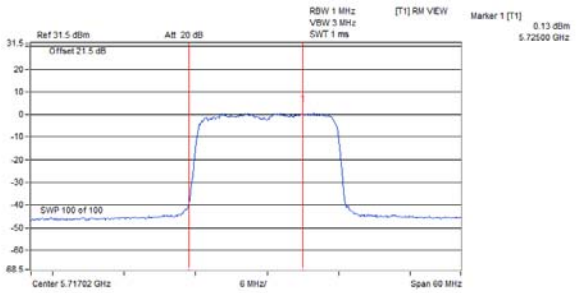
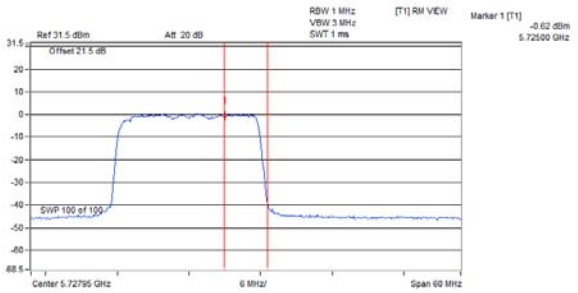
Spectrum Plot Value of Power

802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



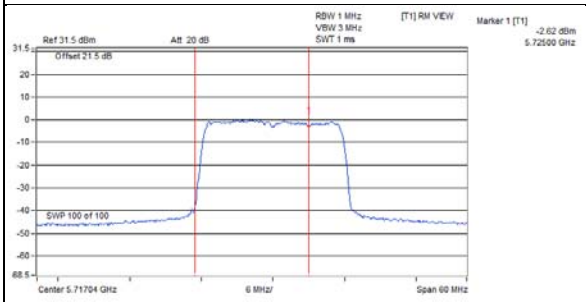
TX Channel Bandwidth 15.96 MHz Power 12.05 dBm

802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



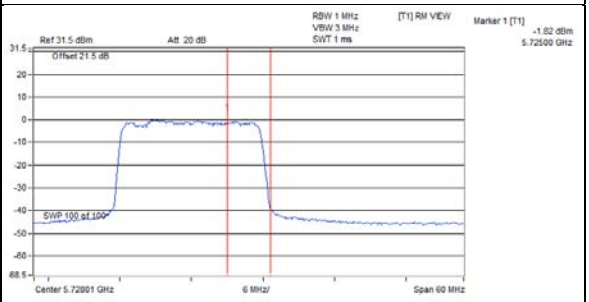
TX Channel Bandwidth 5.91 MHz Power 7.38 dBm

802.11ax (HE20)_Chain 1 / CH144 (U-NII-2C Band)



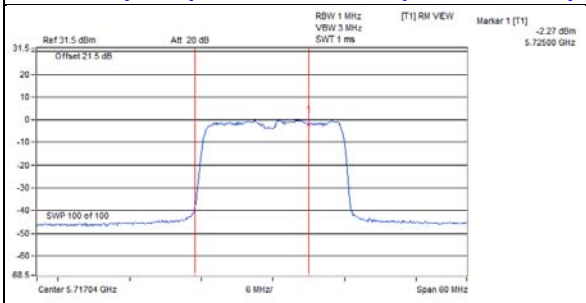
TX Channel Bandwidth 15.92 MHz Power 11.63 dBm

802.11ax (HE20)_Chain 1 / CH144 (U-NII-3 Band)



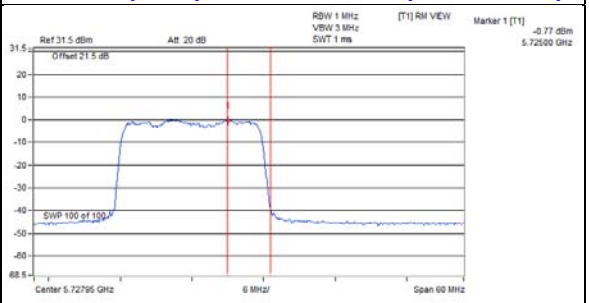
TX Channel Bandwidth 6.03 MHz Power 6.2 dBm

802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)

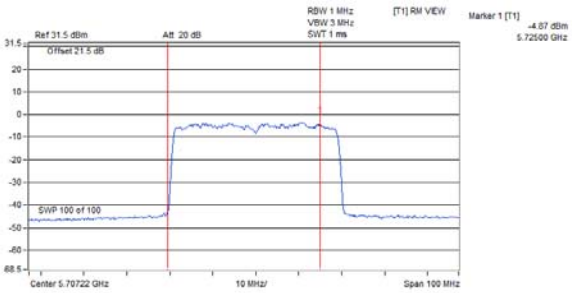
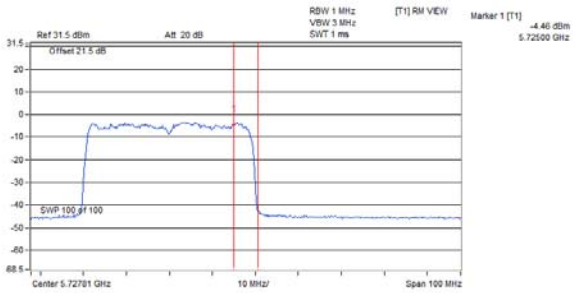
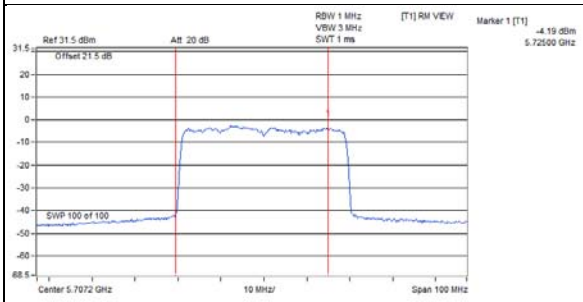
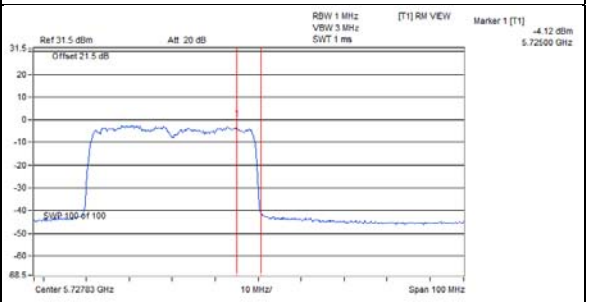
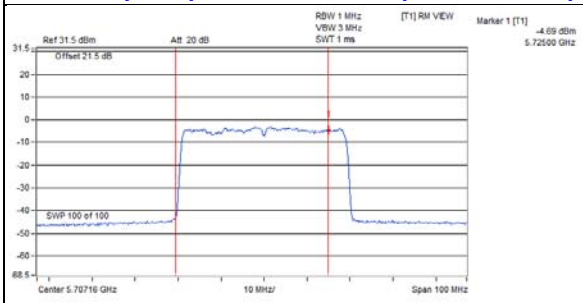
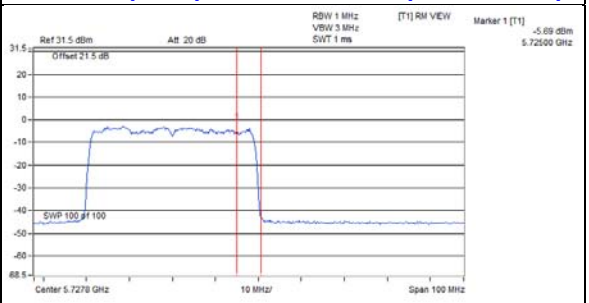


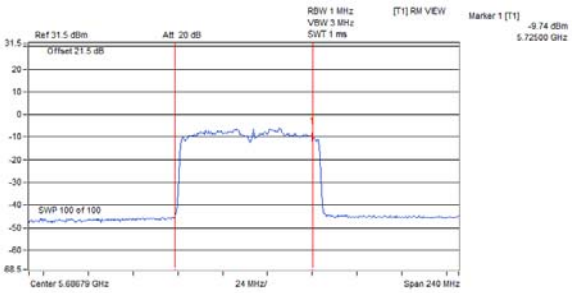
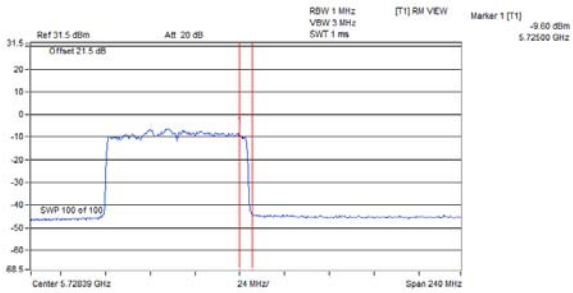
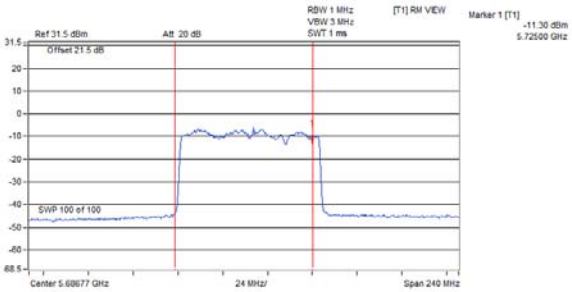
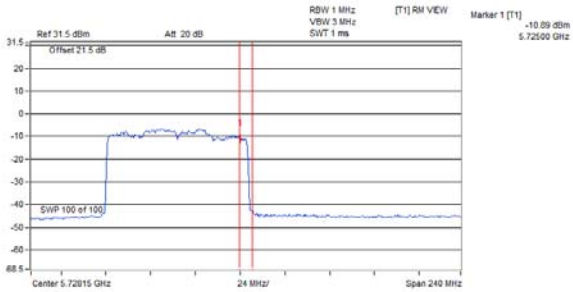
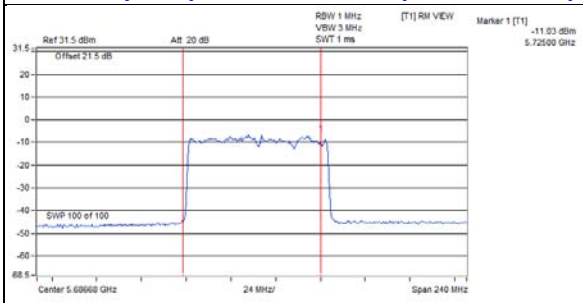
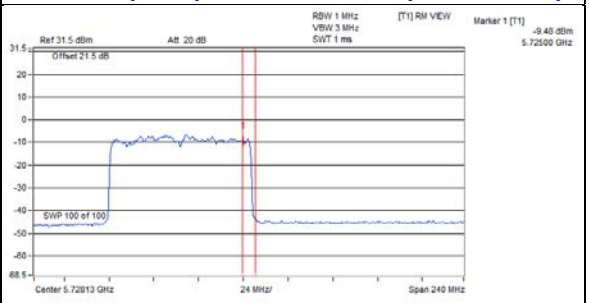
TX Channel Bandwidth 15.91 MHz Power 11.25 dBm

802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



TX Channel Bandwidth 5.9 MHz Power 6.44 dBm

Spectrum Plot Value of Power	
802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)	**802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)**
 TX Channel Bandwidth 35.55 MHz Power 11.36 dBm	 TX Channel Bandwidth 5.62 MHz Power 2.12 dBm
802.11ax (HE40)_Chain 1 / CH142 (U-NII-2C Band)	**802.11ax (HE40)_Chain 1 / CH142 (U-NII-3 Band)**
 TX Channel Bandwidth 35.6 MHz Power 11.98 dBm	 TX Channel Bandwidth 5.67 MHz Power 2.55 dBm
802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)	**802.11ax (HE40)_Chain 2 / CH142 (U-NII-3 Band)**
 TX Channel Bandwidth 35.67 MHz Power 11.82 dBm	 TX Channel Bandwidth 5.61 MHz Power 1.77 dBm

Spectrum Plot Value of Power	
802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)	**802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)**
 TX Channel Bandwidth 76.41 MHz Power 11.37 dBm	 TX Channel Bandwidth 6.78 MHz Power -3.06 dBm
802.11ax (HE80)_Chain 1 / CH138 (U-NII-2C Band)	**802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)**
 TX Channel Bandwidth 76.45 MHz Power 10.9 dBm	 TX Channel Bandwidth 6.31 MHz Power -4.01 dBm
802.11ax (HE80)_Chain 2 / CH138 (U-NII-2C Band)	**802.11ax (HE80)_Chain 2 / CH138 (U-NII-3 Band)**
 TX Channel Bandwidth 76.64 MHz Power 10.89 dBm	 TX Channel Bandwidth 6.26 MHz Power -2.26 dBm

26dB OCCUPIED BANDWIDTH

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	21.67	21.89	21.7
60	5300	21.7	21.91	21.65
64	5320	21.72	21.85	21.64
100	5500	21.75	21.89	21.6
116	5580	21.76	21.89	21.96
140	5700	21.82	21.97	21.87
144 (U-NII-2C Band)	5720	15.84	16	15.8

802.11ax (HE20)

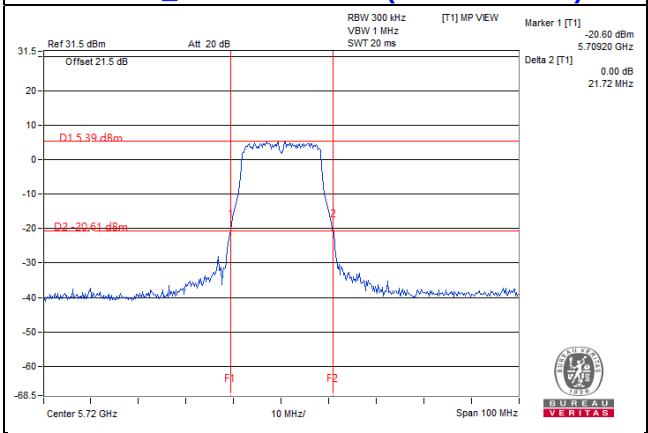
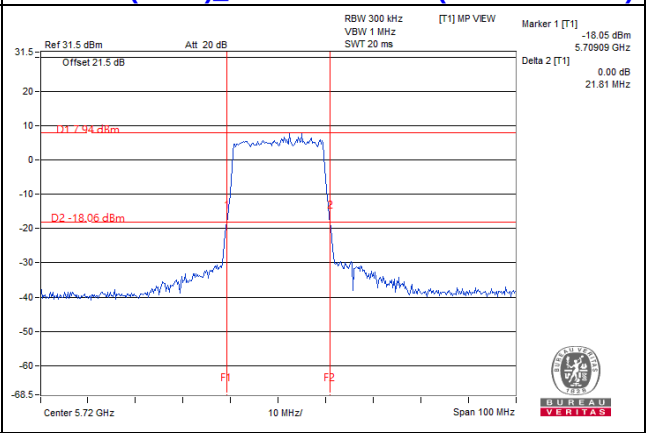
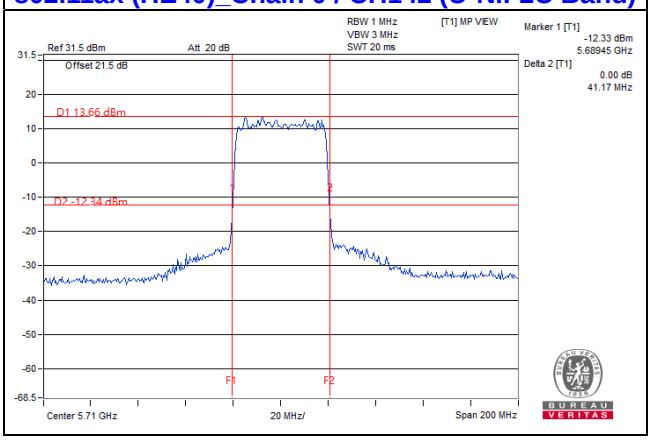
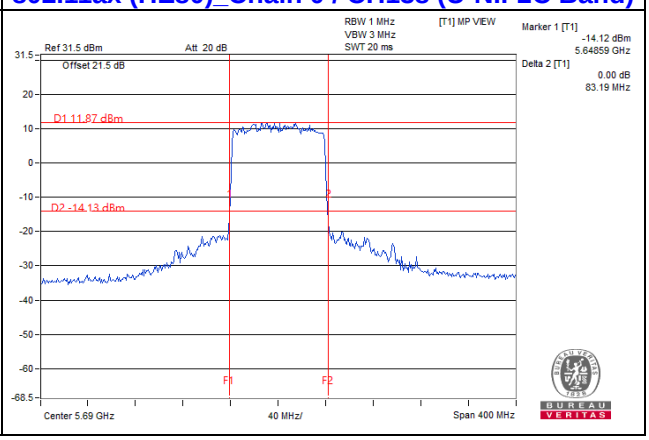
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	21.88	21.87	22.04
60	5300	21.92	21.77	22.02
64	5320	21.92	21.76	22
100	5500	21.89	21.93	22.02
116	5580	21.87	21.85	21.99
140	5700	21.91	21.96	21.98
144 (U-NII-2C Band)	5720	15.96	15.92	15.91

802.11ax (HE40)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
54	5270	41.33	41.42	41.36
62	5310	41.31	41.27	41.38
102	5510	41.27	41.25	41.44
110	5550	41.41	41.29	41.42
134	5670	41.36	41.28	41.42
142 (U-NII-2C Band)	5710	35.55	35.6	35.67

802.11ax (HE80)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
58	5290	83.24	82.86	82.94
106	5530	83.27	82.76	82.6
122	5610	83.43	82.6	82.93
138 (U-NII-2C Band)	5690	76.41	76.45	76.64

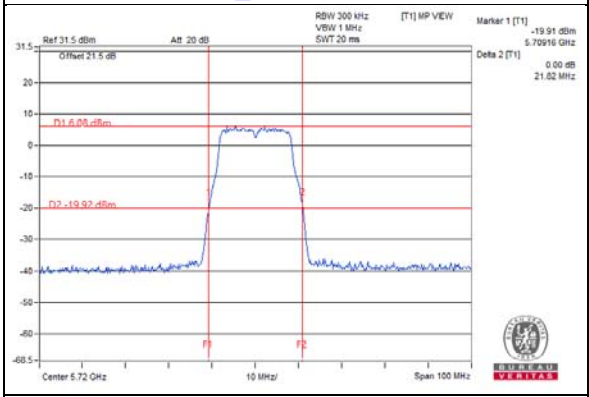
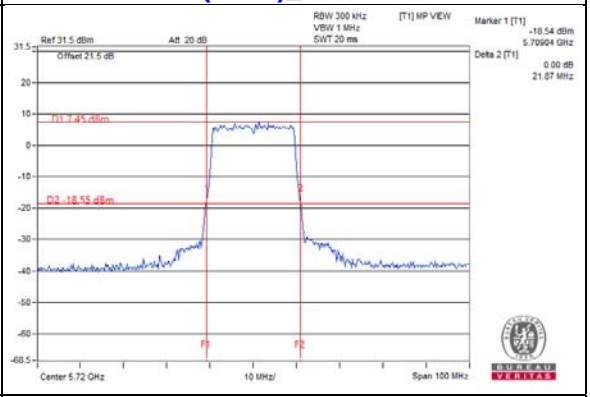
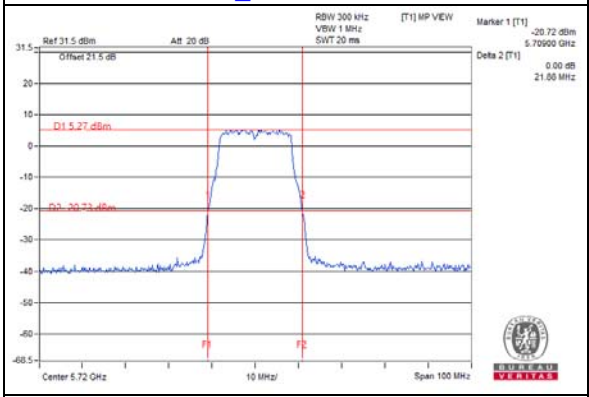
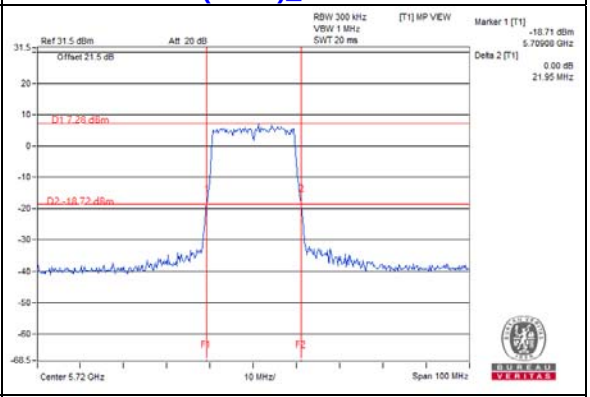
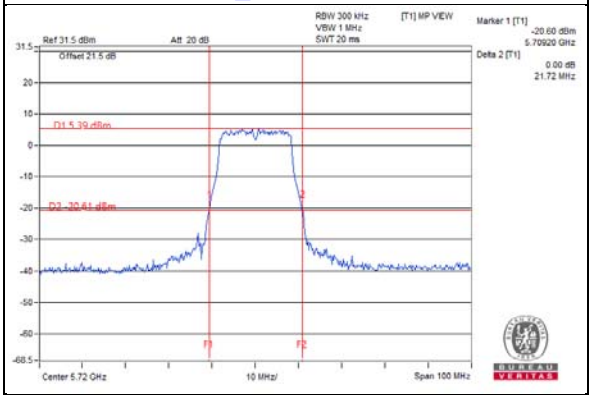
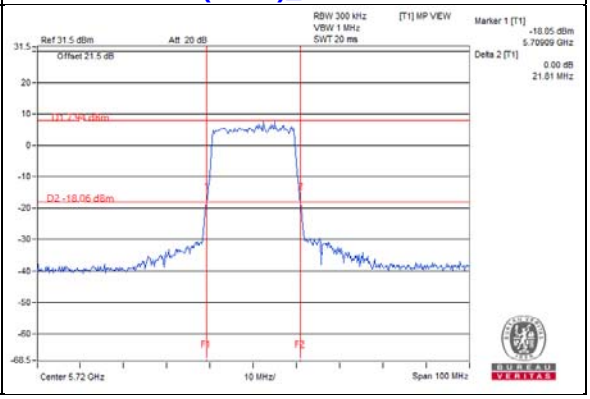
Spectrum Plot of Worst Value	
802.11a_Chain 2 / CH144 (U-NII-2C Band)	**802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)**
	
802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)	**802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Marker 1
For CH142 (U-NII-2C) = 5725MHz - Marker 1
For CH138 (U-NII-2C) = 5725MHz - Marker 1

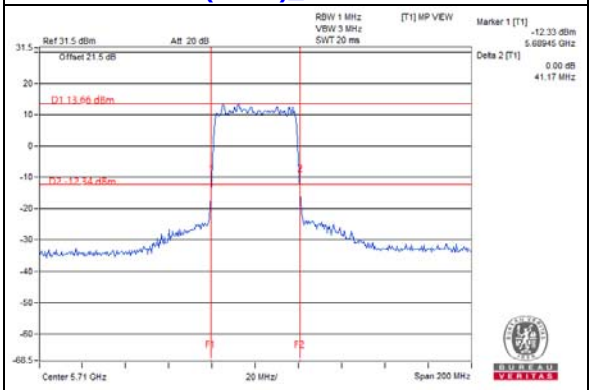
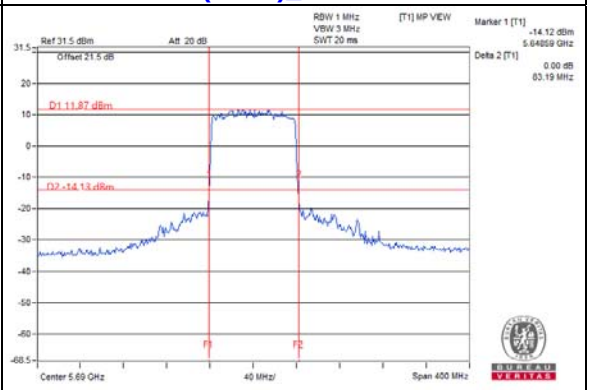
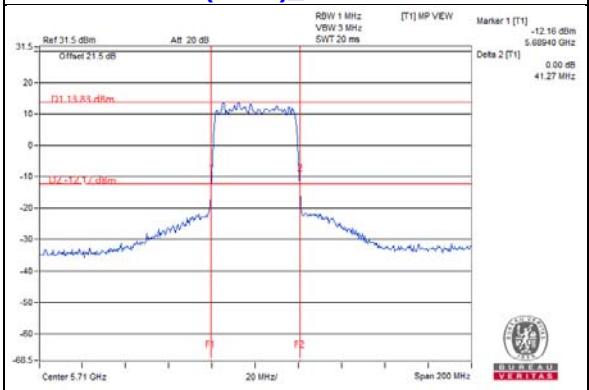
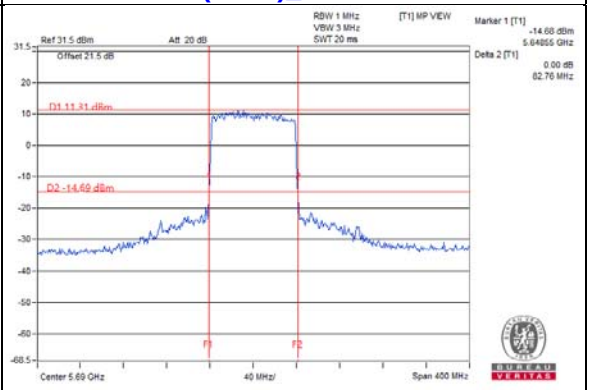
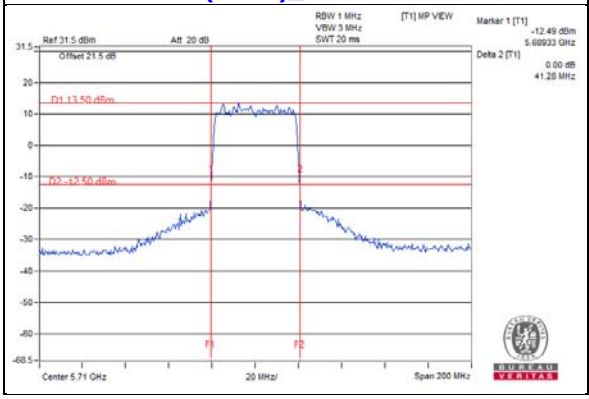
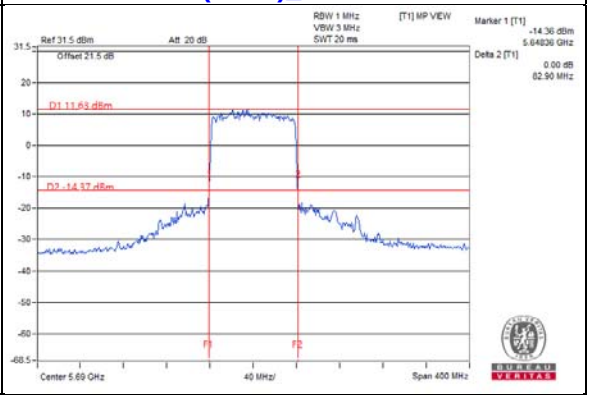
For channel straddling 5725MHz of 26dB BW

CDD Mode

Spectrum Plot Value of 26dB BW	
802.11a_Chain 0 / CH144	**802.11ax (HE20)_Chain 0 / CH144**
	
802.11a_Chain 1 / CH144	**802.11ax (HE20)_Chain 1 / CH144**
	
802.11a_Chain 2 / CH144	**802.11ax (HE20)_Chain 2 / CH144**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Marker 1

Spectrum Plot Value of 26dB BW	
802.11ax (HE40)_Chain 0 / CH142	**802.11ax (HE80)_Chain 0 / CH138**
	
802.11ax (HE40)_Chain 1 / CH142	**802.11ax (HE80)_Chain 1 / CH138**
	
802.11ax (HE40)_Chain 2 / CH142	**802.11ax (HE80)_Chain 2 / CH138**
	

Note:

For CH142 (U-NII-2C) = 5725MHz - Marker 1
For CH138 (U-NII-2C) = 5725MHz - Marker 1

4.3.9 Test Results (Mode 4)

CDD Mode

POWER OUTPUT

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
52	5260	18.35	17.38	123.093	20.90	24.00	Pass
60	5300	18.33	17.44	123.54	20.92	24.00	Pass
64	5320	18.24	17.51	123.044	20.90	24.00	Pass
100	5500	17.75	17.82	120.1	20.80	24.00	Pass
116	5580	17.89	17.71	120.538	20.81	24.00	Pass
140	5700	18.16	17.69	124.213	20.94	24.00	Pass
*144 (U-NII-2C Band)	5720	16.03	15.42	74.92	18.75	22.98	Pass
*144 (U-NII-3 Band)	5720	9.30	8.63	15.806	11.99	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
144	5720	90.726	19.58	17.96	17.59	119.929	20.79

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.71	24.36 > 24
60	5300	21.72	24.36 > 24
64	5320	21.69	24.36 > 24
100	5500	21.68	24.36 > 24
116	5580	21.72	24.36 > 24
140	5700	21.75	24.37 > 24
144 (U-NII-2C Band)	5720	15.81	22.98 < 24

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
52	5260	18.25	16.89	115.7	20.63	24.00	Pass
60	5300	18.20	17.11	117.474	20.70	24.00	Pass
64	5320	18.21	17.06	117.038	20.68	24.00	Pass
100	5500	16.63	16.93	95.343	19.79	24.00	Pass
116	5580	17.55	17.71	115.905	20.64	24.00	Pass
140	5700	17.43	17.09	106.503	20.27	24.00	Pass
*144 (U-NII-2C Band)	5720	15.07	14.27	60.172	17.79	23.03	Pass
*144 (U-NII-3 Band)	5720	9.39	9.50	17.992	12.55	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
144	5720	78.164	18.93	17.88	17.65	119.587	20.78

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.89	24.4 > 24
60	5300	21.89	24.4 > 24
64	5320	21.9	24.4 > 24
100	5500	21.88	24.4 > 24
116	5580	21.9	24.4 > 24
140	5700	21.78	24.38 > 24
144 (U-NII-2C Band)	5720	15.96	23.03 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
54	5270	21.21	19.98	231.67	23.65	24.00	Pass
62	5310	18.29	16.96	117.112	20.69	24.00	Pass
102	5510	17.45	17.13	107.232	20.30	24.00	Pass
110	5550	20.88	20.59	237.013	23.75	24.00	Pass
134	5670	19.32	19.06	166.045	22.20	24.00	Pass
*142 (U-NII-2C Band)	5710	15.15	14.60	64.769	18.11	24.00	Pass
*142 (U-NII-3 Band)	5710	5.52	4.39	6.64	8.22	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
142	5710	71.409	18.54	17.89	17.37	116.093	20.65

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	42.73	27.3 > 24
62	5310	41.3	27.15 > 24
102	5510	41.38	27.16 > 24
110	5550	44.75	27.5 > 24
134	5670	41.38	27.16 > 24
142 (U-NII-2C Band)	5710	35.43	26.49 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
58	5290	18.22	17.06	117.19	20.69	24.00	Pass
106	5530	17.23	16.68	99.403	19.97	24.00	Pass
122	5610	20.49	20.12	214.745	23.32	24.00	Pass
*138 (U-NII-2C Band)	5690	15.22	14.25	64.975	18.13	24.00	Pass
*138 (U-NII-3 Band)	5690	1.79	-1.06	2.4889	3.96	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
138	5690	67.4639	18.29	18.21	17.55	123.107	20.90

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.09	30.19 > 24
106	5530	83.2	30.2 > 24
122	5610	85.68	30.32 > 24
138 (U-NII-2C Band)	5690	76.12	29.81 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
52	5260	18.42	17.06	120.318	20.80	24.00	Pass
60	5300	18.36	17.29	122.128	20.87	24.00	Pass
64	5320	18.38	17.26	122.076	20.87	24.00	Pass
100	5500	16.82	17.09	99.252	19.97	24.00	Pass
116	5580	17.77	17.88	121.217	20.84	24.00	Pass
140	5700	17.62	17.21	110.411	20.43	24.00	Pass
*144 (U-NII-2C Band)	5720	15.42	14.49	64.349	18.09	23.03	Pass
*144 (U-NII-3 Band)	5720	10.12	9.82	20.315	13.08	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
144	5720	84.664	19.28	17.92	17.67	120.423	20.81

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.89	24.4 > 24
60	5300	21.89	24.4 > 24
64	5320	21.9	24.4 > 24
100	5500	21.88	24.4 > 24
116	5580	21.9	24.4 > 24
140	5700	21.78	24.38 > 24
144 (U-NII-2C Band)	5720	15.96	23.03 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
54	5270	21.37	20.13	240.127	23.80	24.00	Pass
62	5310	18.46	17.09	121.314	20.84	24.00	Pass
102	5510	17.62	17.29	111.389	20.47	24.00	Pass
110	5550	21.03	20.71	244.526	23.88	24.00	Pass
134	5670	19.46	19.21	171.676	22.35	24.00	Pass
*142 (U-NII-2C Band)	5710	15.42	14.80	68.407	18.35	24.00	Pass
*142 (U-NII-3 Band)	5710	5.78	4.74	7.114	8.52	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
142	5710	75.521	18.78	17.93	17.42	117.295	20.69

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	42.73	27.3 > 24
62	5310	41.3	27.15 > 24
102	5510	41.38	27.16 > 24
110	5550	44.75	27.5 > 24
134	5670	41.38	27.16 > 24
142 (U-NII-2C Band)	5710	35.43	26.49 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
58	5290	18.36	17.17	120.668	20.82	24.00	Pass
106	5530	17.39	16.81	102.801	20.12	24.00	Pass
122	5610	20.64	20.27	222.292	23.47	24.00	Pass
*138 (U-NII-2C Band)	5690	15.37	14.46	67.674	18.30	24.00	Pass
*138 (U-NII-3 Band)	5690	2.67	-0.91	2.8869	4.60	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
138	5690	70.5609	18.49	18.24	17.58	123.96	20.93

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.09	30.19 > 24
106	5530	83.2	30.2 > 24
122	5610	85.68	30.32 > 24
138 (U-NII-2C Band)	5690	76.12	29.81 > 24

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
52	5260	18.25	16.89	115.7	20.63	20.99	Pass
60	5300	18.20	17.11	117.474	20.70	20.99	Pass
64	5320	18.21	17.06	117.038	20.68	20.99	Pass
100	5500	16.63	16.93	95.343	19.79	20.99	Pass
116	5580	17.55	17.71	115.905	20.64	20.99	Pass
140	5700	17.43	17.09	106.503	20.27	20.99	Pass
*144 (U-NII-2C Band)	5720	15.07	14.27	60.172	17.79	20.02	Pass
*144 (U-NII-3 Band)	5720	9.39	9.50	17.992	12.55	26.99	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(9.01-6)”.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
144	5720	78.164	18.93	17.76	17.52	116.197	20.65

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.89	24.4 > 24
60	5300	21.89	24.4 > 24
64	5320	21.9	24.4 > 24
100	5500	21.88	24.4 > 24
116	5580	21.9	24.4 > 24
140	5700	21.78	24.38 > 24
144 (U-NII-2C Band)	5720	15.96	23.03 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
54	5270	18.35	17.06	119.207	20.76	20.99	Pass
62	5310	18.39	16.98	118.912	20.75	20.99	Pass
102	5510	17.45	17.13	107.232	20.30	20.99	Pass
110	5550	17.74	17.55	116.315	20.66	20.99	Pass
134	5670	17.79	17.48	116.093	20.65	20.99	Pass
*142 (U-NII-2C Band)	5710	15.15	14.60	64.769	18.11	20.99	Pass
*142 (U-NII-3 Band)	5710	5.52	4.39	6.64	8.22	26.99	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(9.01-6)”.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
142	5710	71.409	18.54	17.80	17.50	116.49	20.66

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	42.73	27.3 > 24
62	5310	41.3	27.15 > 24
102	5510	41.38	27.16 > 24
110	5550	44.75	27.5 > 24
134	5670	41.38	27.16 > 24
142 (U-NII-2C Band)	5710	35.43	26.49 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
58	5290	18.22	17.06	117.19	20.69	20.99	Pass
106	5530	17.23	16.68	99.403	19.97	20.99	Pass
122	5610	18.05	17.39	118.654	20.74	20.99	Pass
*138 (U-NII-2C Band)	5690	14.93	14.06	61.407	17.88	20.99	Pass
*138 (U-NII-3 Band)	5690	1.44	-1.49	2.2819	3.58	26.99	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(9.01-6)”.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
138	5690	63.6889	18.04	18.02	17.44	118.85	20.75

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.09	30.19 > 24
106	5530	83.2	30.2 > 24
122	5610	85.68	30.32 > 24
138 (U-NII-2C Band)	5690	76.12	29.81 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
52	5260	18.29	16.95	116.998	20.68	20.99	Pass
60	5300	18.26	17.14	118.749	20.75	20.99	Pass
64	5320	18.30	17.13	119.25	20.76	20.99	Pass
100	5500	16.82	17.09	99.252	19.97	20.99	Pass
116	5580	17.77	17.88	121.217	20.84	20.99	Pass
140	5700	17.62	17.21	110.411	20.43	20.99	Pass
*144 (U-NII-2C Band)	5720	15.42	14.49	64.349	18.09	20.02	Pass
*144 (U-NII-3 Band)	5720	10.12	9.82	20.315	13.08	26.99	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(9.01-6)”.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
144	5720	84.664	19.28	17.92	17.67	120.423	20.81

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.89	24.4 > 24
60	5300	21.89	24.4 > 24
64	5320	21.9	24.4 > 24
100	5500	21.88	24.4 > 24
116	5580	21.9	24.4 > 24
140	5700	21.78	24.38 > 24
144 (U-NII-2C Band)	5720	15.96	23.03 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
54	5270	18.45	17.13	121.626	20.85	20.99	Pass
62	5310	18.51	17.07	121.891	20.86	20.99	Pass
102	5510	17.62	17.29	111.389	20.47	20.99	Pass
110	5550	17.83	17.64	118.75	20.75	20.99	Pass
134	5670	17.91	17.56	118.818	20.75	20.99	Pass
*142 (U-NII-2C Band)	5710	15.42	14.80	68.407	18.35	20.99	Pass
*142 (U-NII-3 Band)	5710	5.78	4.74	7.114	8.52	26.99	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(9.01-6)”.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
142	5710	75.521	18.78	17.89	17.59	118.929	20.75

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	42.73	27.3 > 24
62	5310	41.3	27.15 > 24
102	5510	41.38	27.16 > 24
110	5550	44.75	27.5 > 24
134	5670	41.38	27.16 > 24
142 (U-NII-2C Band)	5710	35.43	26.49 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 2				
58	5290	18.25	17.05	117.533	20.70	20.99	Pass
106	5530	17.39	16.81	102.801	20.12	20.99	Pass
122	5610	18.17	17.49	121.719	20.85	20.99	Pass
*138 (U-NII-2C Band)	5690	14.91	14.33	63.025	18.00	20.99	Pass
*138 (U-NII-3 Band)	5690	2.52	-1.34	2.7358	4.37	26.99	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(9.01-6)”.

The Total Power for the straddle channel and power meter value for reference only:

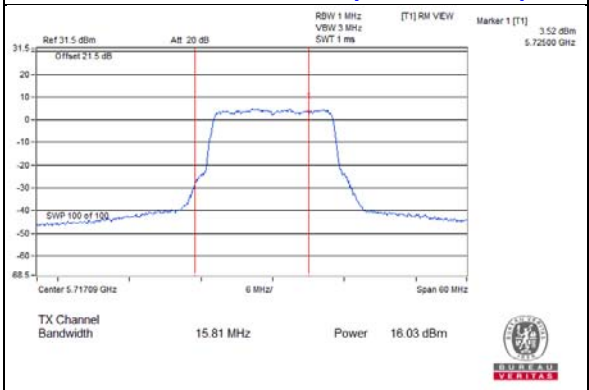
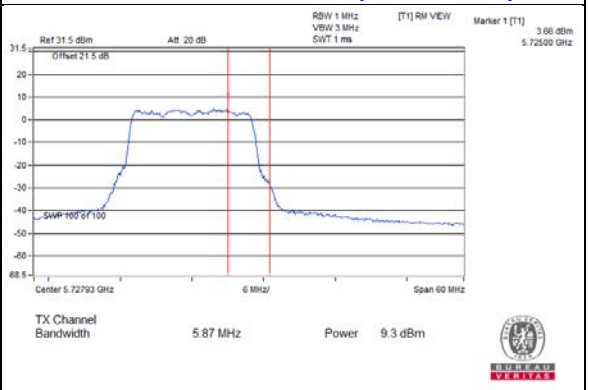
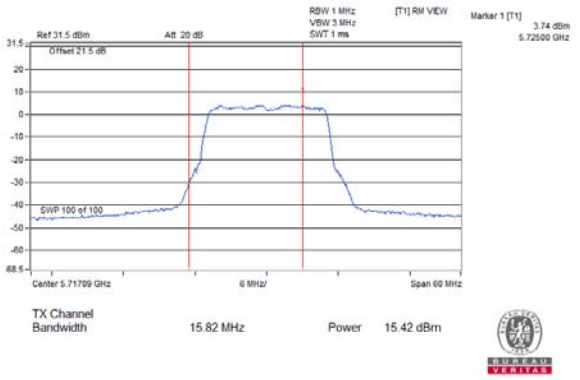
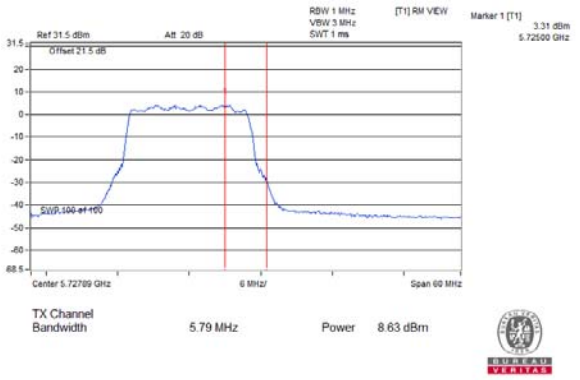
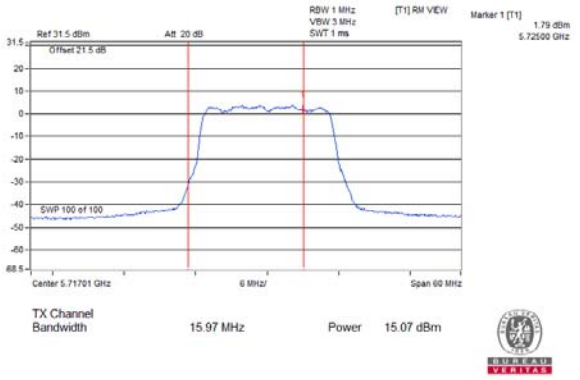
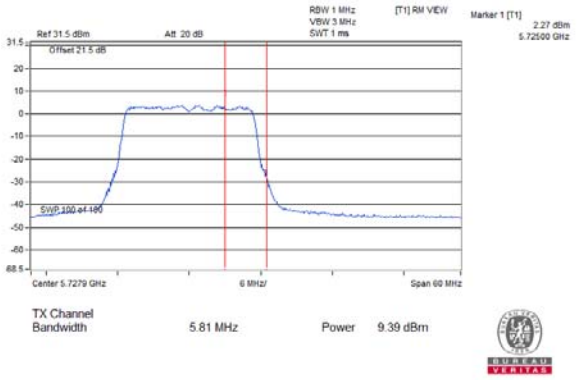
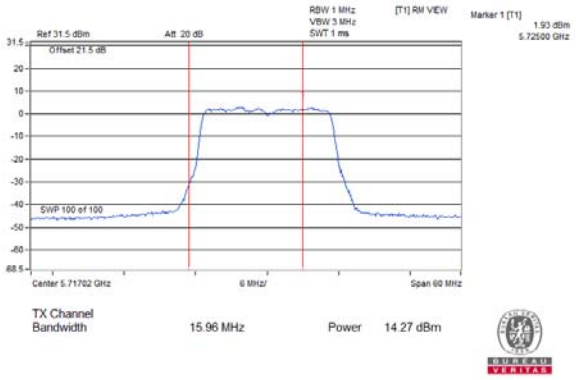
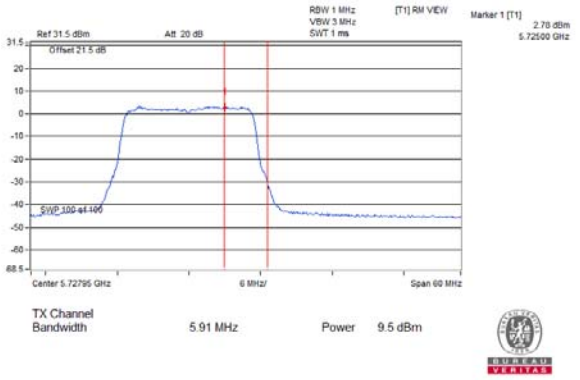
Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 2		
138	5690	65.7608	18.18	18.14	17.55	122.048	20.87

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.09	30.19 > 24
106	5530	83.2	30.2 > 24
122	5610	85.68	30.32 > 24
138 (U-NII-2C Band)	5690	76.12	29.81 > 24

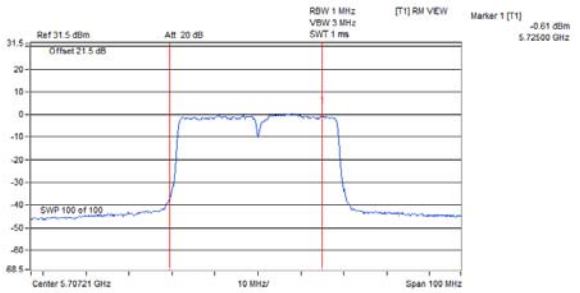
For channel straddling 5725MHz of Power

CDD Mode

Spectrum Plot Value of Power	
802.11a_Chain 0 / CH144 (U-NII-2C Band)	**802.11a_Chain 0 / CH144 (U-NII-3 Band)**
	
802.11a_Chain 2 / CH144 (U-NII-2C Band)	**802.11a_Chain 2 / CH144 (U-NII-3 Band)**
	
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-2C Band)	**802.11ac (VHT20)_Chain 0 / CH144 (U-NII-3 Band)**
	
802.11ac (VHT20)_Chain 2 / CH144 (U-NII-2C Band)	**802.11ac (VHT20)_Chain 2 / CH144 (U-NII-3 Band)**
	

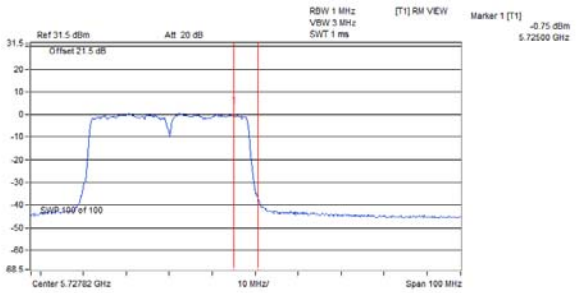
Spectrum Plot Value of Power

802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band)



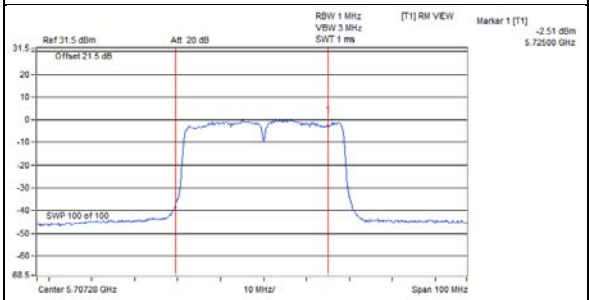
TX Channel Bandwidth 35.58 MHz Power 15.15 dBm

802.11ac (VHT40)_Chain 0 / CH142 (U-NII-3 Band)



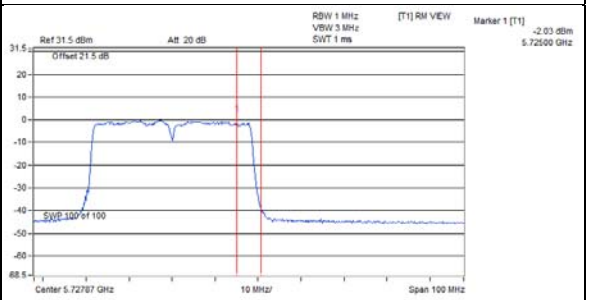
TX Channel Bandwidth 5.65 MHz Power 5.52 dBm

802.11ac (VHT40)_Chain 2 / CH142 (U-NII-2C Band)



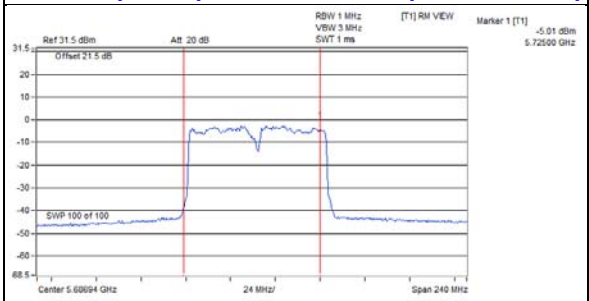
TX Channel Bandwidth 35.43 MHz Power 14.6 dBm

802.11ac (VHT40)_Chain 2 / CH142 (U-NII-3 Band)



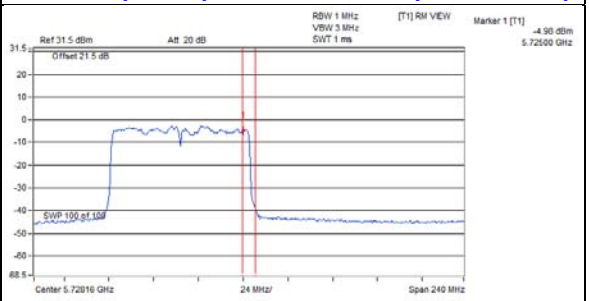
TX Channel Bandwidth 5.75 MHz Power 4.39 dBm

802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C Band)



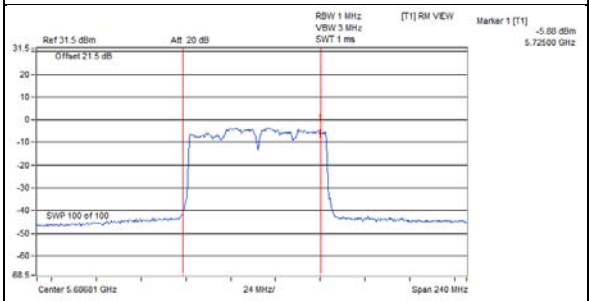
TX Channel Bandwidth 76.12 MHz Power 15.22 dBm

802.11ac (VHT80)_Chain 0 / CH138 (U-NII-3 Band)



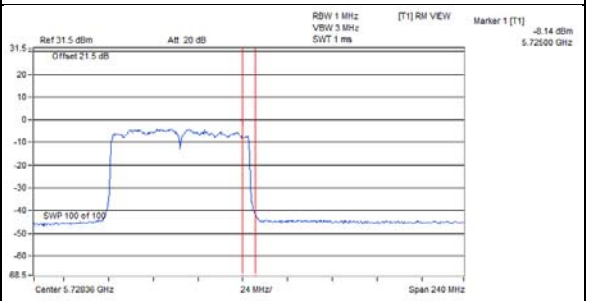
TX Channel Bandwidth 6.32 MHz Power 1.79 dBm

802.11ac (VHT80)_Chain 2 / CH138 (U-NII-2C Band)



TX Channel Bandwidth 76.37 MHz Power 14.25 dBm

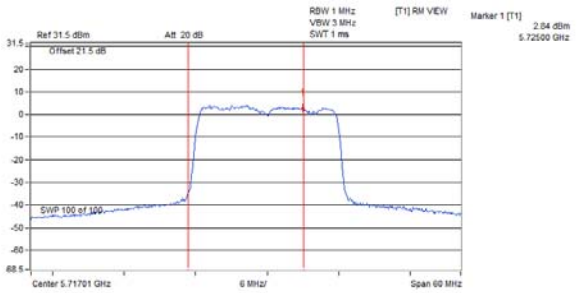
802.11ac (VHT80)_Chain 2 / CH138 (U-NII-3 Band)



TX Channel Bandwidth 6.72 MHz Power -1.06 dBm

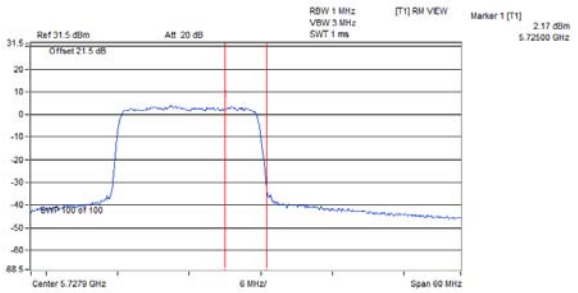
Spectrum Plot Value of Power

802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



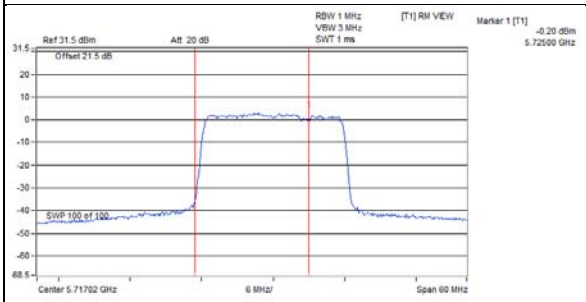
TX Channel Bandwidth 15.97 MHz Power 15.42 dBm

802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



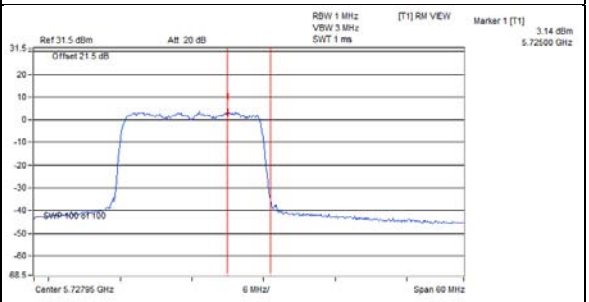
TX Channel Bandwidth 5.81 MHz Power 10.12 dBm

802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)



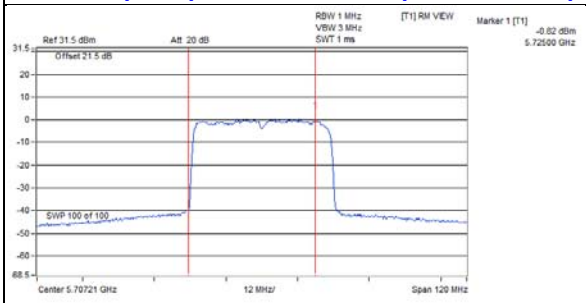
TX Channel Bandwidth 15.96 MHz Power 14.49 dBm

802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



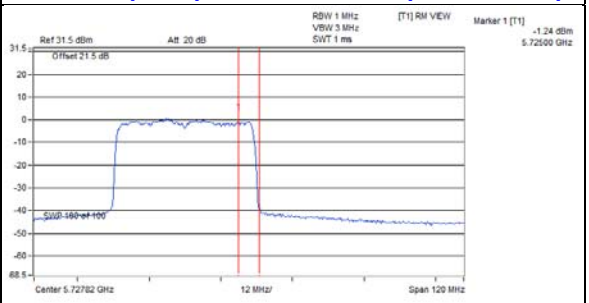
TX Channel Bandwidth 5.91 MHz Power 9.82 dBm

802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)



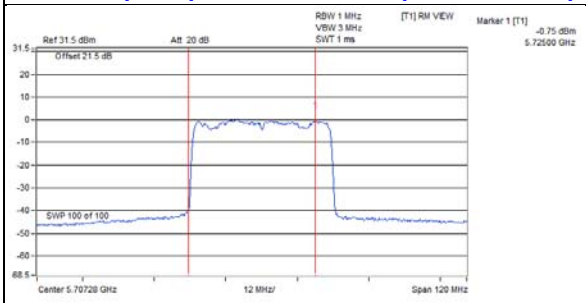
TX Channel Bandwidth 35.58 MHz Power 15.42 dBm

802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



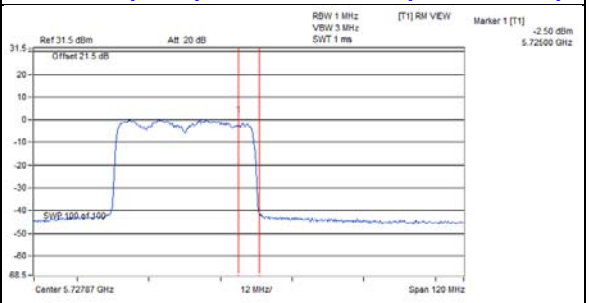
TX Channel Bandwidth 5.65 MHz Power 5.78 dBm

802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)

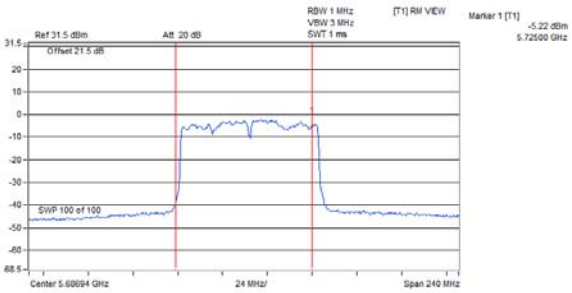
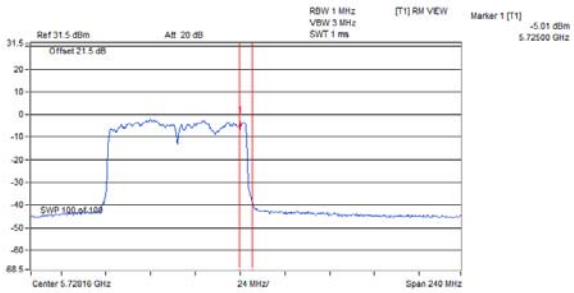
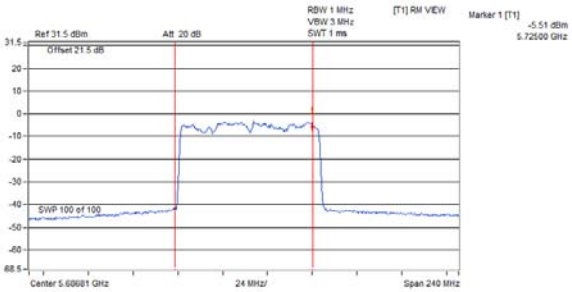
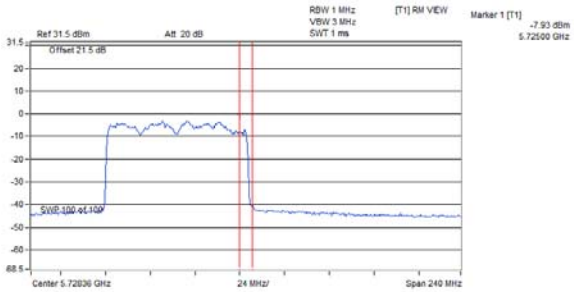


TX Channel Bandwidth 35.43 MHz Power 14.8 dBm

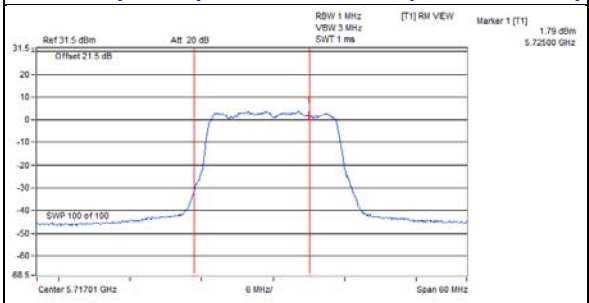
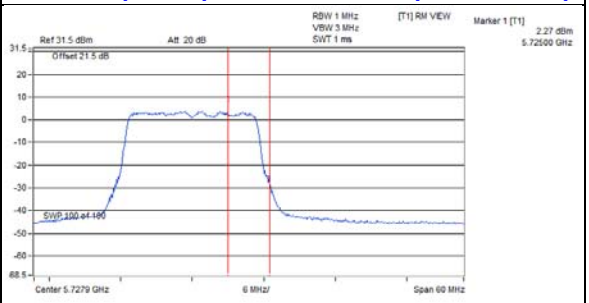
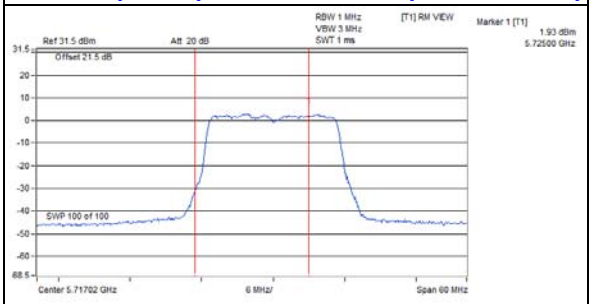
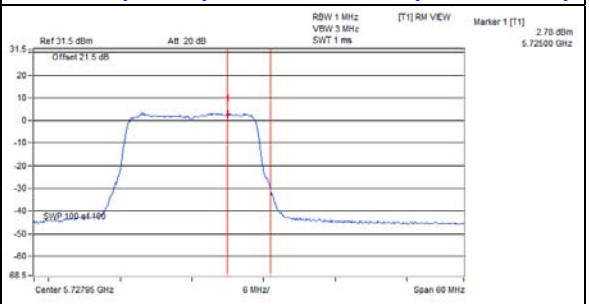
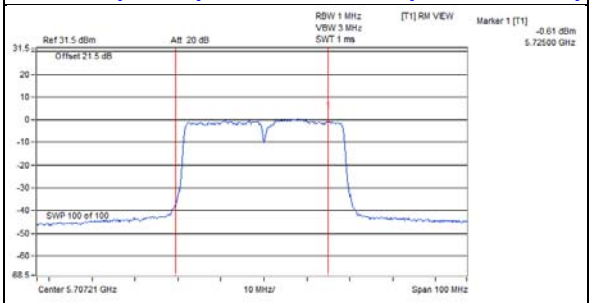
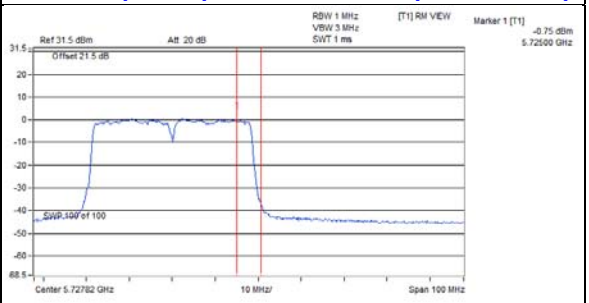
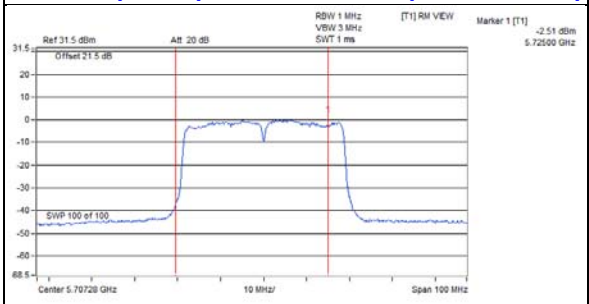
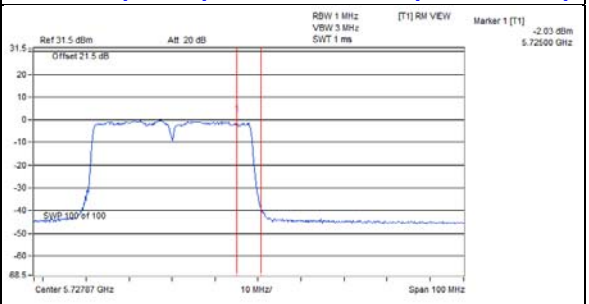
802.11ax (HE40)_Chain 2 / CH142 (U-NII-3 Band)

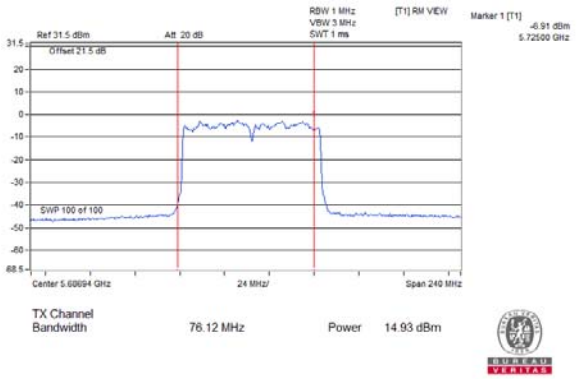
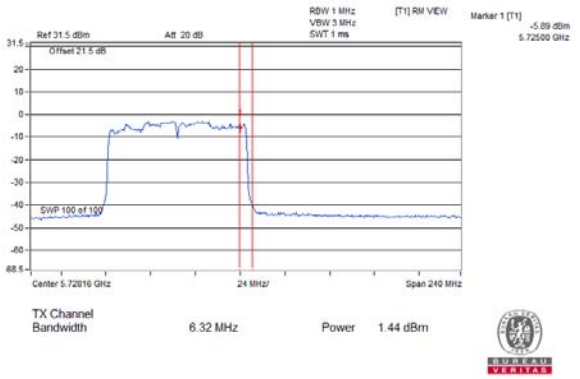
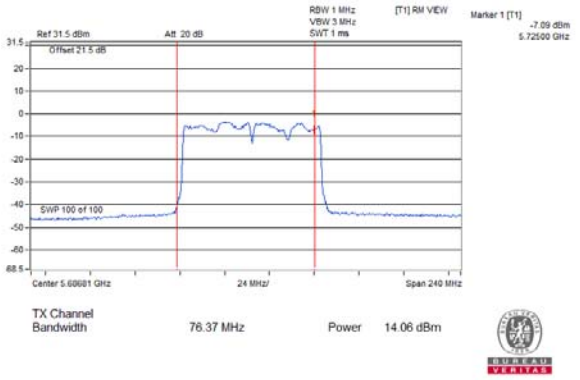
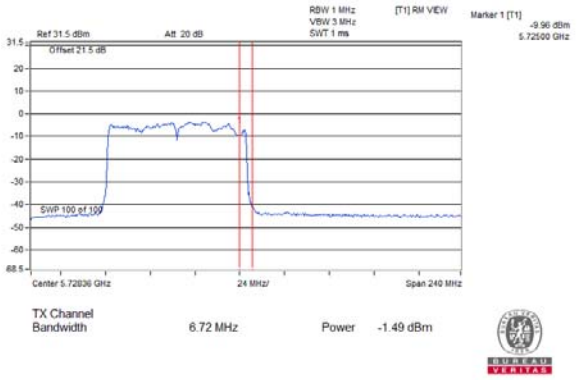


TX Channel Bandwidth 5.75 MHz Power 4.74 dBm

Spectrum Plot Value of Power	
802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)	**802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)**
 TX Channel Bandwidth 76.12 MHz Power 15.37 dBm	 TX Channel Bandwidth 6.32 MHz Power 2.67 dBm
802.11ax (HE80)_Chain 2 / CH138 (U-NII-2C Band)	**802.11ax (HE80)_Chain 2 / CH138 (U-NII-3 Band)**
 TX Channel Bandwidth 76.37 MHz Power 14.46 dBm	 TX Channel Bandwidth 6.72 MHz Power -0.91 dBm

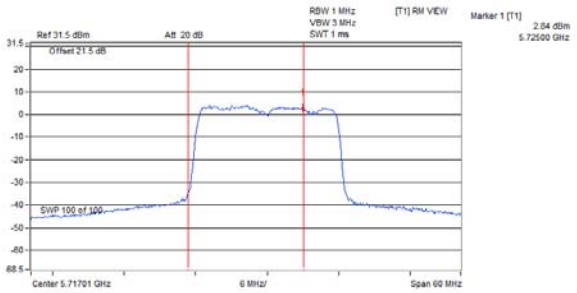
Beamforming Mode

Spectrum Plot Value of Power	
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-2C Band)	**802.11ac (VHT20)_Chain 0 / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 15.97 MHz Power 15.07 dBm	 TX Channel Bandwidth 5.81 MHz Power 9.39 dBm
802.11ac (VHT20)_Chain 2 / CH144 (U-NII-2C Band)	**802.11ac (VHT20)_Chain 2 / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 15.96 MHz Power 14.27 dBm	 TX Channel Bandwidth 5.91 MHz Power 9.5 dBm
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band)	**802.11ac (VHT40)_Chain 0 / CH142 (U-NII-3 Band)**
 TX Channel Bandwidth 35.58 MHz Power 15.15 dBm	 TX Channel Bandwidth 5.65 MHz Power 5.52 dBm
802.11ac (VHT40)_Chain 2 / CH142 (U-NII-2C Band)	**802.11ac (VHT40)_Chain 2 / CH142 (U-NII-3 Band)**
 TX Channel Bandwidth 35.43 MHz Power 14.6 dBm	 TX Channel Bandwidth 5.75 MHz Power 4.39 dBm

Spectrum Plot Value of Power	
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C Band)	**802.11ac (VHT80)_Chain 0 / CH138 (U-NII-3 Band)**
	
