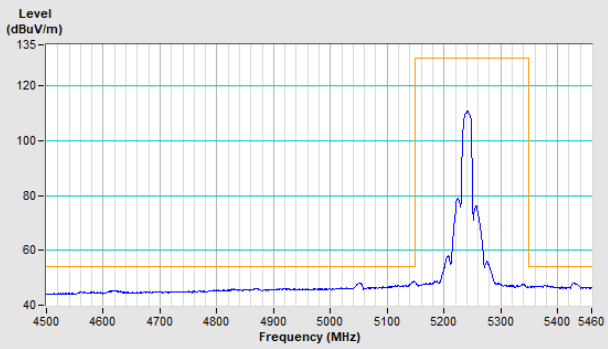
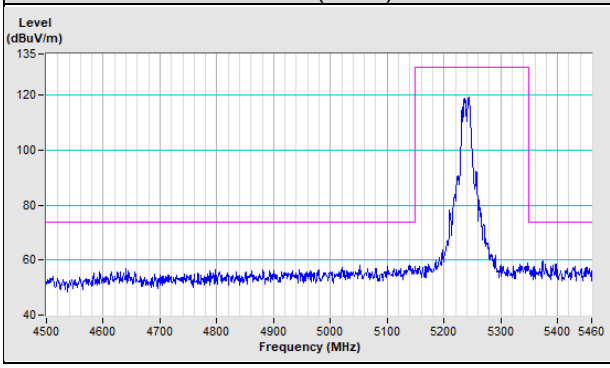
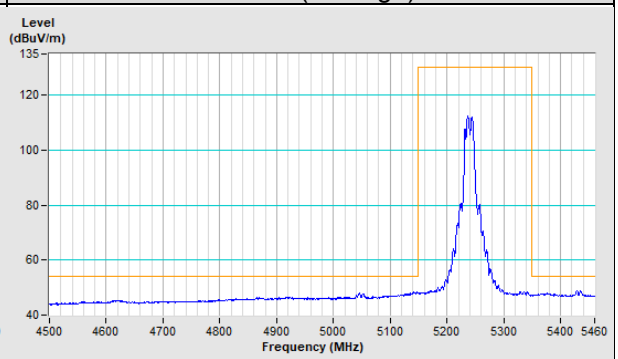
802.11ax (HE40) Channel 102	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 134	
Horizontal (Peak)	Vertical (Peak)
	
802.11ax (HE40) Channel 142	
Horizontal (Peak)	Vertical (Peak)
	

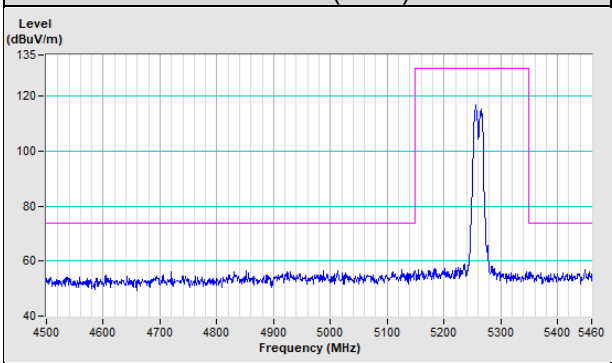
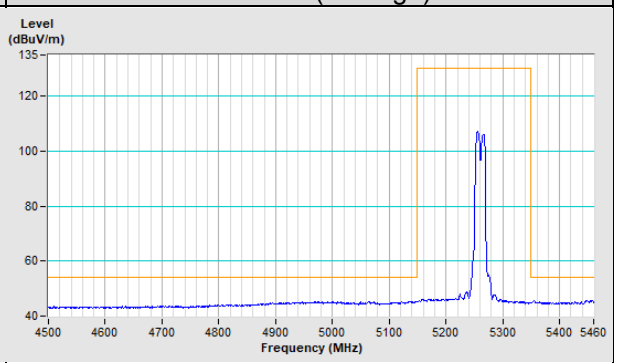
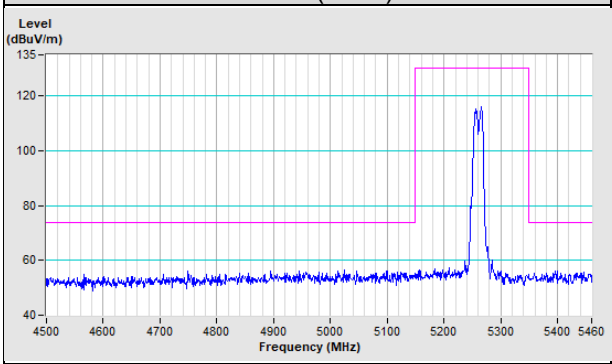
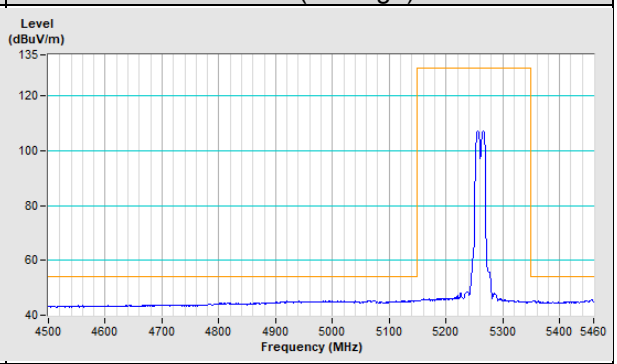
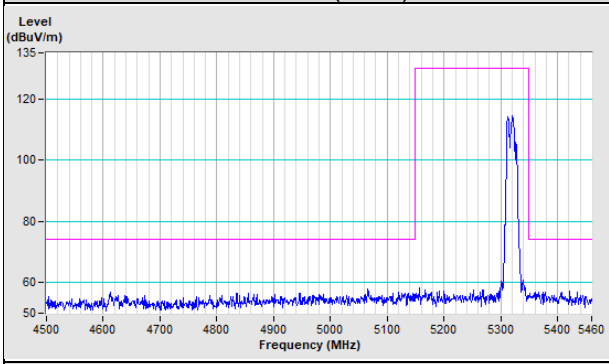
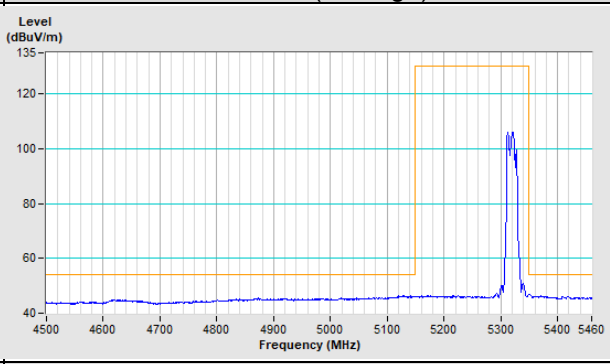
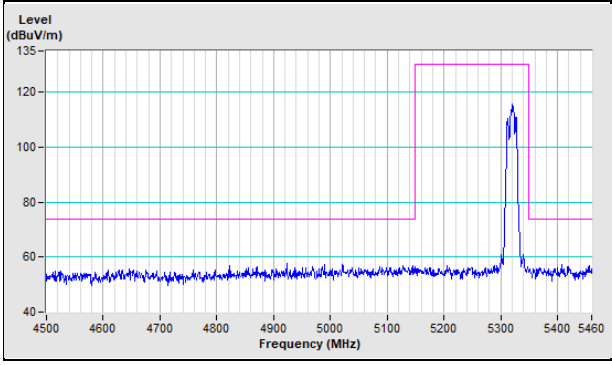
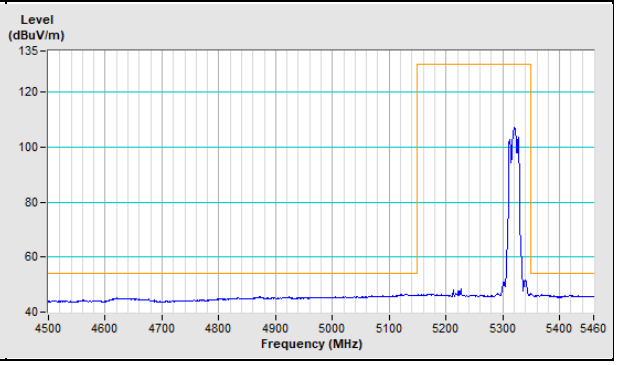
802.11ax (HE80) Channel 42	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80) Channel 58	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE80) Channel 106	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80) Channel 122	
Horizontal (Peak)	Vertical (Peak)
	
802.11ax (HE80) Channel 138	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE80+80) Channel 42+58	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80+80) Channel 106+122	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

