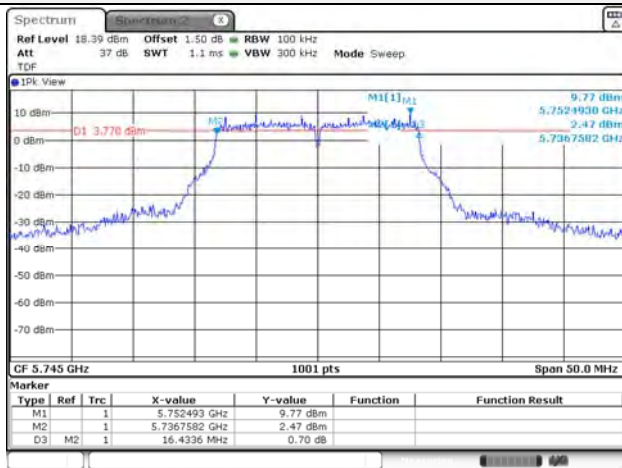
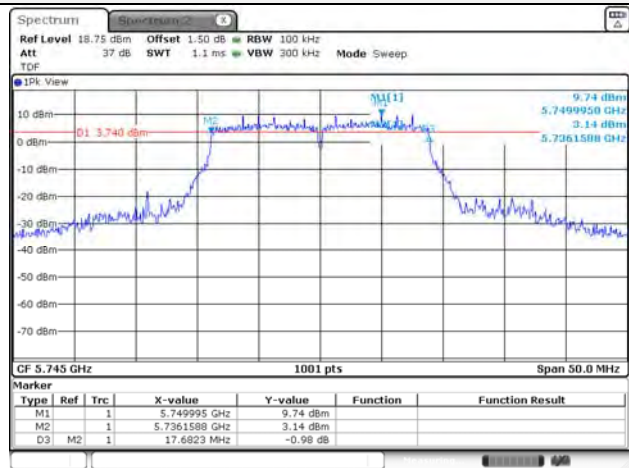
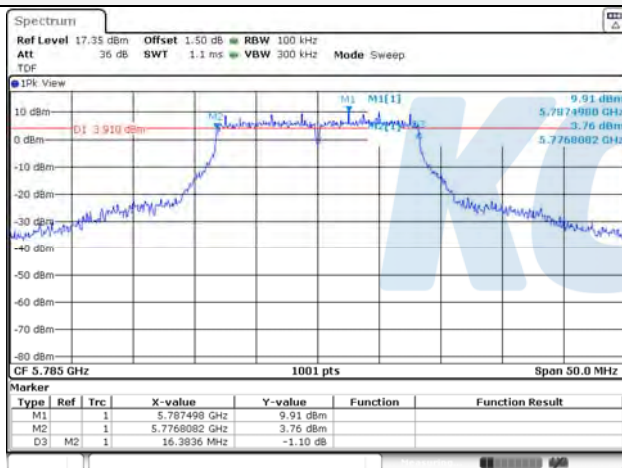
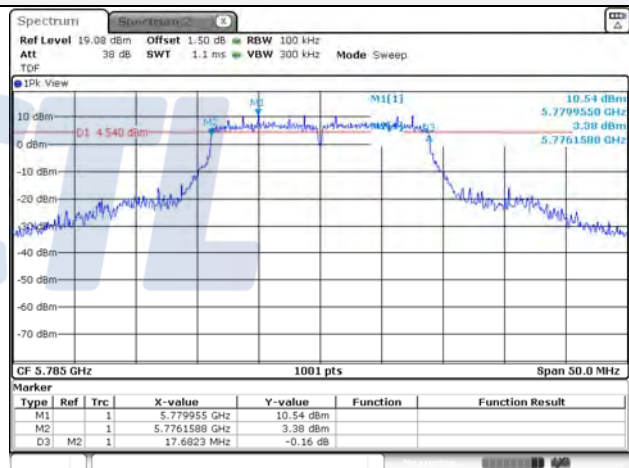
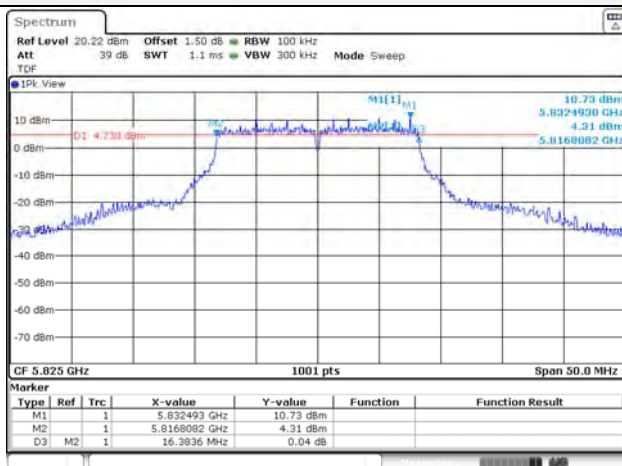
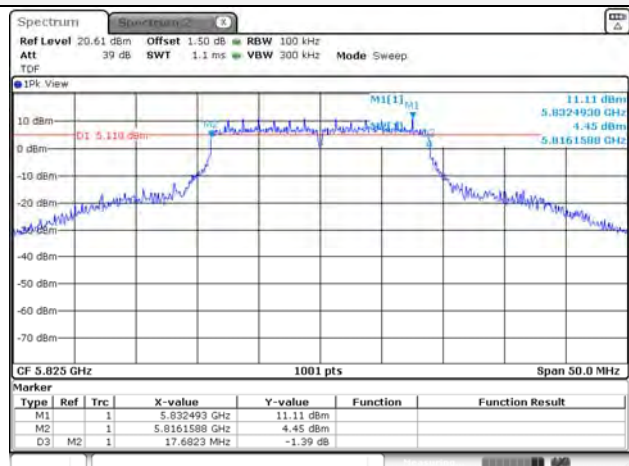
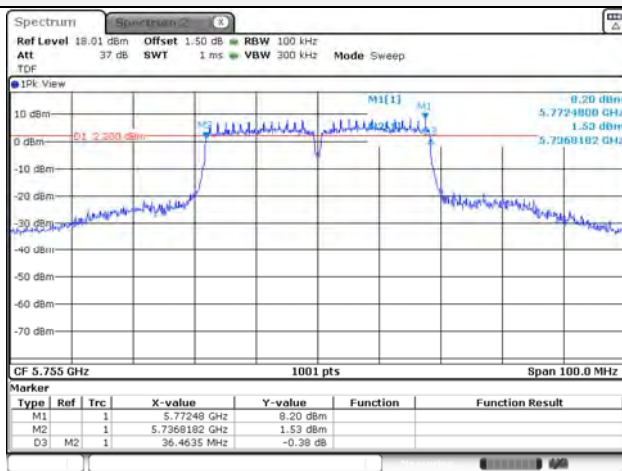
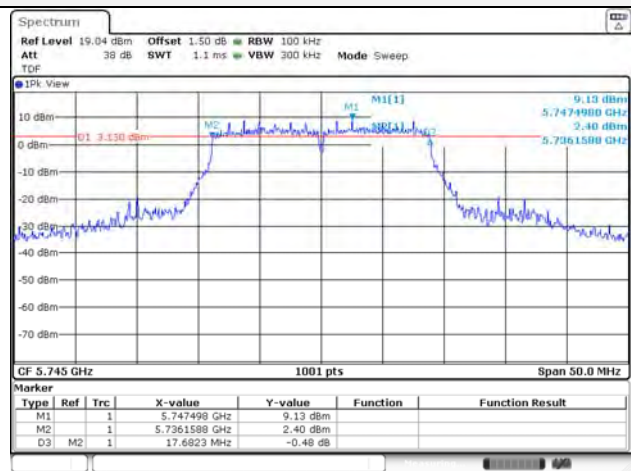


ANT 0**UNII-3 / 802.11a / 5 745 MHz****UNII-3 / 802.11n HT20 / 5 745 MHz****UNII-3 / 802.11a / 5 785 MHz****UNII-3 / 802.11n HT20 / 5 785 MHz****UNII-3 / 802.11a / 5 825 MHz****UNII-3 / 802.11n HT20 / 5 825 MHz**

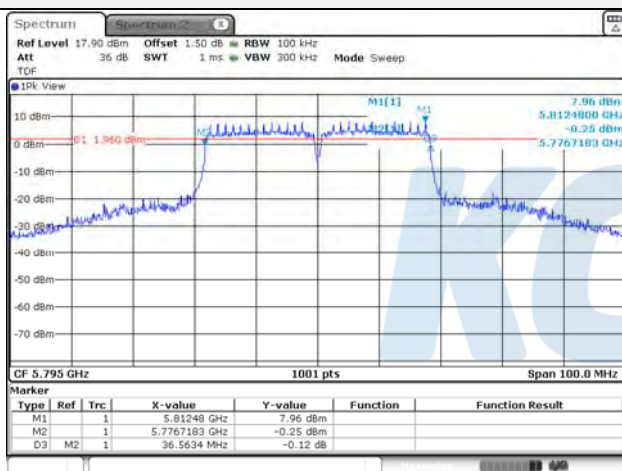
UNII-3 / 802.11n HT40 / 5 755 MHz



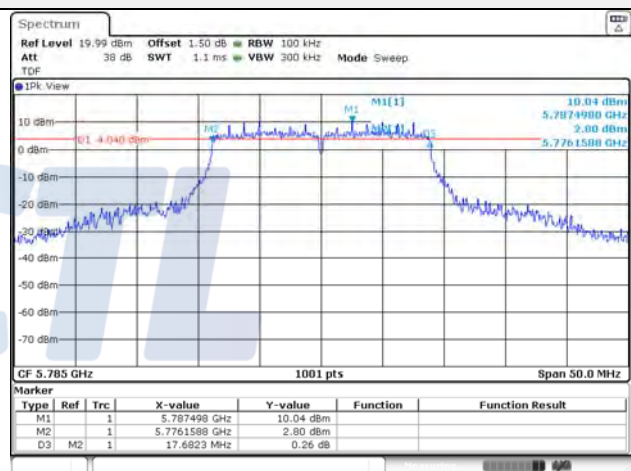
UNII-3 / 802.11ac VHT20 / 5 745 MHz



UNII-3 / 802.11n HT40 / 5 795 MHz

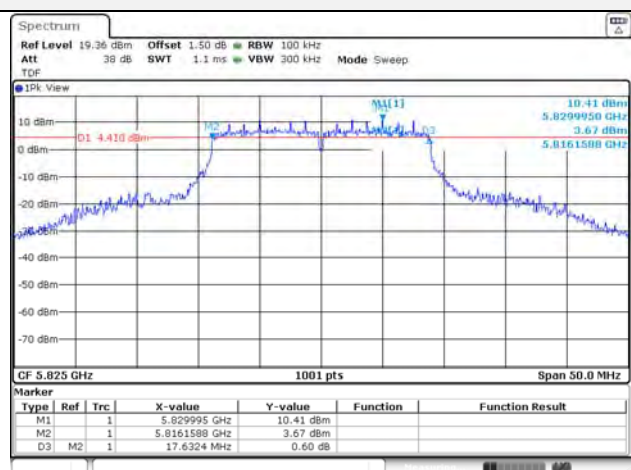


UNII-3 / 802.11ac VHT20 / 5 785 MHz

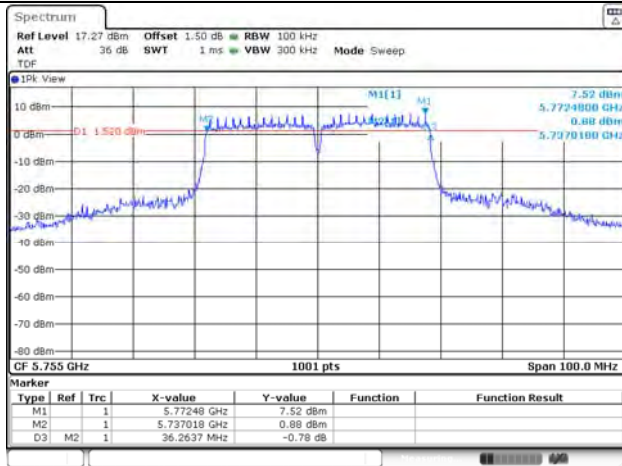


Blank

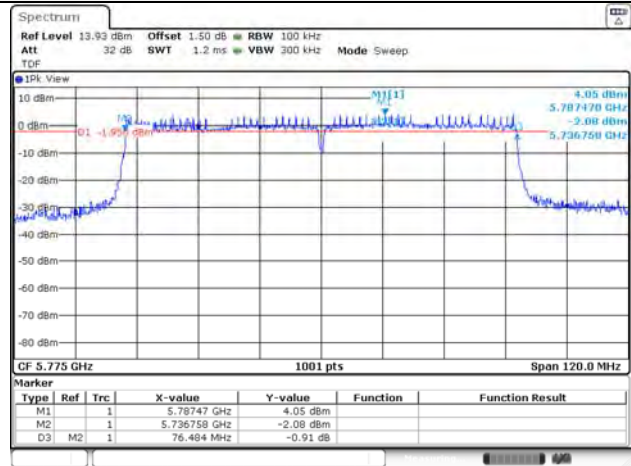
UNII-3 / 802.11ac VHT20 / 5 825 MHz



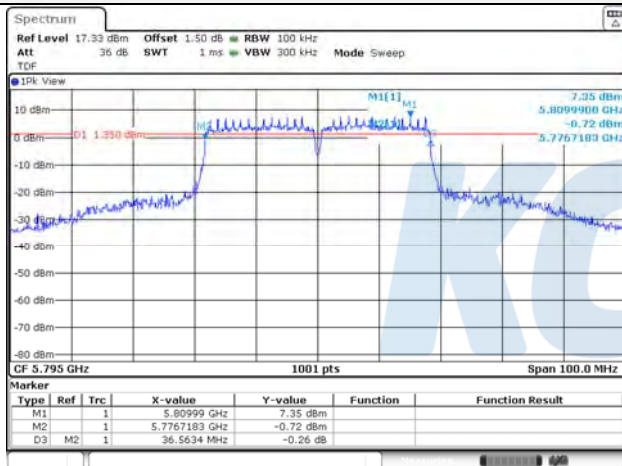
UNII-3 / 802.11ac VHT40 / 5 755 MHz



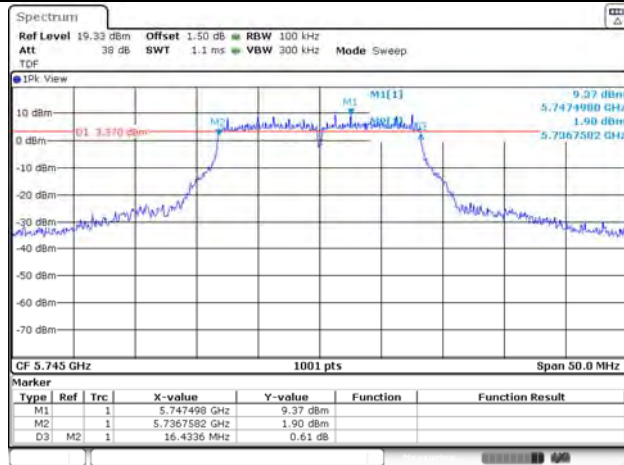
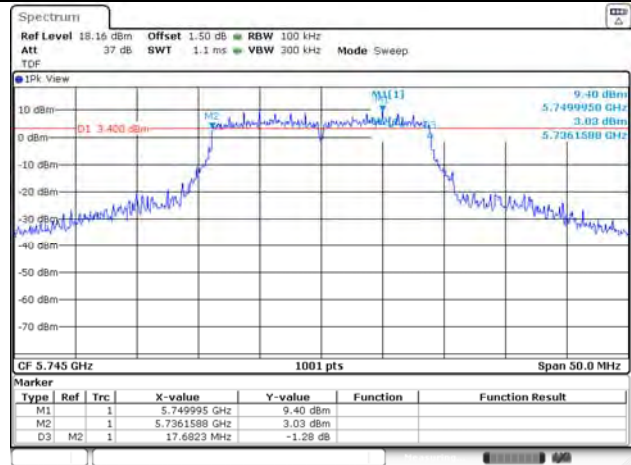
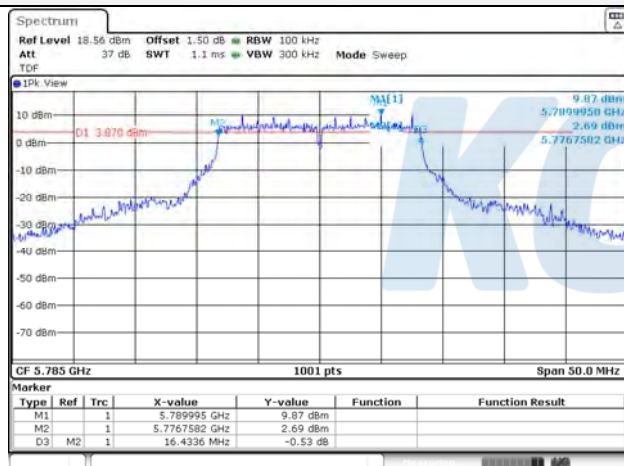
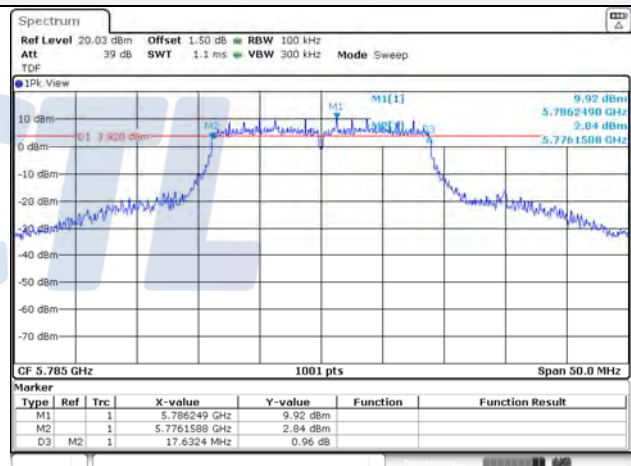
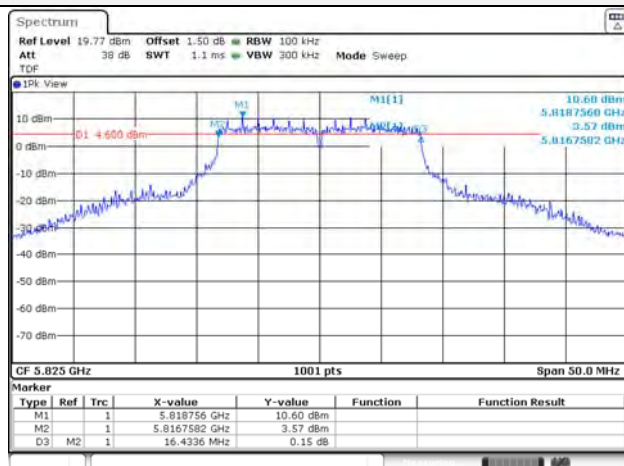
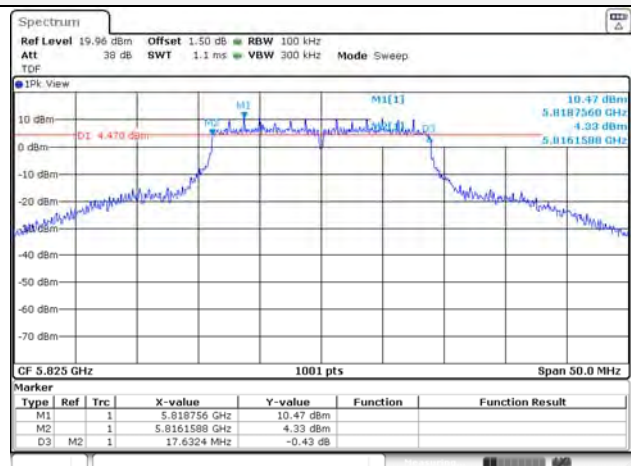
UNII-3 / 802.11ac VHT80 / 5 775 MHz



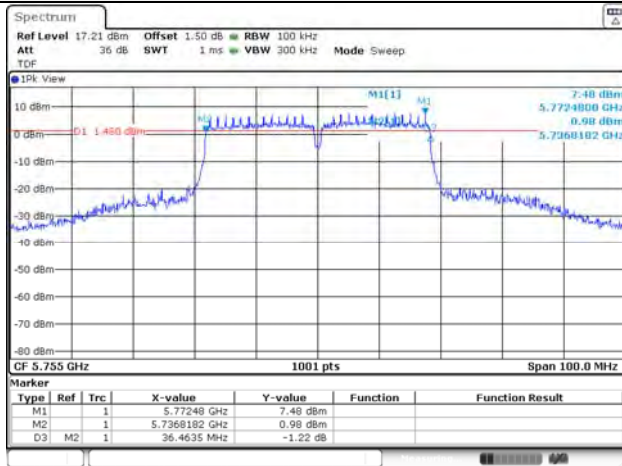
UNII-3 / 802.11ac VHT40 / 5 795 MHz



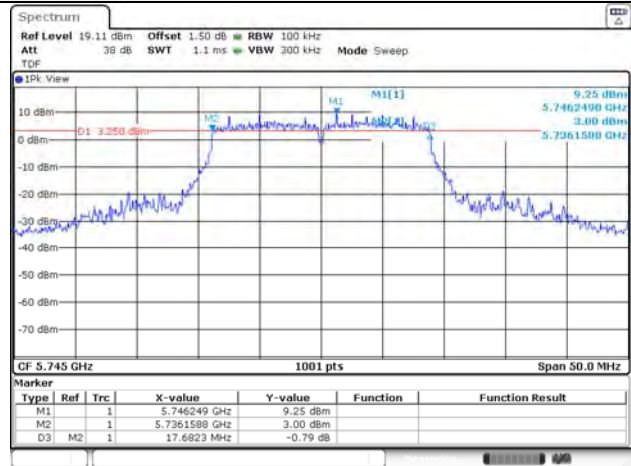
Blank

ANT 1**UNII-3 / 802.11a / 5 745 MHz****UNII-3 / 802.11n HT20 / 5 745 MHz****UNII-3 / 802.11a / 5 785 MHz****UNII-3 / 802.11n HT20 / 5 785 MHz****UNII-3 / 802.11a / 5 825 MHz****UNII-3 / 802.11n HT20 / 5 825 MHz**

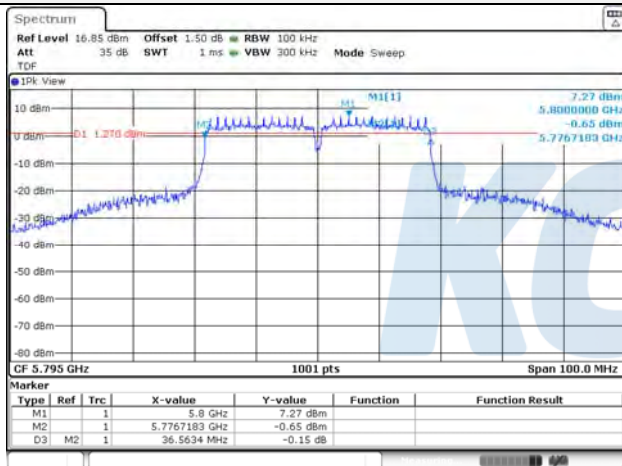
UNII-3 / 802.11n HT40 / 5 755 MHz



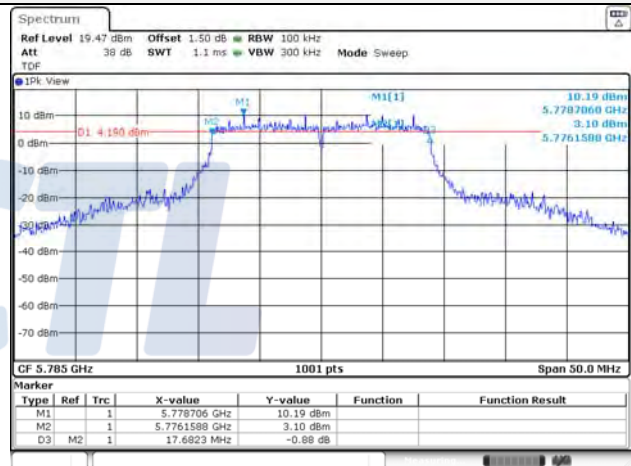
UNII-3 / 802.11ac VHT20 / 5 745 MHz



UNII-3 / 802.11n HT40 / 5 795 MHz

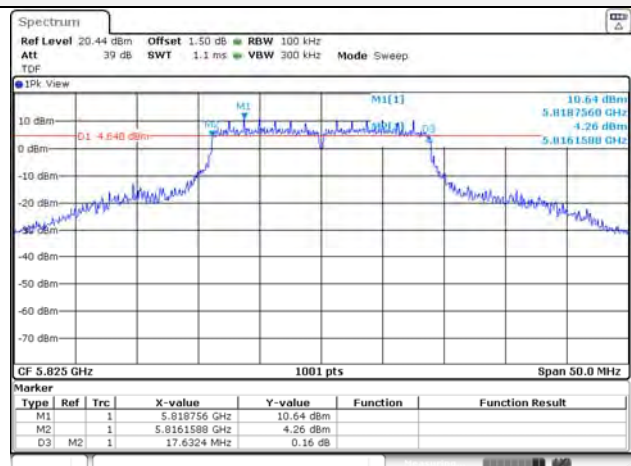


UNII-3 / 802.11ac VHT20 / 5 785 MHz

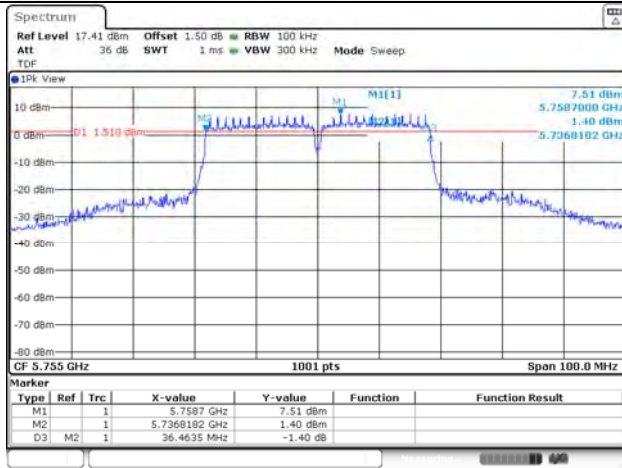


Blank

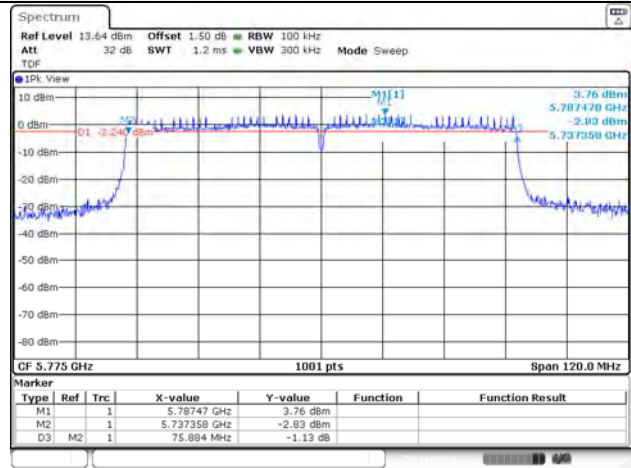
UNII-3 / 802.11ac VHT20 / 5 825 MHz



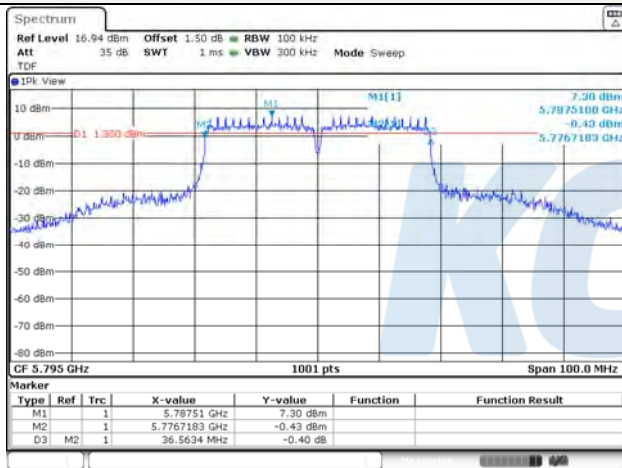
UNII-3 / 802.11ac VHT40 / 5 755 MHz



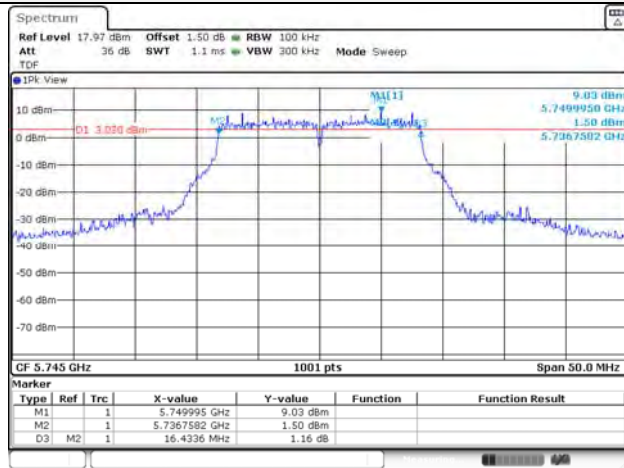
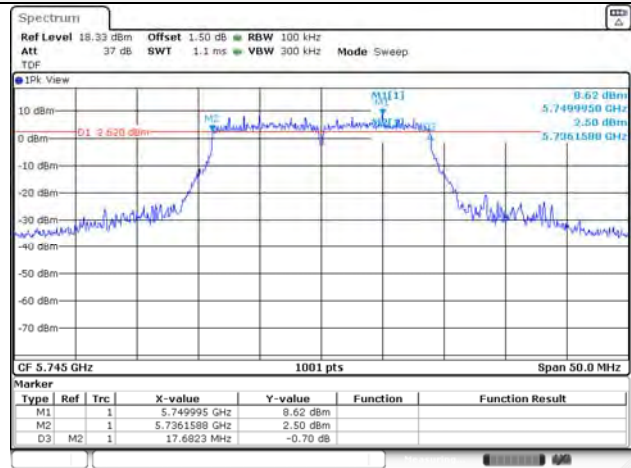
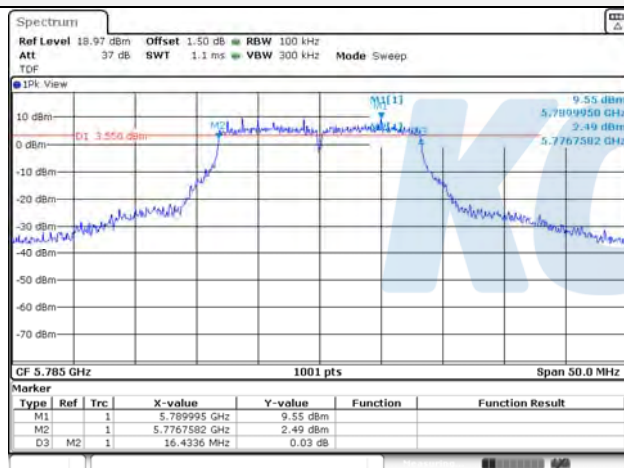
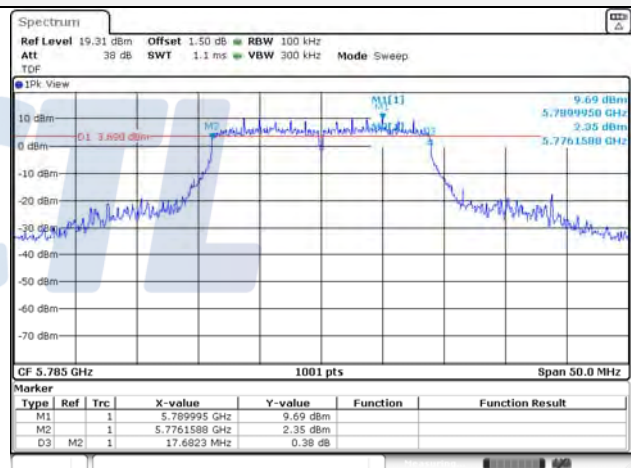
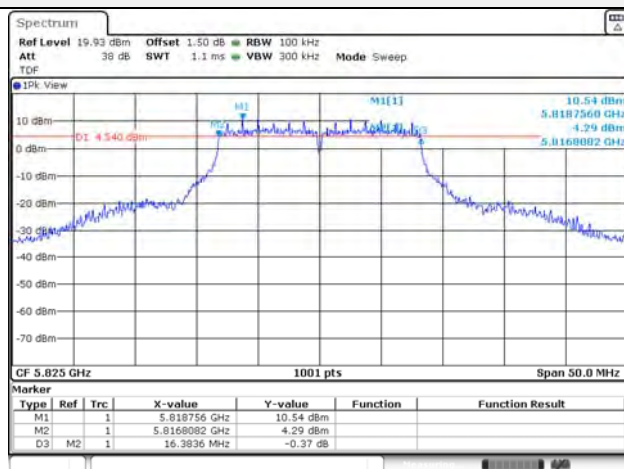
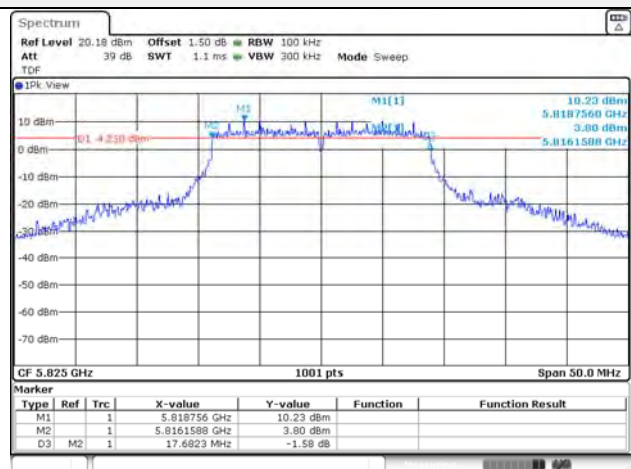
UNII-3 / 802.11ac VHT80 / 5 775 MHz



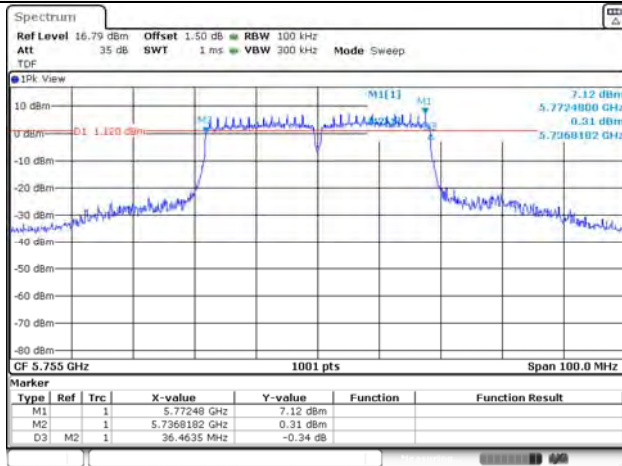
UNII-3 / 802.11ac VHT40 / 5 795 MHz



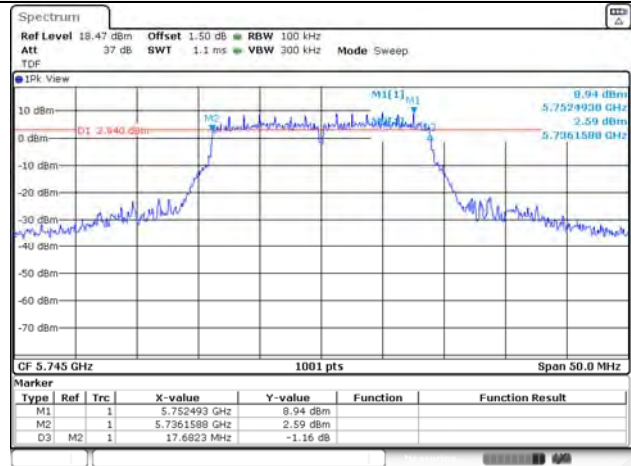
Blank

ANT 2**UNII-3 / 802.11a / 5 745 MHz****UNII-3 / 802.11n HT20 / 5 745 MHz****UNII-3 / 802.11a / 5 785 MHz****UNII-3 / 802.11n HT20 / 5 785 MHz****UNII-3 / 802.11a / 5 825 MHz****UNII-3 / 802.11n HT20 / 5 825 MHz**