802.11ac (VHT80)_Chain 2 / CH138 (U-NII-2C Band)	**802.11ac (VHT80)_Chain 2 / CH138 (U-NII-3 Band)**
	

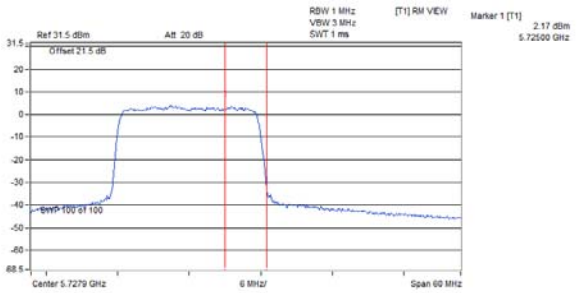
Spectrum Plot Value of Power

802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



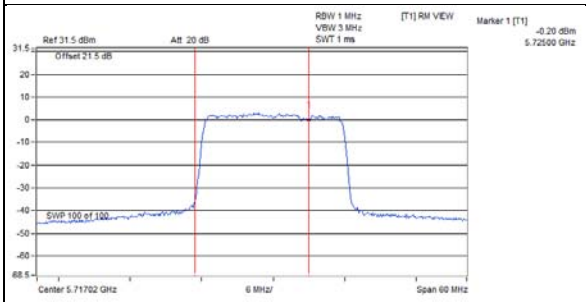
TX Channel Bandwidth 15.97 MHz Power 15.42 dBm

802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



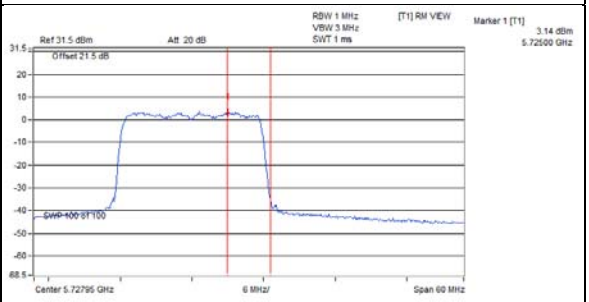
TX Channel Bandwidth 5.81 MHz Power 10.12 dBm

802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)



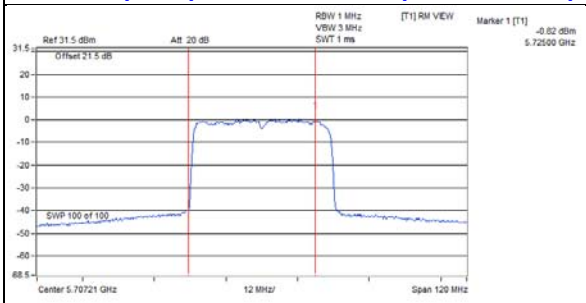
TX Channel Bandwidth 15.96 MHz Power 14.49 dBm

802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



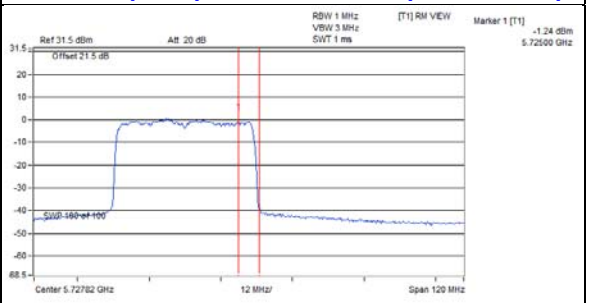
TX Channel Bandwidth 5.91 MHz Power 9.82 dBm

802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)



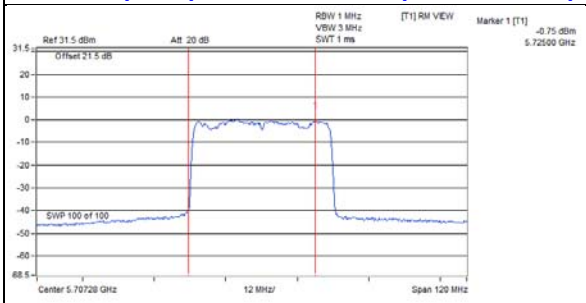
TX Channel Bandwidth 35.58 MHz Power 15.42 dBm

802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



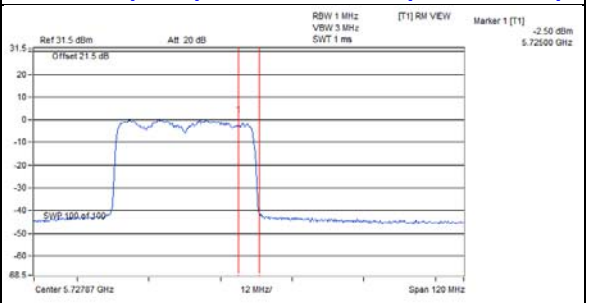
TX Channel Bandwidth 5.65 MHz Power 5.78 dBm

802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)

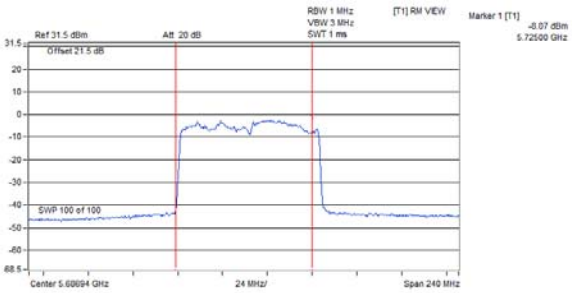
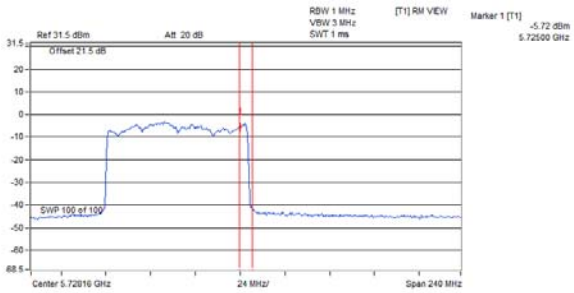
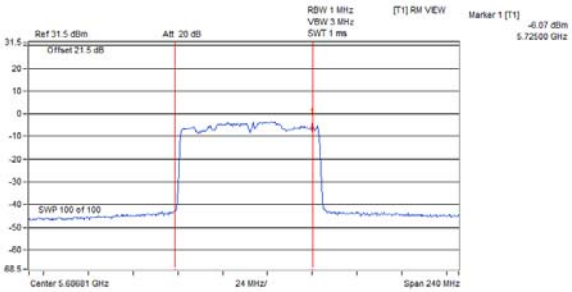
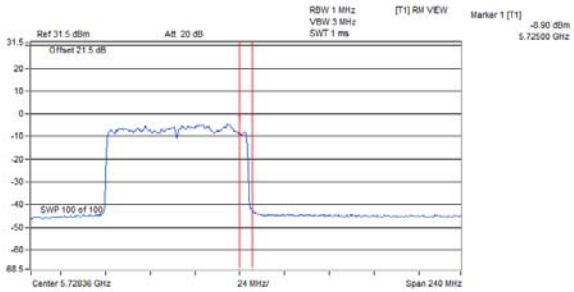


TX Channel Bandwidth 35.43 MHz Power 14.8 dBm

802.11ax (HE40)_Chain 2 / CH142 (U-NII-3 Band)



TX Channel Bandwidth 5.75 MHz Power 4.74 dBm

Spectrum Plot Value of Power	
802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)	**802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)**
 TX Channel Bandwidth 76.12 MHz Power 14.91 dBm	 TX Channel Bandwidth 6.32 MHz Power 2.52 dBm
802.11ax (HE80)_Chain 2 / CH138 (U-NII-2C Band)	**802.11ax (HE80)_Chain 2 / CH138 (U-NII-3 Band)**
 TX Channel Bandwidth 76.37 MHz Power 14.33 dBm	 TX Channel Bandwidth 6.72 MHz Power -1.34 dBm

26dB OCCUPIED BANDWIDTH

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 2
52	5260	21.74	21.71
60	5300	21.72	21.83
64	5320	21.69	21.76
100	5500	21.68	21.73
116	5580	21.75	21.72
140	5700	21.78	21.75
144 (U-NII-2C Band)	5720	15.81	15.82

802.11ax (HE20)

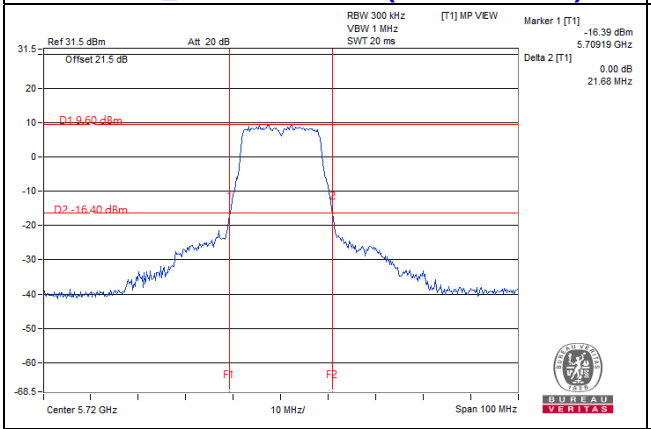
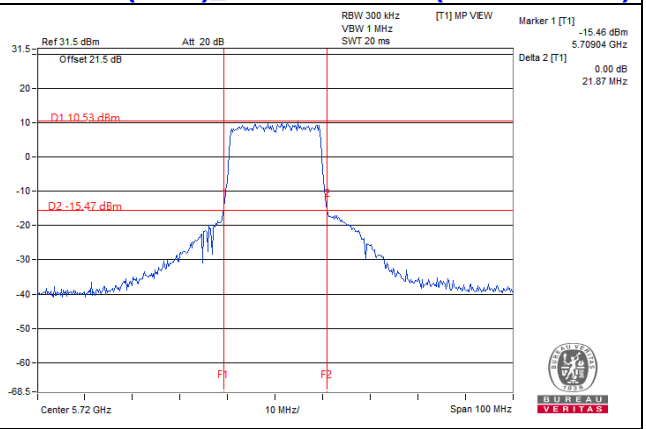
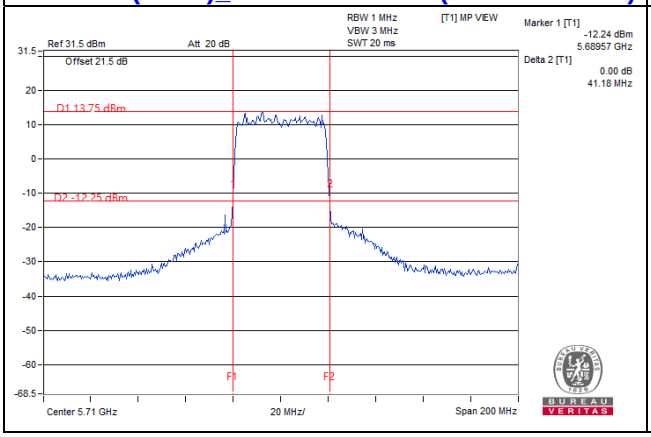
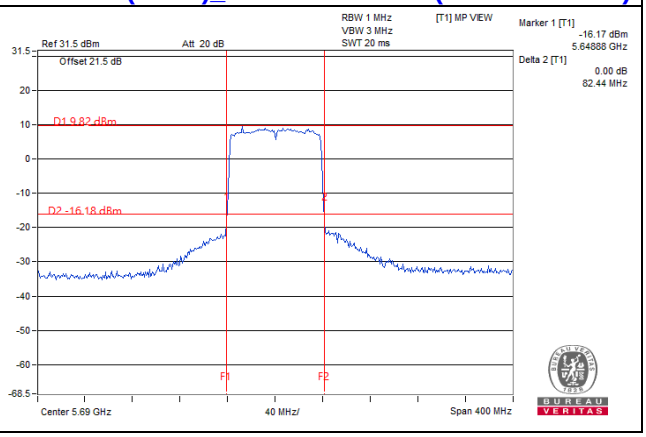
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 2
52	5260	21.92	21.89
60	5300	21.94	21.89
64	5320	21.9	21.93
100	5500	21.9	21.88
116	5580	21.9	21.9
140	5700	21.78	21.83
144 (U-NII-2C Band)	5720	15.97	15.96

802.11ax (HE40)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 2
54	5270	56.43	42.73
62	5310	41.44	41.3
102	5510	41.4	41.38
110	5550	44.75	60.14
134	5670	41.41	41.38
142 (U-NII-2C Band)	5710	35.58	35.43

802.11ax (HE80)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 2
58	5290	83.44	83.09
106	5530	83.2	83.4
122	5610	85.68	87.41
138 (U-NII-2C Band)	5690	76.12	76.37

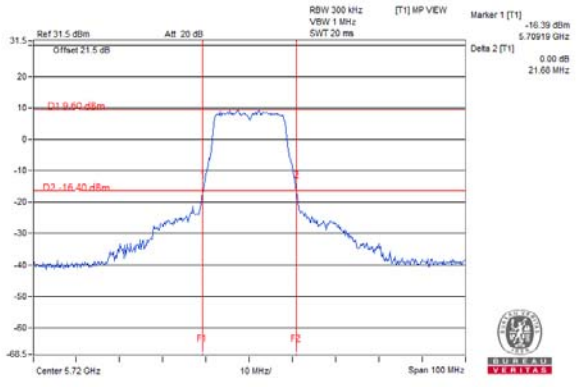
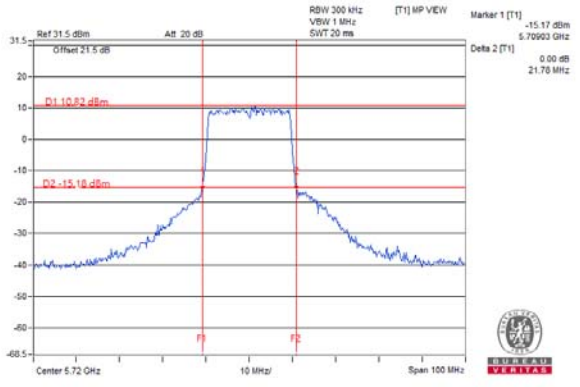
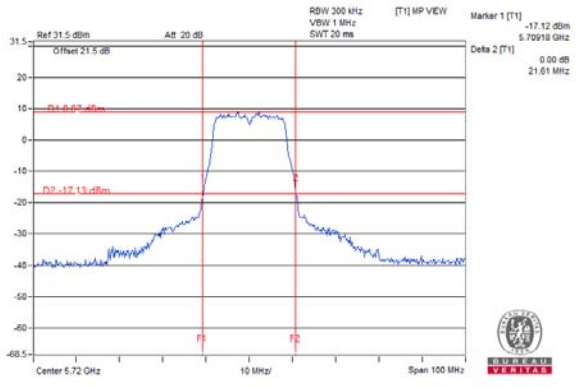
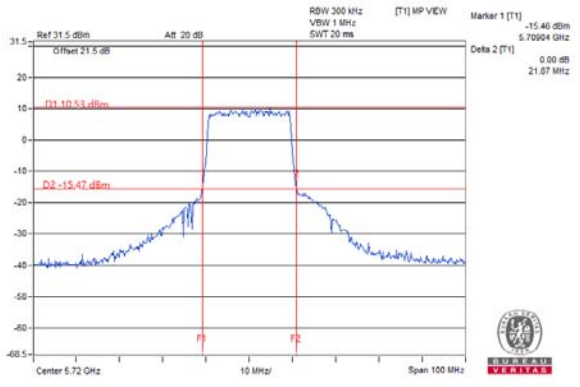
Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH144 (U-NII-2C Band)	**802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)**
	
802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)	**802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Marker 1
For CH142 (U-NII-2C) = 5725MHz - Marker 1
For CH138 (U-NII-2C) = 5725MHz - Marker 1

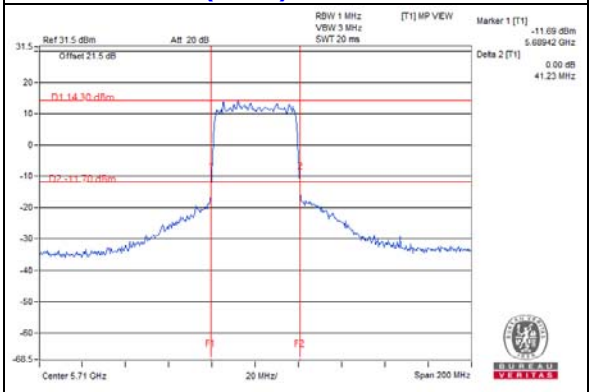
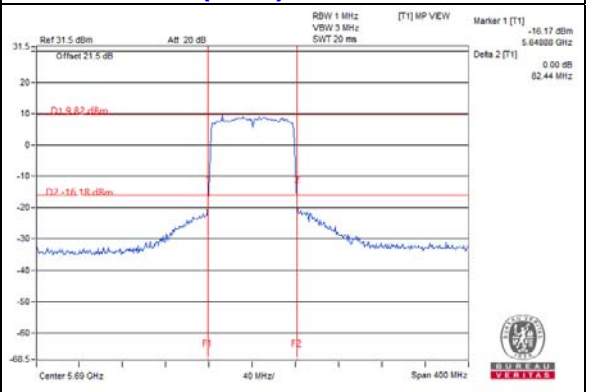
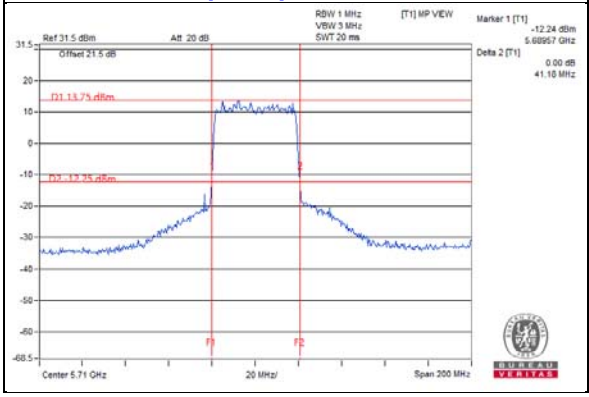
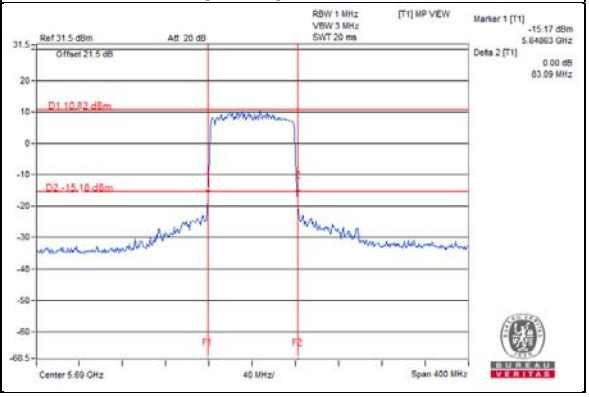
For channel straddling 5725MHz of 26dB BW

CDD Mode

Spectrum Plot Value of 26dB BW	
802.11a_Chain 0 / CH144	**802.11ax (HE20)_Chain 0 / CH144**
	
802.11a_Chain 2 / CH144	**802.11ax (HE20)_Chain 2 / CH144**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Marker 1

Spectrum Plot Value of 26dB BW	
802.11ax (HE40)_Chain 0 / CH142	**802.11ax (HE80)_Chain 0 / CH138**
	
802.11ax (HE40)_Chain 2 / CH142	**802.11ax (HE80)_Chain 2 / CH138**
	

Note:

For CH142 (U-NII-2C) = 5725MHz - Marker 1
For CH138 (U-NII-2C) = 5725MHz - Marker 1

4.3.10 Test Results (Mode 5)

POWER OUTPUT

802.11a

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
52	5260	181.552	22.59	24.00	Pass
60	5300	180.717	22.57	24.00	Pass
64	5320	171.396	22.34	24.00	Pass
100	5500	118.577	20.74	24.00	Pass
116	5580	179.473	22.54	24.00	Pass
140	5700	183.231	22.63	24.00	Pass
*144 (U-NII-2C Band)	5720	116.413	20.66	24.00	Pass
*144 (U-NII-3 Band)	5720	29.444	14.69	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
144	5720	145.857	21.64	180.717	22.57

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	43.61	27.39 > 24
60	5300	43.67	27.4 > 24
64	5320	43.63	27.39 > 24
100	5500	26.76	25.27 > 24
116	5580	43.38	27.37 > 24
140	5700	43.96	27.43 > 24
144 (U-NII-2C Band)	5720	23.85	24.77 > 24

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
52	5260	181.552	22.59	24.00	Pass
60	5300	183.231	22.63	24.00	Pass
64	5320	135.207	21.31	24.00	Pass
100	5500	91.411	19.61	24.00	Pass
116	5580	179.887	22.55	24.00	Pass
140	5700	71.45	18.54	24.00	Pass
*144 (U-NII-2C Band)	5720	107.282	20.31	24.00	Pass
*144 (U-NII-3 Band)	5720	31.516	14.99	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
144	5720	138.798	21.42	181.552	22.59

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	41.73	27.2 > 24
60	5300	45.25	27.55 > 24
64	5320	29.83	25.74 > 24
100	5500	22.79	24.57 > 24
116	5580	39.61	26.97 > 24
140	5700	21.81	24.38 > 24
144 (U-NII-2C Band)	5720	25.55	25.07 > 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
54	5270	182.81	22.62	24.00	Pass
62	5310	95.06	19.78	24.00	Pass
102	5510	70.632	18.49	24.00	Pass
110	5550	183.654	22.64	24.00	Pass
134	5670	157.761	21.98	24.00	Pass
*142 (U-NII-2C Band)	5710	110.145	20.42	24.00	Pass
*142 (U-NII-3 Band)	5710	10.592	10.25	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
142	5710	120.737	20.82	180.302	22.56

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	79.75	30.01 > 24
62	5310	41.4	27.17 > 24
102	5510	41.44	27.17 > 24
110	5550	70.2	29.46 > 24
134	5670	66.56	29.23 > 24
142 (U-NII-2C Band)	5710	50.33	28.01 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
58	5290	97.499	19.89	24.00	Pass
106	5530	66.374	18.22	24.00	Pass
122	5610	187.068	22.72	24.00	Pass
*138 (U-NII-2C Band)	5690	104.355	20.19	24.00	Pass
*138 (U-NII-3 Band)	5690	4.126	6.16	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
138	5690	108.481	20.35	199.986	23.01

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.68	30.22 > 24
106	5530	83.23	30.2 > 24
122	5610	156.9	32.95 > 24
138 (U-NII-2C Band)	5690	119.5	31.77 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
52	5260	188.799	22.76	24.00	Pass
60	5300	190.985	22.81	24.00	Pass
64	5320	140.929	21.49	24.00	Pass
100	5500	96.161	19.83	24.00	Pass
116	5580	187.499	22.73	24.00	Pass
140	5700	74.473	18.72	24.00	Pass
*144 (U-NII-2C Band)	5720	109.781	20.41	24.00	Pass
*144 (U-NII-3 Band)	5720	33.383	15.24	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
144	5720	143.164	21.56	188.365	22.75

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	41.73	27.2 > 24
60	5300	45.25	27.55 > 24
64	5320	29.83	25.74 > 24
100	5500	22.79	24.57 > 24
116	5580	39.61	26.97 > 24
140	5700	21.81	24.38 > 24
144 (U-NII-2C Band)	5720	25.55	25.07 > 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
54	5270	189.671	22.78	24.00	Pass
62	5310	98.401	19.93	24.00	Pass
102	5510	72.778	18.62	24.00	Pass
110	5550	190.985	22.81	24.00	Pass
134	5670	163.305	22.13	24.00	Pass
*142 (U-NII-2C Band)	5710	112.711	20.52	24.00	Pass
*142 (U-NII-3 Band)	5710	11.481	10.60	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
142	5710	124.192	20.94	187.499	22.73

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	79.75	30.01 > 24
62	5310	41.4	27.17 > 24
102	5510	41.44	27.17 > 24
110	5550	70.2	29.46 > 24
134	5670	66.56	29.23 > 24
142 (U-NII-2C Band)	5710	50.33	28.01 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
58	5290	101.391	20.06	24.00	Pass
106	5530	68.707	18.37	24.00	Pass
122	5610	194.536	22.89	24.00	Pass
*138 (U-NII-2C Band)	5690	106.296	20.27	24.00	Pass
*138 (U-NII-3 Band)	5690	4.174	6.21	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

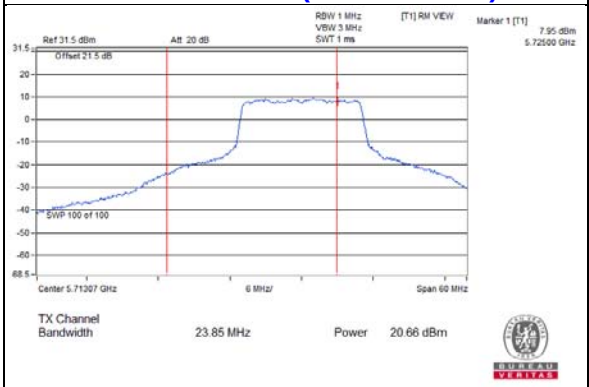
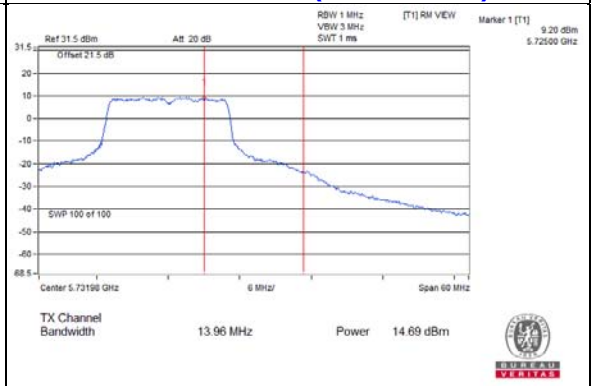
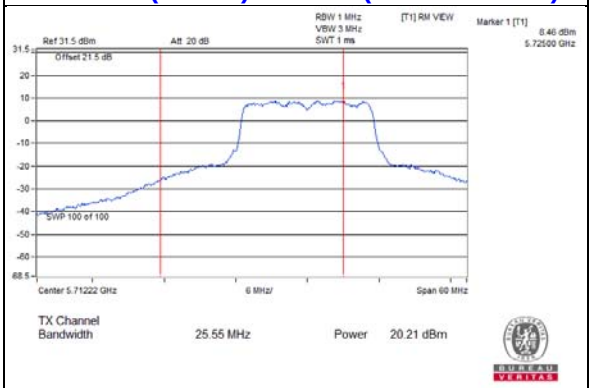
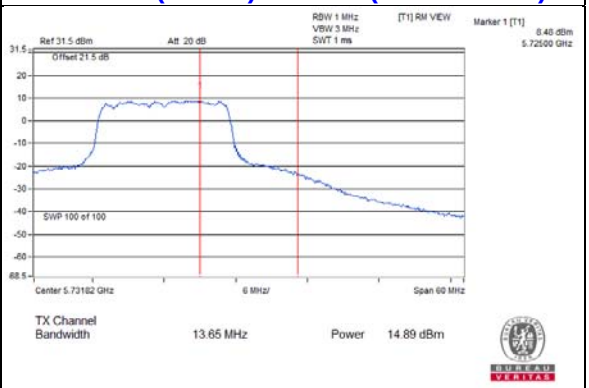
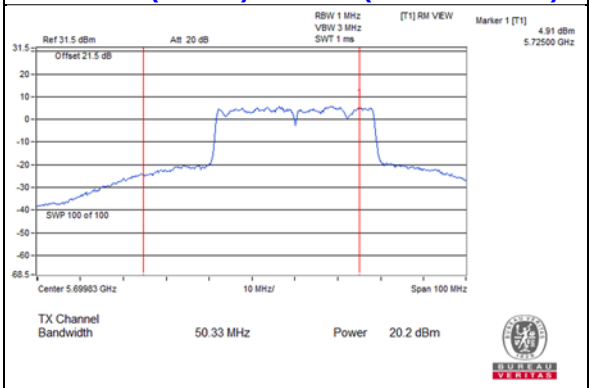
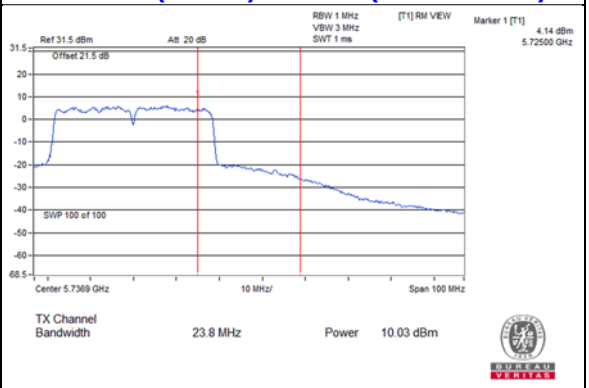
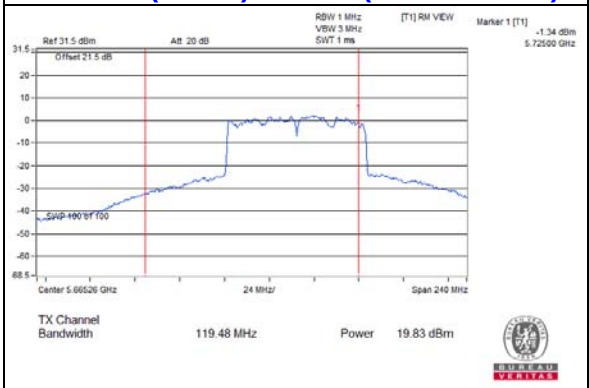
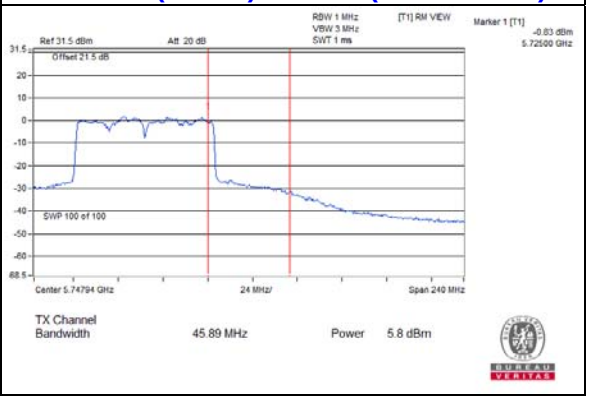
The Total Power for the straddle channel and power meter value for reference only:

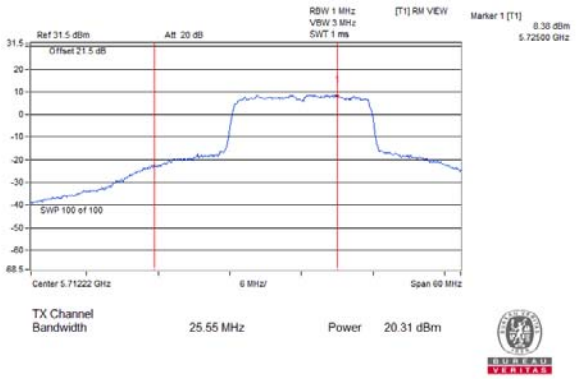
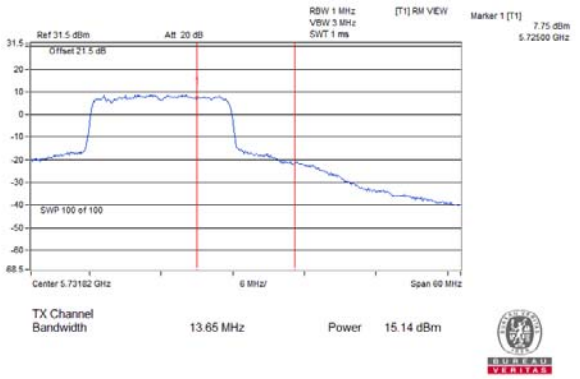
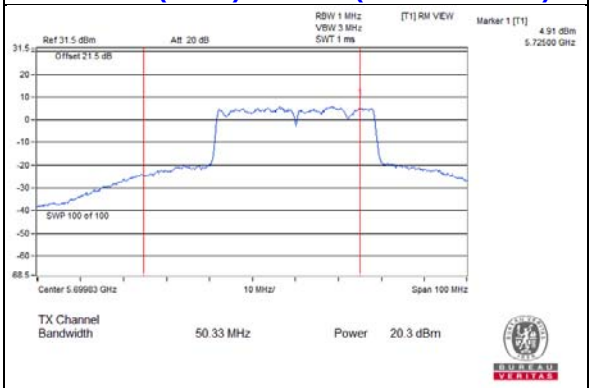
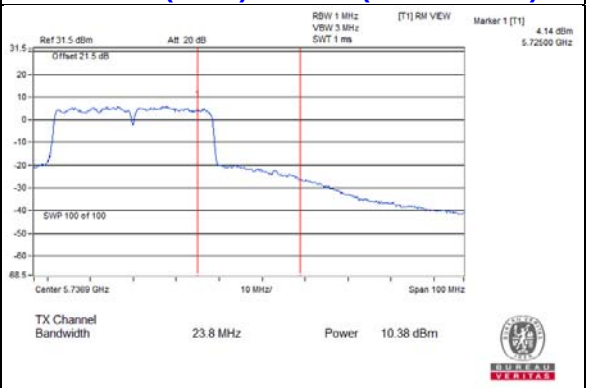
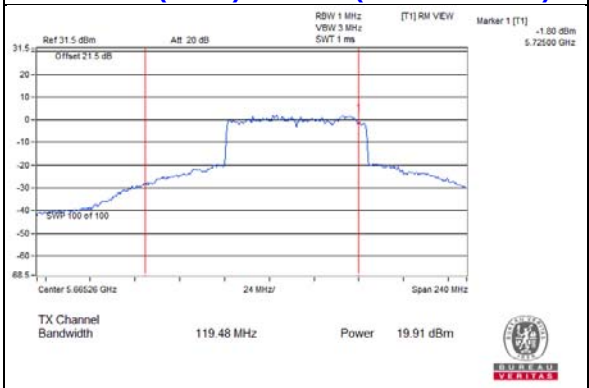
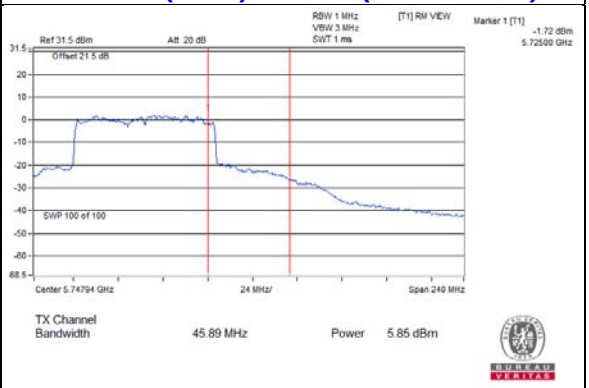
Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
138	5690	110.47	20.43	207.491	23.17

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.68	30.22 > 24
106	5530	83.23	30.2 > 24
122	5610	156.9	32.95 > 24
138 (U-NII-2C Band)	5690	119.5	31.77 > 24

For channel straddling 5725MHz of Power

Spectrum Plot Value of Power	
802.11a / CH144 (U-NII-2C Band)	**802.11a / CH144 (U-NII-3 Band)**
	
802.11ac (VHT20) / CH144 (U-NII-2C Band)	**802.11ac (VHT20) / CH144 (U-NII-3 Band)**
	
802.11ac (VHT40) / CH142 (U-NII-2C Band)	**802.11ac (VHT40) / CH142 (U-NII-3 Band)**
	
802.11ac (VHT80) / CH138 (U-NII-2C Band)	**802.11ac (VHT80) / CH138 (U-NII-3 Band)**
	

Spectrum Plot Value of Power	
802.11ax (HE20) / CH144 (U-NII-2C Band)	**802.11ax (HE20) / CH144 (U-NII-3 Band)**
	
802.11ax (HE40) / CH142 (U-NII-2C Band)	**802.11ax (HE40) / CH142 (U-NII-3 Band)**
	
802.11ax (HE80) / CH138 (U-NII-2C Band)	**802.11ax (HE80) / CH138 (U-NII-3 Band)**
	

26dB OCCUPIED BANDWIDTH

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
52	5260	43.61
60	5300	43.67
64	5320	43.63
100	5500	26.76
116	5580	43.38
140	5700	43.96
144 (U-NII-2C Band)	5720	23.85

802.11ax (HE20)

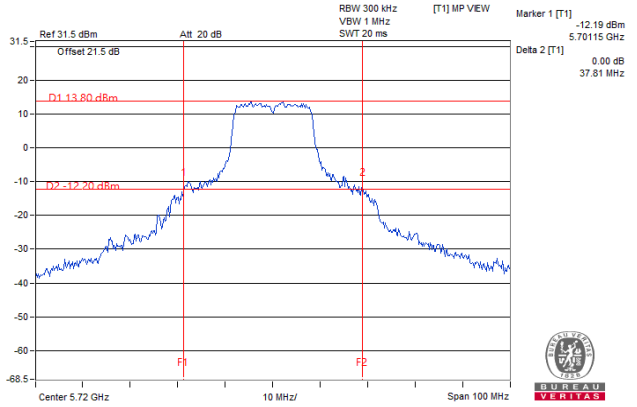
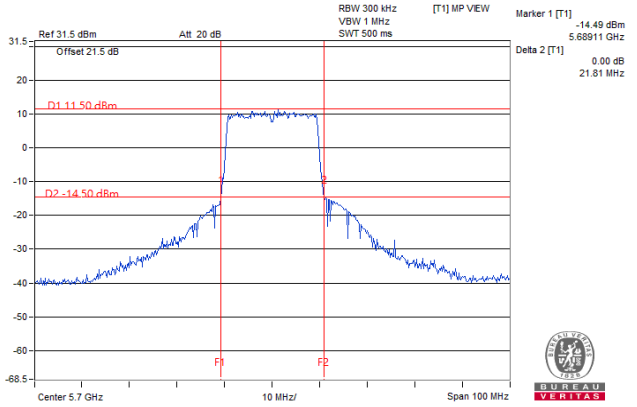
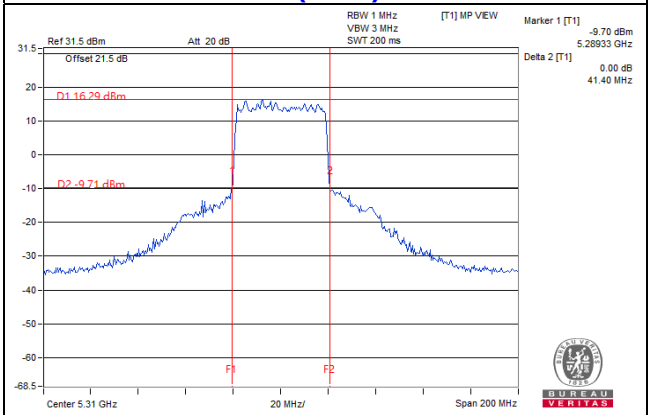
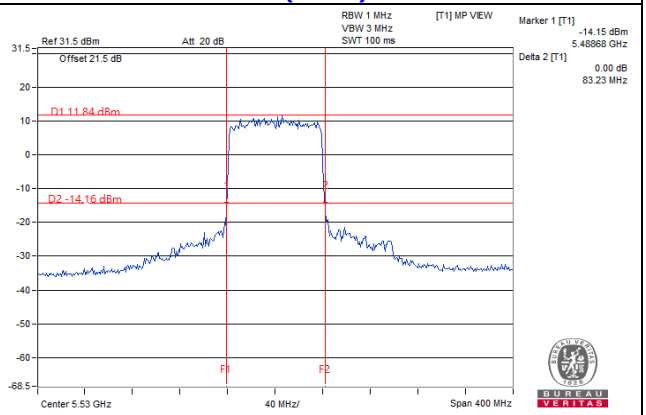
Channel	Frequency (MHz)	26dB Bandwidth (MHz)
52	5260	41.73
60	5300	45.25
64	5320	29.83
100	5500	22.79
116	5580	39.61
140	5700	21.81
144 (U-NII-2C Band)	5720	25.55

802.11ax (HE40)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
54	5270	79.75
62	5310	41.4
102	5510	41.44
110	5550	70.2
134	5670	66.56
142 (U-NII-2C Band)	5710	50.33

802.11ax (HE80)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
58	5290	83.68
106	5530	83.23
122	5610	156.9
138 (U-NII-2C Band)	5690	119.5

Spectrum Plot of Worst Value	
802.11a / CH144 (U-NII-2C Band)	**802.11ax (HE20) / CH140**
	
802.11ax (HE40) / CH62	**802.11ax (HE80) / CH106**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Marker 1
For CH142 (U-NII-2C) = 5725MHz - Marker 1
For CH138 (U-NII-2C) = 5725MHz - Marker 1

4.3.11 Test Results (Mode 6)

POWER OUTPUT

802.11a

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
52	5260	65.013	18.13	24.00	Pass
60	5300	66.834	18.25	24.00	Pass
64	5320	67.764	18.31	24.00	Pass
100	5500	56.494	17.52	24.00	Pass
116	5580	53.951	17.32	24.00	Pass
140	5700	40.926	16.12	24.00	Pass
*144 (U-NII-2C Band)	5720	31.477	14.98	24.00	Pass
*144 (U-NII-3 Band)	5720	8.59	9.34	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
144	5720	40.067	16.03	49.317	16.93

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	43.96	27.43 > 24
60	5300	44.09	27.44 > 24
64	5320	44.04	27.43 > 24
100	5500	43.49	27.38 > 24
116	5580	40.66	27.09 > 24
140	5700	40.47	27.07 > 24
144 (U-NII-2C Band)	5720	23.47	24.7 > 24

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
52	5260	67.143	18.27	24.00	Pass
60	5300	73.79	18.68	24.00	Pass
64	5320	71.614	18.55	24.00	Pass
100	5500	56.234	17.50	24.00	Pass
116	5580	57.412	17.59	24.00	Pass
140	5700	34.995	15.44	24.00	Pass
*144 (U-NII-2C Band)	5720	29.842	14.75	23.88	Pass
*144 (U-NII-3 Band)	5720	8.106	9.09	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
144	5720	37.948	15.79	49.774	16.97

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	46.86	27.7 > 24
60	5300	46.55	27.67 > 24
64	5320	45.24	27.55 > 24
100	5500	34.53	26.38 > 24
116	5580	37.29	26.71 > 24
140	5700	24.62	24.91 > 24
144 (U-NII-2C Band)	5720	19.44	23.88 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
54	5270	81.47	19.11	24.00	Pass
62	5310	45.499	16.58	24.00	Pass
102	5510	28.84	14.60	24.00	Pass
110	5550	63.387	18.02	24.00	Pass
134	5670	51.404	17.11	24.00	Pass
*142 (U-NII-2C Band)	5710	32.157	15.07	24.00	Pass
*142 (U-NII-3 Band)	5710	2.794	4.46	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
142	5710	34.951	15.43	53.211	17.26

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	93.63	30.71 > 24
62	5310	57.11	28.56 > 24
102	5510	44.32	27.46 > 24
110	5550	70.03	29.45 > 24
134	5670	70.16	29.46 > 24
142 (U-NII-2C Band)	5710	47.2	27.73 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
58	5290	39.719	15.99	24.00	Pass
106	5530	31.915	15.04	24.00	Pass
122	5610	78.886	18.97	24.00	Pass
*138 (U-NII-2C Band)	5690	30.235	14.81	24.00	Pass
*138 (U-NII-3 Band)	5690	1.118	0.48	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
138	5690	31.353	14.96	88.716	19.48

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	126.7	32.02 > 24
106	5530	83.49	30.21 > 24
122	5610	186	33.69 > 24
138 (U-NII-2C Band)	5690	118.3	31.72 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
52	5260	69.502	18.42	24.00	Pass
60	5300	74.302	18.71	24.00	Pass
64	5320	73.79	18.68	24.00	Pass
100	5500	57.943	17.63	24.00	Pass
116	5580	59.02	17.71	24.00	Pass
140	5700	36.058	15.57	24.00	Pass
*144 (U-NII-2C Band)	5720	30.118	14.79	23.88	Pass
*144 (U-NII-3 Band)	5720	8.163	9.12	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
144	5720	38.281	15.83	50.816	17.06

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	46.86	27.7 > 24
60	5300	46.55	27.67 > 24
64	5320	45.24	27.55 > 24
100	5500	34.53	26.38 > 24
116	5580	37.29	26.71 > 24
140	5700	24.62	24.91 > 24
144 (U-NII-2C Band)	5720	19.44	23.88 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
54	5270	83.946	19.24	24.00	Pass
62	5310	46.881	16.71	24.00	Pass
102	5510	29.717	14.73	24.00	Pass
110	5550	65.313	18.15	24.00	Pass
134	5670	53.211	17.26	24.00	Pass
*142 (U-NII-2C Band)	5710	33.364	15.23	24.00	Pass
*142 (U-NII-3 Band)	5710	2.946	4.69	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
142	5710	36.31	15.60	54.702	17.38

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	93.63	30.71 > 24
62	5310	57.11	28.56 > 24
102	5510	44.32	27.46 > 24
110	5550	70.03	29.45 > 24
134	5670	70.16	29.46 > 24
142 (U-NII-2C Band)	5710	47.2	27.73 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
58	5290	40.458	16.07	24.00	Pass
106	5530	33.037	15.19	24.00	Pass
122	5610	81.47	19.11	24.00	Pass
*138 (U-NII-2C Band)	5690	30.515	14.85	24.00	Pass
*138 (U-NII-3 Band)	5690	1.19	0.76	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

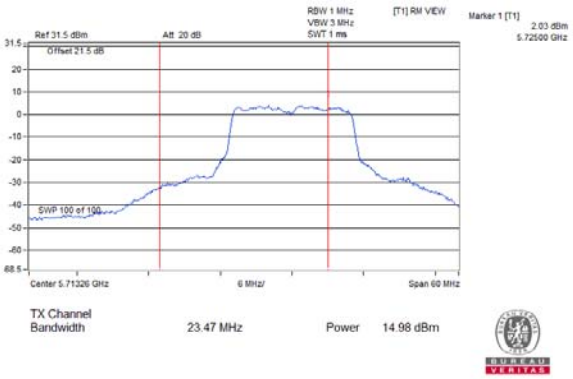
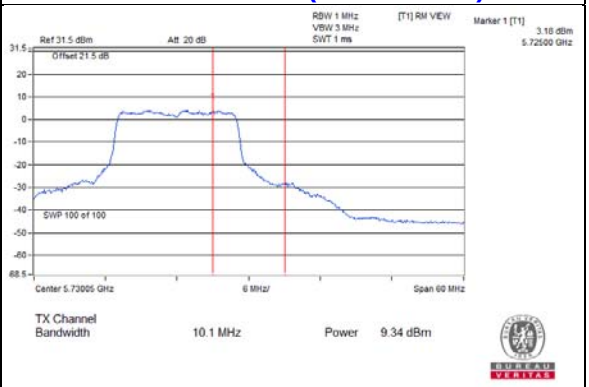
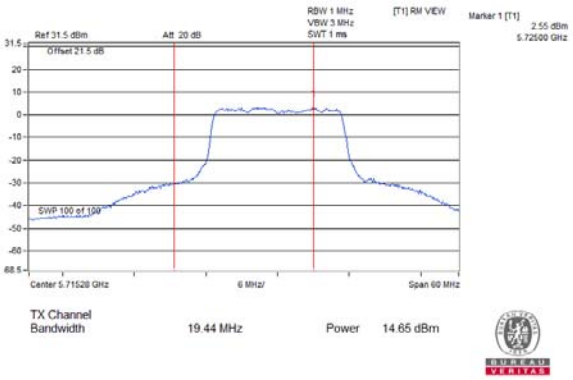
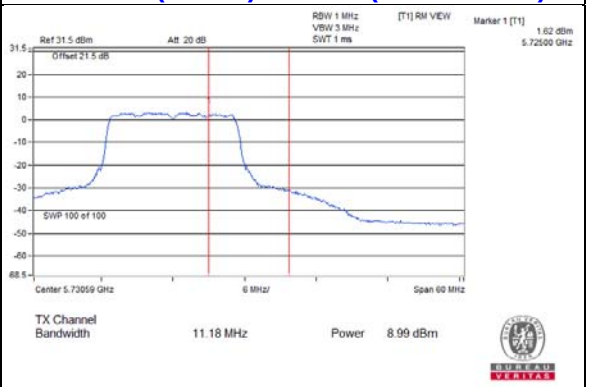
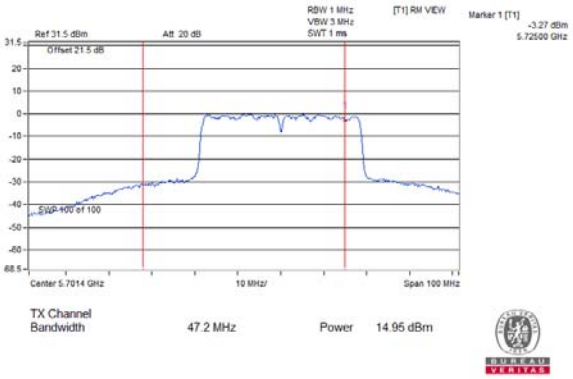
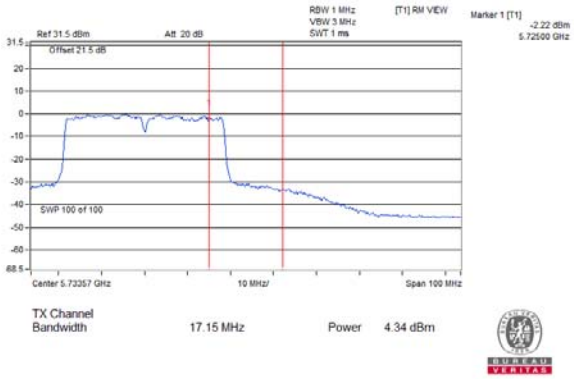
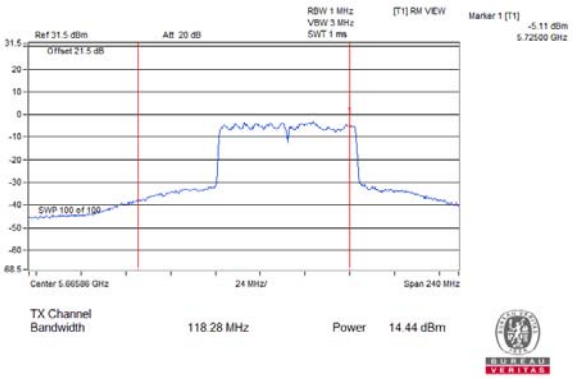
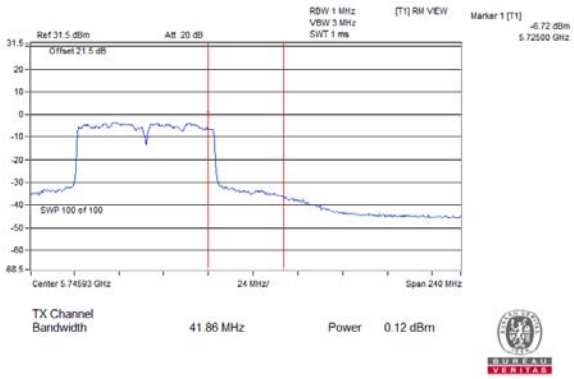
The Total Power for the straddle channel and power meter value for reference only:

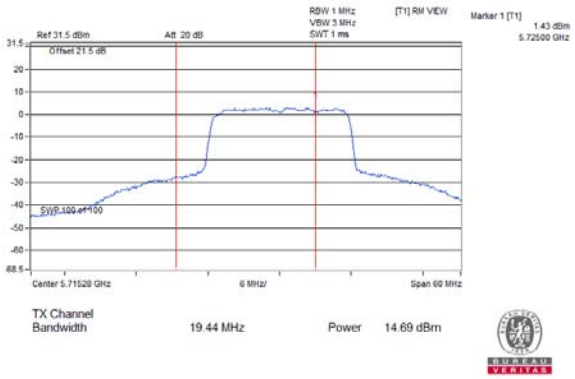
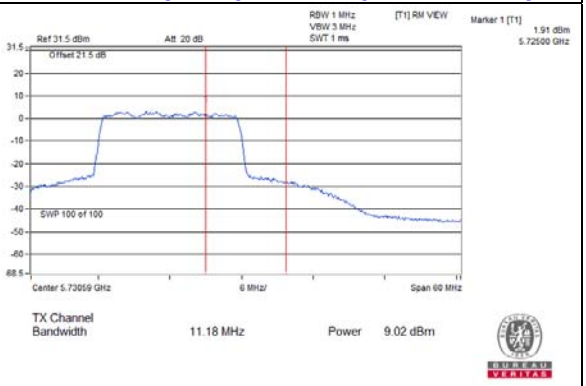
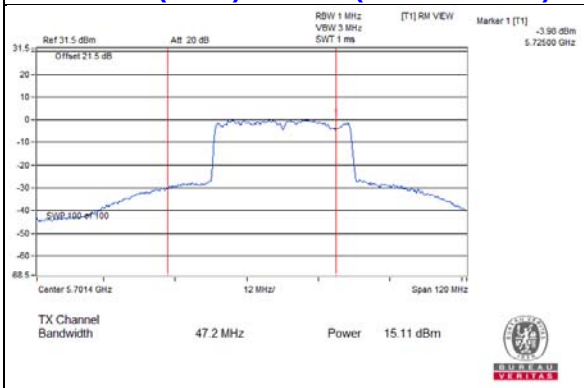
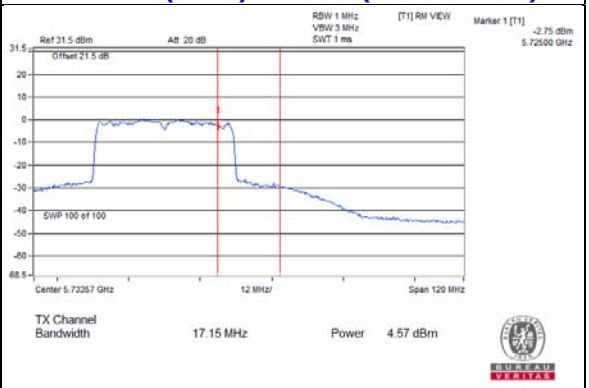
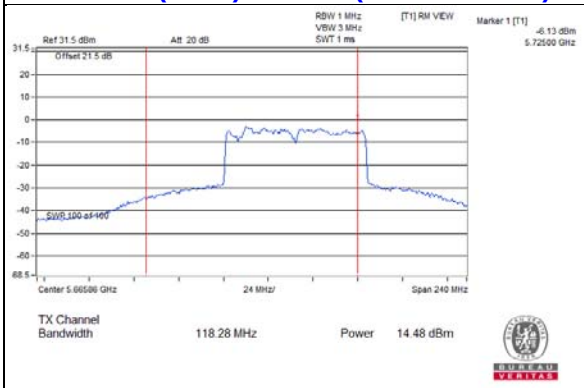
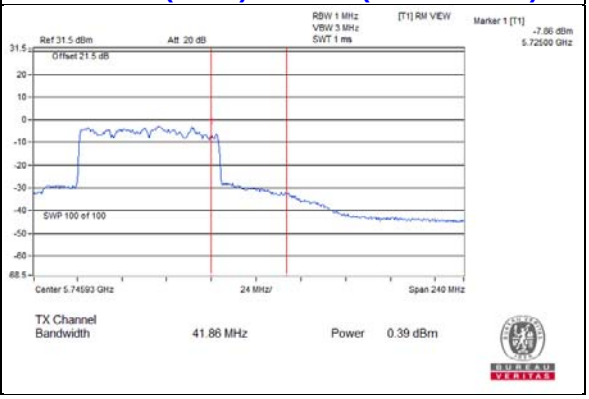
Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (mW)	Average Power (dBm)
138	5690	31.705	15.01	91.622	19.62

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	126.7	32.02 > 24
106	5530	83.49	30.21 > 24
122	5610	186	33.69 > 24
138 (U-NII-2C Band)	5690	118.3	31.72 > 24

For channel straddling 5725MHz of Power

Spectrum Plot Value of Power	
802.11a / CH144 (U-NII-2C Band)	**802.11a / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 23.47 MHz Power 14.98 dBm	 TX Channel Bandwidth 10.1 MHz Power 9.34 dBm
802.11ac (VHT20) / CH144 (U-NII-2C Band)	**802.11ac (VHT20) / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 19.44 MHz Power 14.65 dBm	 TX Channel Bandwidth 11.18 MHz Power 8.99 dBm
802.11ac (VHT40) / CH142 (U-NII-2C Band)	**802.11ac (VHT40) / CH142 (U-NII-3 Band)**
 TX Channel Bandwidth 47.2 MHz Power 14.95 dBm	 TX Channel Bandwidth 17.15 MHz Power 4.34 dBm
802.11ac (VHT80) / CH138 (U-NII-2C Band)	**802.11ac (VHT80) / CH138 (U-NII-3 Band)**
 TX Channel Bandwidth 118.28 MHz Power 14.44 dBm	 TX Channel Bandwidth 41.86 MHz Power 0.12 dBm

Spectrum Plot Value of Power	
802.11ax (HE20) / CH144 (U-NII-2C Band)	**802.11ax (HE20) / CH144 (U-NII-3 Band)**
	
802.11ax (HE40) / CH142 (U-NII-2C Band)	**802.11ax (HE40) / CH142 (U-NII-3 Band)**
	
802.11ax (HE80) / CH138 (U-NII-2C Band)	**802.11ax (HE80) / CH138 (U-NII-3 Band)**
	

26dB OCCUPIED BANDWIDTH

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
52	5260	43.96
60	5300	44.09
64	5320	44.04
100	5500	43.49
116	5580	40.66
140	5700	40.47
144 (U-NII-2C Band)	5720	23.47

802.11ax (HE20)

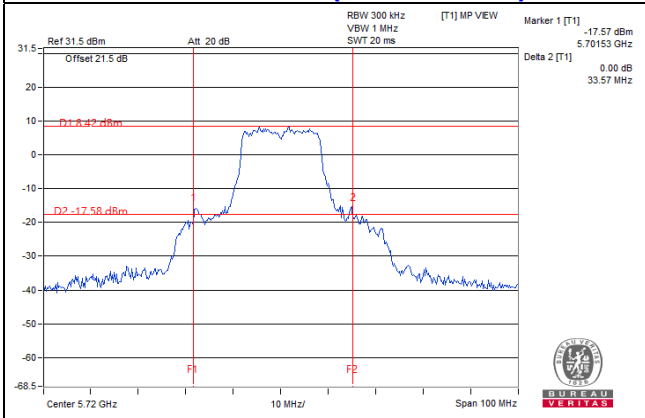
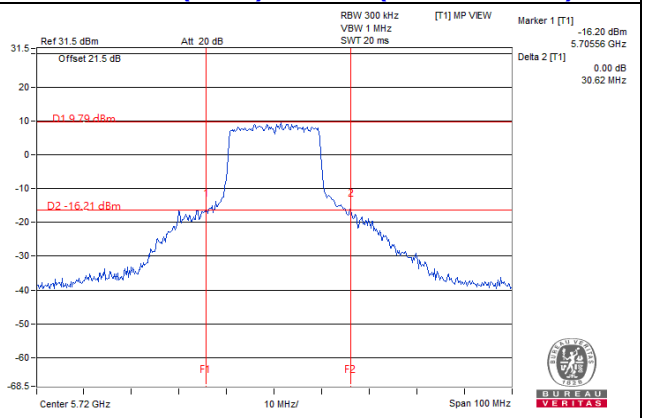
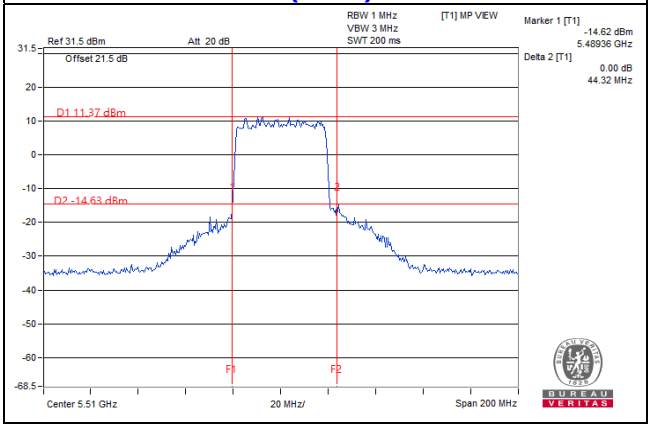
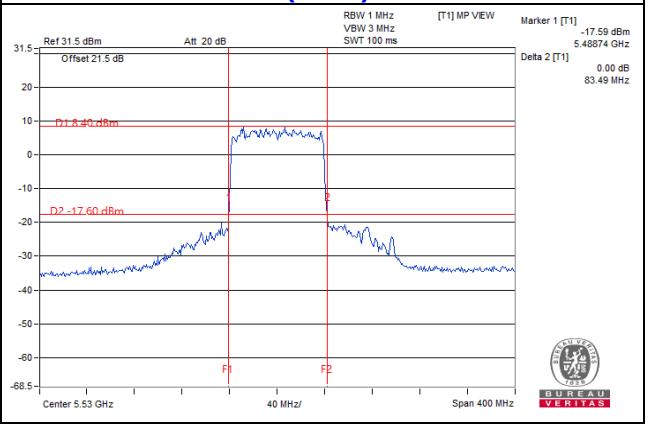
Channel	Frequency (MHz)	26dB Bandwidth (MHz)
52	5260	46.86
60	5300	46.55
64	5320	45.24
100	5500	34.53
116	5580	37.29
140	5700	24.62
144 (U-NII-2C Band)	5720	19.44

802.11ax (HE40)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
54	5270	93.63
62	5310	57.11
102	5510	44.32
110	5550	70.03
134	5670	70.16
142 (U-NII-2C Band)	5710	47.2

802.11ax (HE80)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
58	5290	126.7
106	5530	83.49
122	5610	186
138 (U-NII-2C Band)	5690	118.3

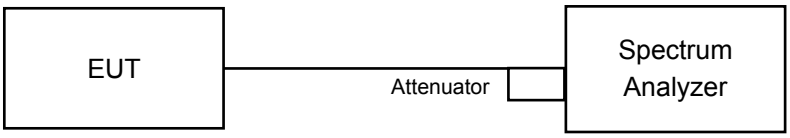
Spectrum Plot of Worst Value	
802.11a / CH144 (U-NII-2C Band)	**802.11ax (HE20) / CH144 (U-NII-2C Band)**
	
802.11ax (HE40) / CH102	**802.11ax (HE80) / CH106**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Marker 1
For CH142 (U-NII-2C) = 5725MHz - Marker 1
For CH138 (U-NII-2C) = 5725MHz - Marker 1

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to SAMPLE. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.4.4 Test Results (Mode 1)

CDD Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	17.04	17.04	17.16	16.8
60	5300	17.04	16.92	17.04	16.92
64	5320	17.04	17.04	17.04	16.92
100	5500	17.04	17.04	17.04	16.92
116	5580	17.04	17.16	17.16	16.8
140	5700	17.04	17.16	16.92	17.04
144 (U-NII-2C Band)	5720	13.4	13.52	13.52	13.52
144 (U-NII-3 Band)	5720	3.28	3.52	3.52	3.52

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	19.08	19.2	19.2	19.32
60	5300	19.08	19.2	19.2	19.32
64	5320	19.08	19.2	19.2	19.32
100	5500	19.08	19.2	19.08	19.2
116	5580	19.08	19.2	19.2	19.2
140	5700	19.08	19.2	19.08	19.2
144 (U-NII-2C Band)	5720	14.6	14.6	14.6	14.6
144 (U-NII-3 Band)	5720	4.48	4.48	4.6	4.6

802.11ax (HE40)

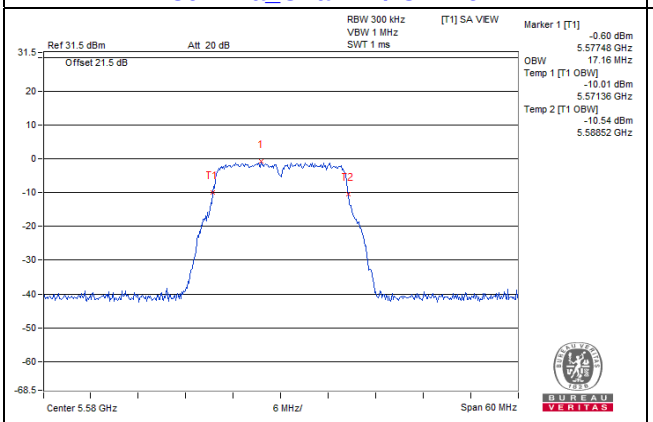
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	37.68	37.68	37.68	37.68
62	5310	37.68	37.68	37.68	37.92
102	5510	37.68	37.68	37.92	37.68
110	5550	37.68	37.68	38.4	37.92
134	5670	37.68	38.4	38.4	37.68
142 (U-NII-2C Band)	5710	33.96	33.96	33.96	33.96
142 (U-NII-3 Band)	5710	3.72	3.72	3.72	3.72

802.11ax (HE80)

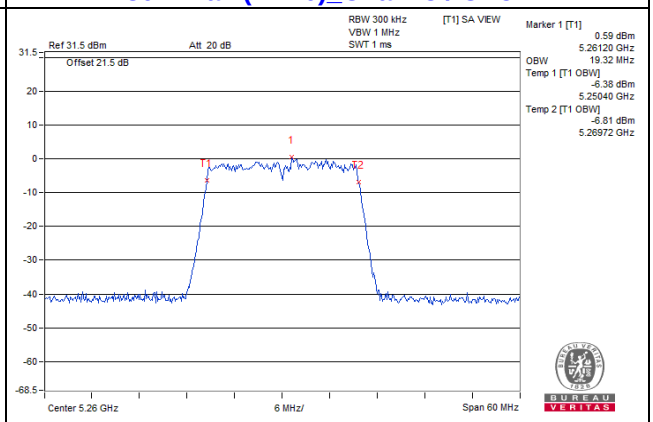
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	77.28	77.28	77.28	77.28
106	5530	77.76	77.28	77.28	77.28
122	5610	77.28	77.28	77.28	77.28
138 (U-NII-2C Band)	5690	73.88	73.88	73.88	73.88
138 (U-NII-3 Band)	5690	3.4	3.4	3.4	3.4