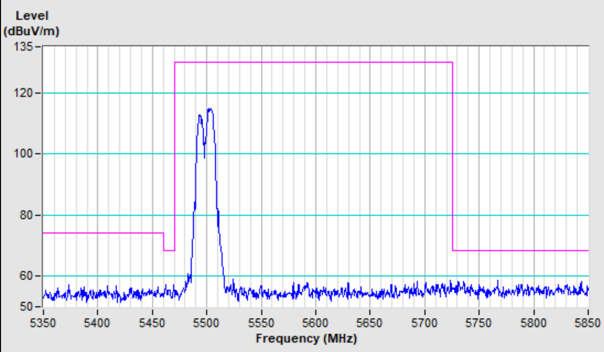
Mode C

802.11a Channel 36	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11a Channel 48	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

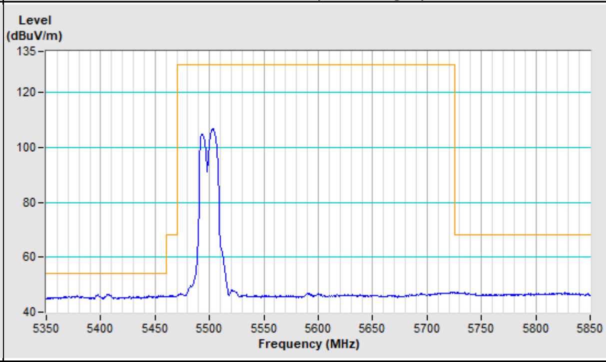
802.11a Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11a Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11a Channel 100

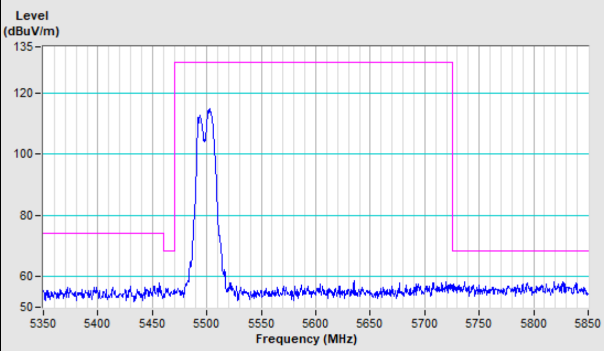
Horizontal (Peak)



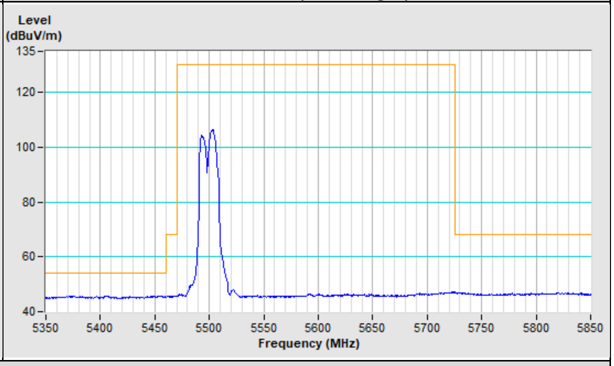
Horizontal (Average)



Vertical (Peak)

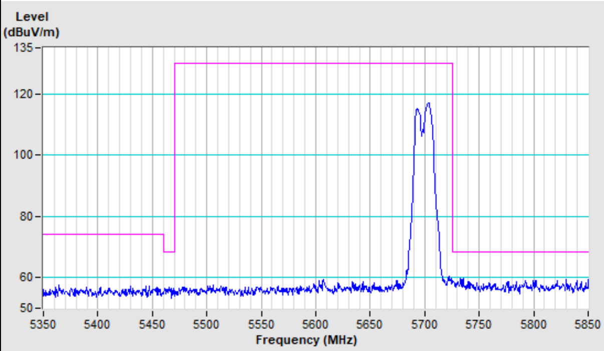


Vertical (Average)

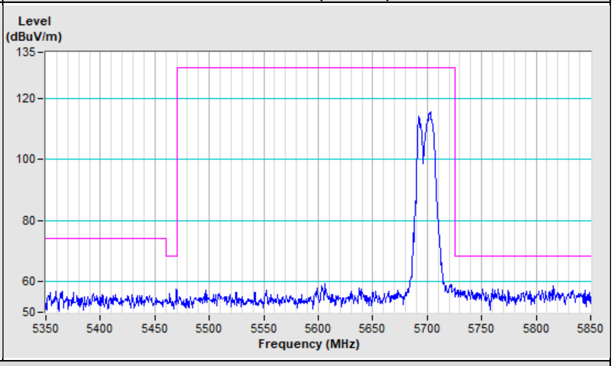


802.11a Channel 140

Horizontal (Peak)

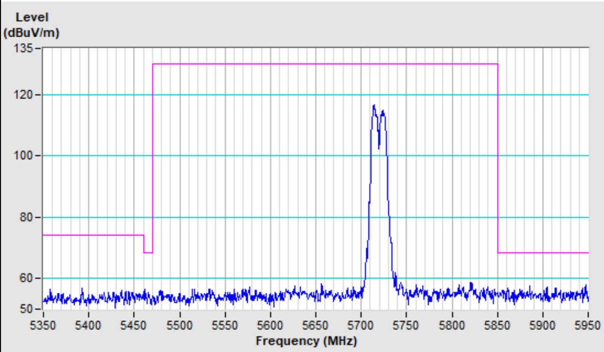


Vertical (Peak)