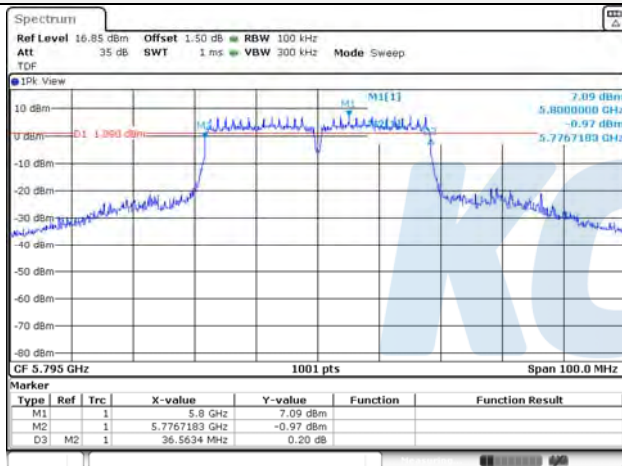
UNII-3 / 802.11n HT40 / 5 755 MHz



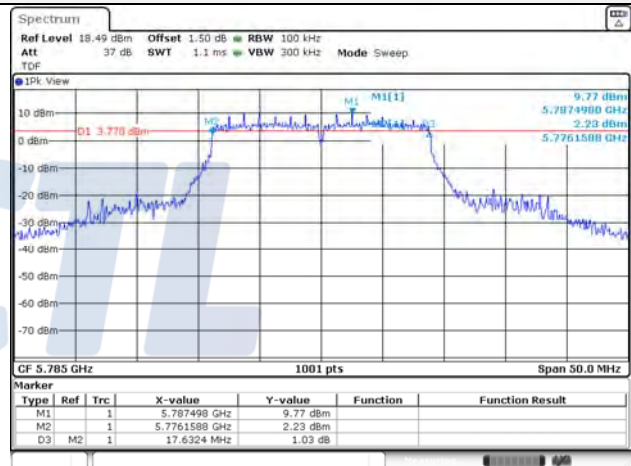
UNII-3 / 802.11ac VHT20 / 5 745 MHz



UNII-3 / 802.11n HT40 / 5 795 MHz

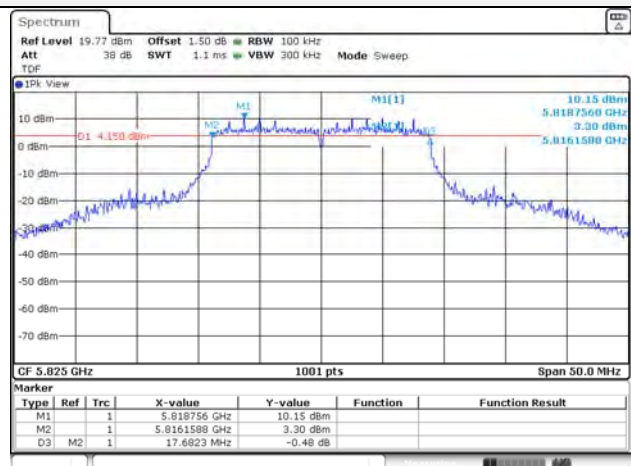


UNII-3 / 802.11ac VHT20 / 5 785 MHz

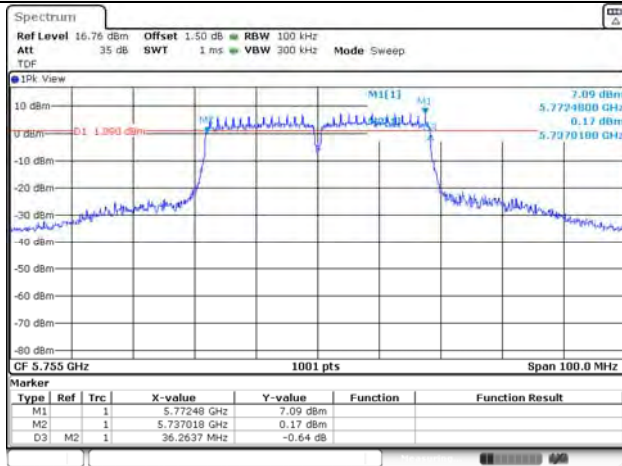


Blank

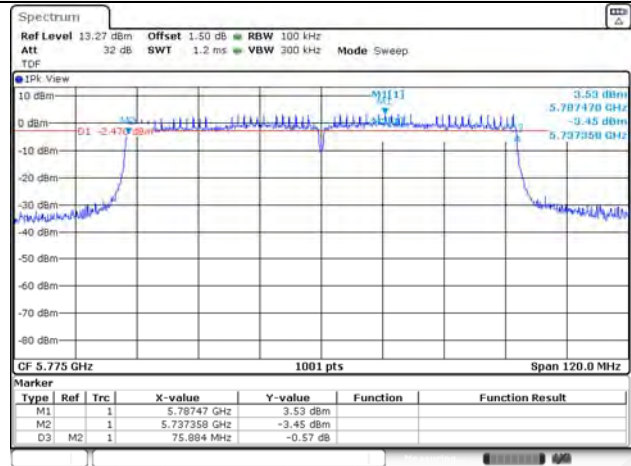
UNII-3 / 802.11ac VHT20 / 5 825 MHz



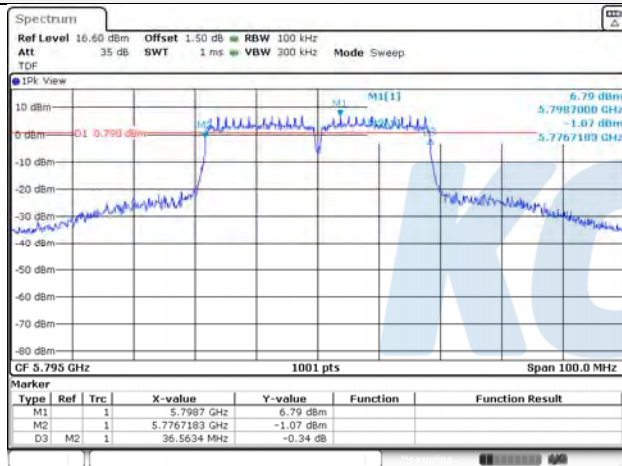
UNII-3 / 802.11ac VHT40 / 5 755 MHz



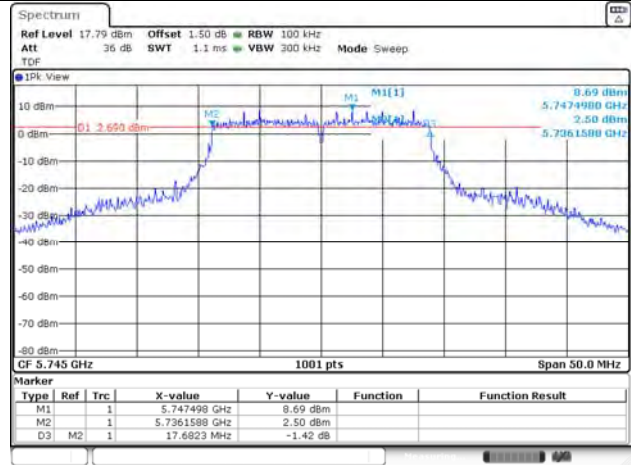
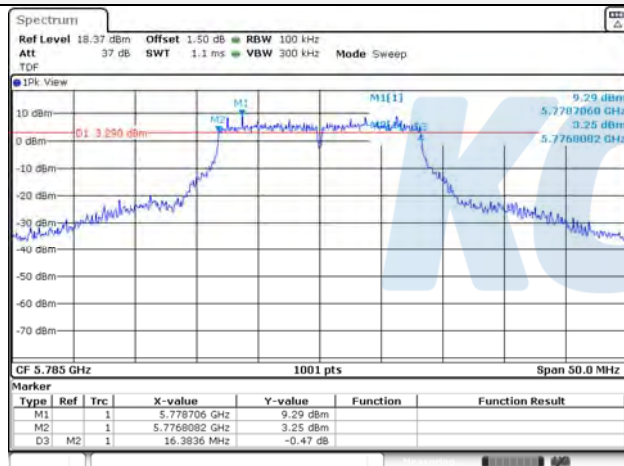
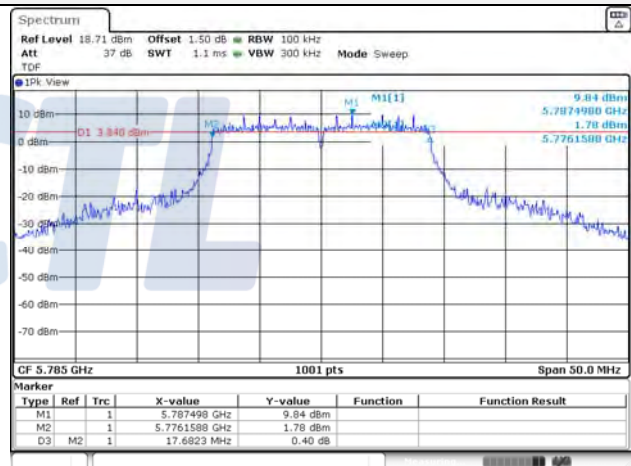
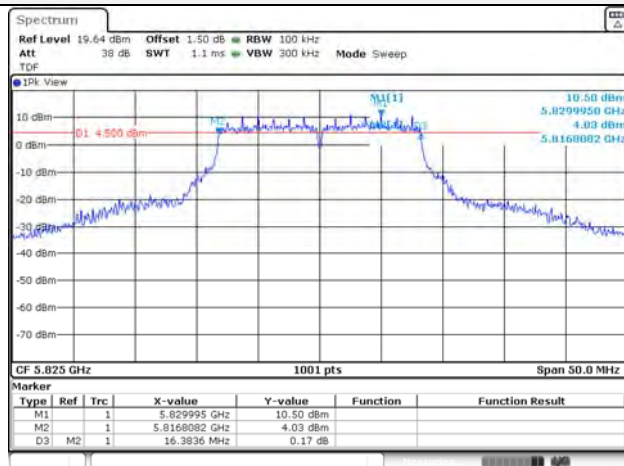
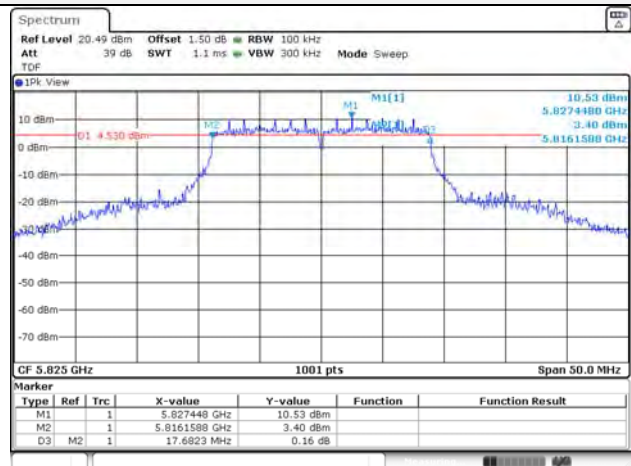
UNII-3 / 802.11ac VHT80 / 5 775 MHz



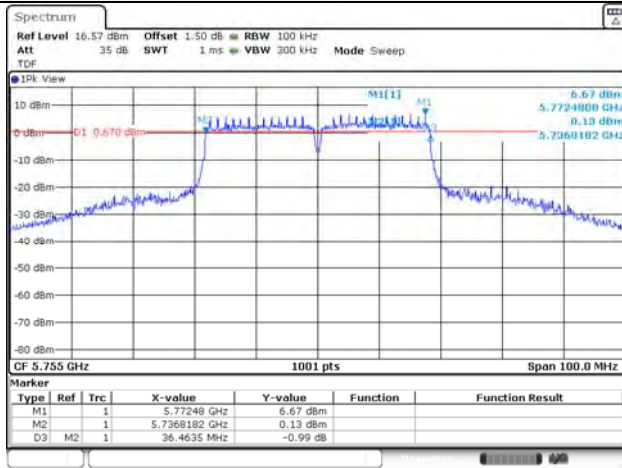
UNII-3 / 802.11ac VHT40 / 5 795 MHz



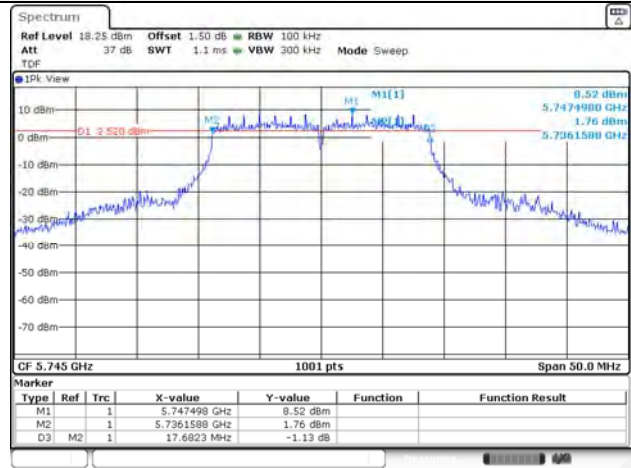
Blank

ANT 3**UNII-3 / 802.11a / 5 745 MHz****UNII-3 / 802.11n HT20 / 5 745 MHz****UNII-3 / 802.11a / 5 785 MHz****UNII-3 / 802.11n HT20 / 5 785 MHz****UNII-3 / 802.11a / 5 825 MHz****UNII-3 / 802.11n HT20 / 5 825 MHz**

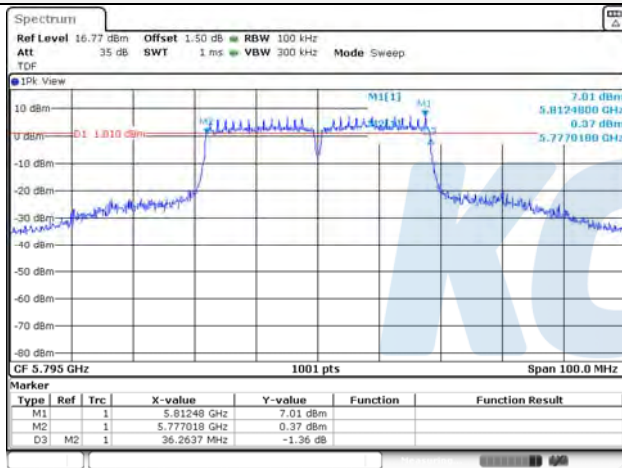
UNII-3 / 802.11n HT40 / 5 755 MHz



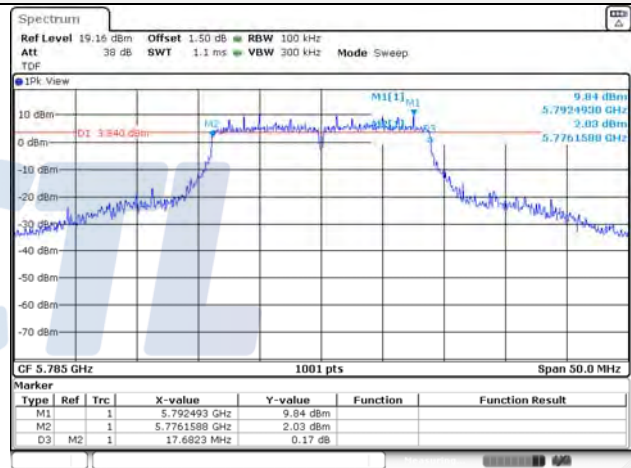
UNII-3 / 802.11ac VHT20 / 5 745 MHz



UNII-3 / 802.11n HT40 / 5 795 MHz

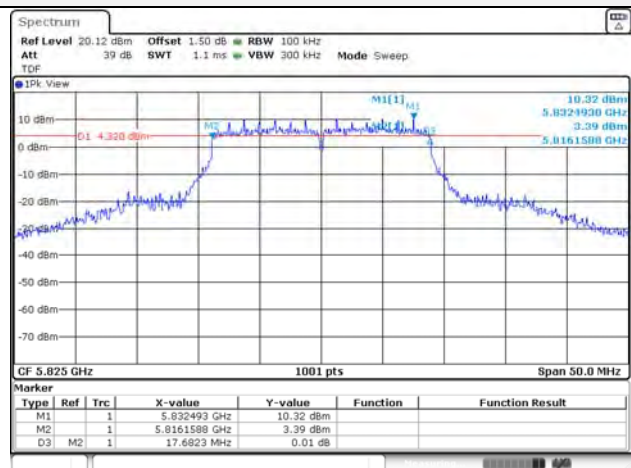


UNII-3 / 802.11ac VHT20 / 5 785 MHz

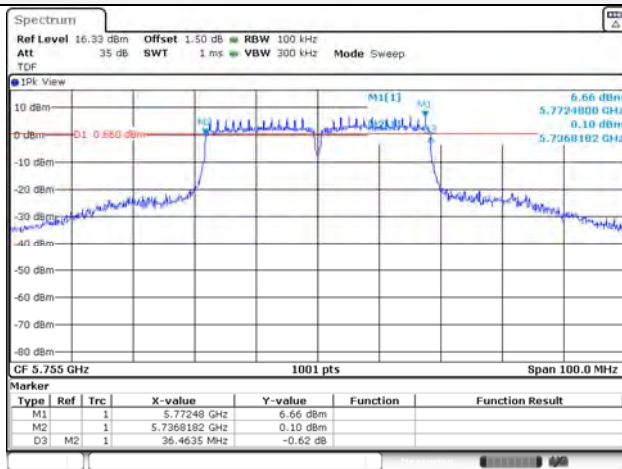


Blank

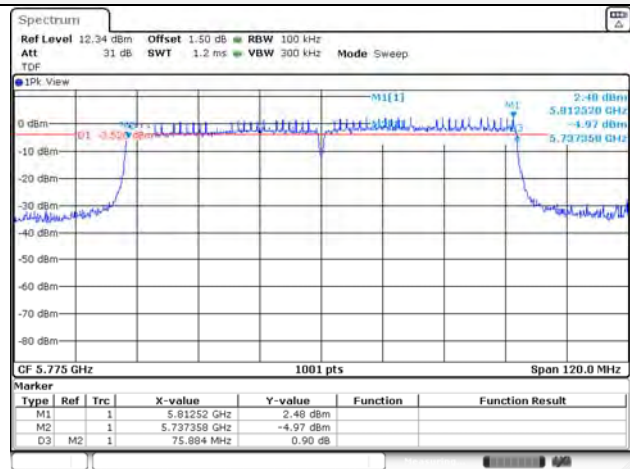
UNII-3 / 802.11ac VHT20 / 5 825 MHz



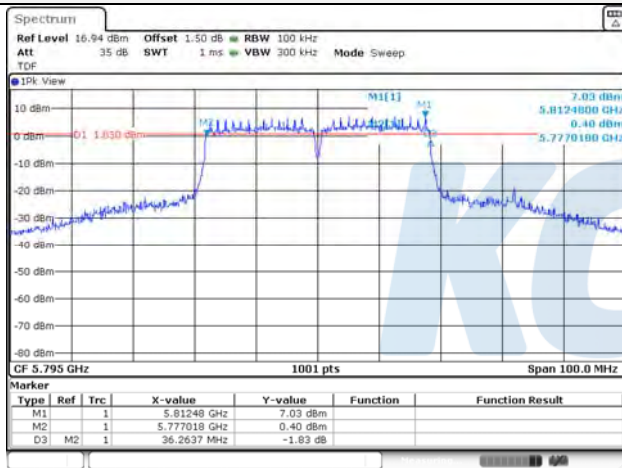
UNII-3 / 802.11ac VHT40 / 5 755 MHz



UNII-3 / 802.11ac VHT80 / 5 775 MHz



UNII-3 / 802.11ac VHT40 / 5 795 MHz



Blank

7.5. Straddle channel

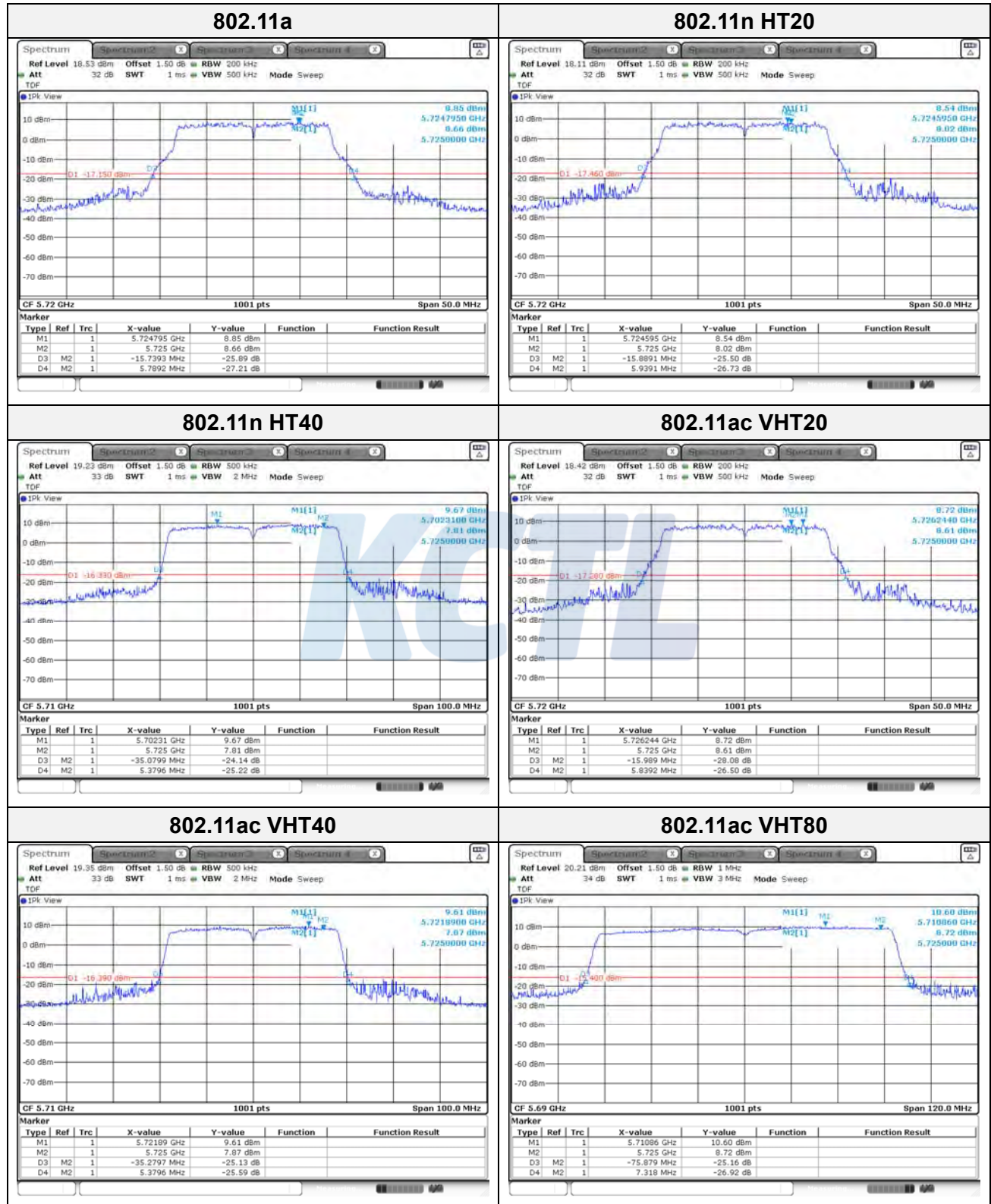
26dB bandwidth

Test mode	Band	Frequency (MHz)	26dB Bandwidth (MHz)			
			ANT0	ANT1	ANT2	ANT3
802.11a	UNII-2C	5 720	15.74	15.64	15.74	15.69
802.11n HT20			15.89	15.69	15.79	15.84
802.11ac VHT20			15.99	15.79	16.04	15.74
802.11a	UNII-3	5 720	5.79	5.69	5.74	5.74
802.11n HT20			5.94	5.89	5.89	5.99
802.11ac VHT20			5.84	5.94	5.89	6.14
802.11n HT40	UNII-2C	5 710	35.08	35.18	35.08	35.68
802.11ac VHT40			35.28	35.58	35.18	35.18
802.11n HT40	UNII-3	5 710	5.38	5.28	5.28	5.48
802.11ac VHT40			5.38	5.48	5.48	6.88
802.11ac VHT80	UNII-2C	5 690	75.88	76.00	76.00	76.24
	UNII-3	5 690	7.32	6.60	6.60	6.48

Notes:

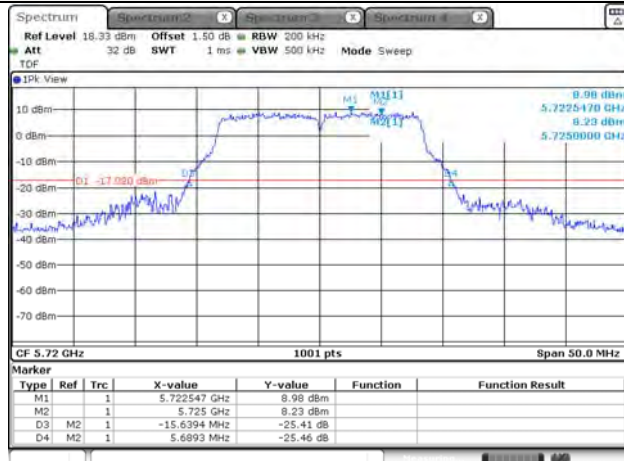
1. [UNII-2C] 26dB Bandwidth = 5 725 MHz – Measured Frequency[MHz]
2. [UNII-3] 26dB Bandwidth = Measured Frequency[MHz] – 5 725 MHz

ANT 0

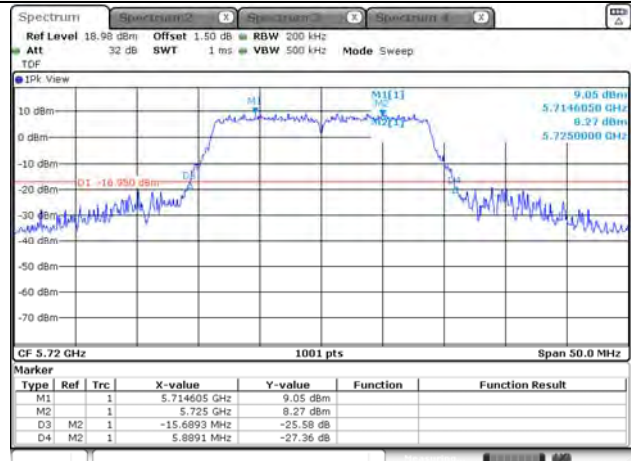


ANT 1

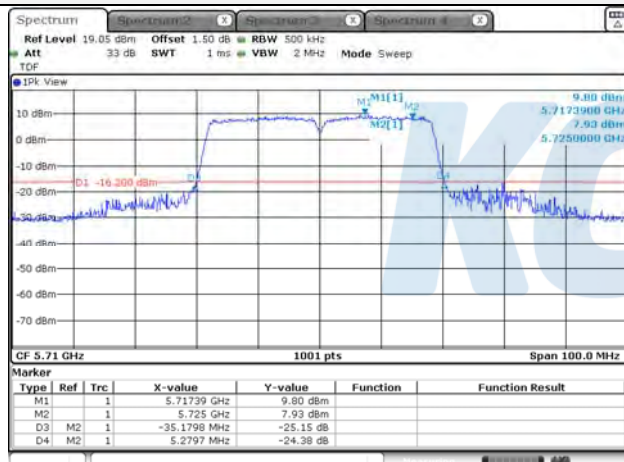
802.11a



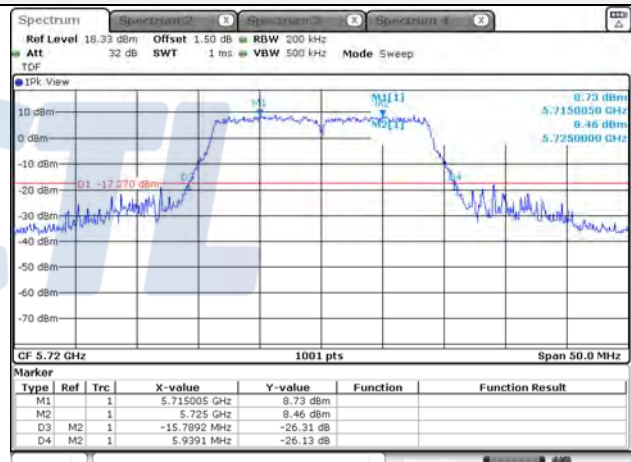
802.11n HT20



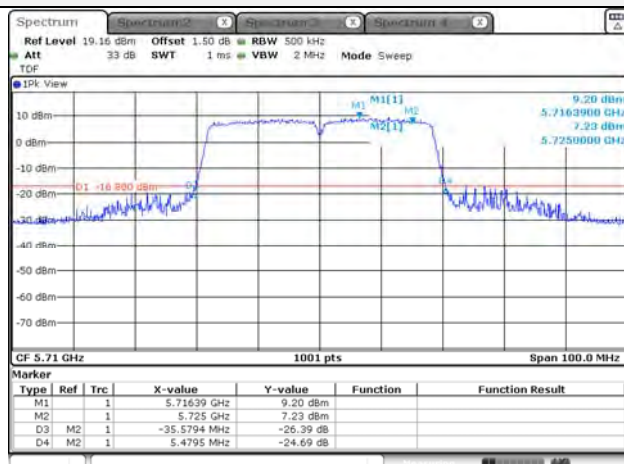
802.11n HT40



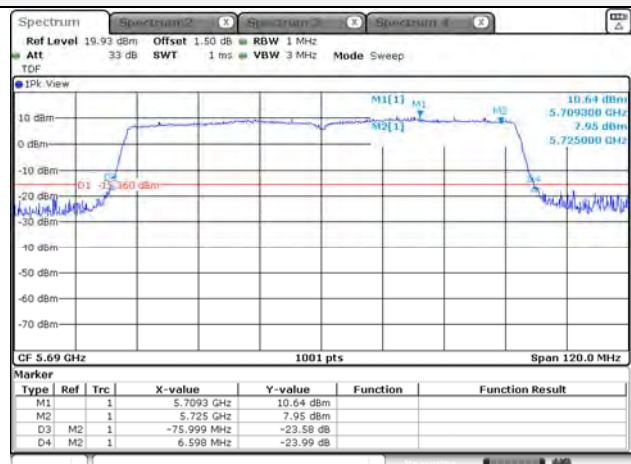
802.11ac VHT20



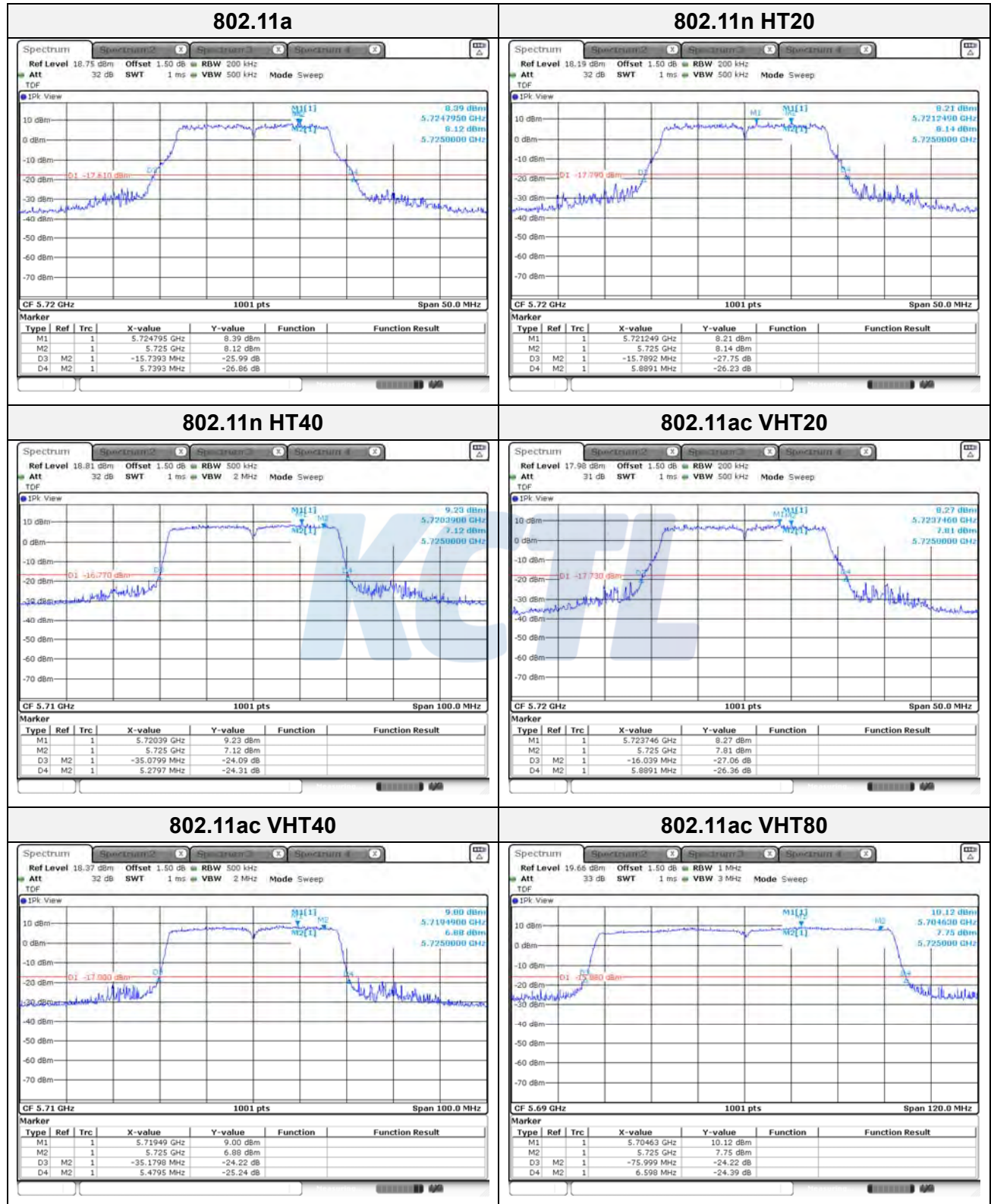
802.11ac VHT40



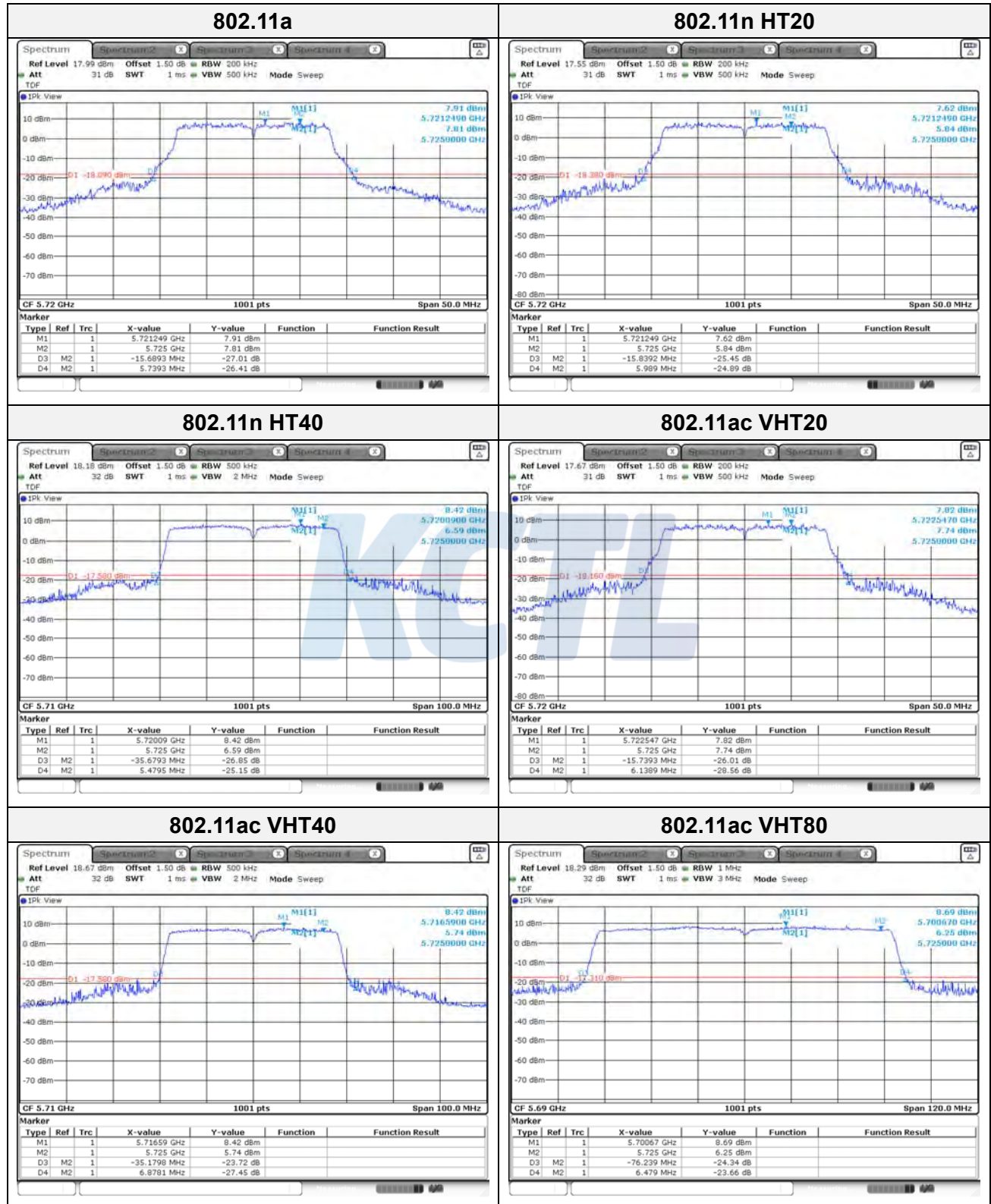
802.11ac VHT80



ANT 2



ANT 3



6dB bandwidth

Test mode	Band	Frequency (MHz)	6dB Bandwidth (MHz)				Limit (MHz)
			ANT0	ANT1	ANT2	ANT3	
802.11a	UNII-3	5 720	3.24	3.24	3.24	3.24	0.5
802.11n HT20			3.84	3.84	3.84	3.84	0.5
802.11ac VHT20			3.84	3.84	3.84	3.84	0.5
802.11n HT40	UNII-3	5 710	3.28	3.28	3.28	3.28	0.5
802.11ac VHT40			3.28	3.28	3.28	3.28	0.5
802.11ac VHT80	UNII-3	5 690	3.36	3.36	3.24	3.36	0.5