Spectrum Plot of Max. Value

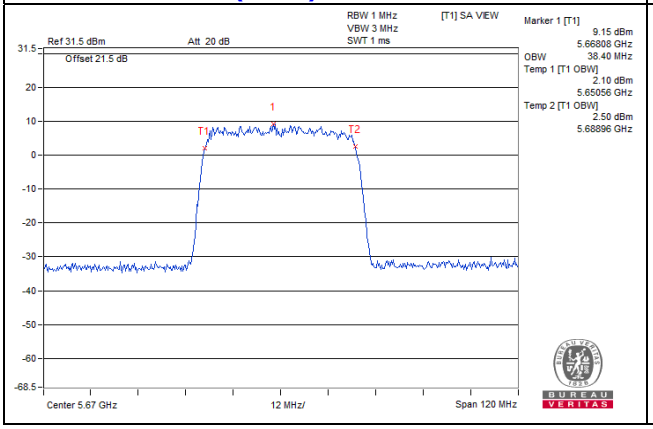
802.11a_Chain 1 / CH116



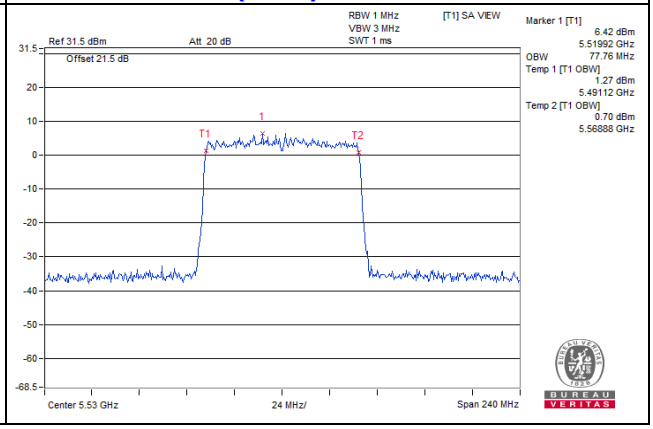
802.11ax (HE20)_Chain 3 / CH52



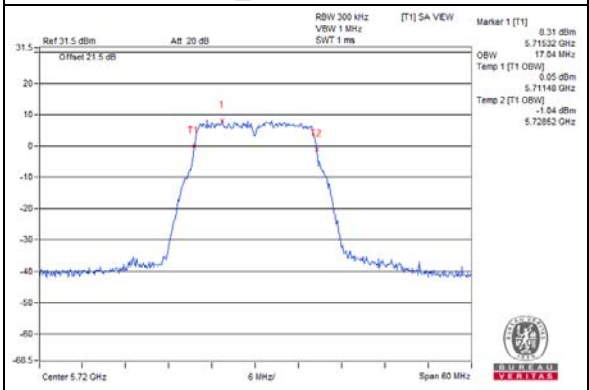
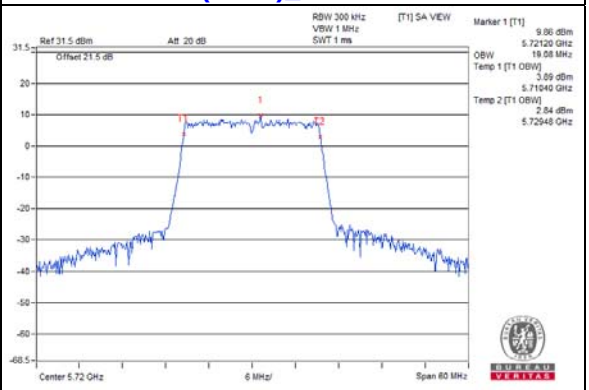
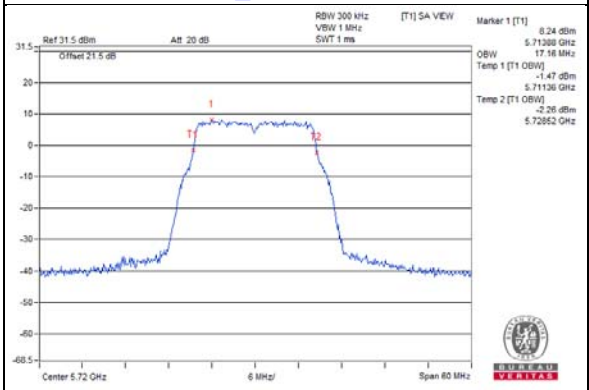
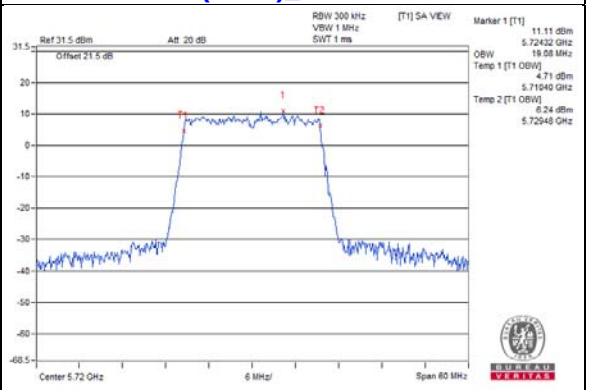
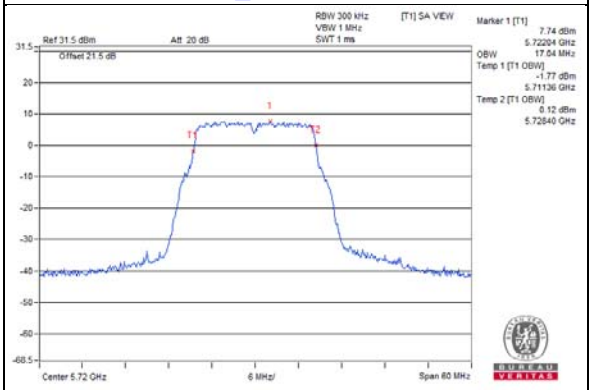
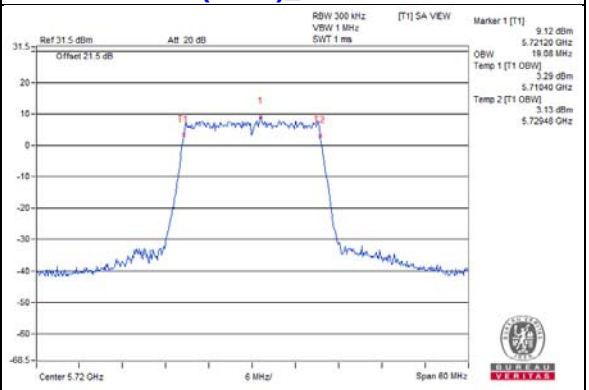
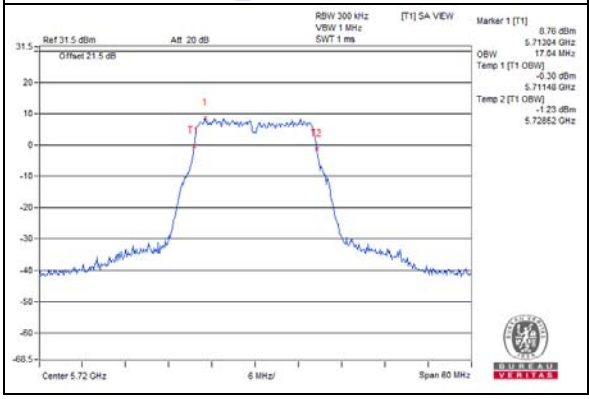
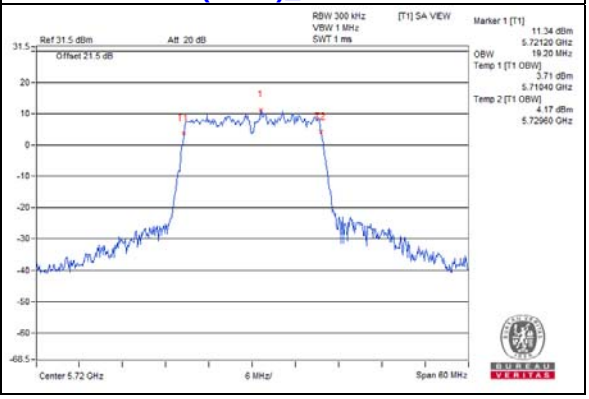
802.11ax (HE40)_Chain 1 / CH134



802.11ax (HE80)_Chain 0 / CH106



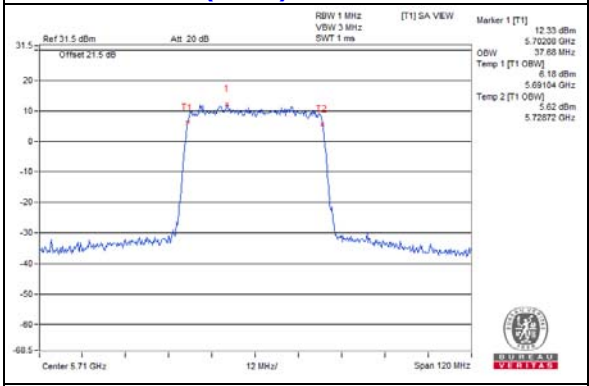
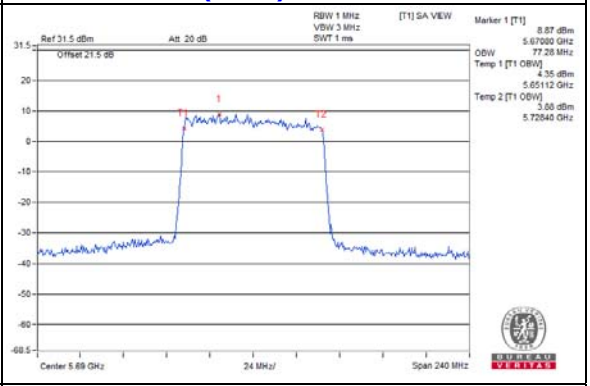
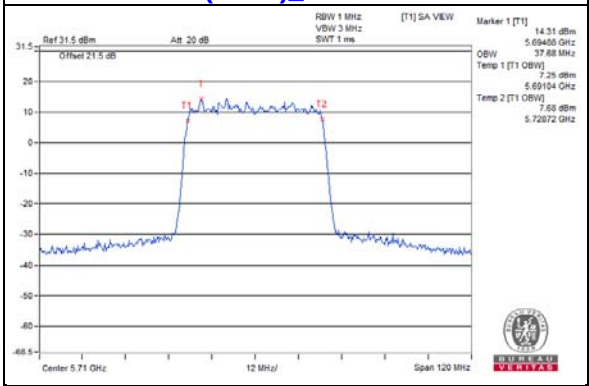
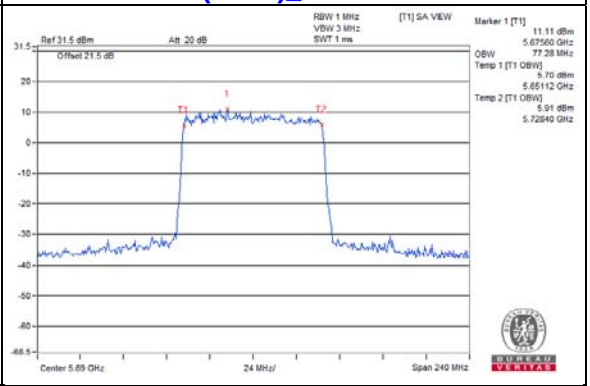
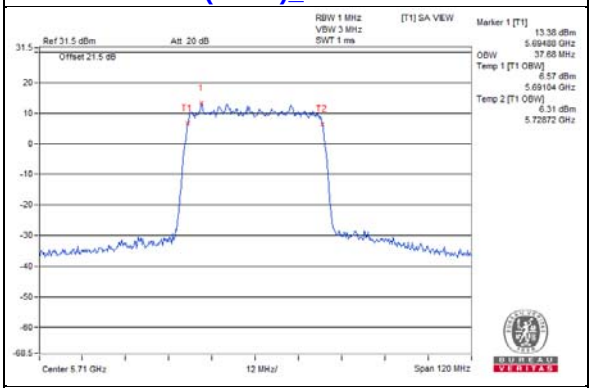
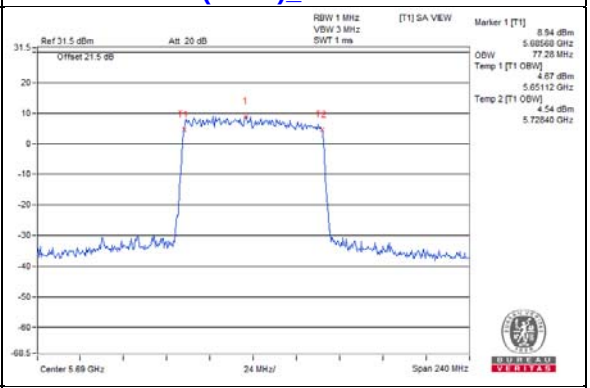
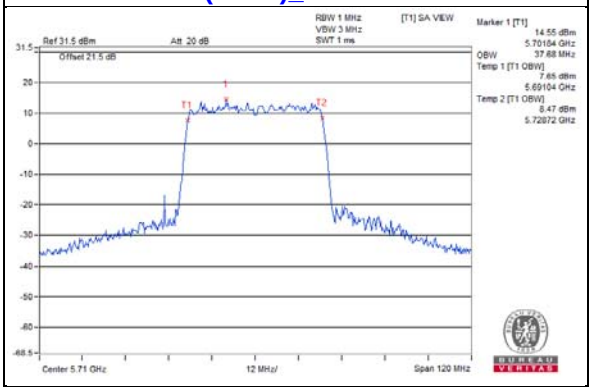
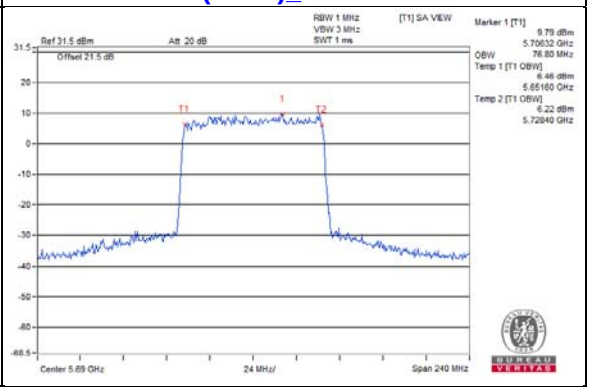
For channel straddling 5725MHz of OCP99% BW

Spectrum Plot Value of OCP99% BW	
802.11a_Chain 0 / CH144	**802.11ax (HE20)_Chain 0 / CH144**
	
802.11a_Chain 1 / CH144	**802.11ax (HE20)_Chain 1 / CH144**
	
802.11a_Chain 2 / CH144	**802.11ax (HE20)_Chain 2 / CH144**
	
802.11a_Chain 3 / CH144	**802.11ax (HE20)_Chain 3 / CH144**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Temp 1

For CH144 (U-NII-3) = Temp 2 - 5725MHz

Spectrum Plot Value of OCP99% BW	
802.11ax (HE40)_Chain 0 / CH142	**802.11ax (HE80)_Chain 0 / CH138**
	
802.11ax (HE40)_Chain 1 / CH142	**802.11ax (HE80)_Chain 1 / CH138**
	
802.11ax (HE40)_Chain 2 / CH142	**802.11ax (HE80)_Chain 2 / CH138**
	
802.11ax (HE40)_Chain 3 / CH142	**802.11ax (HE80)_Chain 3 / CH138**
	

Note:

For CH142 (U-NII-2C) = 5725MHz - Temp 1
For CH138 (U-NII-2C) = 5725MHz - Temp 1
For CH142 (U-NII-3) = Temp 2 - 5725MHz
For CH138 (U-NII-3) = Temp 2 - 5725MHz

4.4.5 Test Results (Mode 3)

CDD Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	17.04	17.16	16.92
60	5300	17.04	16.92	16.92
64	5320	17.04	17.04	16.92
100	5500	17.04	17.04	16.92
116	5580	17.04	17.04	16.92
140	5700	17.04	16.92	16.92
144 (U-NII-2C Band)	5720	13.52	13.52	13.52
144 (U-NII-3 Band)	5720	3.52	3.4	3.4

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	19.08	19.2	19.2
60	5300	19.08	19.2	19.2
64	5320	19.08	19.2	19.2
100	5500	19.08	19.2	19.2
116	5580	19.08	19.2	19.2
140	5700	19.08	19.2	19.2
144 (U-NII-2C Band)	5720	14.6	14.6	14.6
144 (U-NII-3 Band)	5720	4.48	4.6	4.6

802.11ax (HE40)

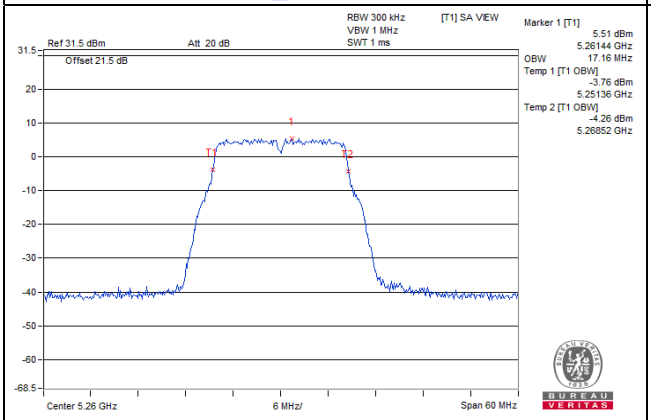
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
54	5270	37.68	37.68	37.68
62	5310	37.68	37.68	37.68
102	5510	37.68	37.68	37.68
110	5550	37.68	37.68	37.92
134	5670	38.4	37.68	38.4
142 (U-NII-2C Band)	5710	33.96	33.96	33.96
142 (U-NII-3 Band)	5710	3.96	3.72	3.72

802.11ax (HE80)

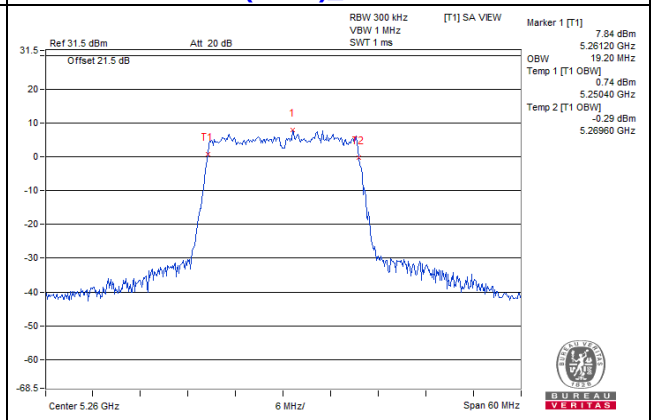
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
58	5290	77.28	76.8	77.28
106	5530	77.28	77.28	78.24
122	5610	76.8	77.28	77.28
138 (U-NII-2C Band)	5690	73.88	73.88	73.88
138 (U-NII-3 Band)	5690	3.4	3.4	3.4

Spectrum Plot of Max. Value

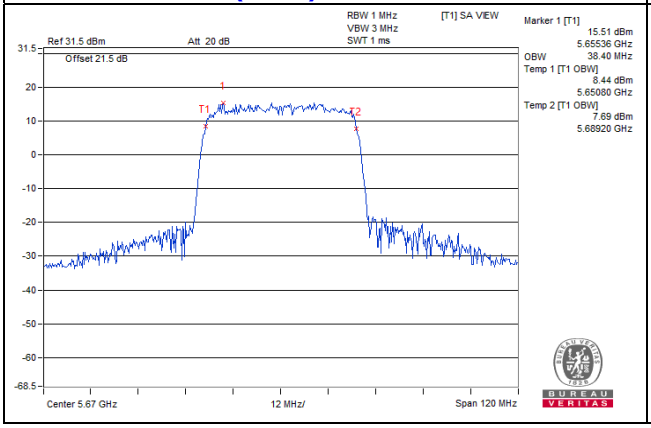
802.11a_Chain 1 / CH52



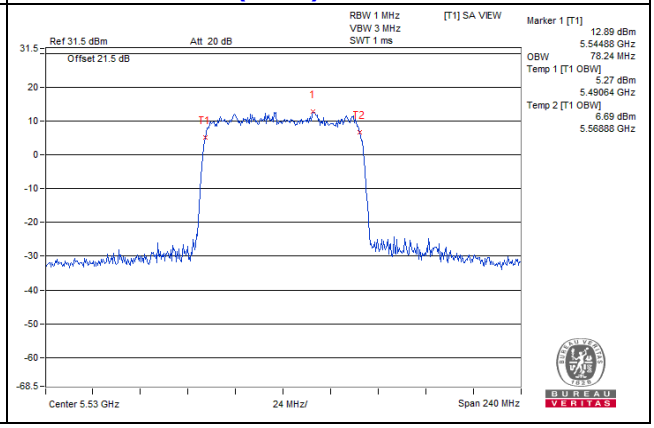
802.11ax (HE20)_Chain 1 / CH52



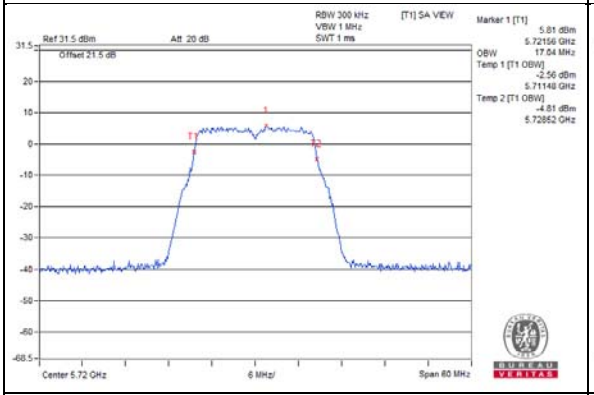
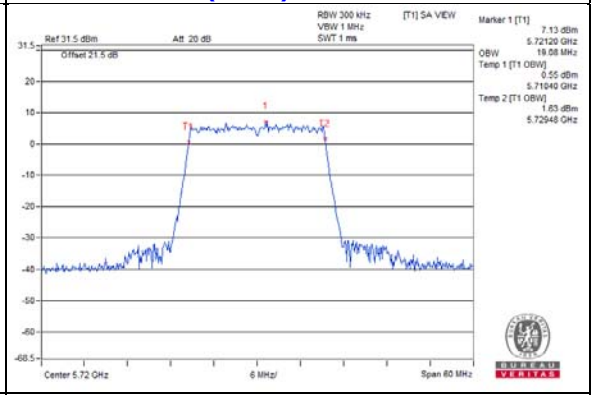
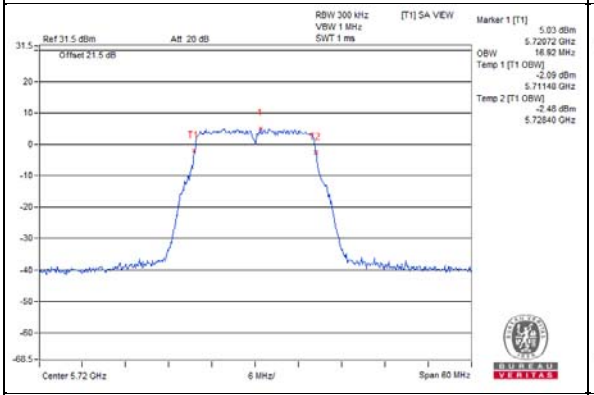
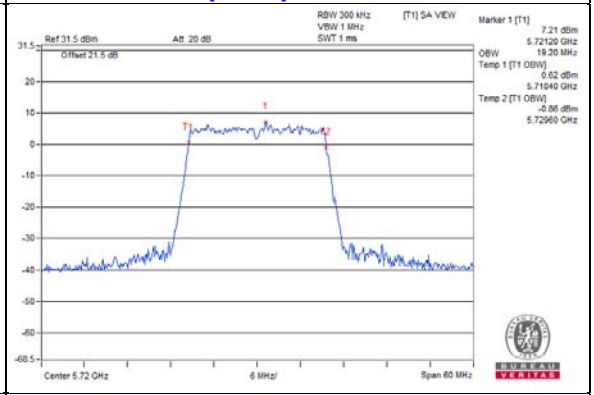
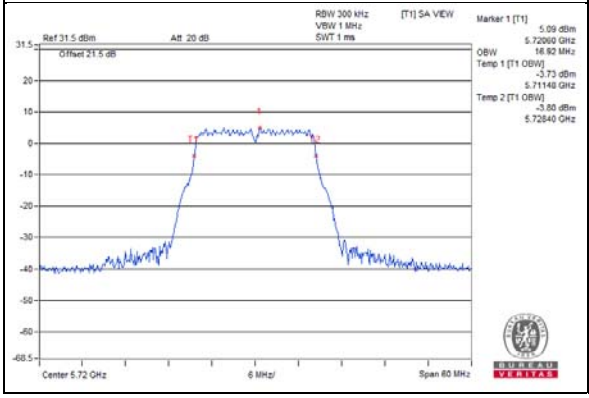
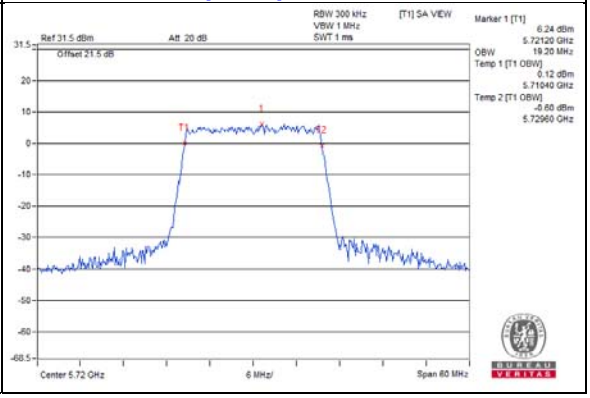
802.11ax (HE40)_Chain 0 / CH134



802.11ax (HE80)_Chain 2 / CH106

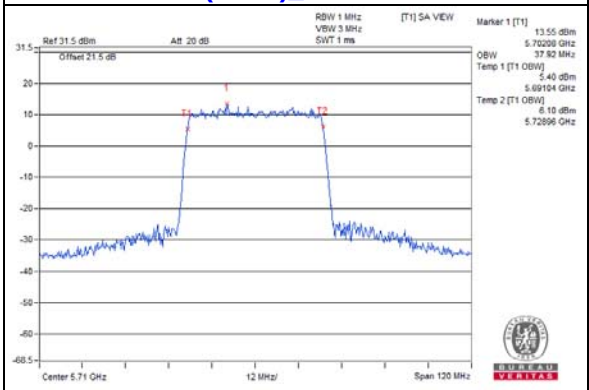
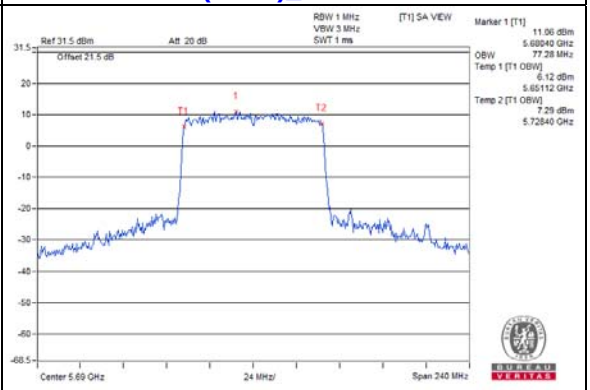
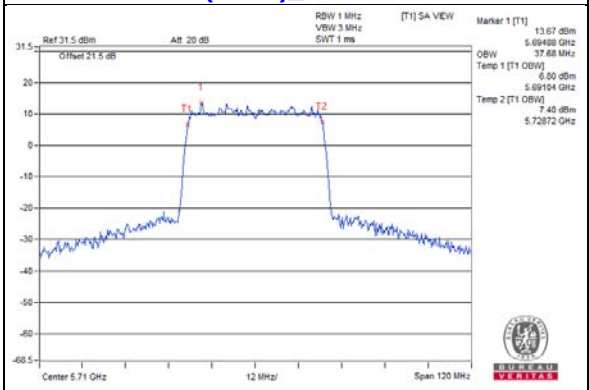
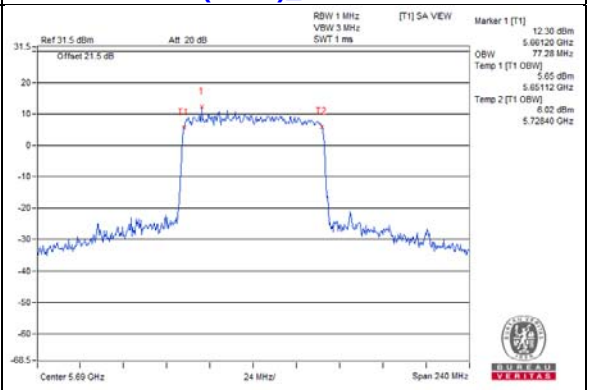
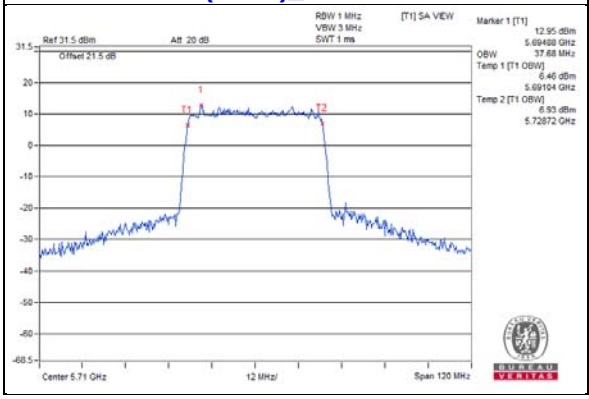
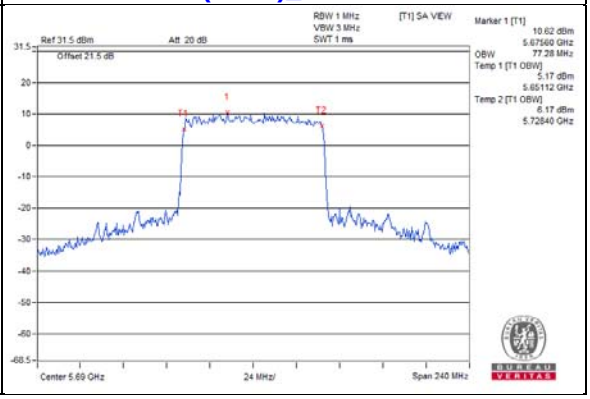


For channel straddling 5725MHz of OCP99% BW

Spectrum Plot Value of OCP99% BW	
802.11a_Chain 0 / CH144	**802.11ax (HE20)_Chain 0 / CH144**
	
802.11a_Chain 1 / CH144	**802.11ax (HE20)_Chain 1 / CH144**
	
802.11a_Chain 2 / CH144	**802.11ax (HE20)_Chain 2 / CH144**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Temp 1
For CH144 (U-NII-3) = Temp 2 - 5725MHz

Spectrum Plot Value of OCP99% BW	
802.11ax (HE40)_Chain 0 / CH142	**802.11ax (HE80)_Chain 0 / CH138**
	
802.11ax (HE40)_Chain 1 / CH142	**802.11ax (HE80)_Chain 1 / CH138**
	
802.11ax (HE40)_Chain 2 / CH142	**802.11ax (HE80)_Chain 2 / CH138**
	

Note:

For CH142 (U-NII-2C) = 5725MHz - Temp 1
For CH138 (U-NII-2C) = 5725MHz - Temp 1
For CH142 (U-NII-3) = Temp 2 - 5725MHz
For CH138 (U-NII-3) = Temp 2 - 5725MHz

4.4.6 Test Results (Mode 4)

CDD Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 2
52	5260	17.04	17.04
60	5300	17.04	17.04
64	5320	17.04	17.04
100	5500	17.04	17.04
116	5580	17.16	17.04
140	5700	17.04	17.04
144 (U-NII-2C Band)	5720	13.43	13.52
144 (U-NII-3 Band)	5720	3.52	3.52

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 2
52	5260	19.2	19.08
60	5300	19.08	19.08
64	5320	19.08	19.08
100	5500	19.08	19.08
116	5580	19.08	19.08
140	5700	19.08	19.08
144 (U-NII-2C Band)	5720	14.6	14.6
144 (U-NII-3 Band)	5720	4.48	4.48

802.11ax (HE40)

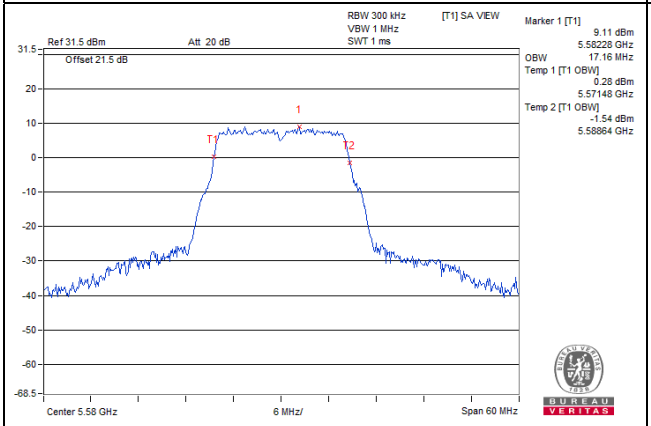
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 2
54	5270	37.92	37.92
62	5310	38.4	37.68
102	5510	37.92	37.92
110	5550	37.92	37.92
134	5670	37.68	37.92
142 (U-NII-2C Band)	5710	33.96	33.96
142 (U-NII-3 Band)	5710	3.96	3.72

802.11ax (HE80)

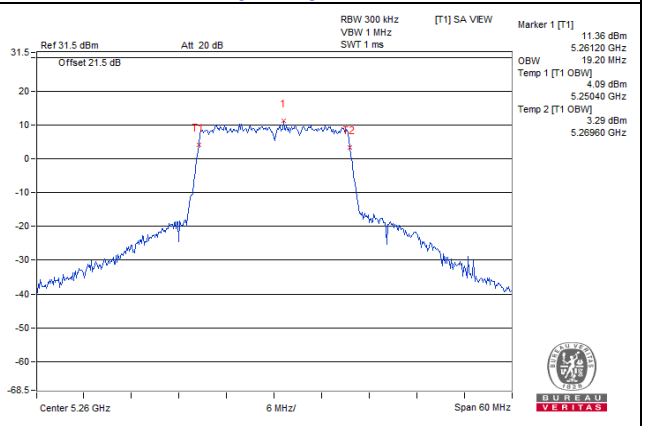
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 2
58	5290	77.28	77.28
106	5530	77.28	77.28
122	5610	79.2	77.76
138 (U-NII-2C Band)	5690	72.92	73.88
138 (U-NII-3 Band)	5690	2.92	3.4

Spectrum Plot of Worst Value

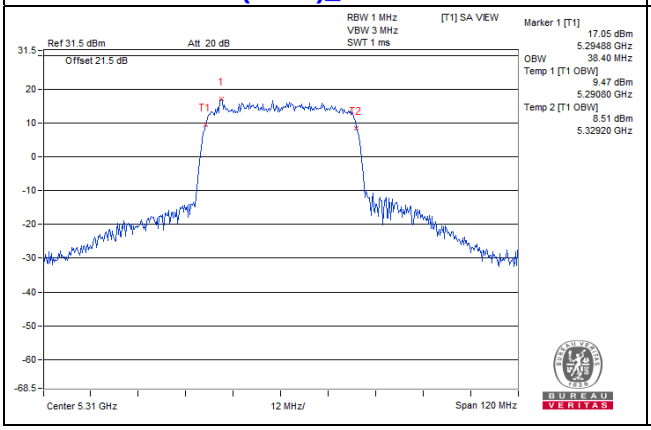
802.11a_Chain 0 / CH116



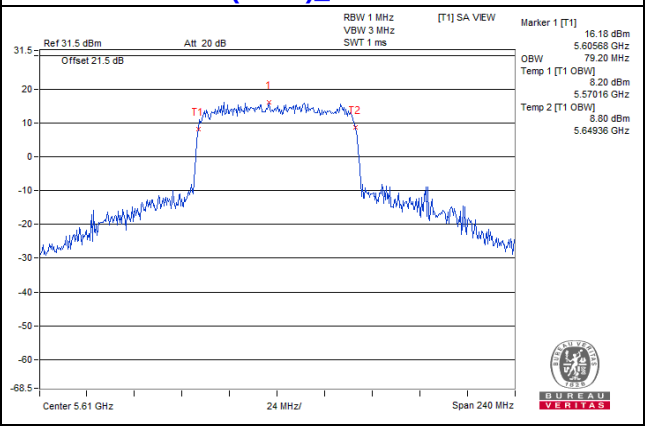
802.11ax (HE20)_Chain 0 / CH52



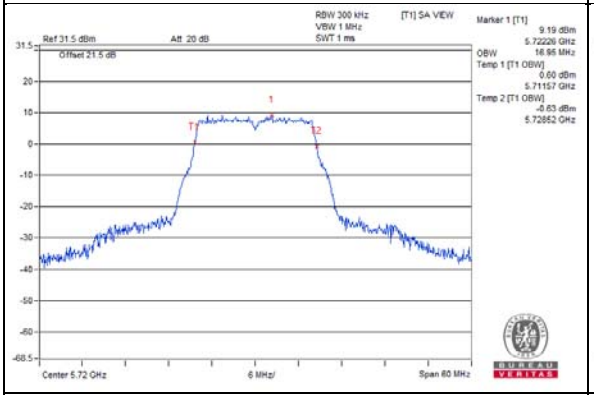
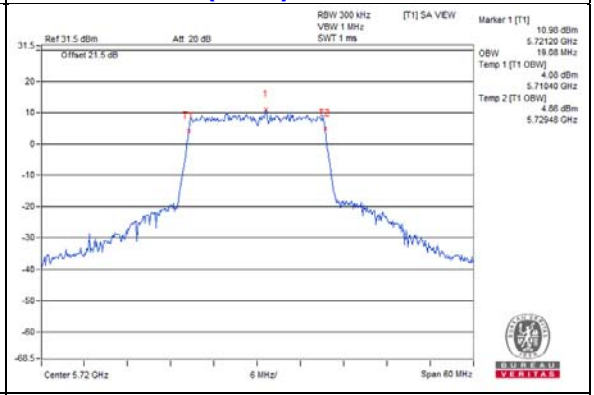
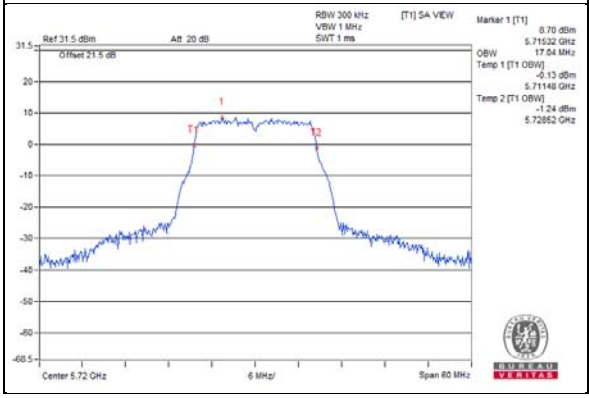
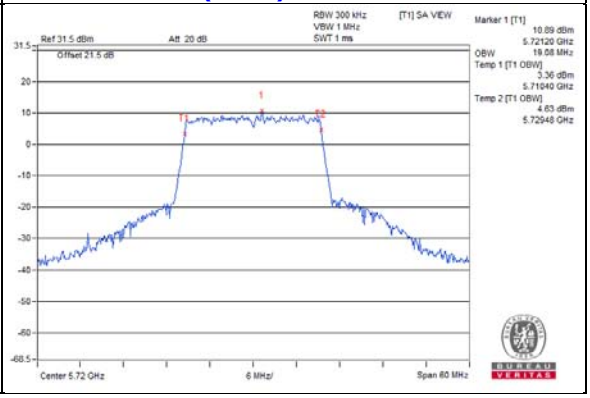
802.11ax (HE40)_Chain 0 / CH62



802.11ax (HE80)_Chain 0 / CH122

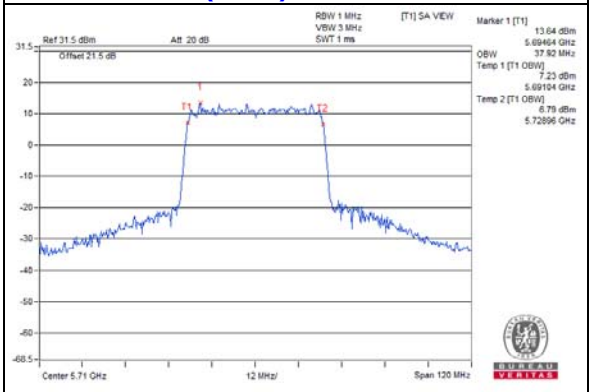
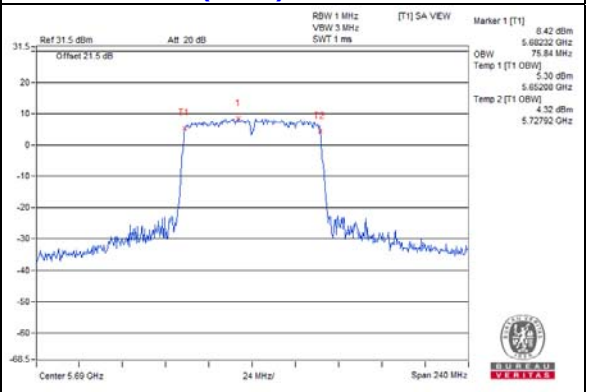
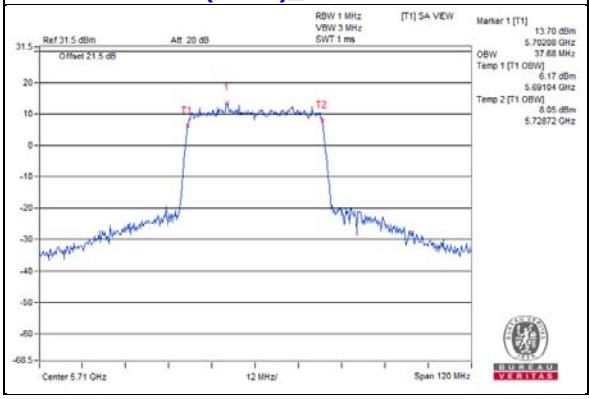
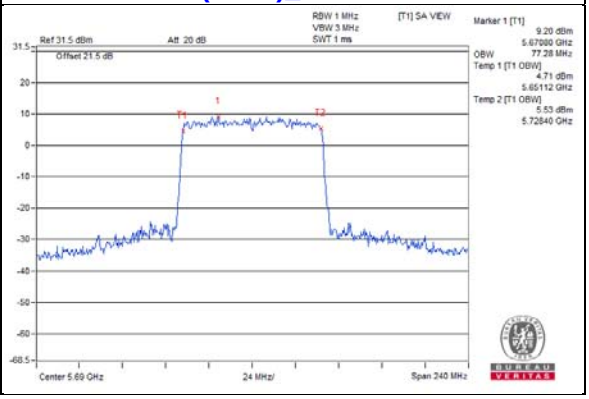


For channel straddling 5725MHz of OCP99% BW

Spectrum Plot Value of OCP99% BW	
802.11a_Chain 0 / CH144	**802.11ax (HE20)_Chain 0 / CH144**
	
802.11a_Chain 2 / CH144	**802.11ax (HE20)_Chain 2 / CH144**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Temp 1
For CH144 (U-NII-3) = Temp 2 - 5725MHz

Spectrum Plot Value of OCP99% BW	
802.11ax (HE40)_Chain 0 / CH142	**802.11ax (HE80)_Chain 0 / CH138**
	
802.11ax (HE40)_Chain 2 / CH142	**802.11ax (HE80)_Chain 2 / CH138**
	

Note:

For CH142 (U-NII-2C) = 5725MHz - Temp 1
For CH138 (U-NII-2C) = 5725MHz - Temp 1
For CH142 (U-NII-3) = Temp 2 - 5725MHz
For CH138 (U-NII-3) = Temp 2 - 5725MHz

4.4.7 Test Results (Mode 5)

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
52	5260	18.12
60	5300	18.6
64	5320	18.48
100	5500	17.28
116	5580	18.36
140	5700	18.84
144 (U-NII-2C Band)	5720	14.24
144 (U-NII-3 Band)	5720	4.48

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
52	5260	19.56
60	5300	19.8
64	5320	19.32
100	5500	19.2
116	5580	19.44
140	5700	19.08
144 (U-NII-2C Band)	5720	14.84
144 (U-NII-3 Band)	5720	4.72

802.11ax (HE40)

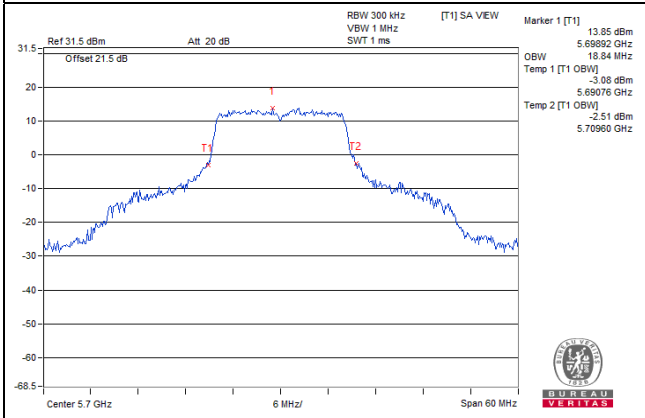
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
54	5270	38.4
62	5310	37.68
102	5510	37.92
110	5550	38.4
134	5670	38.4
142 (U-NII-2C Band)	5710	34.2
142 (U-NII-3 Band)	5710	4.2

802.11ax (HE80)

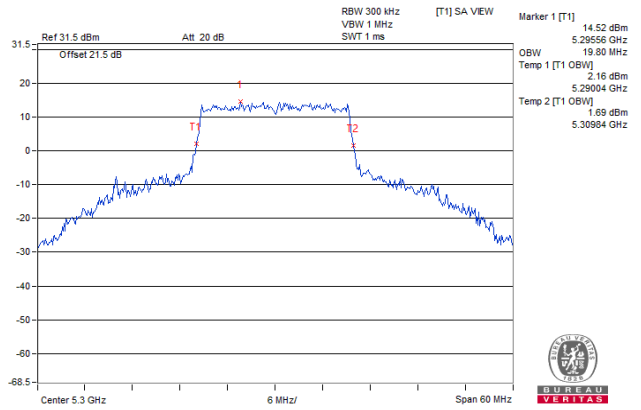
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
58	5290	77.76
106	5530	78.24
122	5610	77.76
138 (U-NII-2C Band)	5690	74.36
138 (U-NII-3 Band)	5690	4.36

Spectrum Plot of Max. Value

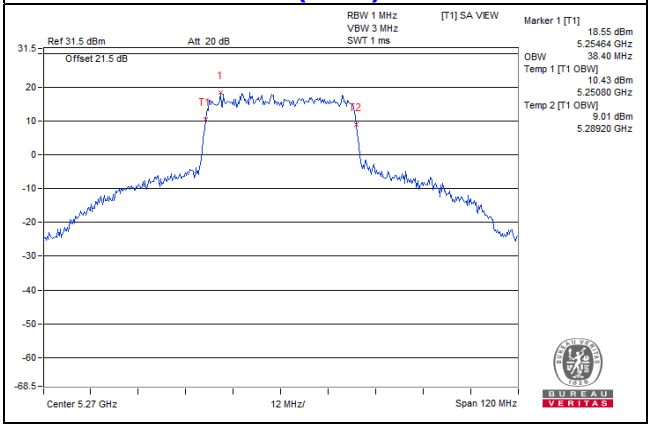
802.11a / CH140



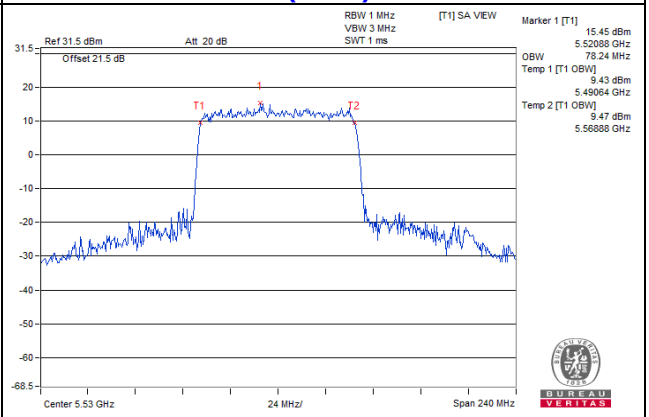
802.11ax (HE20) / CH60



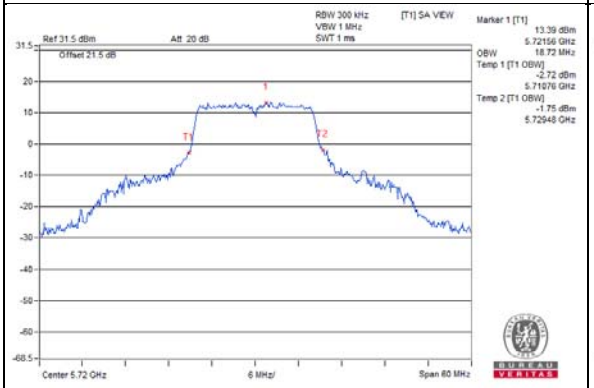
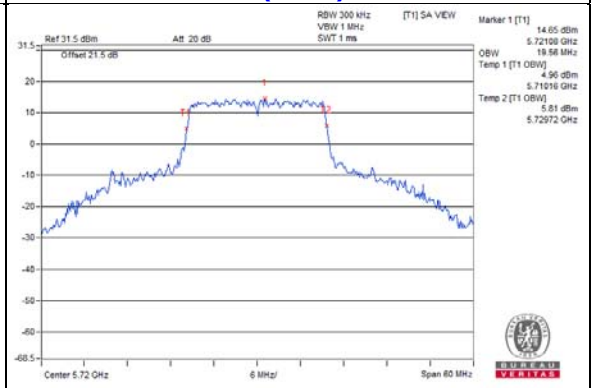
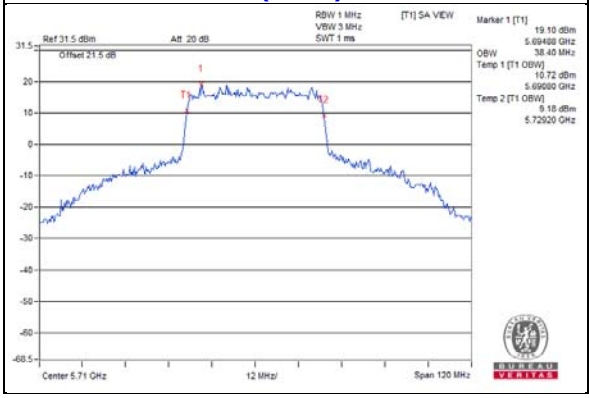
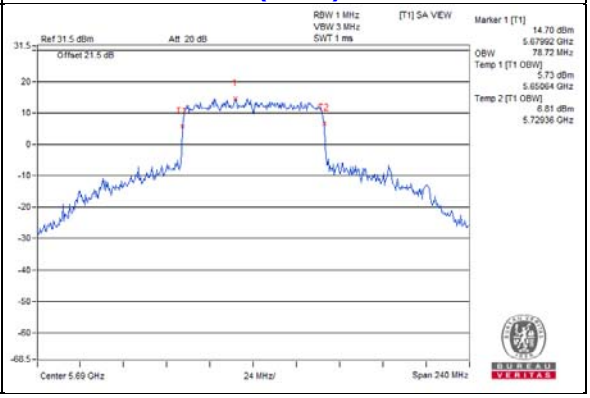
802.11ax (HE40) / CH54



802.11ax (HE80) / CH106



For channel straddling 5725MHz of OCP99% BW

Spectrum Plot Value of OCP99% BW	
802.11a / CH144	**802.11ax (HE20) / CH144**
	
802.11ax (HE40) / CH142	**802.11ax (HE80) / CH138**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Temp 1
For CH142 (U-NII-2C) = 5725MHz - Temp 1
For CH138 (U-NII-2C) = 5725MHz - Temp 1
For CH144 (U-NII-3) = Temp 2 - 5725MHz
For CH142 (U-NII-3) = Temp 2 - 5725MHz
For CH138 (U-NII-3) = Temp 2 - 5725MHz

4.4.8 Test Results (Mode 6)

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
52	5260	19.32
60	5300	19.44
64	5320	19.44
100	5500	18.12
116	5580	17.52
140	5700	17.4
144 (U-NII-2C Band)	5720	13.76
144 (U-NII-3 Band)	5720	3.88

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
52	5260	20.88
60	5300	20.52
64	5320	21
100	5500	19.32
116	5580	19.32
140	5700	19.2
144 (U-NII-2C Band)	5720	14.72
144 (U-NII-3 Band)	5720	4.72

802.11ax (HE40)

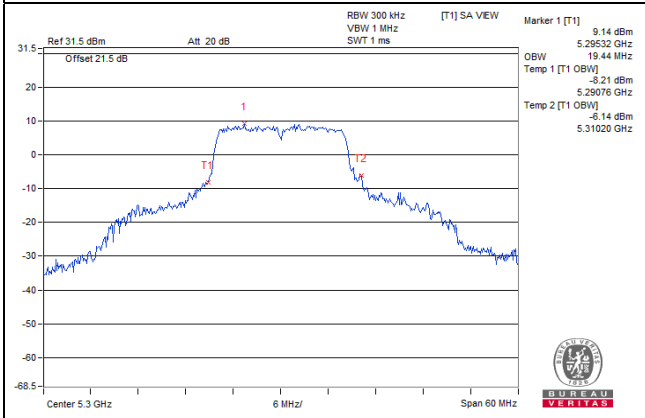
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
54	5270	45.6
62	5310	38.16
102	5510	37.92
110	5550	38.4
134	5670	38.16
142 (U-NII-2C Band)	5710	34.2
142 (U-NII-3 Band)	5710	4.2

802.11ax (HE80)

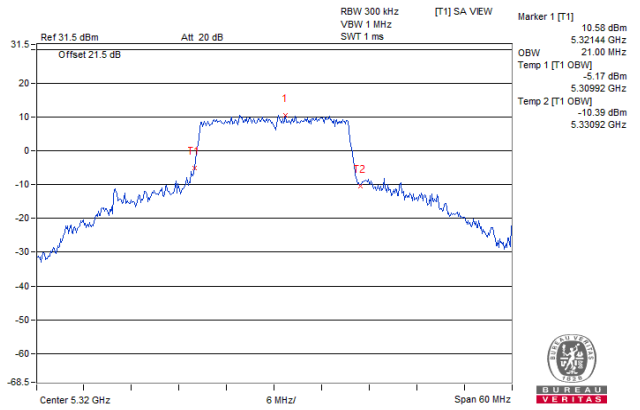
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
58	5290	77.28
106	5530	77.76
122	5610	79.68
138 (U-NII-2C Band)	5690	73.96
138 (U-NII-3 Band)	5690	3.96

Spectrum Plot of Max. Value

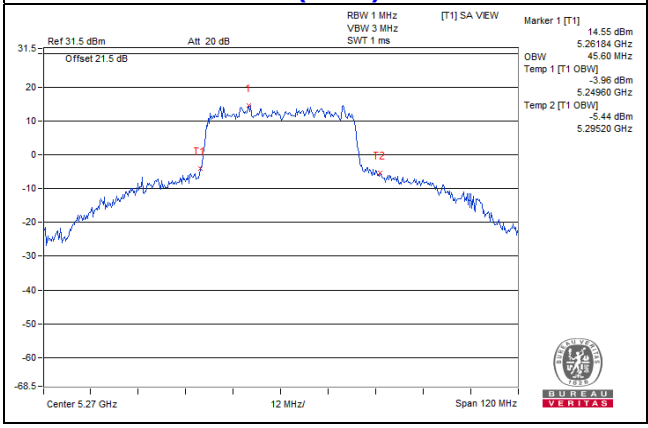
802.11a / CH60



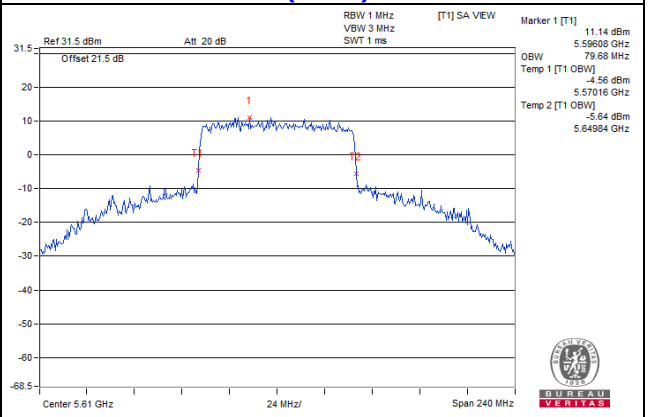
802.11ax (HE20) / CH64



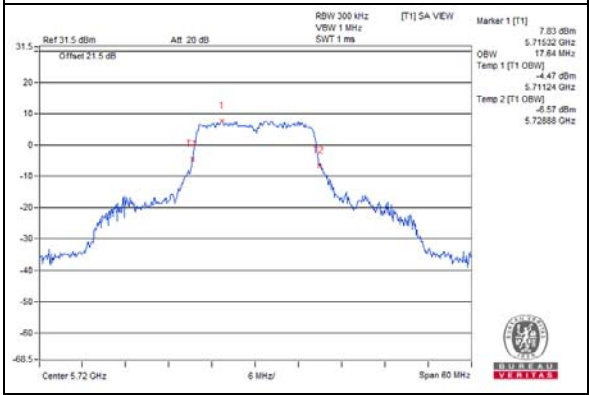
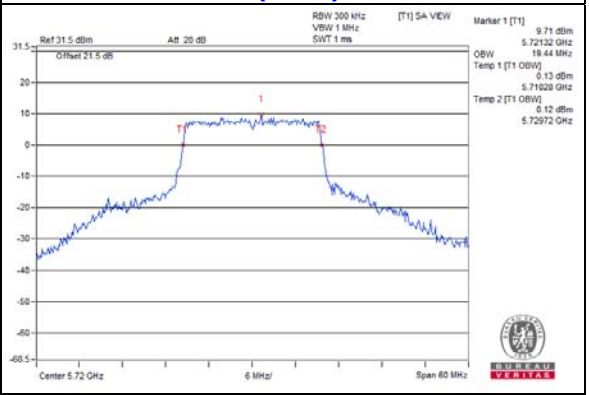
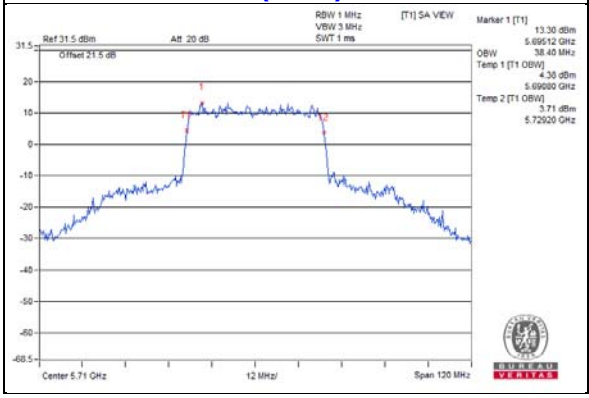
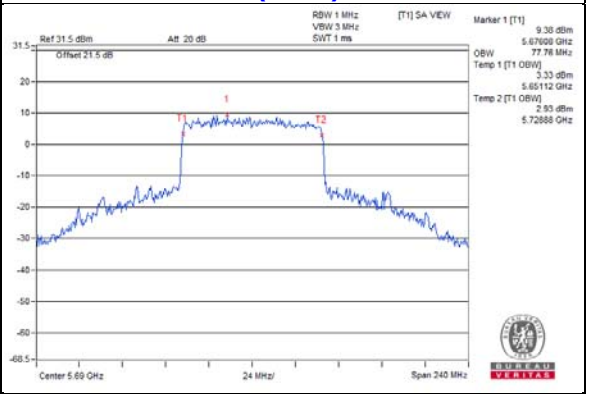
802.11ax (HE40) / CH54



802.11ax (HE80) / CH122



For channel straddling 5725MHz of OCP99% BW

Spectrum Plot Value of OCP99% BW	
802.11a / CH144	**802.11ax (HE20) / CH144**
	
802.11ax (HE40) / CH142	**802.11ax (HE80) / CH138**
	

Note:

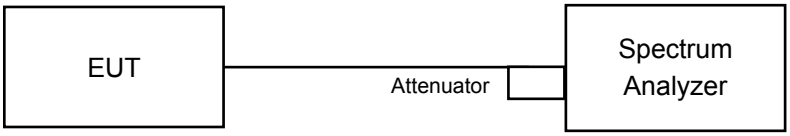
For CH144 (U-NII-2C) = 5725MHz - Temp 1
For CH142 (U-NII-2C) = 5725MHz - Temp 1
For CH138 (U-NII-2C) = 5725MHz - Temp 1
For CH144 (U-NII-3) = Temp 2 - 5725MHz
For CH142 (U-NII-3) = Temp 2 - 5725MHz
For CH138 (U-NII-3) = Temp 2 - 5725MHz

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	
		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 Procedure

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

For 802.11a:

Using method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value

For other Modulation:

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

For 802.11a:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500kHz/300kHz)
5. Sweep time = auto, trigger set to “free run”.
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value

For other Modulation:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500kHz/300kHz)
5. Sweep time = auto, trigger set to “free run”.
6. Trace average at least 100 traces in power averaging mode.
7. 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 Condition

Same as Item 4.3.6.

4.5.7 Test Results (Mode 1)

CDD Mode

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	-4.82	-4.89	-6.00	-5.37	0.78	0.98	Pass
60	5300	-5.03	-4.96	-5.74	-5.27	0.78	0.98	Pass
64	5320	-4.83	-4.99	-6.06	-5.61	0.68	0.98	Pass
100	5500	-5.32	-5.39	-5.87	-6.49	0.28	0.98	Pass
116	5580	-5.04	-4.92	-5.50	-5.56	0.77	0.98	Pass
140	5700	-4.95	-5.32	-5.65	-5.77	0.61	0.98	Pass
144 (U-NII-2C Band)	5720	-5.24	-5.49	-5.73	-5.41	0.56	0.98	Pass

Note: 1. Method 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. The directional gain = 10 dBi + 10log(4) = 16.02 dBi > 6dBi, so the power density limit shall be reduced to 11-(16.02-6) = 0.98 dBm/MHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	-5.62	-5.51	-6.44	-6.03	0.10	0.24	0.98	Pass
60	5300	-5.63	-5.57	-6.50	-6.07	0.10	0.19	0.98	Pass
64	5320	-5.61	-5.43	-6.38	-6.24	0.10	0.22	0.98	Pass
100	5500	-5.92	-5.86	-6.27	-5.86	0.10	0.15	0.98	Pass
116	5580	-5.62	-5.94	-6.26	-5.59	0.10	0.28	0.98	Pass
140	5700	-5.40	-5.83	-6.71	-6.49	0.10	0.04	0.98	Pass
144 (U-NII-2C Band)	5720	-5.53	-5.66	-6.68	-5.75	0.10	0.24	0.98	Pass

Note: 1. Method 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. The directional gain = 10 dBi + 10log(4) = 16.02 dBi > 6dBi, so the power density limit shall be reduced to 11-(16.02-6) = 0.98 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

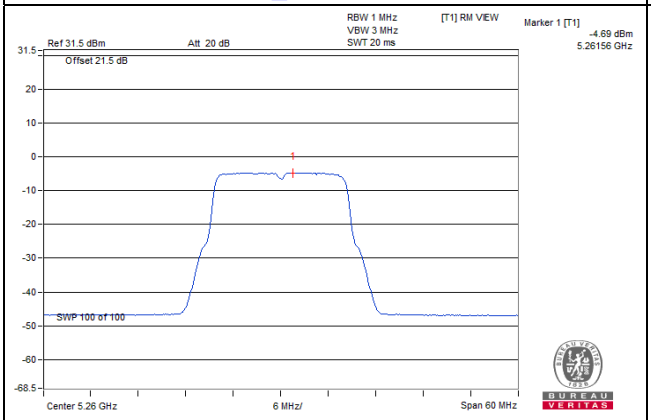
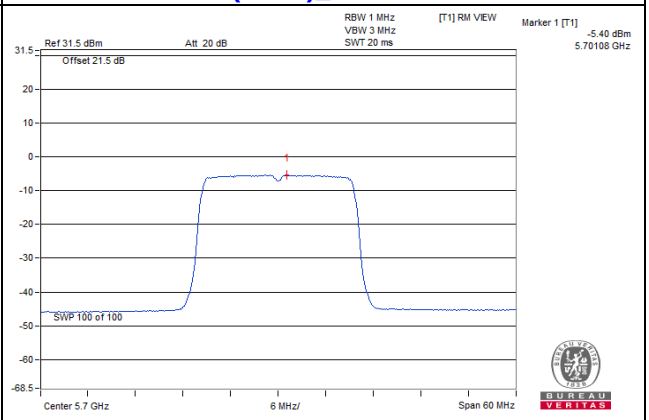
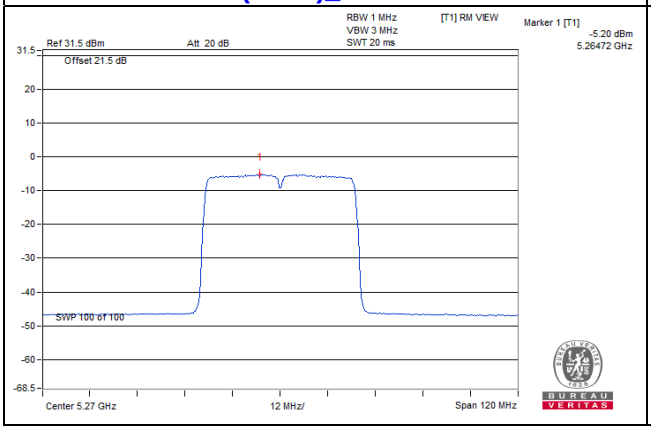
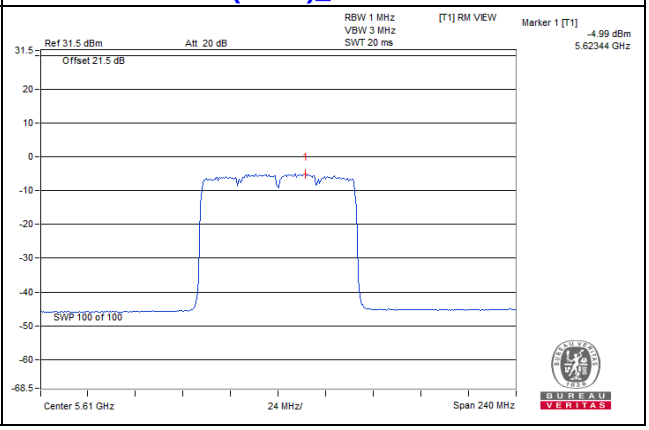
Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	-5.20	-5.45	-6.84	-6.27	0.22	0.35	0.98	Pass
62	5310	-5.27	-5.32	-6.44	-5.74	0.22	0.57	0.98	Pass
102	5510	-5.57	-5.46	-6.41	-5.43	0.22	0.54	0.98	Pass
110	5550	-5.73	-5.62	-6.48	-5.71	0.22	0.37	0.98	Pass
134	5670	-5.22	-5.71	-6.72	-5.48	0.22	0.49	0.98	Pass
142 (U-NII-2C Band)	5710	-5.34	-5.51	-6.57	-5.67	0.22	0.49	0.98	Pass

Note: 1. Method 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. The directional gain = 10 dBi + 10log(4) = 16.02 dBi > 6dBi, so the power density limit shall be reduced to 11-(16.02-6) = 0.98 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	-5.14	-5.08	-6.82	-5.95	0.36	0.69	0.98	Pass
106	5530	-5.40	-5.39	-6.01	-5.70	0.36	0.76	0.98	Pass
122	5610	-5.07	-5.51	-5.40	-5.85	0.36	0.93	0.98	Pass
138 (U-NII-2C Band)	5690	-5.18	-5.29	-6.00	-5.90	0.36	0.80	0.98	Pass

Note: 1. Method 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. The directional gain = 10 dBi + 10log(4) = 16.02 dBi > 6dBi, so the power density limit shall be reduced to 11-(16.02-6) = 0.98 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH52	**802.11ax (HE20)_Chain 0 / CH140**
	
802.11ax (HE40)_Chain 0 / CH54	**802.11ax (HE80)_Chain 0 / CH122**
	

For U-NII-3 band:

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
144 (U-NII-3 Band)	5720	-13.53	-14.28	-14.19	-14.80	-8.16	-5.94	19.98	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 10 dBi + 10log(4) = 16.02 dBi > 6dBi, so the power density limit shall be reduced to 30-(16.02-6) = 19.98 dBm/500kHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
144 (U-NII-3 Band)	5720	-15.09	-15.14	-15.89	-15.10	0.10	-9.17	-6.95	19.98	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 10 dBi + 10log(4) = 16.02 dBi > 6dBi, so the power density limit shall be reduced to 30-(16.02-6) = 19.98 dBm/500kHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
142 (U-NII-3 Band)	5710	-15.14	-15.31	-16.54	-15.23	0.22	-9.28	-7.06	19.98	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 10 dBi + 10log(4) = 16.02 dBi > 6dBi, so the power density limit shall be reduced to 30-(16.02-6) = 19.98 dBm/500kHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

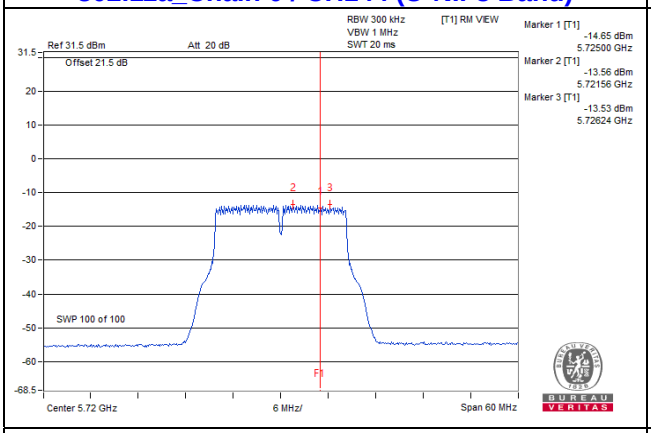
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
138 (U-NII-3 Band)	5690	-15.23	-15.56	-16.11	-15.72	0.36	-9.26	-7.04	19.98	Pass

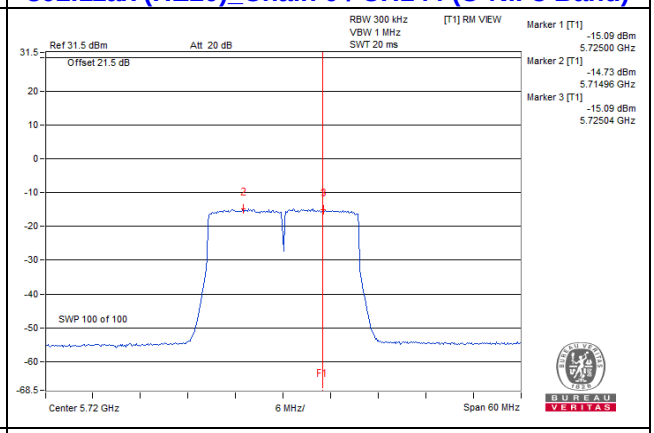
Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 10 dBi + 10log(4) = 16.02 dBi > 6dBi, so the power density limit shall be reduced to 30-(16.02-6) = 19.98 dBm/500kHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

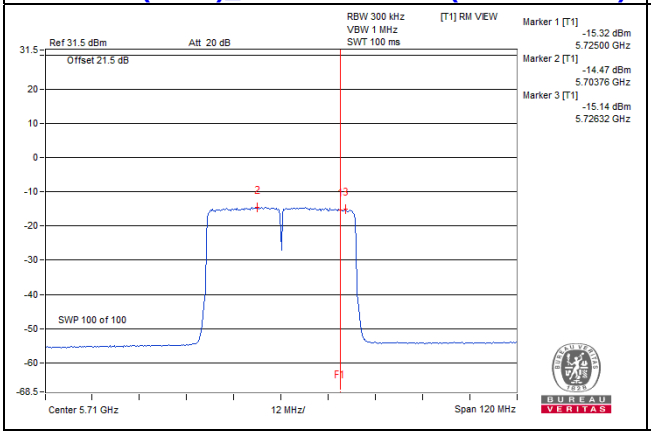
802.11a_Chain 0 / CH144 (U-NII-3 Band)