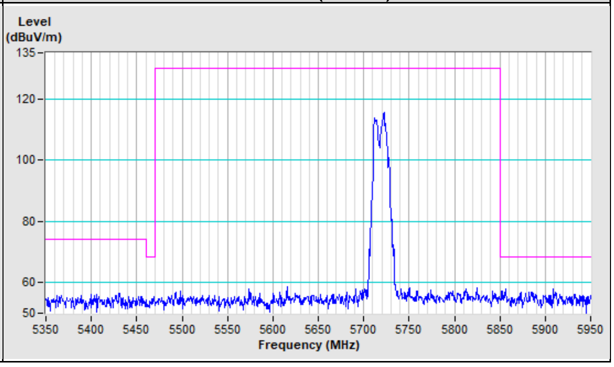


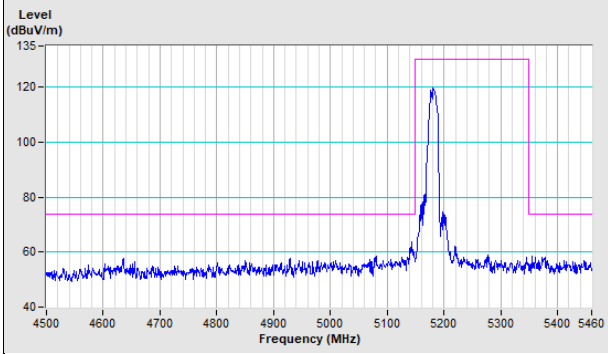
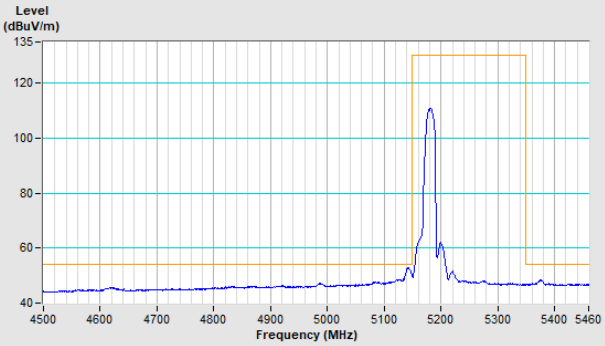
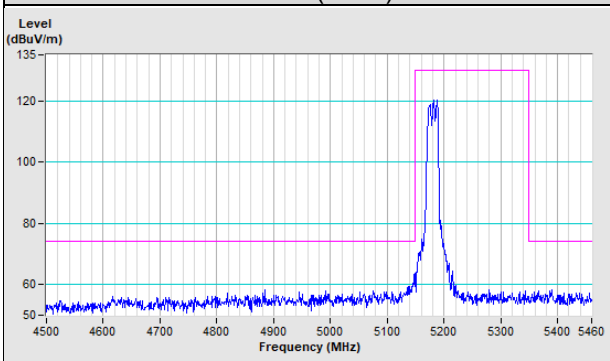
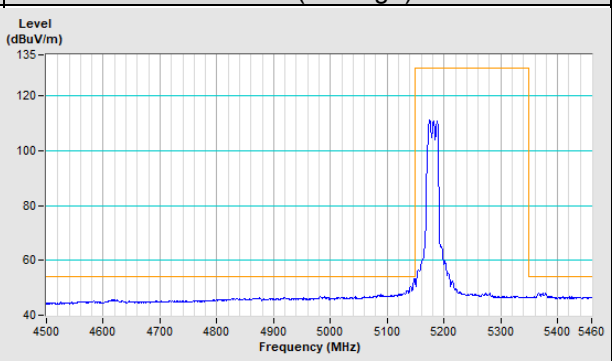
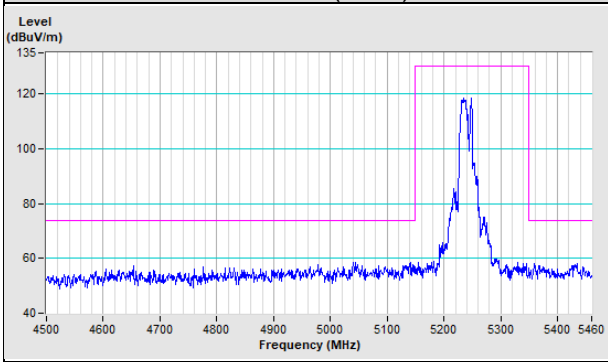
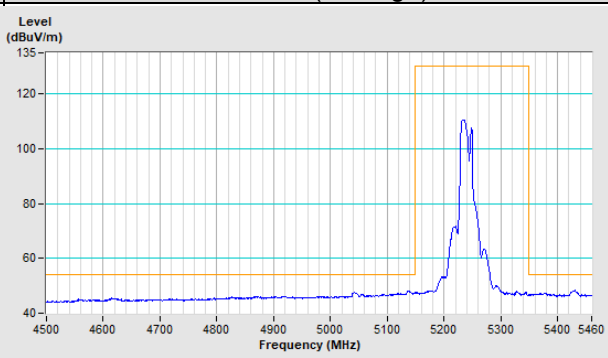
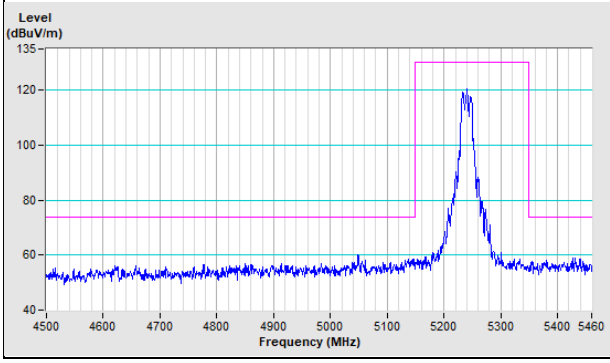
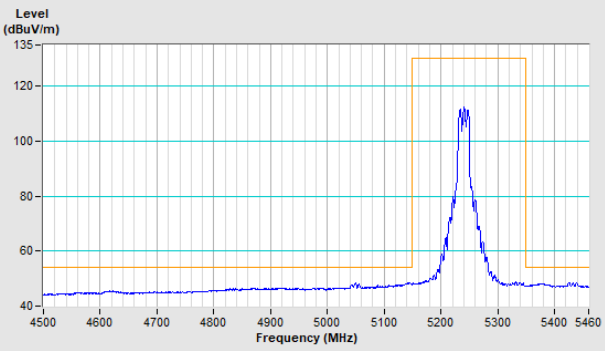
802.11a Channel 144

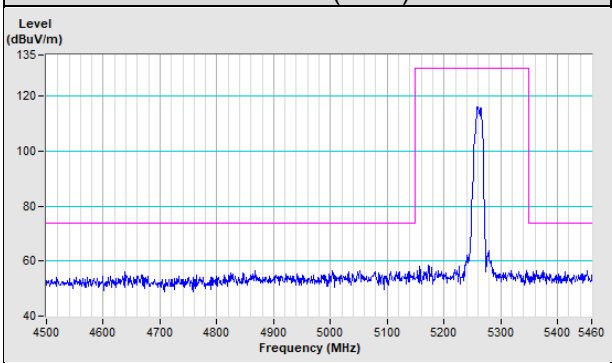
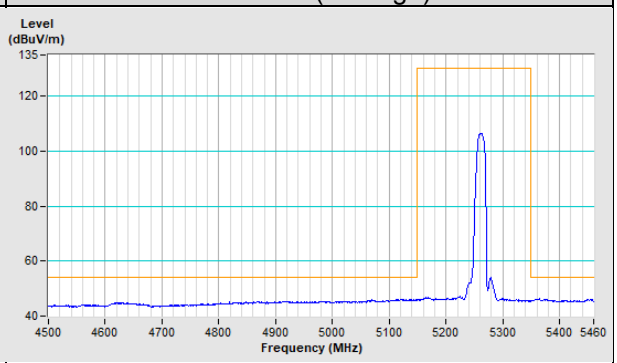
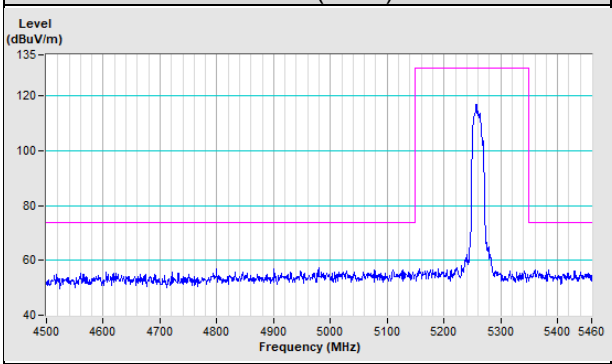
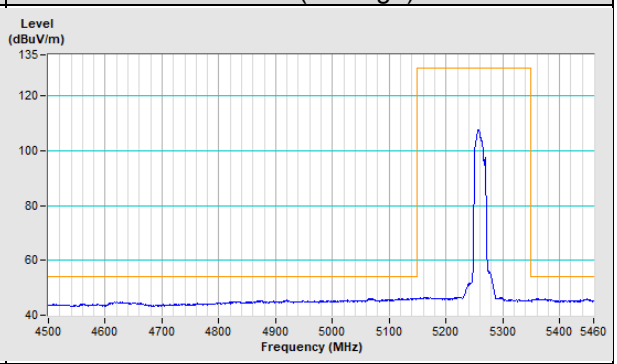
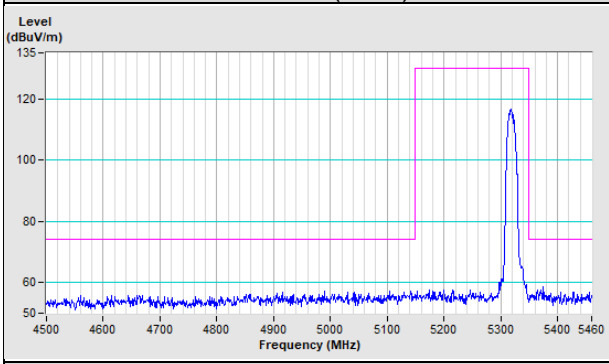
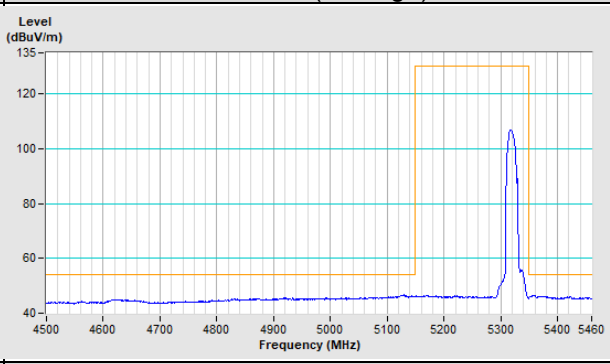
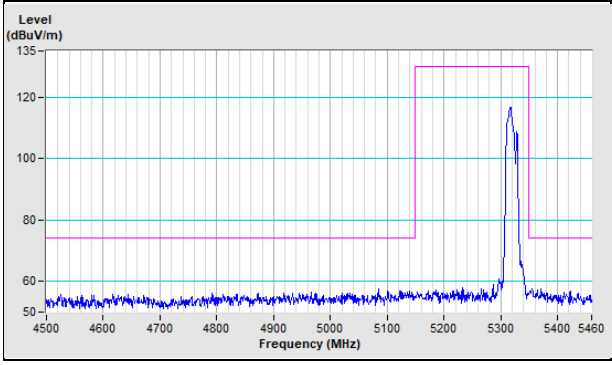
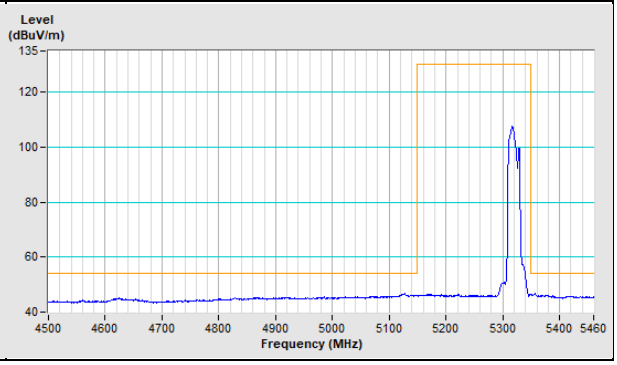
Horizontal (Peak)