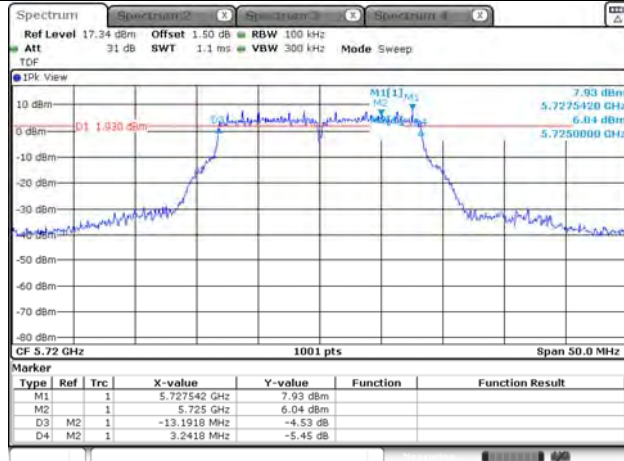
Notes:

1. 6dB Bandwidth = Measured Frequency[MHz] – 5 725 MHz

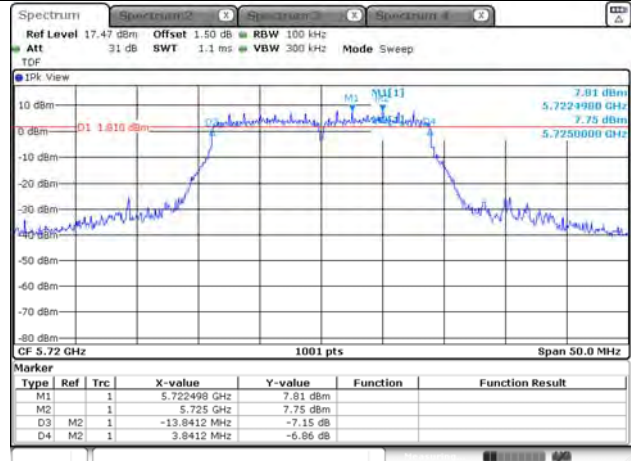
KCTL

ANT 0

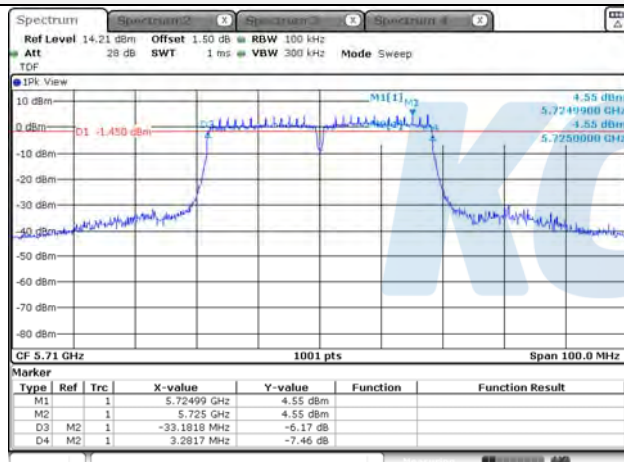
802.11a



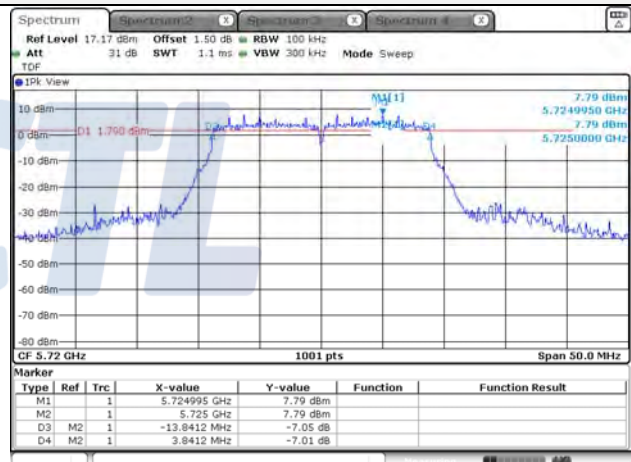
802.11n HT20



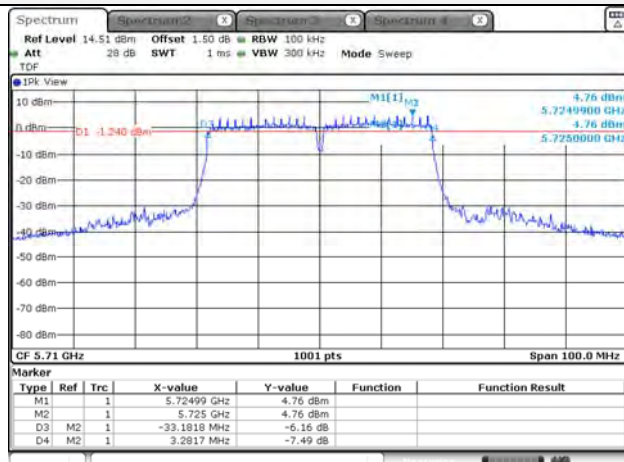
802.11n HT40



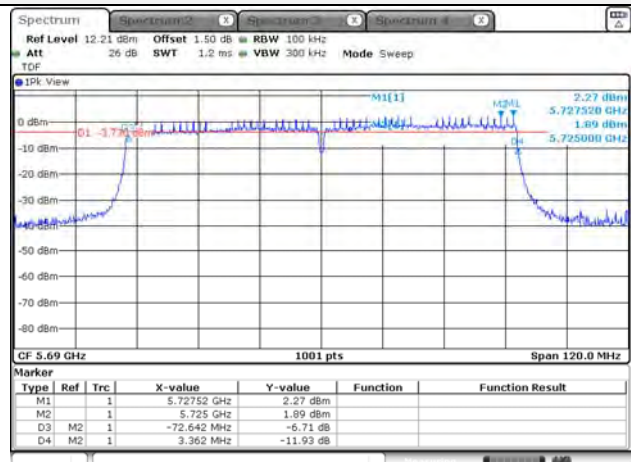
802.11ac VHT20

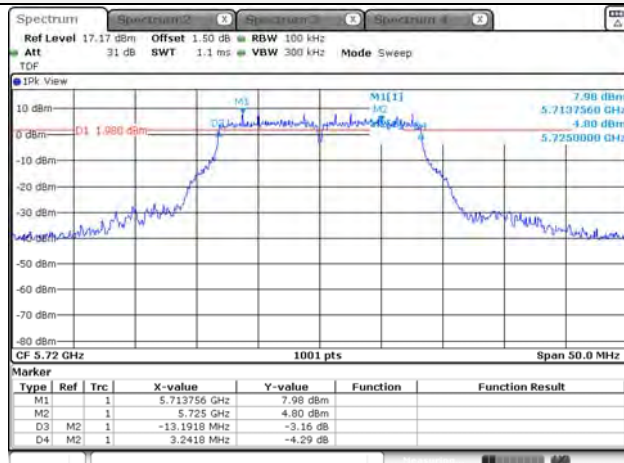
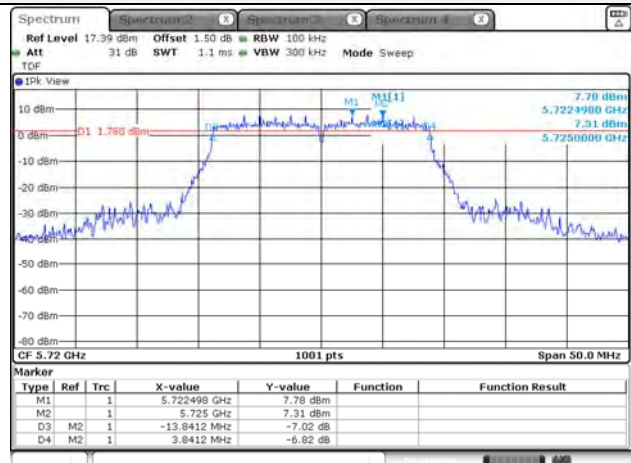
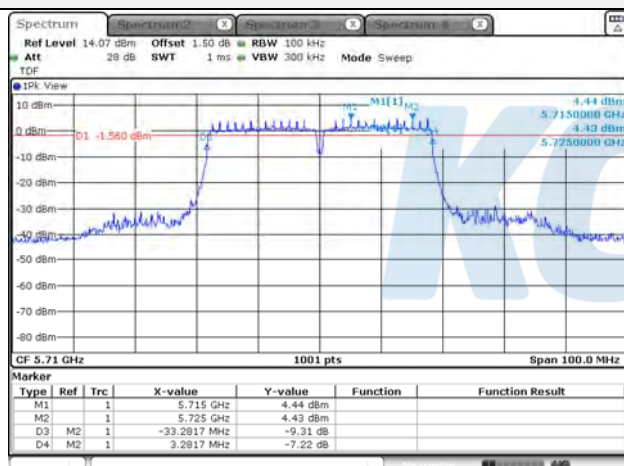
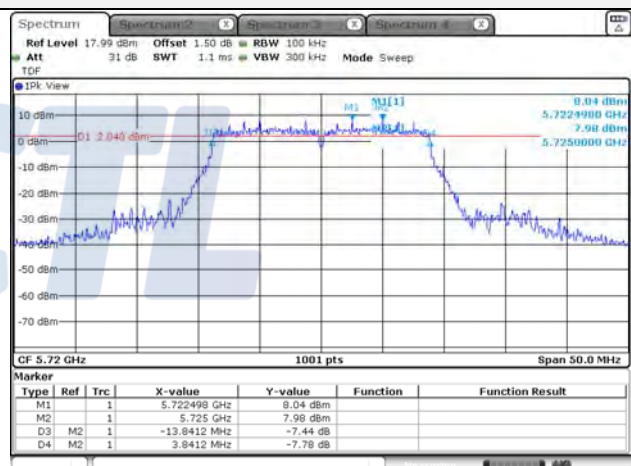
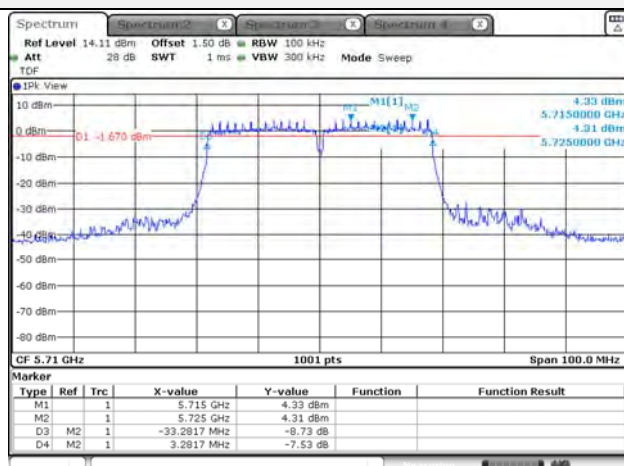
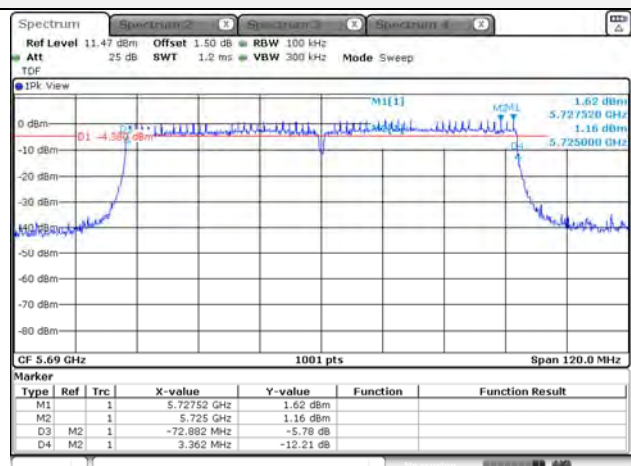


802.11ac VHT40

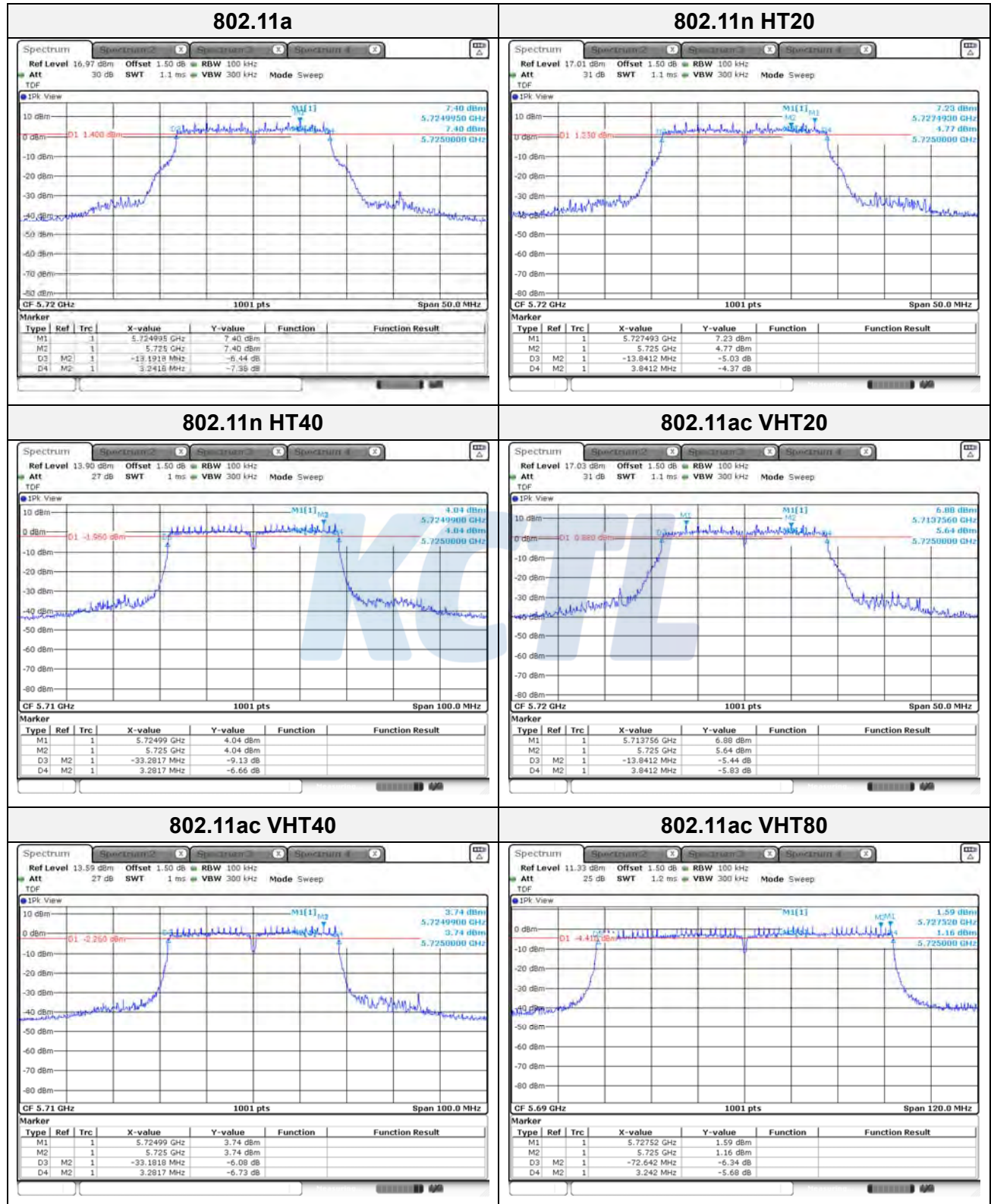


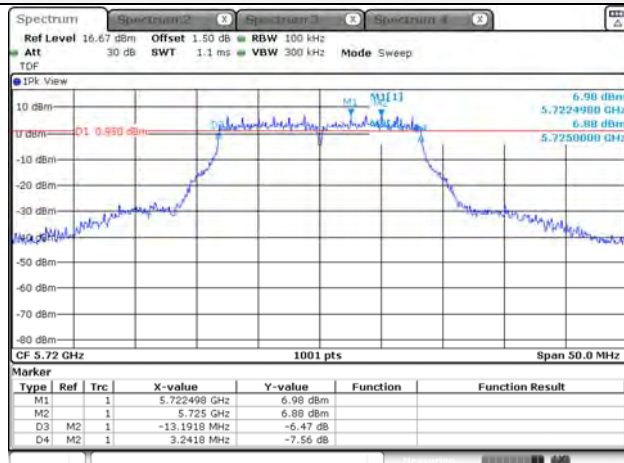
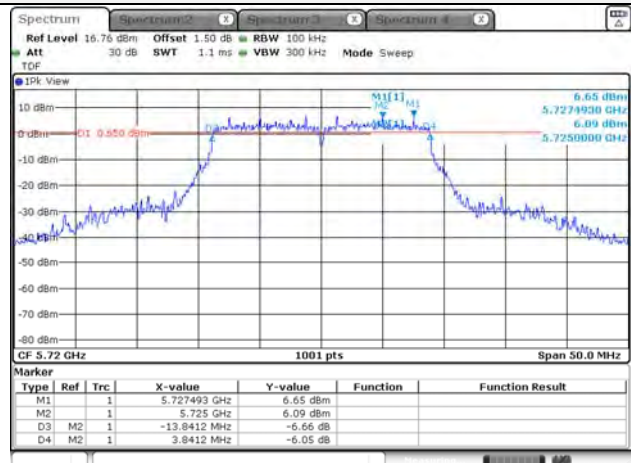
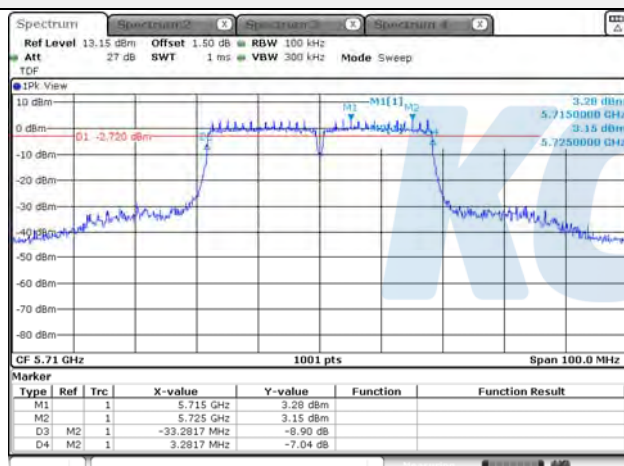
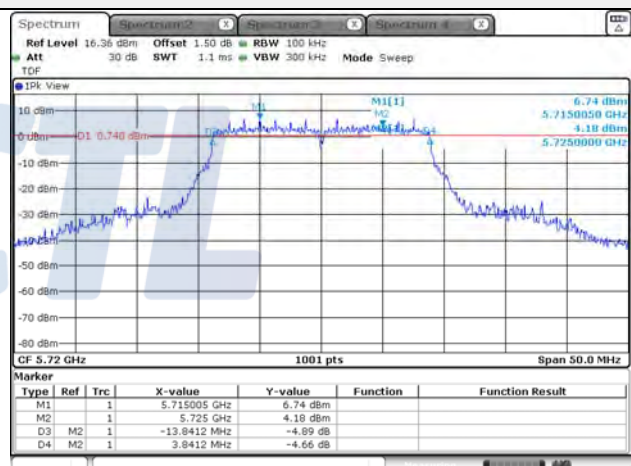
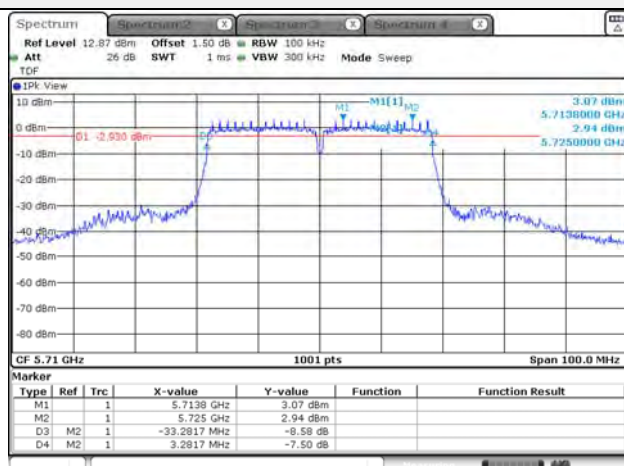
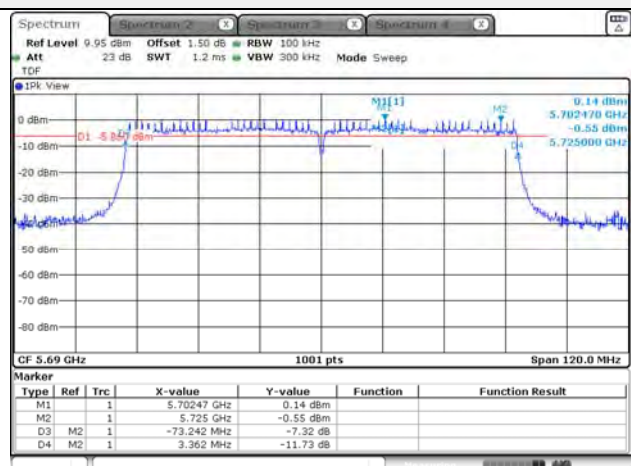
802.11ac VHT80



ANT 1**802.11a****802.11n HT20****802.11n HT40****802.11ac VHT20****802.11ac VHT40****802.11ac VHT80**

ANT 2



ANT 3**802.11a****802.11n HT20****802.11n HT40****802.11ac VHT20****802.11ac VHT40****802.11ac VHT80**

Output Power
-SISO

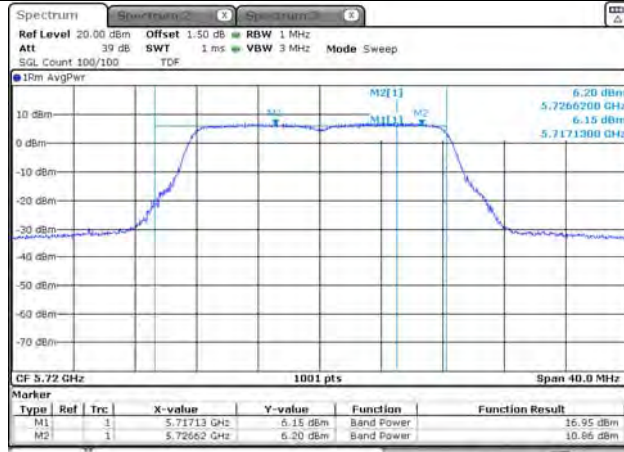
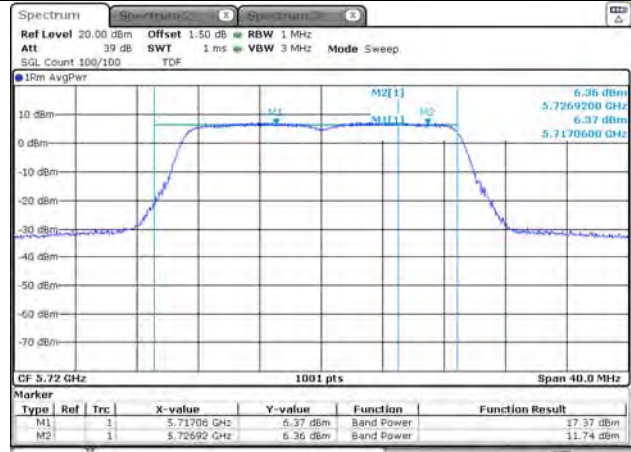
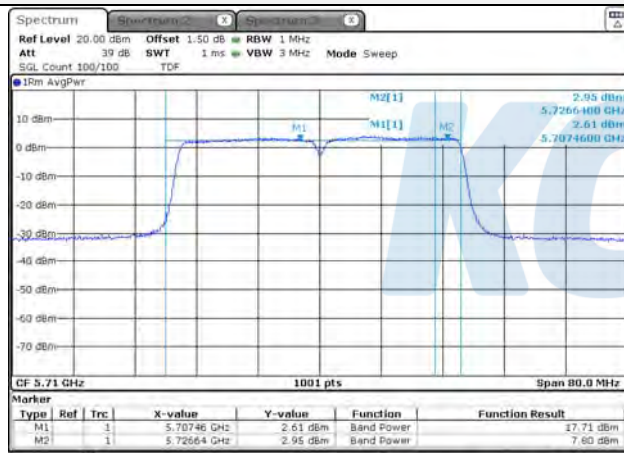
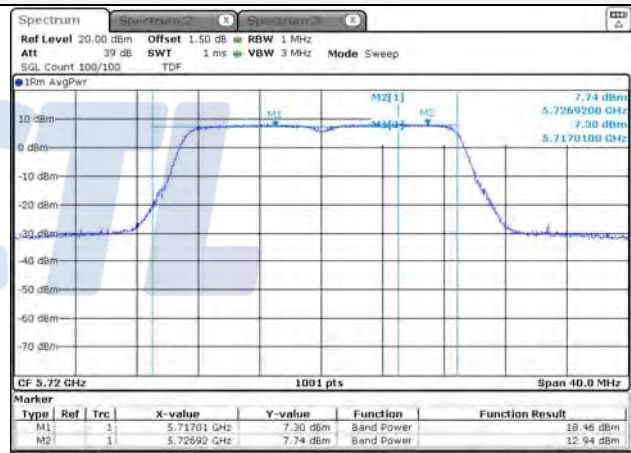
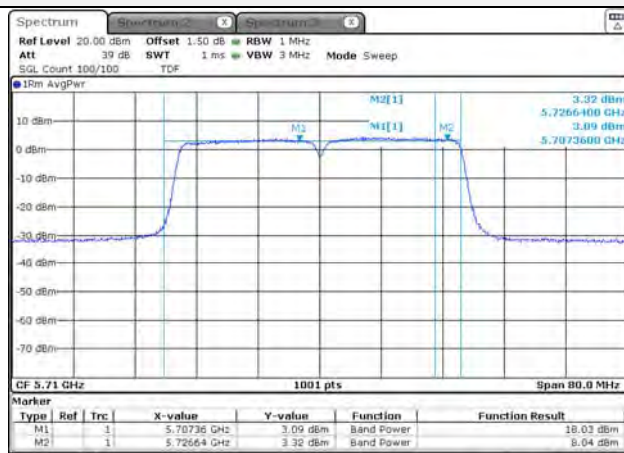
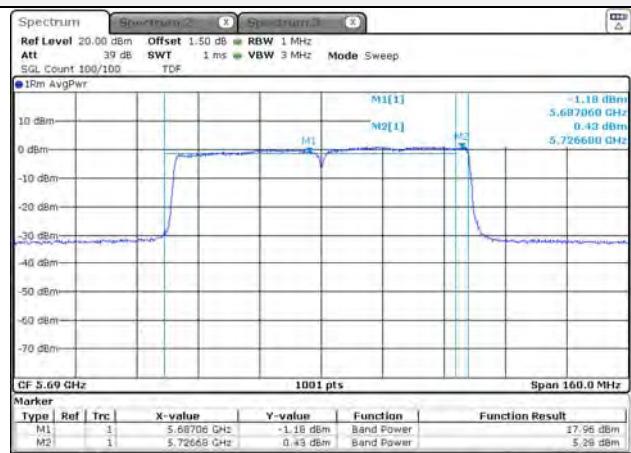
Test mode	Band	Frequency (MHz)	Measured output power									Limit (dBm)
			Reading (dBm)				DCF (dB)	Result (dBm)				
			ANT0	ANT1	ANT2	ANT3		ANT0	ANT1	ANT2	ANT3	
802.11a	UNII-2C	5 720	16.95	17.19	16.83	16.29	0.22	17.17	17.41	17.05	16.51	24.00
802.11n HT20			17.37	17.90	17.53	17.20	0.22	17.59	18.12	17.75	17.42	
802.11ac VHT20			18.46	18.37	17.67	17.55	-	18.46	18.37	17.67	17.55	
802.11a	UNII-3	5 720	10.86	10.95	10.78	10.07	0.22	11.08	11.17	11.00	10.29	30.00
802.11n HT20			11.74	12.35	11.87	11.45	0.22	11.96	12.57	12.09	11.67	
802.11ac VHT20			12.94	12.61	12.08	11.79	-	12.94	12.61	12.08	11.79	
802.11n HT40	UNII-2C	5 710	17.71	17.58	17.28	16.59	0.44	18.15	18.02	17.72	17.03	24.00
802.11ac VHT40			18.03	18.11	17.37	17.03	0.13	18.16	18.24	17.50	17.16	
802.11n HT40	UNII-3	5 710	7.80	7.64	7.31	6.33	0.44	8.24	8.08	7.75	6.77	30.00
802.11ac VHT40			8.04	8.05	7.37	6.57	0.13	8.17	8.18	7.50	6.70	
802.11ac VHT80	UNII-2C	5 690	17.96	17.77	17.46	16.45	0.27	18.23	18.04	17.73	16.72	24.00
	UNII-3	5 690	5.28	4.78	4.33	2.61	0.27	5.55	5.05	4.60	2.88	30.00

-MIMO

Test mode	Band	Frequency (MHz)	Measured output power						Limit (dBm)
			Reading (dBm)				DCF (dB)	Result (dBm)	
			ANT0	ANT1	ANT2	ANT3			
802.11a	UNII-2C	5 720	13.51	13.62	13.24	13.15	0.22	19.63	24.00
802.11n HT20			13.25	13.56	12.42	12.89	0.22	19.29	
802.11ac VHT20			13.54	13.58	12.47	12.83	-	19.15	
802.11a	UNII-3	5 720	7.32	7.48	6.79	6.79	0.22	13.35	30.00
802.11n HT20			7.52	7.90	6.79	7.02	0.22	13.57	
802.11ac VHT20			7.96	7.85	6.76	7.02	-	13.45	
802.11n HT40	UNII-2C	5 710	16.74	16.64	15.65	15.60	0.44	22.65	24.00
802.11ac VHT40			17.09	17.03	16.60	16.17	0.13	22.89	
802.11n HT40	UNII-3	5 710	6.82	6.36	5.35	5.23	0.44	12.45	30.00
802.11ac VHT40			7.16	6.80	6.57	5.82	0.13	12.77	
802.11ac VHT80	UNII-2C	5 690	16.95	16.69	16.41	15.64	0.27	22.74	24.00
	UNII-3	5 690	4.13	3.62	3.28	1.89	0.27	9.60	30.00

Note.