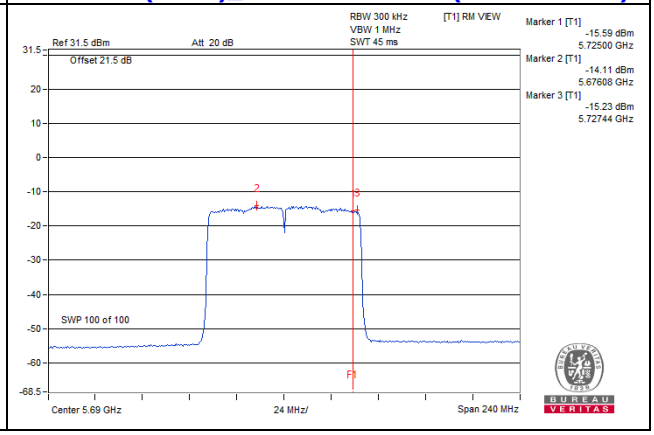
802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



4.5.8 Test Results (Mode 3)

CDD Mode

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
52	5260	1.69	1.60	0.33	6.02	6.23	Pass
60	5300	1.61	1.70	0.73	6.14	6.23	Pass
64	5320	1.71	1.64	0.22	6.01	6.23	Pass
100	5500	1.21	1.14	1.26	5.97	6.23	Pass
116	5580	0.60	1.22	1.03	5.73	6.23	Pass
140	5700	1.28	1.02	0.92	5.85	6.23	Pass
144 (U-NII-2C Band)	5720	1.45	1.15	0.71	5.89	6.23	Pass

Note: 1. Method 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. The directional gain = 6 dBi + 10log(3) = 10.77 dBi > 6dBi, so the power density limit shall be reduced to 11-(10.77-6) = 6.23 dBm/MHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
52	5260	0.99	1.08	0.44	0.10	5.72	6.23	Pass
60	5300	1.11	1.14	-0.08	0.10	5.63	6.23	Pass
64	5320	1.03	0.91	-0.20	0.10	5.49	6.23	Pass
100	5500	0.48	0.50	0.46	0.10	5.35	6.23	Pass
116	5580	0.56	0.55	0.77	0.10	5.50	6.23	Pass
140	5700	0.91	0.22	0.42	0.10	5.40	6.23	Pass
144 (U-NII-2C Band)	5720	0.91	0.43	0.46	0.10	5.48	6.23	Pass

Note: 1. Method 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. The directional gain = 6 dBi + 10log(3) = 10.77 dBi > 6dBi, so the power density limit shall be reduced to 11-(10.77-6) = 6.23 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
54	5270	1.15	1.36	-0.27	0.22	5.80	6.23	Pass
62	5310	1.10	1.33	-0.39	0.22	5.74	6.23	Pass
102	5510	0.63	0.57	0.38	0.22	5.52	6.23	Pass
110	5550	0.75	0.63	0.50	0.22	5.62	6.23	Pass
134	5670	0.72	0.91	0.62	0.22	5.74	6.23	Pass
142 (U-NII-2C Band)	5710	0.64	0.78	0.54	0.22	5.65	6.23	Pass

Note: 1. Method 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. The directional gain = 6 dBi + 10log(3) = 10.77 dBi > 6dBi, so the power density limit shall be reduced to 11-(10.77-6) = 6.23 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

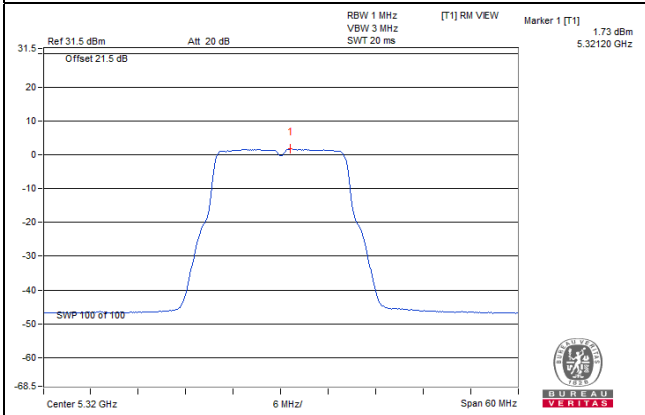
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
58	5290	-1.81	-1.77	-2.96	0.36	2.99	6.23	Pass
106	5530	-2.44	-2.94	-3.15	0.36	2.30	6.23	Pass
122	5610	-0.40	-0.35	-0.71	0.36	4.65	6.23	Pass
138 (U-NII-2C Band)	5690	0.02	-0.86	-0.99	0.36	4.54	6.23	Pass

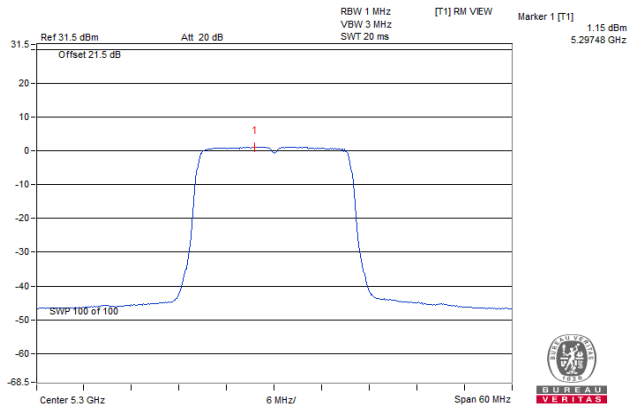
Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain = 6 dBi + 10log(3) = 10.77 dBi > 6dBi, so the power density limit shall be reduced to 11-(10.77-6) = 6.23 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

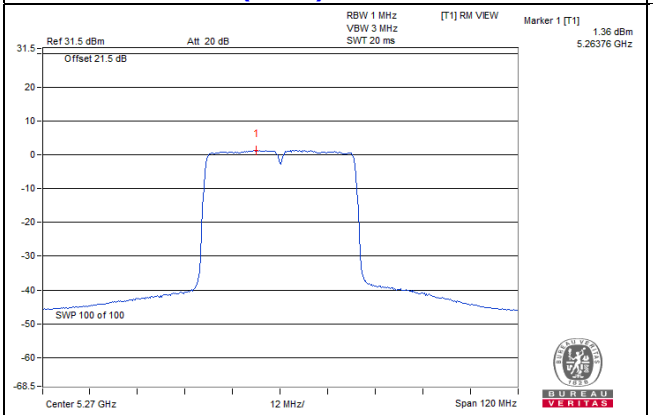
802.11a_Chain 0 / CH64



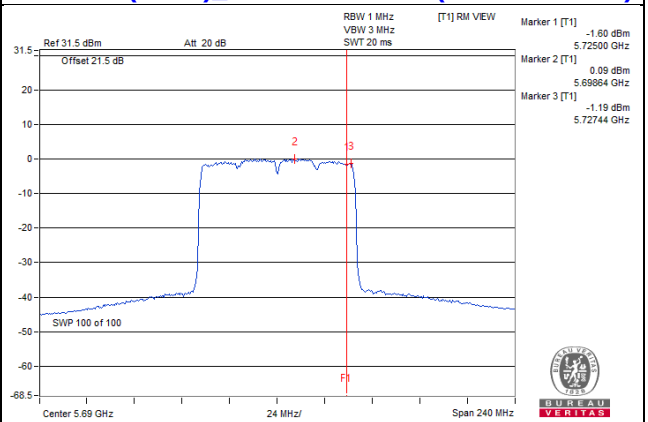
802.11ax (HE20)_Chain 1 / CH60



802.11ax (HE40)_Chain 1 / CH54



802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)



For U-NII-3 band:

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)			Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
144 (U-NII-3 Band)	5720	-6.93	-7.69	-7.87	-2.71	-0.49	25.23	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6 dBi + 10log(3) = 10.77 dBi > 6dBi, so the power density limit shall be reduced to 30-(10.77-6) = 25.23 dBm/500kHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)			Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2					
144 (U-NII-3 Band)	5720	-8.14	-9.05	-8.81	0.10	-3.78	-1.56	25.23	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6 dBi + 10log(3) = 10.77 dBi > 6dBi, so the power density limit shall be reduced to 30-(10.77-6) = 25.23 dBm/500kHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)			Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2					
142 (U-NII-3 Band)	5710	-9.04	-9.13	-9.18	0.22	-4.13	-1.91	25.23	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6 dBi + 10log(3) = 10.77 dBi > 6dBi, so the power density limit shall be reduced to 30-(10.77-6) = 25.23 dBm/500kHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

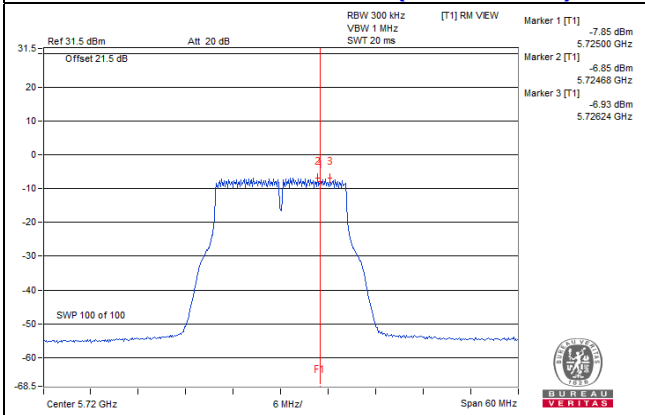
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)			Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2					
138 (U-NII-3 Band)	5690	-10.23	-11.29	-10.88	0.36	-5.65	-3.43	25.23	Pass

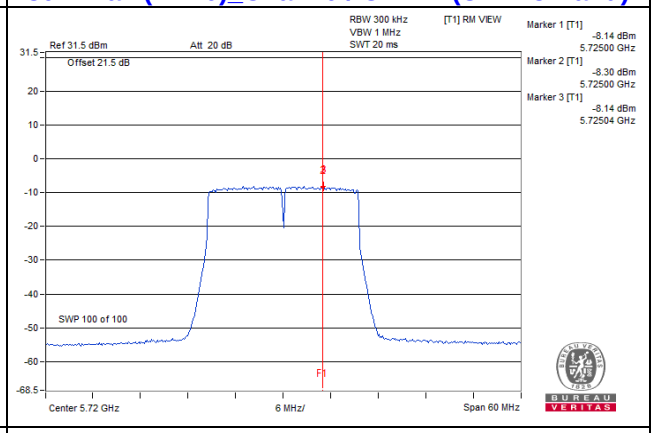
Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6 dBi + 10log(3) = 10.77 dBi > 6dBi, so the power density limit shall be reduced to 30-(10.77-6) = 25.23 dBm/500kHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

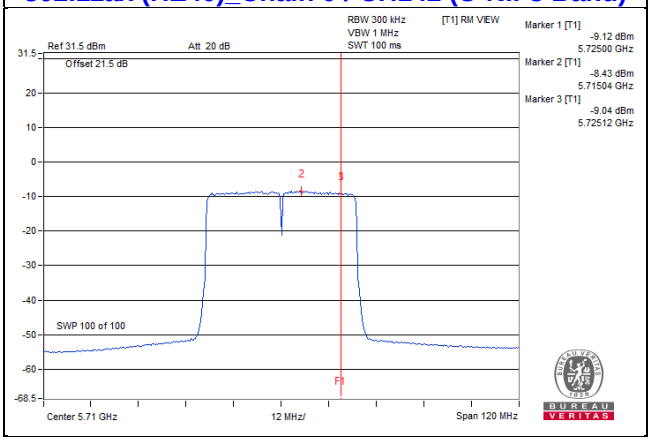
802.11a_Chain 0 / CH144 (U-NII-3 Band)



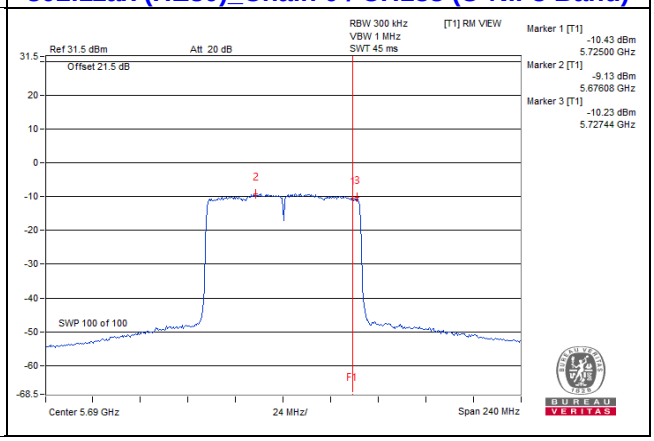
802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



4.5.9 Test Results (Mode 4)

CDD Mode

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 2			
52	5260	5.15	4.04	7.64	7.99	Pass
60	5300	5.14	4.18	7.70	7.99	Pass
64	5320	4.97	4.20	7.61	7.99	Pass
100	5500	4.62	4.58	7.61	7.99	Pass
116	5580	4.63	4.65	7.65	7.99	Pass
140	5700	5.07	4.34	7.73	7.99	Pass
144 (U-NII-2C Band)	5720	5.06	4.28	7.70	7.99	Pass

Note: 1. Method 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. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6dBi, so the power density limit shall be reduced to 11-(9.01-6) = 7.99 dBm/MHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 2				
52	5260	4.77	2.98	0.10	7.08	7.99	Pass
60	5300	4.61	3.10	0.10	7.03	7.99	Pass
64	5320	4.59	3.50	0.10	7.19	7.99	Pass
100	5500	2.95	3.30	0.10	6.24	7.99	Pass
116	5580	3.93	4.15	0.10	7.15	7.99	Pass
140	5700	3.82	3.34	0.10	6.70	7.99	Pass
144 (U-NII-2C Band)	5720	4.21	3.94	0.10	7.19	7.99	Pass

Note: 1. Method 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. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6dBi, so the power density limit shall be reduced to 11-(9.01-6) = 7.99 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

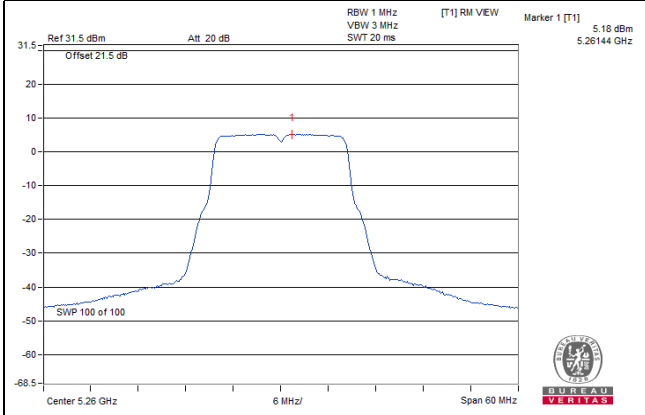
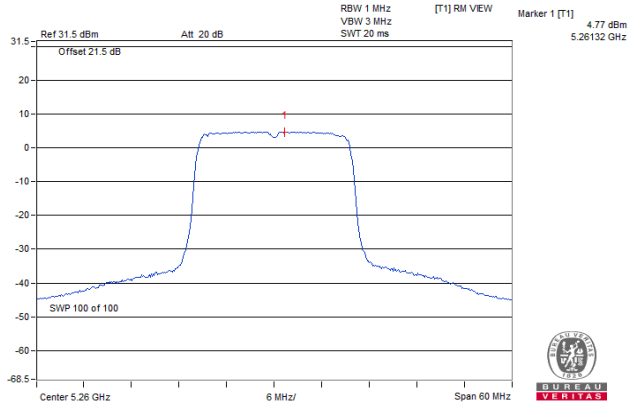
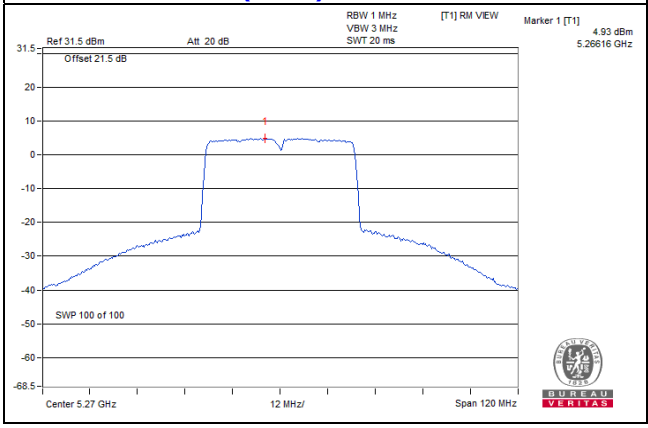
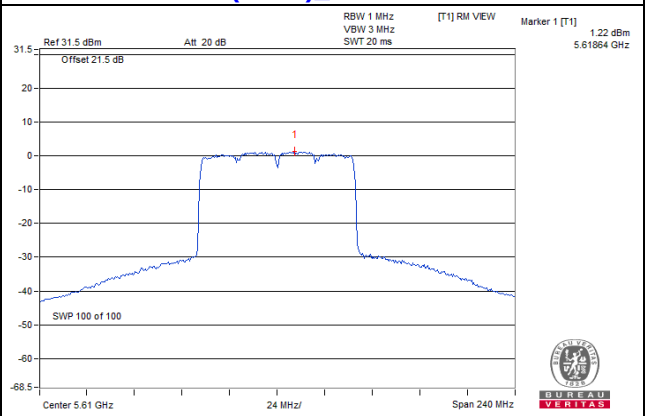
Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 2				
54	5270	4.92	3.31	0.22	7.42	7.99	Pass
62	5310	1.77	0.38	0.22	4.36	7.99	Pass
102	5510	0.98	0.49	0.22	3.97	7.99	Pass
110	5550	4.35	4.12	0.22	7.47	7.99	Pass
134	5670	2.83	2.73	0.22	6.01	7.99	Pass
142 (U-NII-2C Band)	5710	1.24	0.78	0.22	4.25	7.99	Pass

Note: 1. Method 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. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6dBi, so the power density limit shall be reduced to 11-(9.01-6) = 7.99 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 2				
58	5290	-1.09	-2.44	0.36	1.66	7.99	Pass
106	5530	-2.11	-2.76	0.36	0.95	7.99	Pass
122	5610	1.22	0.64	0.36	4.31	7.99	Pass
138 (U-NII-2C Band)	5690	-1.06	-1.71	0.36	2.00	7.99	Pass

Note: 1. Method 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. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6dBi, so the power density limit shall be reduced to 11-(9.01-6) = 7.99 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH52	**802.11ax (HE20)_Chain 0 / CH52**
	
802.11ax (HE40)_Chain 0 / CH54	**802.11ax (HE80)_Chain 0 / CH122**
	

For U-NII-3 band:

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 2				
144 (U-NII-3 Band)	5720	-3.76	-4.49	-1.10	1.12	26.99	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6dBi, so the power density limit shall be reduced to 30-(9.01-6) = 26.99 dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 2					
144 (U-NII-3 Band)	5720	-5.27	-5.43	0.10	-2.24	-0.02	26.99	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6dBi, so the power density limit shall be reduced to 30-(9.01-6) = 26.99 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 2					
142 (U-NII-3 Band)	5710	-8.47	-8.93	0.22	-5.46	-3.24	26.99	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6dBi, so the power density limit shall be reduced to 30-(9.01-6) = 26.99 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

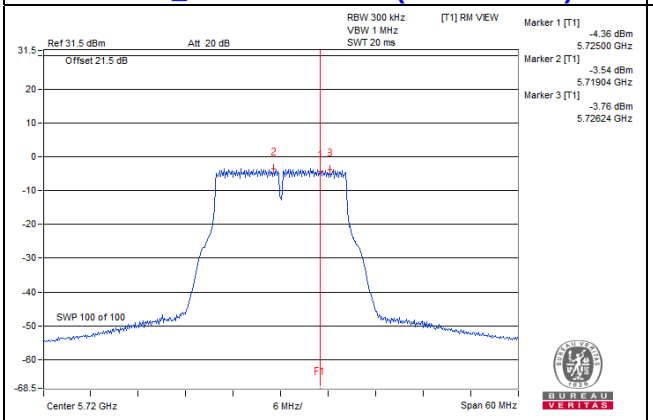
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 2					
138 (U-NII-3 Band)	5690	-11.30	-11.82	0.36	-8.18	-5.96	26.99	Pass

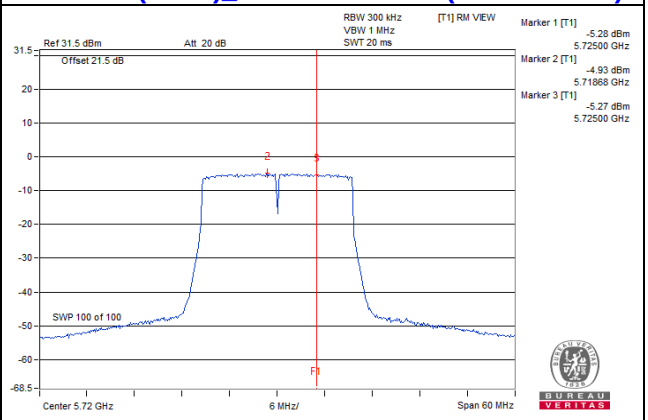
Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 6 dBi + 10log(2) = 9.01 dBi > 6dBi, so the power density limit shall be reduced to 30-(9.01-6) = 26.99 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

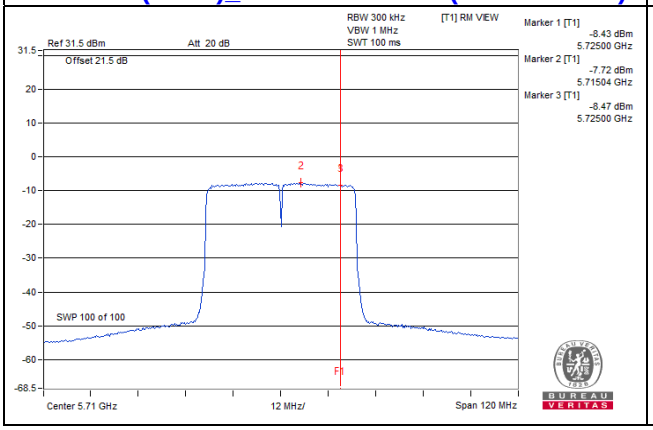
802.11a_Chain 0 / CH144 (U-NII-3 Band)



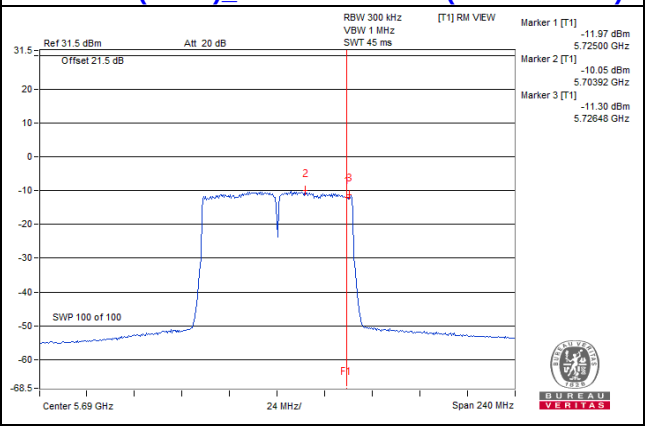
802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



4.5.10 Test Results (Mode 5)

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Pass / Fail
52	5260	9.27	11.00	Pass
60	5300	9.35	11.00	Pass
64	5320	9.38	11.00	Pass
100	5500	7.70	11.00	Pass
116	5580	9.27	11.00	Pass
140	5700	9.57	11.00	Pass
144 (U-NII-2C Band)	5720	9.35	11.00	Pass

Note: The max. gain = 6 dBi so the power density limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Pass / Fail
52	5260	8.87	0.10	8.97	11.00	Pass
60	5300	8.99	0.10	9.09	11.00	Pass
64	5320	7.91	0.10	8.01	11.00	Pass
100	5500	5.90	0.10	6.00	11.00	Pass
116	5580	8.92	0.10	9.02	11.00	Pass
140	5700	5.00	0.10	5.10	11.00	Pass
144 (U-NII-2C Band)	5720	9.11	0.10	9.21	11.00	Pass

Note: 1. The max. gain = 6 dBi so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Pass / Fail
54	5270	6.30	0.22	6.52	11.00	Pass
62	5310	3.33	0.22	3.55	11.00	Pass
102	5510	1.99	0.22	2.21	11.00	Pass
110	5550	6.25	0.22	6.47	11.00	Pass
134	5670	5.83	0.22	6.05	11.00	Pass
142 (U-NII-2C Band)	5710	6.29	0.22	6.51	11.00	Pass

Note: 1. The max. gain = 6 dBi so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

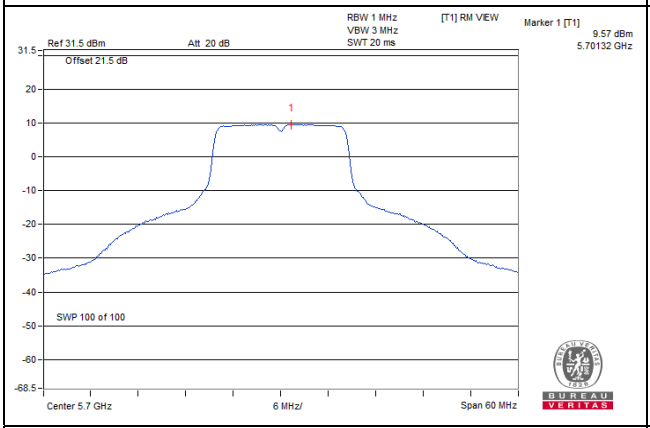
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Pass / Fail
58	5290	0.74	0.36	1.10	11.00	Pass
106	5530	-1.02	0.36	-0.66	11.00	Pass
122	5610	3.34	0.36	3.70	11.00	Pass
138 (U-NII-2C Band)	5690	3.67	0.36	4.03	11.00	Pass

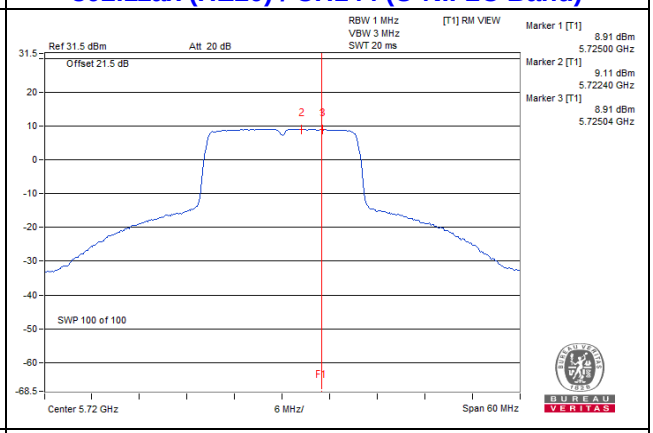
Note: 1. The max. gain = 6 dBi so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

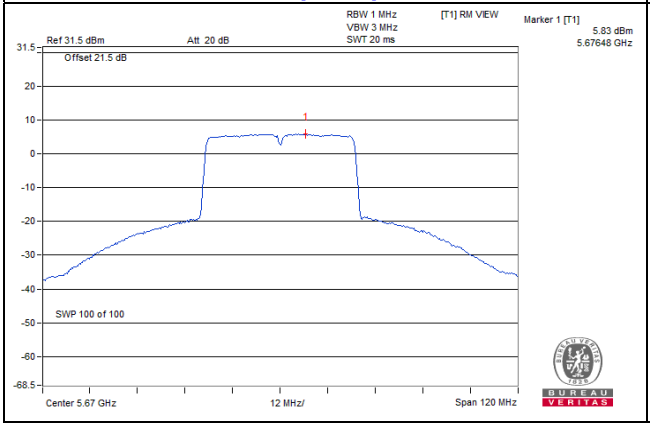
802.11a / CH140



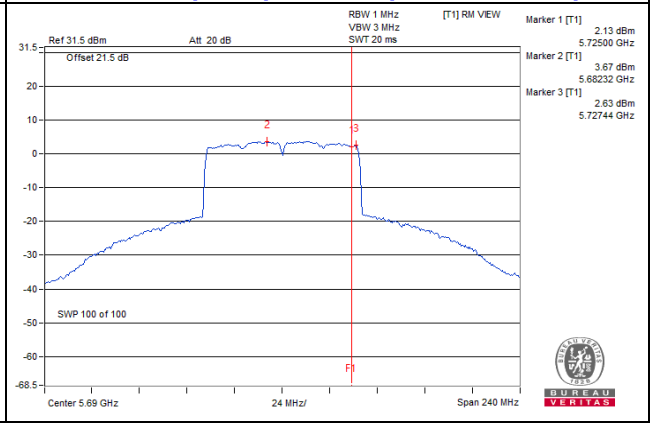
802.11ax (HE20) / CH144 (U-NII-2C Band)



802.11ax (HE40) / CH54



802.11ax (HE80) / CH138 (U-NII-2C Band)



For U-NII-3 band:

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
144 (U-NII-3 Band)	5720	0.96	3.18	30.00	Pass

Note: The max. gain = 6 dBi , so the power density limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
144 (U-NII-3 Band)	5720	-0.30	0.10	-0.20	2.02	30.00	Pass

Note: 1. The max. gain = 6 dBi, so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
142 (U-NII-3 Band)	5710	-3.33	0.22	-3.11	-0.89	30.00	Pass

Note: 1. The max. gain = 6 dBi, so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

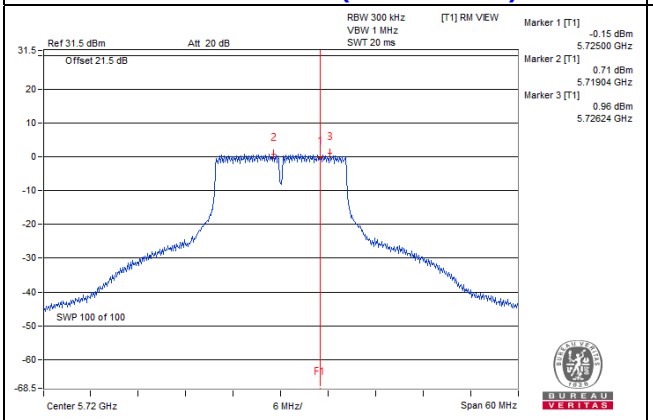
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
138 (U-NII-3 Band)	5690	-6.37	0.36	-6.01	-3.79	30.00	Pass

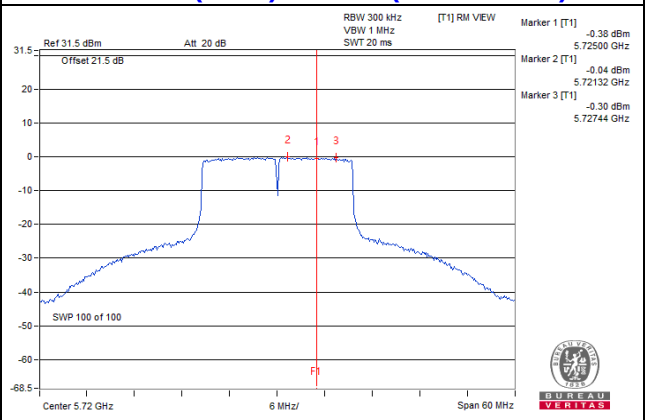
Note: 1. The max. gain = 6 dBi, so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

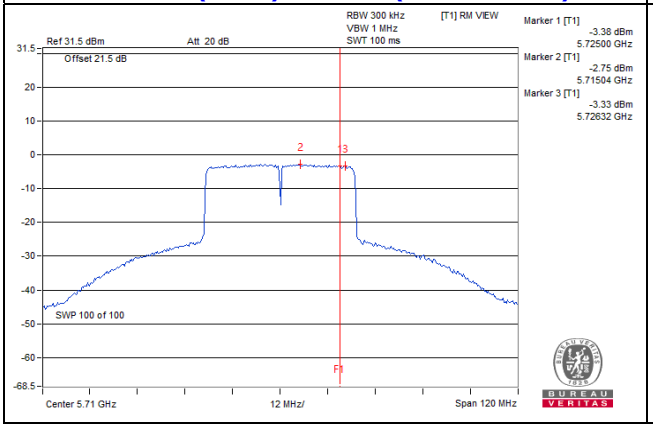
802.11a / CH144 (U-NII-3 Band)



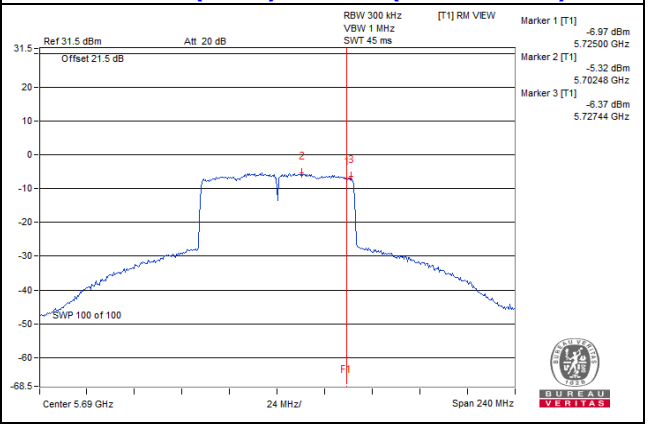
802.11ax (HE20) / CH144 (U-NII-3 Band)



802.11ax (HE40) / CH142 (U-NII-3 Band)



802.11ax (HE80) / CH138 (U-NII-3 Band)



4.5.11 Test Results (Mode 6)

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Pass / Fail
52	5260	4.73	11.00	Pass
60	5300	5.02	11.00	Pass
64	5320	5.13	11.00	Pass
100	5500	4.78	11.00	Pass
116	5580	4.31	11.00	Pass
140	5700	3.42	11.00	Pass
144 (U-NII-2C Band)	5720	4.00	11.00	Pass

Note: The max. gain = 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Pass / Fail
52	5260	4.69	0.10	4.79	11.00	Pass
60	5300	4.86	0.10	4.96	11.00	Pass
64	5320	5.00	0.10	5.10	11.00	Pass
100	5500	3.97	0.10	4.07	11.00	Pass
116	5580	3.99	0.10	4.09	11.00	Pass
140	5700	1.87	0.10	1.97	11.00	Pass
144 (U-NII-2C Band)	5720	3.41	0.10	3.51	11.00	Pass

Note: 1. The max. gain = 6 dBi, so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Pass / Fail
54	5270	2.54	0.12	2.66	11.00	Pass
62	5310	0.30	0.12	0.42	11.00	Pass
102	5510	-1.78	0.12	-1.66	11.00	Pass
110	5550	1.62	0.12	1.74	11.00	Pass
134	5670	0.84	0.12	0.96	11.00	Pass
142 (U-NII-2C Band)	5710	0.73	0.12	0.85	11.00	Pass

Note: 1. The max. gain = 6 dBi, so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

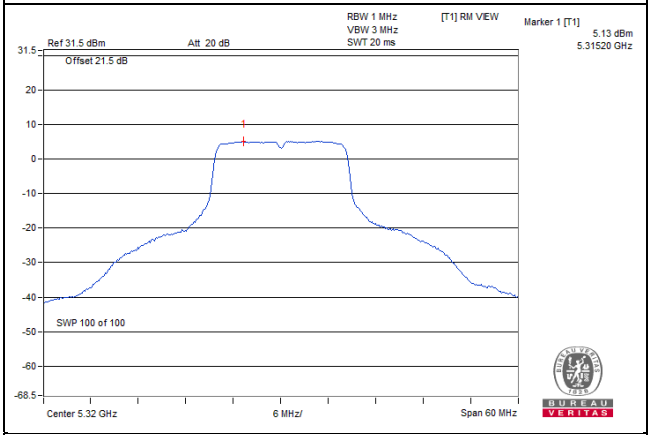
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Pass / Fail
58	5290	-3.30	0.37	-2.93	11.00	Pass
106	5530	-4.16	0.37	-3.79	11.00	Pass
122	5610	-0.31	0.37	0.06	11.00	Pass
138 (U-NII-2C Band)	5690	-1.86	0.37	-1.49	11.00	Pass

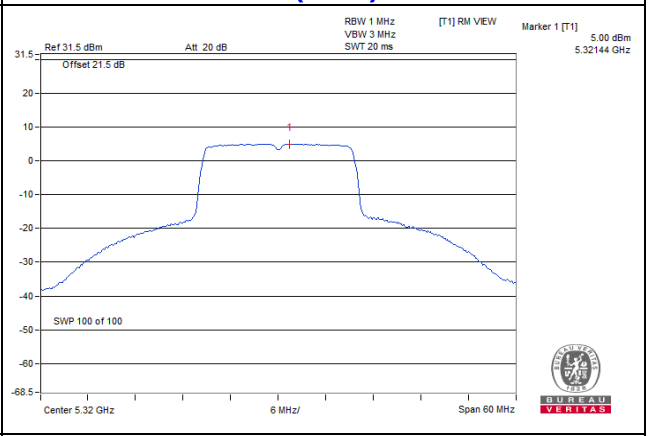
Note: 1. The max. gain = 6 dBi, so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

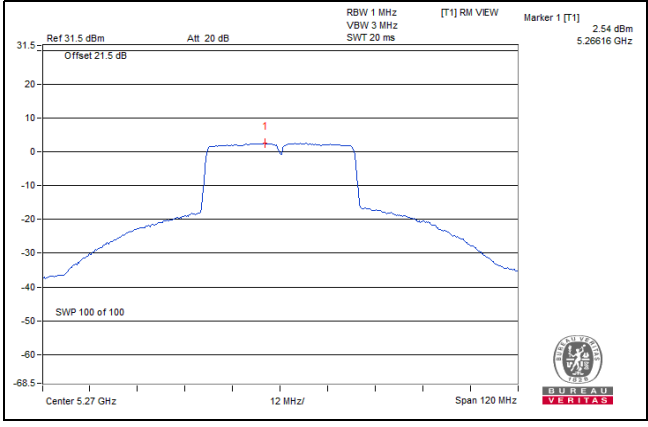
802.11a / CH64



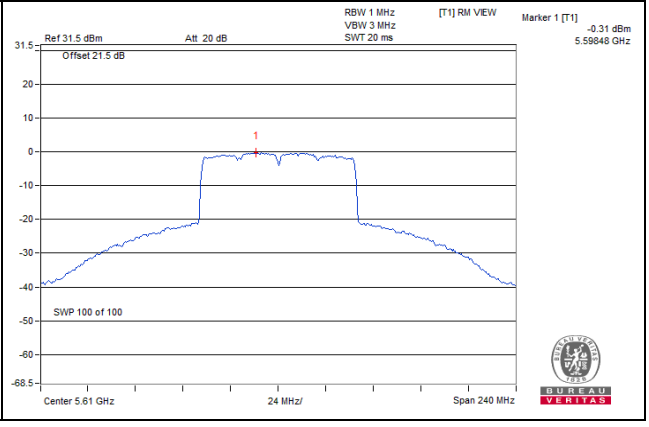
802.11ax (HE20) / CH64



802.11ax (HE40) / CH54



802.11ax (HE80) / CH122



For U-NII-3 band:

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
144 (U-NII-3 Band)	5720	-4.74	-2.52	30.00	Pass

Note: The max. gain = 6 dBi ≤ 6dBi, so the power density limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
144 (U-NII-3 Band)	5720	-6.07	0.10	-5.97	-3.75	30.00	Pass

Note: 1. The max. gain = 6 dBi ≤ 6dBi, so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
142 (U-NII-3 Band)	5710	-9.12	0.12	-9.00	-6.78	30.00	Pass

Note: 1. The max. gain = 6 dBi ≤ 6dBi, so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

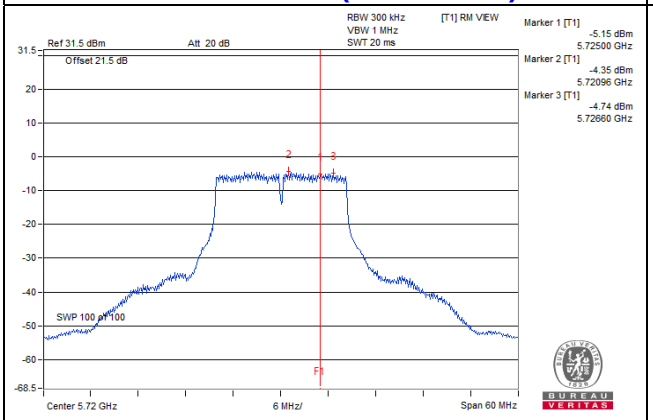
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
138 (U-NII-3 Band)	5690	-12.49	0.37	-12.12	-9.90	30.00	Pass

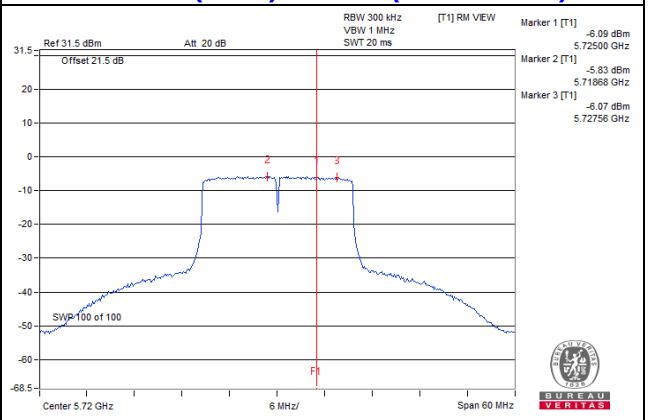
Note: 1. The max. gain = 6 dBi ≤ 6dBi, so the power density limit shall not be reduced.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

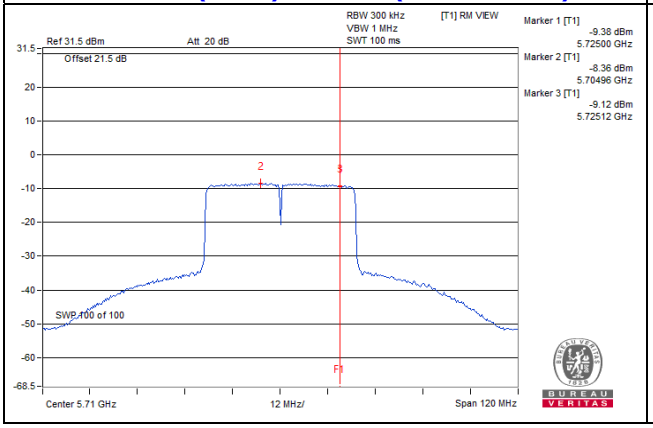
802.11a / CH144 (U-NII-3 Band)



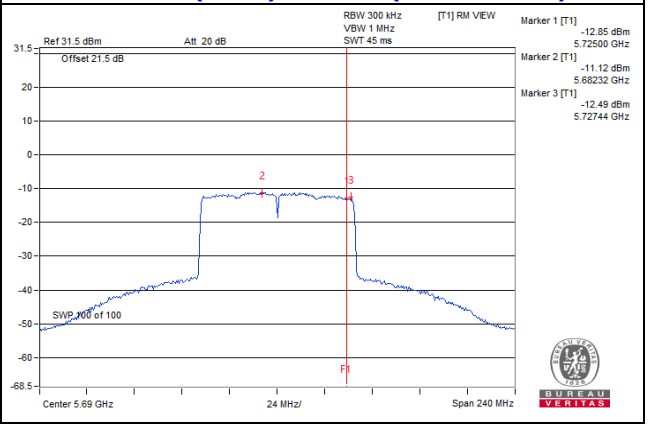
802.11ax (HE20) / CH144 (U-NII-3 Band)



802.11ax (HE40) / CH142 (U-NII-3 Band)



802.11ax (HE80) / CH138 (U-NII-3 Band)

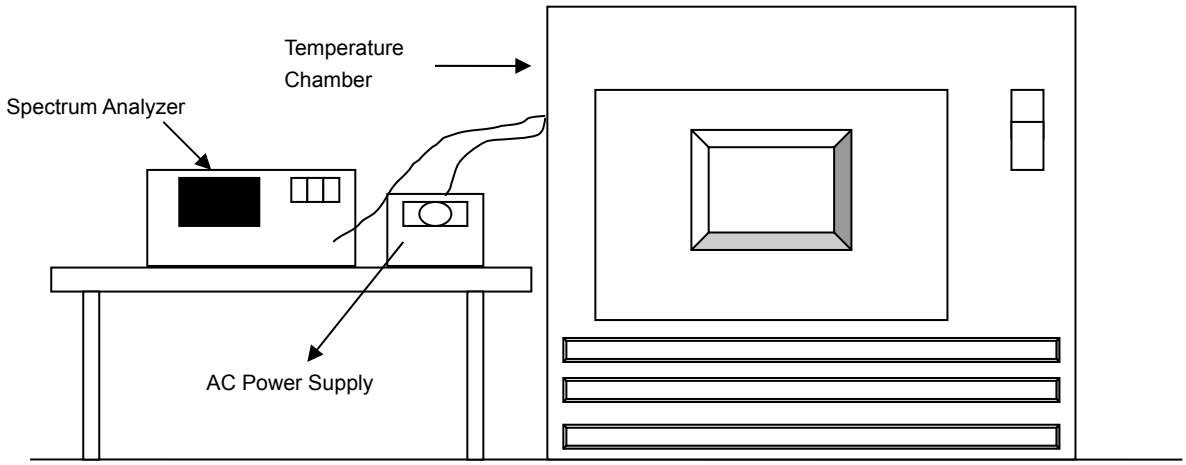


4.6 Frequency Stability Measurement

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

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC 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 until measurements down to the lowest specified temperature have been completed.
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 5)

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	55	5260.0049	Pass	5260.0055	Pass	5260.0086	Pass	5260.0042	Pass
30	55	5260.0097	Pass	5260.0087	Pass	5260.0071	Pass	5260.01	Pass
20	55	5260.003	Pass	5260.0035	Pass	5260.0066	Pass	5260.006	Pass
10	55	5259.9917	Pass	5259.9894	Pass	5259.9897	Pass	5259.9895	Pass
0	55	5260.0048	Pass	5260.002	Pass	5260.0024	Pass	5260.0028	Pass
-5	55	5259.9829	Pass	5259.9848	Pass	5259.9869	Pass	5259.9829	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	63.25	5259.9913	Pass	5259.9899	Pass	5259.9896	Pass	5259.9896	Pass
	55	5259.9917	Pass	5259.9894	Pass	5259.9897	Pass	5259.9895	Pass
	46.75	5259.9916	Pass	5259.989	Pass	5259.9904	Pass	5259.9893	Pass

4.6.8 Test Results (Mode 6)

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	55	5259.9851	Pass	5259.985	Pass	5259.9887	Pass	5259.9866	Pass
30	55	5259.9951	Pass	5259.9981	Pass	5259.9989	Pass	5259.9984	Pass
20	55	5259.9731	Pass	5259.9732	Pass	5259.9759	Pass	5259.9755	Pass
10	55	5260.0174	Pass	5260.0212	Pass	5260.0179	Pass	5260.0221	Pass
0	55	5260.0013	Pass	5260.0011	Pass	5259.9975	Pass	5259.9981	Pass
-5	55	5260.0088	Pass	5260.0099	Pass	5260.008	Pass	5260.0093	Pass

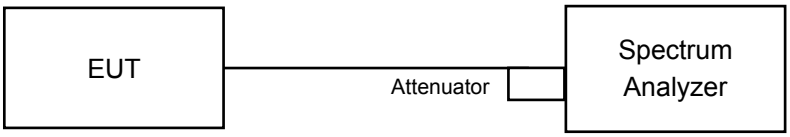
Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	63.25	5260.0166	Pass	5260.0213	Pass	5260.0169	Pass	5260.0223	Pass
	55	5260.0174	Pass	5260.0212	Pass	5260.0179	Pass	5260.0221	Pass
	46.75	5260.0177	Pass	5260.0202	Pass	5260.0181	Pass	5260.0217	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

MEASUREMENT PROCEDURE REF

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 1)

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144 (U-NII-3 Band)	5720	3.17	3.19	3.18	3.18	0.5	Pass

802.11ax (HE20)

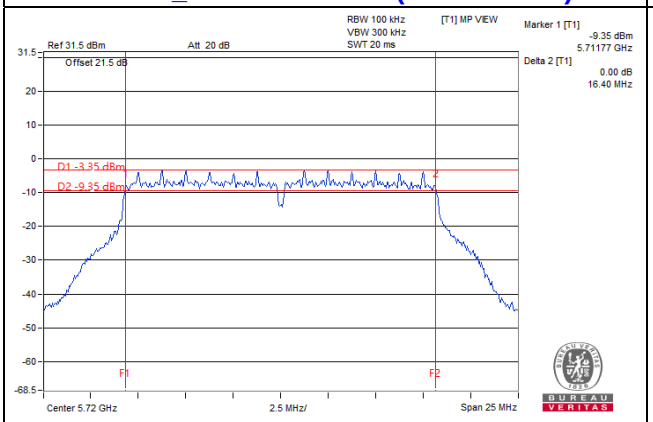
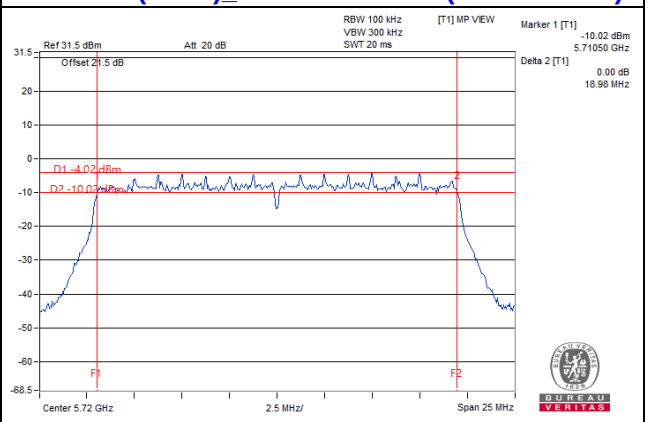
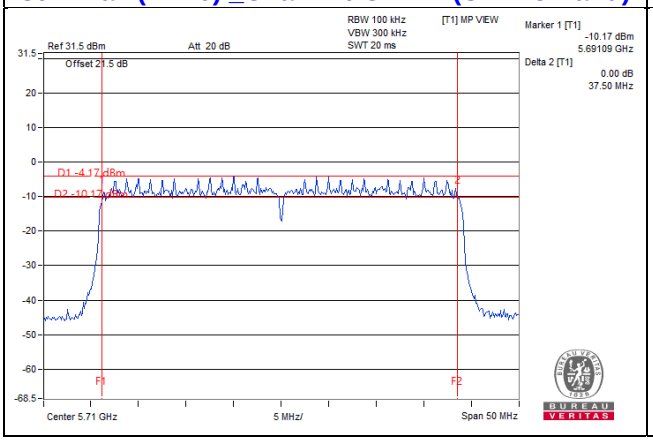
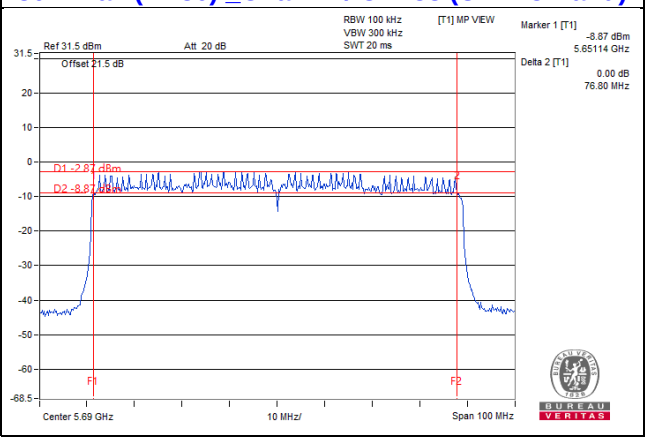
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144 (U-NII-3 Band)	5720	4.5	4.52	4.48	4.52	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
142 (U-NII-3 Band)	5710	3.7	3.83	3.59	3.82	0.5	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
138 (U-NII-3 Band)	5690	3.32	2.94	3.44	3.19	0.5	Pass

Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH144 (U-NII-3 Band)	**802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)**
	
802.11ax (HE40) _Chain 2 / CH142 (U-NII-3 Band)	**802.11ax (HE80) _Chain 1 / CH138 (U-NII-3 Band)**
	

Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

4.7.8 Test Results (Mode 3)

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
144 (U-NII-3 Band)	5720	3.18	3.18	3.19	0.5	Pass

802.11ax (HE20)

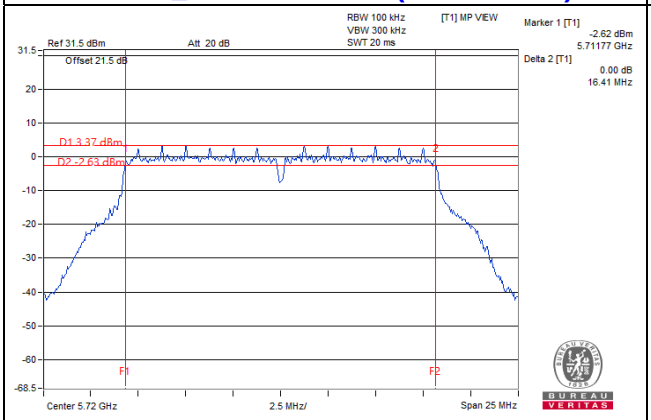
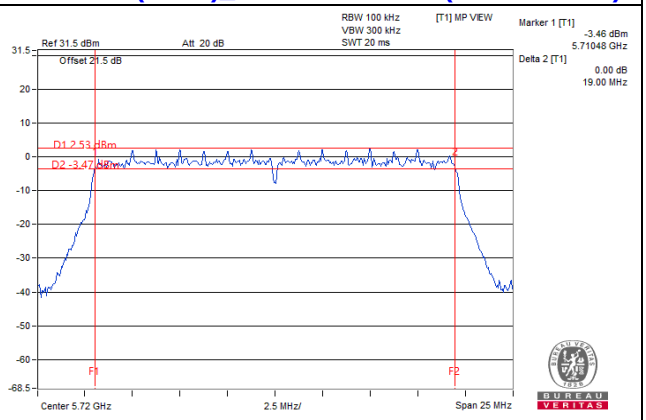
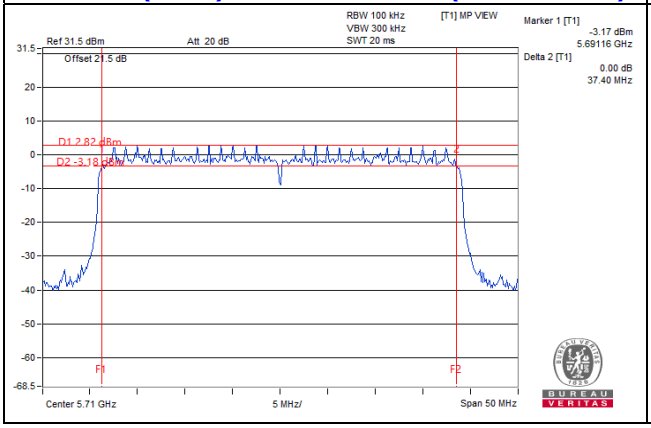
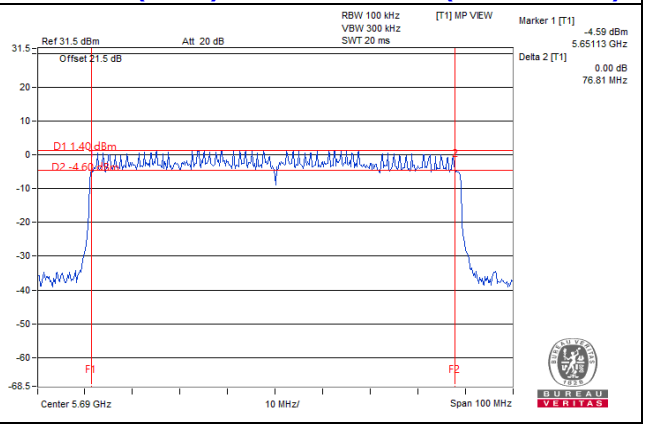
Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
144 (U-NII-3 Band)	5720	4.5	4.51	4.48	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
142 (U-NII-3 Band)	5710	3.8	3.56	3.78	0.5	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
138 (U-NII-3 Band)	5690	3.64	2.94	2.96	0.5	Pass

Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH144 (U-NII-3 Band)	**802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)**
	
802.11ax (HE40)_Chain 1 / CH142 (U-NII-3 Band)	**802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)**
	

Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

4.7.9 Test Results (Mode 4)

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 2	
144 (U-NII-3 Band)	5720	3.19	3.19	Pass

802.11ax (HE20)

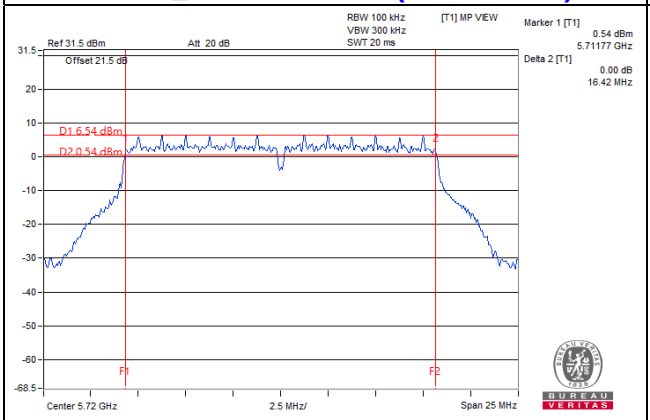
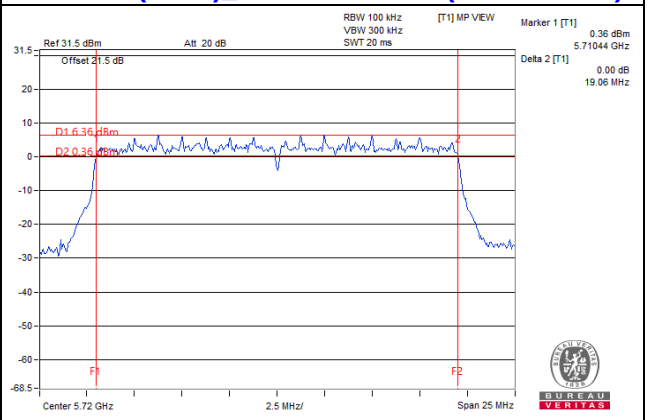
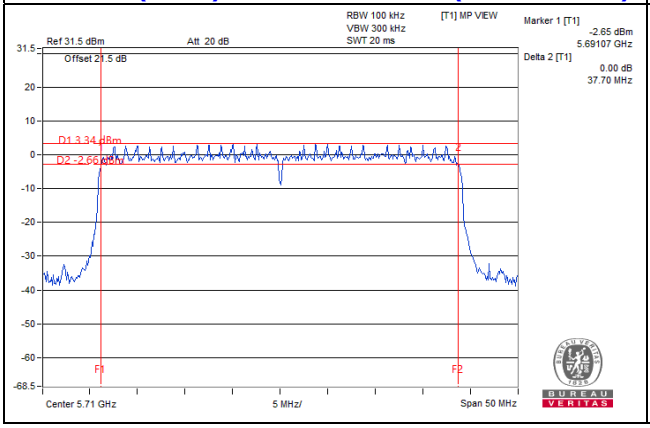
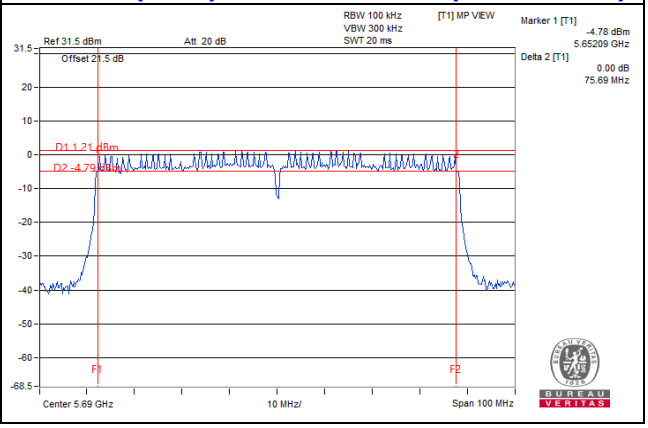
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 2	
144 (U-NII-3 Band)	5720	4.5	4.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 2	
142 (U-NII-3 Band)	5710	3.77	3.8	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 2	
138 (U-NII-3 Band)	5690	2.78	3.65	Pass

Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH144 (U-NII-3 Band)	**802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)**
	
802.11ax (HE40) _Chain 0 / CH142 (U-NII-3 Band)	**802.11ax (HE80) _Chain 0 / CH138 (U-NII-3 Band)**
	

Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

4.7.10 Test Results (Mode 5)

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Pass / Fail
144 (U-NII-3 Band)	5720	3.18	Pass

802.11ax (HE20)

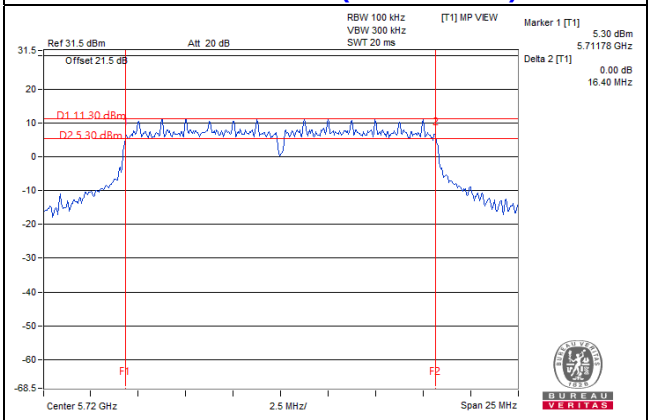
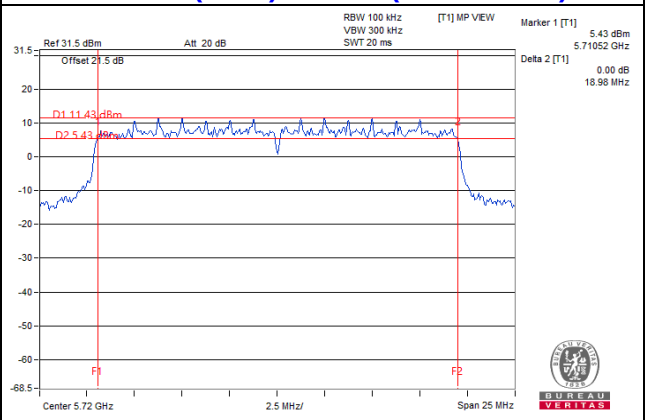
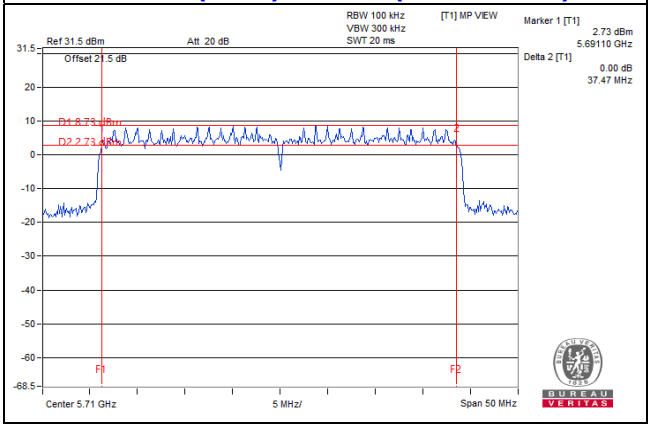
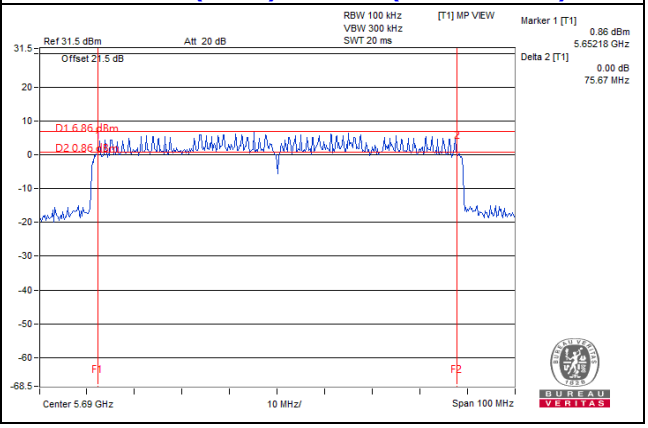
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Pass / Fail
144 (U-NII-3 Band)	5720	4.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Pass / Fail
142 (U-NII-3 Band)	5710	3.57	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Pass / Fail
138 (U-NII-3 Band)	5690	2.85	Pass

Spectrum Plot of Worst Value	
802.11a / CH144 (U-NII-3 Band)	**802.11ax (HE20) / CH144 (U-NII-3 Band)**
	
802.11ax (HE40) / CH142 (U-NII-3 Band)	**802.11ax (HE80) / CH138 (U-NII-3 Band)**
	

Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

4.7.11 Test Results (Mode 6)

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Pass / Fail
144 (U-NII-3 Band)	5720	3.21	Pass

802.11ax (HE20)

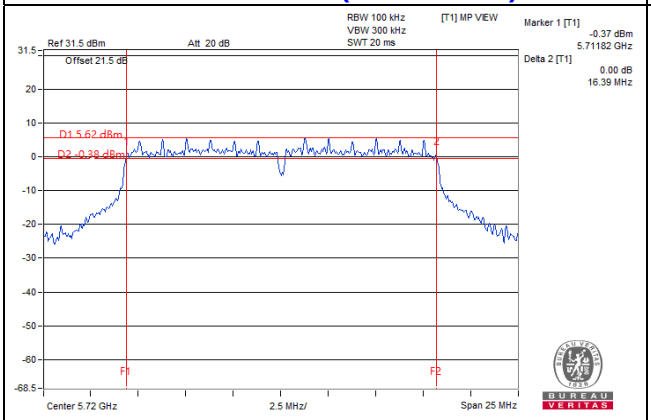
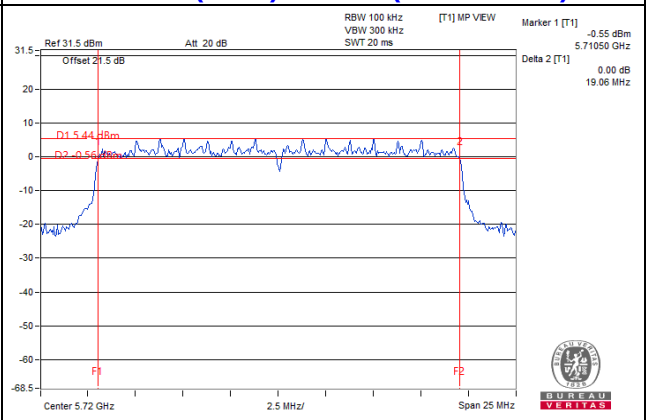
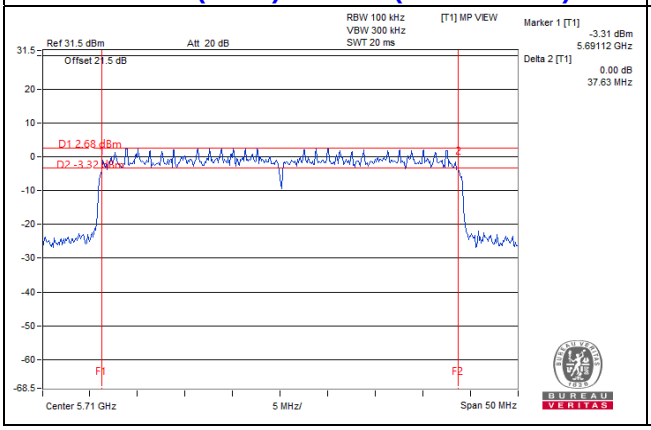
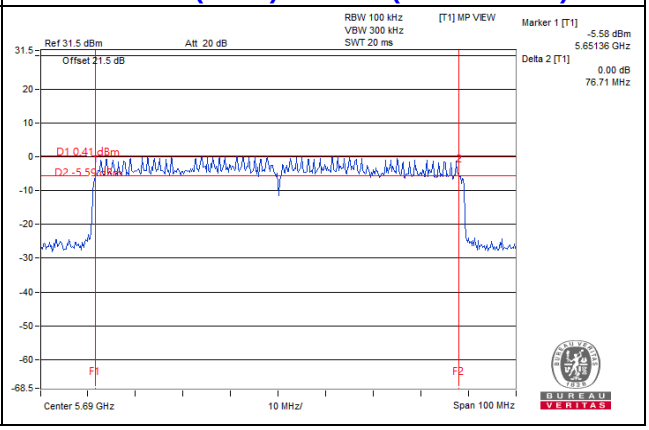
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Pass / Fail
144 (U-NII-3 Band)	5720	4.56	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Pass / Fail
142 (U-NII-3 Band)	5710	3.75	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Pass / Fail
138 (U-NII-3 Band)	5690	3.07	Pass

Spectrum Plot of Worst Value	
802.11a / CH144 (U-NII-3 Band)	**802.11ax (HE20) / CH144 (U-NII-3 Band)**
	
802.11ax (HE40) / CH142 (U-NII-3 Band)	**802.11ax (HE80) / CH138 (U-NII-3 Band)**
	

Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

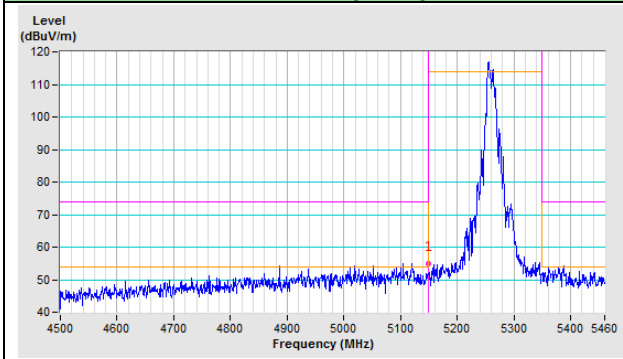
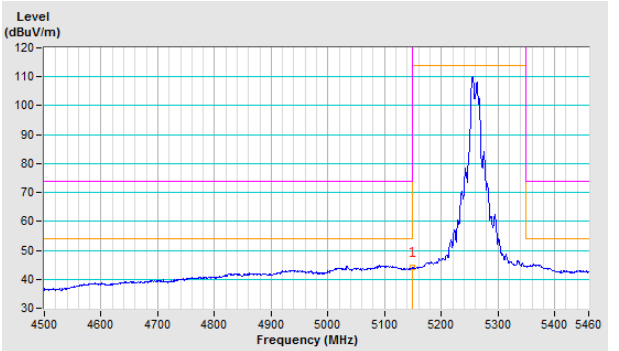
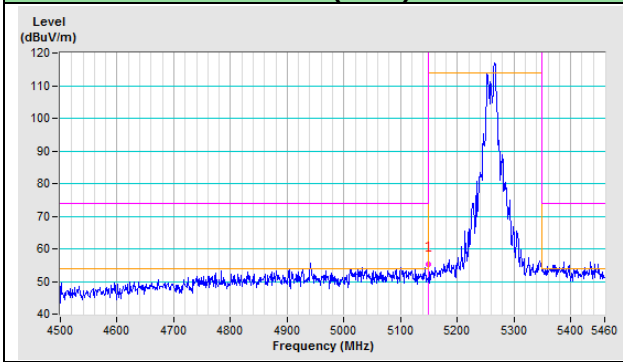
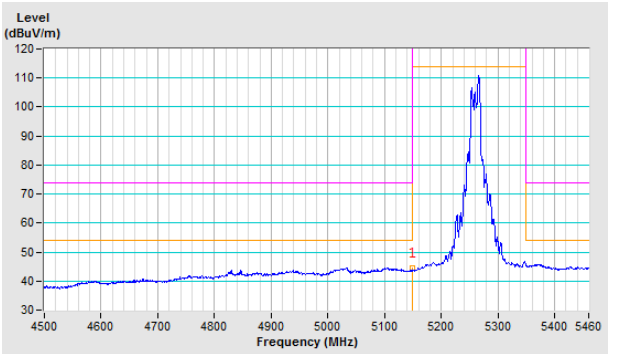
5 Pictures of Test Arrangements

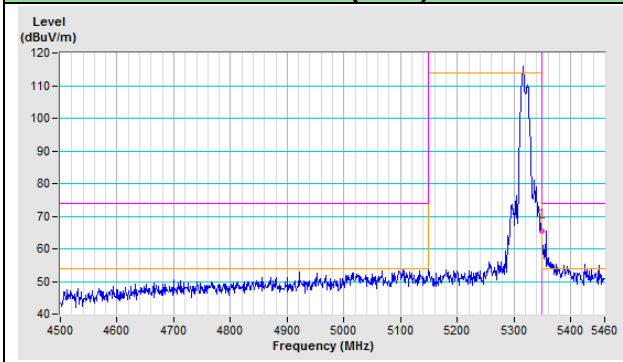
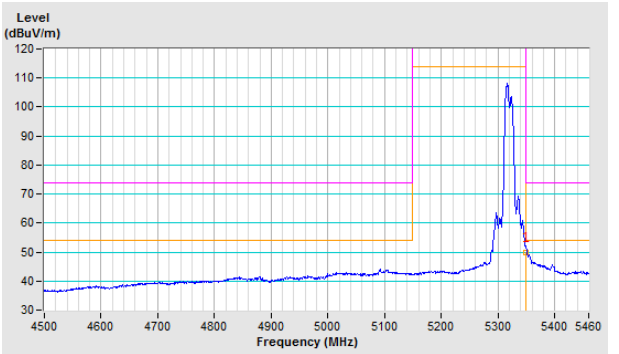
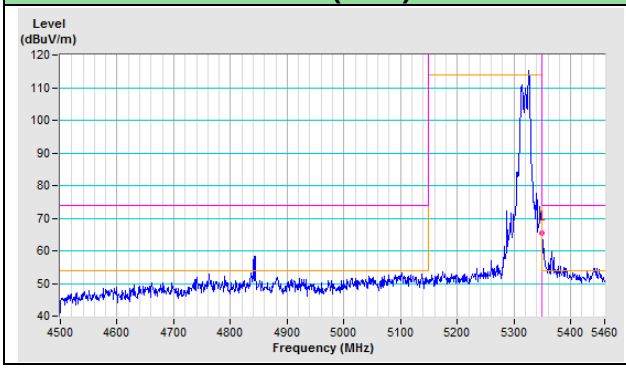
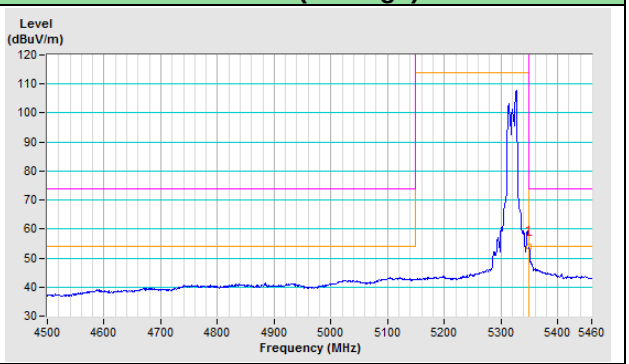
Please refer to the attached file (Test Setup Photo).