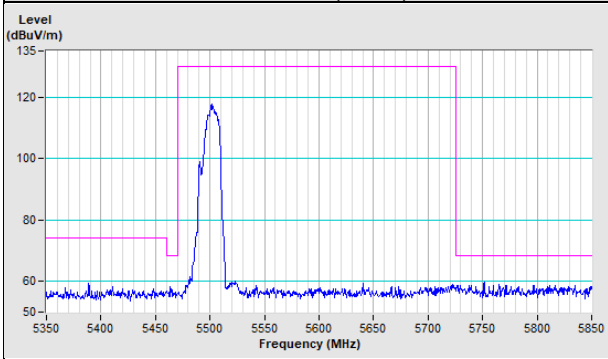
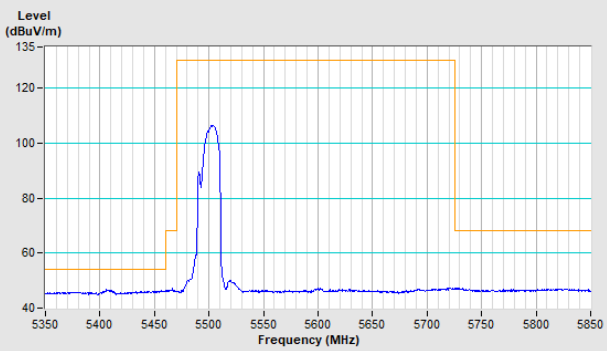
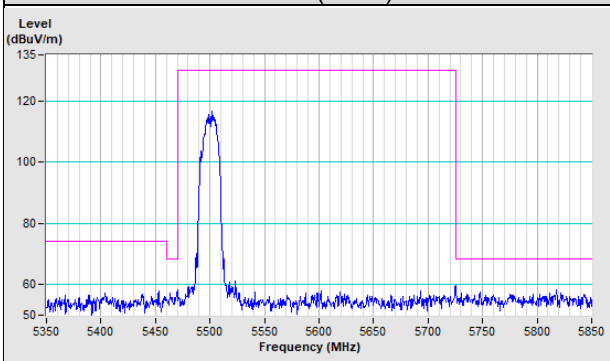
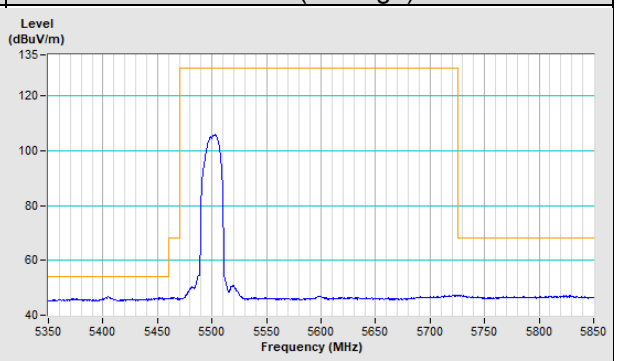
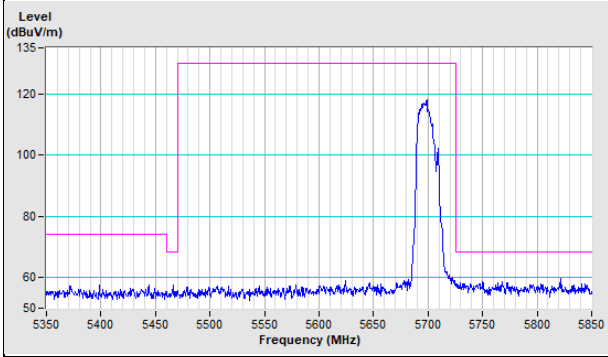
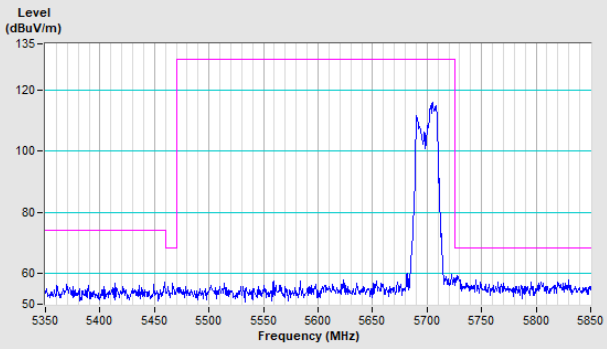
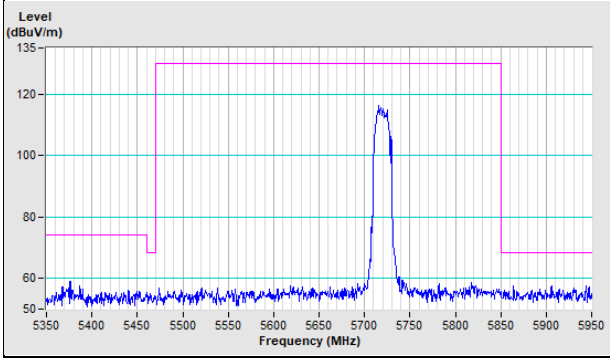
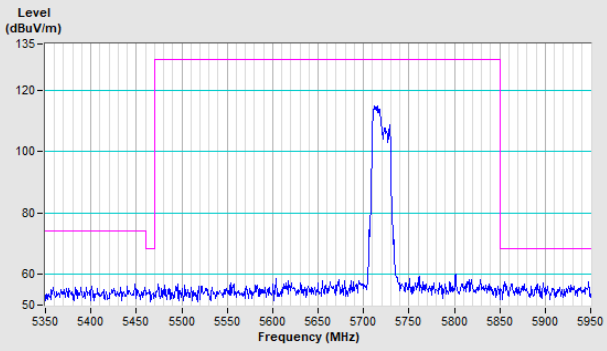