1. Result(dB m) = $10\log(10^{(\text{ANT } 0/10)} + 10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)} + 10^{(\text{ANT } 3/10)}) + \text{Duty Cycle Factor (dB)}$

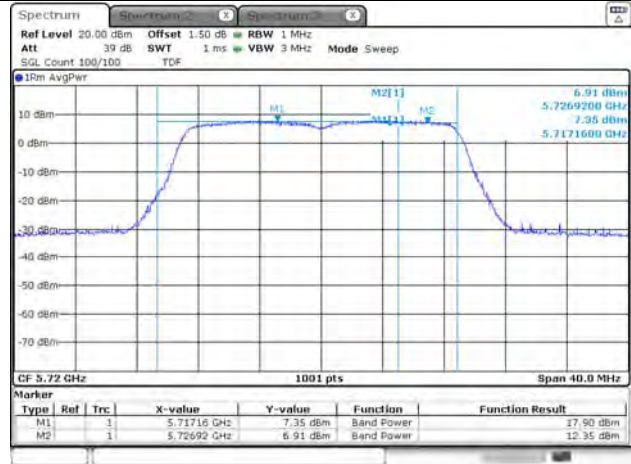
SISO ANT 0**802.11a****802.11n HT20****802.11n HT40****802.11ac VHT20****802.11ac VHT40****802.11ac VHT80**

SISO ANT 1

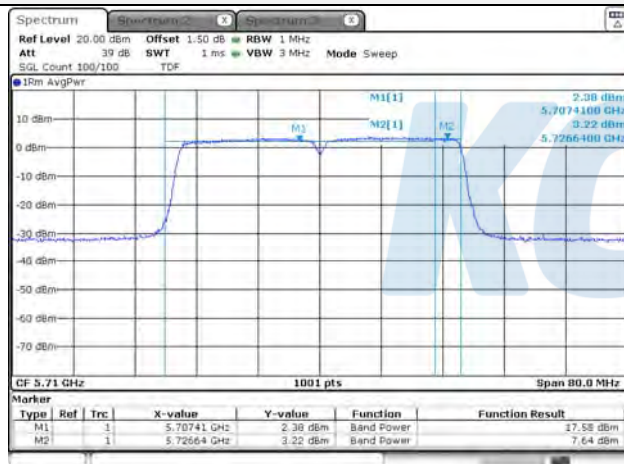
802.11a



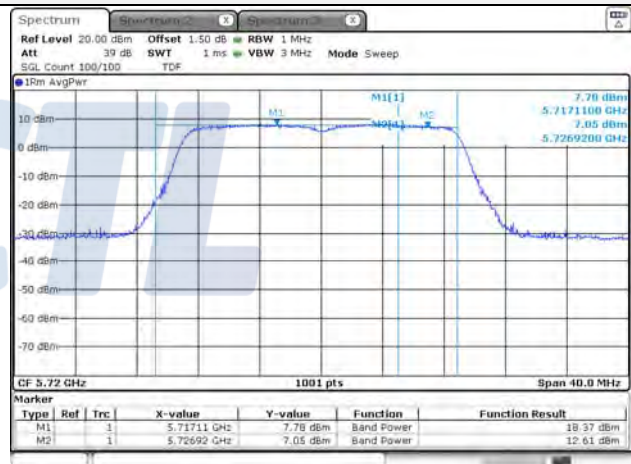
802.11n HT20



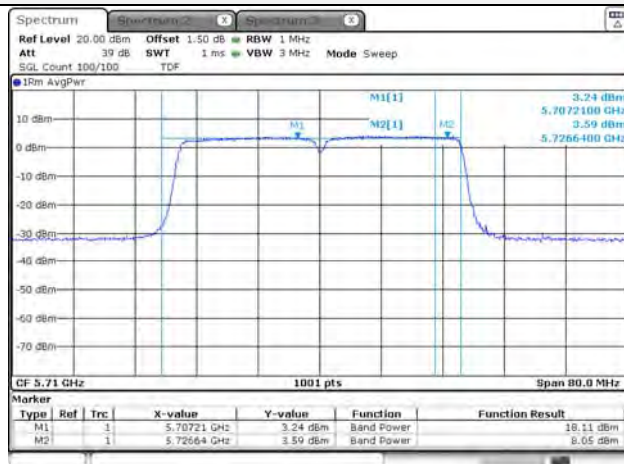
802.11n HT40



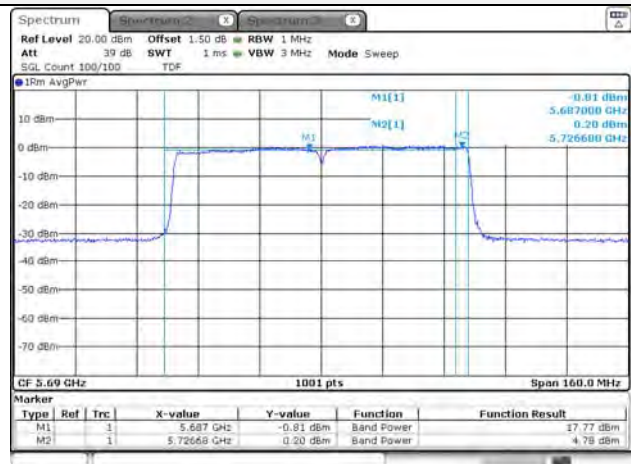
802.11ac VHT20

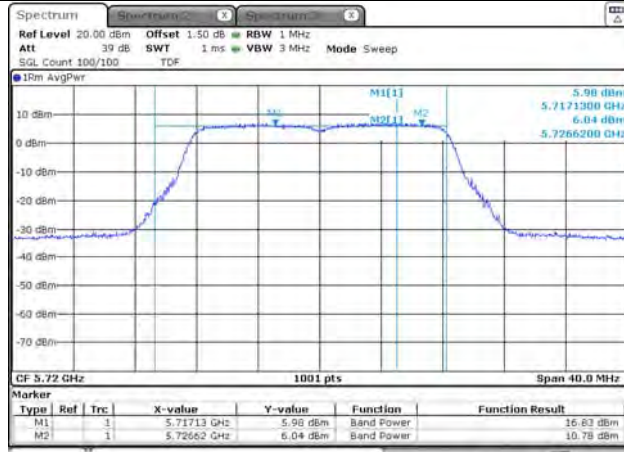
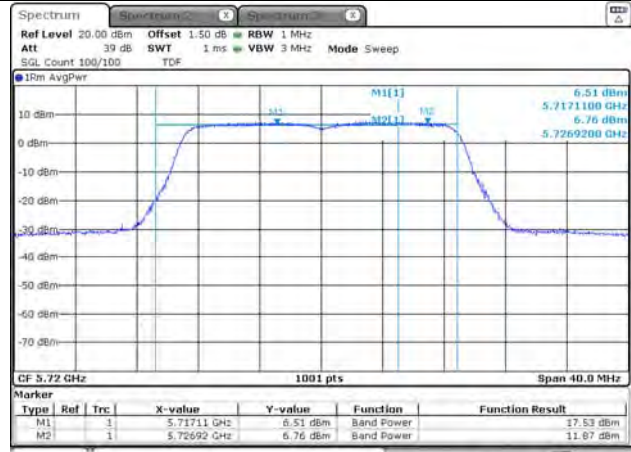
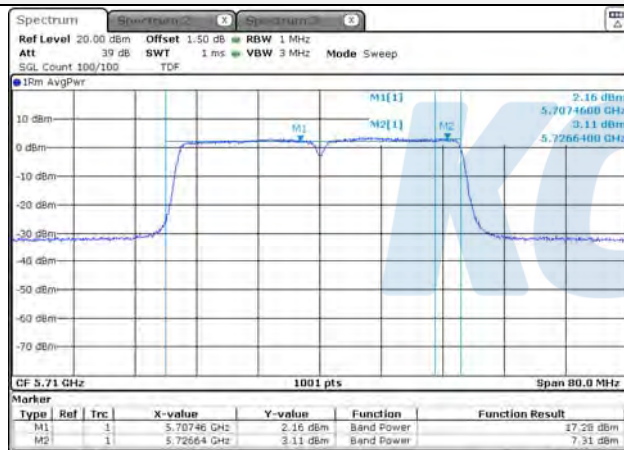
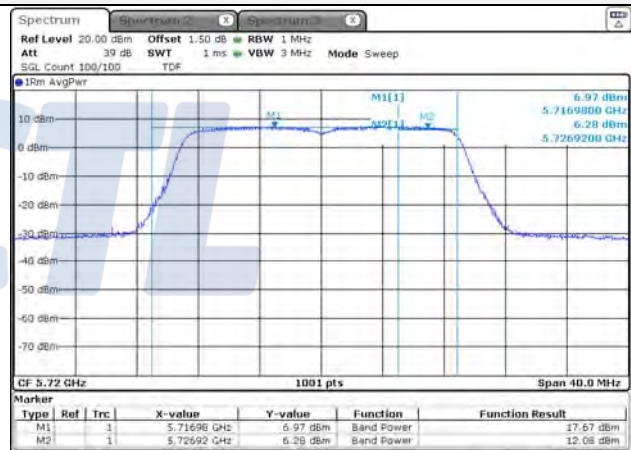
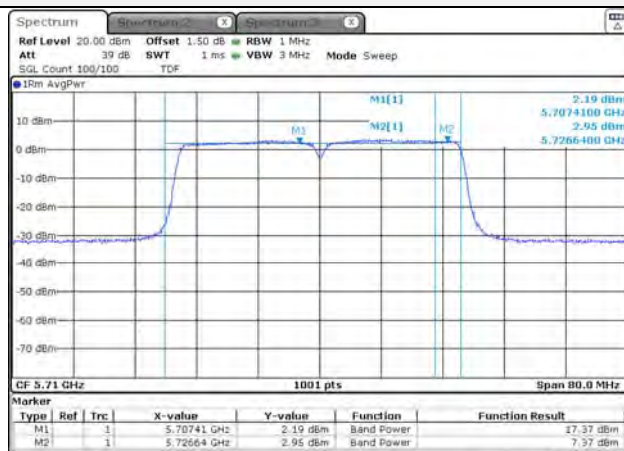
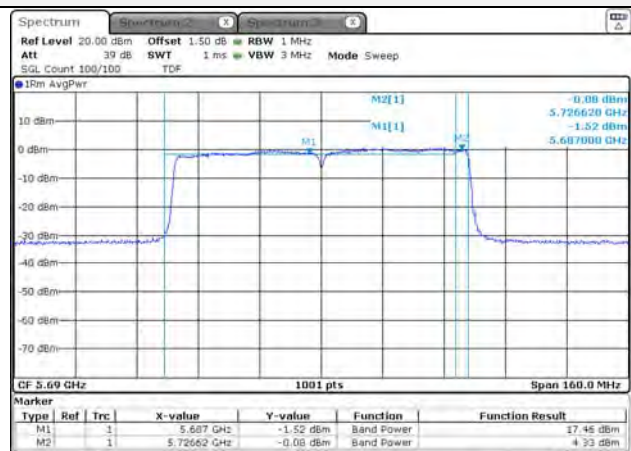


802.11ac VHT40



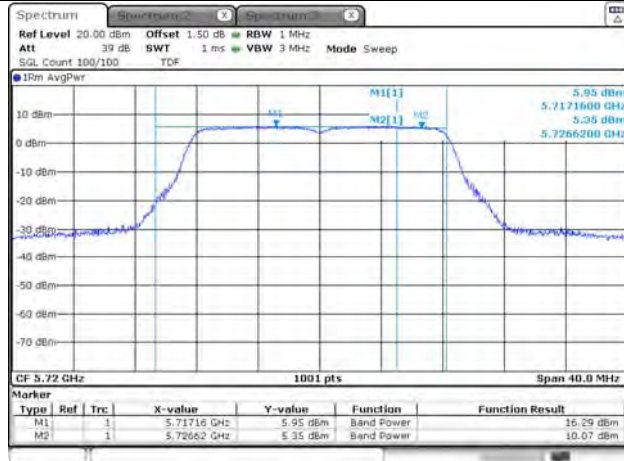
802.11ac VHT80



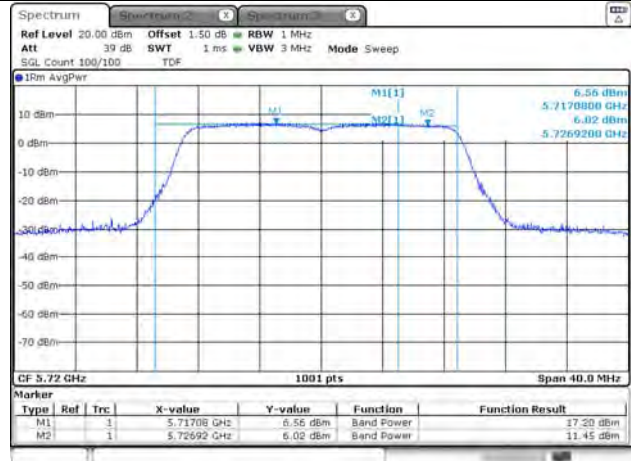
SISO ANT 2**802.11a****802.11n HT20****802.11n HT40****802.11ac VHT20****802.11ac VHT40****802.11ac VHT80**

SISO ANT 3

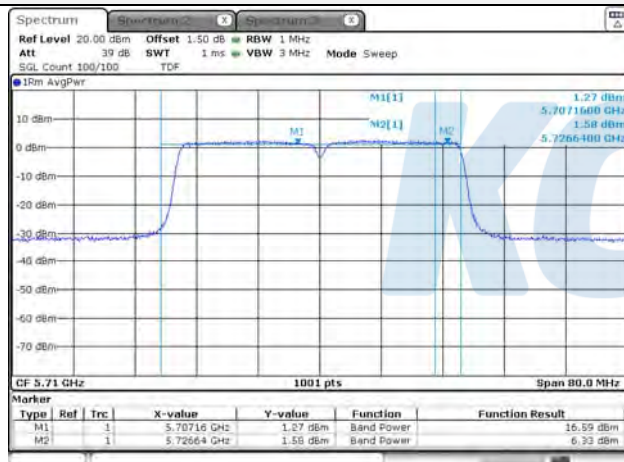
802.11a



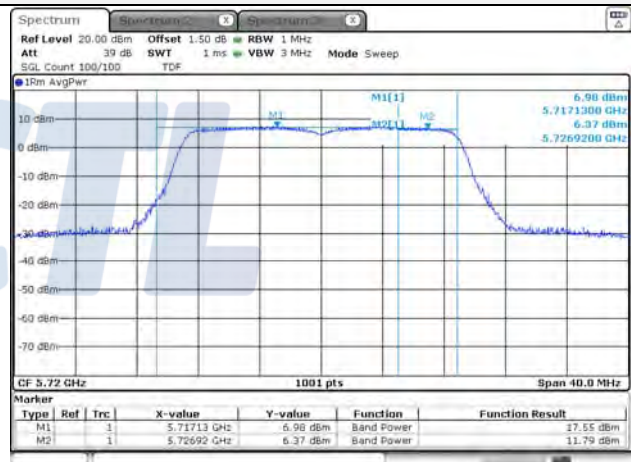
802.11n HT20



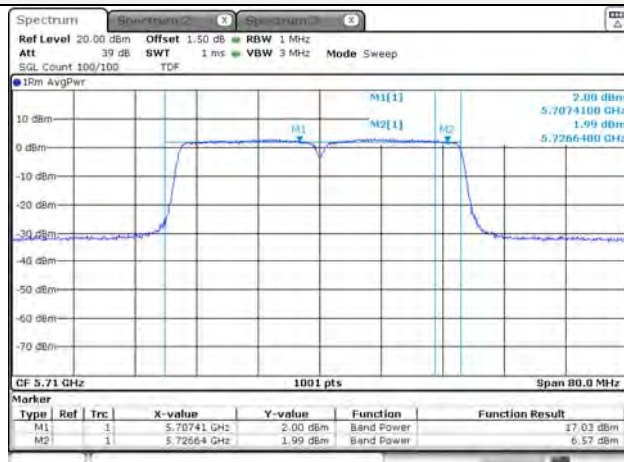
802.11n HT40



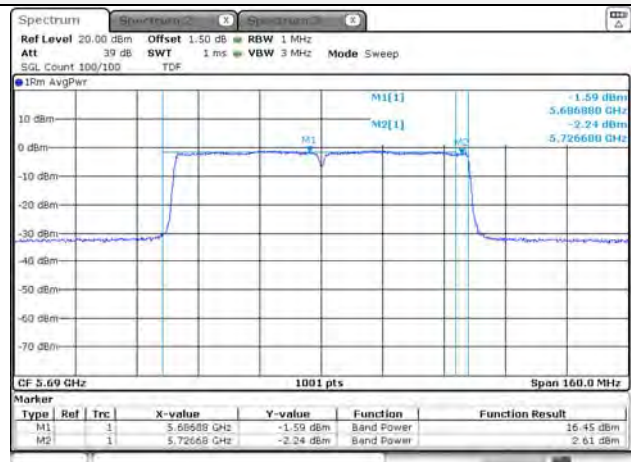
802.11ac VHT20

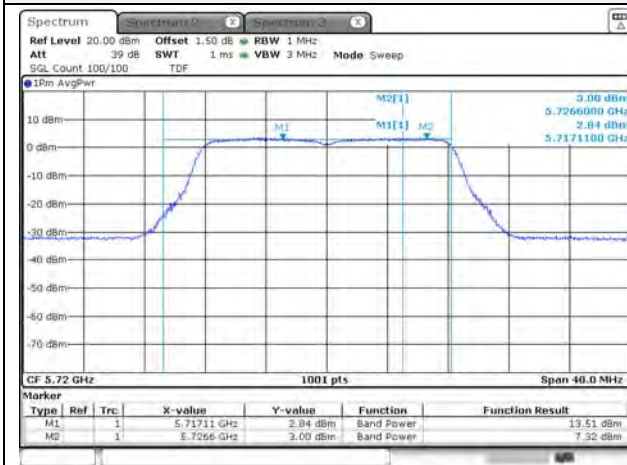
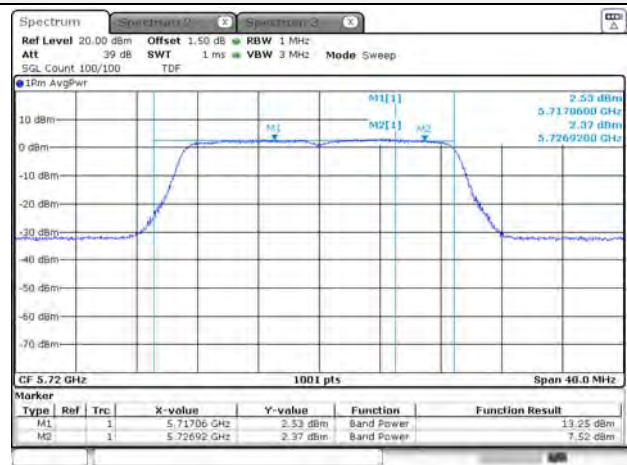
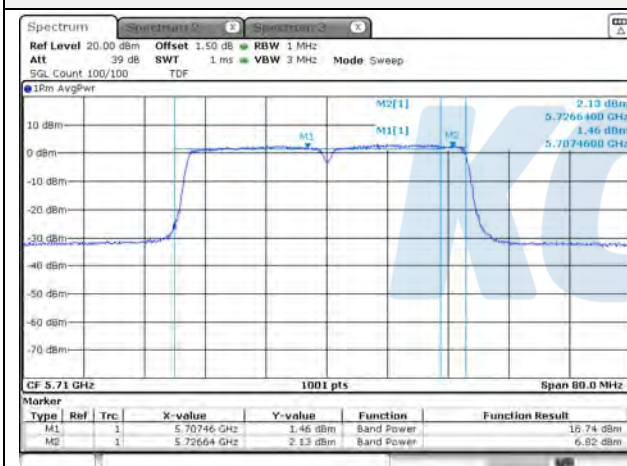
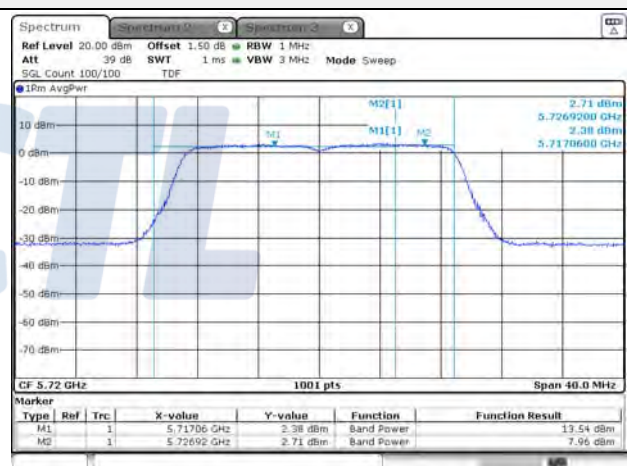
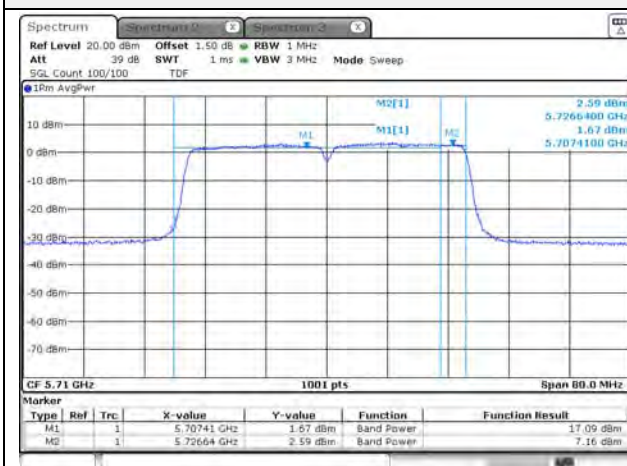
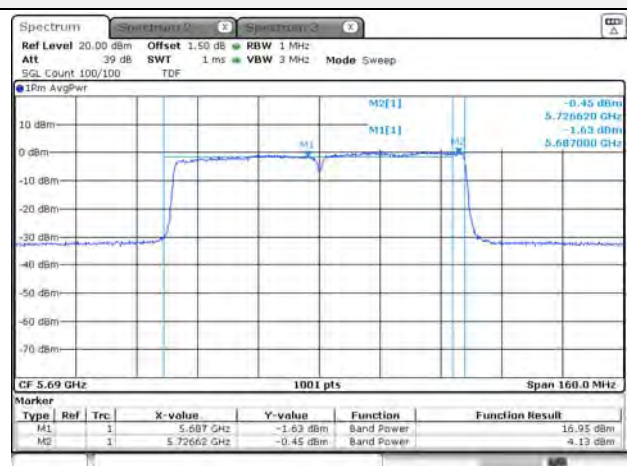


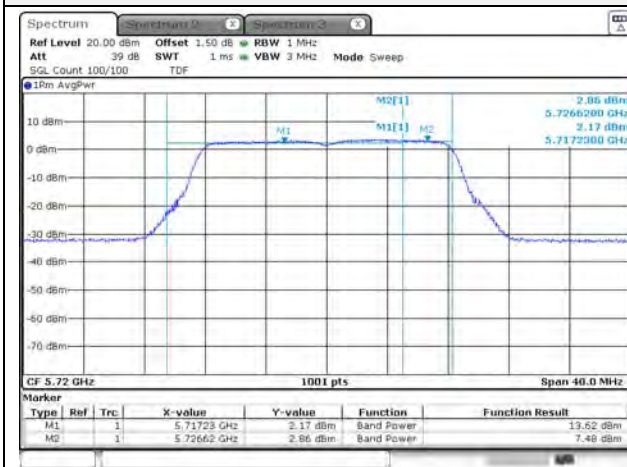
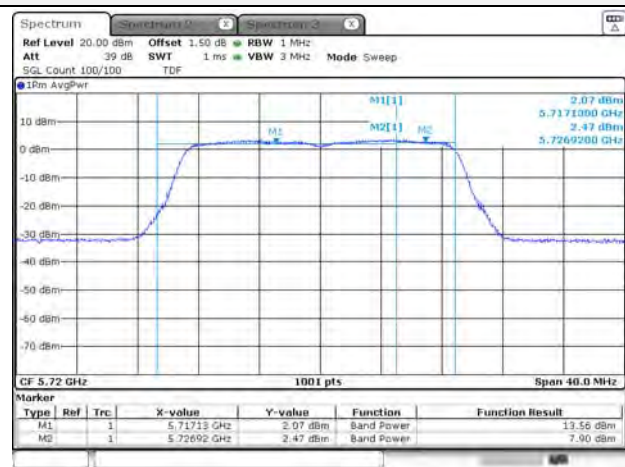
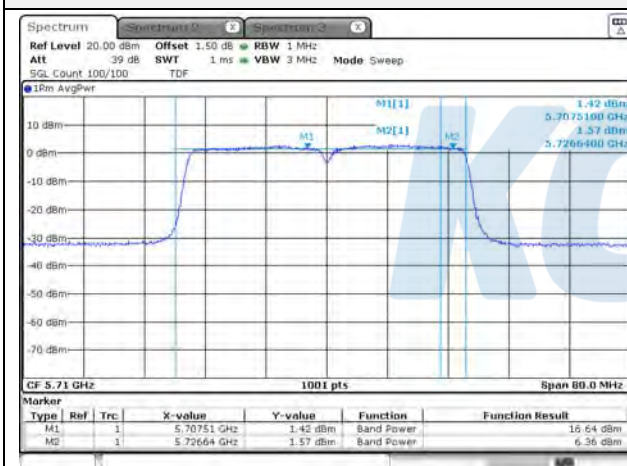
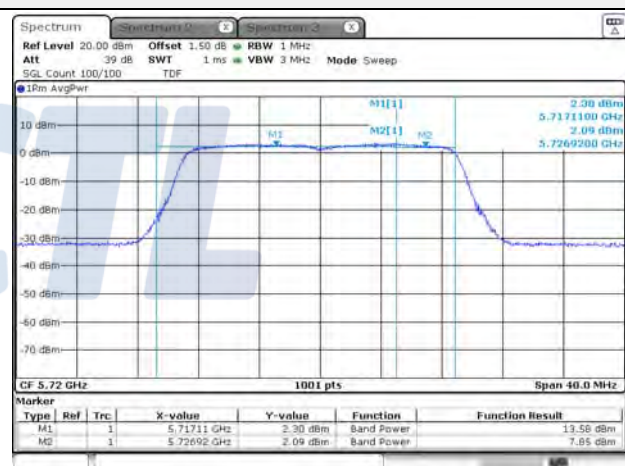
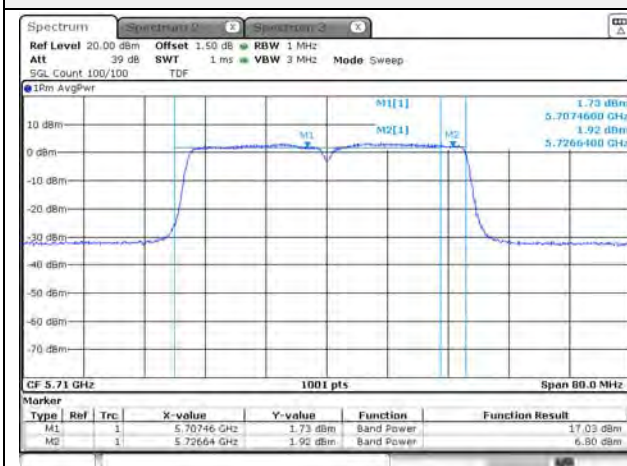
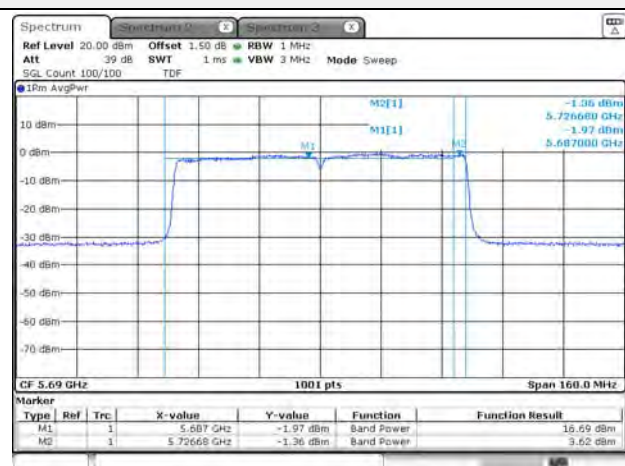
802.11ac VHT40

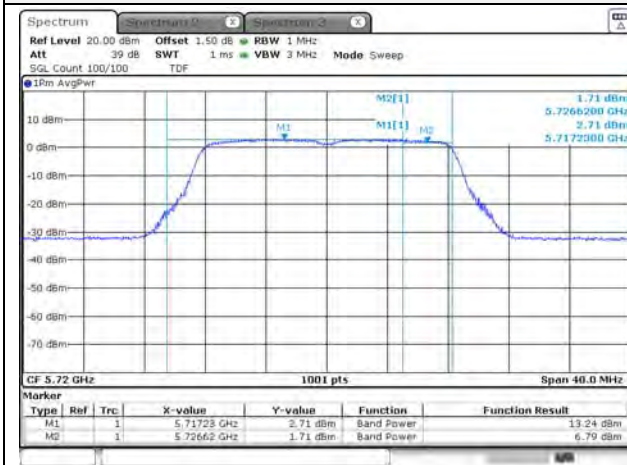
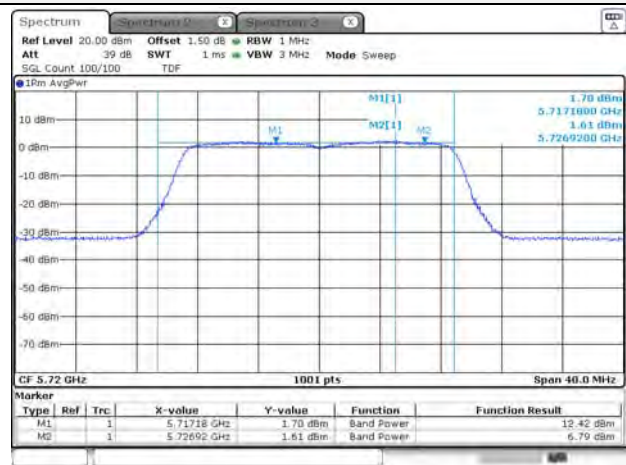
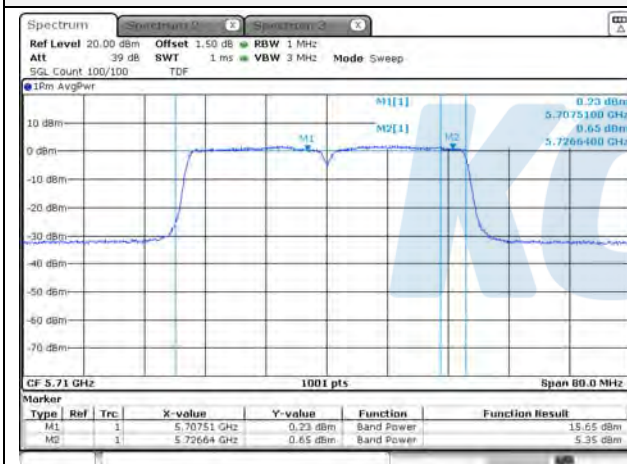
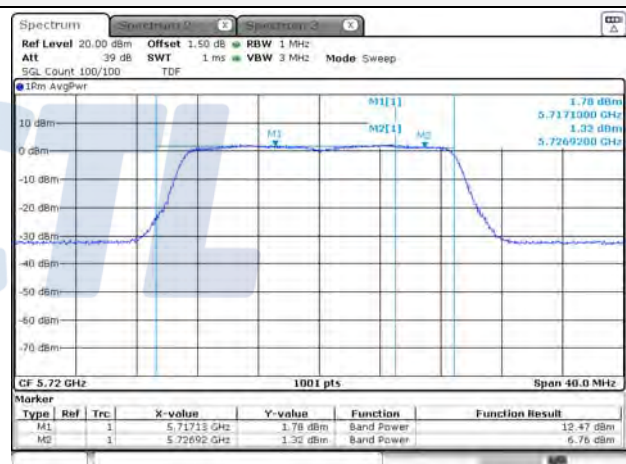
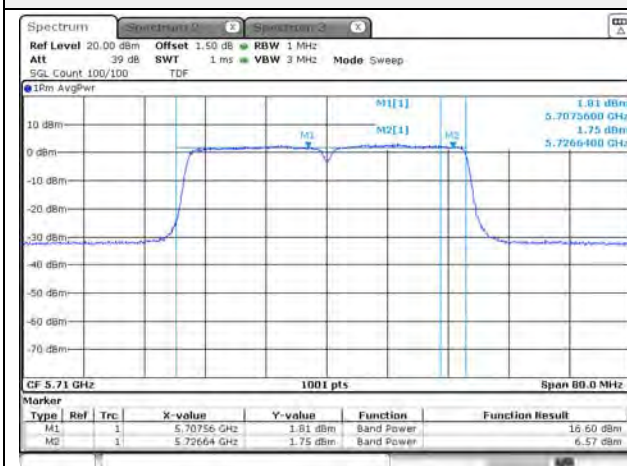
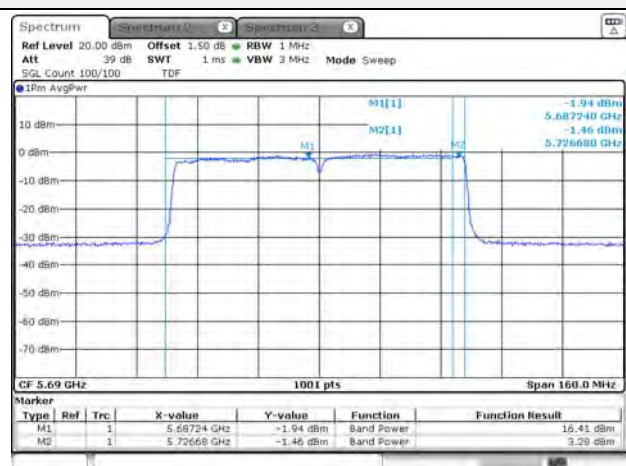


802.11ac VHT80



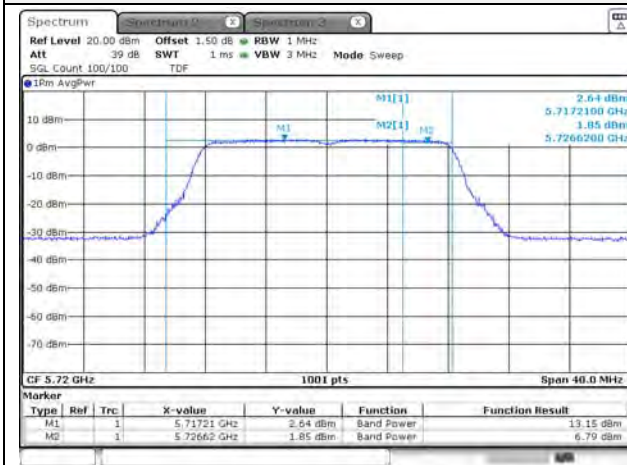
4TX MIMO ANT 0**802.11a****802.11n HT20****802.11n HT40****802.11ac VHT20****802.11ac VHT40****802.11ac VHT80**

4TX MIMO ANT 1**802.11a****802.11n HT20****802.11n HT40****802.11ac VHT20****802.11ac VHT40****802.11ac VHT80**

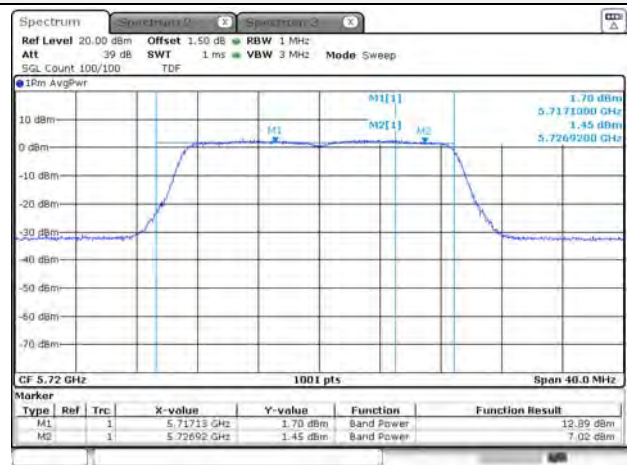
4TX MIMO ANT 2**802.11a****802.11n HT20****802.11n HT40****802.11ac VHT20****802.11ac VHT40****802.11ac VHT80**