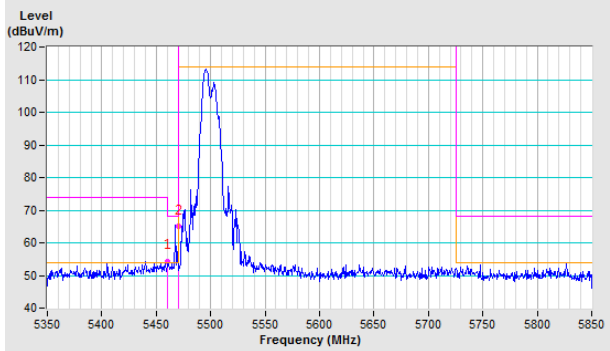
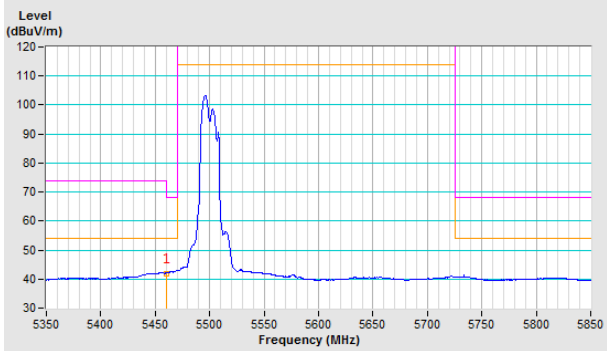
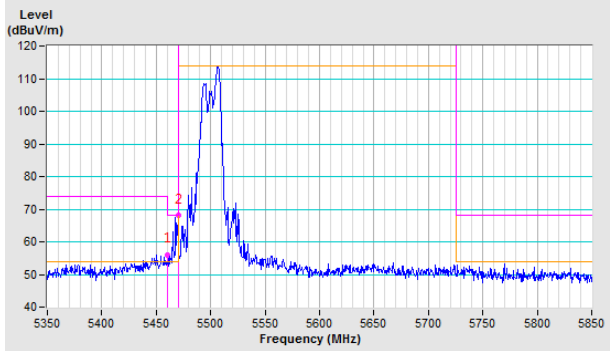
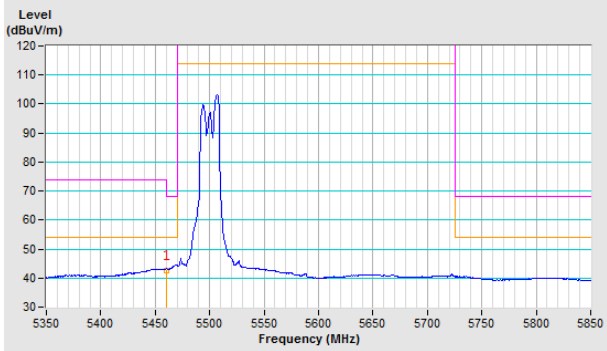
Annex A - Band-Edge Measurement

Test Results (Mode 1)

802.11a

Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

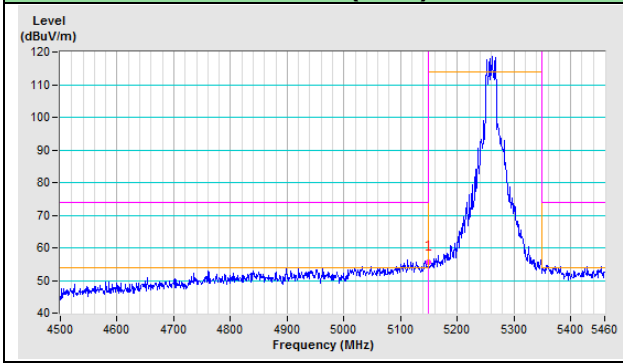
Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

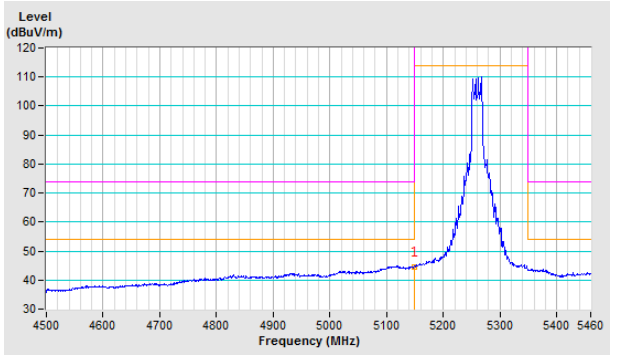
802.11ax (HE20)

Channel 52

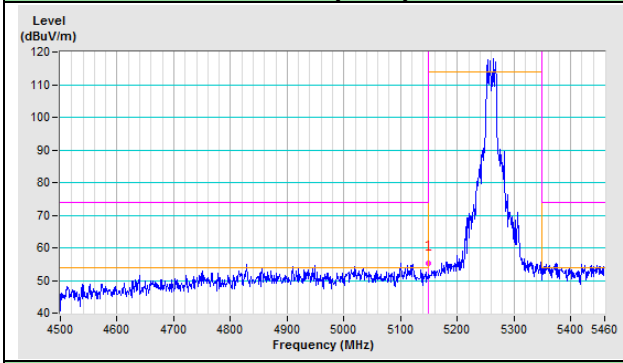
Horizontal (Peak)



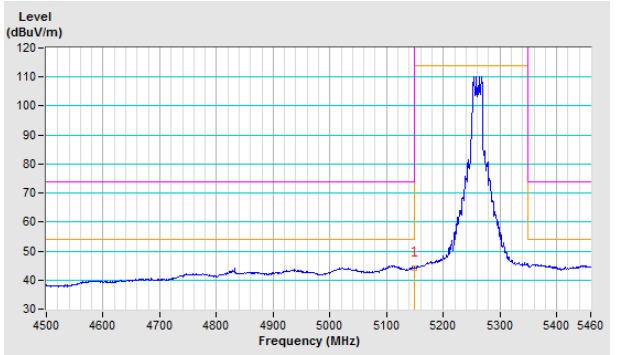
Horizontal (Average)



Vertical (Peak)

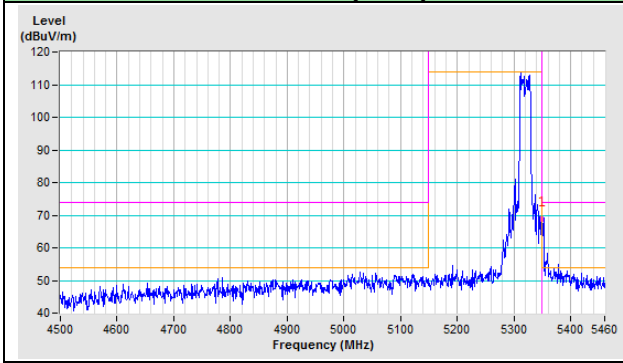


Vertical (Average)

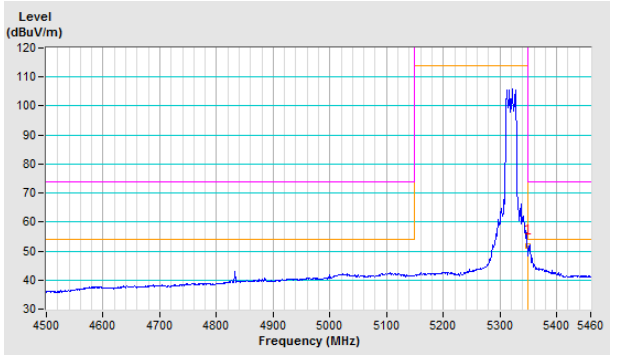


Channel 64

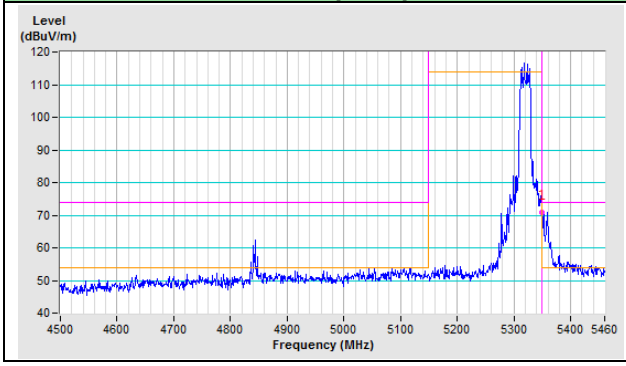
Horizontal (Peak)



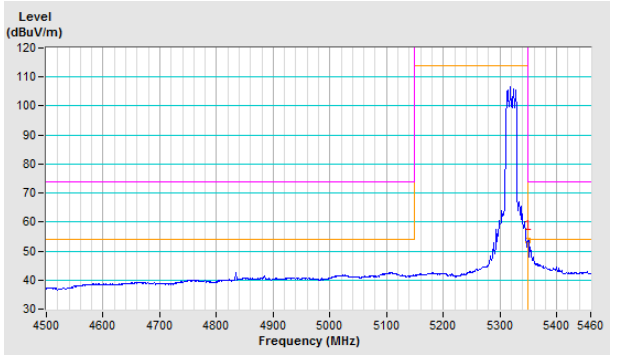
Horizontal (Average)

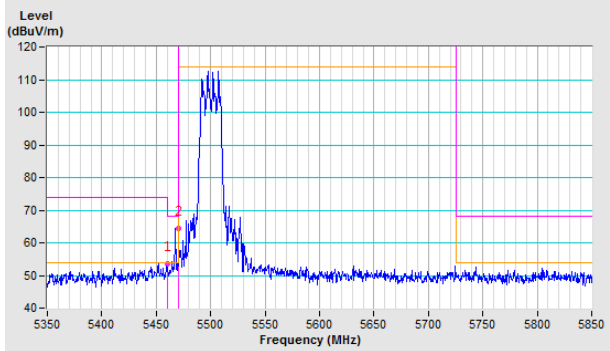
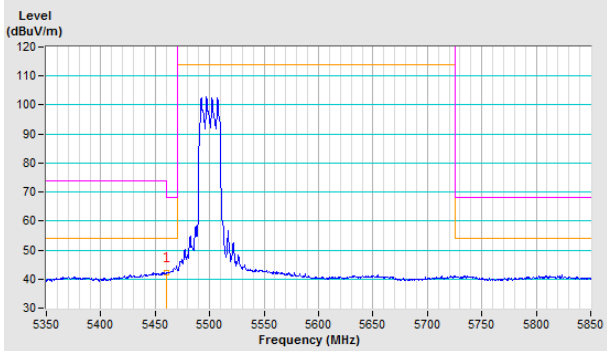
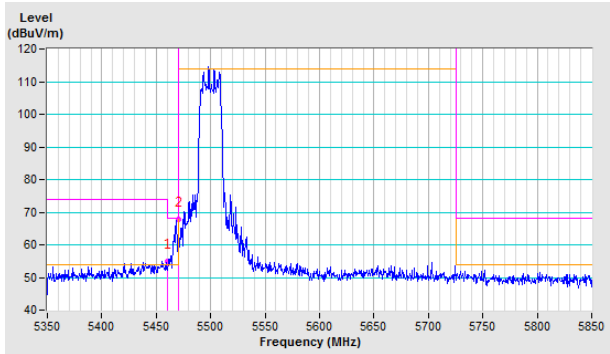
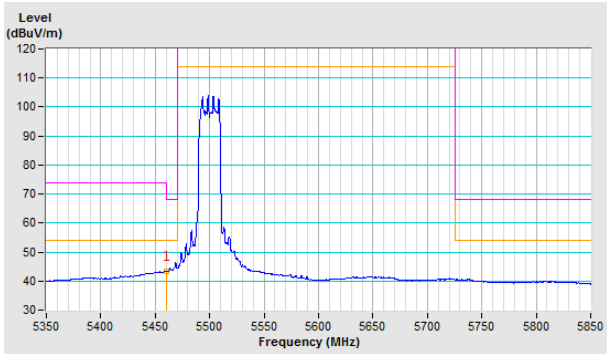


Vertical (Peak)



Vertical (Average)

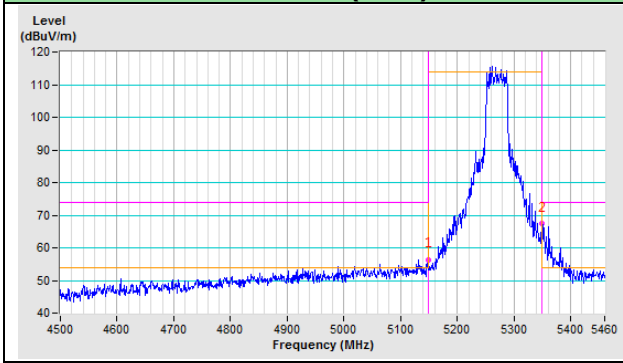


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

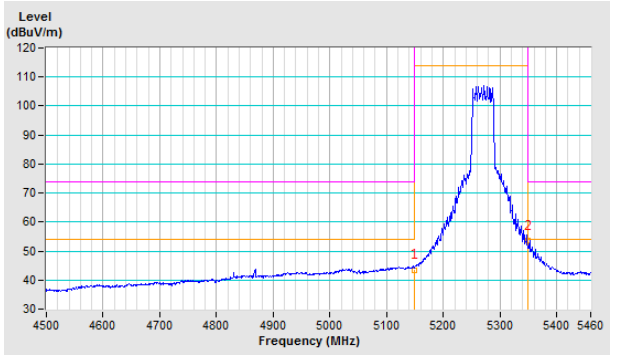
802.11ax (HE40)

Channel 54

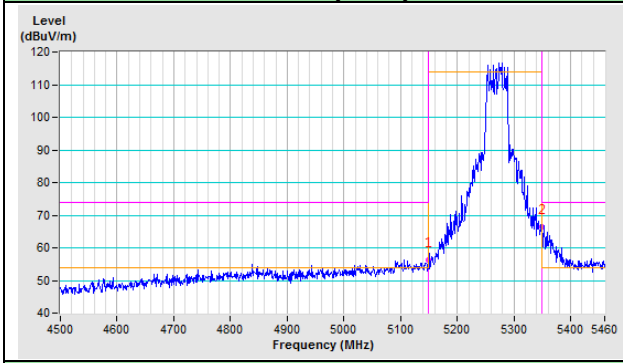
Horizontal (Peak)



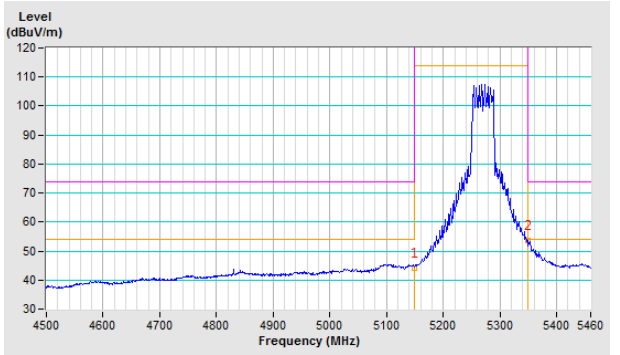
Horizontal (Average)



Vertical (Peak)

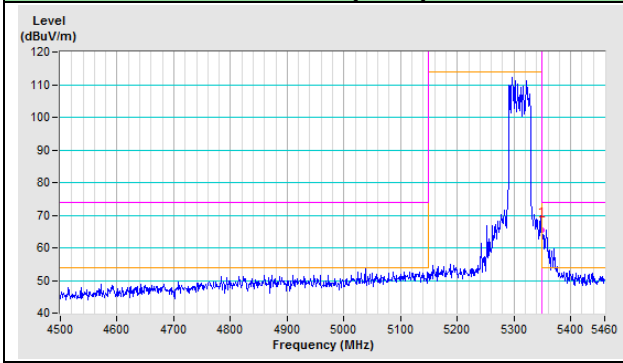


Vertical (Average)

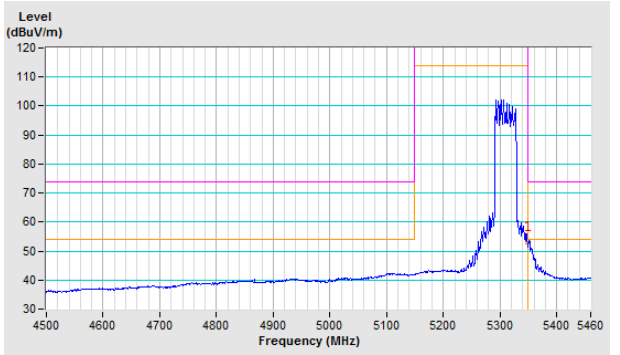


Channel 62

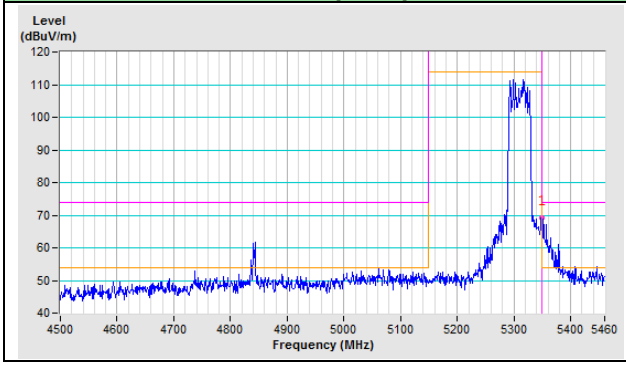
Horizontal (Peak)



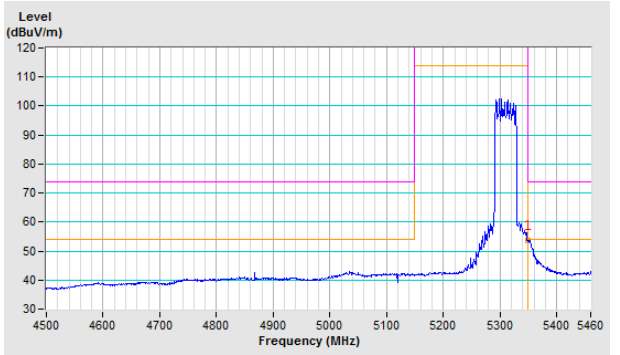
Horizontal (Average)

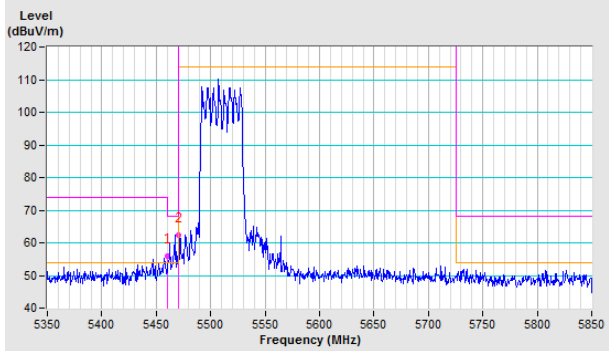
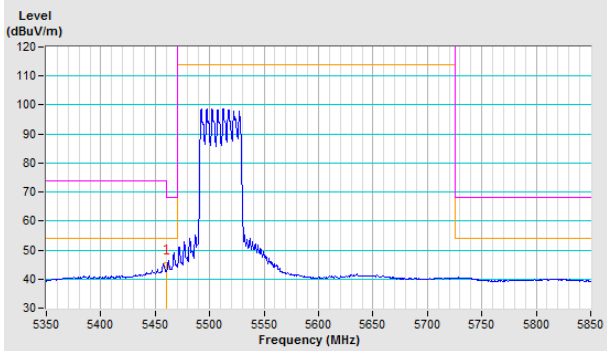
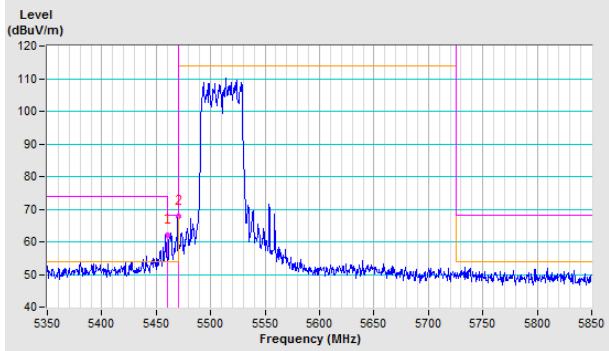
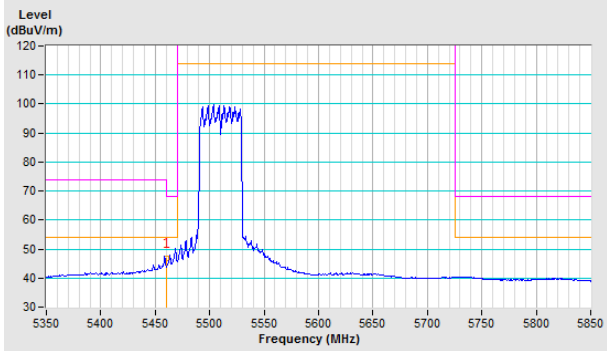


Vertical (Peak)



Vertical (Average)

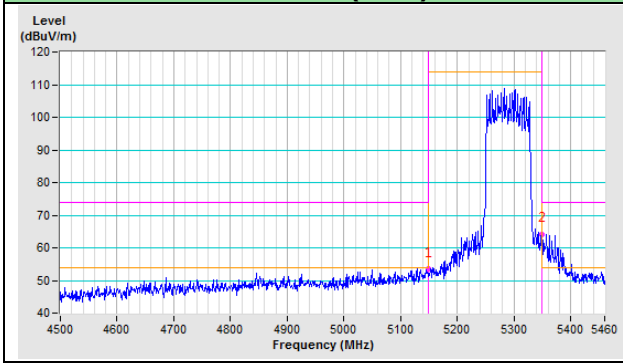


Channel 102	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

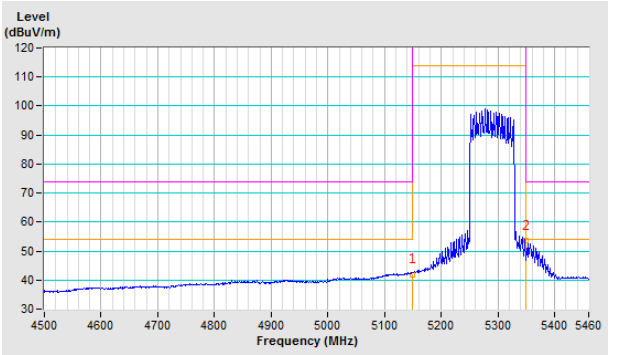
802.11ax (HE80)

Channel 58

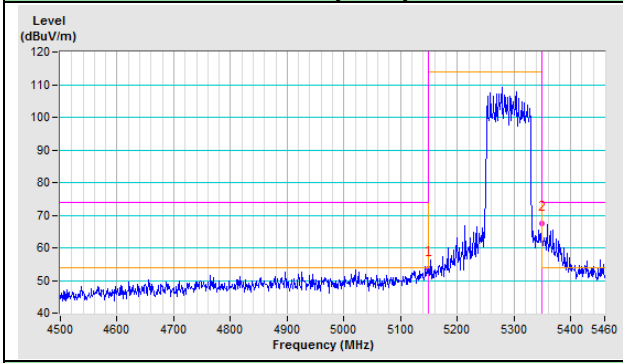
Horizontal (Peak)



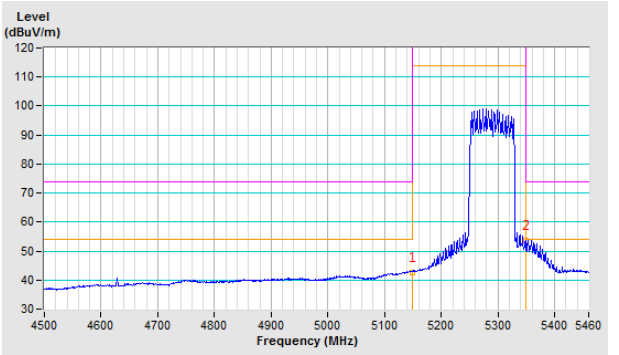
Horizontal (Average)



Vertical (Peak)

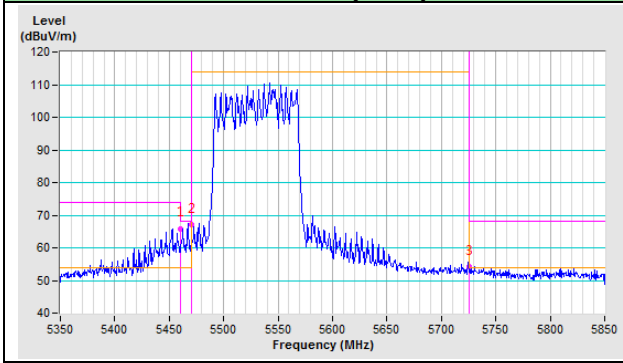


Vertical (Average)

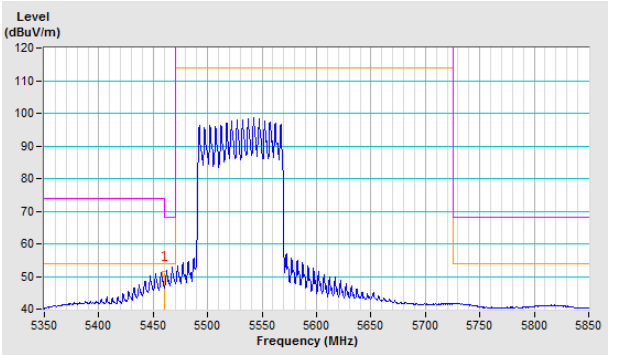


Channel 106

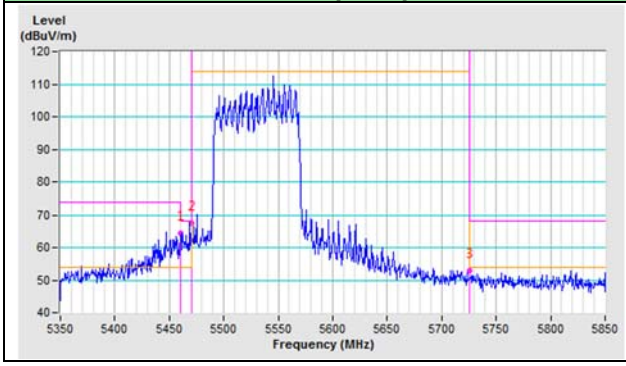
Horizontal (Peak)



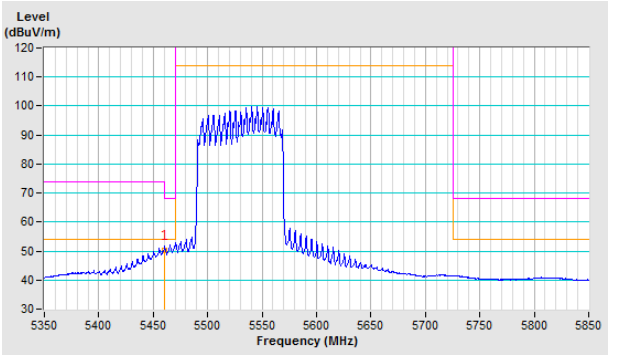
Horizontal (Average)



Vertical (Peak)



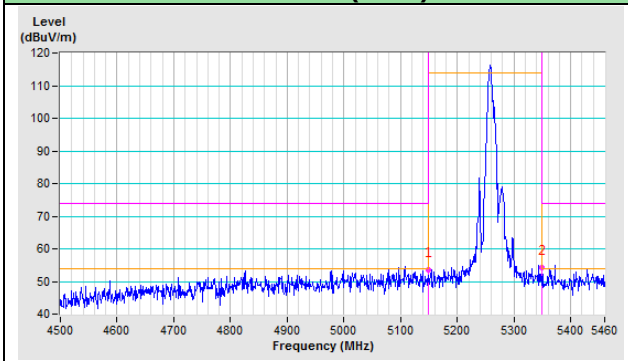
Vertical (Average)



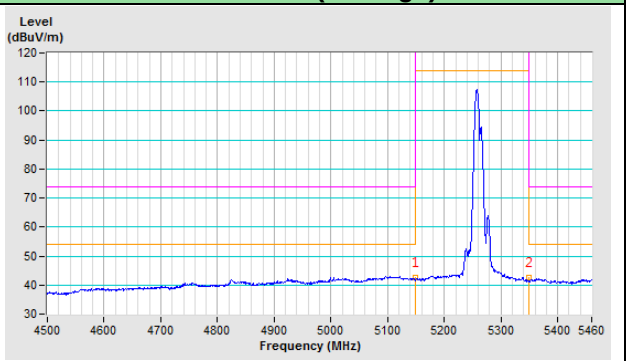
Test Results (Mode 2)

Channel 52

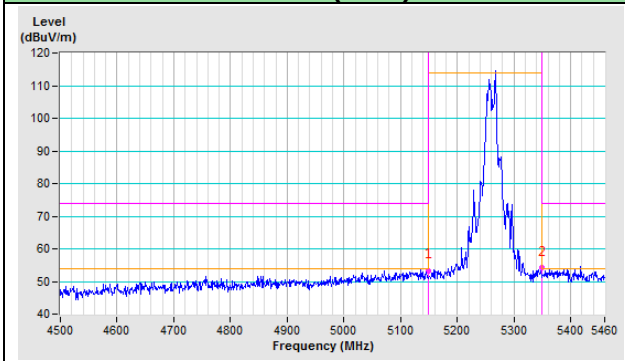
Horizontal (Peak)



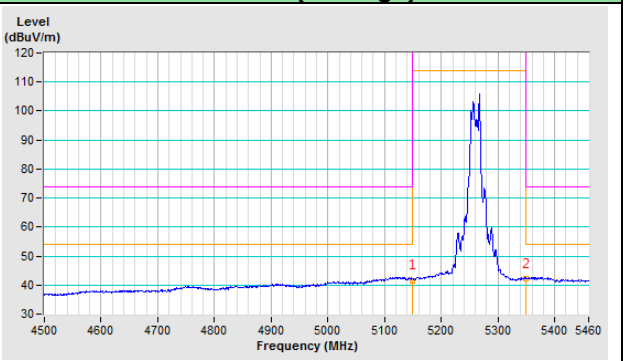
Horizontal (Average)



Vertical (Peak)

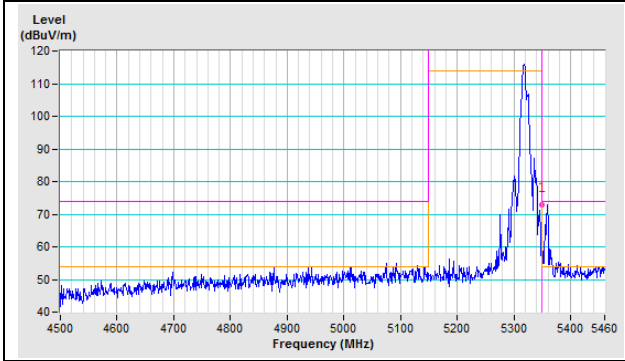


Vertical (Average)

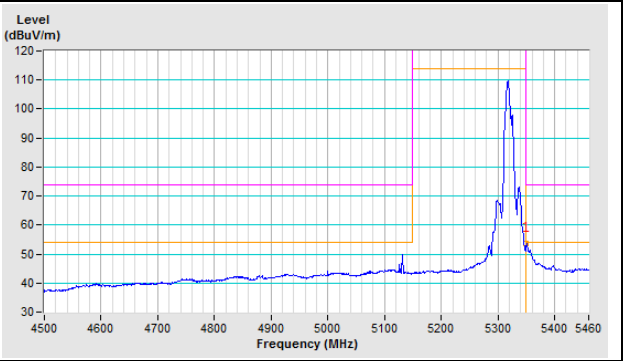


Channel 64

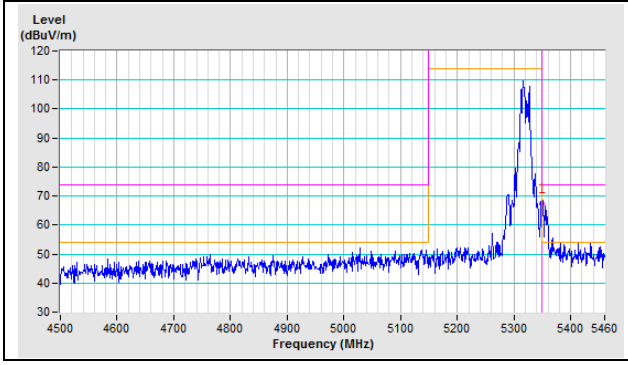
Horizontal (Peak)



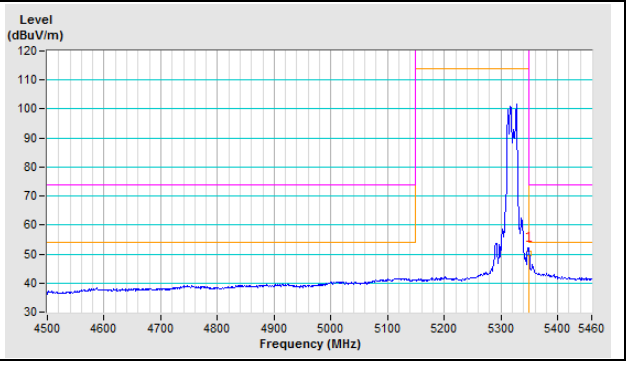
Horizontal (Average)

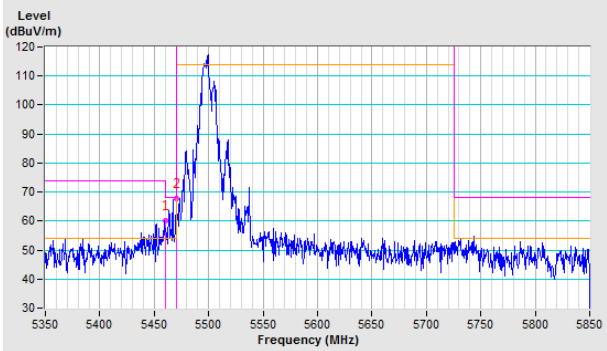
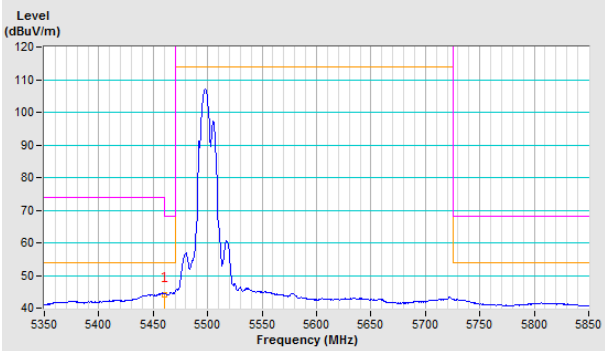
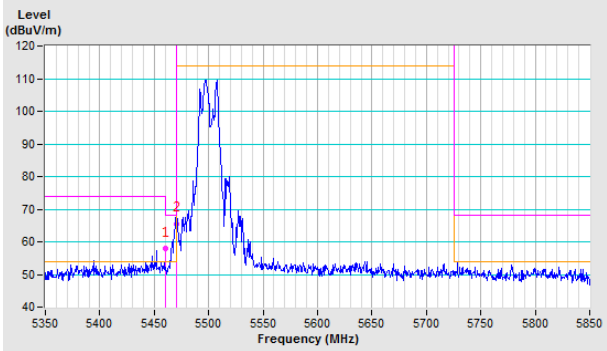
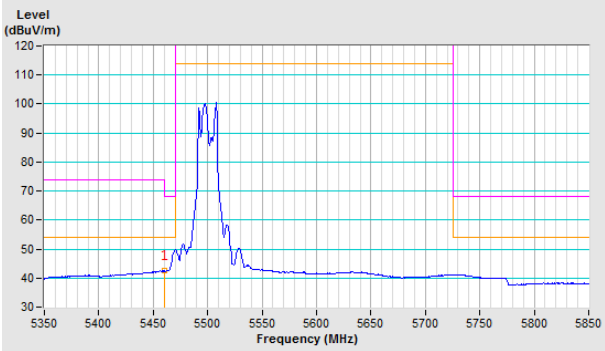


Vertical (Peak)



Vertical (Average)

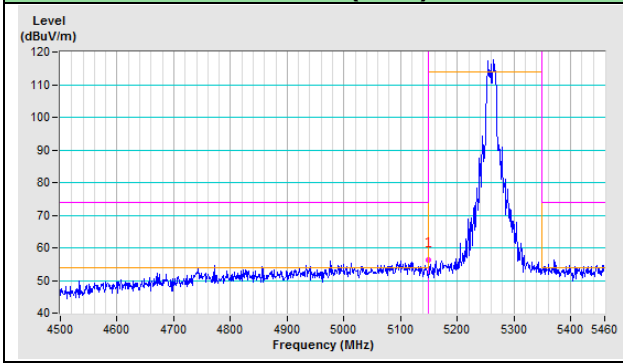


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

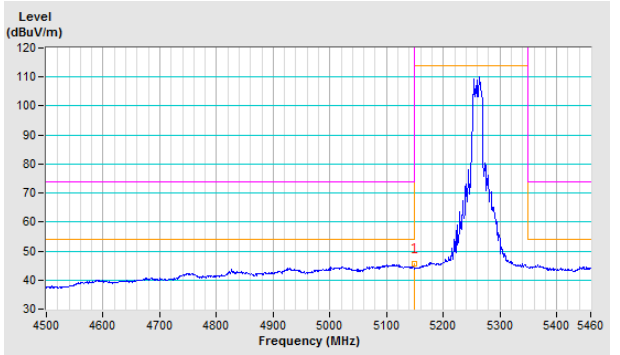
802.11ax (HE20)

Channel 52

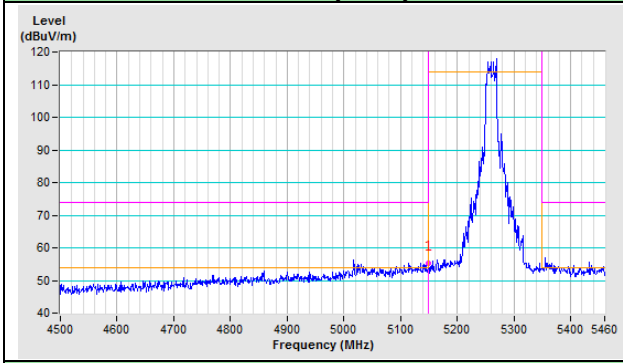
Horizontal (Peak)



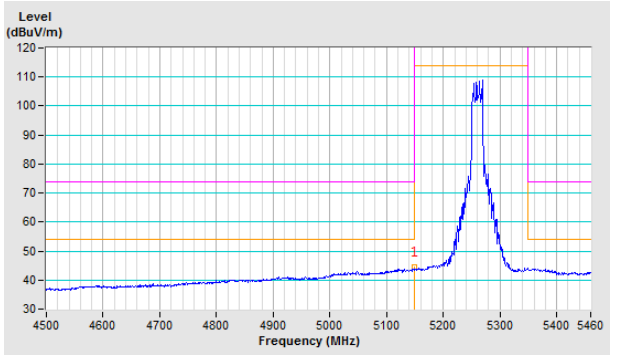
Horizontal (Average)



Vertical (Peak)

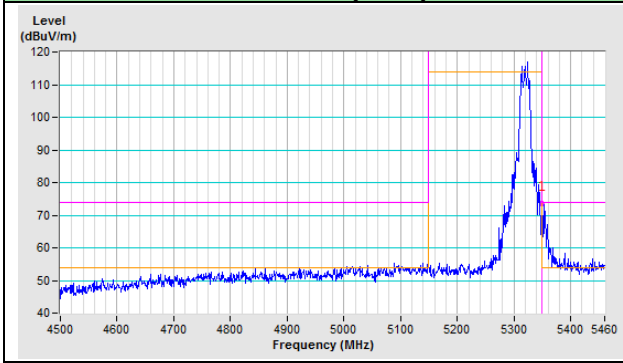


Vertical (Average)

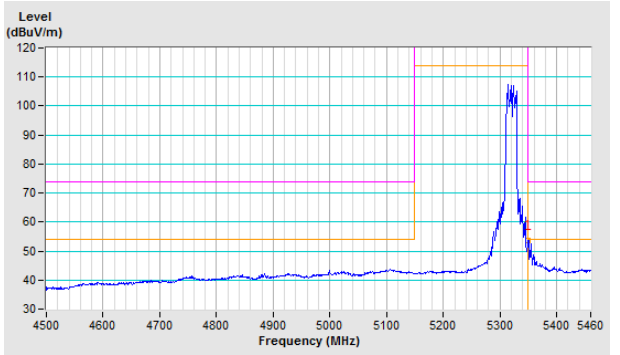


Channel 64

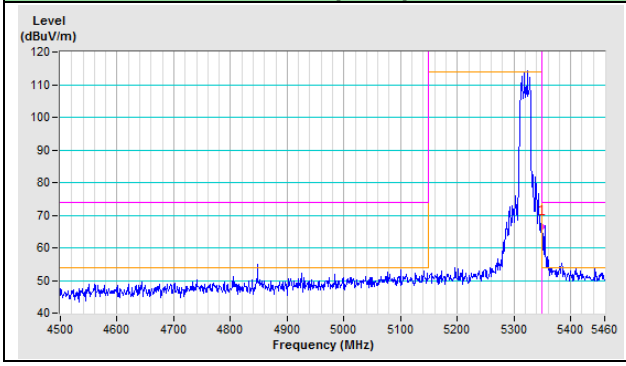
Horizontal (Peak)



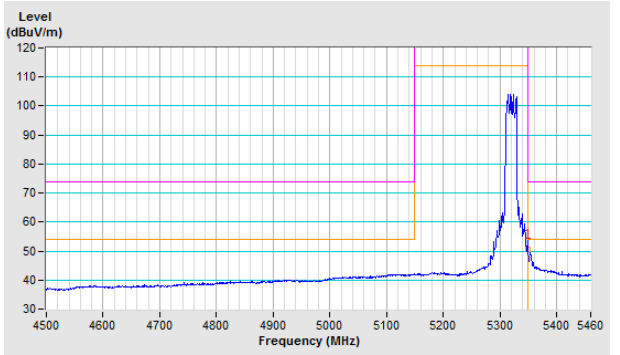
Horizontal (Average)

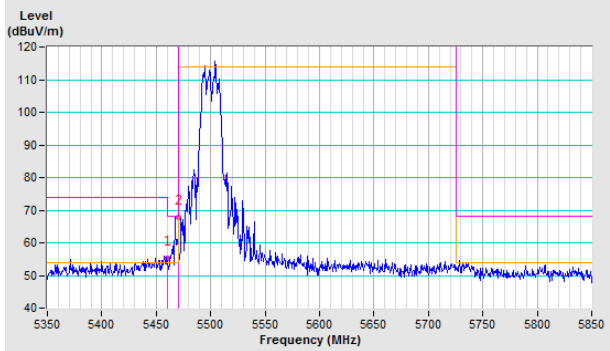
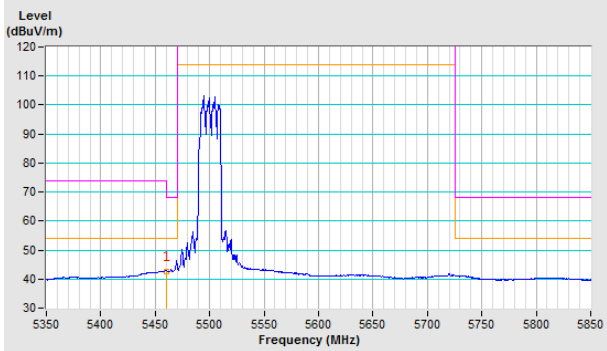
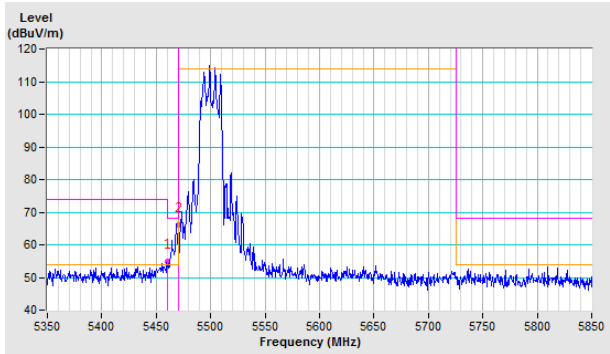
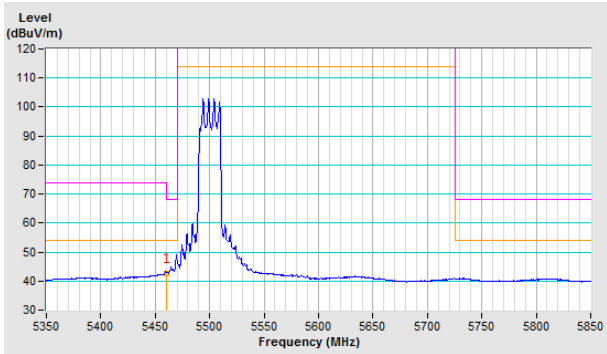


Vertical (Peak)



Vertical (Average)

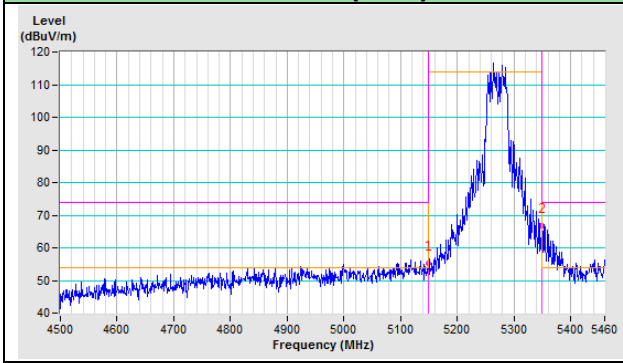


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

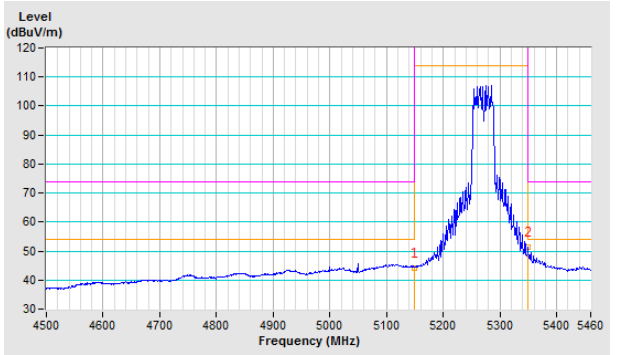
802.11ax (HE40)

Channel 54

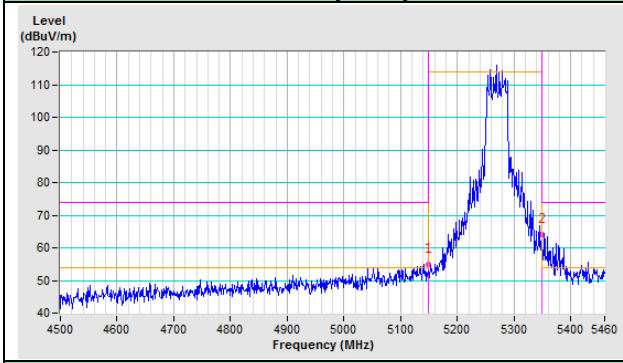
Horizontal (Peak)



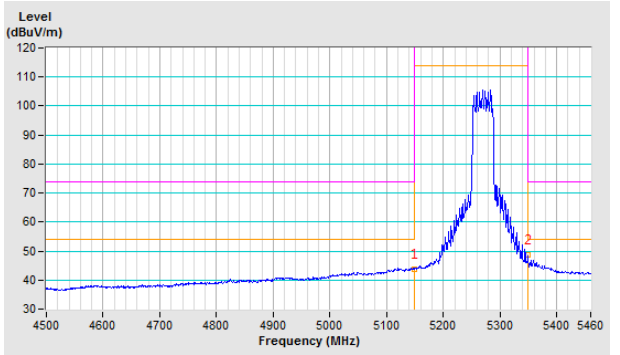
Horizontal (Average)



Vertical (Peak)

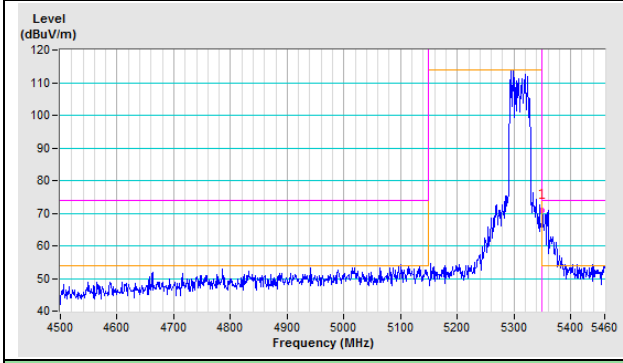


Vertical (Average)

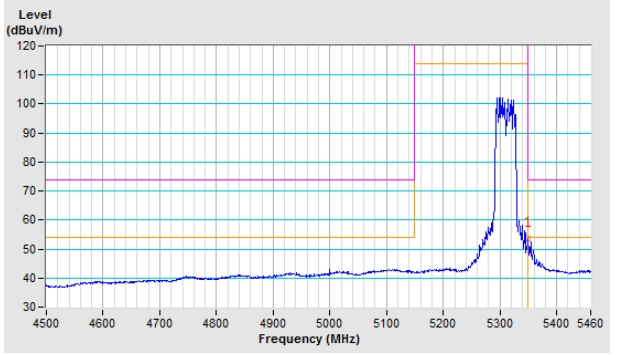


Channel 62

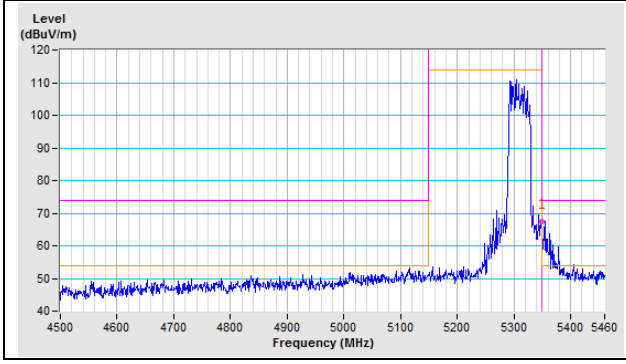
Horizontal (Peak)



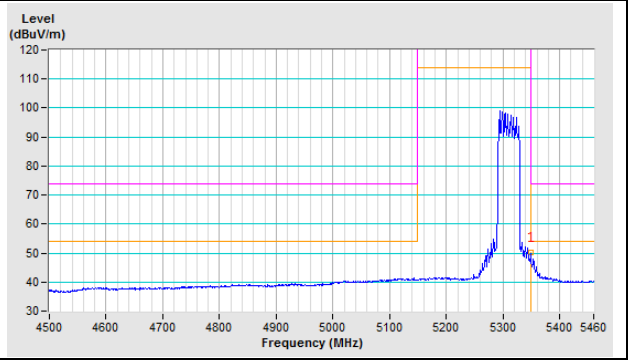
Horizontal (Average)

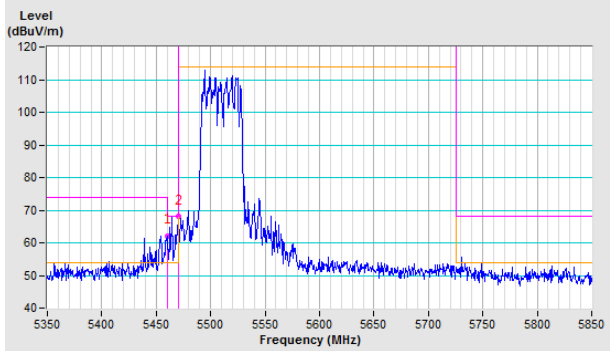
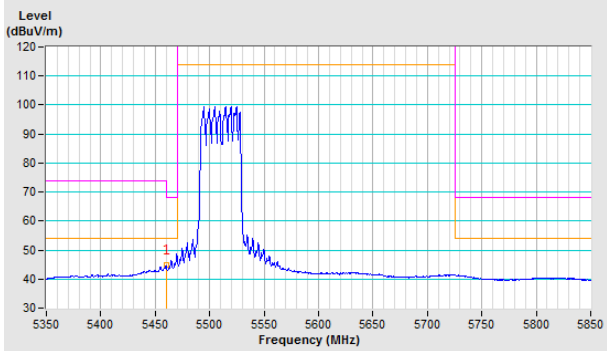
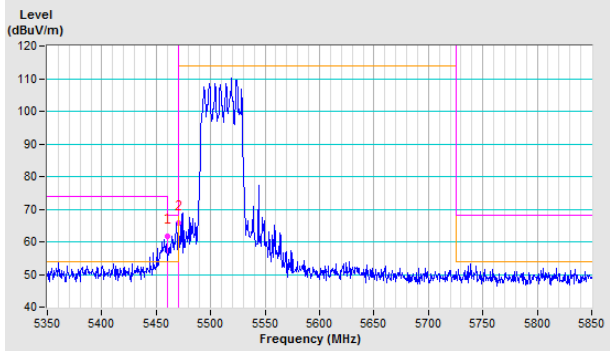
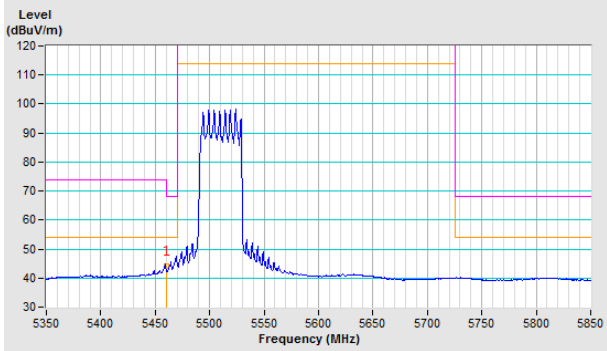


Vertical (Peak)



Vertical (Average)

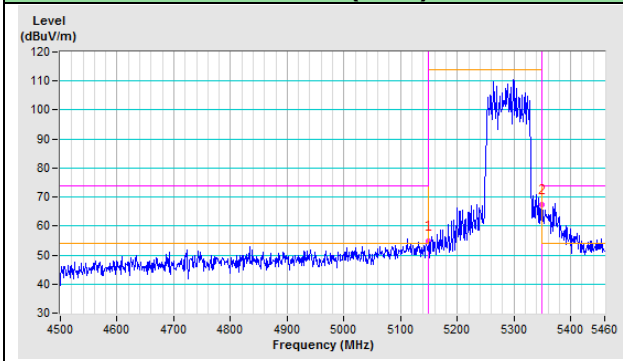


Channel 102	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

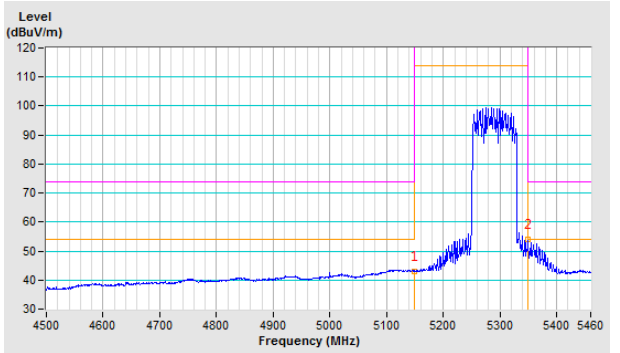
802.11ax (HE80)

Channel 58

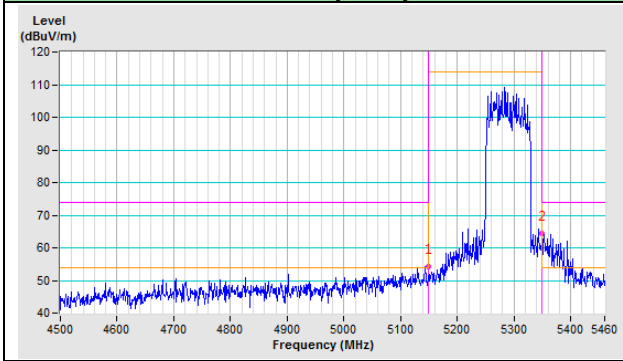
Horizontal (Peak)



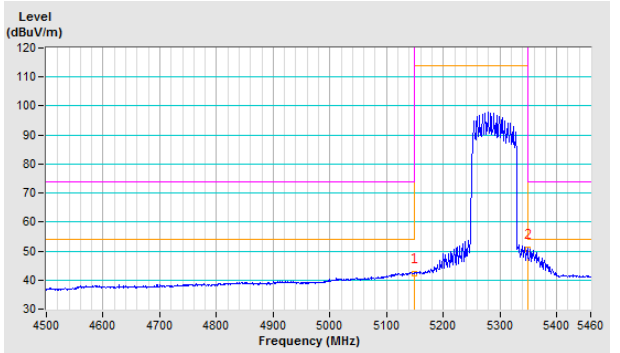
Horizontal (Average)



Vertical (Peak)

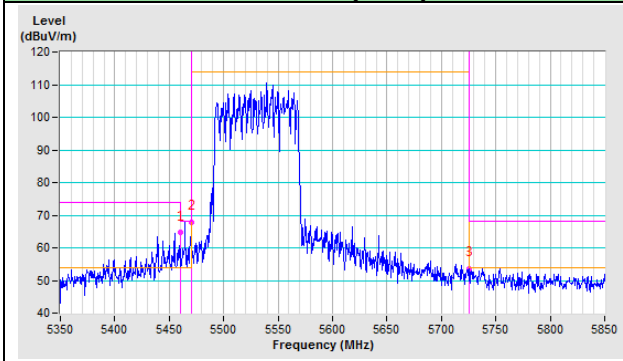


Vertical (Average)

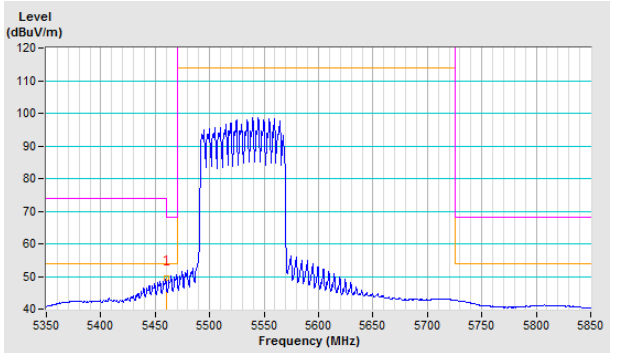


Channel 106

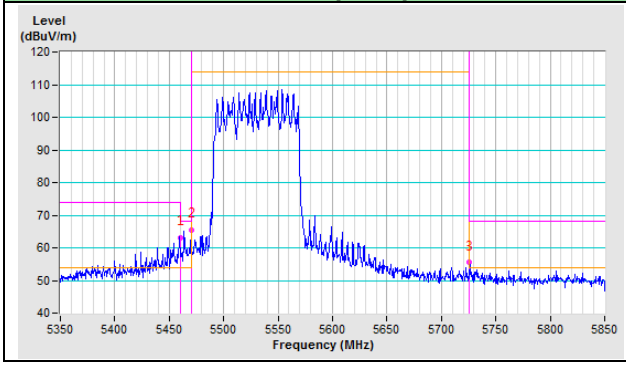
Horizontal (Peak)



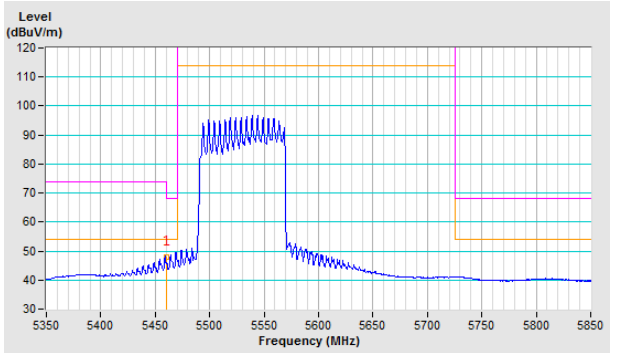
Horizontal (Average)



Vertical (Peak)



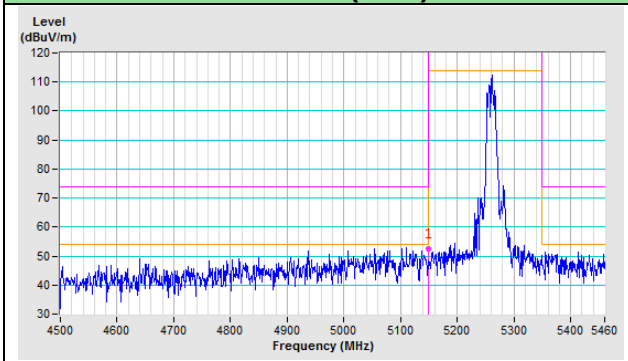
Vertical (Average)



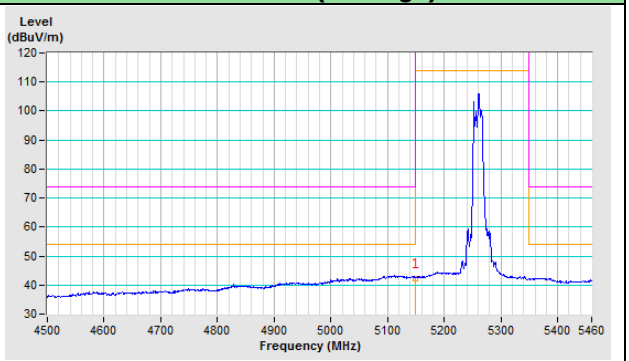
Test Results (Mode 3)

Channel 52

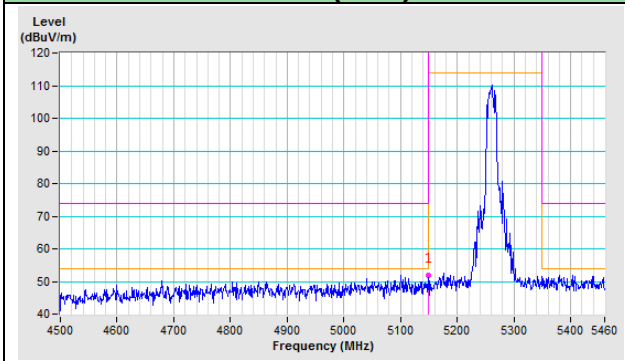
Horizontal (Peak)



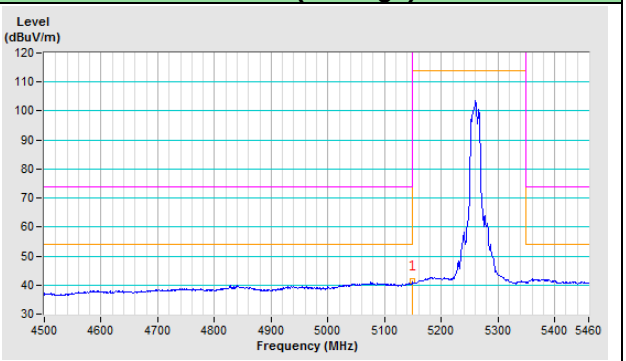
Horizontal (Average)



Vertical (Peak)

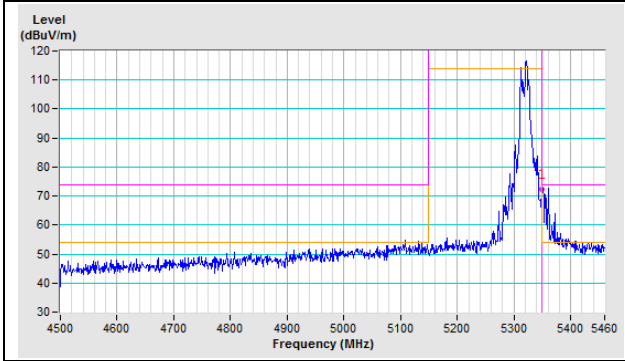


Vertical (Average)