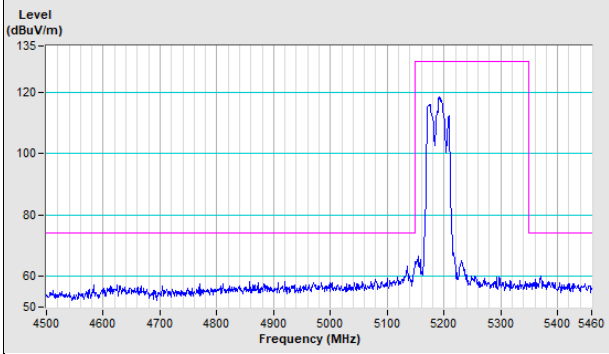
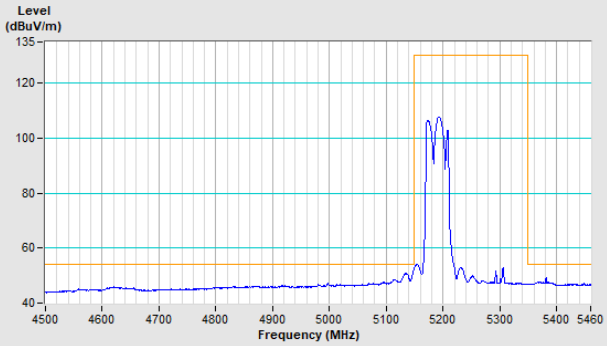
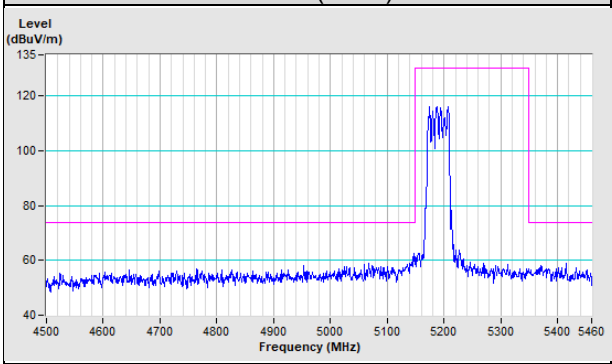
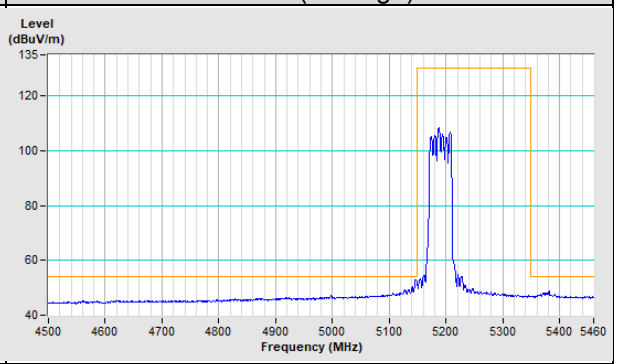
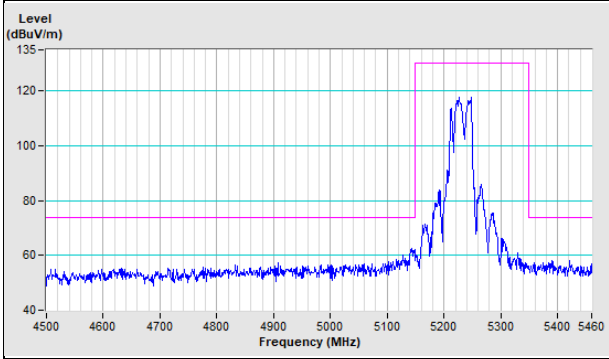
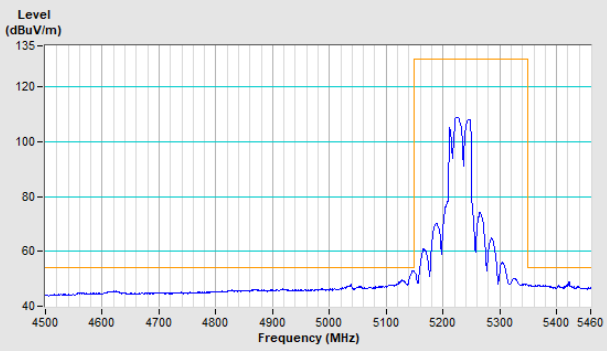
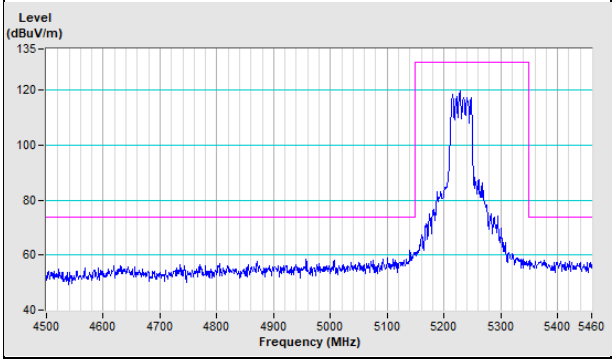
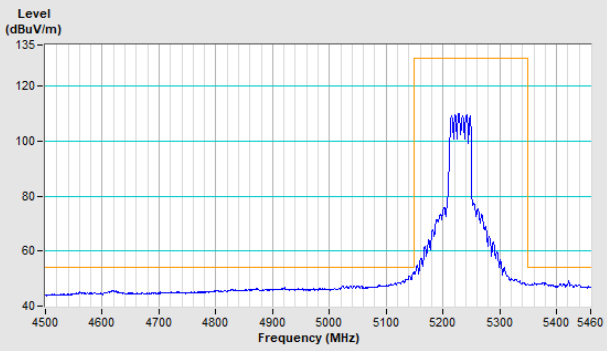
Vertical (Peak)

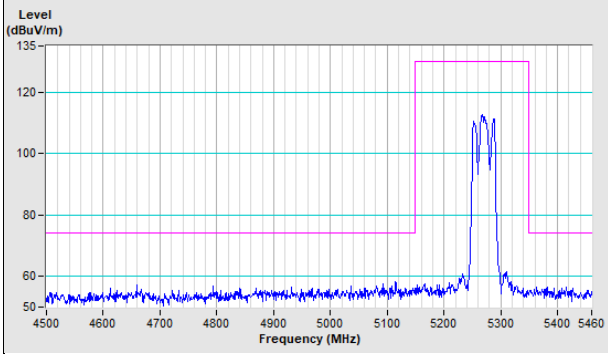
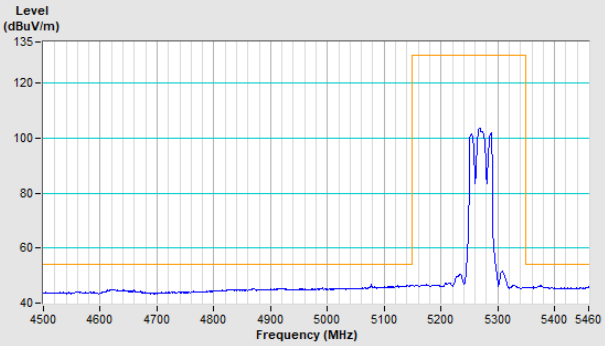
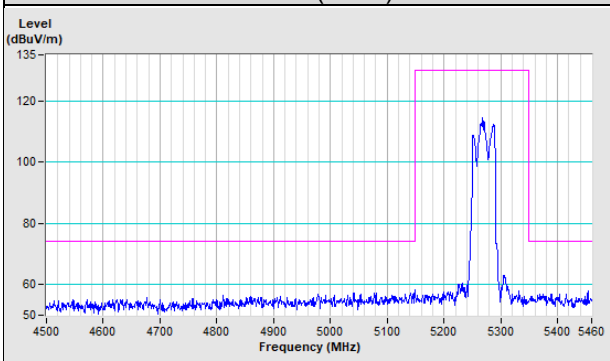
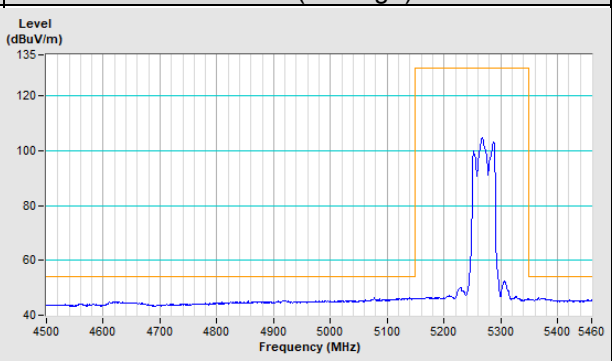
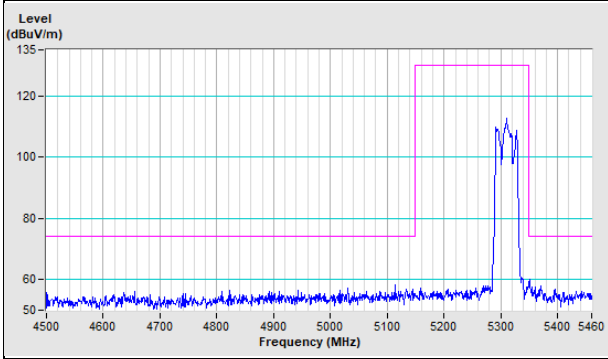
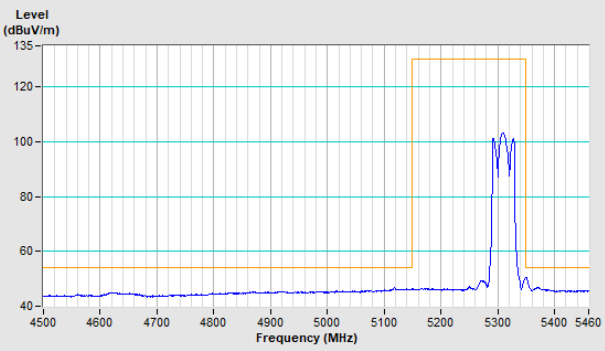
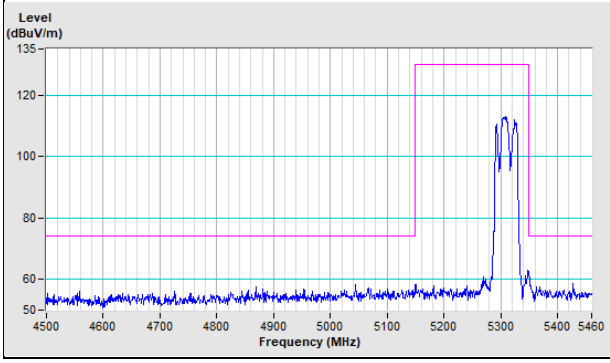
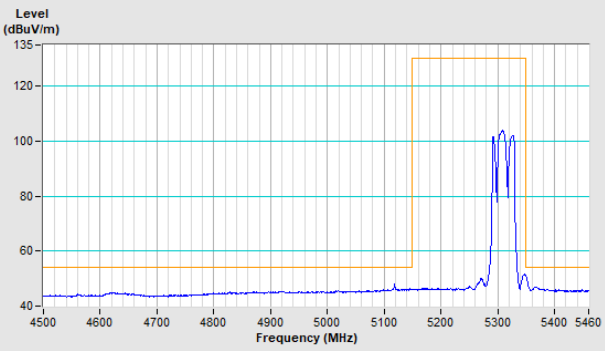


