

## Appendix A

### RF Test Data for 5.2G WLAN (Conducted Measurement)

Product Name: Wireless Router/Bridge/Access Point/CPE

Trade Mark: Speco Technologies

Test Model: AP500M

#### Environmental Conditions

Temperature:	23.6 ° C
Relative Humidity:	54.1 %
ATM Pressure:	100.0 kPa
Test Engineer:	SCENT HU
Supervised by:	WangChuang

#### A.1 Duty Cycle

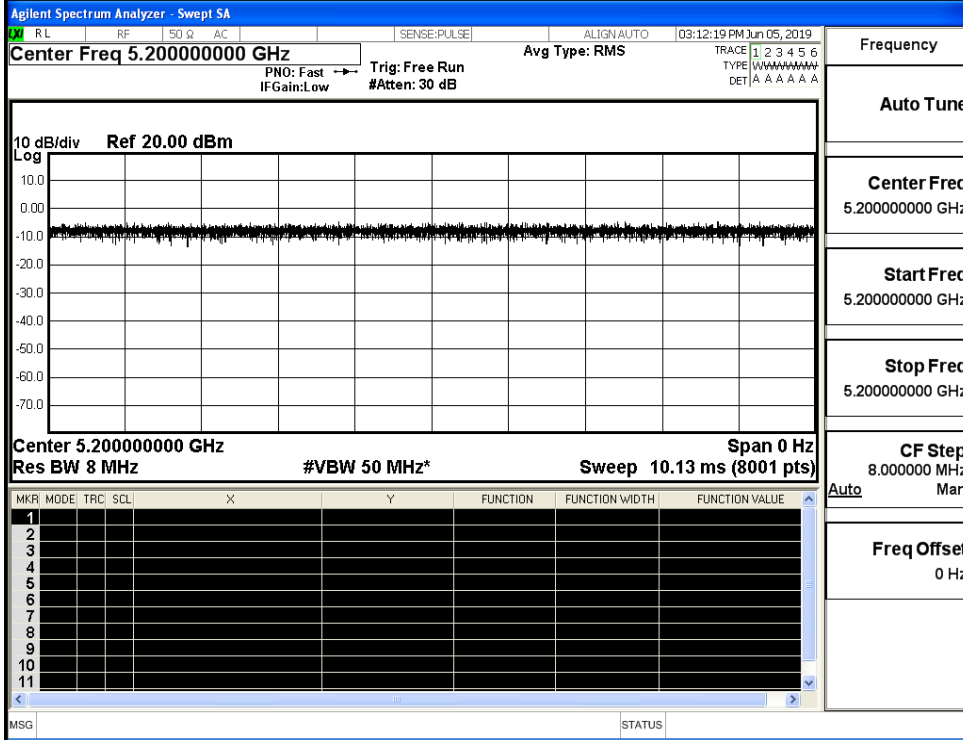
##### Antenna 0

Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11A	5200	100	0.00	0.01
11N20 SISO	5200	100	0.00	0.01
11N40 SISO	5190	100	0.00	0.01

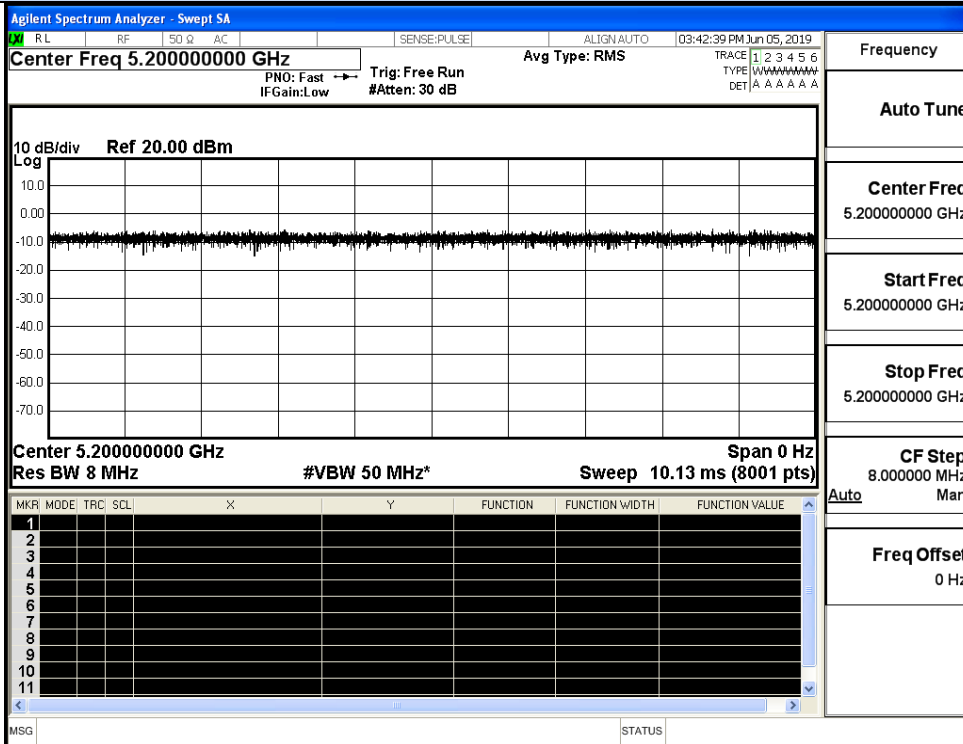
##### Antenna 1

Test Mode	Test Frequency (MHz)	Duty Cycle (%)	10log(1/x) Factor (dB)	1/B Minimum VBW(KHz)
11A	5200	100	0.00	0.01
11N20 SISO	5200	100	0.00	0.01
11N40 SISO	5190	100	0.00	0.01