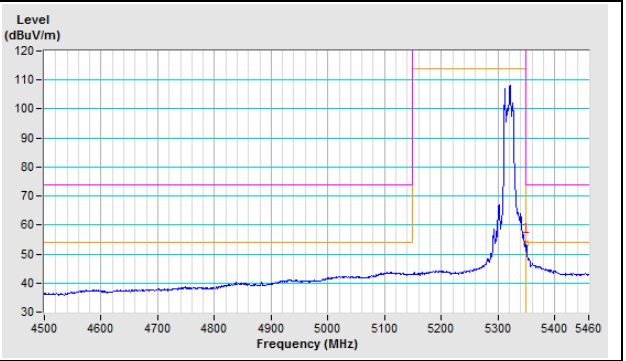


Channel 64

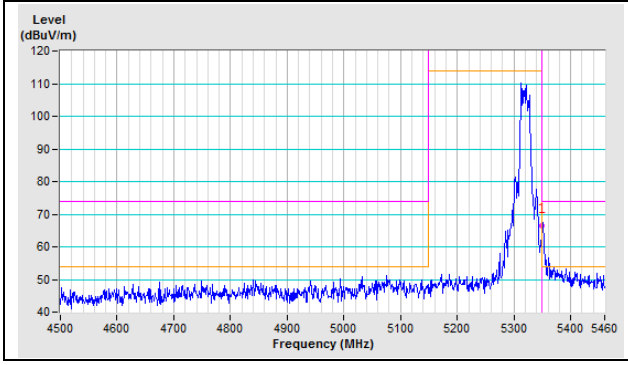
Horizontal (Peak)



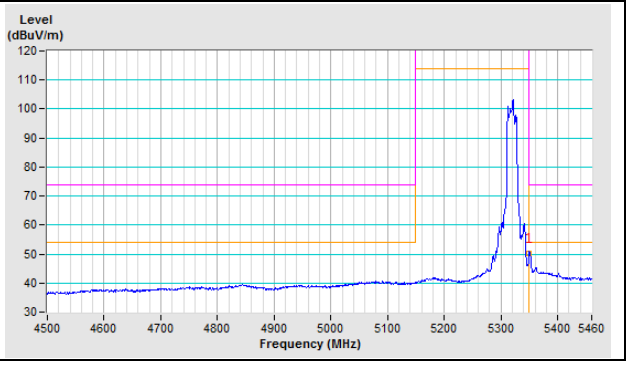
Horizontal (Average)

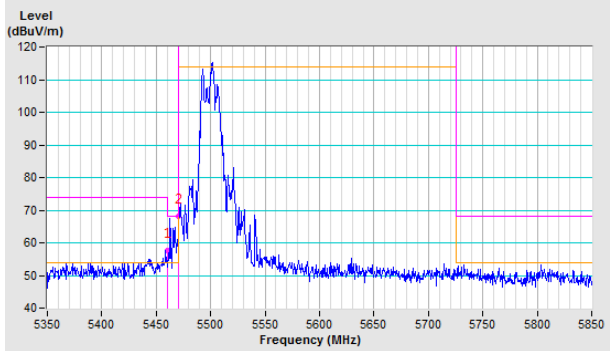
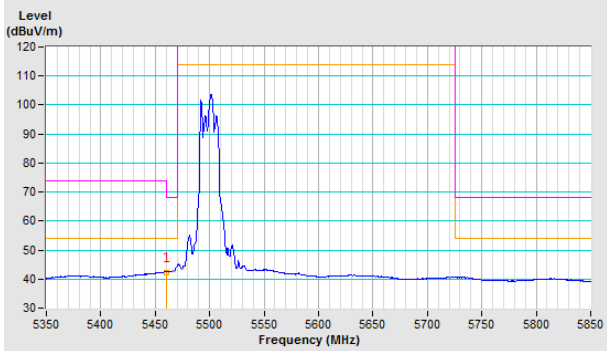
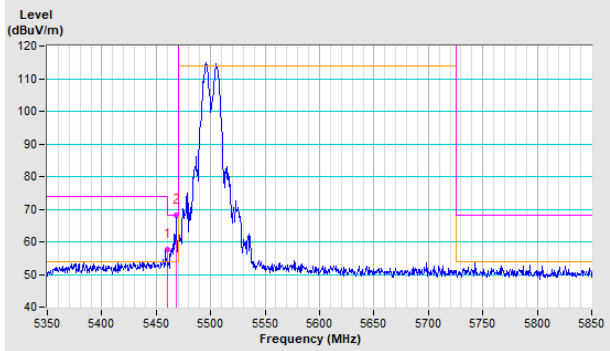
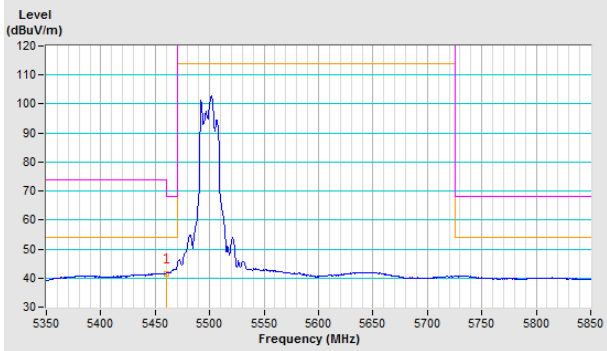


Vertical (Peak)



Vertical (Average)

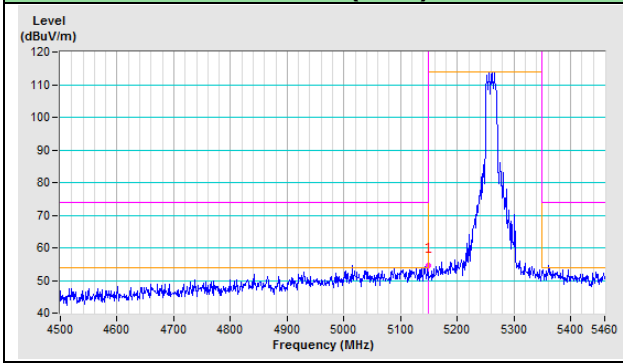


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

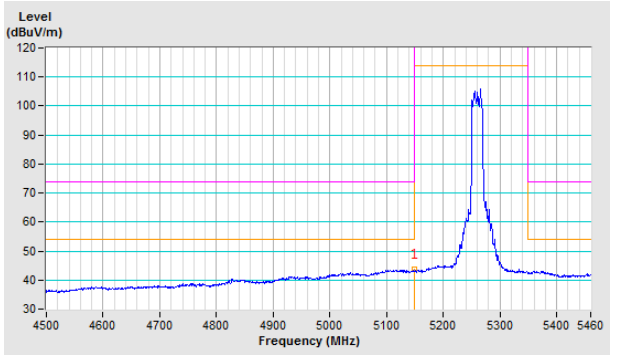
802.11ax (HE20)

Channel 52

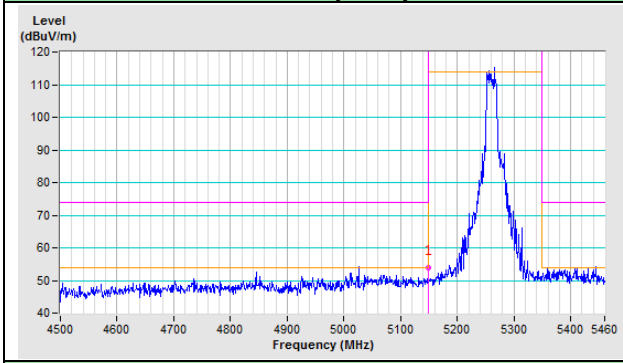
Horizontal (Peak)



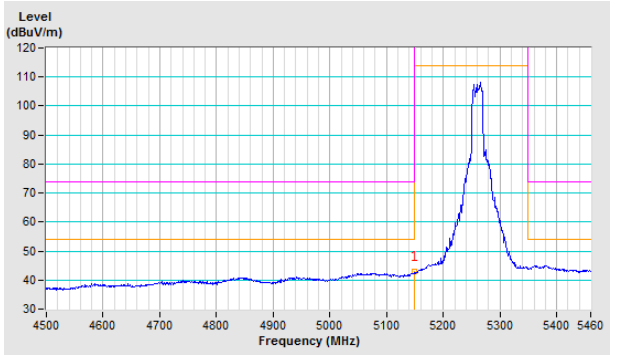
Horizontal (Average)



Vertical (Peak)

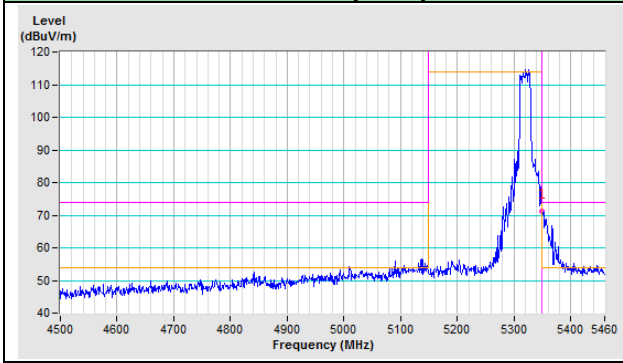


Vertical (Average)

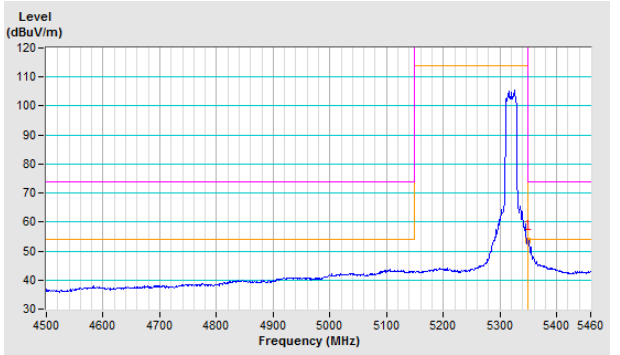


Channel 64

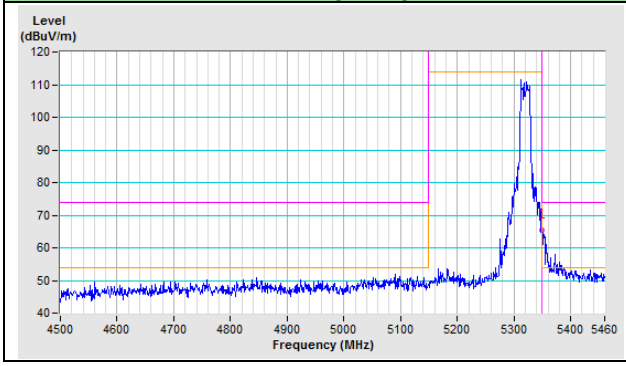
Horizontal (Peak)



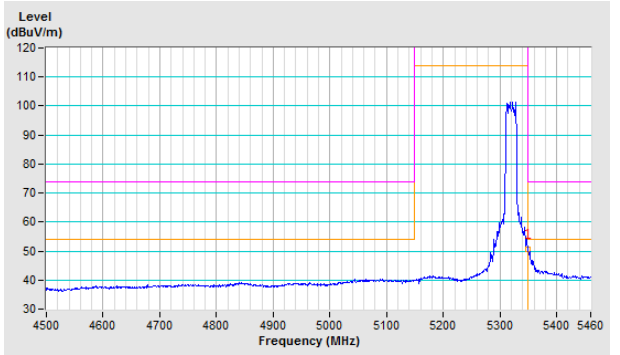
Horizontal (Average)

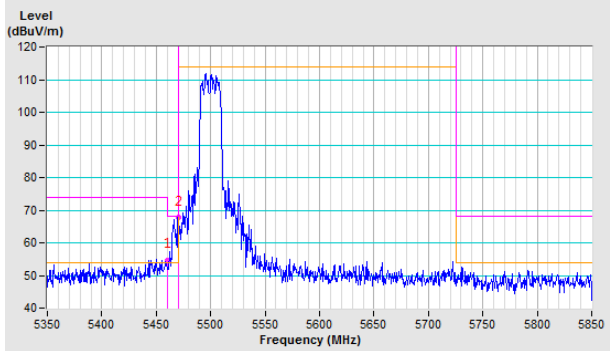
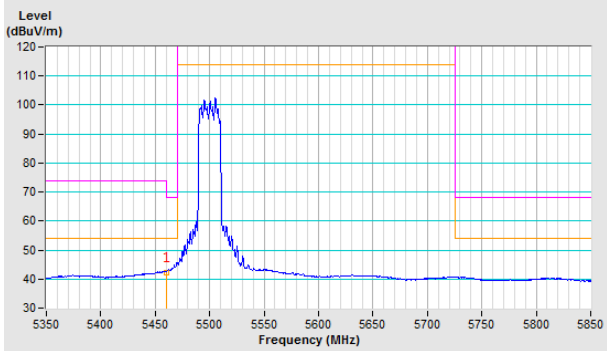
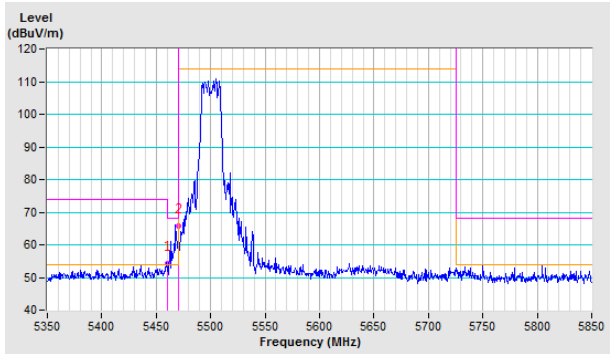
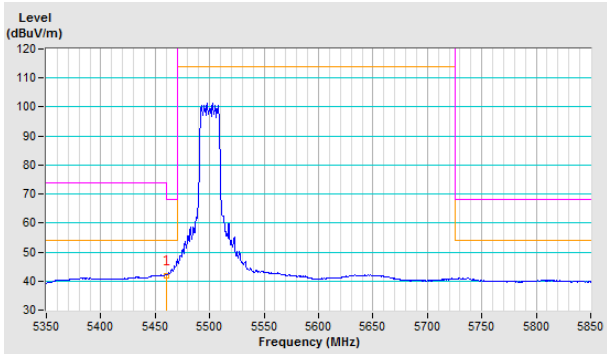


Vertical (Peak)



Vertical (Average)

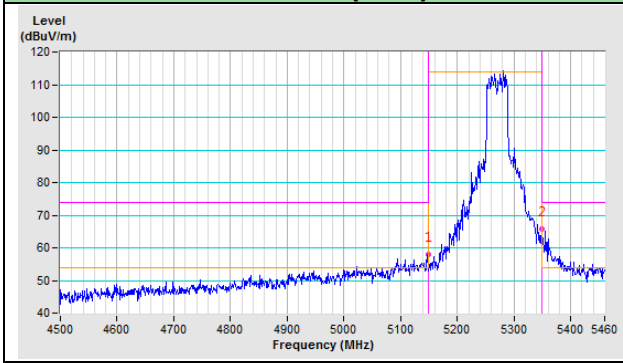


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

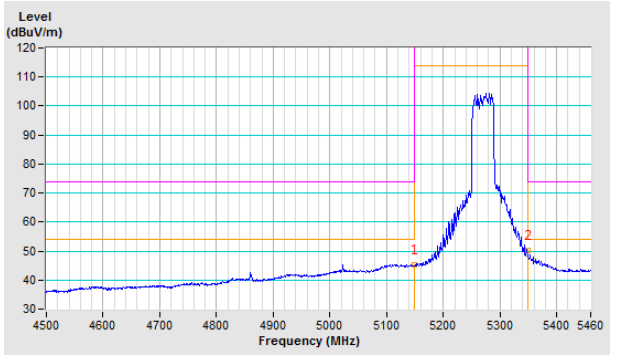
802.11ax (HE40)

Channel 54

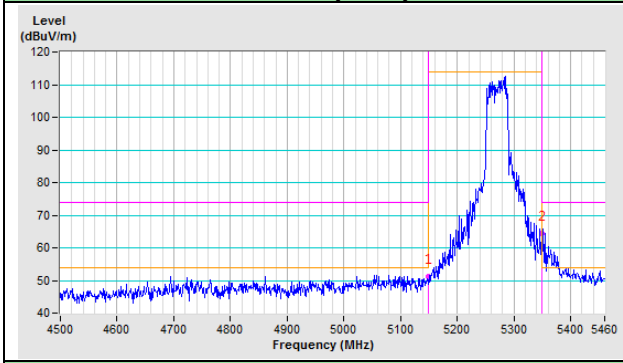
Horizontal (Peak)



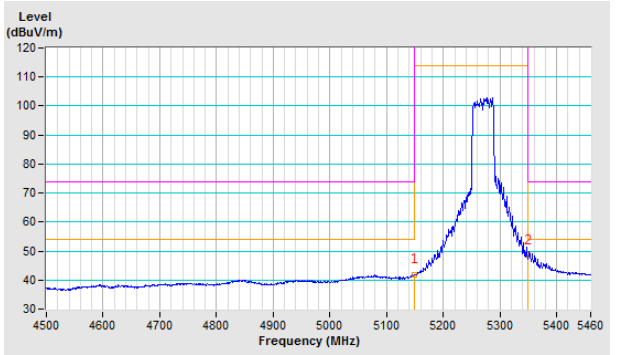
Horizontal (Average)



Vertical (Peak)

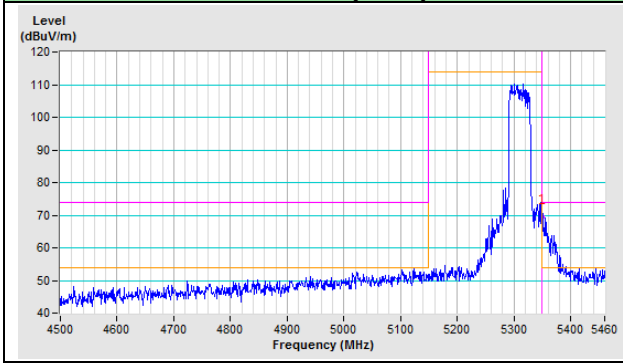


Vertical (Average)

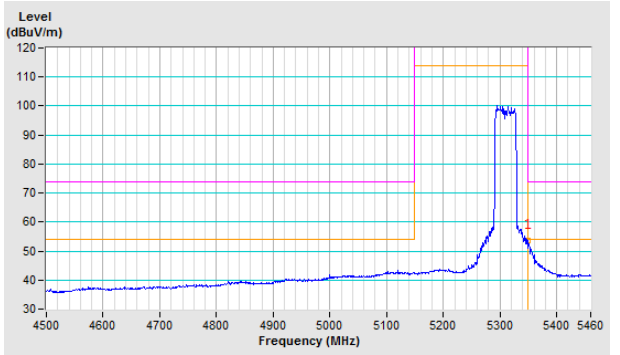


Channel 62

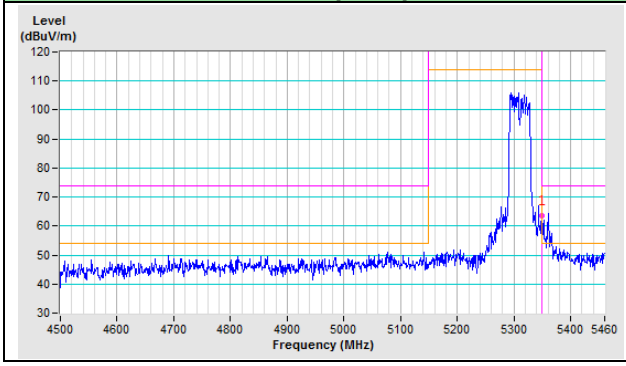
Horizontal (Peak)



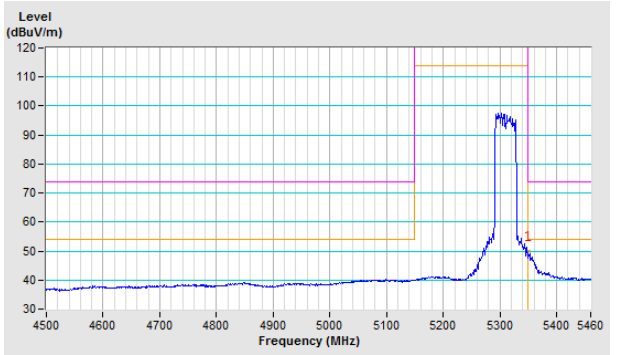
Horizontal (Average)

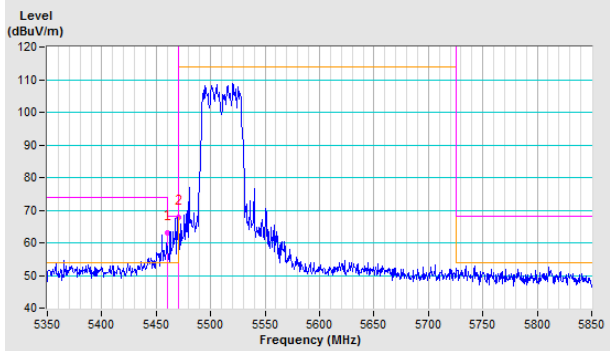
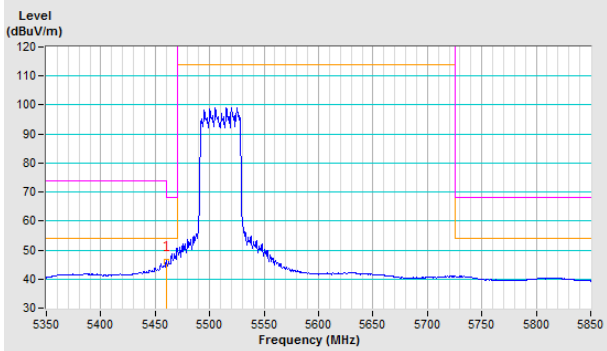
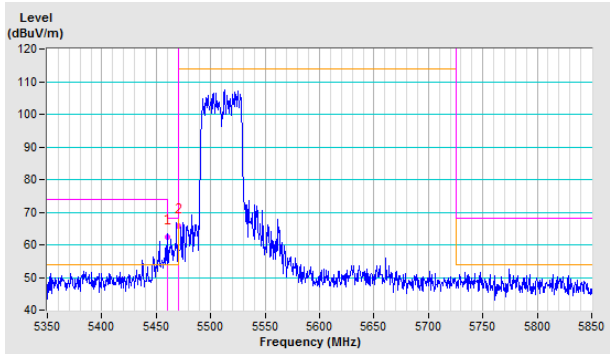
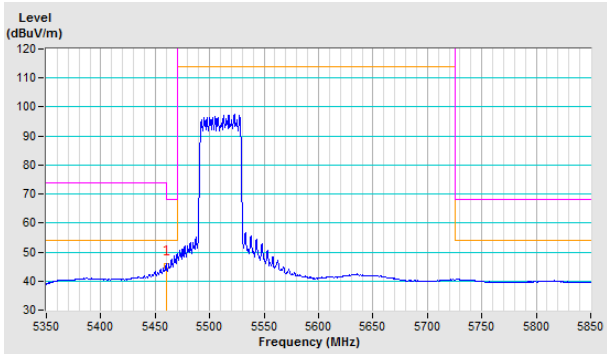


Vertical (Peak)



Vertical (Average)

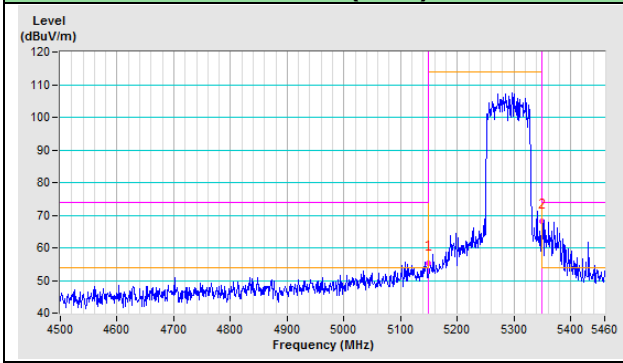


Channel 102	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

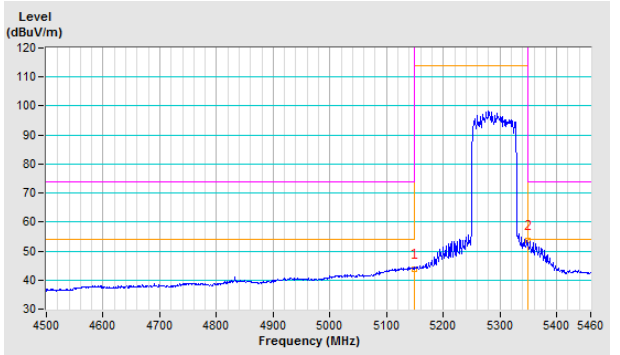
802.11ax (HE80)

Channel 58

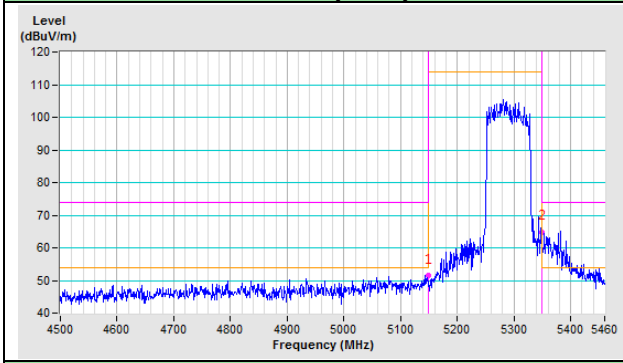
Horizontal (Peak)



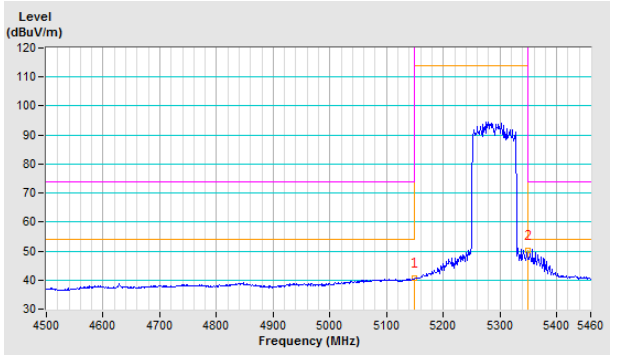
Horizontal (Average)



Vertical (Peak)

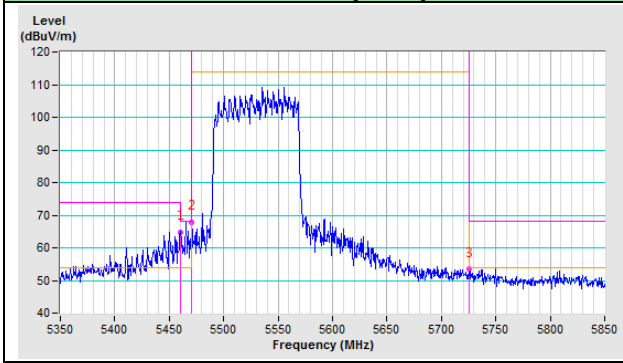


Vertical (Average)

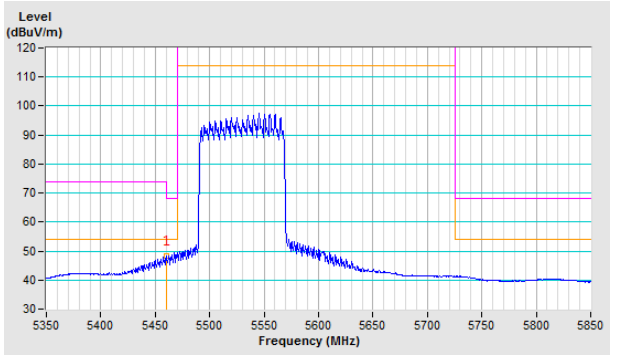


Channel 106

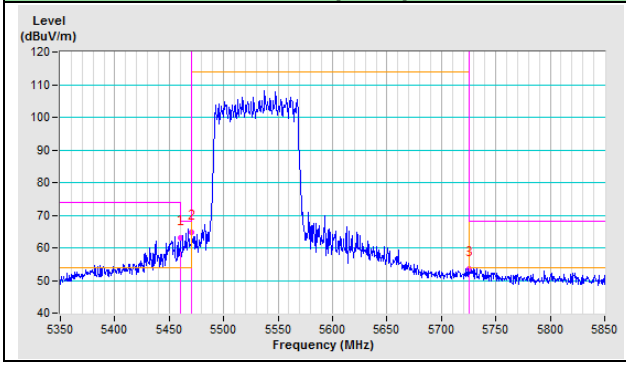
Horizontal (Peak)



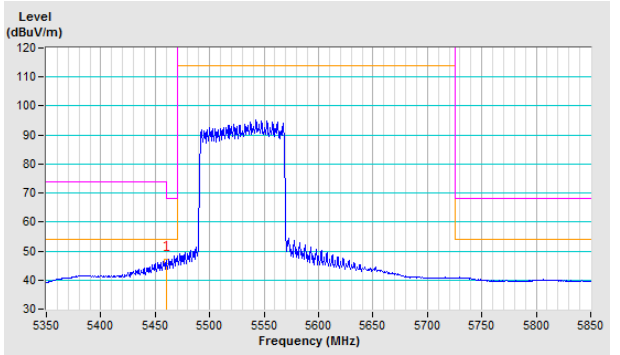
Horizontal (Average)



Vertical (Peak)



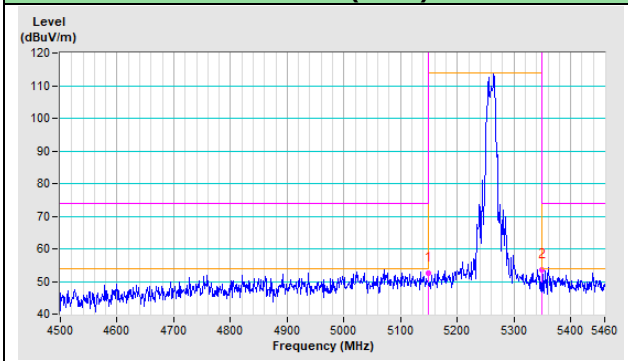
Vertical (Average)



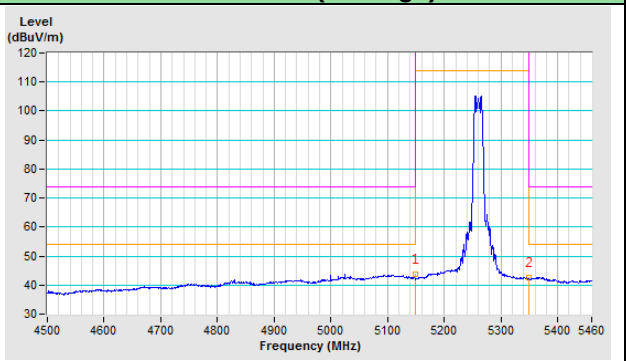
Test Results (Mode 4)

Channel 52

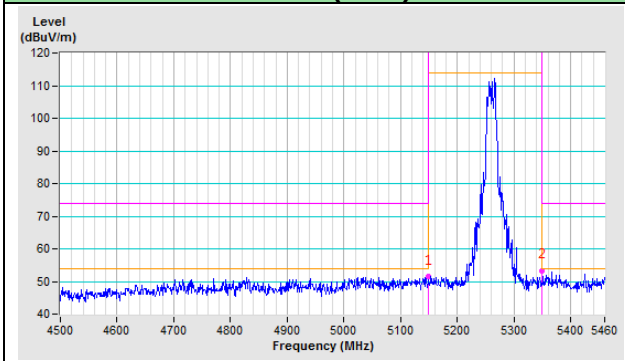
Horizontal (Peak)



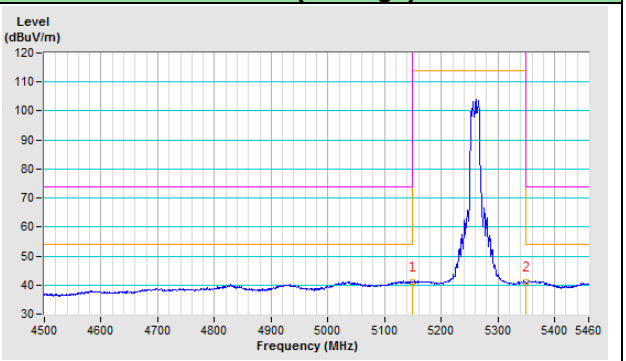
Horizontal (Average)



Vertical (Peak)

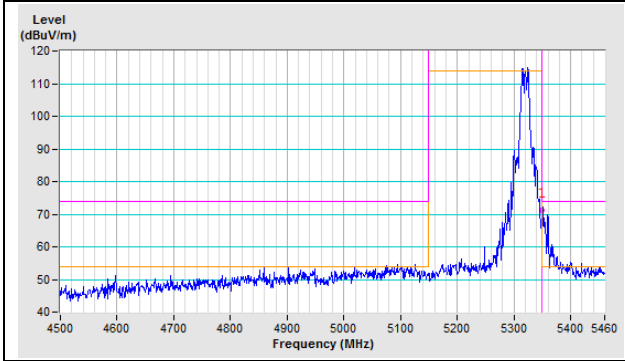


Vertical (Average)

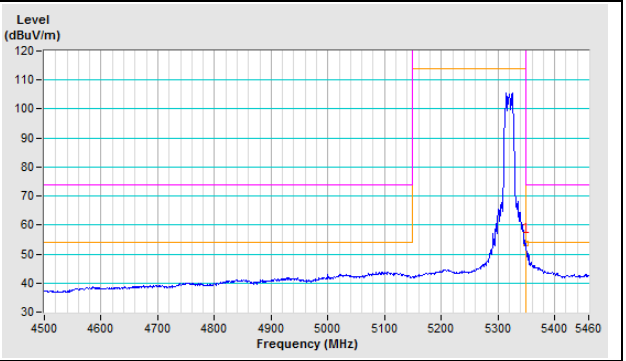


Channel 64

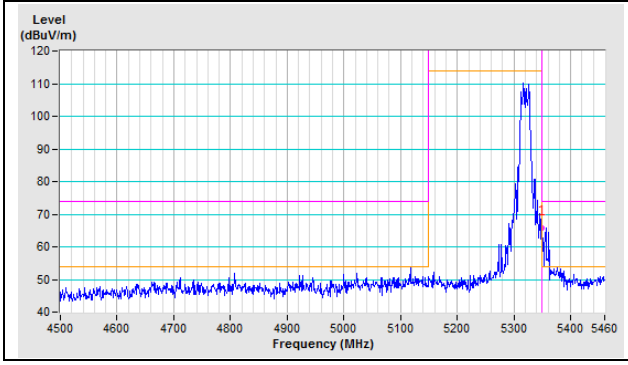
Horizontal (Peak)



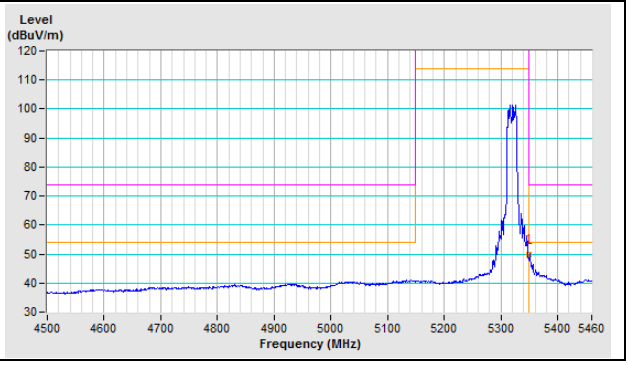
Horizontal (Average)

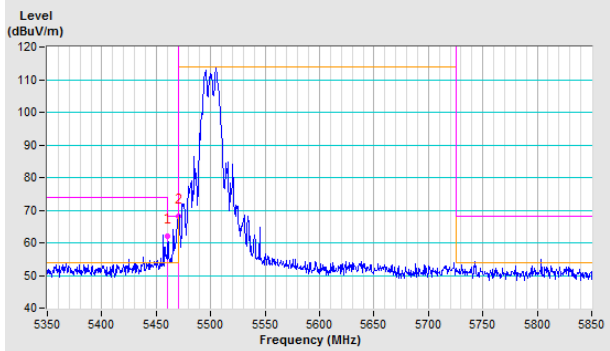
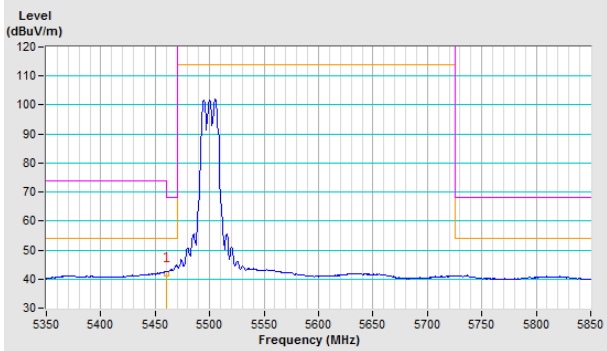
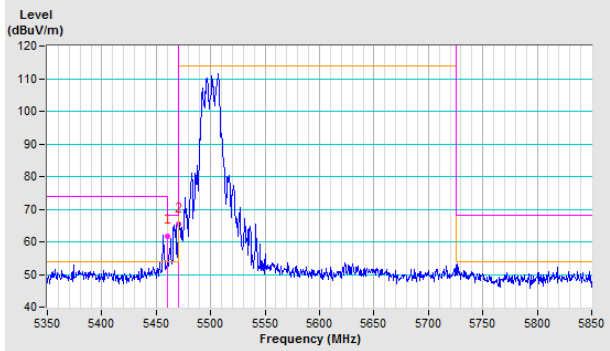
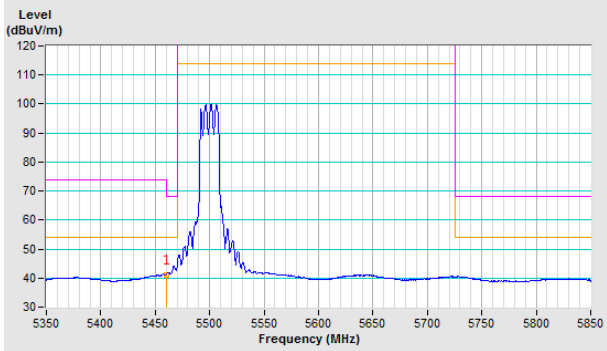


Vertical (Peak)



Vertical (Average)

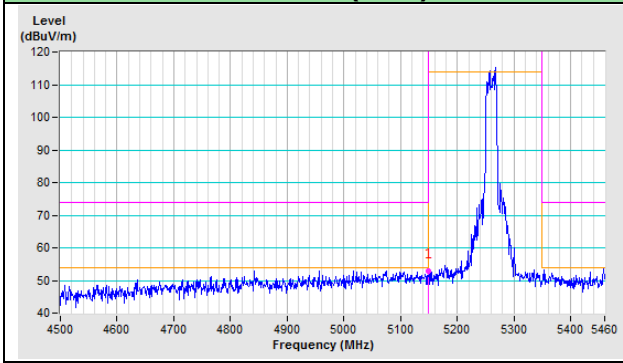


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

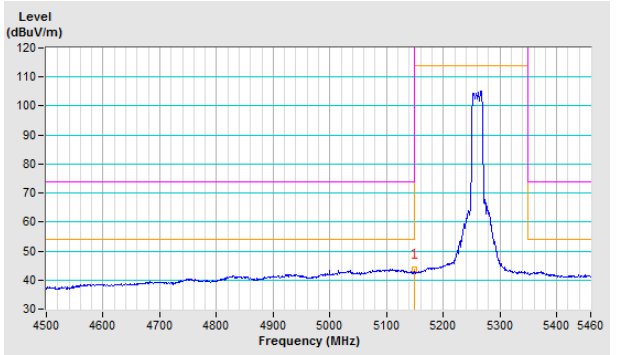
802.11ax (HE20)

Channel 52

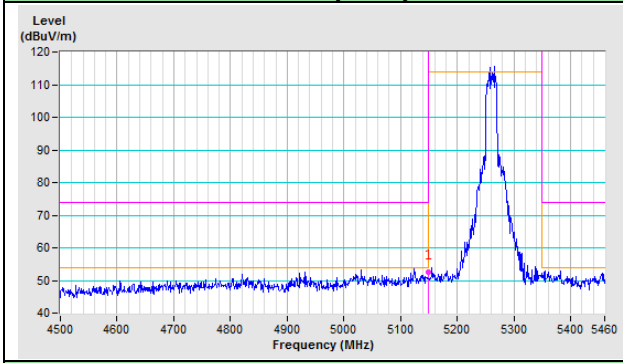
Horizontal (Peak)



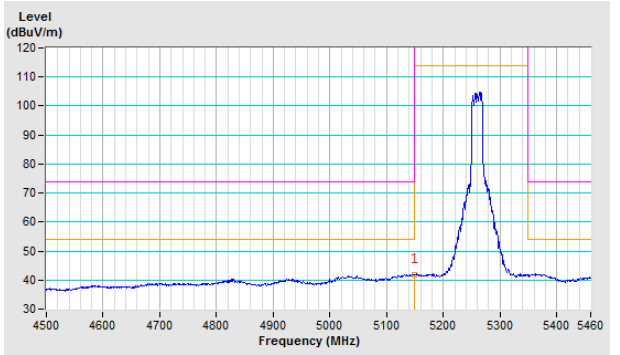
Horizontal (Average)



Vertical (Peak)

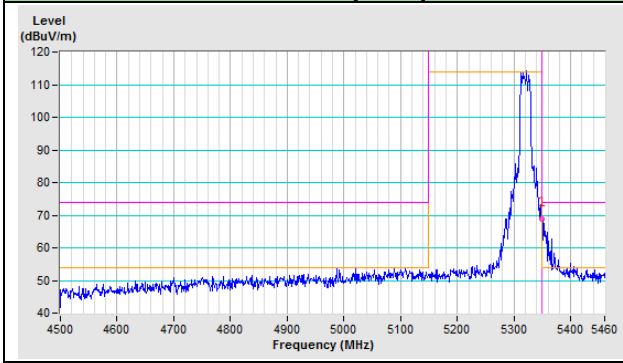


Vertical (Average)

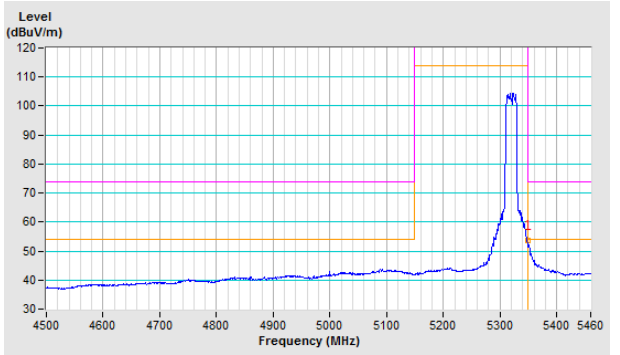


Channel 64

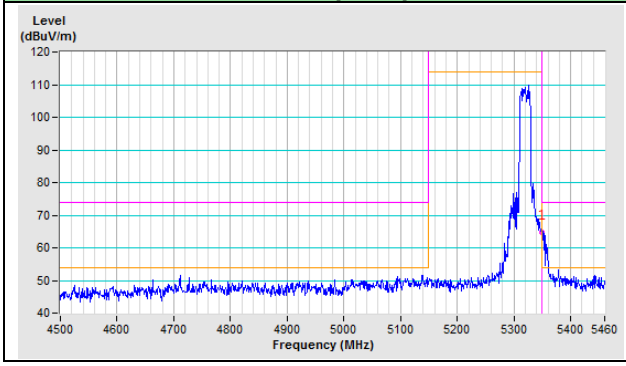
Horizontal (Peak)



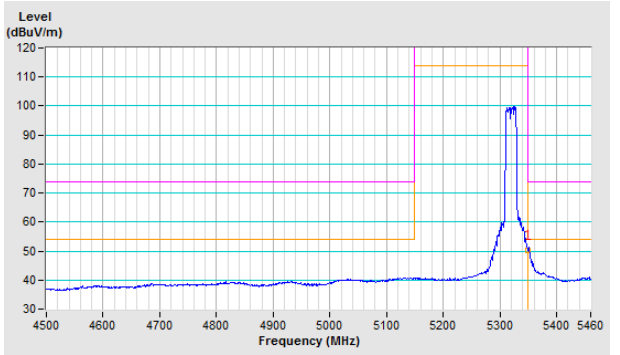
Horizontal (Average)

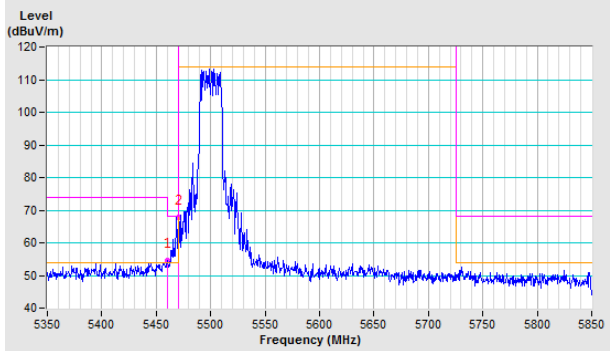
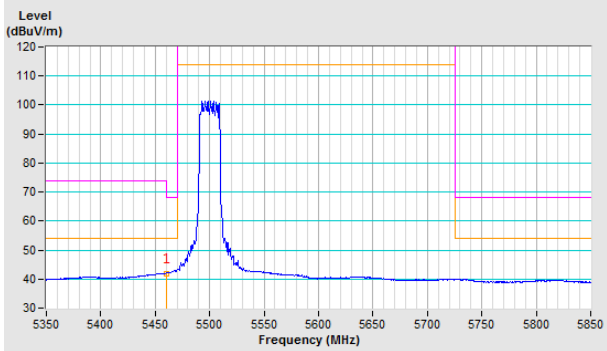
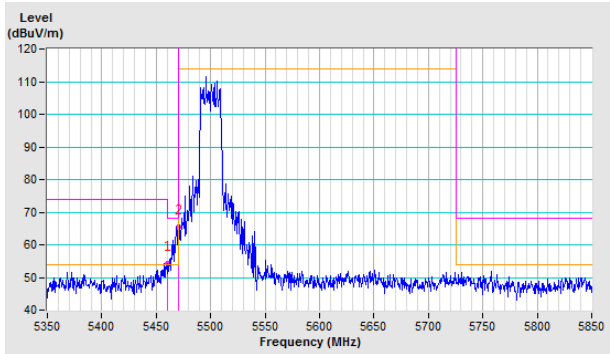
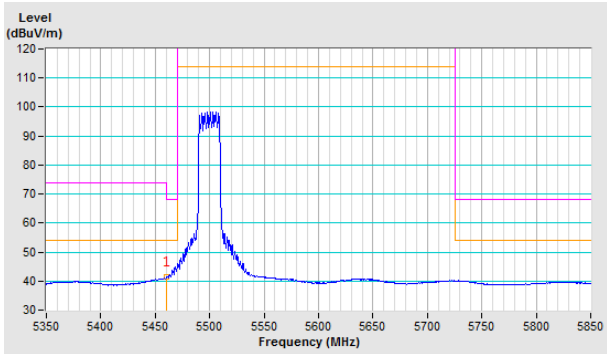


Vertical (Peak)



Vertical (Average)

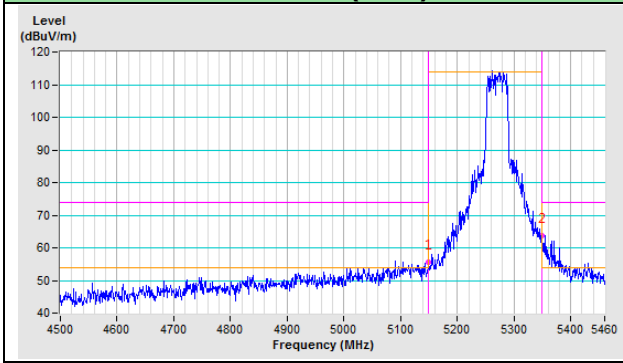


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

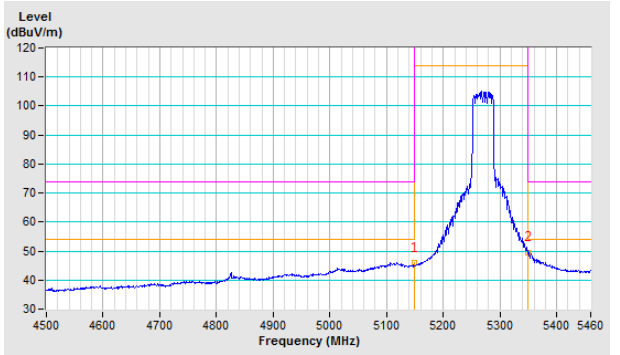
802.11ax (HE40)

Channel 54

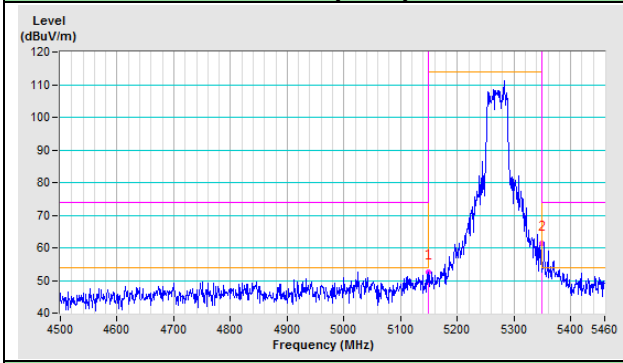
Horizontal (Peak)



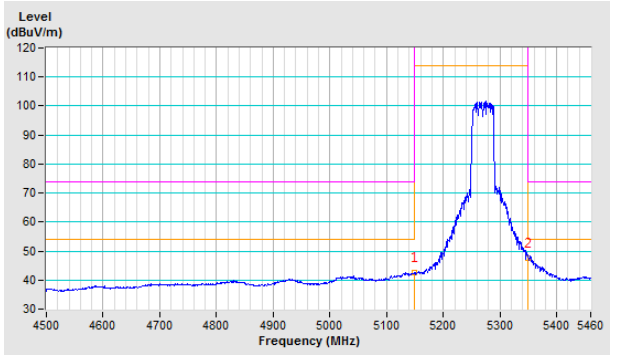
Horizontal (Average)



Vertical (Peak)

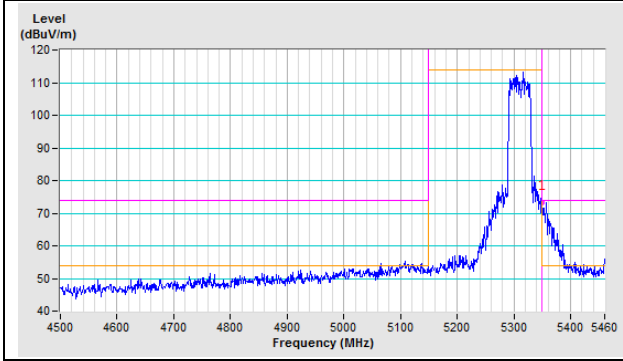


Vertical (Average)

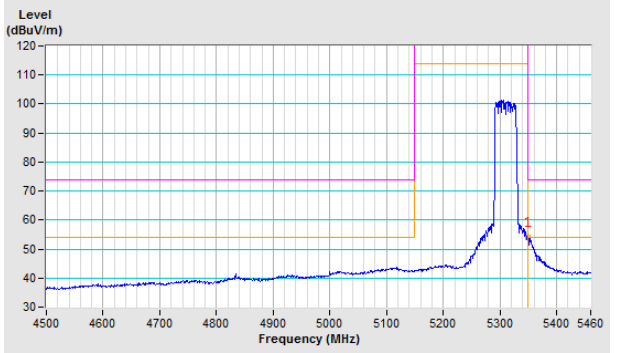


Channel 62

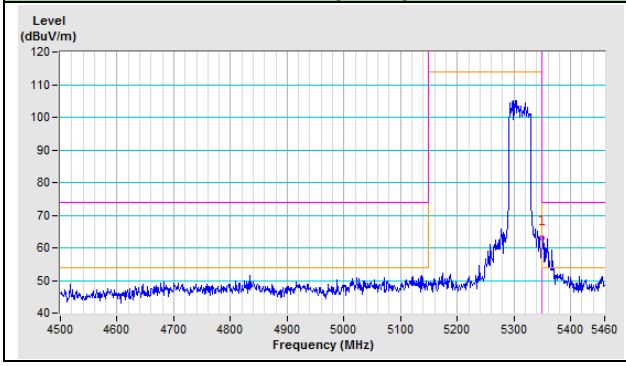
Horizontal (Peak)



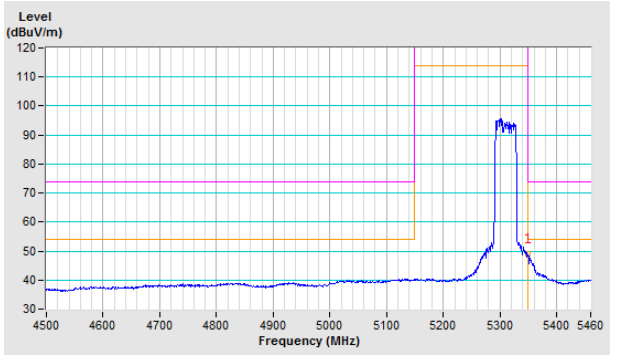
Horizontal (Average)

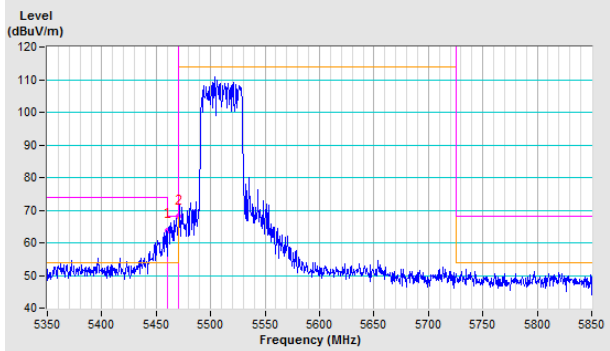
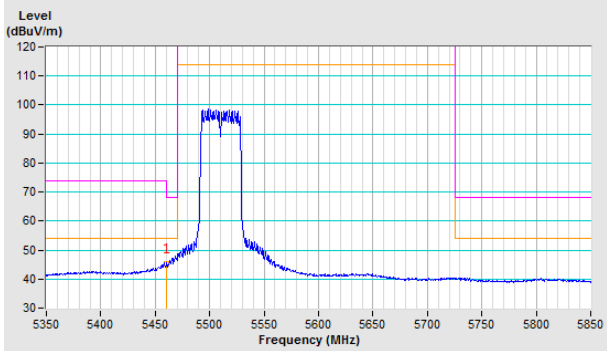
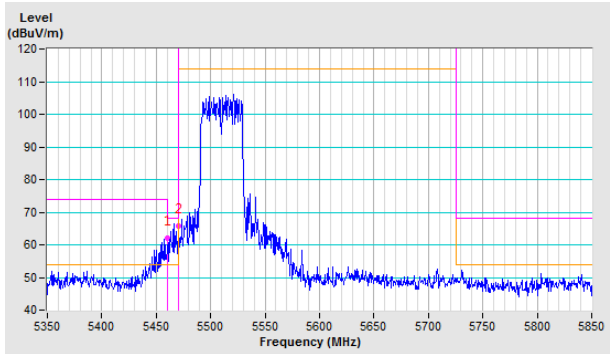
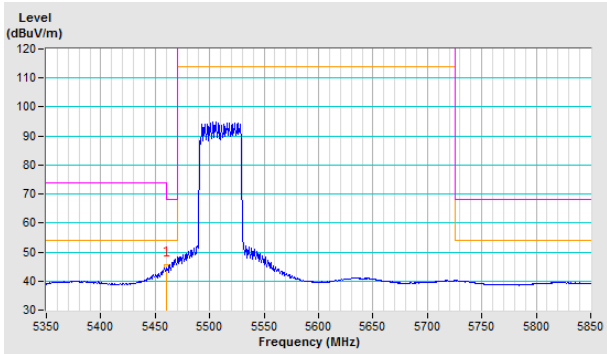


Vertical (Peak)



Vertical (Average)

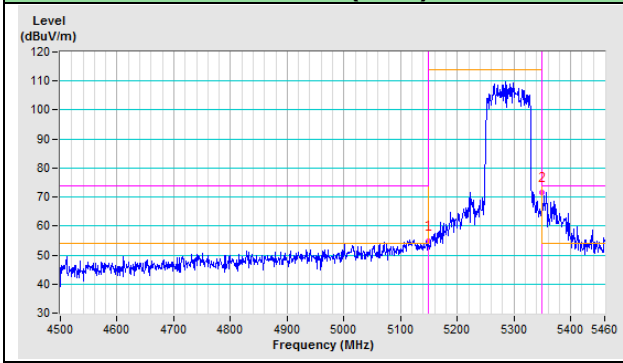


Channel 102	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

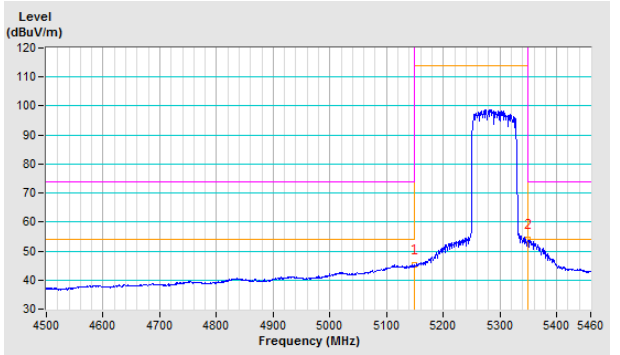
802.11ax (HE80)

Channel 58

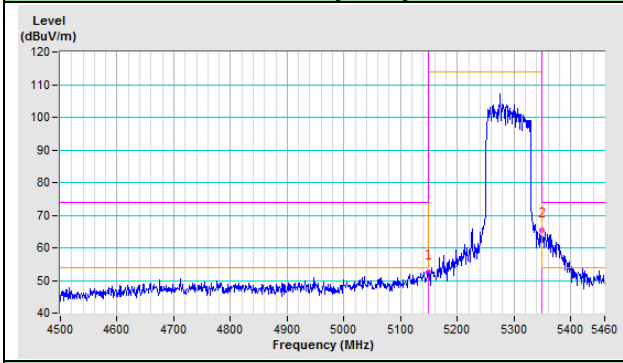
Horizontal (Peak)



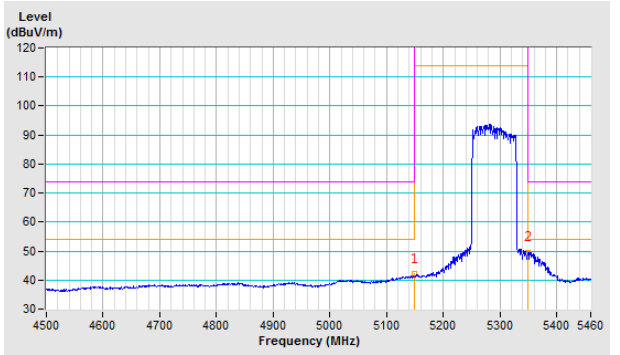
Horizontal (Average)



Vertical (Peak)

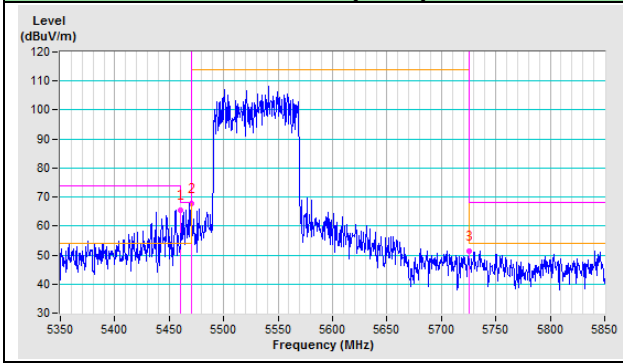


Vertical (Average)

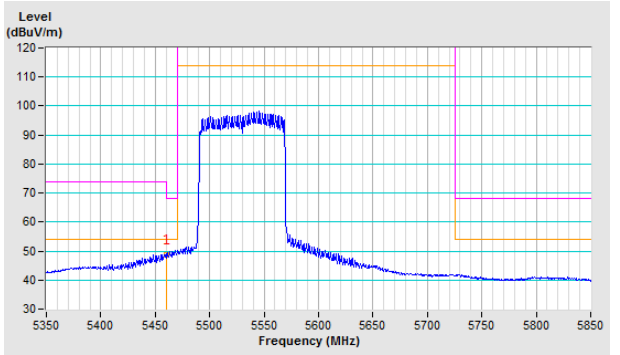


Channel 106

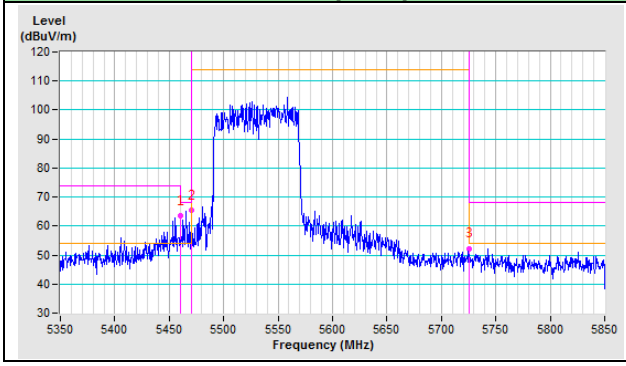
Horizontal (Peak)



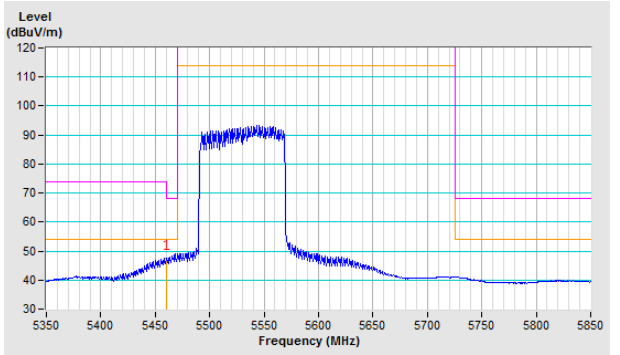
Horizontal (Average)



Vertical (Peak)

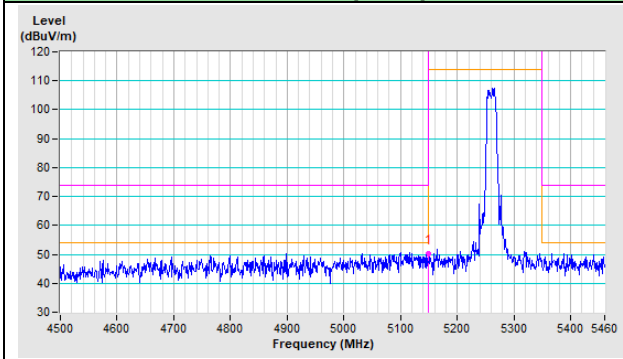
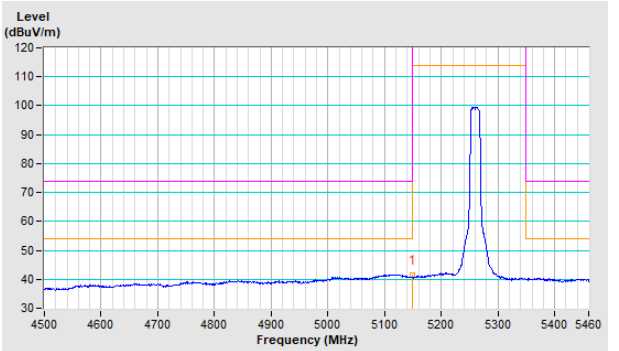
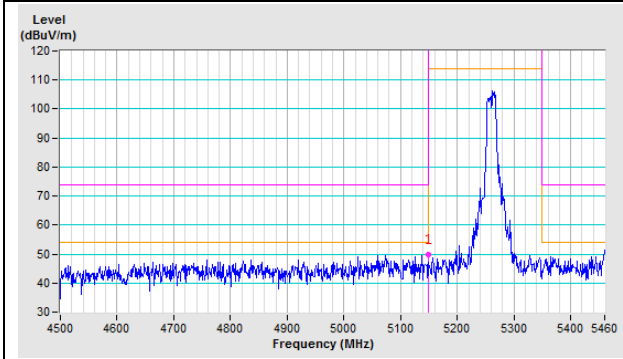
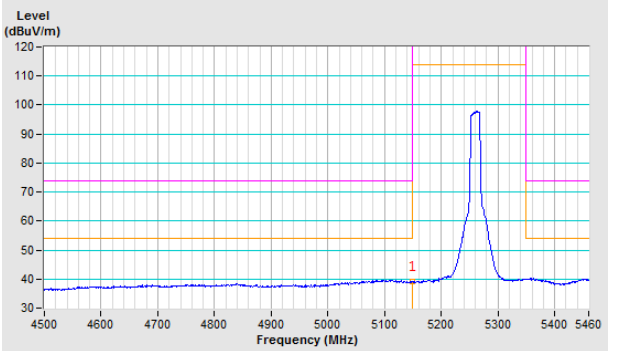


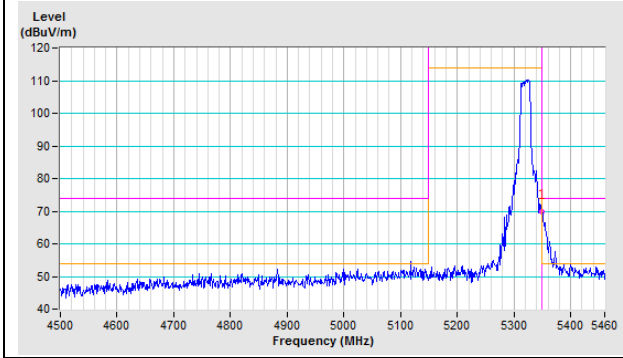
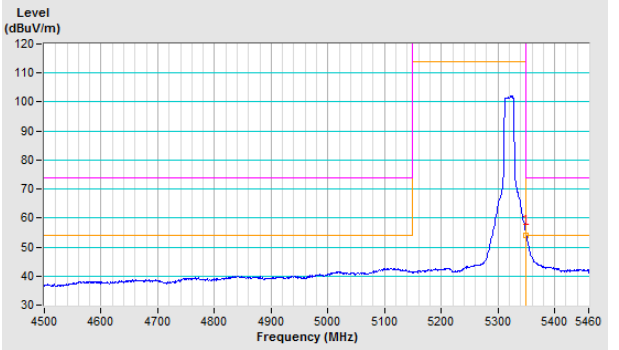
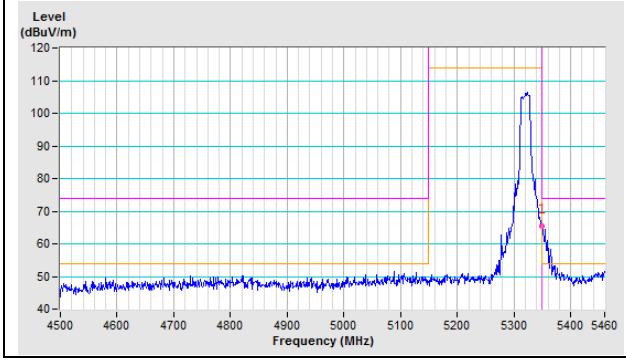
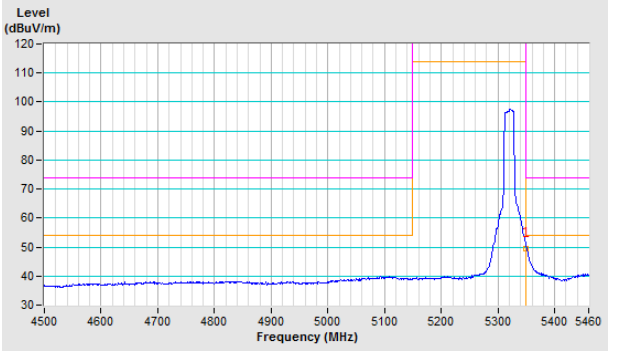
Vertical (Average)