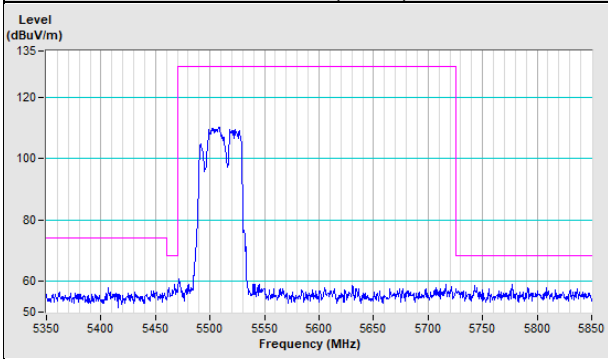
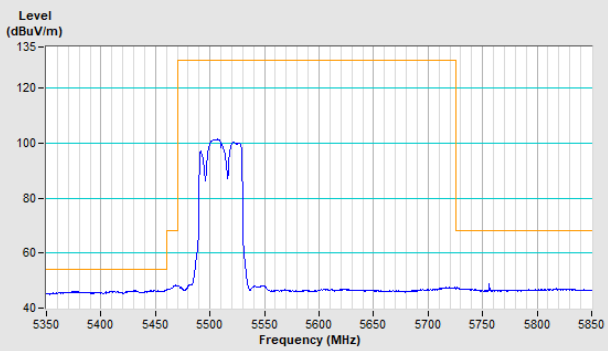
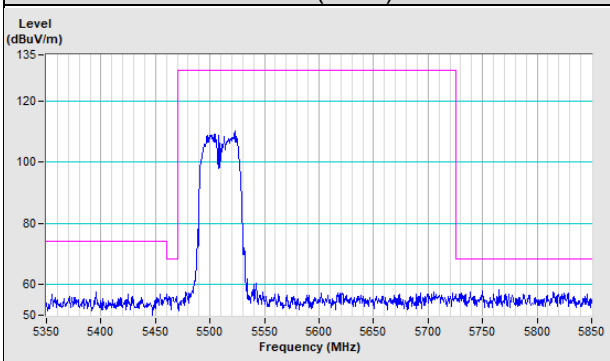
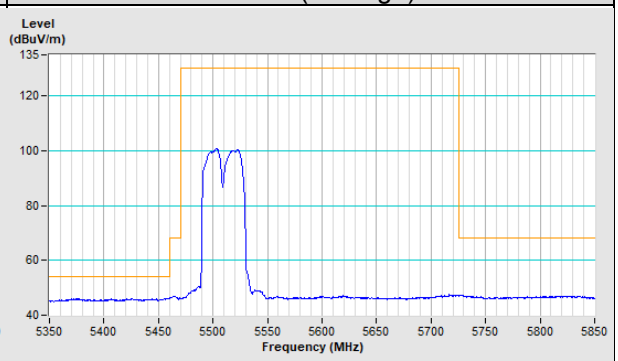
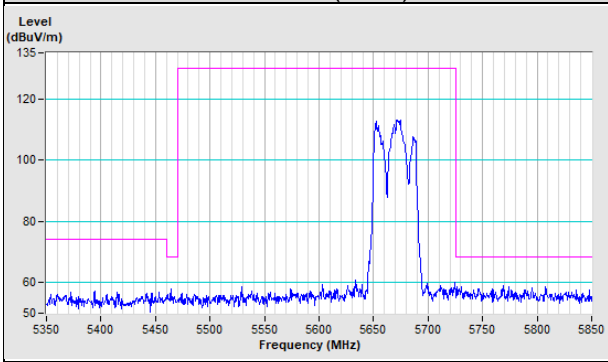
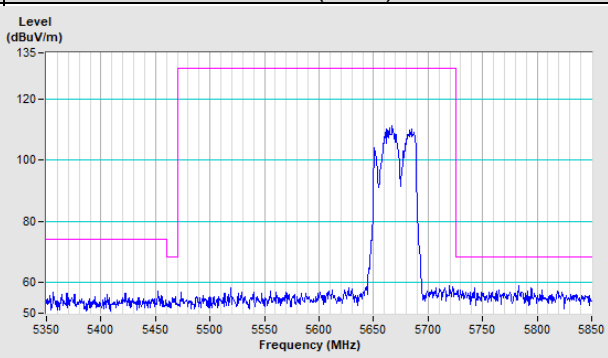
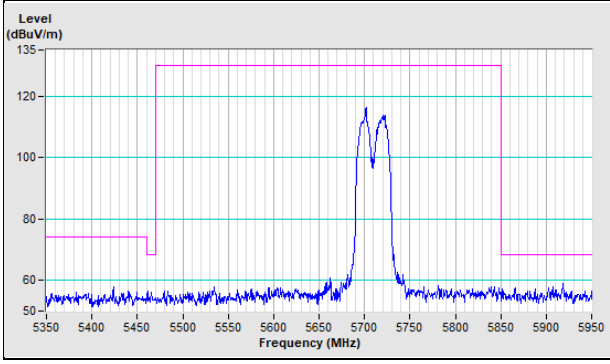
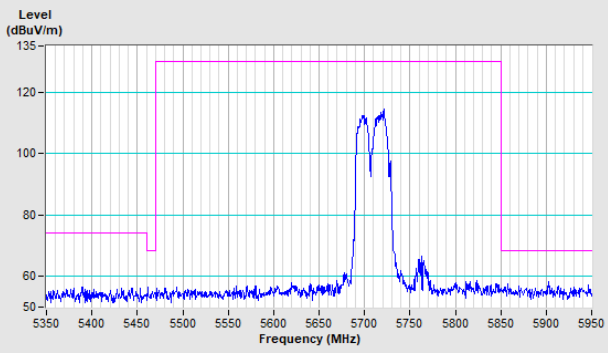
802.11ax (HE20) Channel 36	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE20) Channel 48	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