4TX MIMO ANT 3

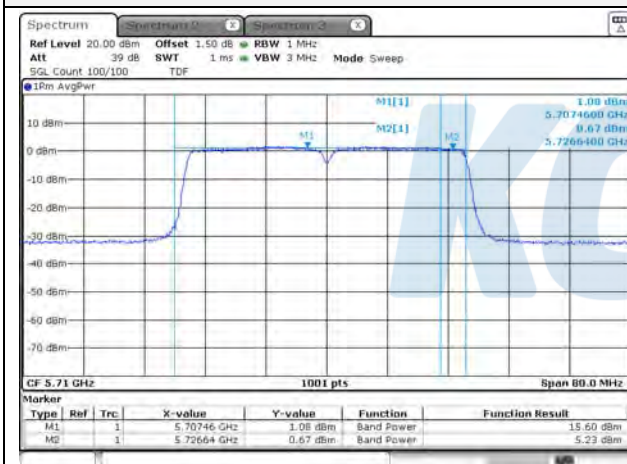
802.11a



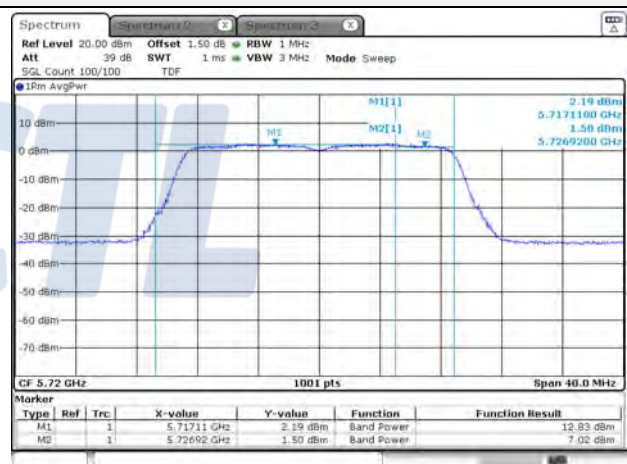
802.11n HT20



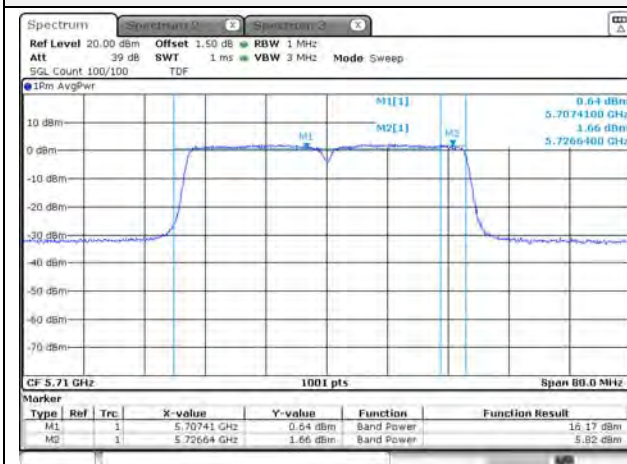
802.11n HT40



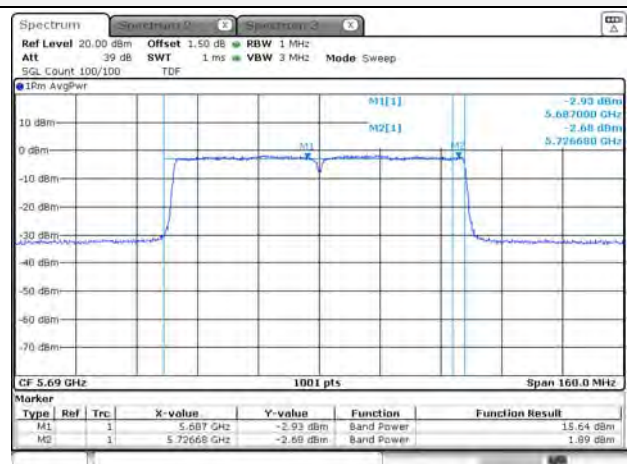
802.11ac VHT20



802.11ac VHT40



802.11ac VHT80



Power Spectral Density
-SISO

Test mode	Band	Frequency (MHz)	Measured PSD (dBm/MHz)				DCF (dB)	Maximum PSD (dBm/MHz)				Limit (dBm/MHz)
			ANT0	ANT1	ANT2	ANT3		ANT0	ANT1	ANT2	ANT3	
802.11a	UNII-2C	5 720	7.17	7.10	6.71	6.04	0.22	7.39	7.32	6.93	6.26	11.00
802.11n HT20			7.05	7.79	7.05	7.00	0.22	7.27	8.01	7.27	7.22	
802.11ac VHT20			8.21	8.21	7.41	7.07	-	8.21	8.21	7.41	7.07	
802.11n HT40		5 710	4.28	3.96	3.55	2.61	0.44	4.72	4.40	3.99	3.05	
802.11ac VHT40			4.47	4.05	3.40	3.07	0.13	4.60	4.18	3.53	3.20	
802.11ac VHT80		5 690	1.26	0.66	0.28	-0.70	0.27	1.53	0.93	0.55	-0.43	

Test mode	Band	Frequency (MHz)	Measured PSD (dBm/ 500 kHz)				DCF (dB)	Maximum PSD (dBm/ 500 kHz)				Limit (dBm/500 kHz)
			ANT0	ANT1	ANT2	ANT3		ANT0	ANT1	ANT2	ANT3	
802.11a	UNII-3	5 720	3.91	4.12	3.65	3.36	0.22	4.13	4.34	3.87	3.58	30.00
802.11n HT20			3.99	4.87	3.99	4.17	0.22	4.21	5.09	4.21	4.39	
802.11ac VHT20			5.16	5.06	4.63	4.25	-	5.16	5.06	4.63	4.25	
802.11n HT40		5 710	0.95	0.85	-0.10	-0.80	0.44	1.39	1.29	0.34	-0.36	
802.11ac VHT40			1.03	0.73	0.37	-0.36	0.13	1.16	0.86	0.50	-0.23	
802.11ac VHT80		5 690	-1.71	-2.15	-2.92	-4.15	0.27	-1.44	-1.88	-2.65	-3.88	

-MIMO

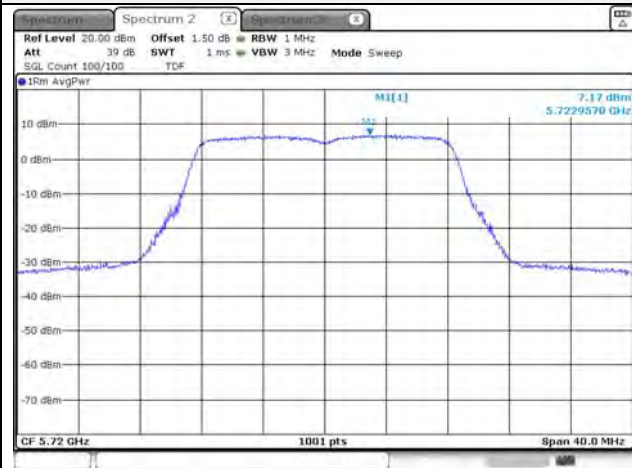
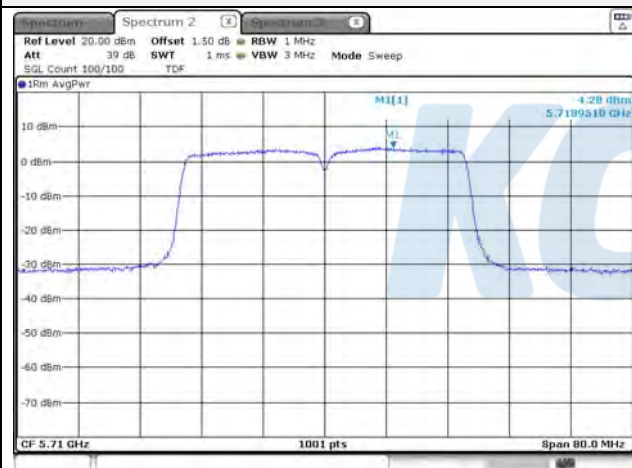
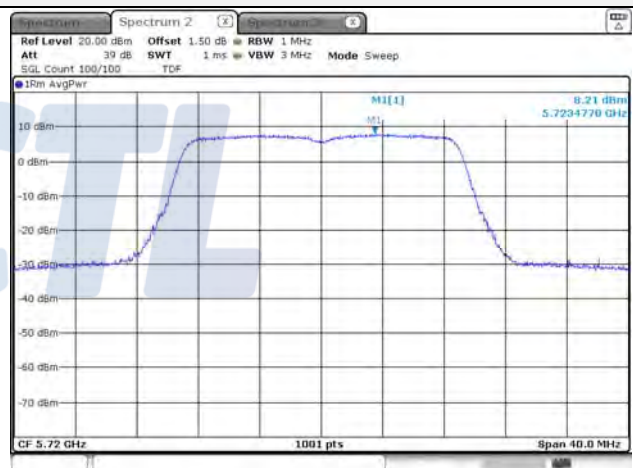
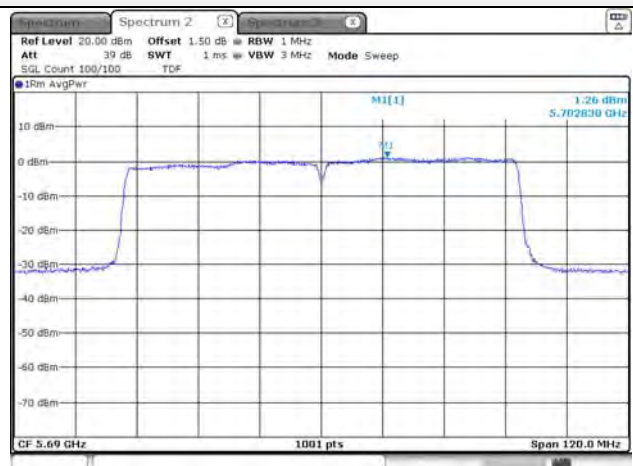
Test mode	Band	Frequency (MHz)	Measured PSD (dBm/MHz)				DCF (dB)	Maximum PSD (dB m/MHz)	Limit (dBm/MHz)
			ANT0	ANT1	ANT2	ANT3			
802.11a	UNII-2C	5 720	2.47	2.45	1.86	2.04	0.22	8.45	11.00
802.11n HT20			2.40	2.39	1.43	1.89	0.22	8.29	
802.11ac VHT20			2.47	2.45	1.43	2.27	-	8.20	
802.11n HT40		5 710	2.64	2.34	1.87	1.67	0.44	8.60	
802.11ac VHT40			2.62	2.37	1.87	1.79	0.13	8.33	
802.11ac VHT80		5 690	0.01	-0.59	-0.81	-1.84	0.27	5.53	

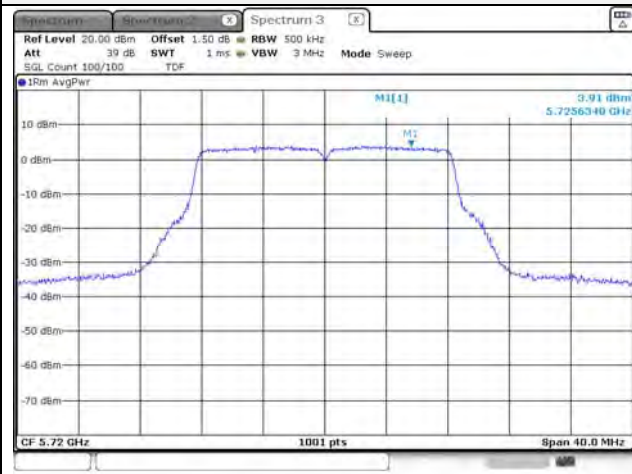
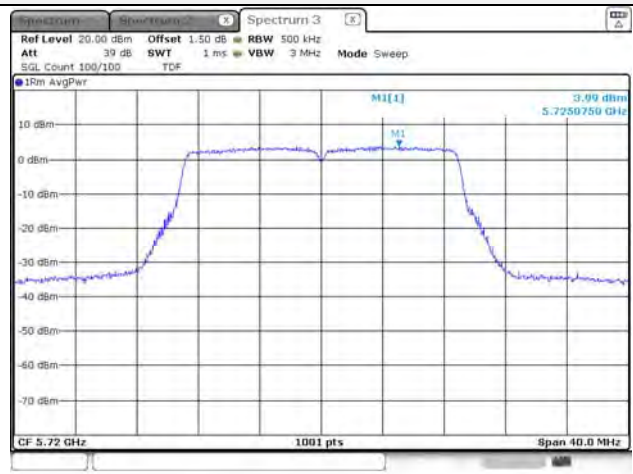
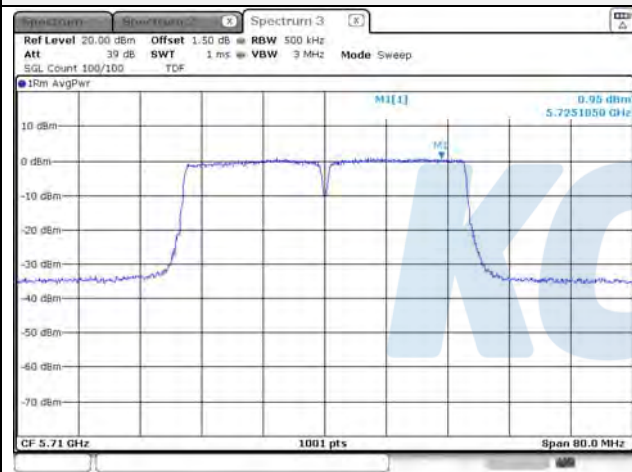
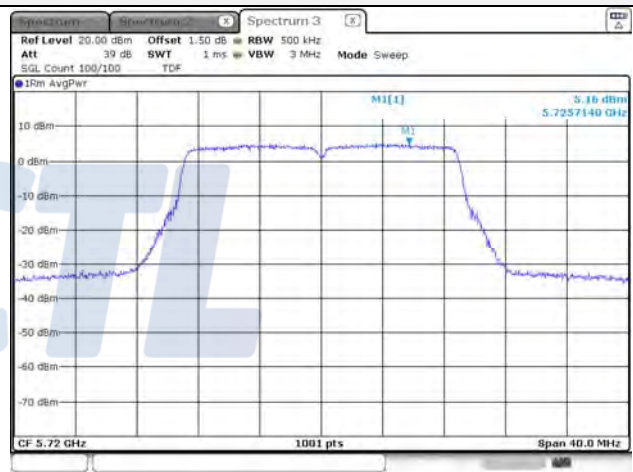
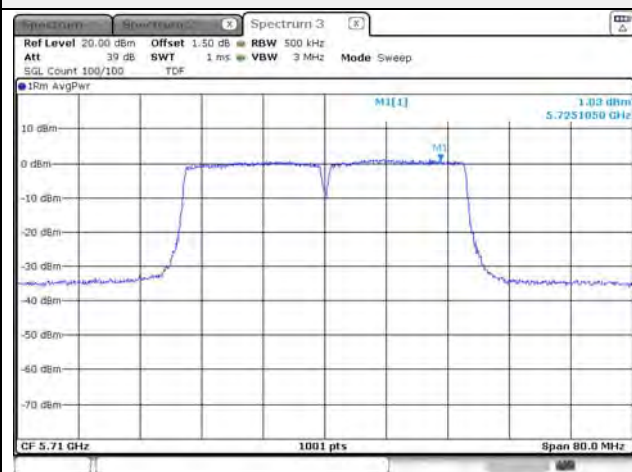
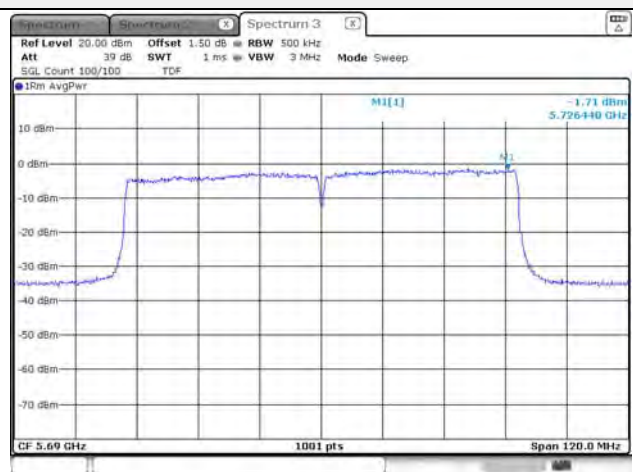
Test mode	Band	Frequency (MHz)	Measured PSD (dBm/ 500 kHz)				DCF (dB)	Maximum PSD (dBm / 500 kHz)	Limit (dBm / 500 kHz)
			ANT0	ANT1	ANT2	ANT3			
802.11a	UNII-3	5 720	-0.30	-0.17	-0.39	-0.31	0.22	5.95	30.00
802.11n HT20			-0.41	-0.10	-0.89	-0.75	0.22	5.71	
802.11ac VHT20			-0.42	0.10	-1.17	-0.26	-	5.61	
802.11n HT40		5 710	-0.71	-0.67	-1.00	-1.77	0.44	5.44	
802.11ac VHT40			-0.58	-0.57	-0.93	-1.34	0.13	5.31	
802.11ac VHT80		5 690	-3.15	-4.06	-4.18	-5.76	0.27	2.10	

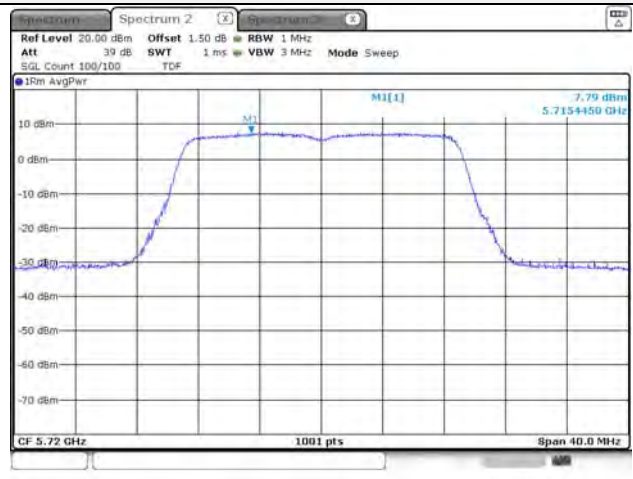
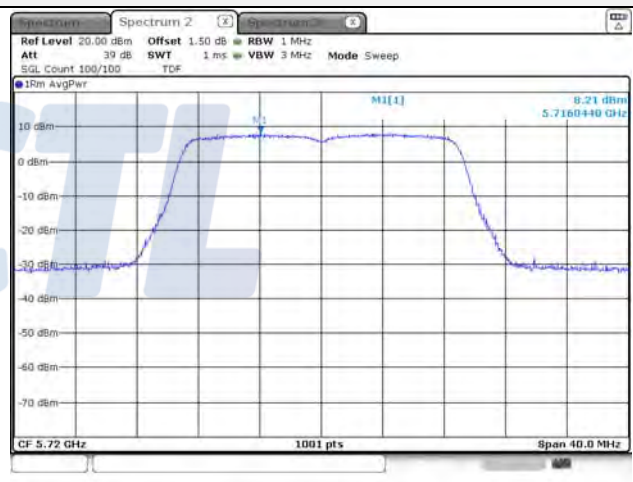
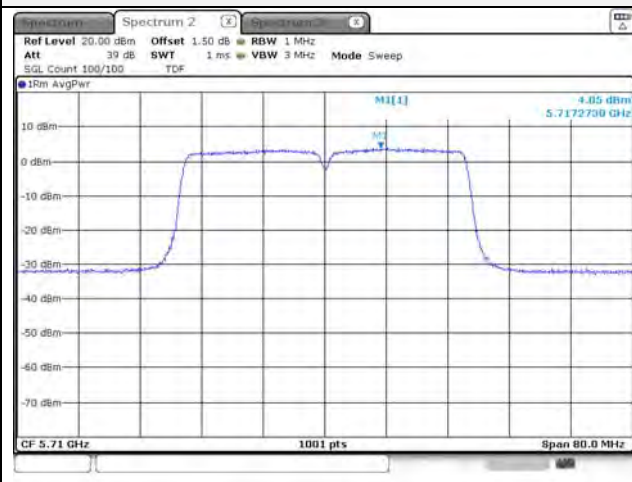
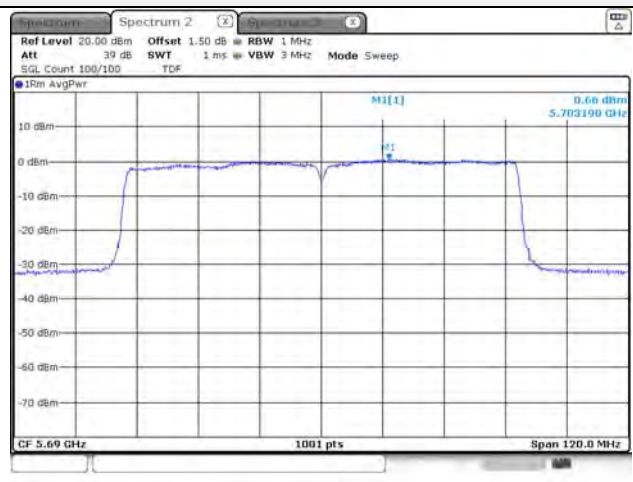
Notes:

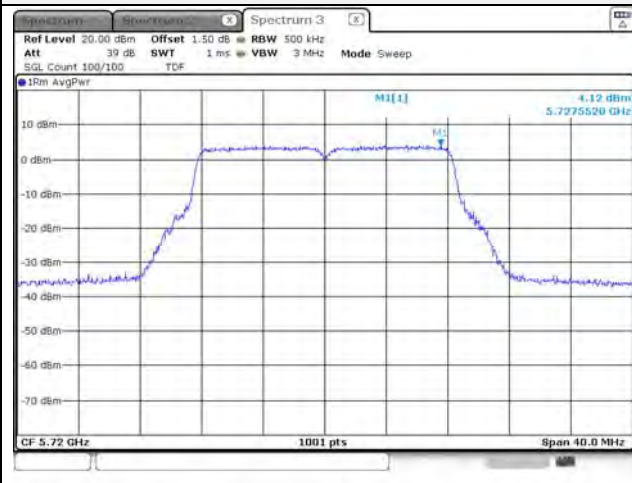
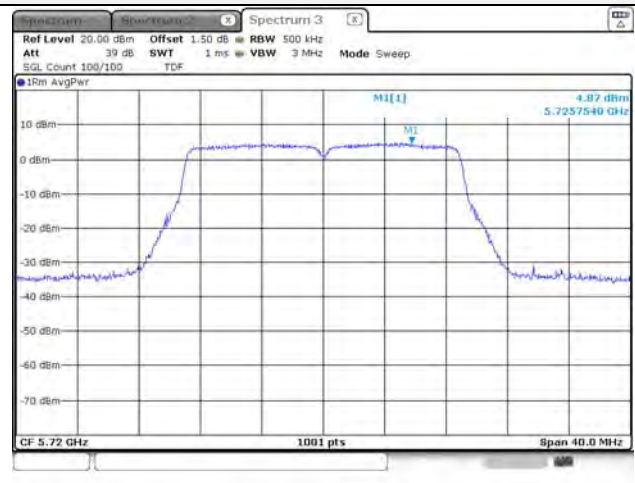
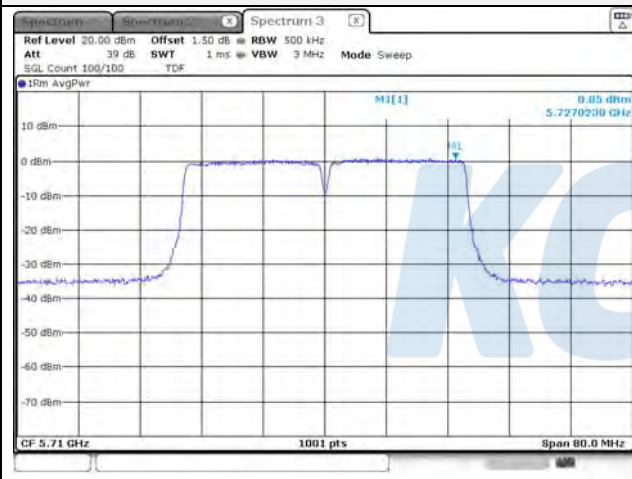
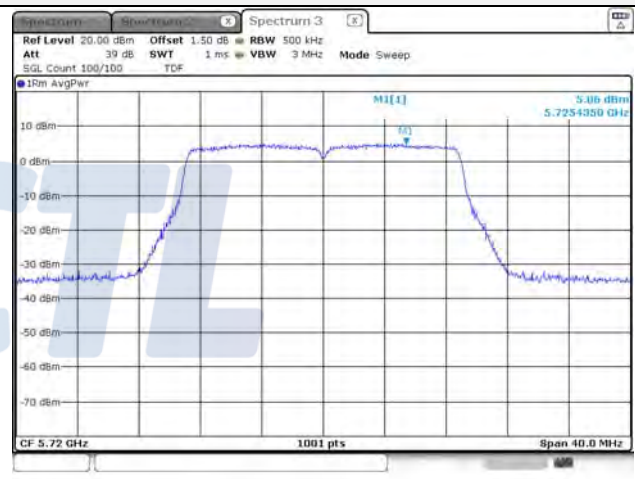
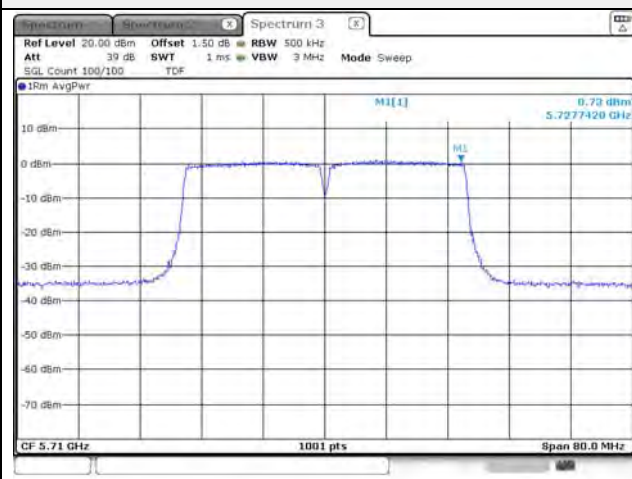
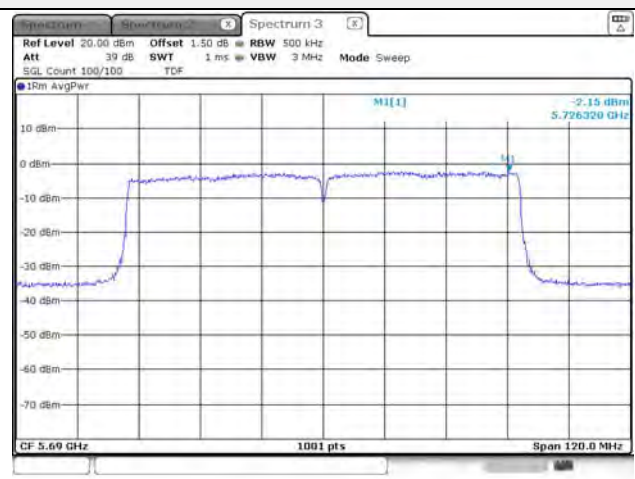
1. Maximum PSD calculation

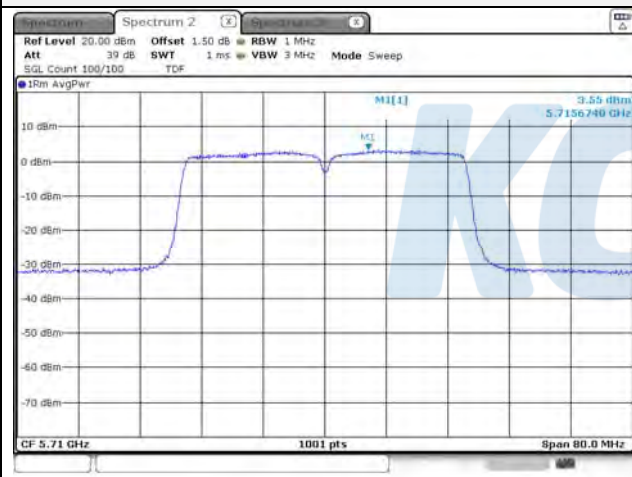
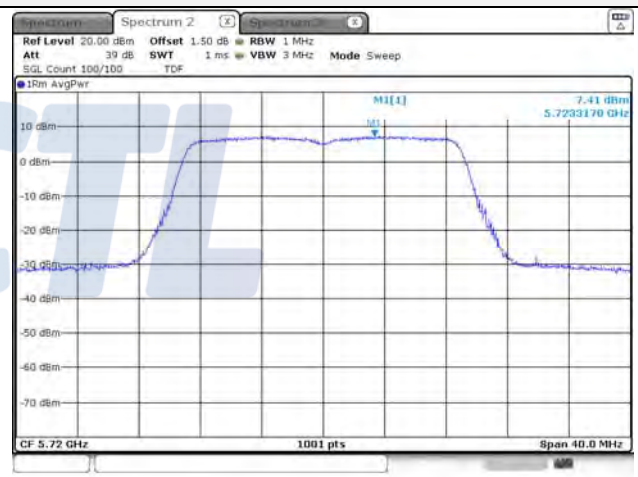
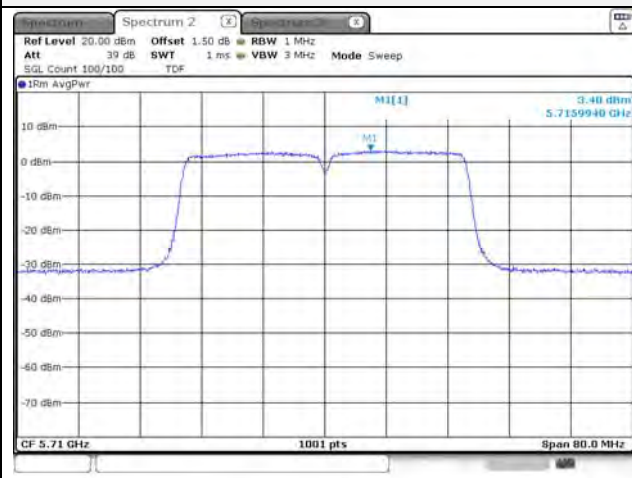
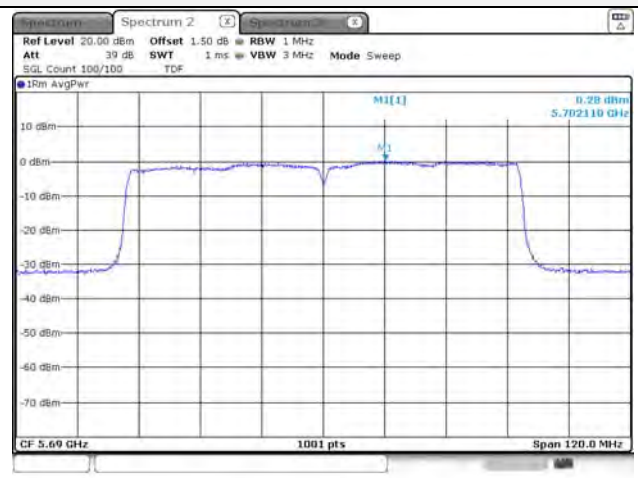
- Maximum PSD = $10\log(10^{(\text{ANT } 0/10)} + 10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)} + 10^{(\text{ANT } 3/10)}) + \text{Duty Cycle Factor (dB)}$

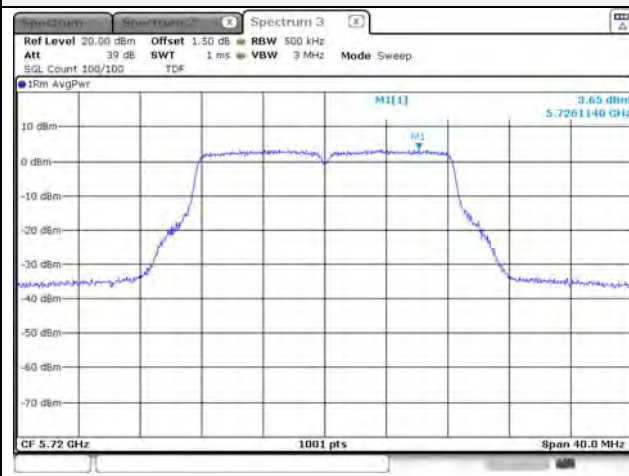
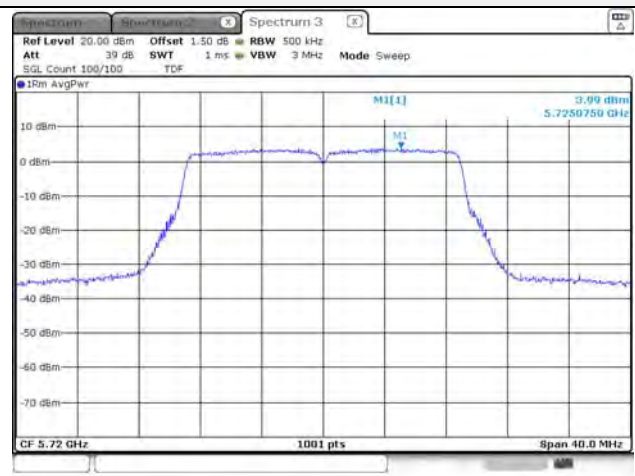
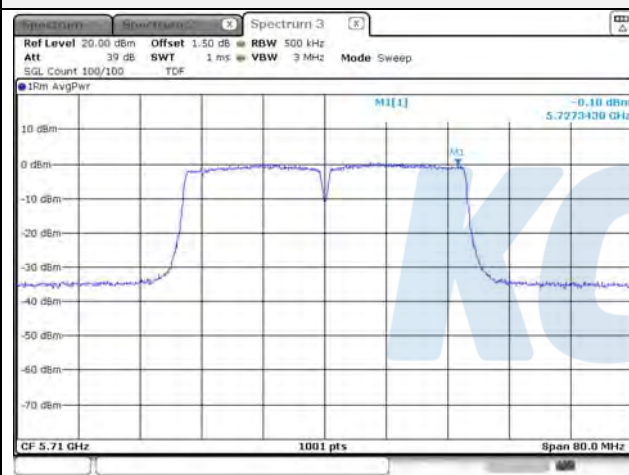
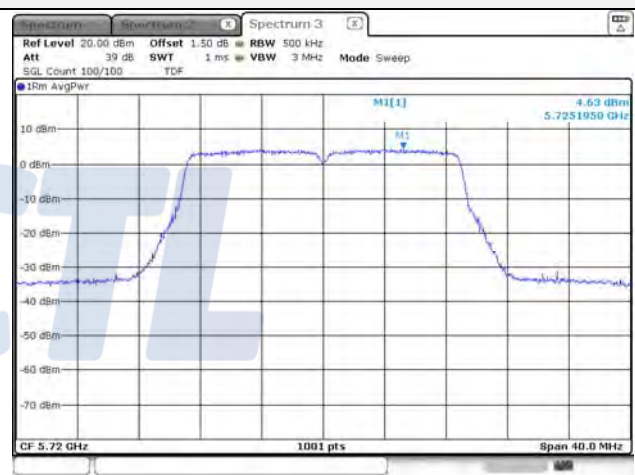
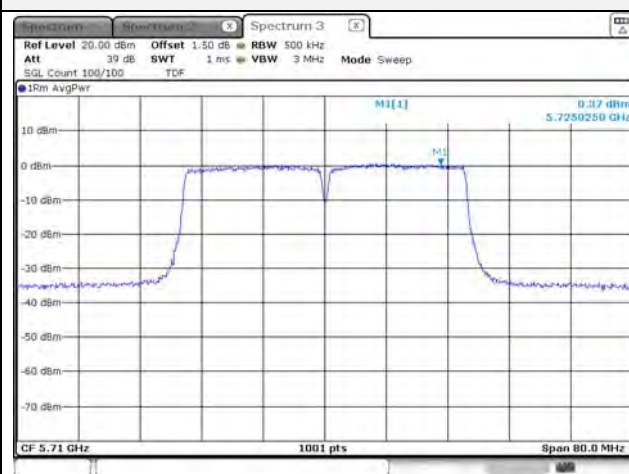
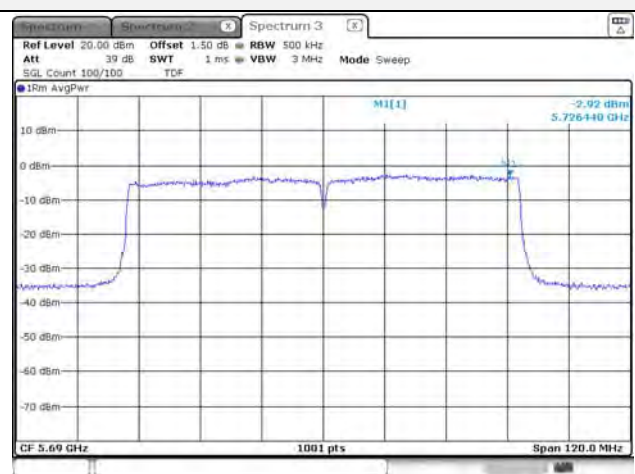
SISO ANT 0**UNII-2C / 802.11a****UNII-2C / 802.11n HT20****UNII-2C / 802.11n HT40****UNII-2C / 802.11ac VHT20****UNII-2C / 802.11ac VHT40****UNII-2C / 802.11ac VHT80**