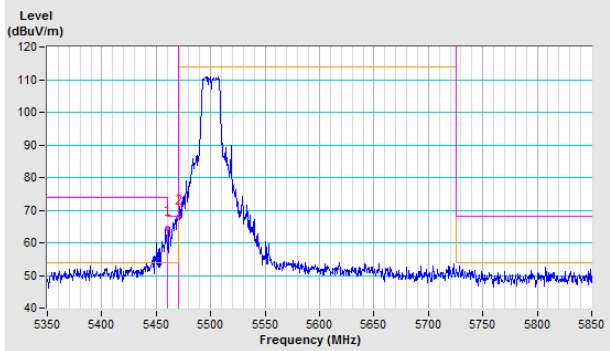
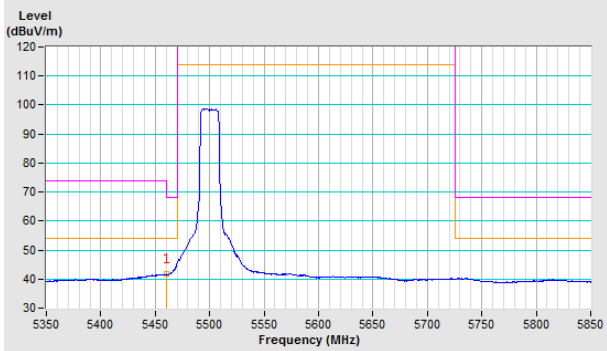
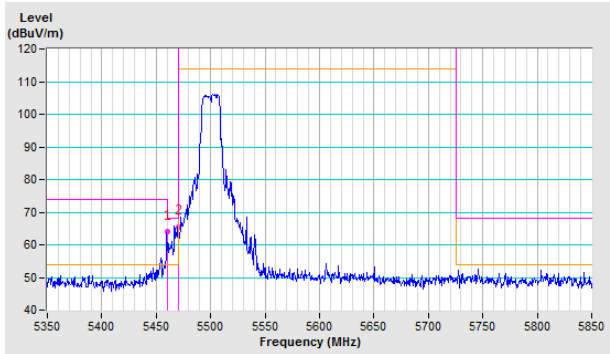
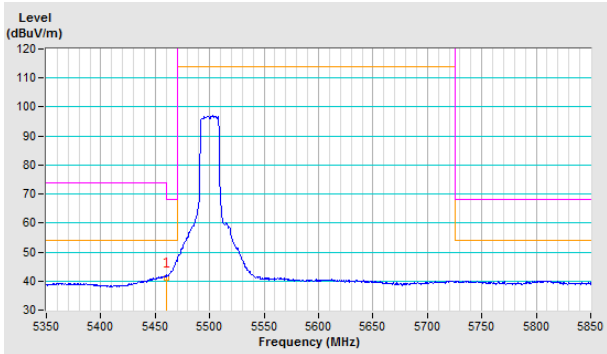


Test Results (Mode 5)

802.11a

Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

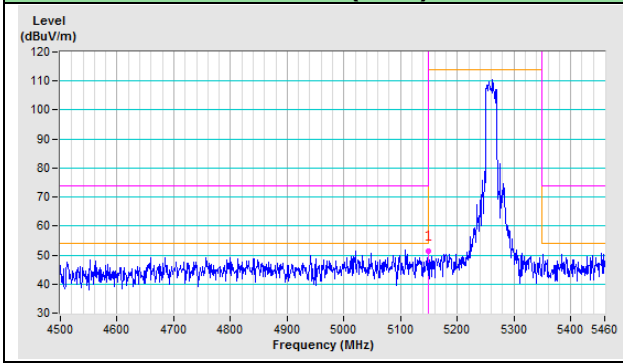
Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

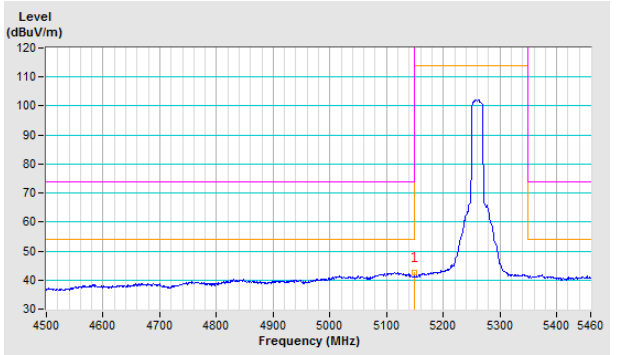
802.11ax (HE20)

Channel 52

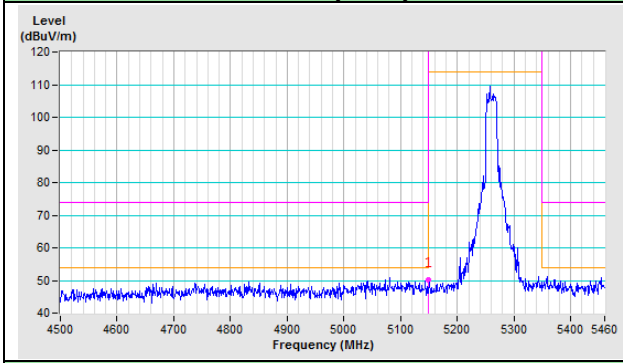
Horizontal (Peak)



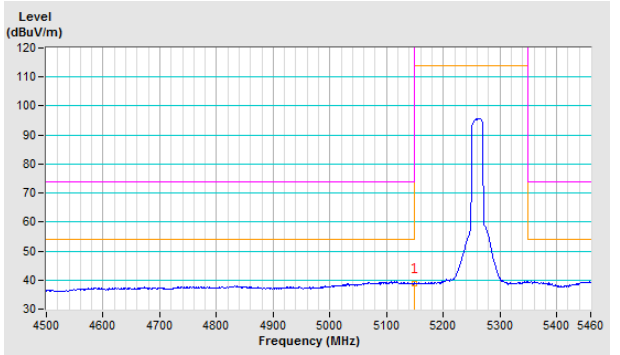
Horizontal (Average)



Vertical (Peak)

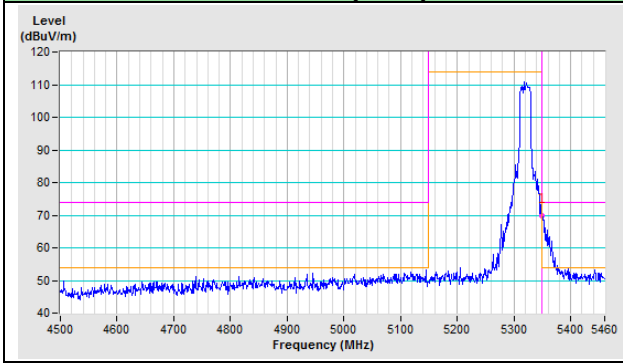


Vertical (Average)

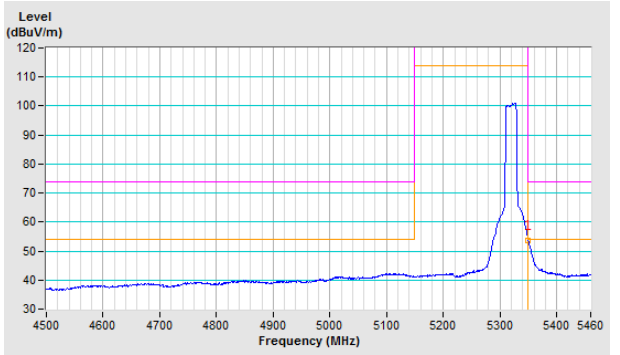


Channel 64

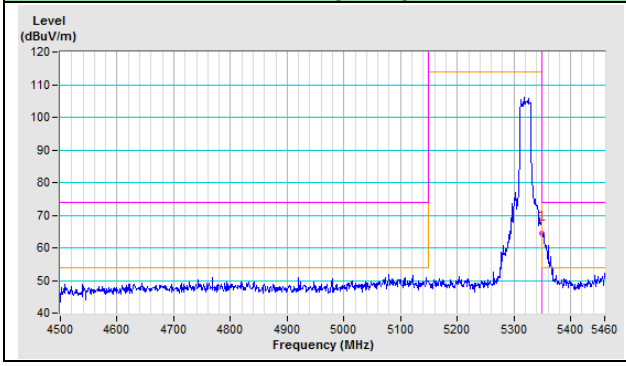
Horizontal (Peak)



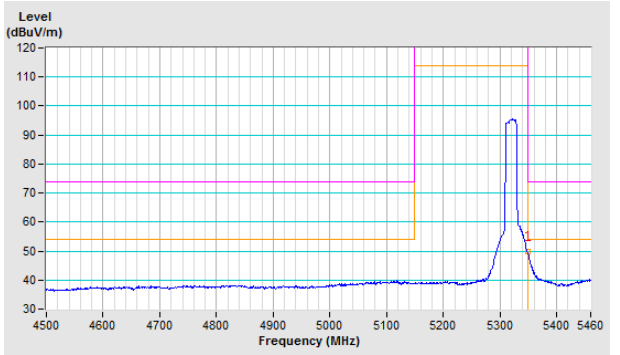
Horizontal (Average)

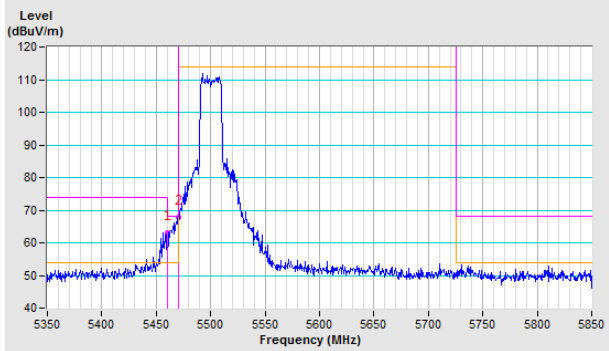
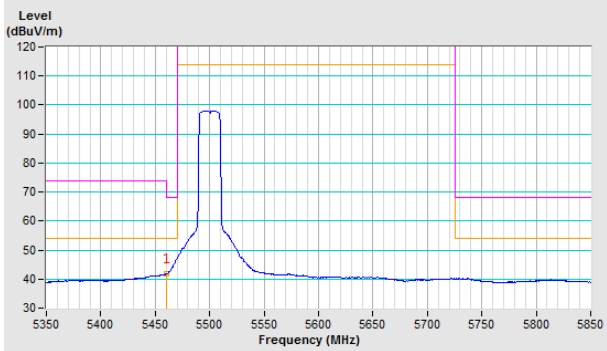
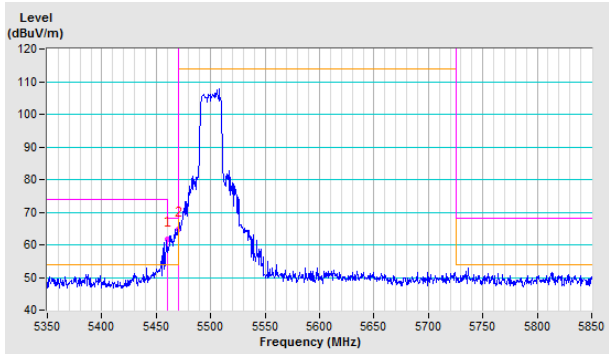
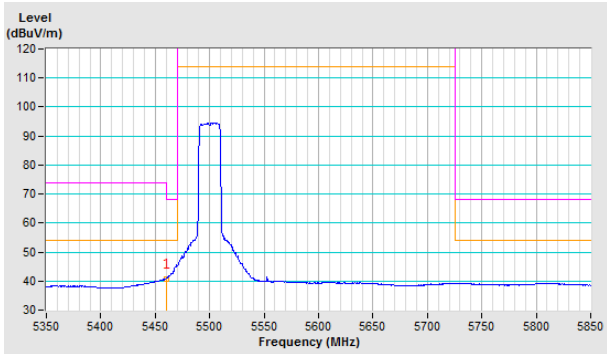


Vertical (Peak)



Vertical (Average)

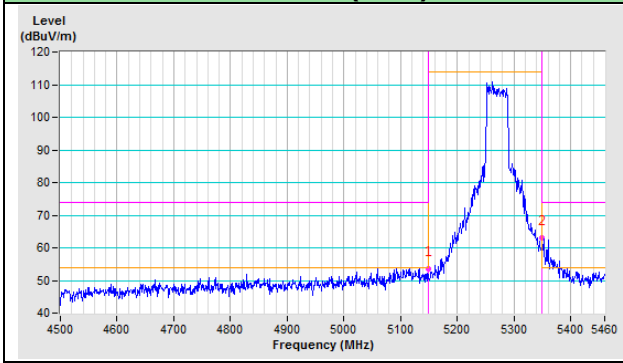


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

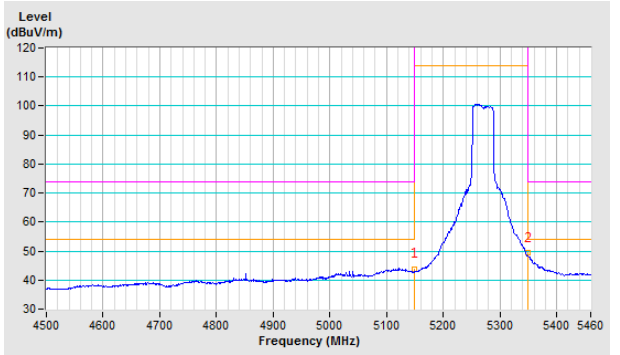
802.11ax (HE40)

Channel 54

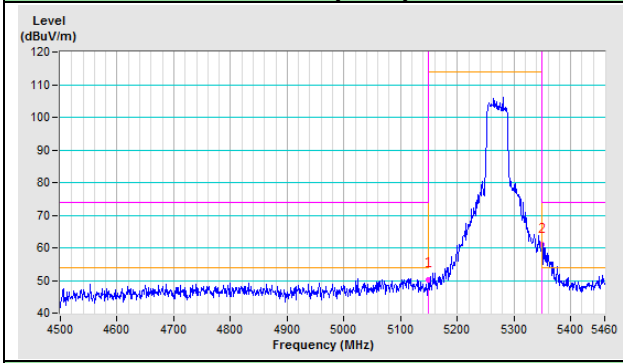
Horizontal (Peak)



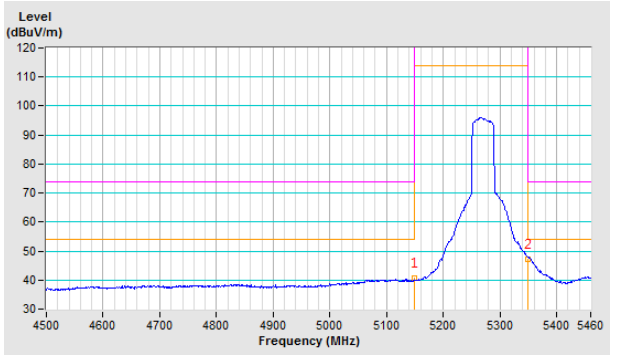
Horizontal (Average)



Vertical (Peak)

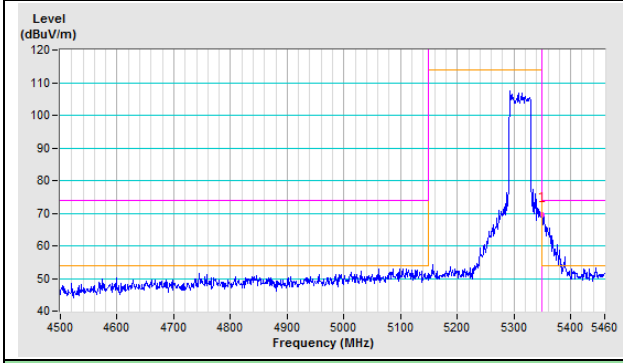


Vertical (Average)

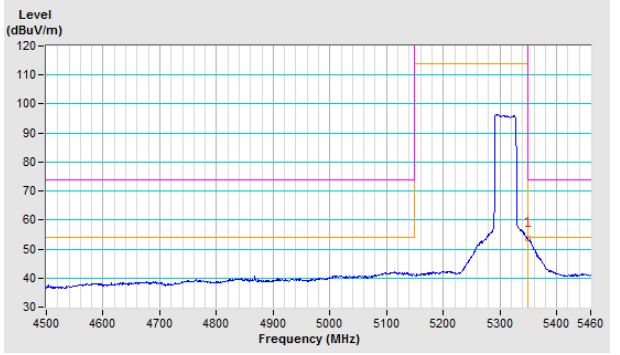


Channel 62

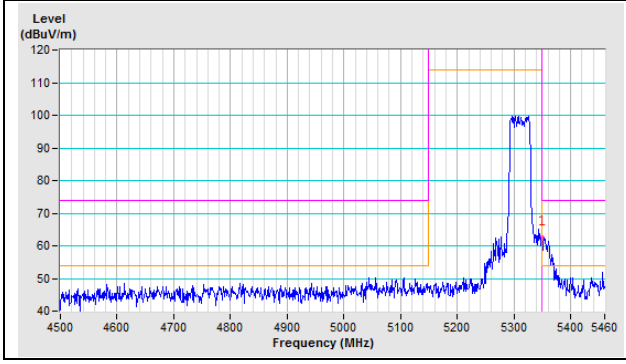
Horizontal (Peak)



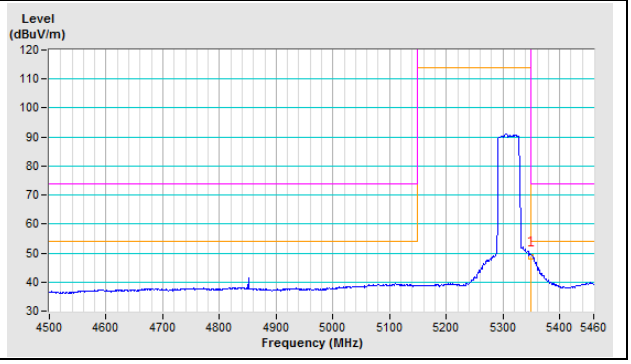
Horizontal (Average)

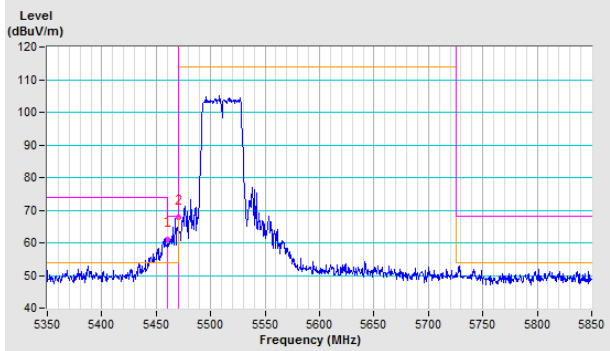
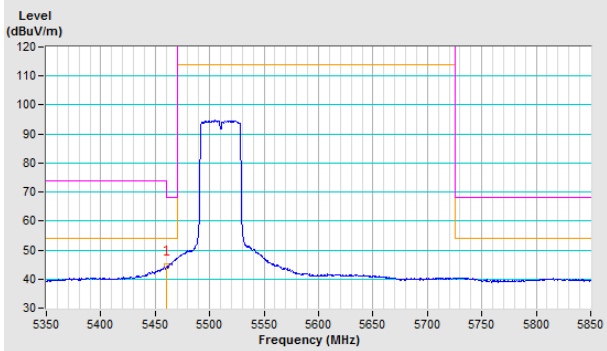
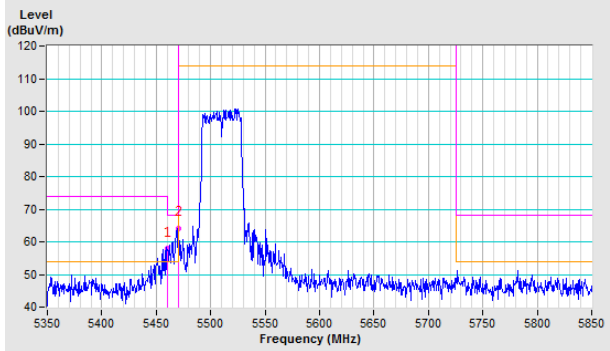
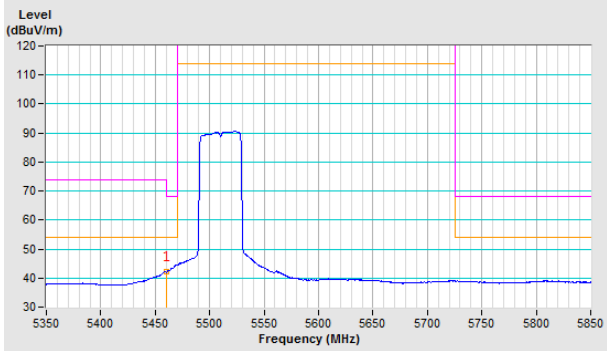


Vertical (Peak)



Vertical (Average)

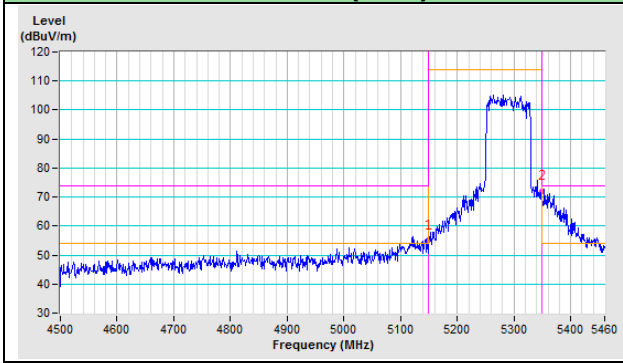


Channel 102	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

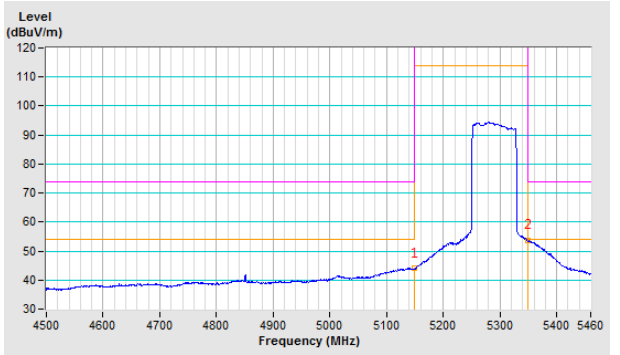
802.11ax (HE80)

Channel 58

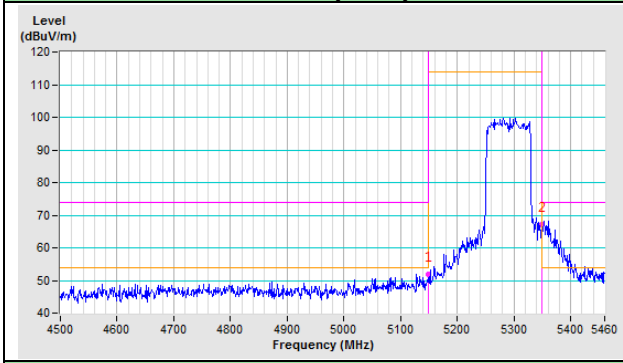
Horizontal (Peak)



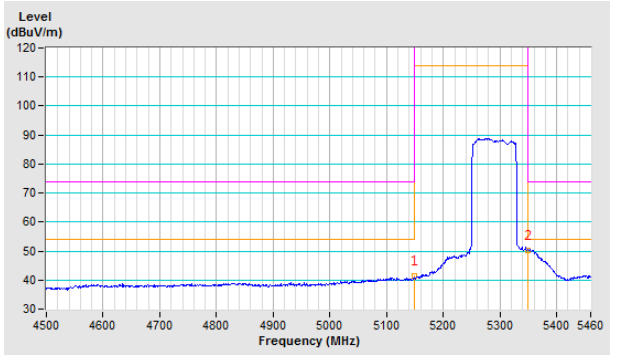
Horizontal (Average)



Vertical (Peak)

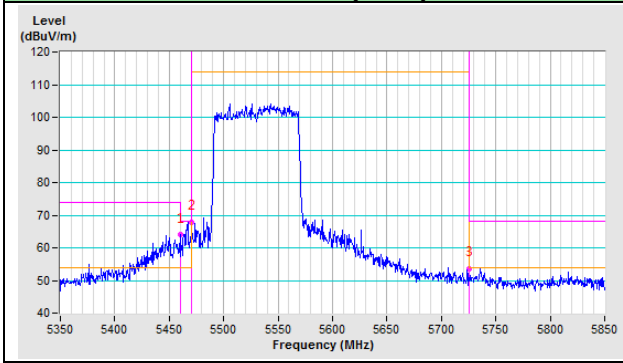


Vertical (Average)

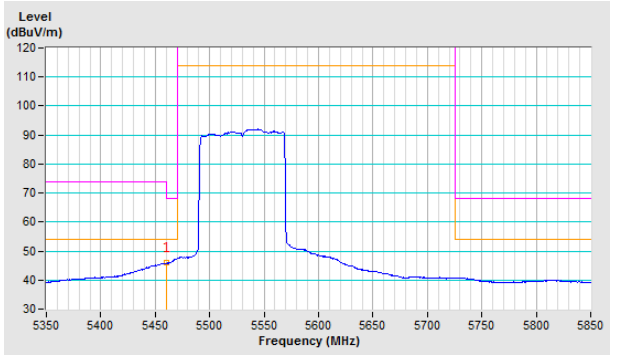


Channel 106

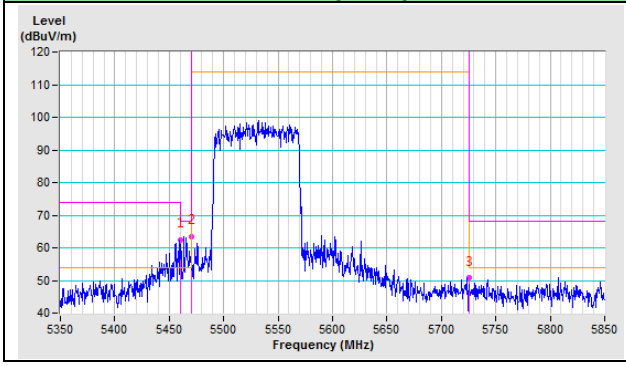
Horizontal (Peak)



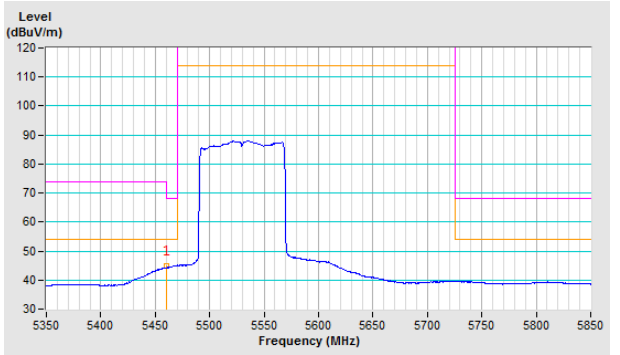
Horizontal (Average)



Vertical (Peak)

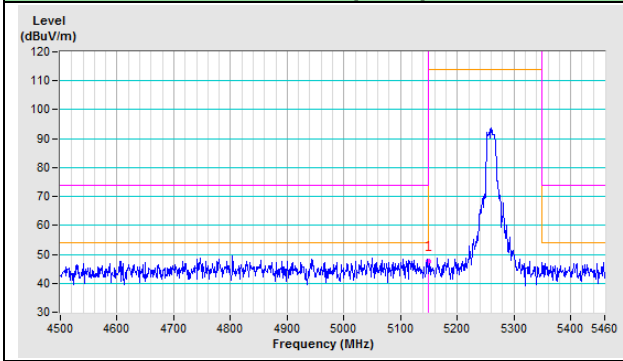
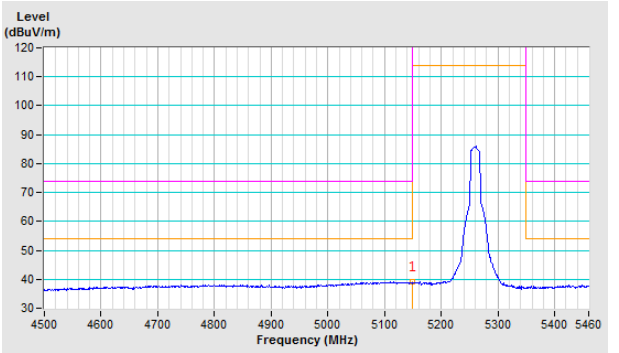
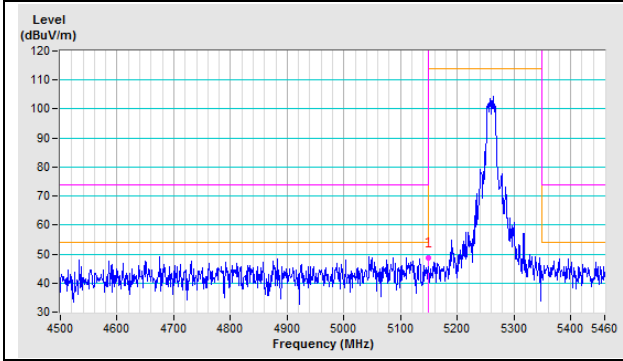
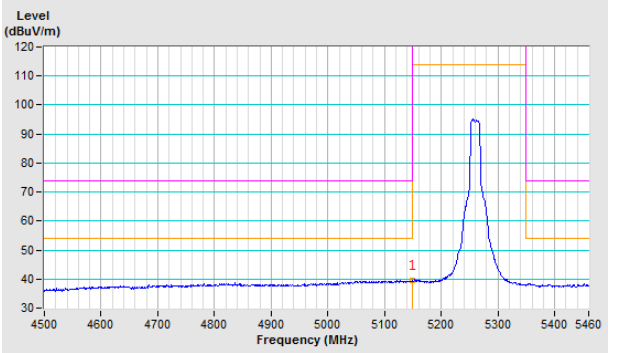


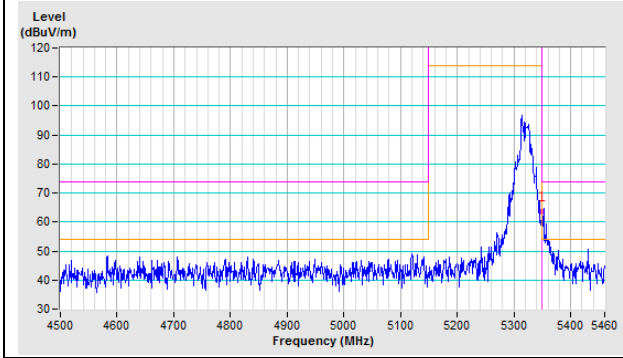
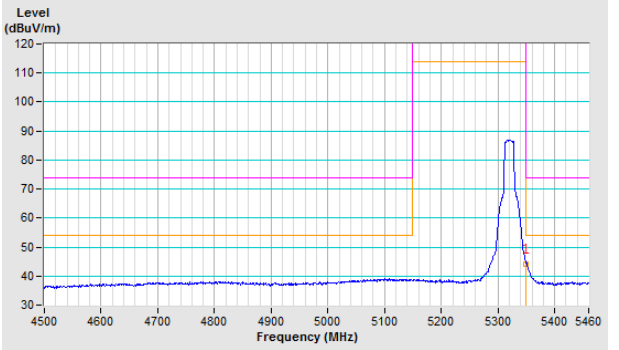
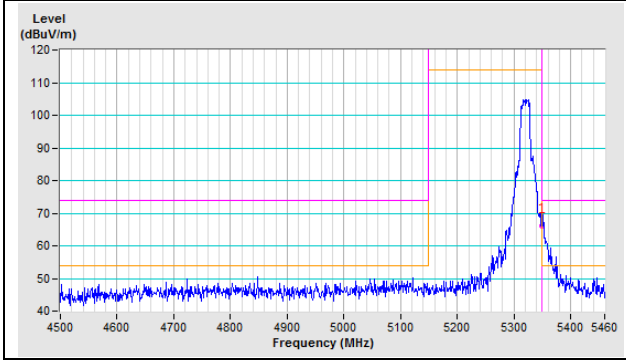
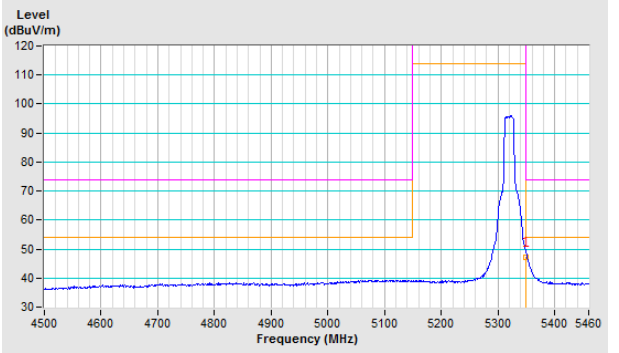
Vertical (Average)

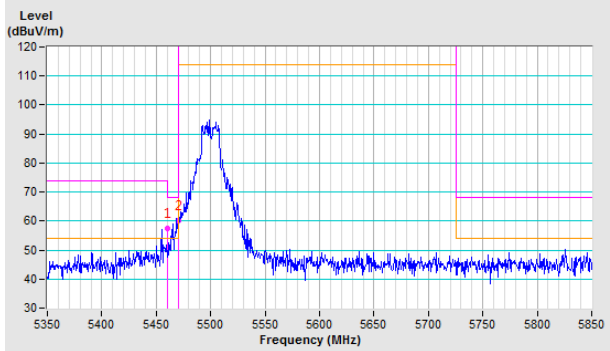
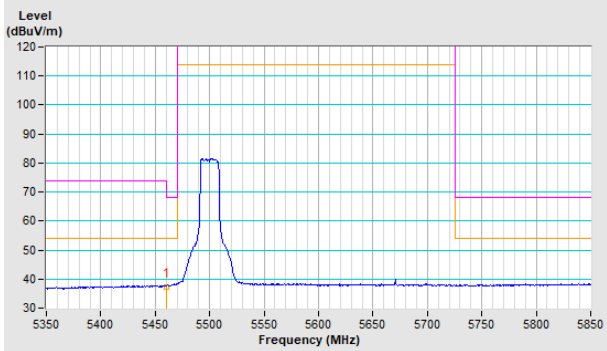
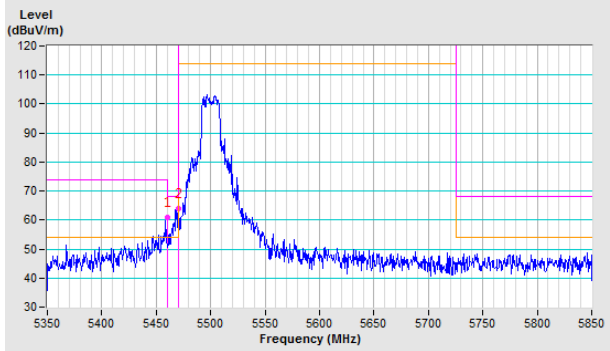
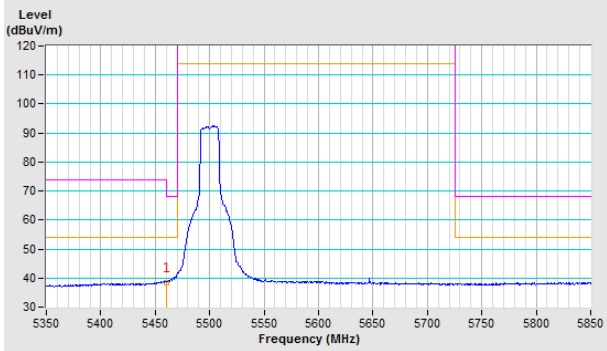


Test Results (Mode 6)

802.11a

Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

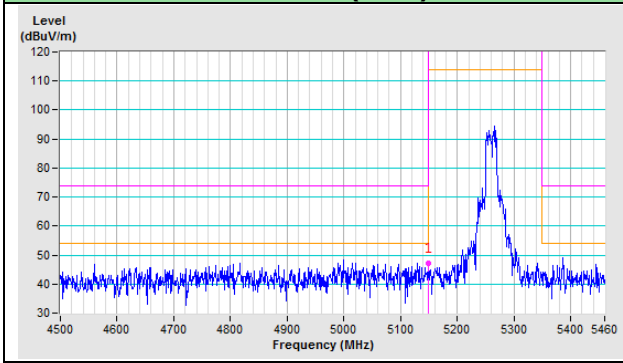
Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

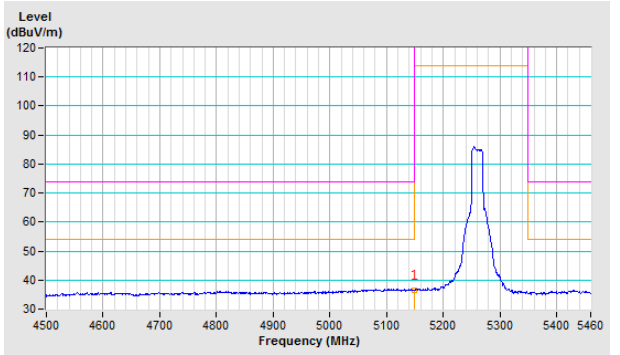
802.11ax (HE20)

Channel 52

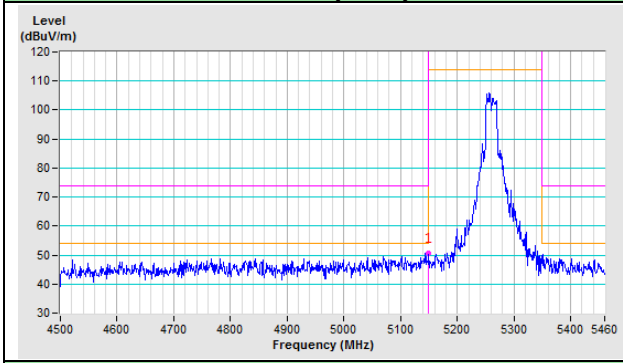
Horizontal (Peak)



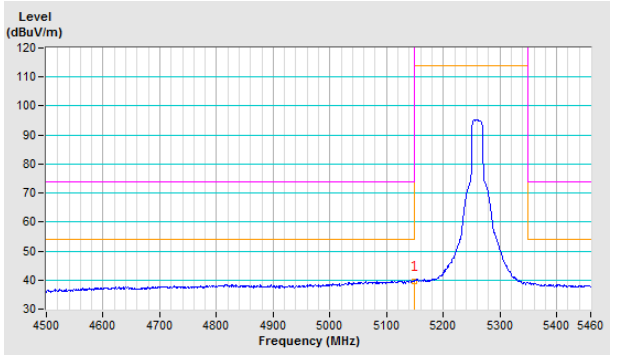
Horizontal (Average)



Vertical (Peak)

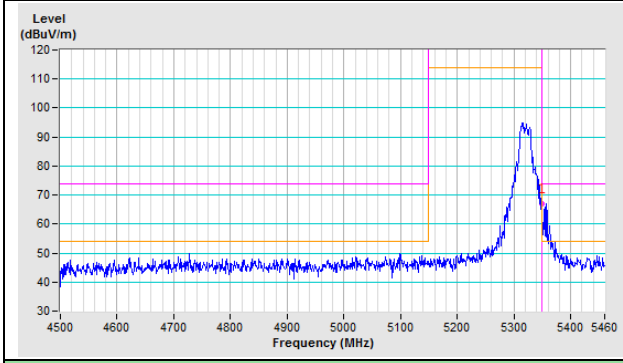


Vertical (Average)

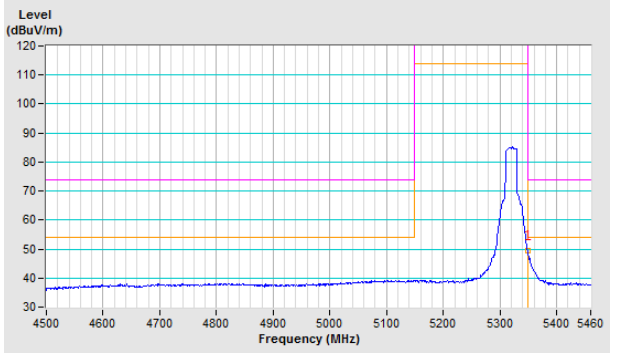


Channel 64

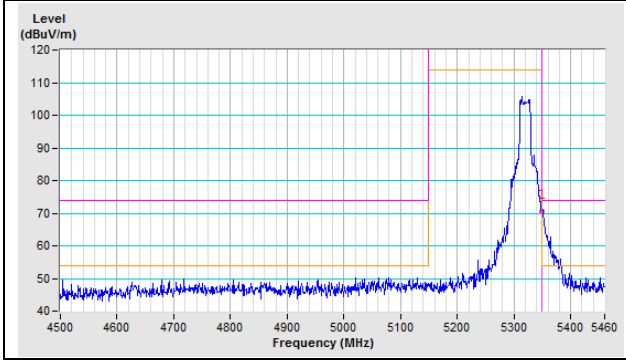
Horizontal (Peak)



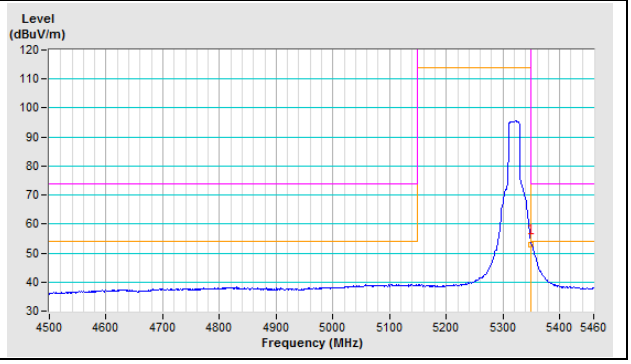
Horizontal (Average)

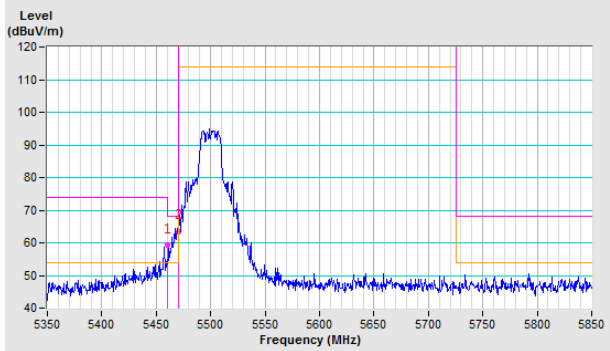
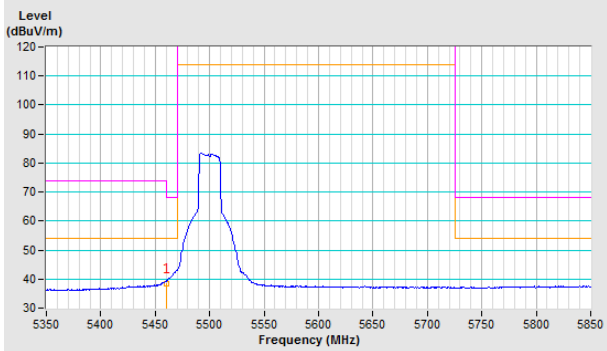
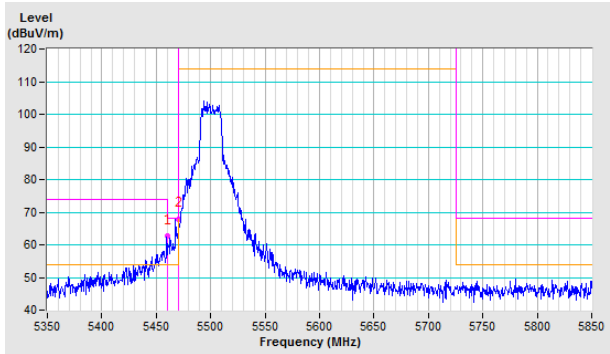
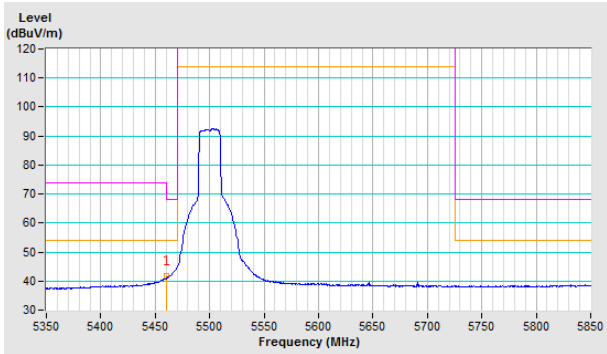


Vertical (Peak)



Vertical (Average)

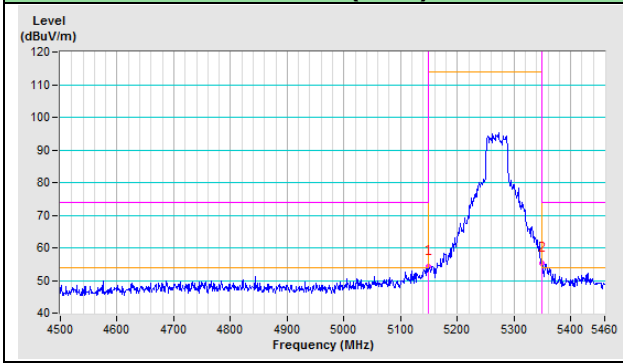


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

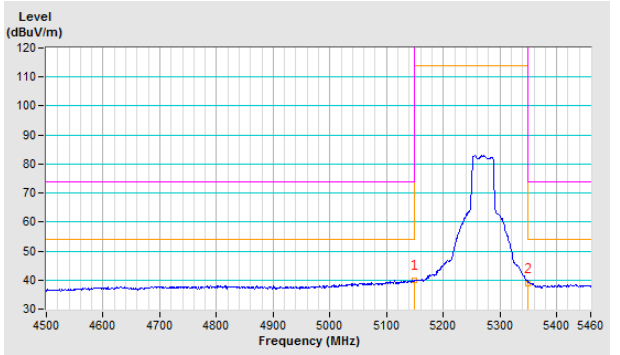
802.11ax (HE40)

Channel 54

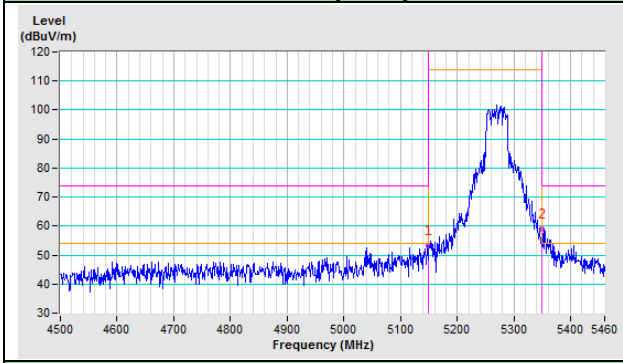
Horizontal (Peak)



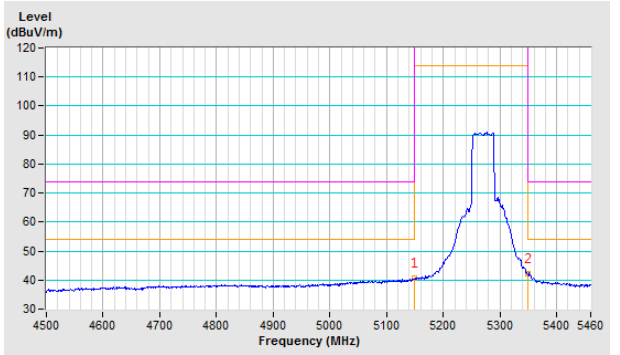
Horizontal (Average)



Vertical (Peak)

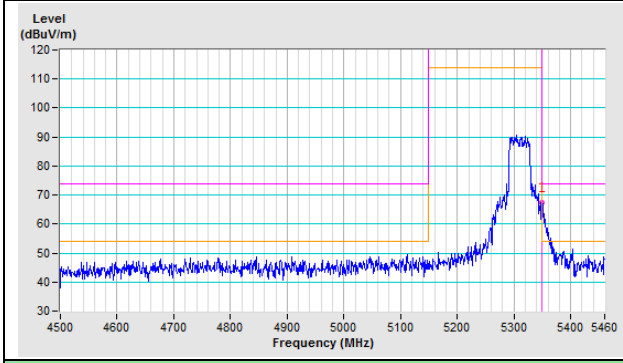


Vertical (Average)

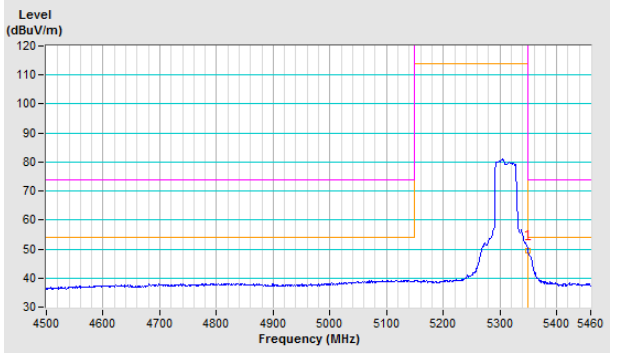


Channel 62

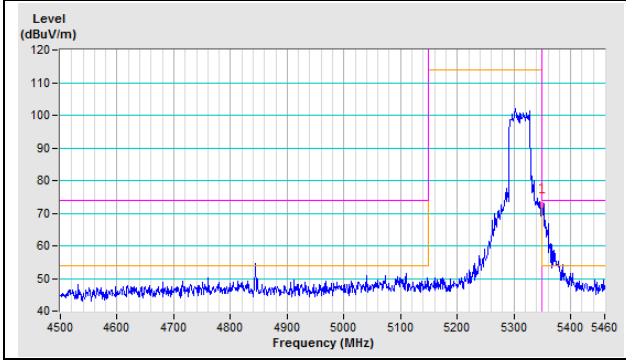
Horizontal (Peak)



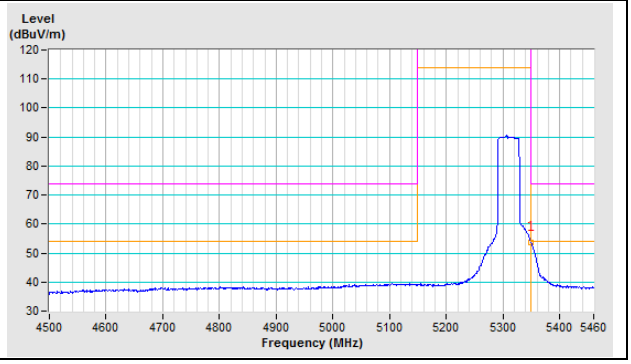
Horizontal (Average)

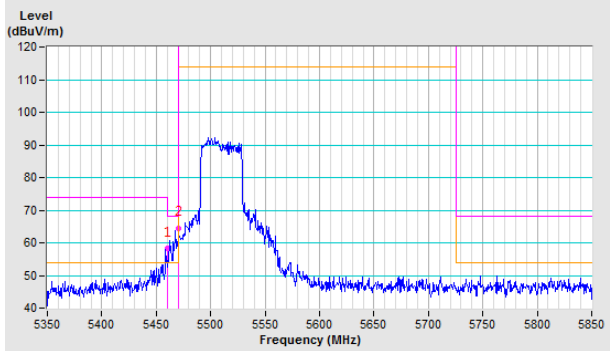
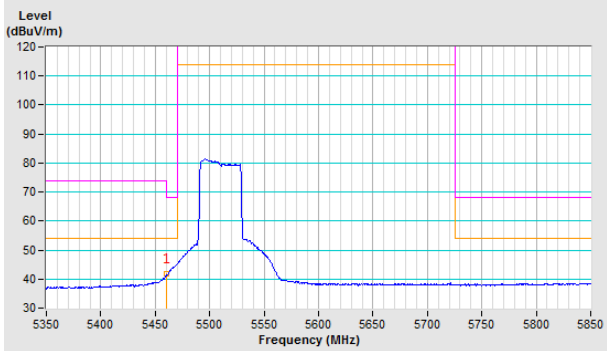
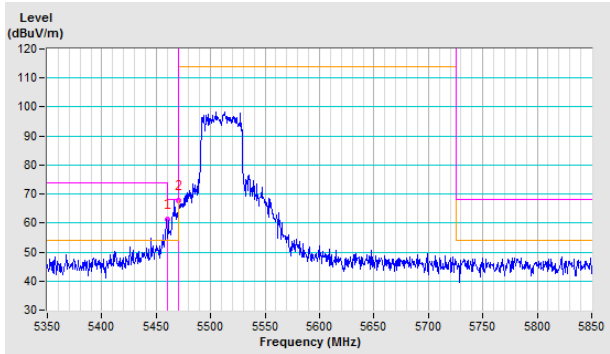
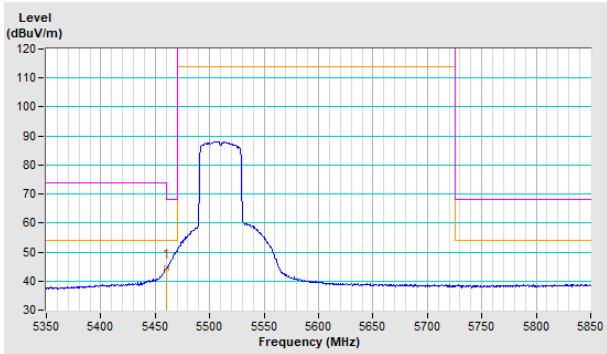


Vertical (Peak)



Vertical (Average)

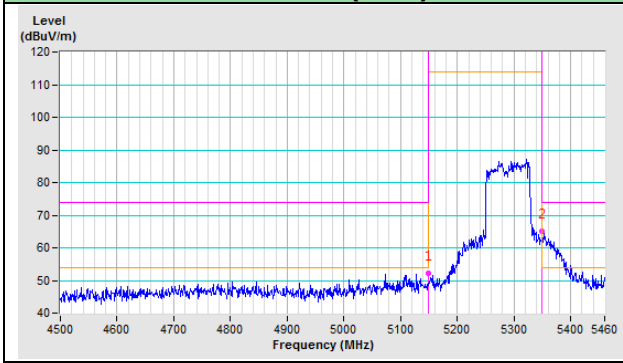


Channel 102	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

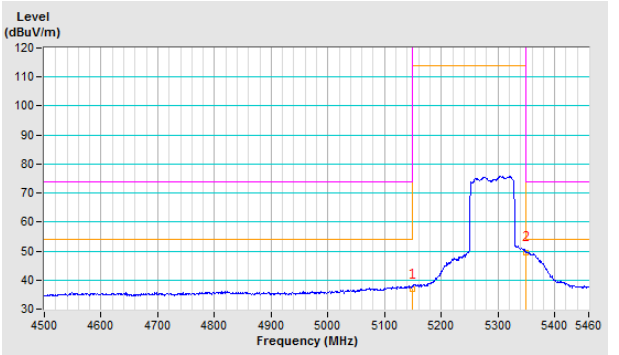
802.11ax (HE80)

Channel 58

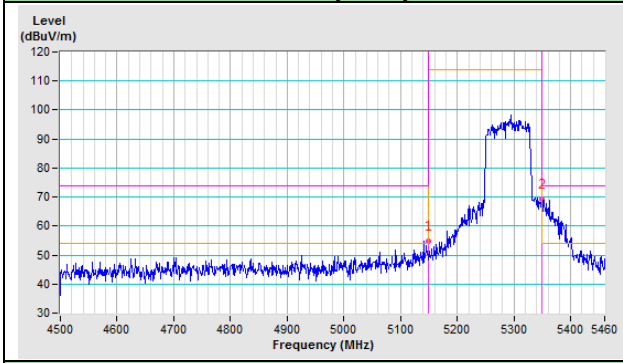
Horizontal (Peak)



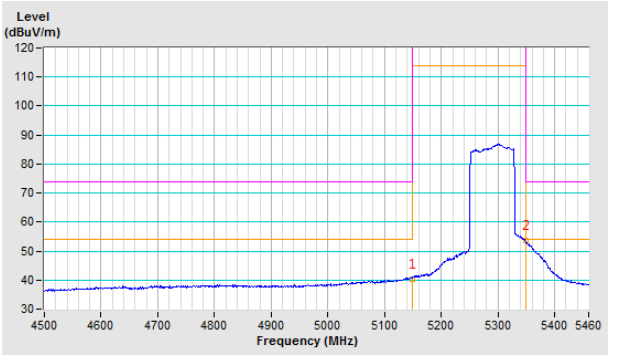
Horizontal (Average)



Vertical (Peak)

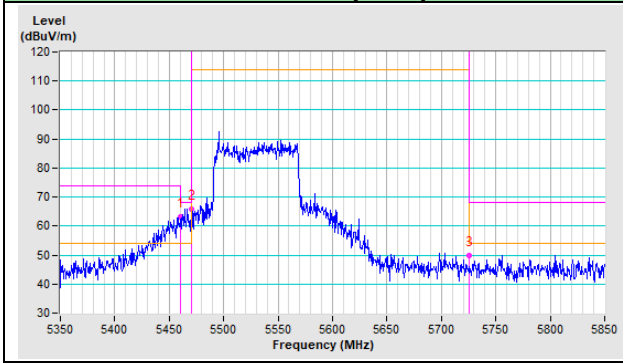


Vertical (Average)

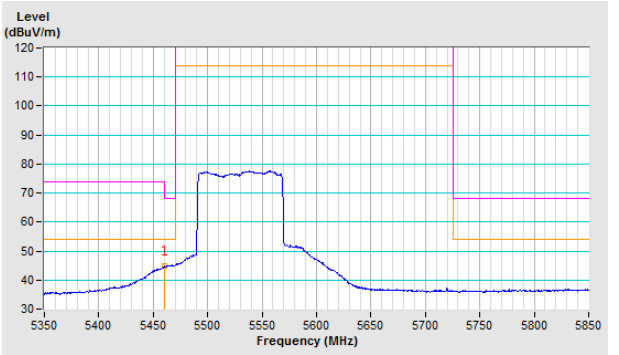


Channel 106

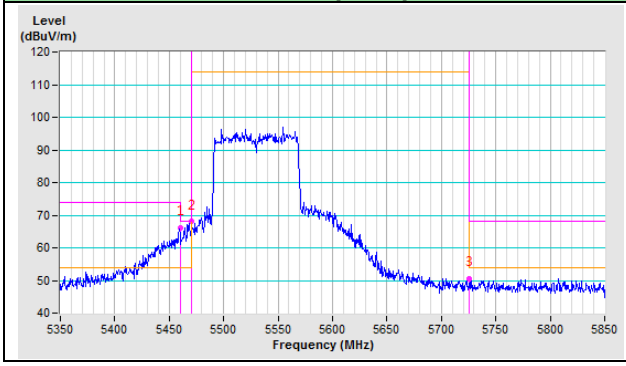
Horizontal (Peak)



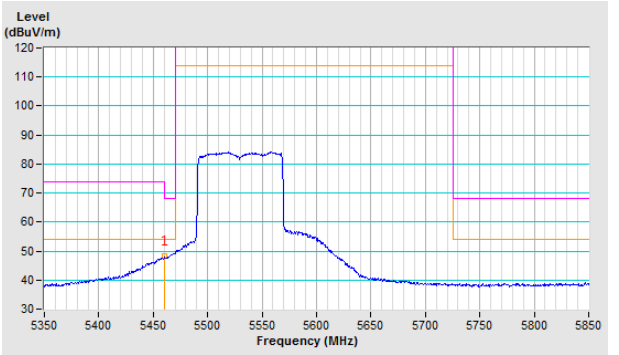
Horizontal (Average)



Vertical (Peak)



Vertical (Average)

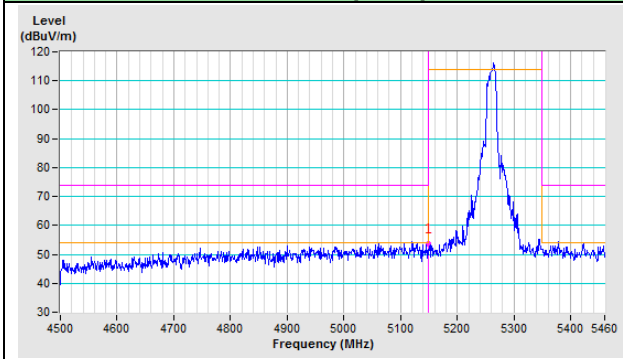


Test Results (Mode 7)

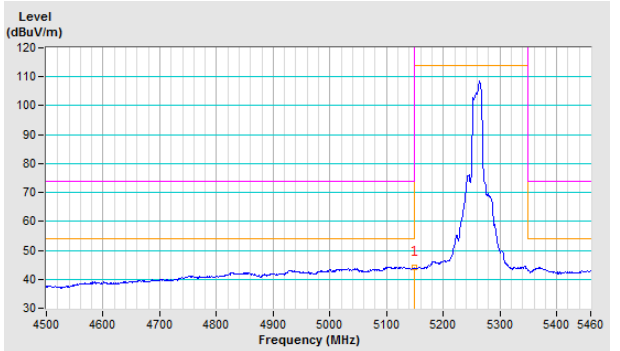
802.11a

Channel 52

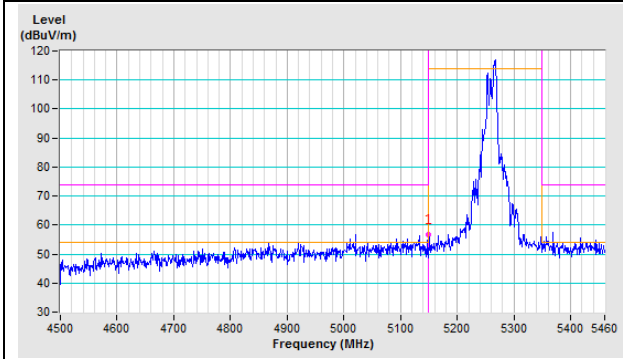
Horizontal (Peak)



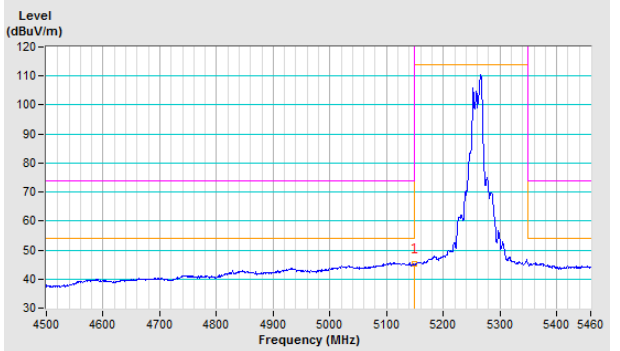
Horizontal (Average)



Vertical (Peak)

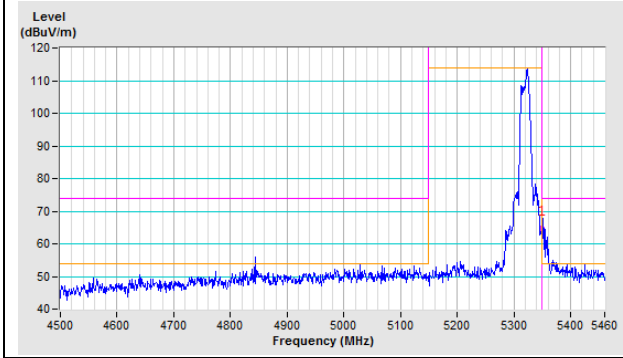


Vertical (Average)

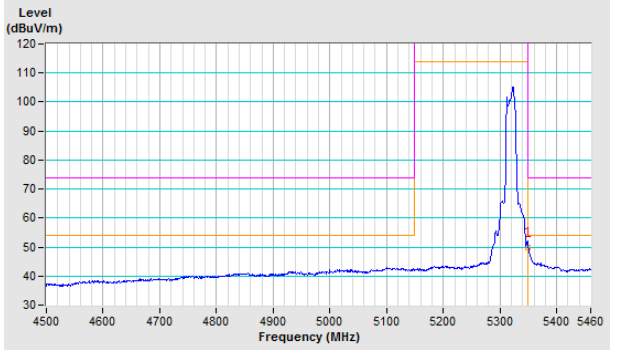


Channel 64

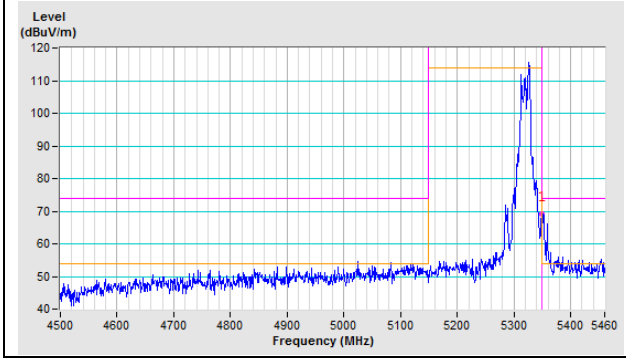
Horizontal (Peak)



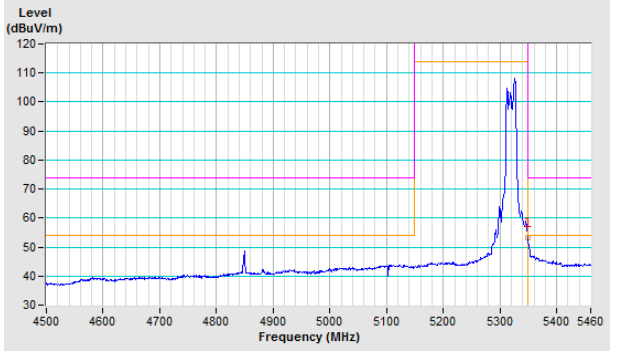
Horizontal (Average)

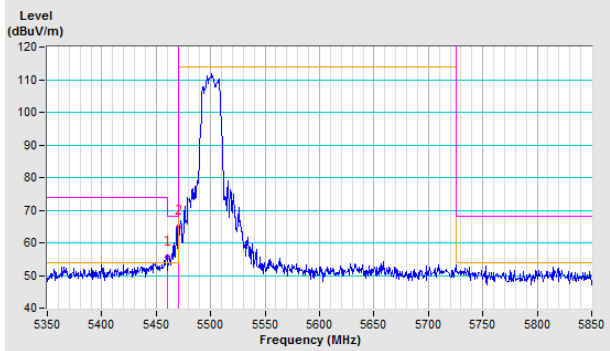
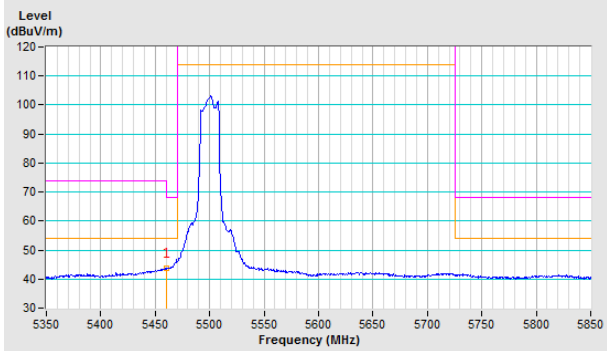
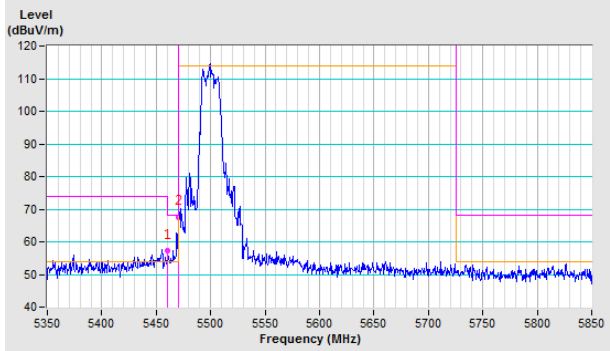
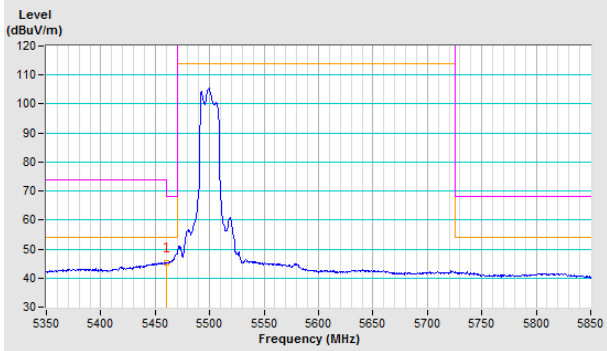


Vertical (Peak)



Vertical (Average)

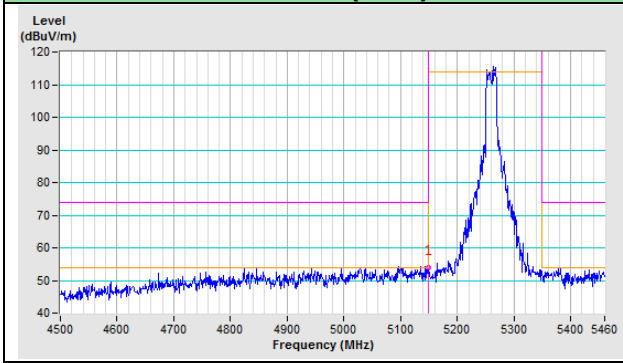


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

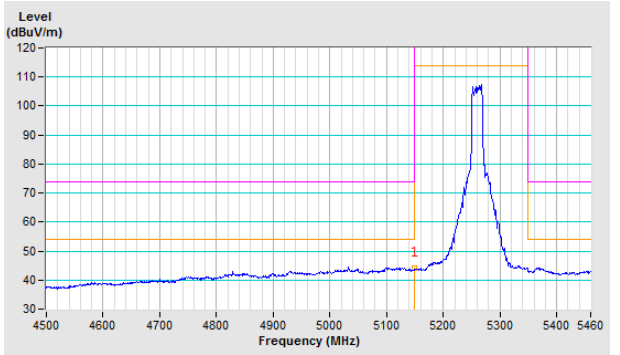
802.11ax (HE20)

Channel 52

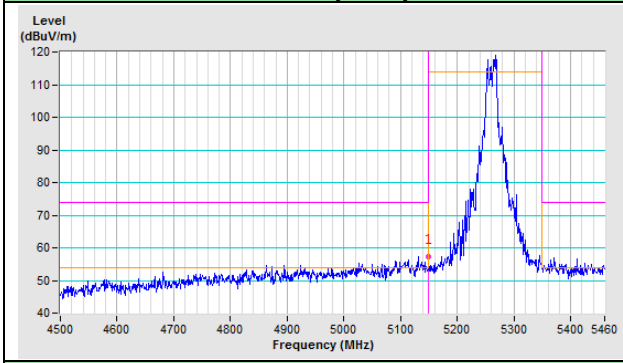
Horizontal (Peak)