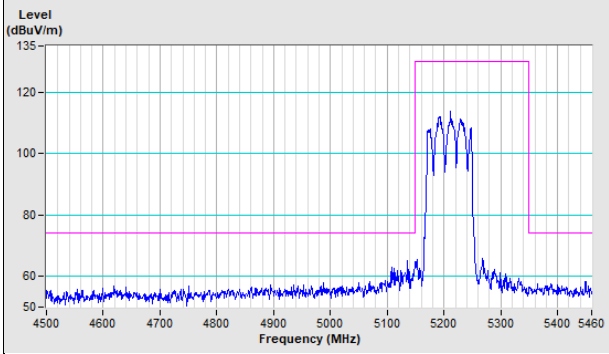
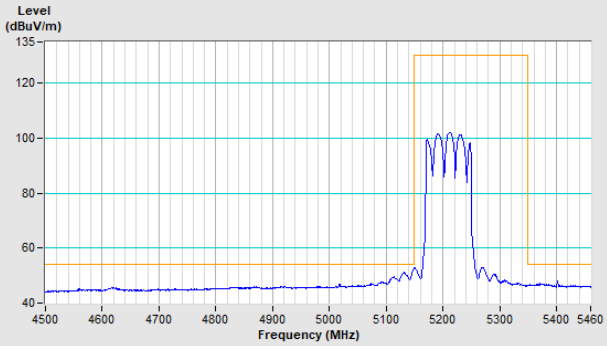
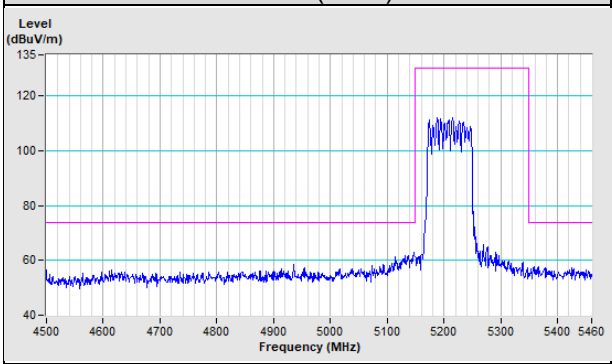
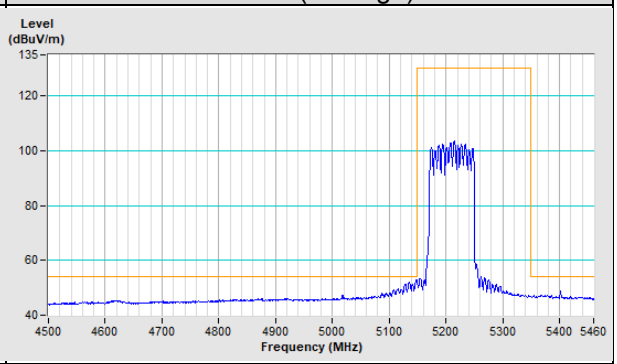
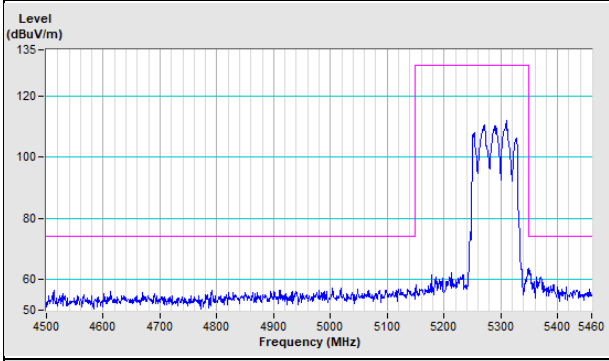
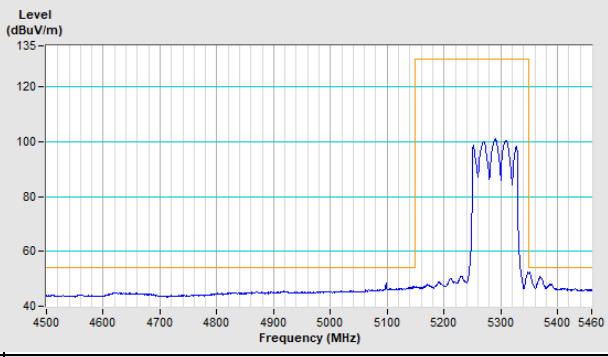
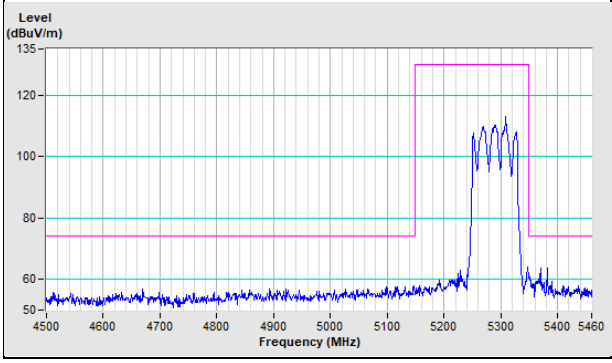
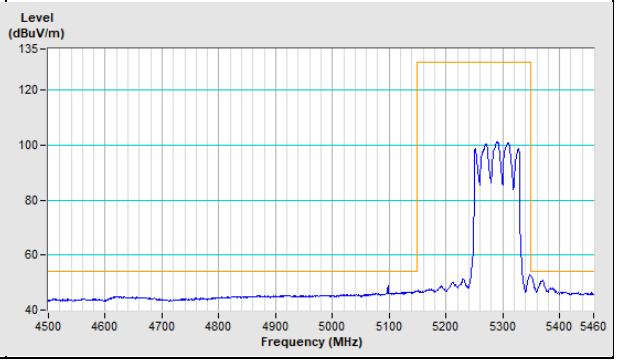
802.11ax (HE20) Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE20) Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

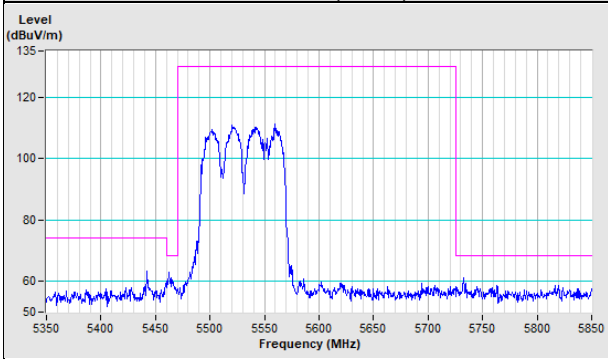
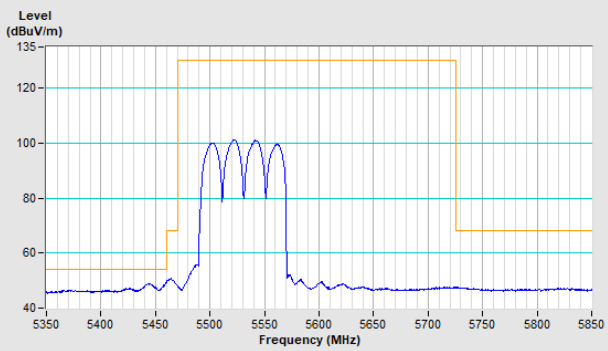
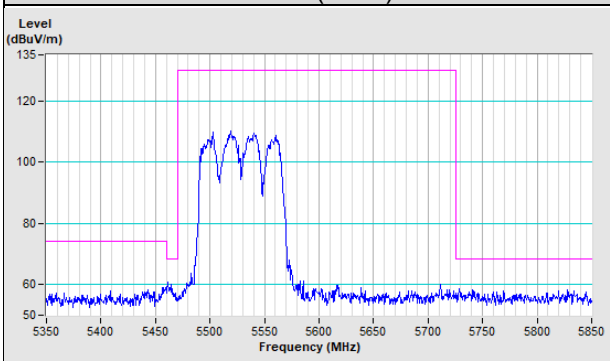
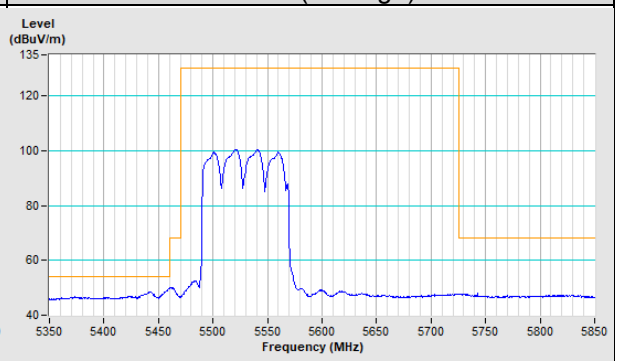
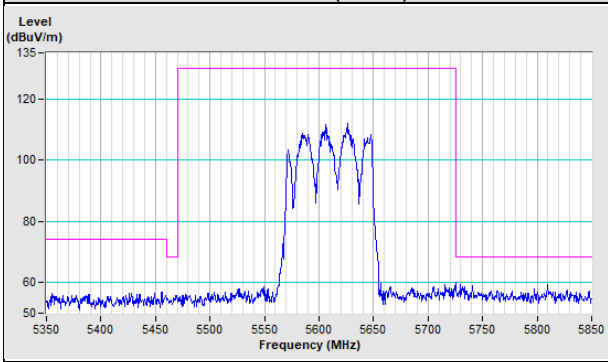
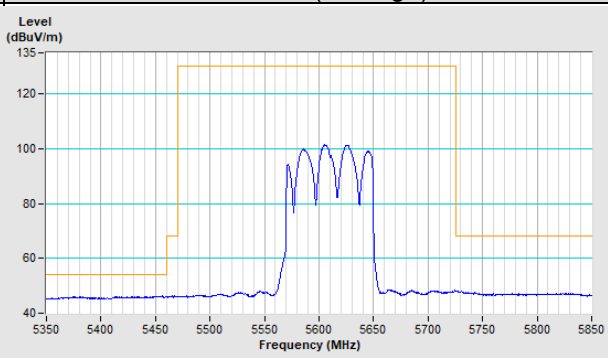
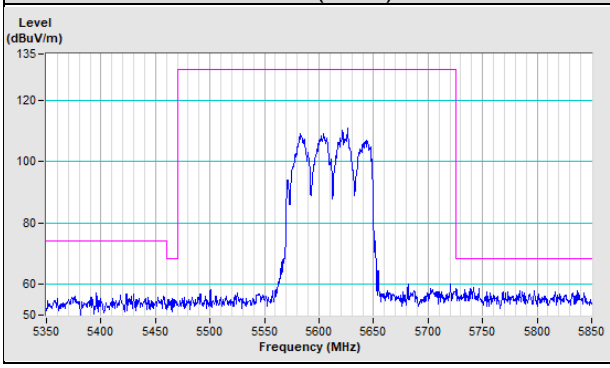
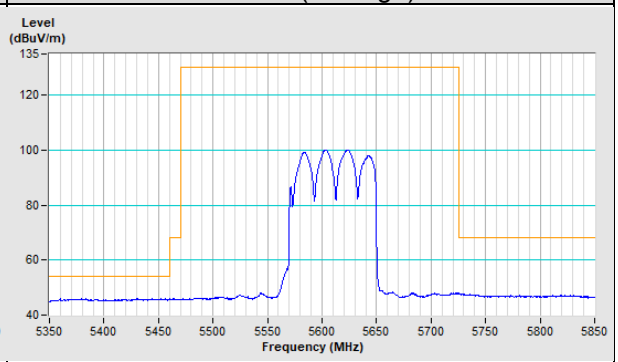
802.11ax (HE20) Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE20) Channel 140	
Horizontal (Peak)	Vertical (Peak)
	