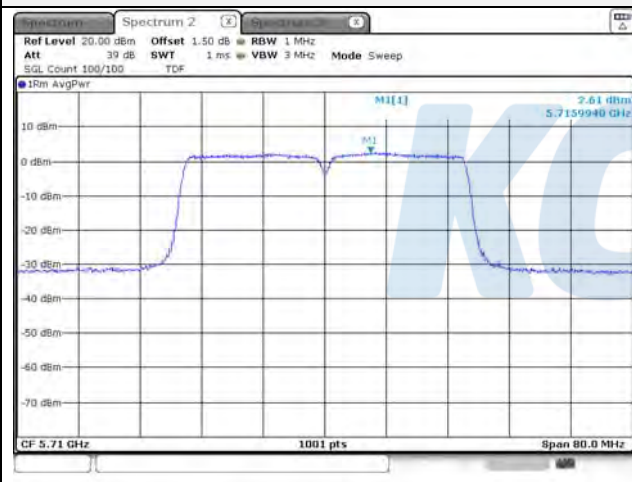
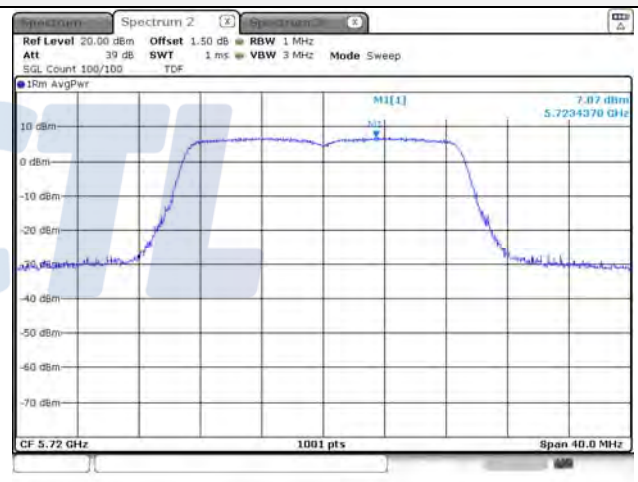
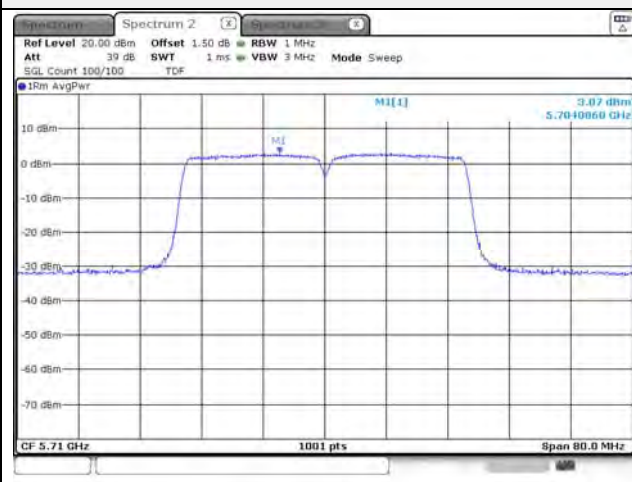
UNII-3 / 802.11a**UNII-3 / 802.11n HT20****UNII-3 / 802.11n HT40****UNII-3 / 802.11ac VHT20****UNII-3 / 802.11ac VHT40****UNII-3 / 802.11ac VHT80**

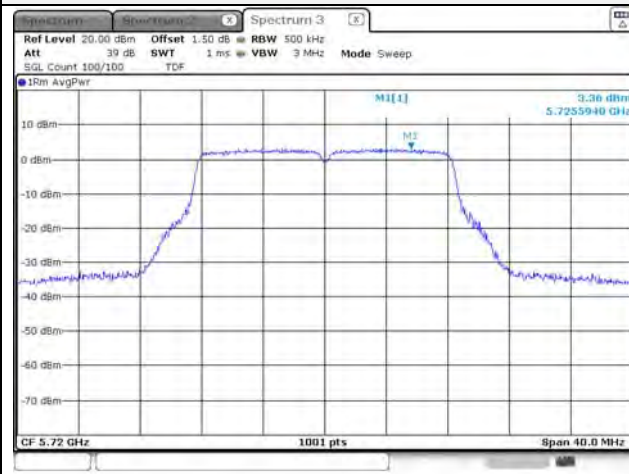
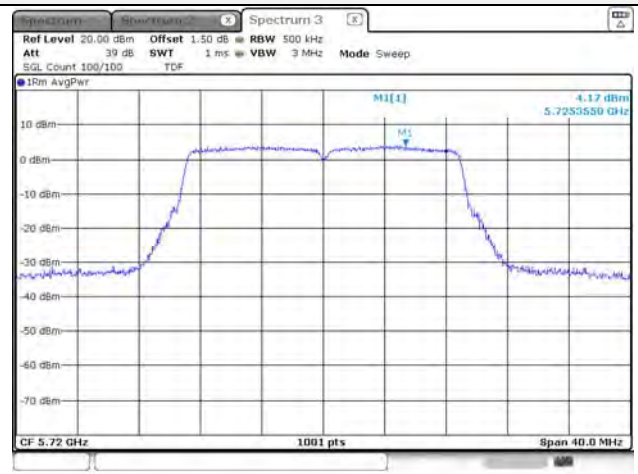
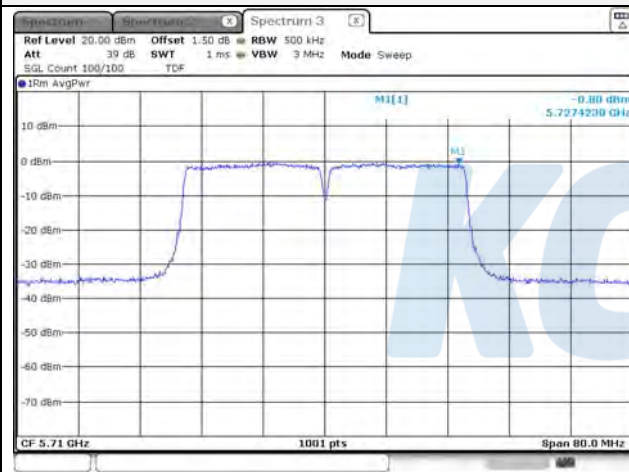
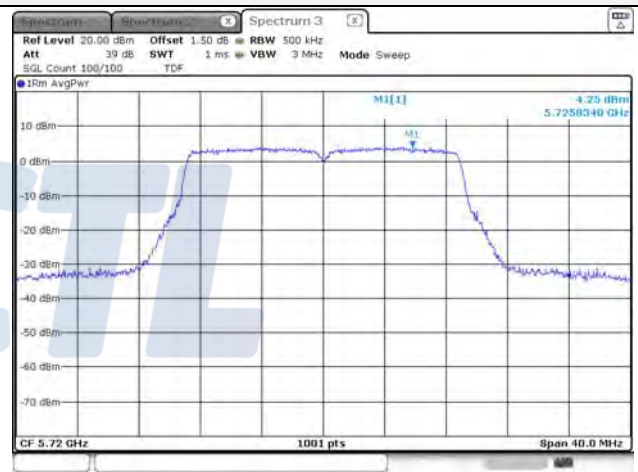
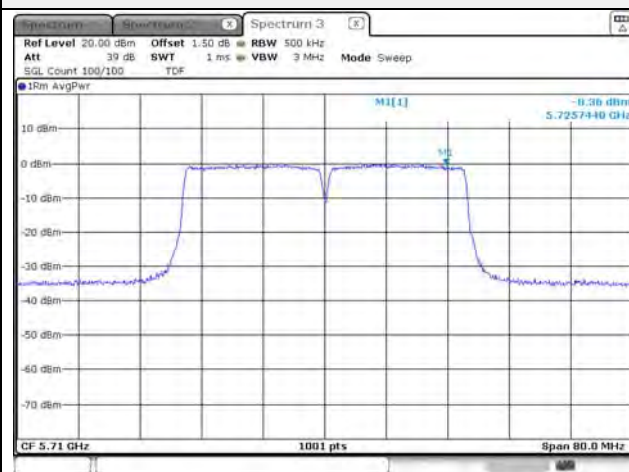
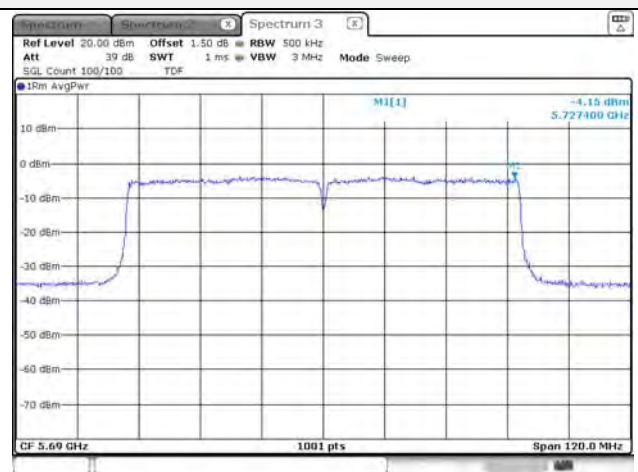
SISO ANT 1**UNII-2C / 802.11a****UNII-2C / 802.11n HT20****UNII-2C / 802.11n HT40****UNII-2C / 802.11ac VHT20****UNII-2C / 802.11ac VHT40****UNII-2C / 802.11ac VHT80**

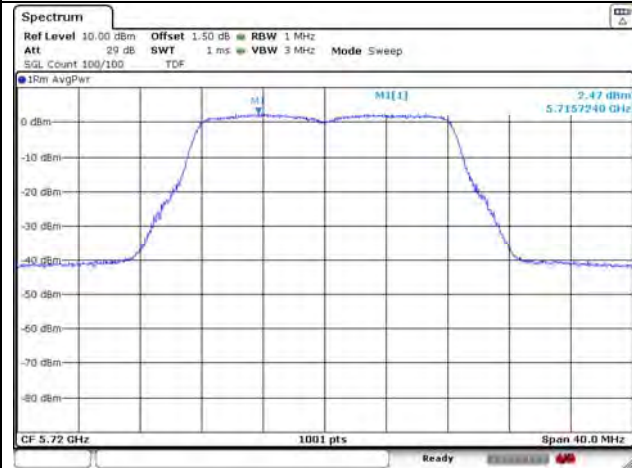
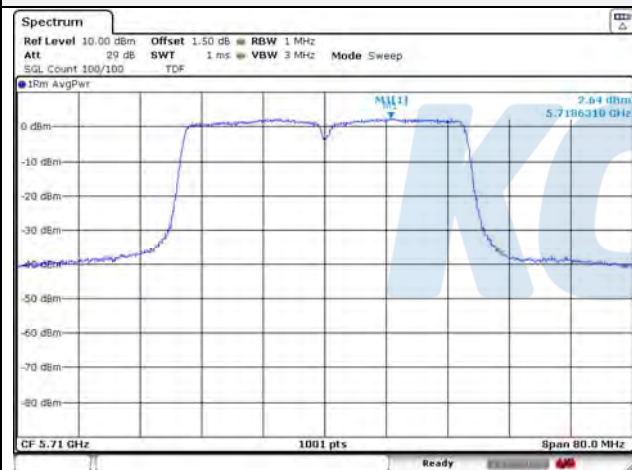
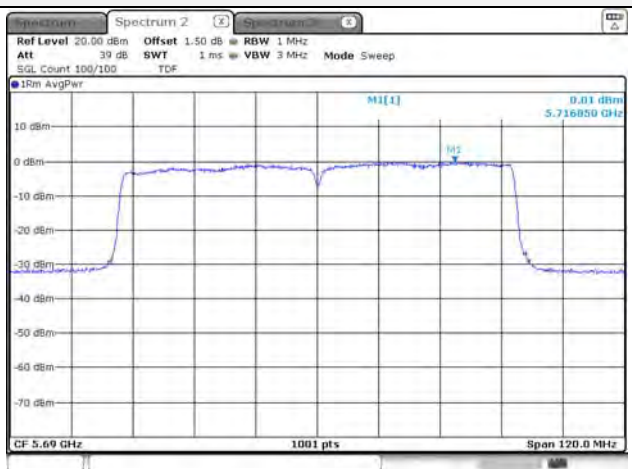
UNII-3 / 802.11a**UNII-3 / 802.11n HT20****UNII-3 / 802.11n HT40****UNII-3 / 802.11ac VHT20****UNII-3 / 802.11ac VHT40****UNII-3 / 802.11ac VHT80**

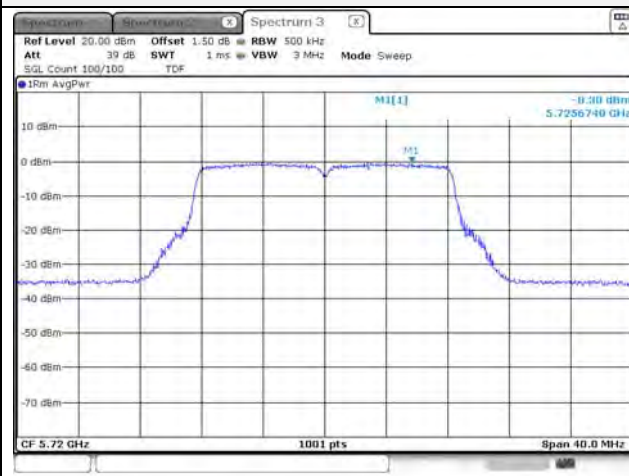
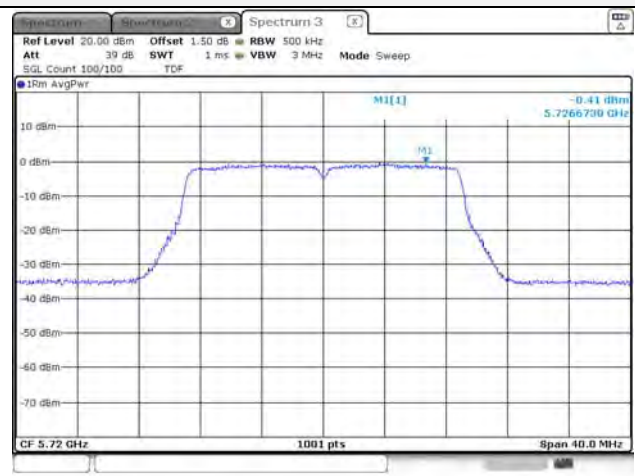
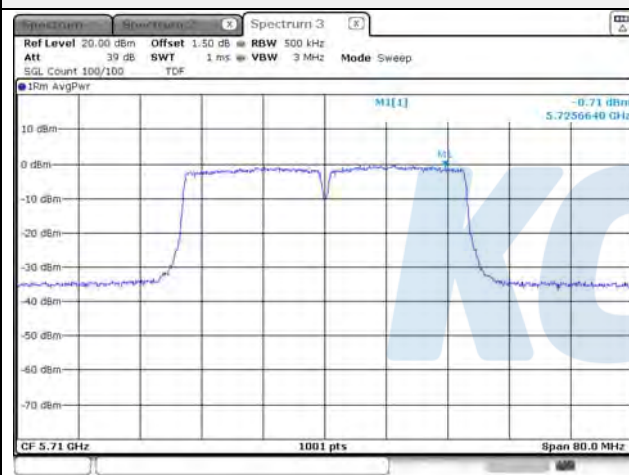
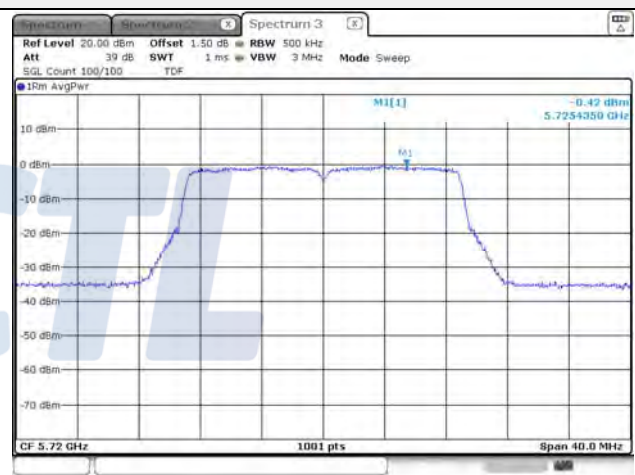
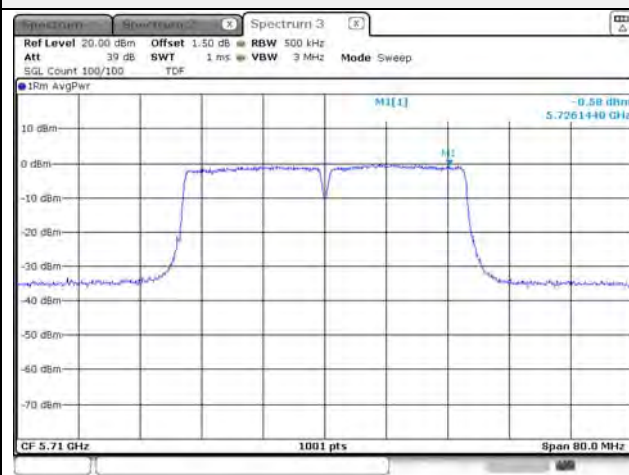
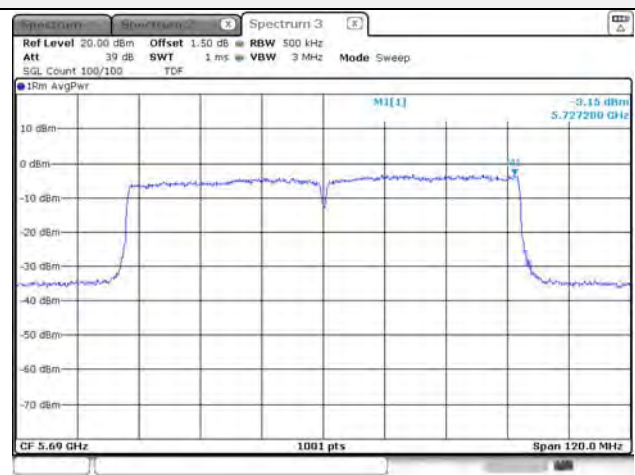
SISO ANT 2**UNII-2C / 802.11a****UNII-2C / 802.11n HT20****UNII-2C / 802.11n HT40****UNII-2C / 802.11ac VHT20****UNII-2C / 802.11ac VHT40****UNII-2C / 802.11ac VHT80**

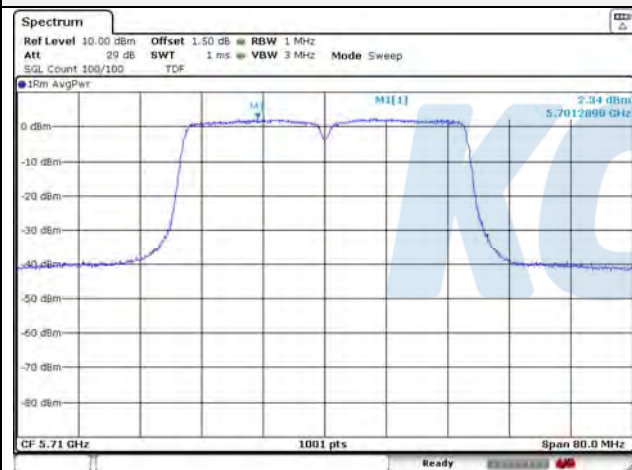
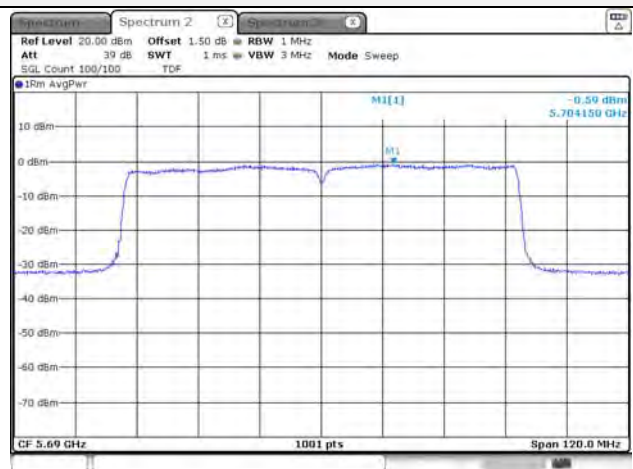
UNII-3 / 802.11a**UNII-3 / 802.11n HT20****UNII-3 / 802.11n HT40****UNII-3 / 802.11ac VHT20****UNII-3 / 802.11ac VHT40****UNII-3 / 802.11ac VHT80**

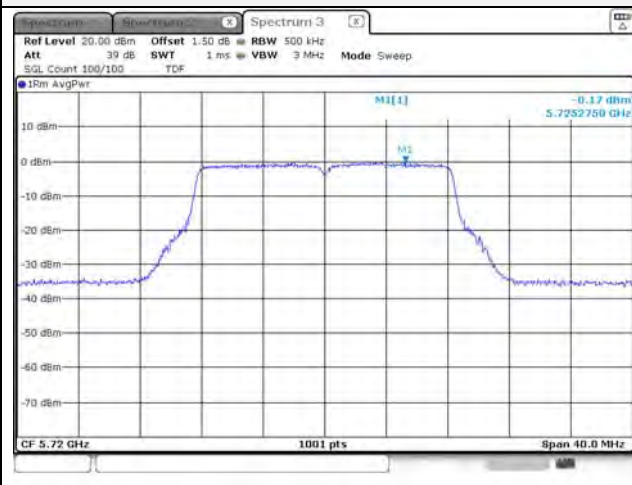
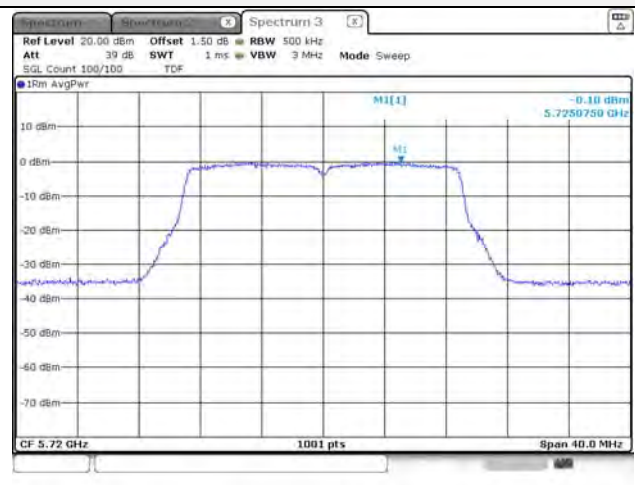
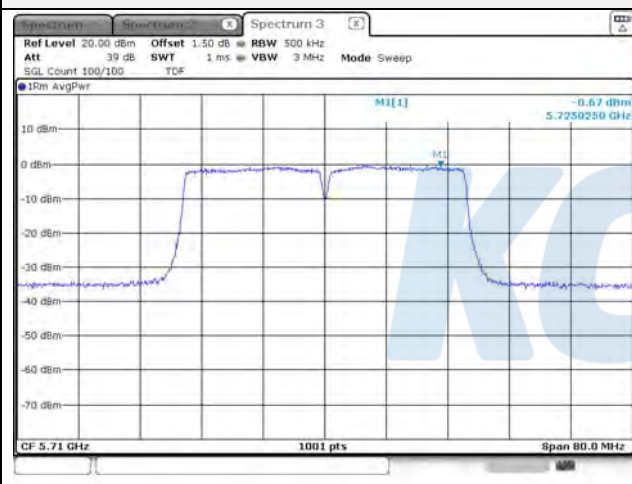
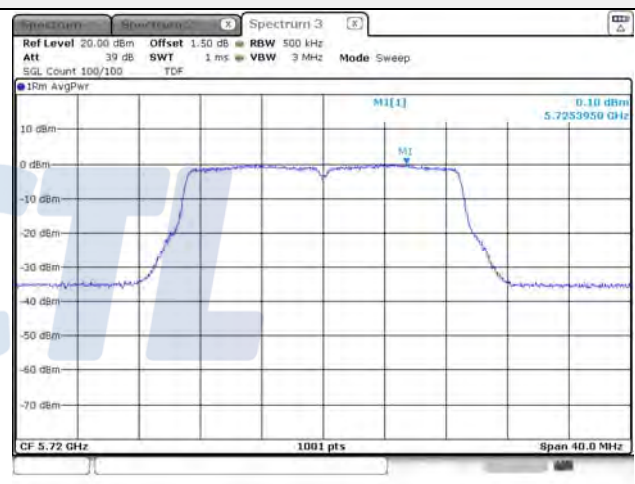
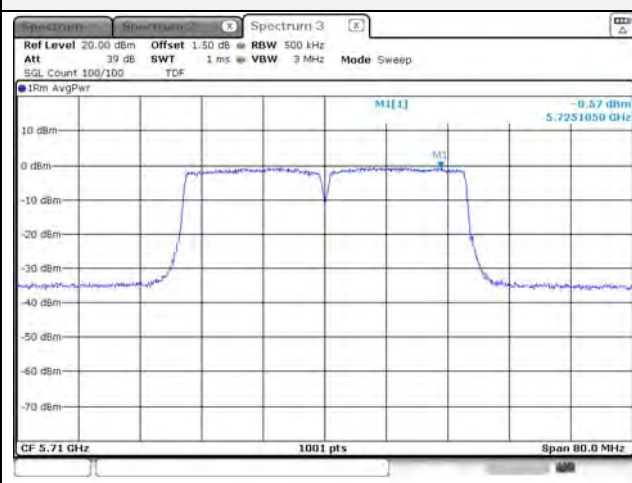
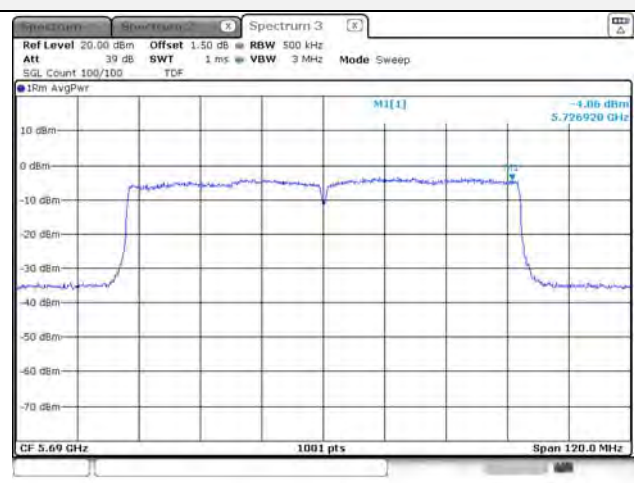
SISO ANT 3**UNII-2C / 802.11a****UNII-2C / 802.11n HT20****UNII-2C / 802.11n HT40****UNII-2C / 802.11ac VHT20****UNII-2C / 802.11ac VHT40****UNII-2C / 802.11ac VHT80**

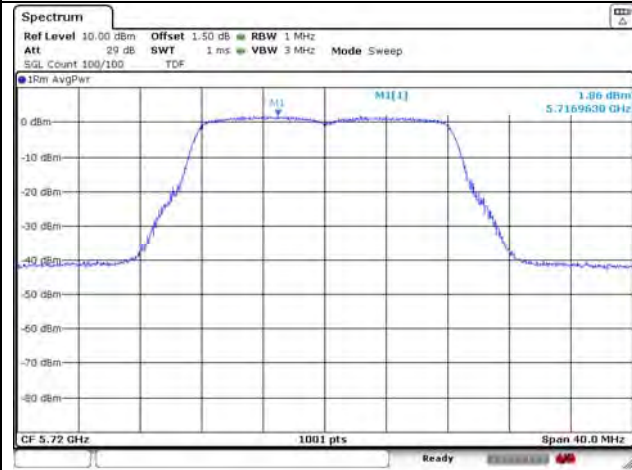
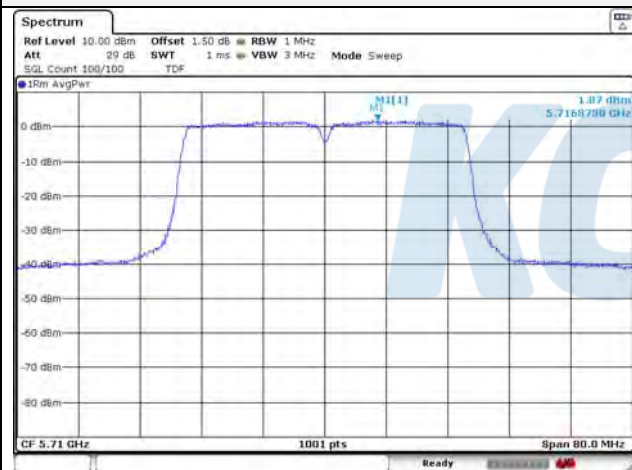
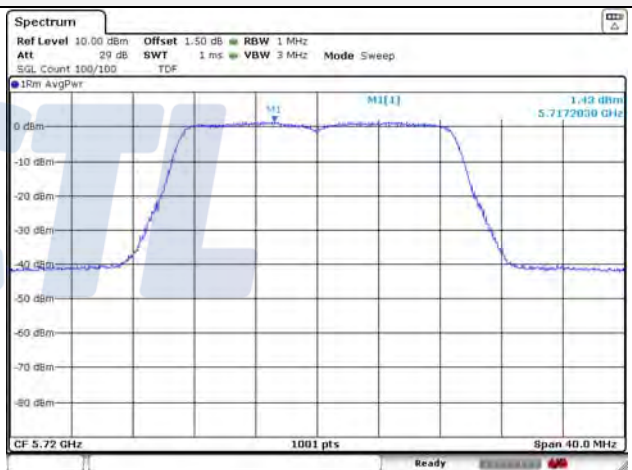
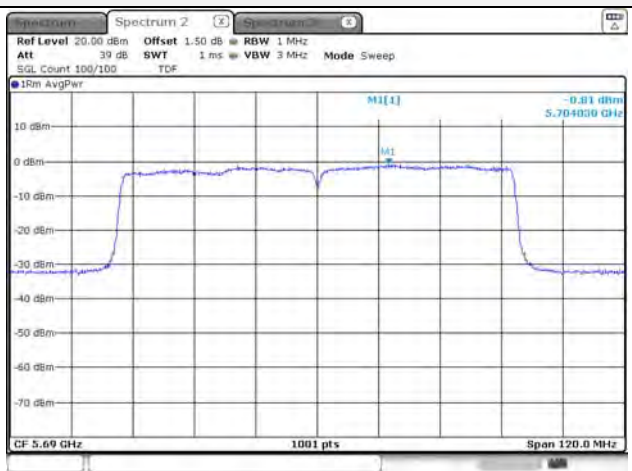
UNII-3 / 802.11a**UNII-3 / 802.11n HT20****UNII-3 / 802.11n HT40****UNII-3 / 802.11ac VHT20****UNII-3 / 802.11ac VHT40****UNII-3 / 802.11ac VHT80**

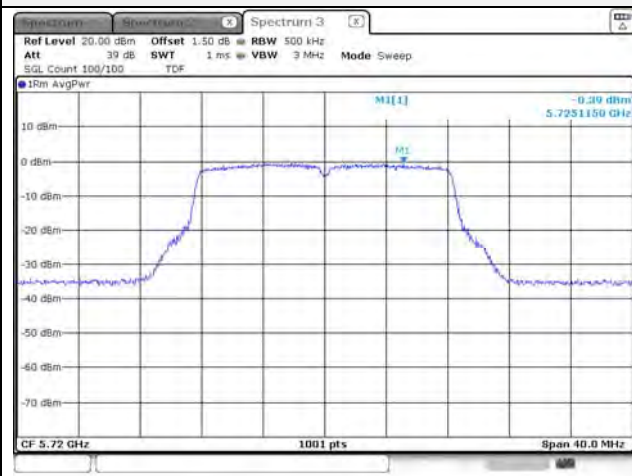
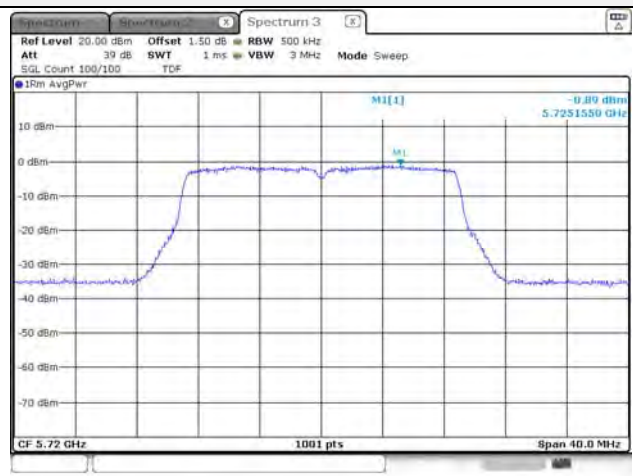
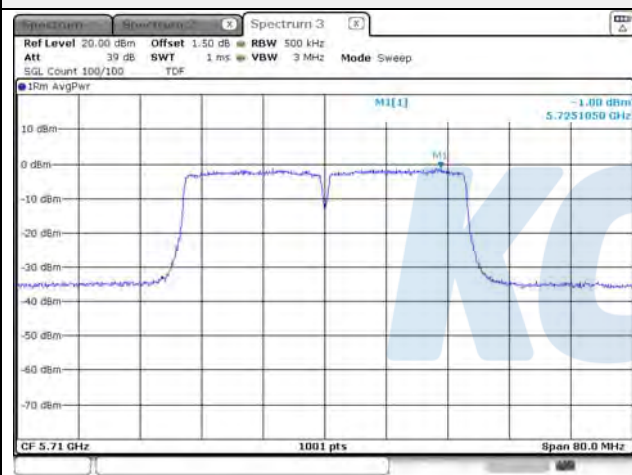
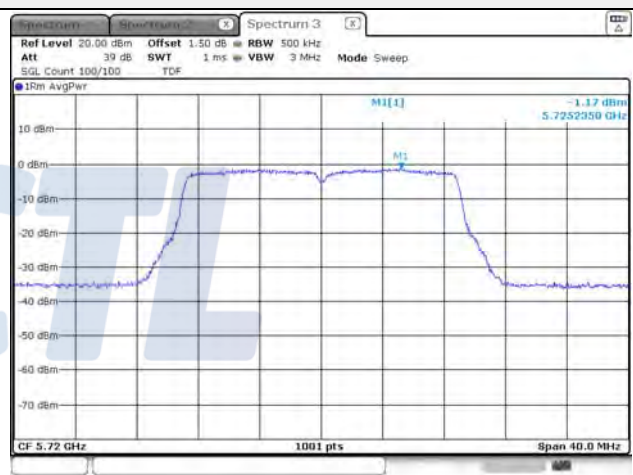
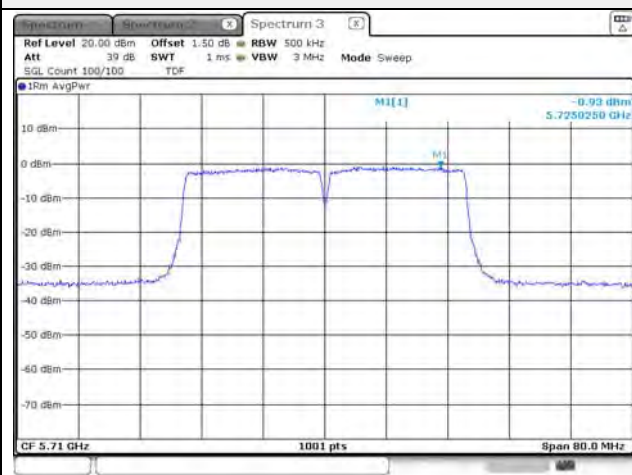
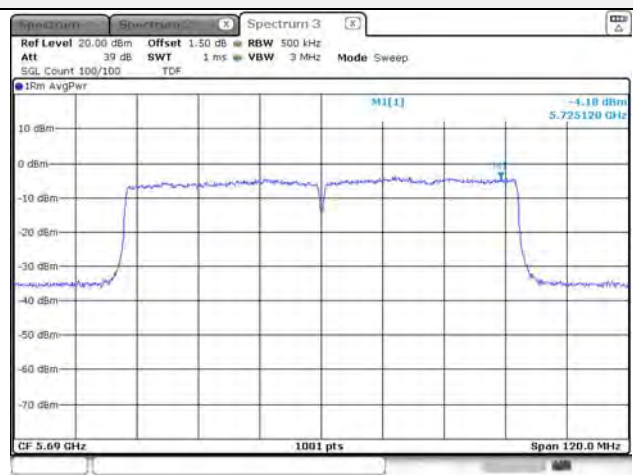
4TX MIMO ANT 0**UNII-2C / 802.11a****UNII-2C / 802.11n HT20****UNII-2C / 802.11n HT40****UNII-2C / 802.11ac VHT20****UNII-2C / 802.11ac VHT40****UNII-2C / 802.11ac VHT80**