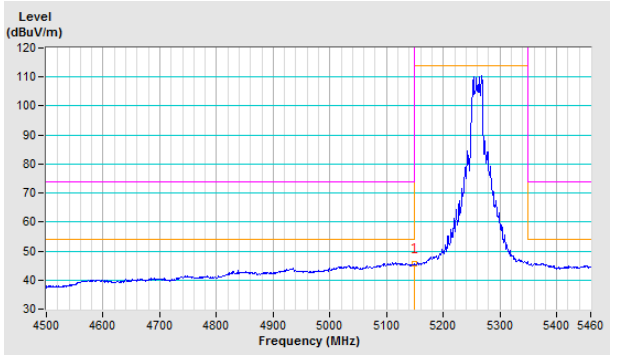
Horizontal (Average)



Vertical (Peak)

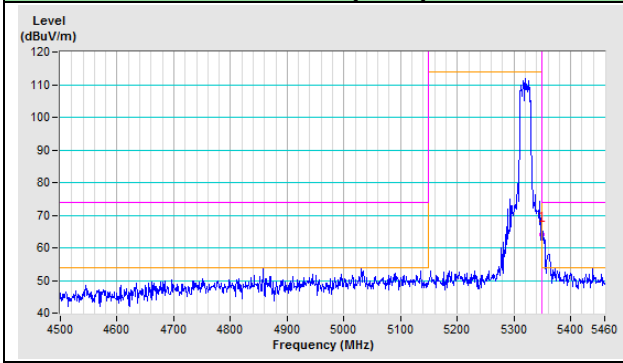


Vertical (Average)

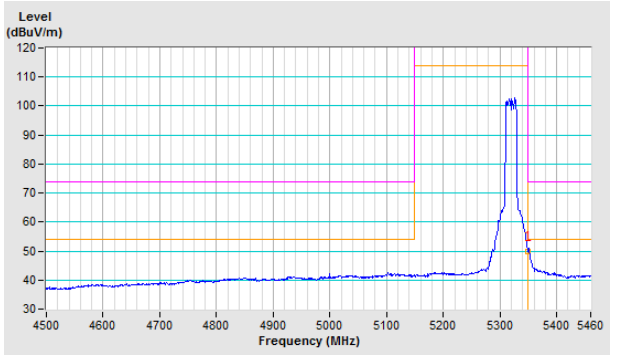


Channel 64

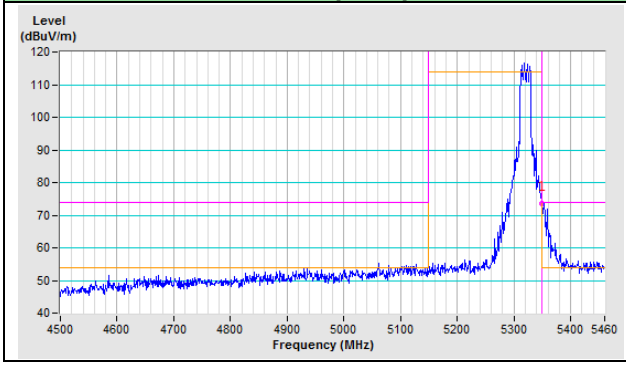
Horizontal (Peak)



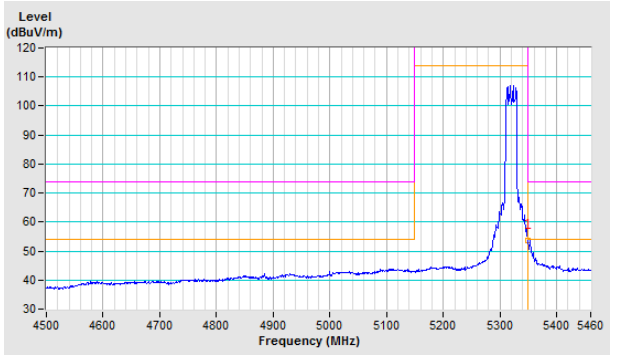
Horizontal (Average)

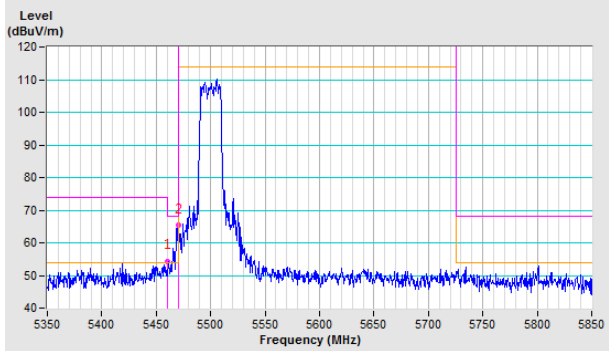
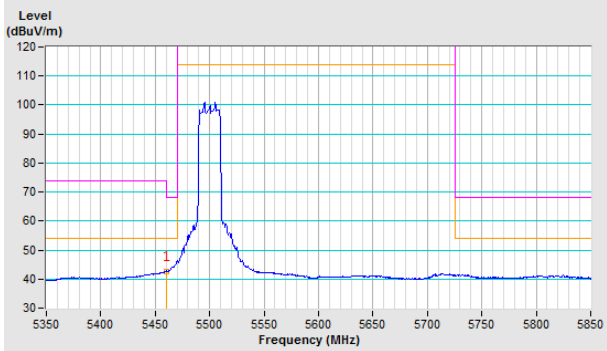
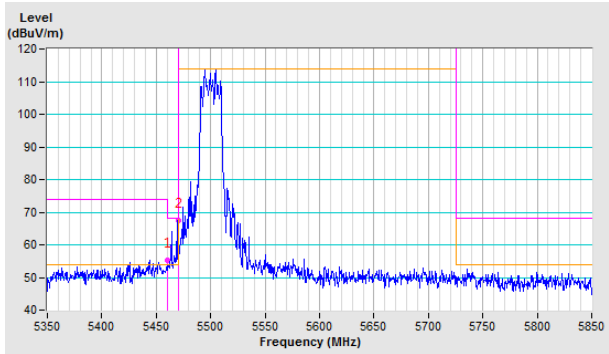
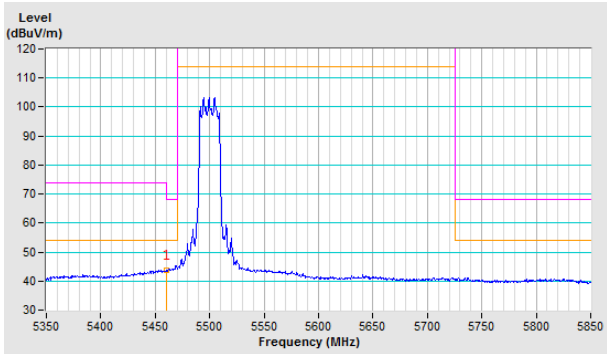


Vertical (Peak)



Vertical (Average)

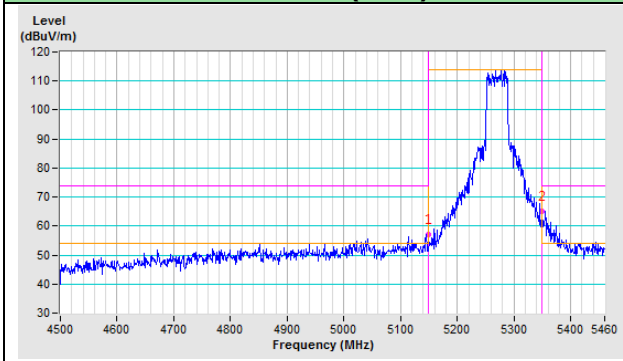


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

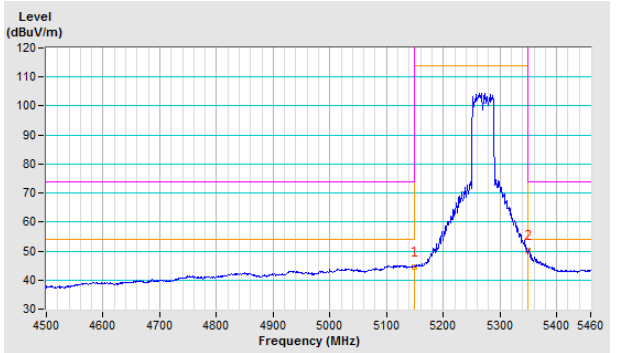
802.11ax (HE40)

Channel 54

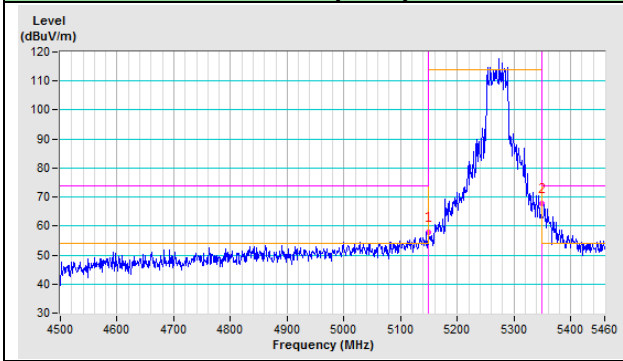
Horizontal (Peak)



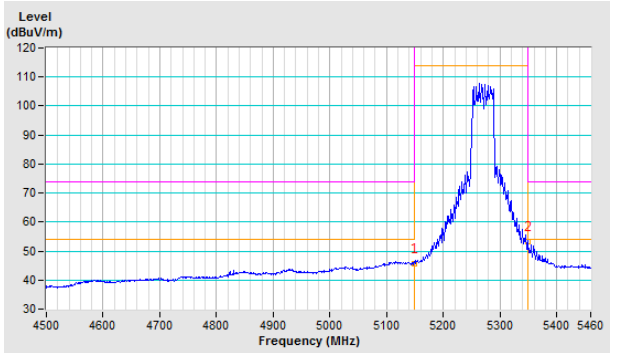
Horizontal (Average)



Vertical (Peak)

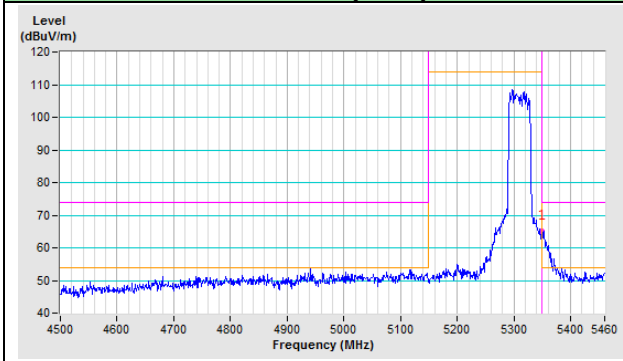


Vertical (Average)

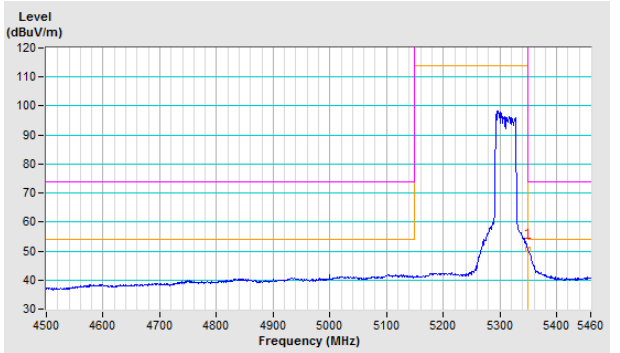


Channel 62

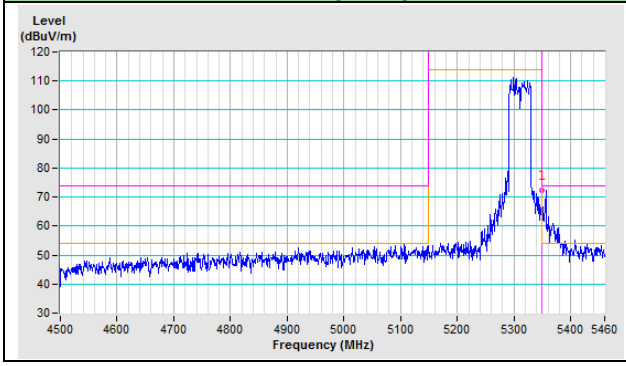
Horizontal (Peak)



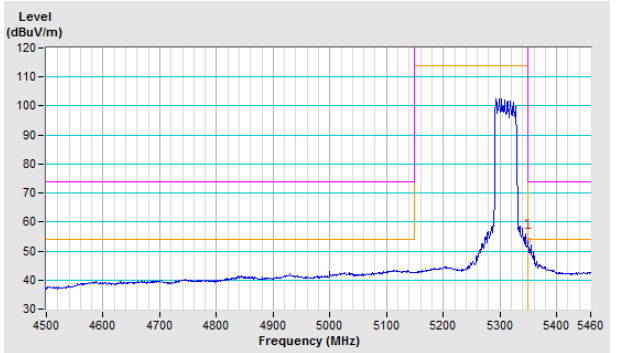
Horizontal (Average)

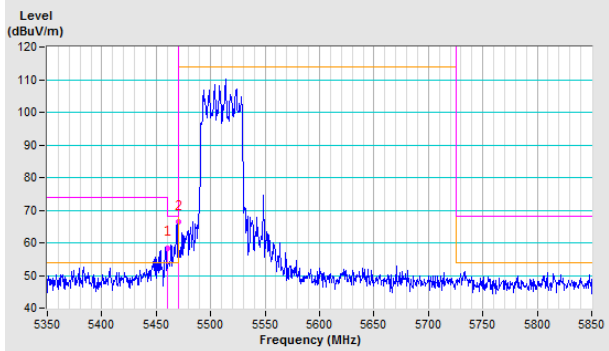
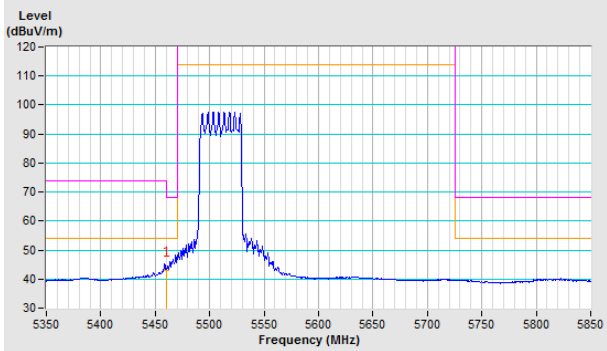
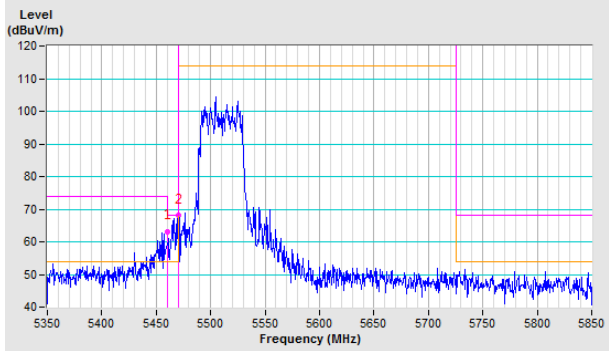
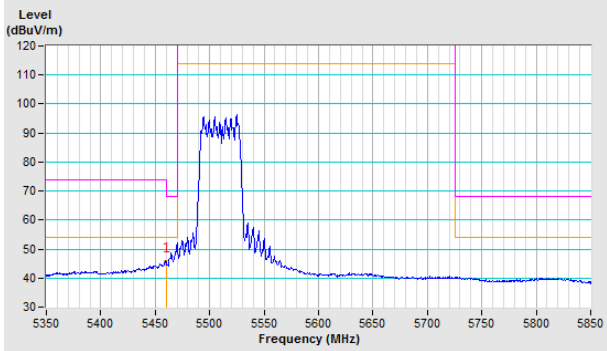


Vertical (Peak)



Vertical (Average)

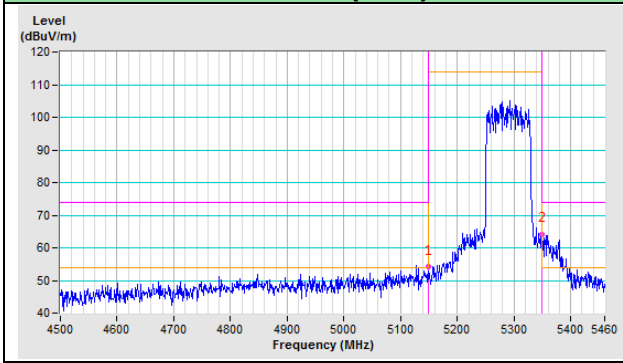


Channel 102	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

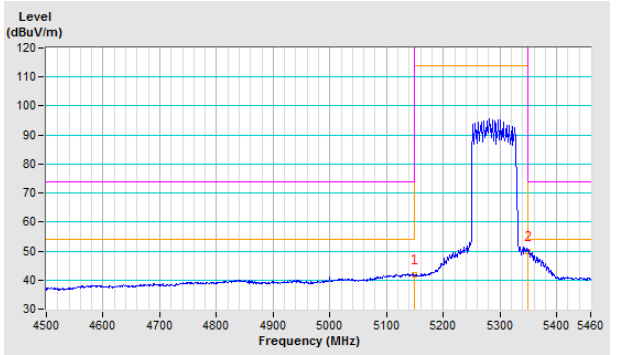
802.11ax (HE80)

Channel 58

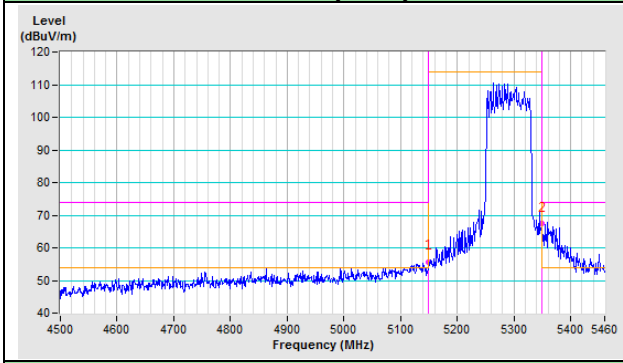
Horizontal (Peak)



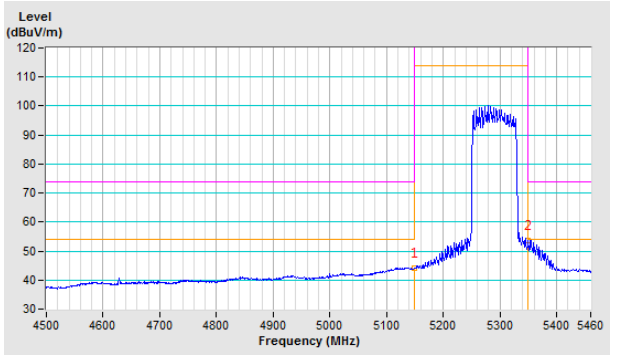
Horizontal (Average)



Vertical (Peak)

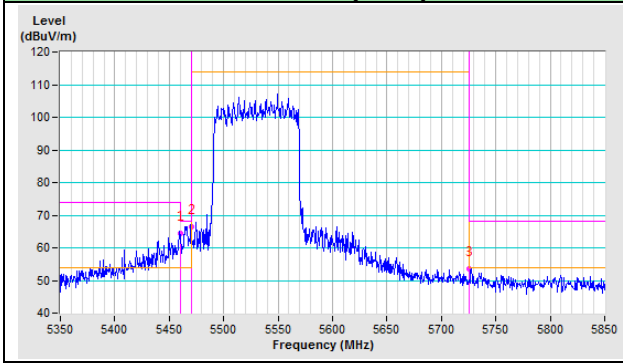


Vertical (Average)

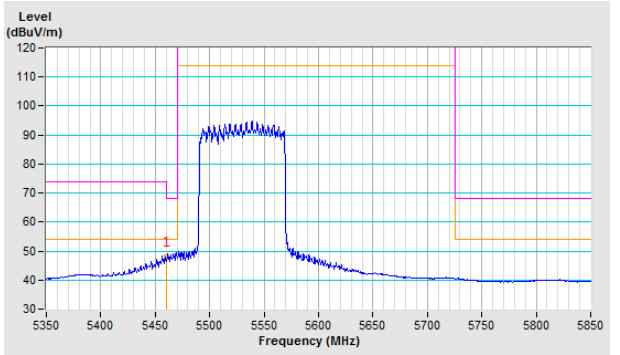


Channel 106

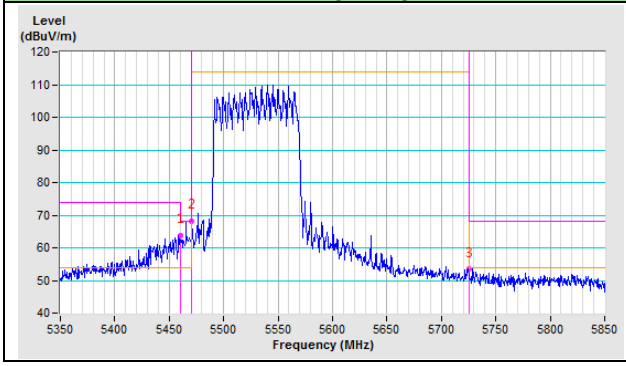
Horizontal (Peak)



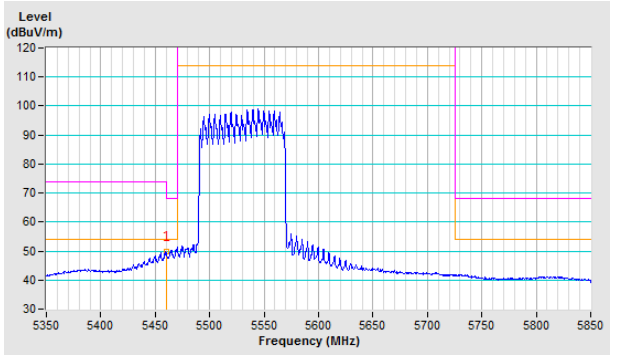
Horizontal (Average)



Vertical (Peak)

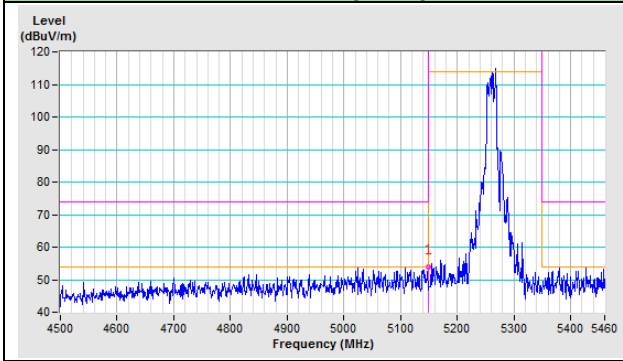
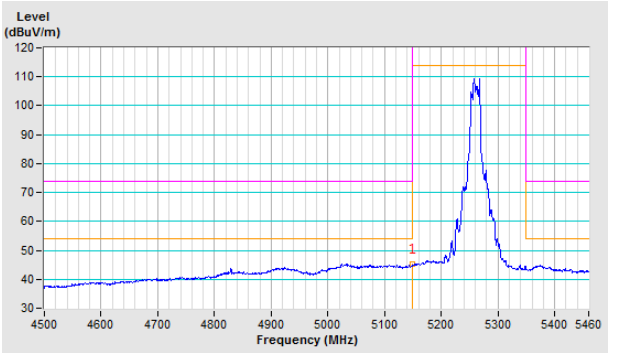
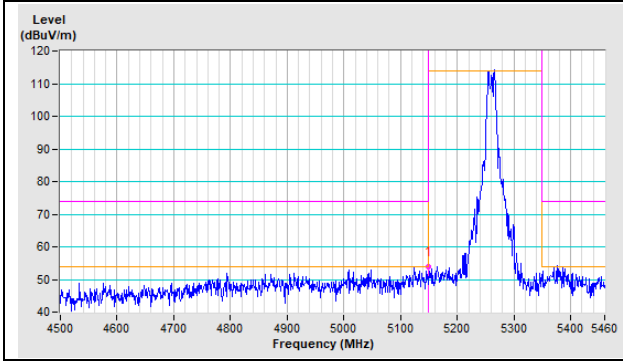
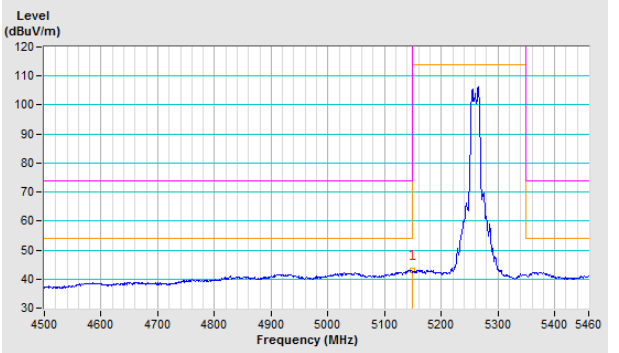


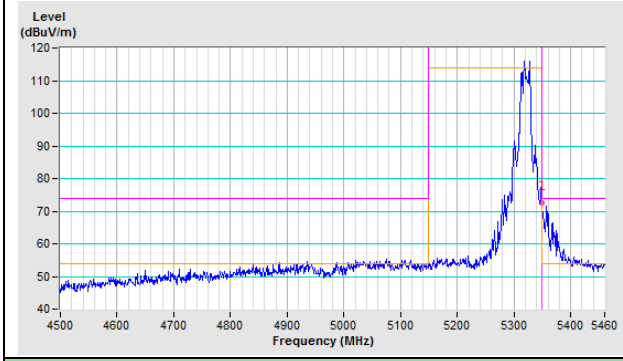
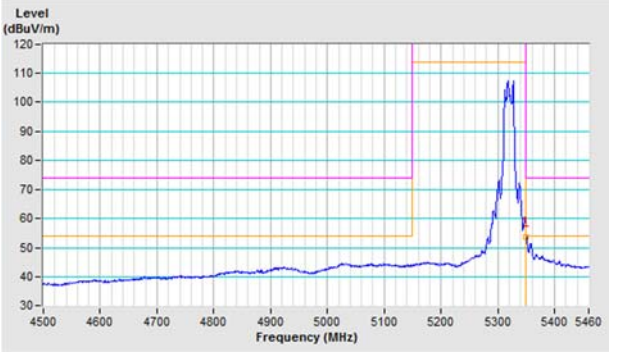
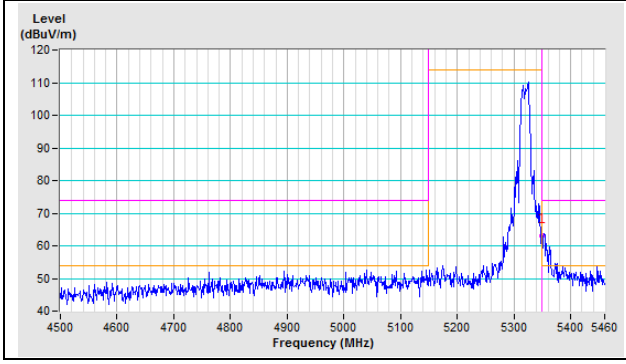
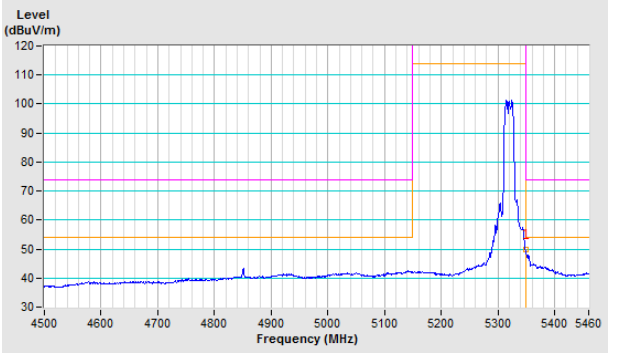
Vertical (Average)

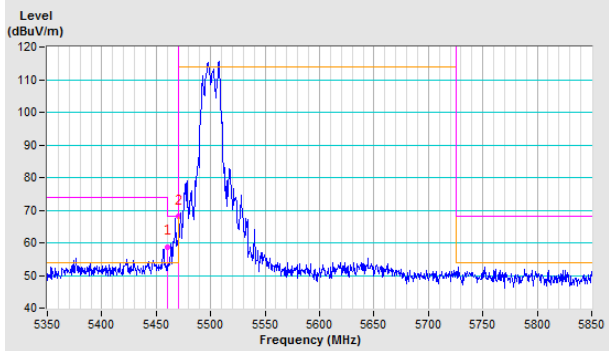
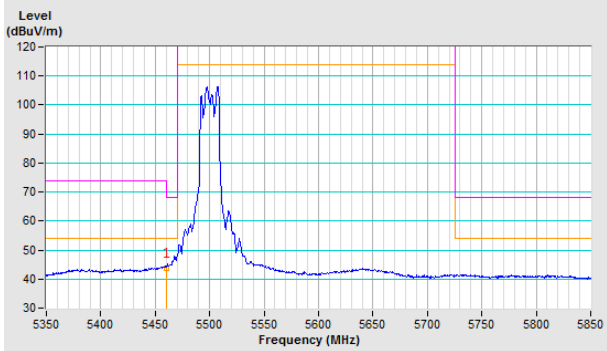
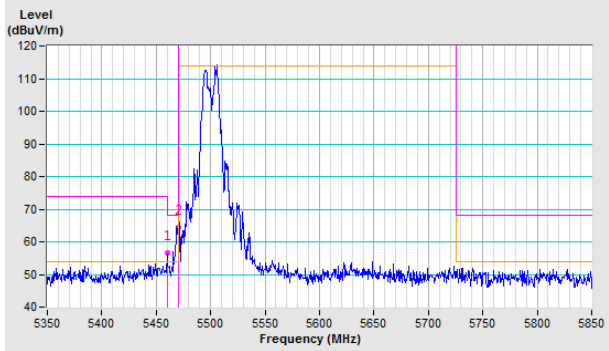
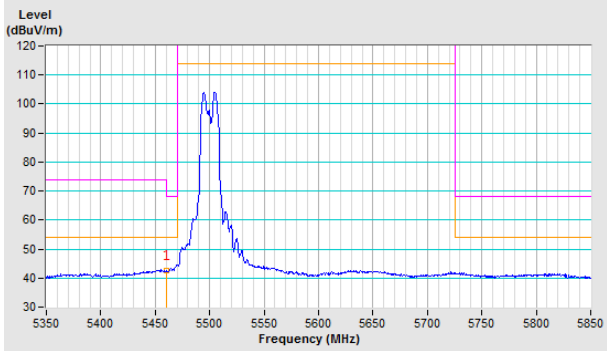


Test Results (Mode 8)

802.11a

Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

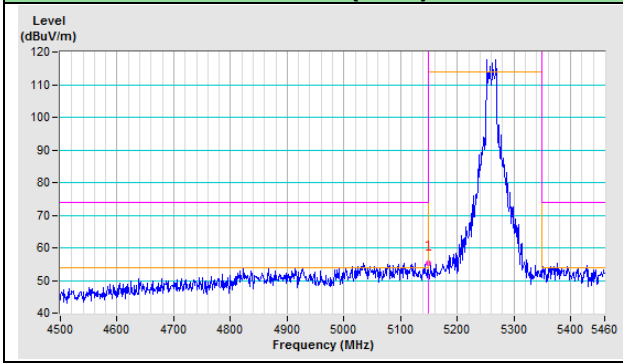
Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

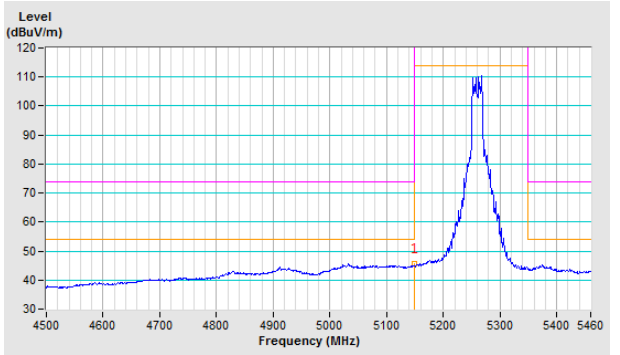
802.11ax (HE20)

Channel 52

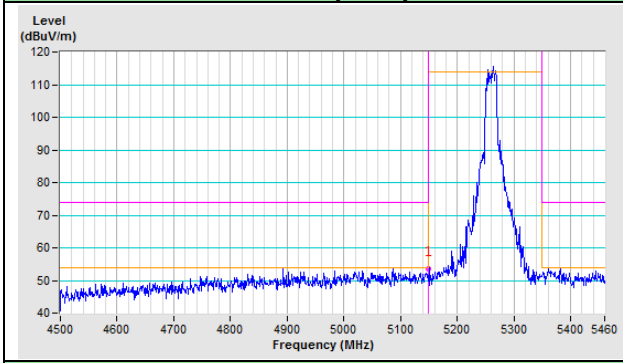
Horizontal (Peak)



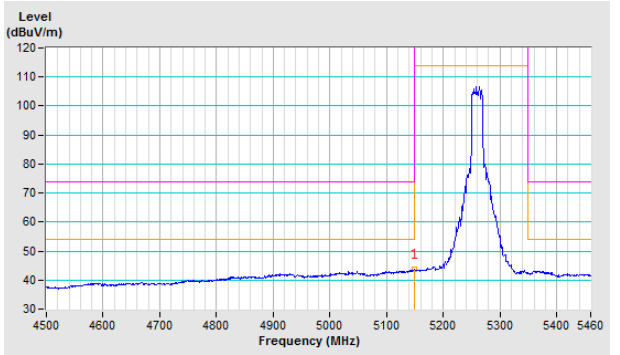
Horizontal (Average)



Vertical (Peak)

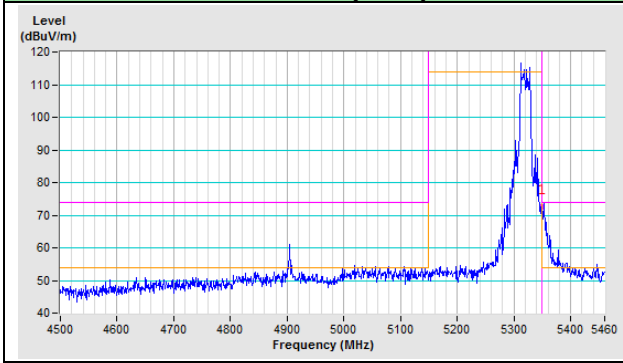


Vertical (Average)

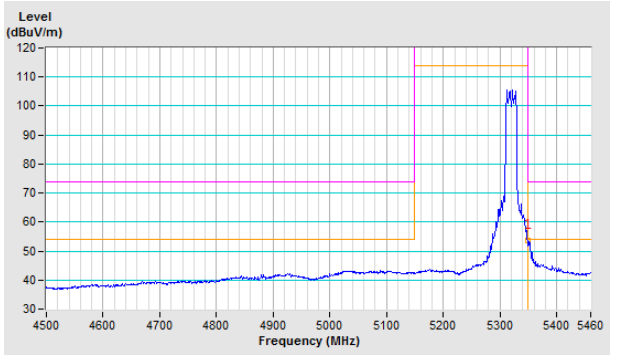


Channel 64

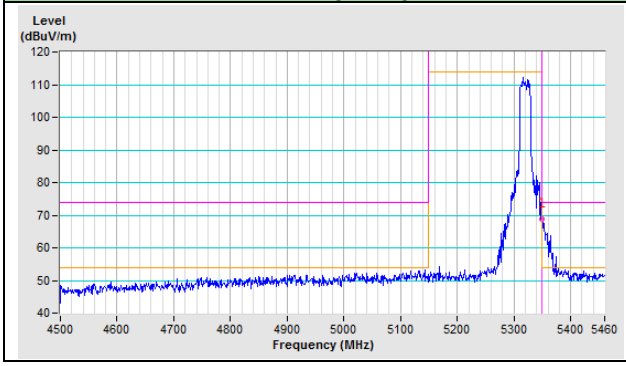
Horizontal (Peak)



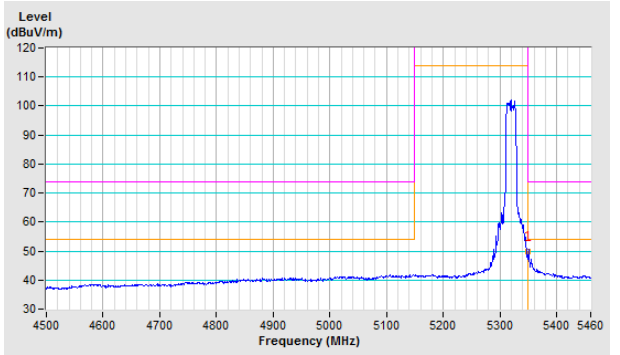
Horizontal (Average)

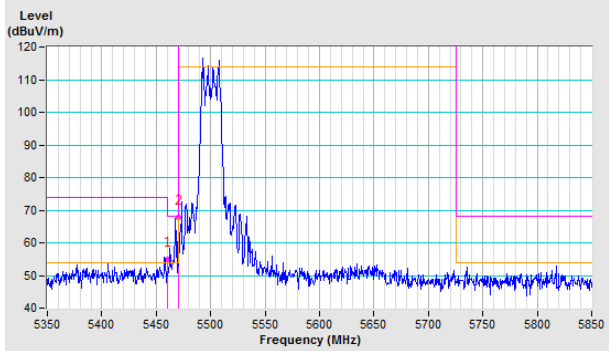
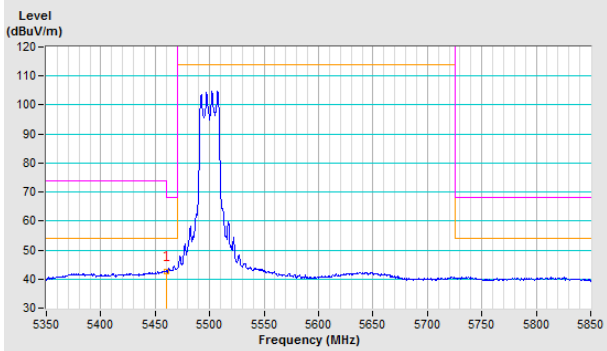
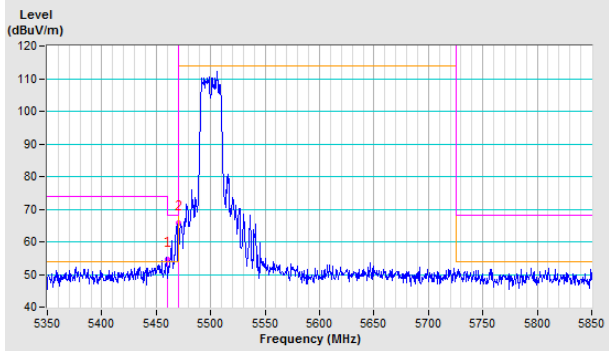
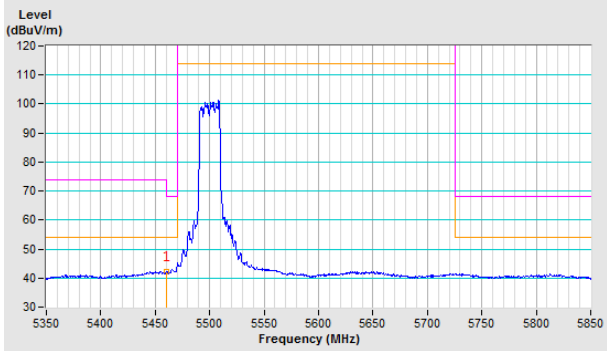


Vertical (Peak)



Vertical (Average)

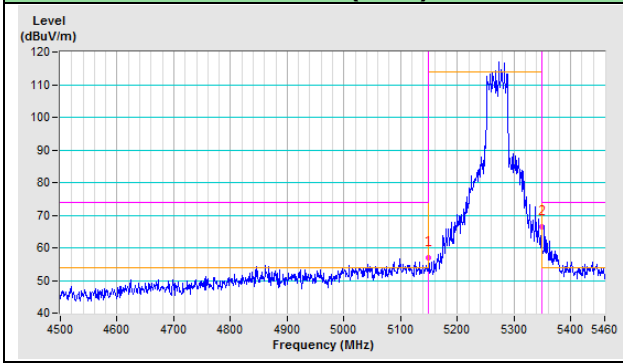


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

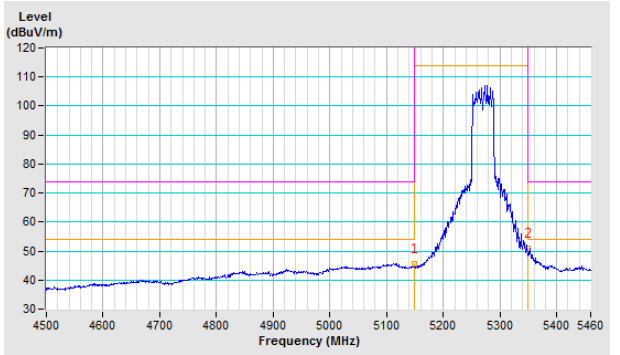
802.11ax (HE40)

Channel 54

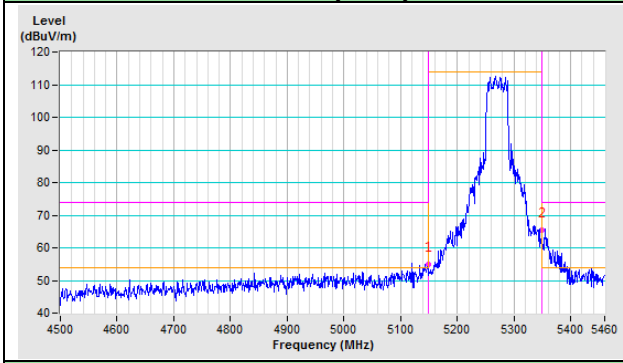
Horizontal (Peak)



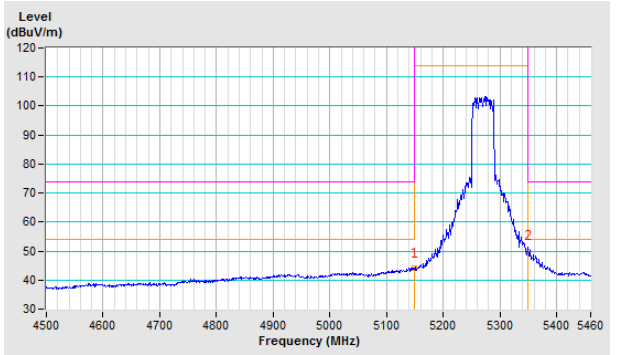
Horizontal (Average)



Vertical (Peak)

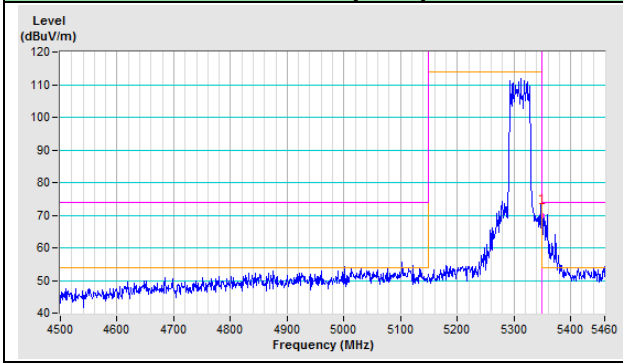


Vertical (Average)

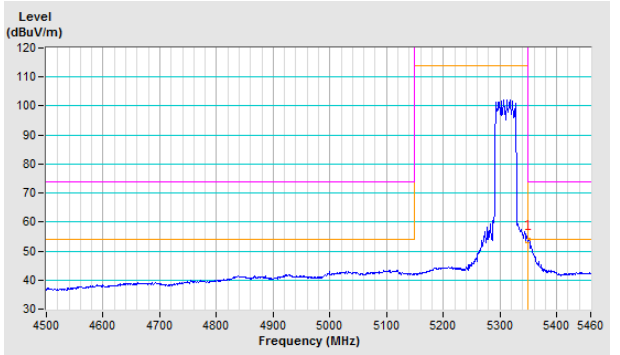


Channel 62

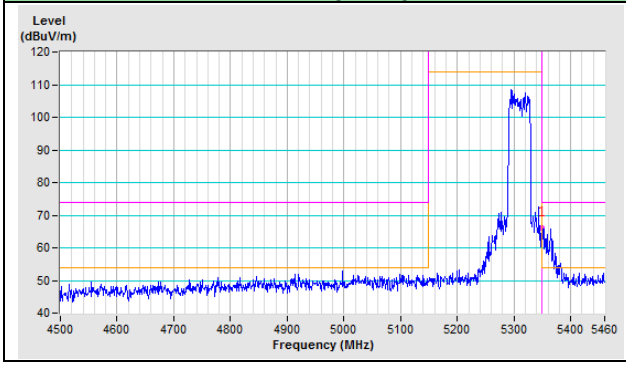
Horizontal (Peak)



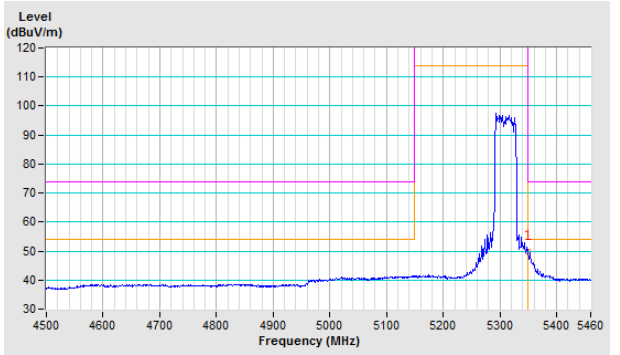
Horizontal (Average)

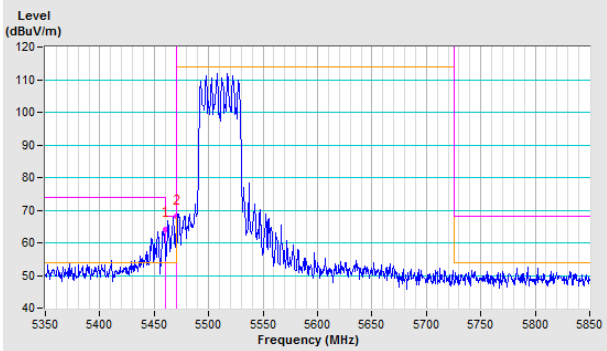
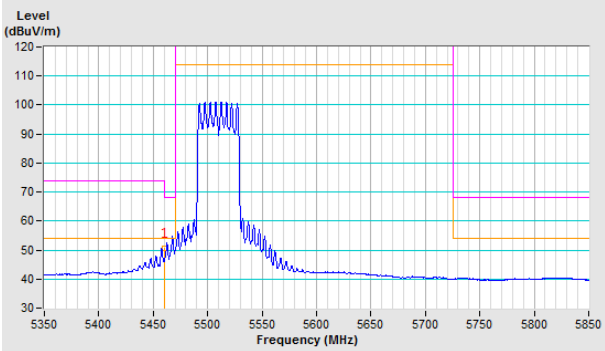
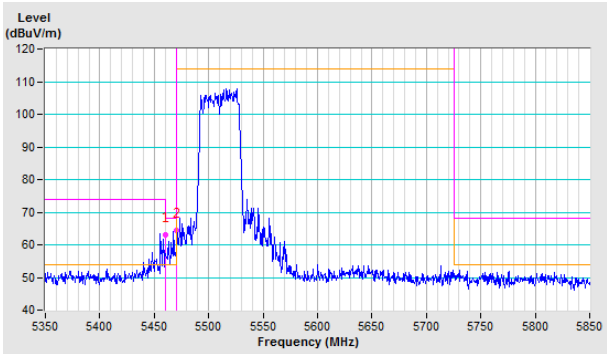
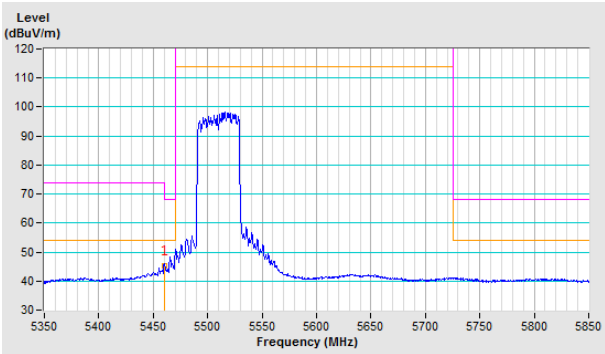


Vertical (Peak)



Vertical (Average)

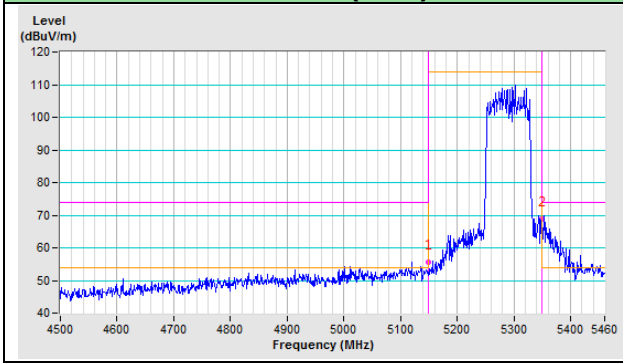


Channel 102	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

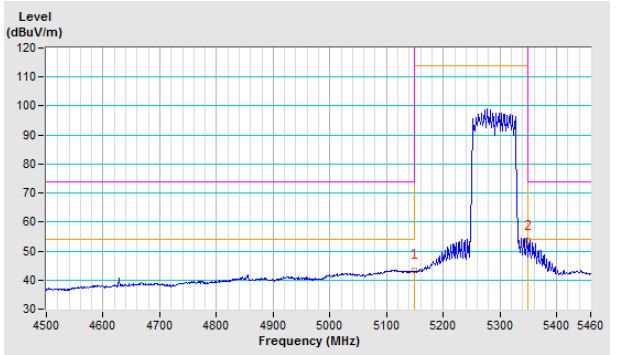
802.11ax (HE80)

Channel 58

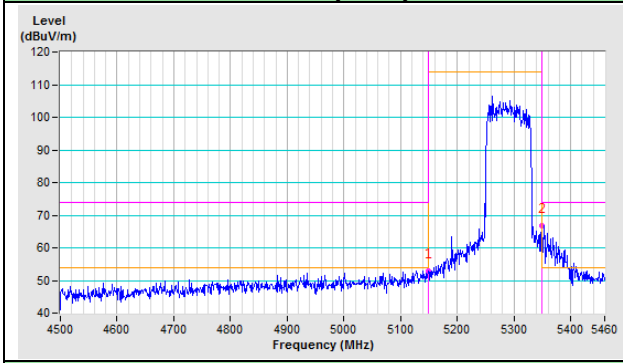
Horizontal (Peak)



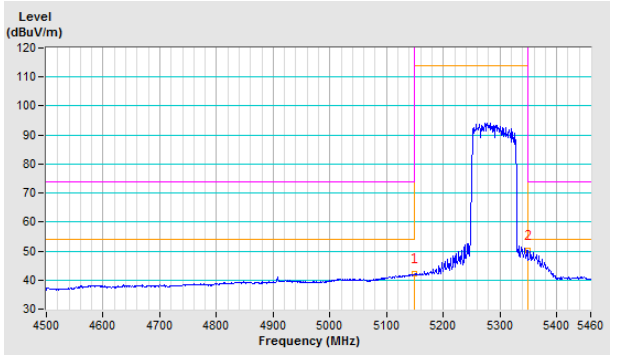
Horizontal (Average)



Vertical (Peak)

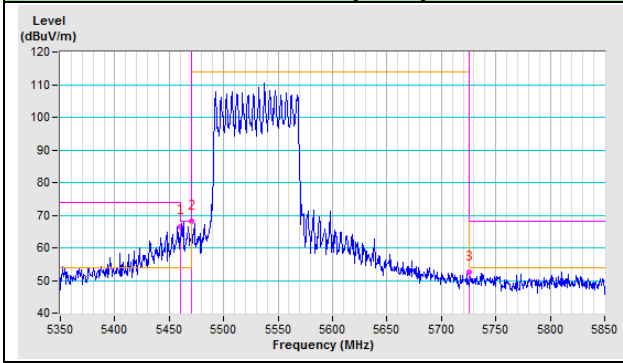


Vertical (Average)

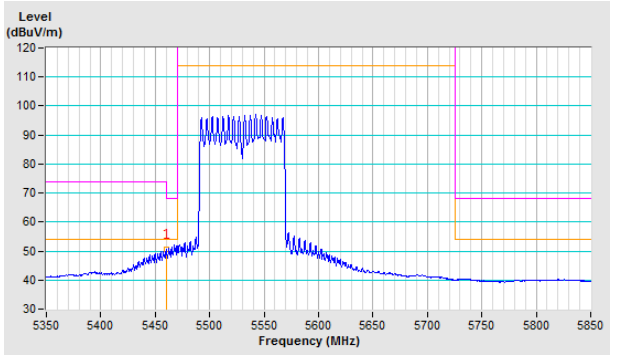


Channel 106

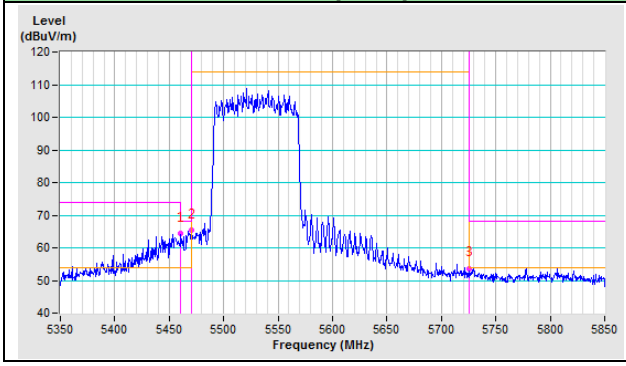
Horizontal (Peak)



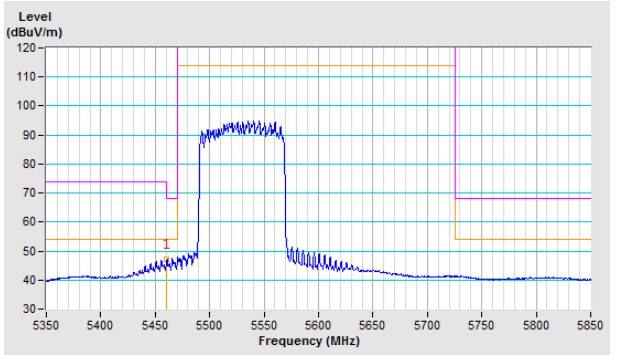
Horizontal (Average)



Vertical (Peak)

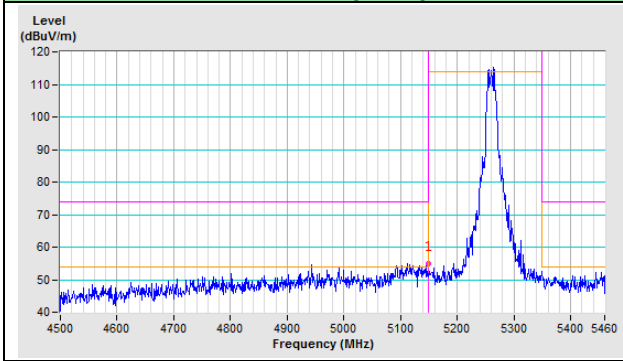
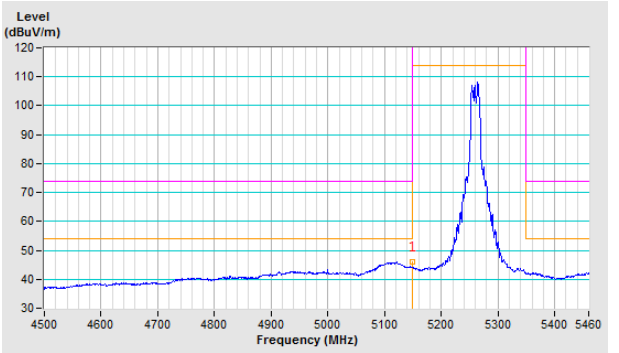
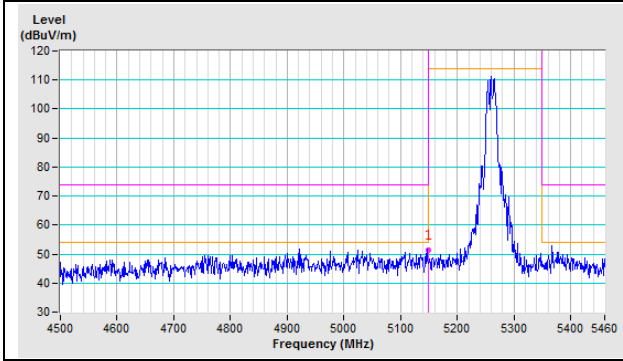
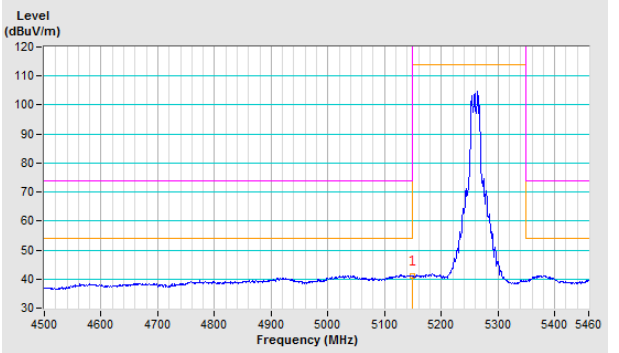


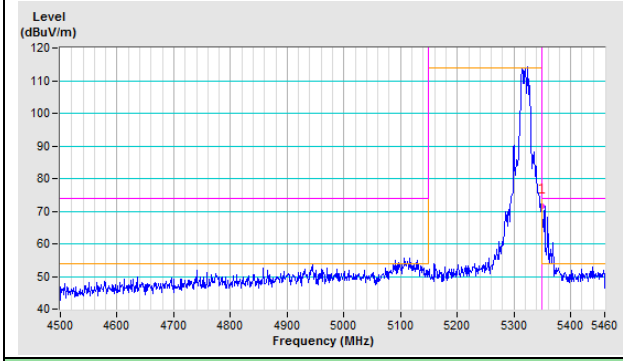
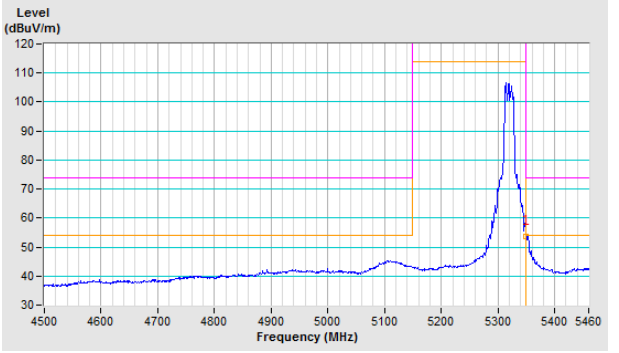
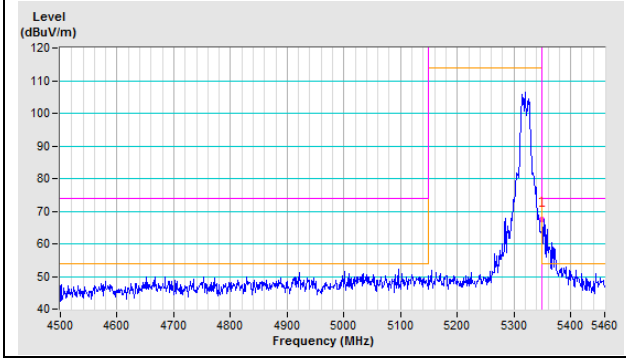
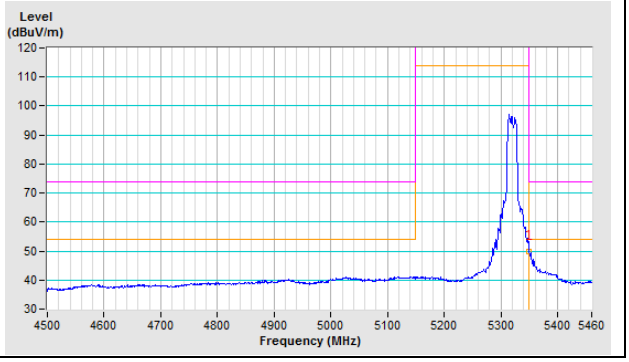
Vertical (Average)

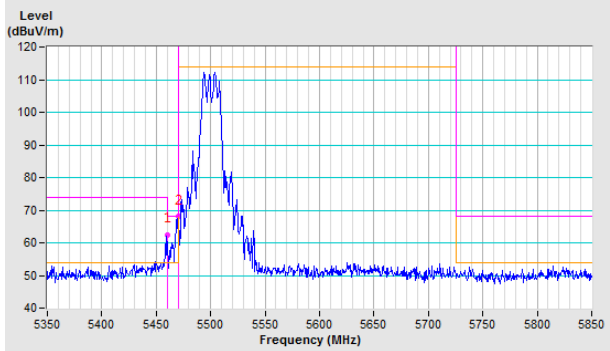
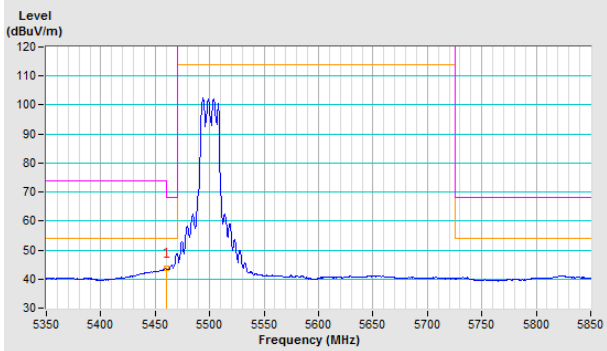
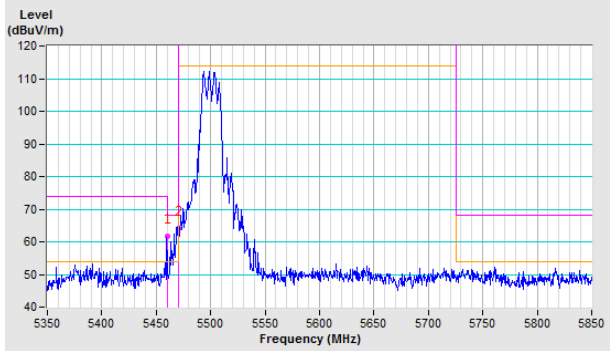
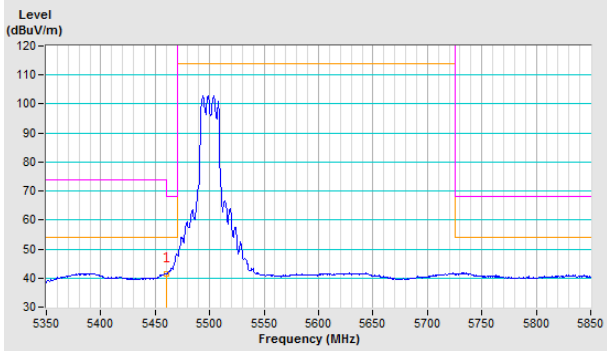


Test Results (Mode 9)

802.11a

Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

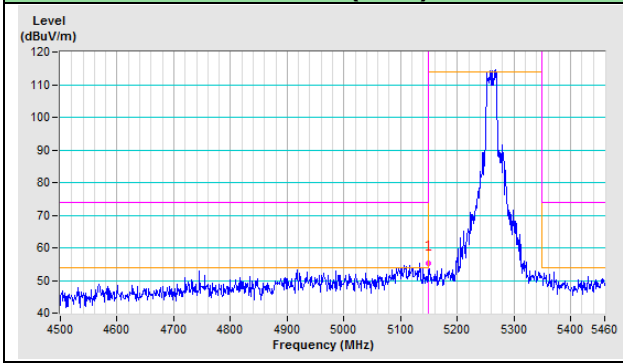
Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

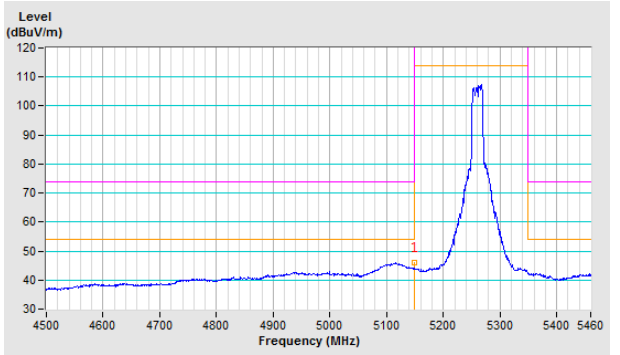
802.11ax (HE20)

Channel 52

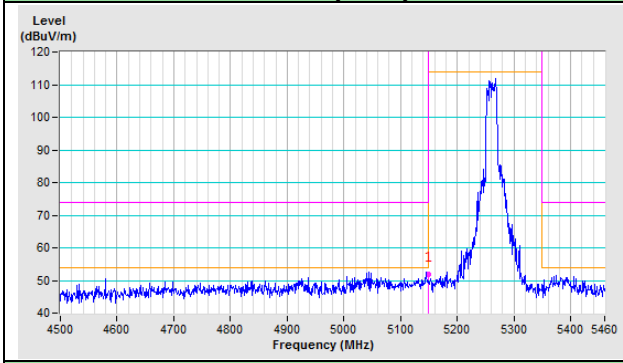
Horizontal (Peak)



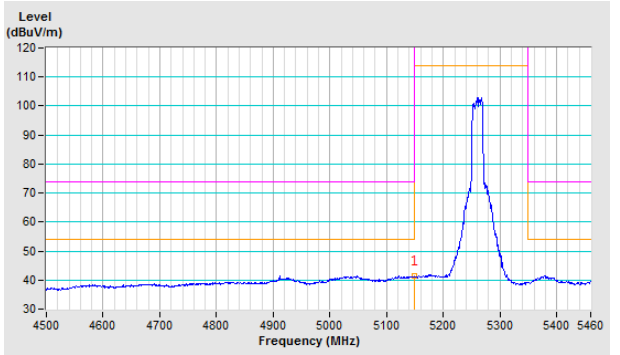
Horizontal (Average)



Vertical (Peak)

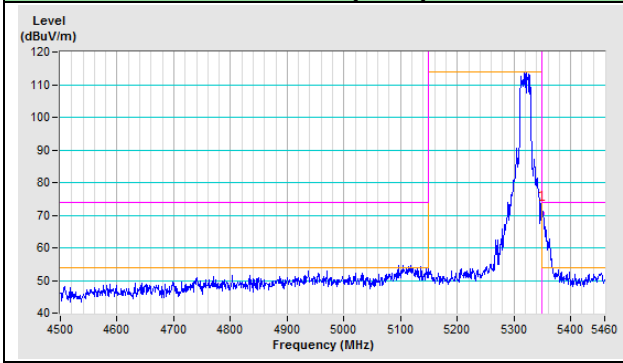


Vertical (Average)

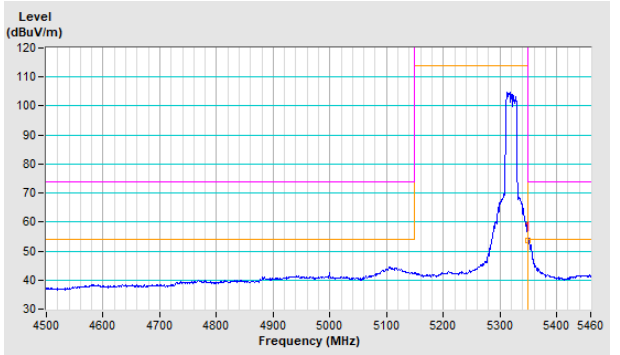


Channel 64

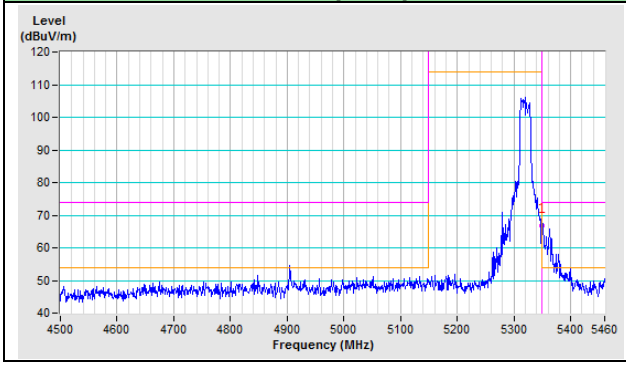
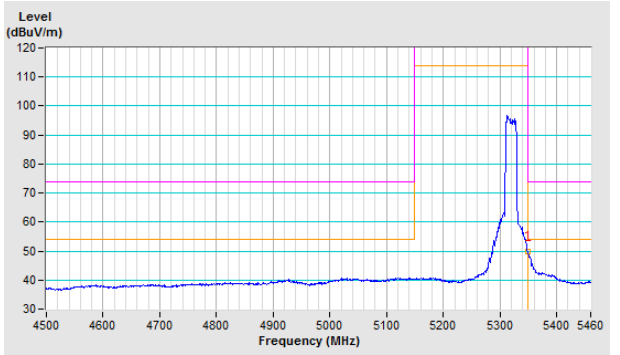
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



Vertical (Average)