802.11ax (HE20) Channel 144	
Horizontal (Peak)	Vertical (Peak)
	

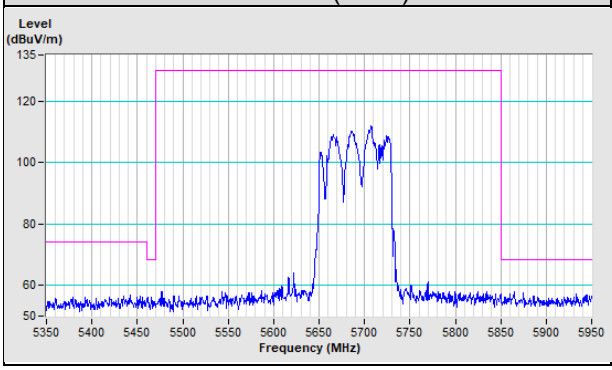
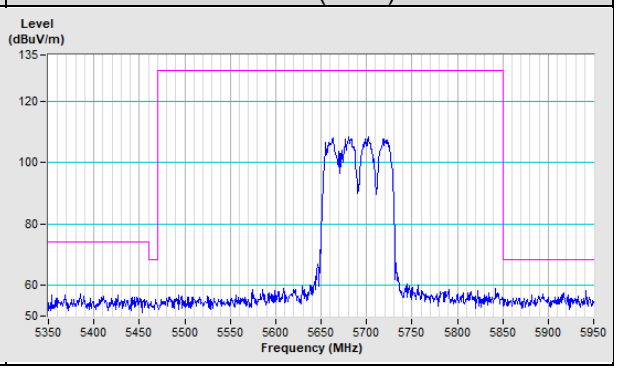
802.11ax (HE40) Channel 38	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 46	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

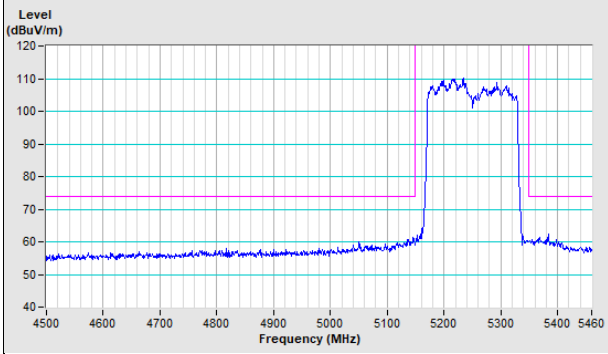
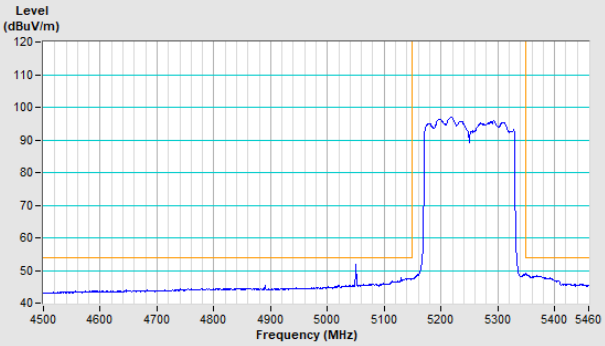
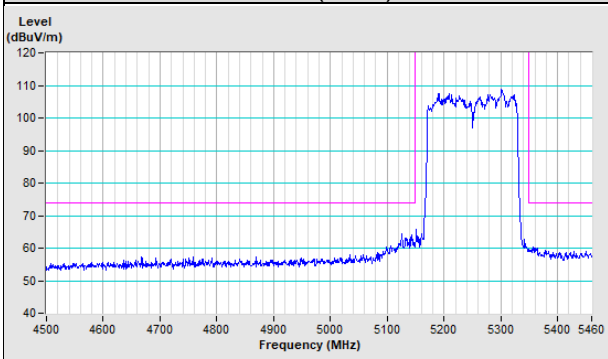
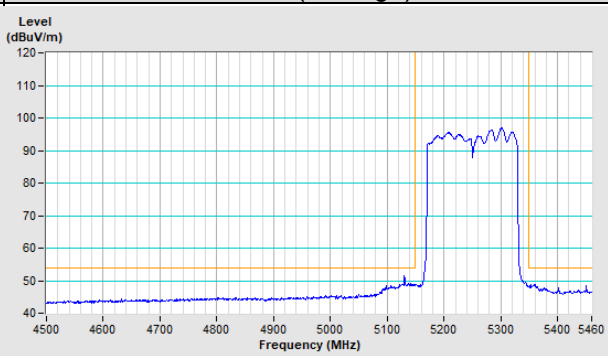
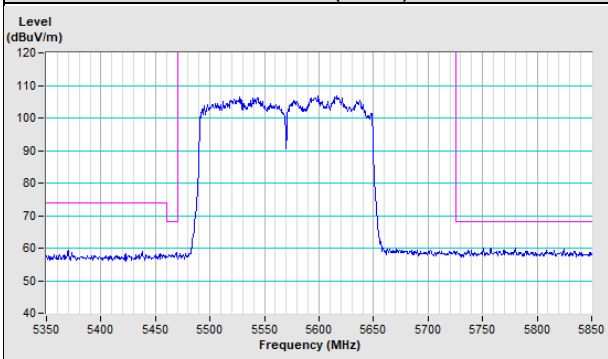
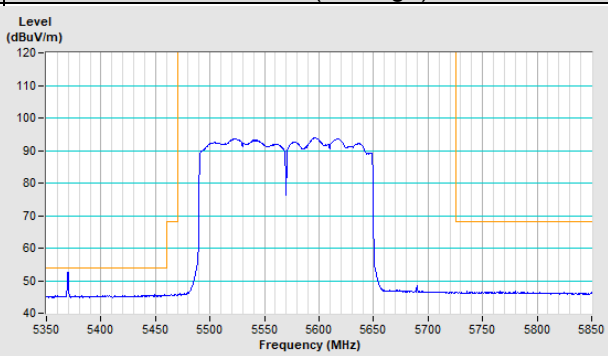
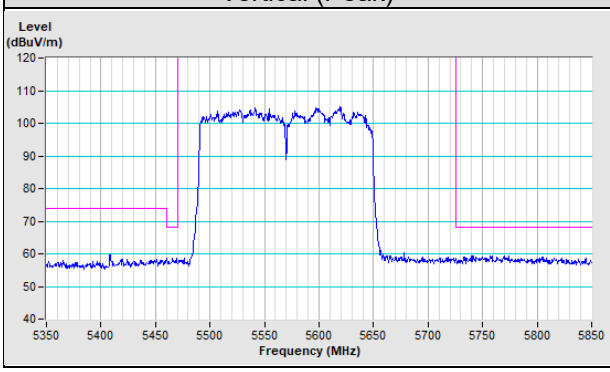
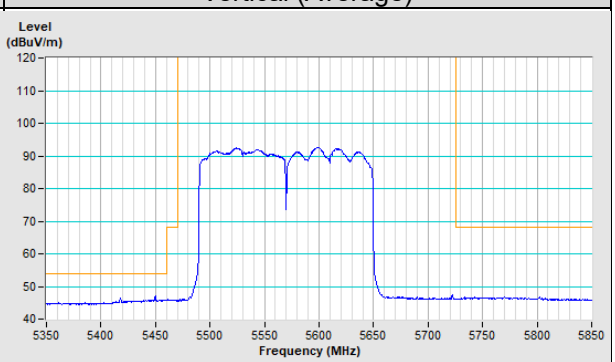
802.11ax (HE40) Channel 54	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 62	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE40) Channel 102	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 134	
Horizontal (Peak)	Vertical (Peak)
	
802.11ax (HE40) Channel 142	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE80) Channel 42	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80) Channel 58	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE80) Channel 106	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80) Channel 122	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE80) Channel 138	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE80+80) Channel 42+58	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80+80) Channel 106+122	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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