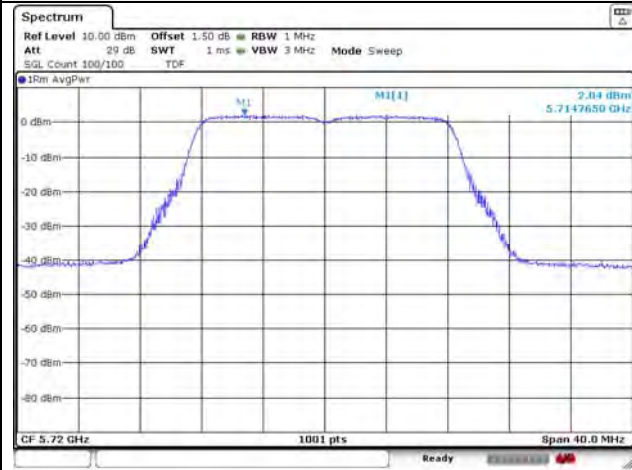
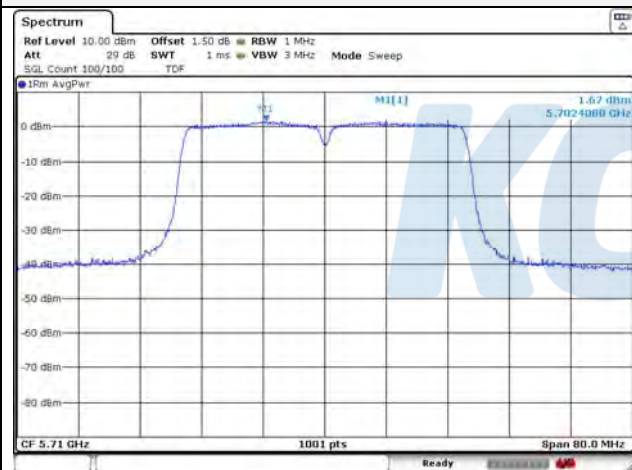
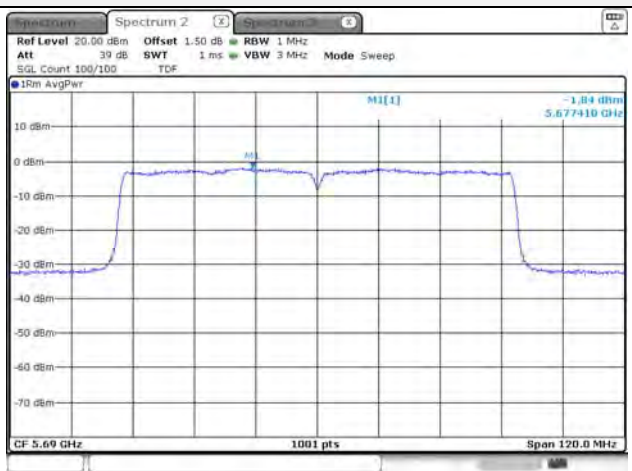
UNII-3 / 802.11a**UNII-3 / 802.11n HT20****UNII-3 / 802.11n HT40****UNII-3 / 802.11ac VHT20****UNII-3 / 802.11ac VHT40****UNII-3 / 802.11ac VHT80**

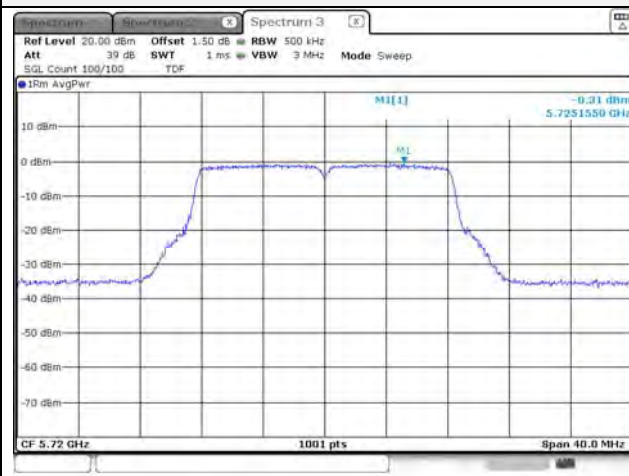
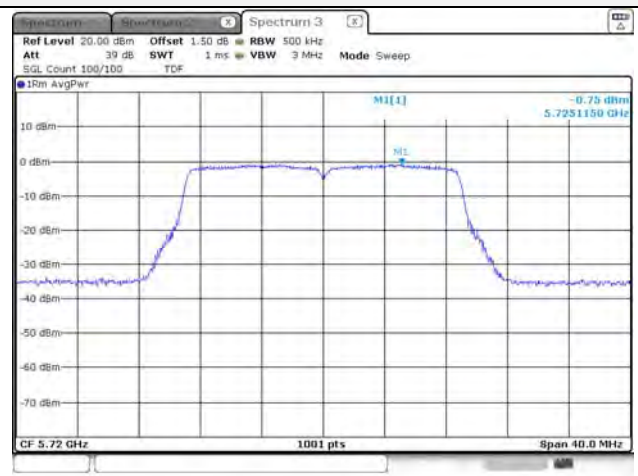
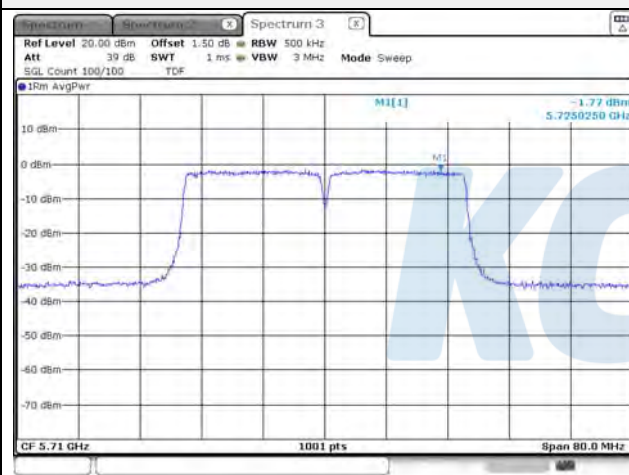
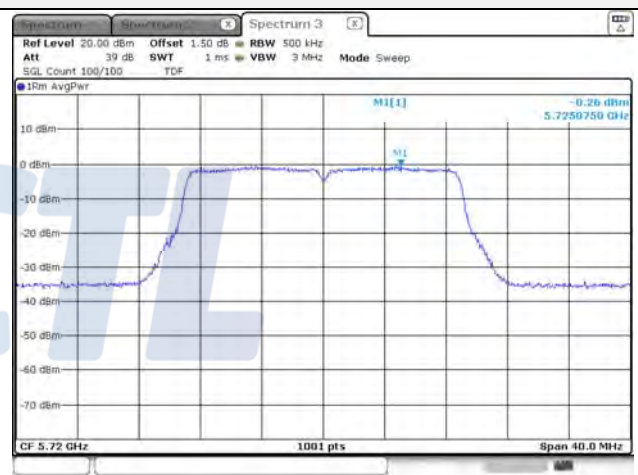
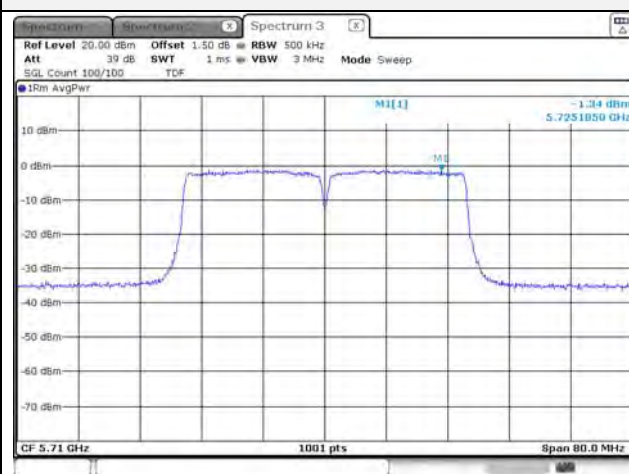
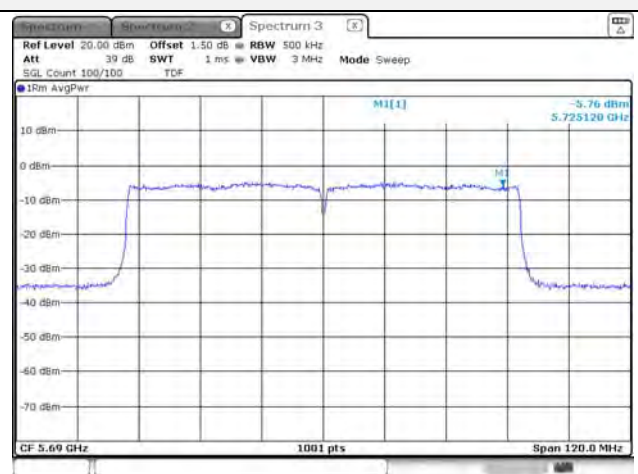
4TX MIMO ANT 1**UNII-2C / 802.11a****UNII-2C / 802.11n HT20****UNII-2C / 802.11n HT40****UNII-2C / 802.11ac VHT20****UNII-2C / 802.11ac VHT40****UNII-2C / 802.11ac VHT80**

UNII-3 / 802.11a**UNII-3 / 802.11n HT20****UNII-3 / 802.11n HT40****UNII-3 / 802.11ac VHT20****UNII-3 / 802.11ac VHT40****UNII-3 / 802.11ac VHT80**

4TX MIMO ANT 2**UNII-2C / 802.11a****UNII-2C / 802.11n HT20****UNII-2C / 802.11n HT40****UNII-2C / 802.11ac VHT20****UNII-2C / 802.11ac VHT40****UNII-2C / 802.11ac VHT80**

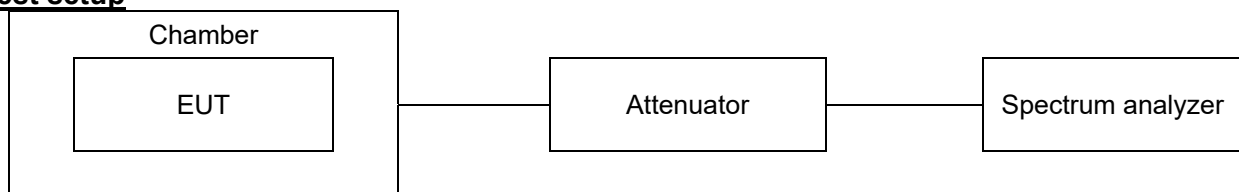
UNII-3 / 802.11a**UNII-3 / 802.11n HT20****UNII-3 / 802.11n HT40****UNII-3 / 802.11ac VHT20****UNII-3 / 802.11ac VHT40****UNII-3 / 802.11ac VHT80**

4TX MIMO ANT 3**UNII-2C / 802.11a****UNII-2C / 802.11n HT20****UNII-2C / 802.11n HT40****UNII-2C / 802.11ac VHT20****UNII-2C / 802.11ac VHT40****UNII-2C / 802.11ac VHT80**

UNII-3 / 802.11a**UNII-3 / 802.11n HT20****UNII-3 / 802.11n HT40****UNII-3 / 802.11ac VHT20****UNII-3 / 802.11ac VHT40****UNII-3 / 802.11ac VHT80**

7.6. Frequency Stability

Test setup



Limit

N/A

Test procedure

ANSI C63.10-2013, clause 6.8.1

Test settings

The frequency stability of the carrier frequency of the intentional radiator shall be maintained all conditions of normal operation as specified in the user manual. The frequency stability shall be maintained over a temperature variation of specified in the user manual at normal supply voltage, and over a variation in the primary supply voltage of specified in the user manual of the rated supply voltage at a temperature of 20 °C. For equipment that is capable only of operating from a battery, the frequency stability tests shall be performed using a new battery without any further requirement to vary supply voltage.

1. The EUT was placed inside the environmental test chamber.
2. The temperature was incremented by 10 °C intervals from lowest temperature.
3. Each increase step of temperature measured the frequency.
4. The test temperature was set 20 °C and the supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
5. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

Test results

Test mode : 802.11a UNII-1 5 180 MHz

Voltage	Voltage	TEMP	Maintaining time	Measure frequency	Frequency deviation	Deviation
[%]	[V]	[°C]		[Hz]	[ppm]	[%]
100	12	+22(Ref)	Startup	5 179 982 425	-17.57	-0.000 34
			2 minutes	5 179 982 431	-17.57	-0.000 34
			5 minutes	5 179 982 457	-17.54	-0.000 34
			10 minutes	5 179 982 466	-17.53	-0.000 34
		-30	Startup	5 180 043 701	43.70	0.000 84
			2 minutes	5 180 043 635	43.63	0.000 84
			5 minutes	5 180 043 572	43.57	0.000 84
			10 minutes	5 180 043 488	43.49	0.000 84
		-20	Startup	5 180 032 701	32.70	0.000 63
			2 minutes	5 180 032 632	32.63	0.000 63
			5 minutes	5 180 032 533	32.53	0.000 63
			10 minutes	5 180 032 498	32.50	0.000 63
		-10	Startup	5 180 024 835	24.83	0.000 48
			2 minutes	5 180 024 812	24.81	0.000 48
			5 minutes	5 180 024 796	24.80	0.000 48
			10 minutes	5 180 024 770	24.77	0.000 48
		0	Startup	5 180 012 967	12.97	0.000 25
			2 minutes	5 180 012 932	12.93	0.000 25
			5 minutes	5 180 012 915	12.91	0.000 25
			10 minutes	5 180 012 894	12.89	0.000 25
		10	Startup	5 180 003 647	3.65	0.000 07
			2 minutes	5 180 003 621	3.62	0.000 07
			5 minutes	5 180 003 607	3.61	0.000 07
			10 minutes	5 180 003 583	3.58	0.000 07
		20	Startup	5 179 983 681	-16.32	-0.000 32
			2 minutes	5 179 983 703	-16.30	-0.000 31
			5 minutes	5 179 983 722	-16.28	-0.000 31
			10 minutes	5 179 983 731	-16.27	-0.000 31
		30	Startup	5 179 983 803	-16.20	-0.000 31
			2 minutes	5 179 983 811	-16.19	-0.000 31
			5 minutes	5 179 983 835	-16.16	-0.000 31
			10 minutes	5 179 983 846	-16.15	-0.000 31
		40	Startup	5 179 973 657	-26.34	-0.000 51
			2 minutes	5 179 973 782	-26.22	-0.000 51
			5 minutes	5 179 973 812	-26.19	-0.000 51
			10 minutes	5 179 973 835	-26.16	-0.000 51
		50	Startup	5 179 963 408	-36.59	-0.000 71
			2 minutes	5 179 963 435	-36.56	-0.000 71
			5 minutes	5 179 963 466	-36.53	-0.000 71
			10 minutes	5 179 963 483	-36.52	-0.000 70
85	10.2	22	Startup	5 179 982 435	-17.56	-0.000 34
			2 minutes	5 179 982 456	-17.54	-0.000 34
			5 minutes	5 179 982 468	-17.53	-0.000 34
			10 minutes	5 179 982 488	-17.51	-0.000 34
115	13.8	22	Startup	5 179 982 443	-17.56	-0.000 34
			2 minutes	5 179 982 465	-17.53	-0.000 34
			5 minutes	5 179 982 473	-17.53	-0.000 34
			10 minutes	5 179 982 493	-17.51	-0.000 34

This test report shall not be reproduced, except in full, without the written approval

Test mode : 802.11a UNII-2A 5 260 MHz

Voltage	Voltage	TEMP	Maintaining time	Measure frequency	Frequency deviation	Deviation
[%]	[V]	[°C]		[Hz]	[ppm]	[%]
100	12	+22(Ref)	Startup	5 259 979 654	-20.35	-0.000 39
			2 minutes	5 259 979 663	-20.34	-0.000 39
			5 minutes	5 259 979 684	-20.32	-0.000 39
			10 minutes	5 259 979 703	-20.30	-0.000 39
		-30	Startup	5 260 041 028	41.03	0.000 78
			2 minutes	5 260 040 983	40.98	0.000 78
			5 minutes	5 260 040 966	40.97	0.000 78
			10 minutes	5 260 040 942	40.94	0.000 78
		-20	Startup	5 260 030 835	30.83	0.000 59
			2 minutes	5 260 030 821	30.82	0.000 59
			5 minutes	5 260 030 803	30.80	0.000 59
			10 minutes	5 260 030 787	30.79	0.000 59
		-10	Startup	5 260 019 931	19.93	0.000 38
			2 minutes	5 260 019 909	19.91	0.000 38
			5 minutes	5 260 019 891	19.89	0.000 38
			10 minutes	5 260 019 882	19.88	0.000 38
		0	Startup	5 260 010 653	10.65	0.000 20
			2 minutes	5 260 010 633	10.63	0.000 20
			5 minutes	5 260 010 624	10.62	0.000 20
			10 minutes	5 260 010 608	10.61	0.000 20
		10	Startup	5 260 000 812	8.12	0.000 02
			2 minutes	5 260 000 786	7.86	0.000 01
			5 minutes	5 260 000 753	7.53	0.000 01
			10 minutes	5 260 000 741	7.41	0.000 01
		20	Startup	5 259 990 230	-9.77	-0.000 19
			2 minutes	5 259 990 247	-9.75	-0.000 19
			5 minutes	5 259 990 283	-9.72	-0.000 18
			10 minutes	5 259 990 294	-9.71	-0.000 18
		30	Startup	5 259 979 831	-20.17	-0.000 38
			2 minutes	5 259 979 858	-20.14	-0.000 38
			5 minutes	5 259 979 873	-20.13	-0.000 38
			10 minutes	5 259 979 882	-20.12	-0.000 38
		40	Startup	5 259 970 931	-29.07	-0.000 55
			2 minutes	5 259 970 958	-29.04	-0.000 55
			5 minutes	5 259 970 988	-29.01	-0.000 55
			10 minutes	5 259 971 002	-29.00	-0.000 55
		50	Startup	5 259 960 755	-39.24	-0.000 75
			2 minutes	5 259 960 783	-39.22	-0.000 75
			5 minutes	5 259 960 797	-39.20	-0.000 75
			10 minutes	5 259 960 821	-39.18	-0.000 74
85	10.2	22	Startup	5 259 979 563	-20.44	-0.000 39
			2 minutes	5 259 979 581	-20.42	-0.000 39
			5 minutes	5 259 979 624	-20.38	-0.000 39
			10 minutes	5 259 979 642	-20.36	-0.000 39
115	13.8	22	Startup	5 259 979 631	-20.37	-0.000 39
			2 minutes	5 259 979 652	-20.35	-0.000 39
			5 minutes	5 259 979 668	-20.33	-0.000 39
			10 minutes	5 259 979 687	-20.31	-0.000 39

Test mode : 802.11a UNII-2C 5 500 MHz

Voltage	Voltage	TEMP	Maintaining time	Measure frequency	Frequency deviation	Deviation
[%]	[V]	[°C]		[Hz]	[ppm]	[%]
100	12	+22(Ref)	Startup	5 499 988 412	-11.59	-0.000 21
			2 minutes	5 499 988 523	-11.48	-0.000 21
			5 minutes	5 499 988 564	-11.44	-0.000 21
			10 minutes	5 499 988 603	-11.40	-0.000 21
		-30	Startup	5 500 049 696	49.70	0.000 90
			2 minutes	5 500 049 665	49.66	0.000 90
			5 minutes	5 500 049 632	49.63	0.000 90
			10 minutes	5 500 049 624	49.62	0.000 90
		-20	Startup	5 500 039 681	39.68	0.000 72
			2 minutes	5 500 039 657	39.66	0.000 72
			5 minutes	5 500 039 623	39.62	0.000 72
			10 minutes	5 500 039 612	39.61	0.000 72
		-10	Startup	5 500 028 964	28.96	0.000 53
			2 minutes	5 500 028 944	28.94	0.000 53
			5 minutes	5 500 028 927	28.93	0.000 53
			10 minutes	5 500 028 912	28.91	0.000 53
		0	Startup	5 500 019 668	19.67	0.000 36
			2 minutes	5 500 019 631	19.63	0.000 36
			5 minutes	5 500 019 618	19.62	0.000 36
			10 minutes	5 500 019 603	19.60	0.000 36
		10	Startup	5 500 008 969	8.97	0.000 16
			2 minutes	5 500 008 932	8.93	0.000 16
			5 minutes	5 500 008 923	8.92	0.000 16
			10 minutes	5 500 008 902	8.90	0.000 16
		20	Startup	5 499 999 681	-3.19	-0.000 01
			2 minutes	5 499 999 702	-2.98	-0.000 01
			5 minutes	5 499 999 725	-2.75	-0.000 01
			10 minutes	5 499 999 745	-2.55	0.000 00
		30	Startup	5 499 988 932	-11.07	-0.000 20
			2 minutes	5 499 988 961	-11.04	-0.000 20
			5 minutes	5 499 988 989	-11.01	-0.000 20
			10 minutes	5 499 989 002	-11.00	-0.000 20
		40	Startup	5 499 979 683	-20.32	-0.000 37
			2 minutes	5 499 979 723	-20.28	-0.000 37
			5 minutes	5 499 979 742	-20.26	-0.000 37
			10 minutes	5 499 979 766	-20.23	-0.000 37
		50	Startup	5 499 969 733	-30.27	-0.000 55
			2 minutes	5 499 969 761	-30.24	-0.000 55
			5 minutes	5 499 969 786	-30.21	-0.000 55
			10 minutes	5 499 969 798	-30.20	-0.000 55
85	10.2	22	Startup	5 499 988 325	-11.67	-0.000 21
			2 minutes	5 499 988 378	-11.62	-0.000 21
			5 minutes	5 499 988 424	-11.58	-0.000 21
			10 minutes	5 499 988 531	-11.47	-0.000 21
115	13.8	22	Startup	5 499 988 524	-11.48	-0.000 21
			2 minutes	5 499 988 627	-11.37	-0.000 21
			5 minutes	5 499 988 657	-11.34	-0.000 21
			10 minutes	5 499 988 724	-11.28	-0.000 21

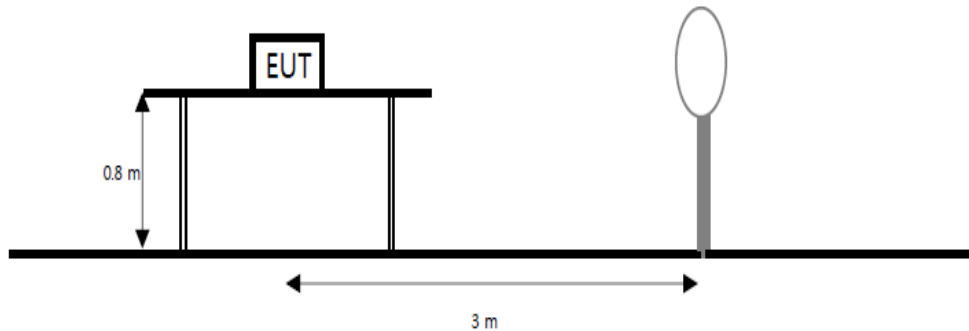
Test mode : 802.11a UNII-3 5 745 MHz

Voltage	Voltage	TEMP	Maintaining time	Measure frequency	Frequency deviation	Deviation
[%]	[V]	[°C]		[Hz]	[ppm]	[%]
100	12	+22(Ref)	Startup	5 744 974 503	-25.50	-0.000 44
			2 minutes	5 744 974 581	-25.42	-0.000 44
			5 minutes	5 744 974 639	-25.36	-0.000 44
			10 minutes	5 744 974 724	-25.28	-0.000 44
		-30	Startup	5 745 036 025	36.02	0.000 63
			2 minutes	5 745 035 864	35.86	0.000 62
			5 minutes	5 745 035 823	35.82	0.000 62
			10 minutes	5 745 035 767	35.77	0.000 62
		-20	Startup	5 745 024 751	24.75	0.000 43
			2 minutes	5 745 024 723	24.72	0.000 43
			5 minutes	5 745 024 709	24.71	0.000 43
			10 minutes	5 745 024 687	24.69	0.000 43
		-10	Startup	5 745 015 821	15.82	0.000 28
			2 minutes	5 745 015 803	15.80	0.000 28
			5 minutes	5 745 015 764	15.76	0.000 27
			10 minutes	5 745 015 748	15.75	0.000 27
		0	Startup	5 745 006 254	6.25	0.000 11
			2 minutes	5 745 006 227	6.23	0.000 11
			5 minutes	5 745 006 203	6.20	0.000 11
			10 minutes	5 745 006 187	6.19	0.000 11
		10	Startup	5 744 995 781	-4.22	-0.000 07
			2 minutes	5 744 995 812	-4.19	-0.000 07
			5 minutes	5 744 995 843	-4.16	-0.000 07
			10 minutes	5 744 995 858	-4.14	-0.000 07
		20	Startup	5 744 984 771	-15.23	-0.000 27
			2 minutes	5 744 984 793	-15.21	-0.000 26
			5 minutes	5 744 984 812	-15.19	-0.000 26
			10 minutes	5 744 984 827	-15.17	-0.000 26
		30	Startup	5 744 975 623	-24.38	-0.000 42
			2 minutes	5 744 975 637	-24.36	-0.000 42
			5 minutes	5 744 975 645	-24.35	-0.000 42
			10 minutes	5 744 975 677	-24.32	-0.000 42
		40	Startup	5 744 966 813	-33.19	-0.000 58
			2 minutes	5 744 966 838	-33.16	-0.000 58
			5 minutes	5 744 966 859	-33.14	-0.000 58
			10 minutes	5 744 966 871	-33.13	-0.000 58
		50	Startup	5 744 955 715	-44.28	-0.000 77
			2 minutes	5 744 955 734	-44.27	-0.000 77
			5 minutes	5 744 955 748	-44.25	-0.000 77
			10 minutes	5 744 955 762	-44.24	-0.000 77
85	10.2	22	Startup	5 744 974 403	-25.60	-0.000 45
			2 minutes	5 744 974 481	-25.52	-0.000 44
			5 minutes	5 744 974 602	-25.40	-0.000 44
			10 minutes	5 744 974 726	-25.27	-0.000 44
115	13.8	22	Startup	5 744 974 603	-25.40	-0.000 44
			2 minutes	5 744 974 681	-25.32	-0.000 44
			5 minutes	5 744 974 768	-25.23	-0.000 44
			10 minutes	5 744 974 846	-25.15	-0.000 44

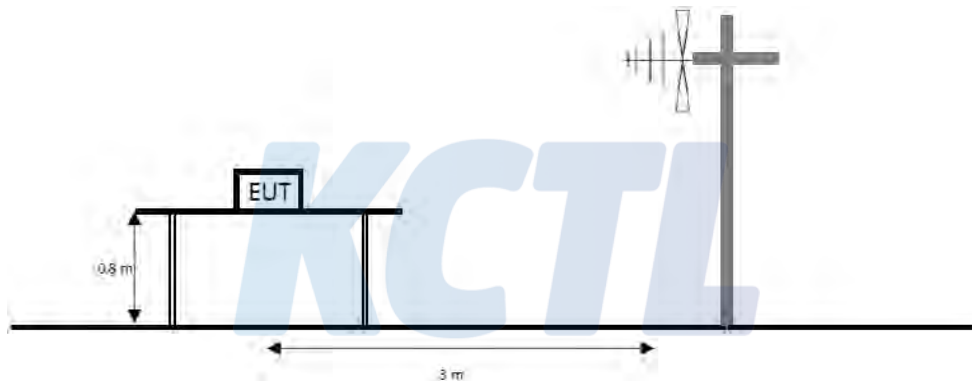
7.7. Spurious Emission, Band Edge and Restricted bands

Test setup

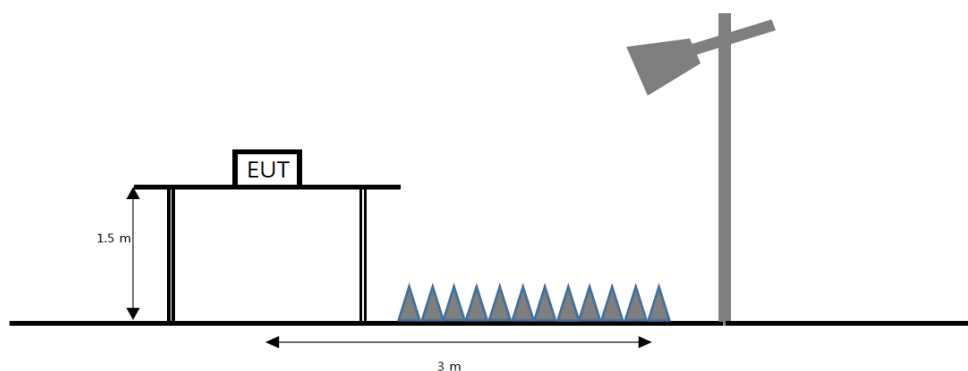
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz Emissions



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 GHz emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 GHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz emissions, whichever is lower.



Limit

According to section 15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Measurement distance (m)
0.009 - 0.490	2 400/F(kHz)	300
0.490 - 1.705	24 000/F(kHz)	30
1.705 - 30	30	30
30 - 88	100**	3
88 - 216	150**	3
216 - 960	200**	3
Above 960	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., Section 15.231 and 15.241.

According to section 15.205(a) and (b), only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.009 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.694 75 - 16.695 25	608 - 614	5.35 - 5.46
2.173 5 - 2.190 5	16.804 25 - 16.804 75	960 - 1 240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1 300 - 1 427	8.025 - 8.5
4.177 25 - 4.177 75	37.5 - 38.25	1 435 - 1 626.5	9.0 - 9.2
4.207 25 - 4.207 75	73 - 74.6	1 645.5 - 1 646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1 660 - 1 710	10.6 - 12.7
6.267 75 - 6.268 25	108 - 121.94	1 718.8 - 1 722.2	13.25 - 13.4
6.311 75 - 6.312 25	123 - 138	2 200 - 2 300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2 310 - 2 390	15.35 - 16.2
8.362 - 8.366	156.524 75 - 156.525	2 483.5 - 2 500	17.7 - 21.4
8.376 25 - 8.386 75	25	2 690 - 2 900	22.01 - 23.12
8.414 25 - 8.414 75	156.7 - 156.9	3 260 - 3 267	23.6 - 24.0
12.29 - 12.293	162.012 5 - 167.17	3 332 - 3 339	31.2 - 31.8
12.519 75 - 12.520 25	167.72 - 173.2	3 345.8 - 3 358	36.43 - 36.5
12.576 75 - 12.577 25	240 - 285	3 600 - 4 400	Above 38.6
13.36 - 13.41	322 - 335.4		

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in section 15.209. At frequencies equal to or less than 1 000 MHz, compliance with the limits in section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1 000 MHz, compliance with the emission limits in section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in section 15.35 apply to these measurements.

According to section 15.407(b), undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

KCTL

Test procedureANSI C63.10-2013 Section 6.4.6
KDB 558074 D01 V05r02**Test settings****Peak field strength measurements**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in table
3. VBW $\geq$ (3 $\times$ RBW)
4. Detector = peak
5. Sweep time = auto
6. Trace mode = max hold
7. Allow sweeps to continue until the trace stabilizes

Table. RBW as a function of frequency

Frequency	RBW
9 kHz to 150 kHz	200 Hz to 300 Hz
0.15 MHz to 30 MHz	9 kHz to 10 kHz
30 MHz to 1 000 MHz	100 kHz to 120 kHz
> 1 000 MHz	1 MHz

Average field strength measurements**Trace averaging with continuous EUT transmission at full power**

If the EUT can be configured or modified to transmit continuously ($D \geq 98\%$), then the average emission levels shall be measured using the following method (with EUT transmitting continuously):

1. RBW = 1 MHz (unless otherwise specified).
2. VBW $\geq$ (3 $\times$ RBW).
3. Detector = RMS (power averaging), if $[\text{span} / (\# \text{ of points in sweep})] \leq (\text{RBW} / 2)$. Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
4. Averaging type = power (i.e., rms):
 - 1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
 - 2) Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.
5. Sweep time = auto.
6. Perform a trace average of at least 100 traces.

Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction

If continuous transmission of the EUT ($D \geq 98\%$) cannot be achieved and the duty cycle is constant (duty cycle variations are less than $\pm 2\%$), then the following procedure shall be used:

1. The EUT shall be configured to operate at the maximum achievable duty cycle.
2. Measure the duty cycle D of the transmitter output signal as described in 11.6.
3. RBW = 1 MHz (unless otherwise specified).
4. VBW $\geq [3 \times \text{RBW}]$.
5. Detector = RMS (power averaging), if $[\text{span} / (\# \text{ of points in sweep})] \leq (\text{RBW} / 2)$. Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this

condition cannot be satisfied, then the detector mode shall be set to peak.

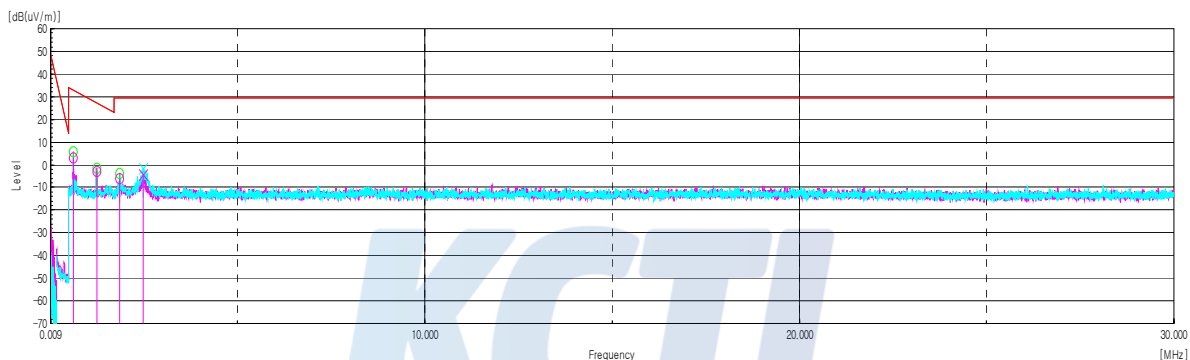
6. Averaging type = power (i.e., rms):
 - 1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
 - 2) Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.
7. Sweep time = auto.
8. Perform a trace average of at least 100 traces.
9. A correction factor shall be added to the measurement results prior to comparing with the emission limit to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:
 - 1) If power averaging (rms) mode was used in step f), then the applicable correction factor is $[10 \log (1 / D)]$, where D is the duty cycle.
 - 2) If linear voltage averaging mode was used in step f), then the applicable correction factor is $[20 \log (1 / D)]$, where D is the duty cycle.
 - 3) If a specific emission is demonstrated to be continuous ($D \geq 98\%$) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection and frequency above 1 GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz ($\geq 1/T$) for Average detection (AV) at frequency above 1 GHz. (where T = pulse width)
2. $f < 30$ MHz, extrapolation factor of 40 dB/decade of distance. $F_d = 40 \log(D_m/D_s)$
 $f \geq 30$ MHz, extrapolation factor of 20 dB/decade of distance. $F_d = 20 \log(D_m/D_s)$
Where:
 F_d = Distance factor in dB
 D_m = Measurement distance in meters
 D_s = Specification distance in meters
3. Factors(dB) = Antenna factor(dB/m) + Cable loss(dB) + or Amp. gain(dB) + or F_d (dB)
4. The worst-case emissions are reported however emissions whose levels were not within 20 dB of respective limits were not reported.
5. Average test would be performed if the peak result were greater than the average limit.
6. ¹⁾ means restricted band.
7. According to part 15.31(f)(2), an extrapolation factor of 40 dB/decade is applied because measured distance of radiated emission is 3 m.
8. Below 30 MHz frequency range, In order to search for the worst result, all orientations about parallel, perpendicular, and ground-parallel were investigated then reported. when the emission level was higher than 20 dB of the limit, then the following statement shall be made: "No spurious emissions were detected within 20 dB of the limit."
9. Radiated test is performed at the highest power of 802.11HT_n20 and 802.11VHT_ac20.
(SISO: 802.11HT_n20 / MIMO: 802.11VHT_ac20)
10. Radiated test is performed at the highest power of 802.11HT_n40 and 802.11VHT_ac40.
(SISO, MIMO: 802.11HT_n40)

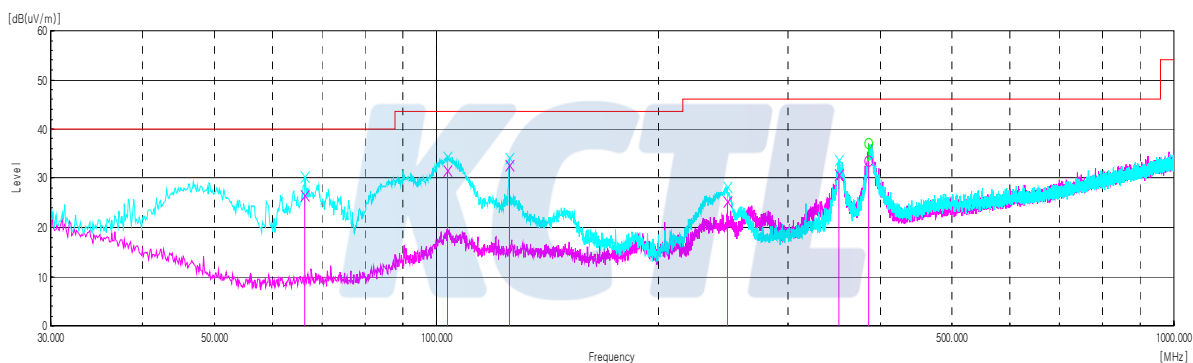
Test results (Below 30 MHz) – Worst case: 802.11a_UNII 3_MIMO Highest frequency

Frequency	Pol.	Reading	Amp. + Cable	Antenna Factor	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Quasi peak data								
0.62	H	55.00	20.00	-32.20	-	2.80	32.70	29.90
1.24	H	49.20	20.01	-32.14	-	-2.93	27.20	30.13
1.85	H	45.90	20.04	-32.06	-	-6.12	29.50	35.62
2.48	V	47.80	20.07	-31.96	-	-4.09	29.50	33.59

Horizontal/Vertical

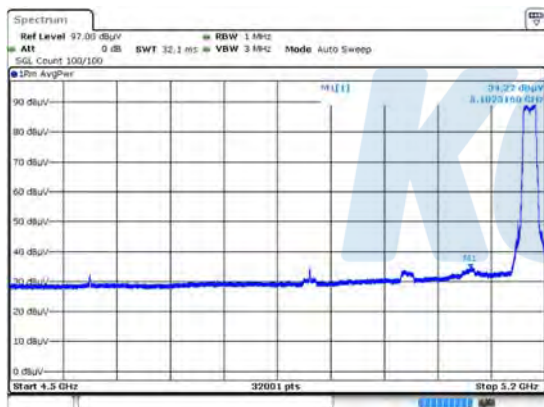
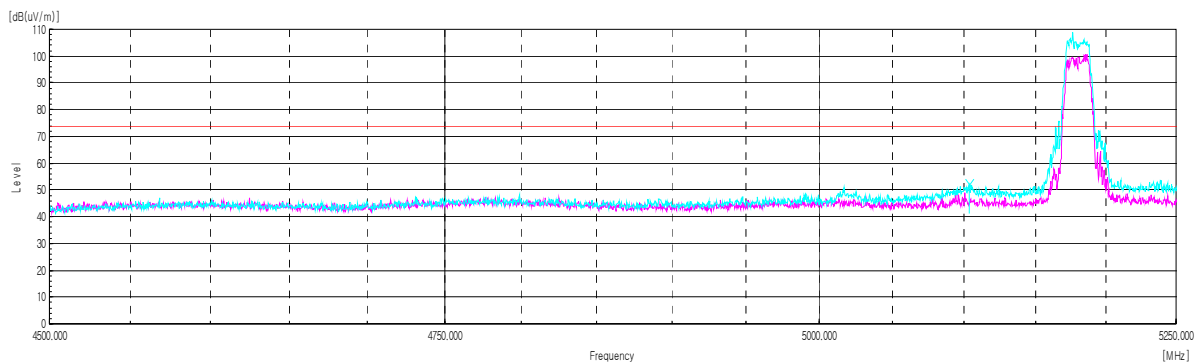
Test results (Below 1 000 MHz) – Worst case: Worst case: 802.11a_UNII 3_MIMO Highest frequency

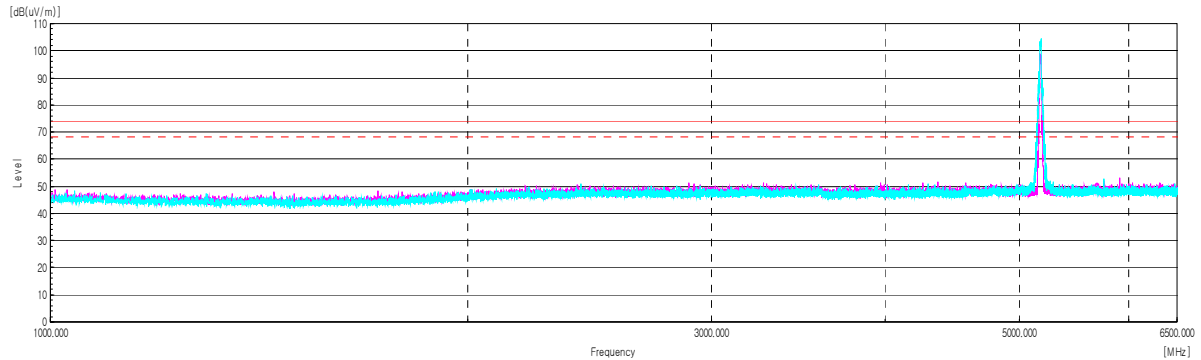
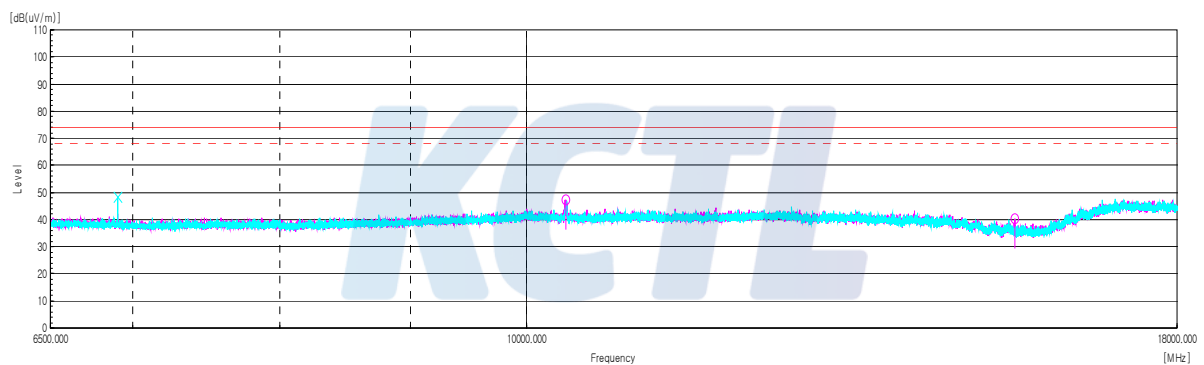
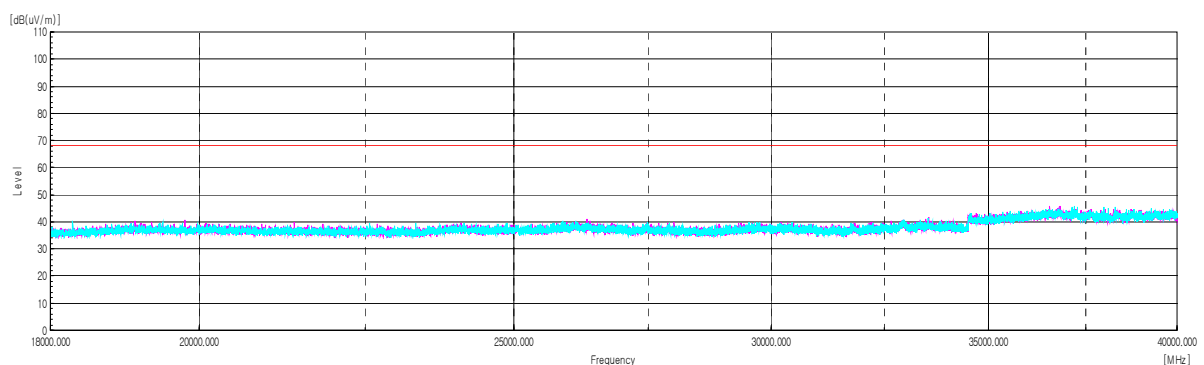
Frequency	Pol.	Reading	Amp. + Cable	Antenna Factor	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Quasi peak data								
66.38	V	36.40	12.53	-29.78	-	26.65	40.00	13.35
103.48	V	35.30	17.49	-29.12	-	31.57	43.50	11.93
125.55	V	39.70	18.39	-28.80	-	32.69	43.50	10.81
248.01	V	42.00	18.50	-27.31	-	25.19	46.00	20.81
351.31	V	32.70	20.65	-26.26	-	30.69	46.00	15.31
385.51	H	33.40	21.38	-25.97	-	33.01	46.00	12.99

Horizontal/Vertical

Test results (Above 1 000 MHz)**802.11a UNII 1 ANT 0****Lowest Channel (5 180 MHz)**

Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 102.32 ¹⁾	V	41.77	34.24	-23.91	-	52.10	74.00	21.90
6 906.99	V	63.44	35.60	-50.74	-	48.30	68.20	19.90
10 356.55	H	57.55	37.60	-47.95	-	47.20	68.20	21.00
15 540.78 ¹⁾	H	40.90	40.42	-41.12	-	40.20	74.00	33.80
Average Data								
5 102.32 ¹⁾	V	34.22	34.24	-23.91	0.22	44.77	54.00	9.23

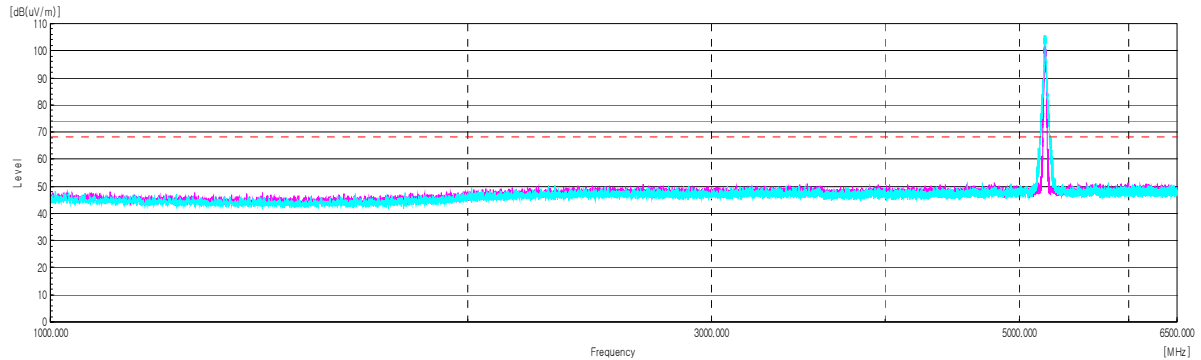
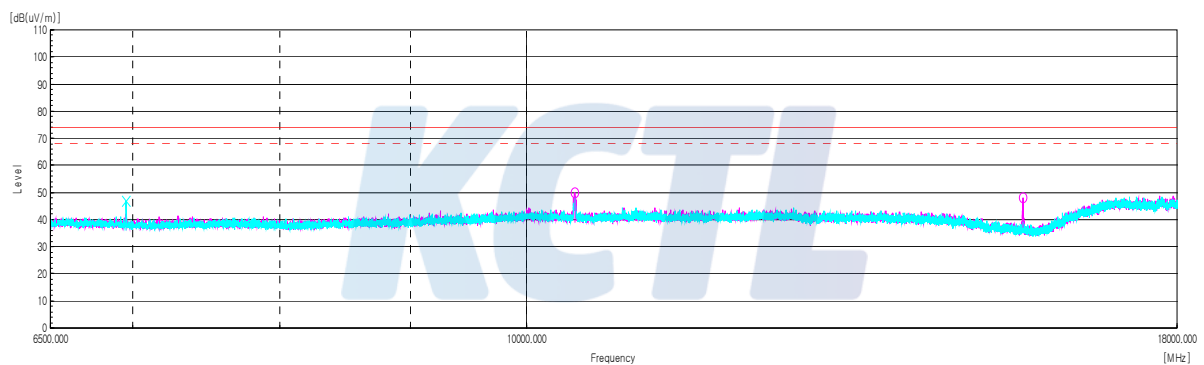
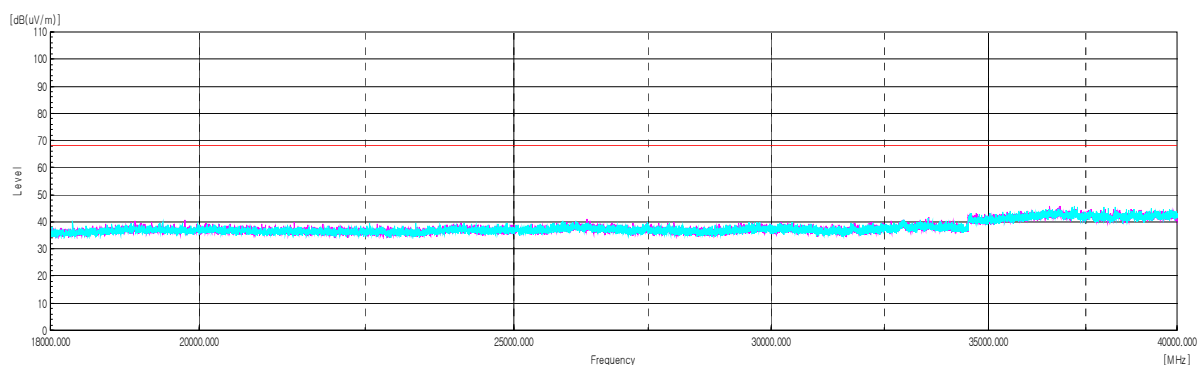
Average data (5 102.32 MHz)**Horizontal/Vertical for Band-edge**

Horizontal/Vertical for 1 GHz ~ 6.5 GHz**Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

Middle Channel (5 220 MHz)

Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Peak data								
6 960.03	V	62.25	35.60	-50.75	-	47.10	68.20	21.10
10 440.25	H	60.20	37.60	-47.90	-	49.90	68.20	18.30
15 657.70 ¹⁾	H	48.01	40.46	-40.57	-	47.90	74.00	26.10
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

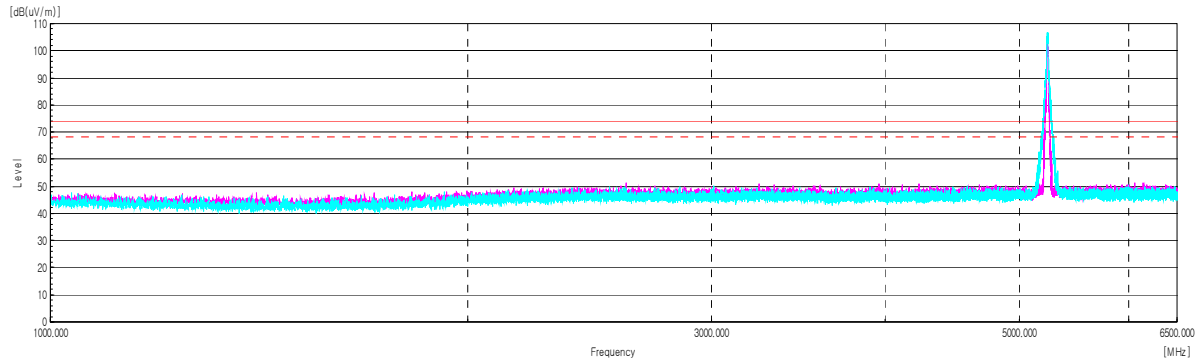
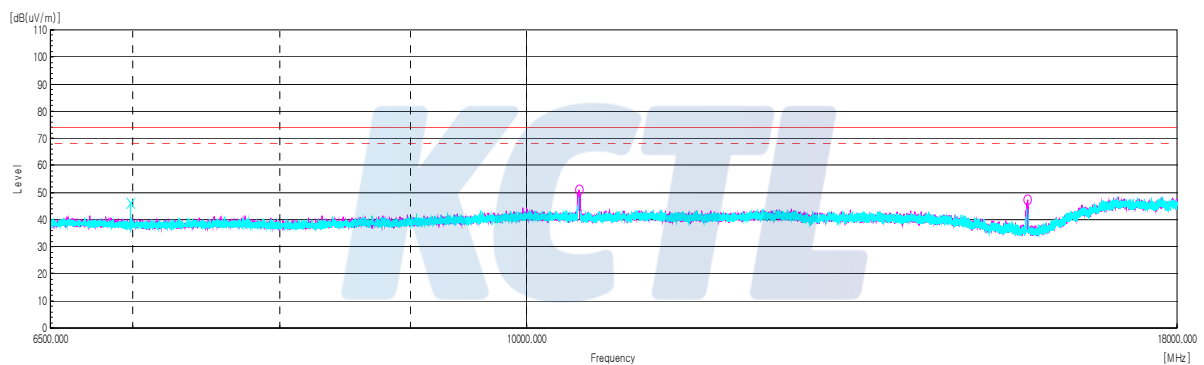
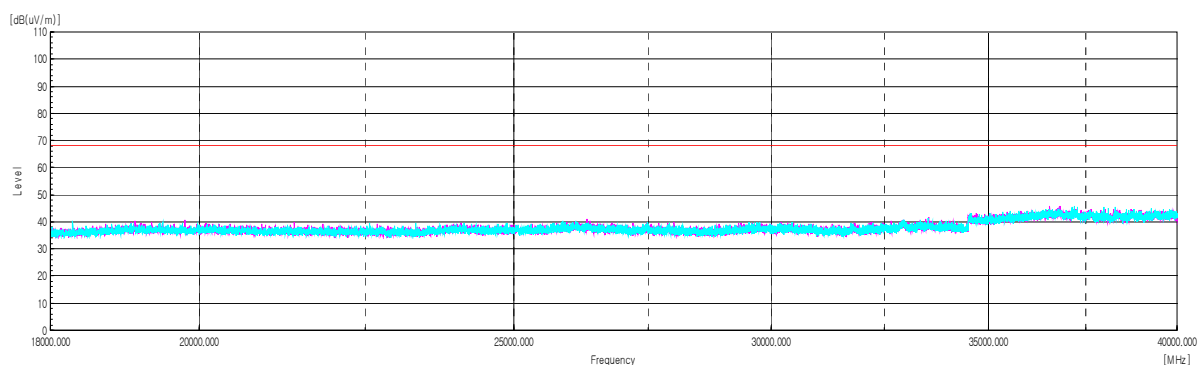
KCTL

Horizontal/Vertical for 1 GHz ~ 6.5 GHz**Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

Highest Channel (5 240 MHz)

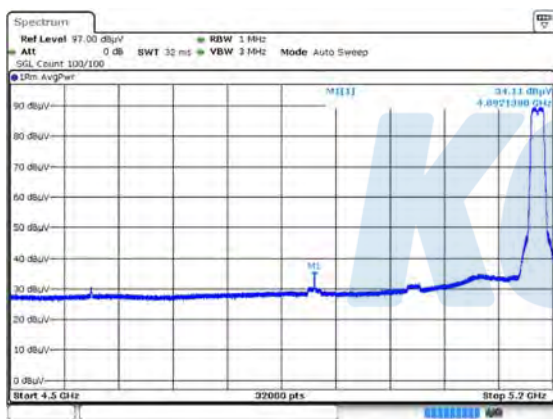
Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Peak data								
6 986.86	V	61.56	35.60	-50.76	-	46.40	68.20	21.80
10 485.61	H	61.27	37.60	-47.87	-	51.00	68.20	17.20
15 727.34 ¹⁾	H	47.05	40.49	-40.24	-	47.30	74.00	26.70
Average Data								
No spurious emissions were detected within 20 dB of the limit.								



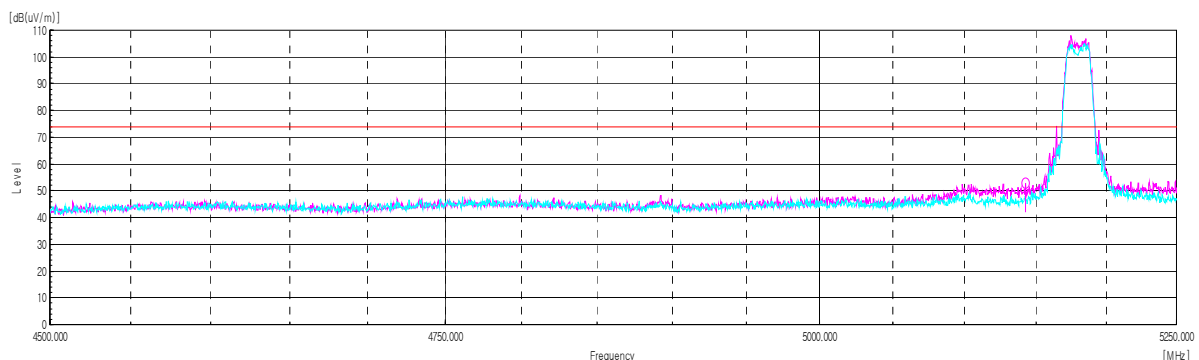
Horizontal/Vertical for 1 GHz ~ 6.5 GHz**Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

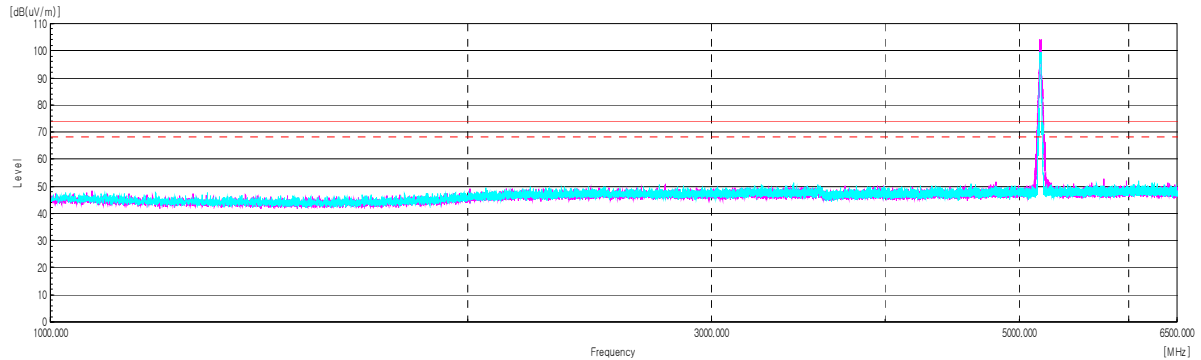
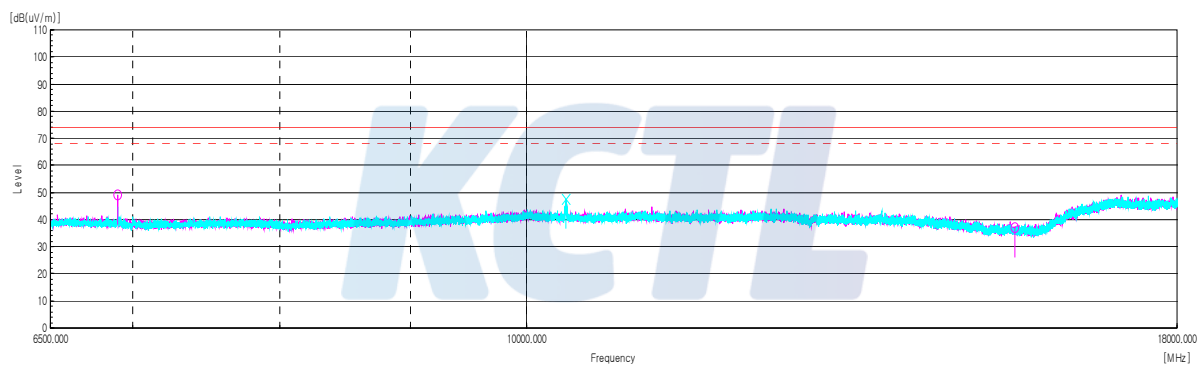
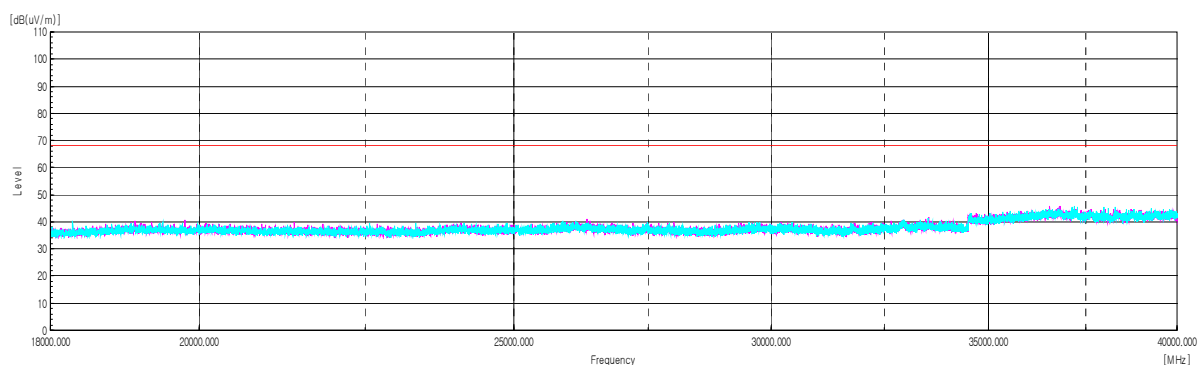
802.11a UNII 1 ANT 1**Lowest Channel (5 180 MHz)**

Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
4 892.14 ¹⁾	H	43.00	34.12	-24.22	-	52.90	74.00	21.10
6 906.36	H	64.14	35.60	-50.74	-	49.00	68.20	19.20
10 359.74	V	57.94	37.60	-47.94	-	47.60	68.20	20.60
15 548.45 ¹⁾	H	37.56	40.42	-41.08	-	36.90	74.00	37.10
Average Data								
4 892.14 ¹⁾	H	34.11	34.12	-24.22	0.22	44.23	54.00	9.77

Average data (4 892.14 MHz)

Blank

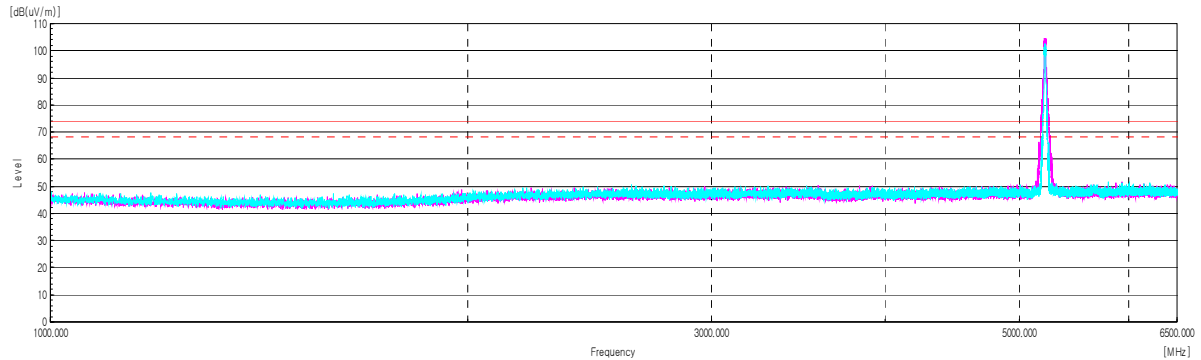
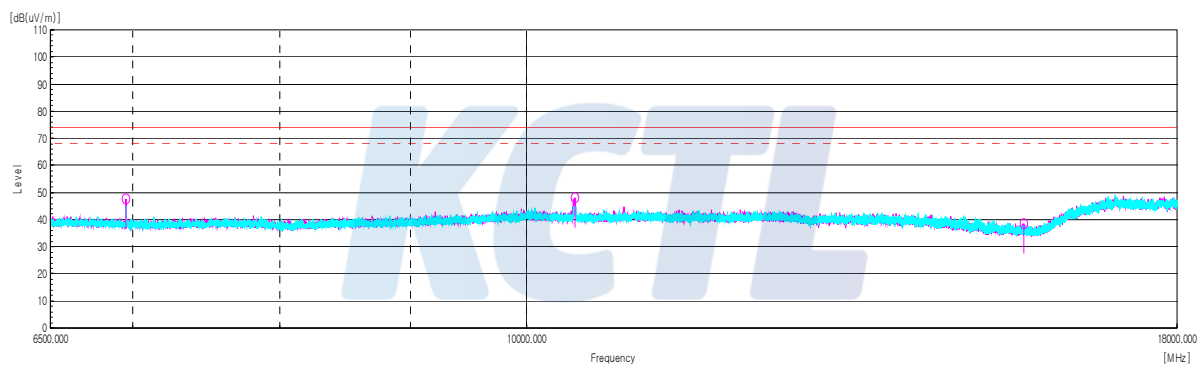
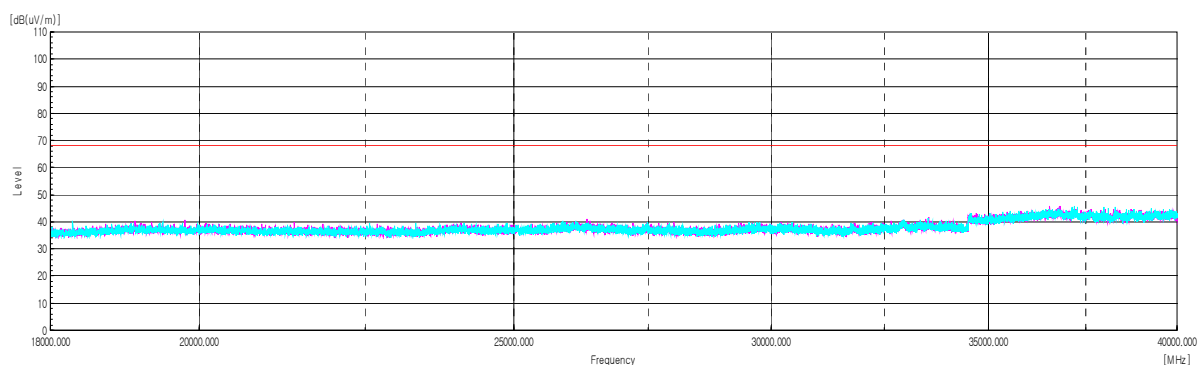
Horizontal/Vertical for Band-edge

Horizontal/Vertical for 1 GHz ~ 6.5 GHz**Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

Middle Channel (5 220 MHz)

Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Peak data								
6 960.03	H	62.85	35.60	-50.75	-	47.70	68.20	20.50
10 442.80	H	58.39	37.60	-47.89	-	48.10	68.20	20.10
15 671.12 ¹⁾	H	38.74	40.47	-40.51	-	38.70	74.00	35.30
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

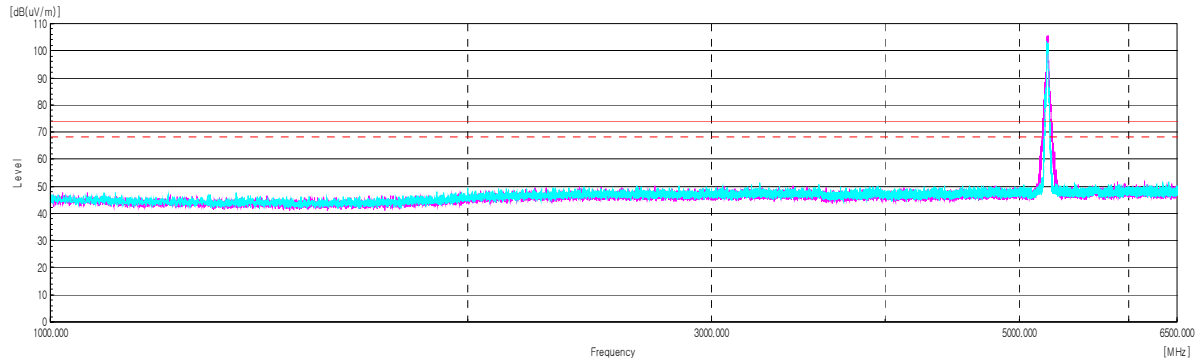
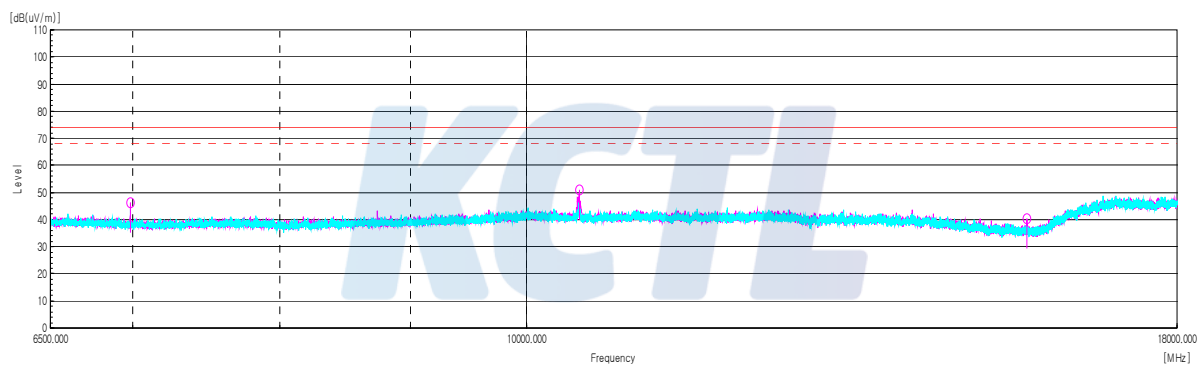


Horizontal/Vertical for 1 GHz ~ 6.5 GHz**Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

Highest Channel (5 240 MHz)

Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Peak data								
6 986.86	H	61.46	35.60	-50.76	-	46.30	68.20	21.90
10 486.25	H	61.17	37.60	-47.87	-	50.90	68.20	17.30
15 714.57 ¹⁾	H	40.31	40.49	-40.30	-	40.50	74.00	33.50
Average Data								
No spurious emissions were detected within 20 dB of the limit.								



Horizontal/Vertical for 1 GHz ~ 6.5 GHz**Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**