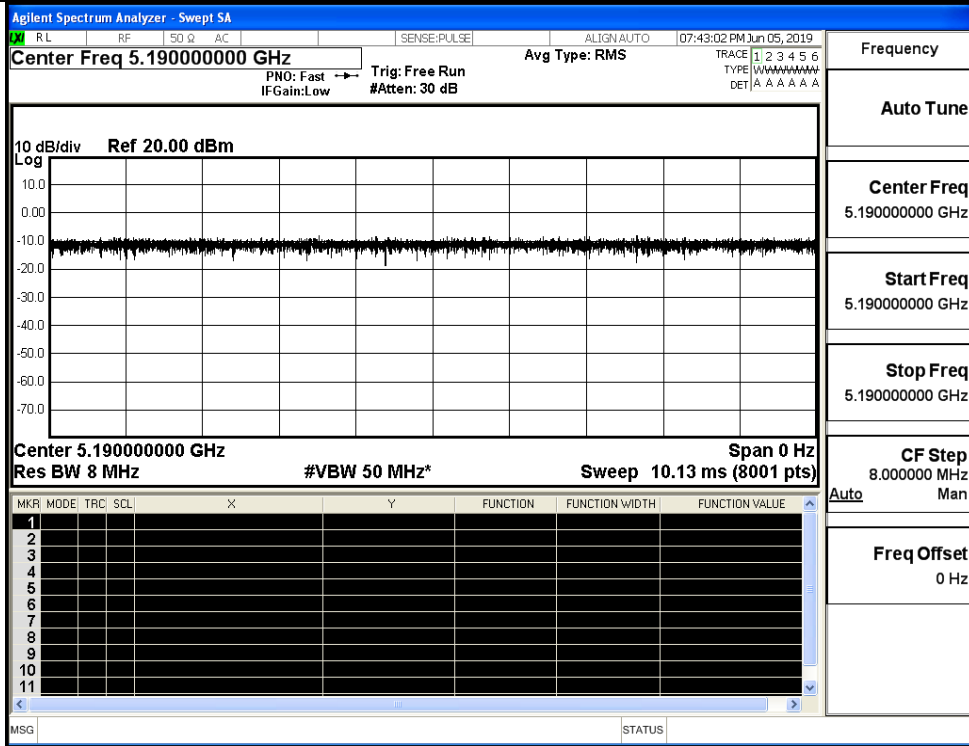
On Time and Duty Cycle



IEEE 802.11a\_Ant0

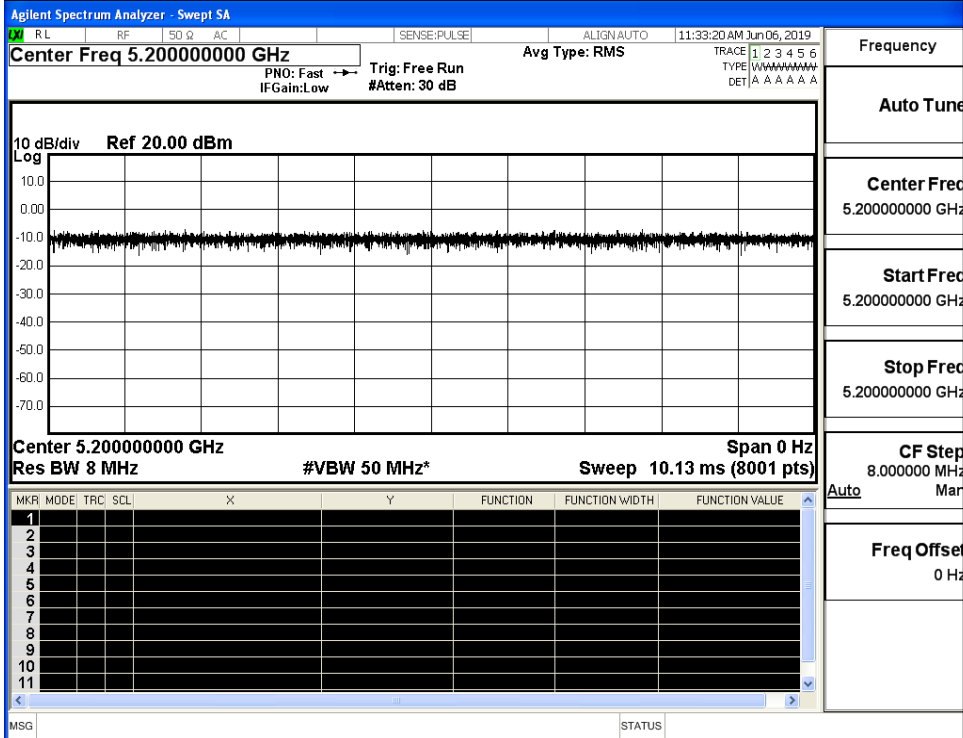


IEEE 802.11n HT20\_Ant0

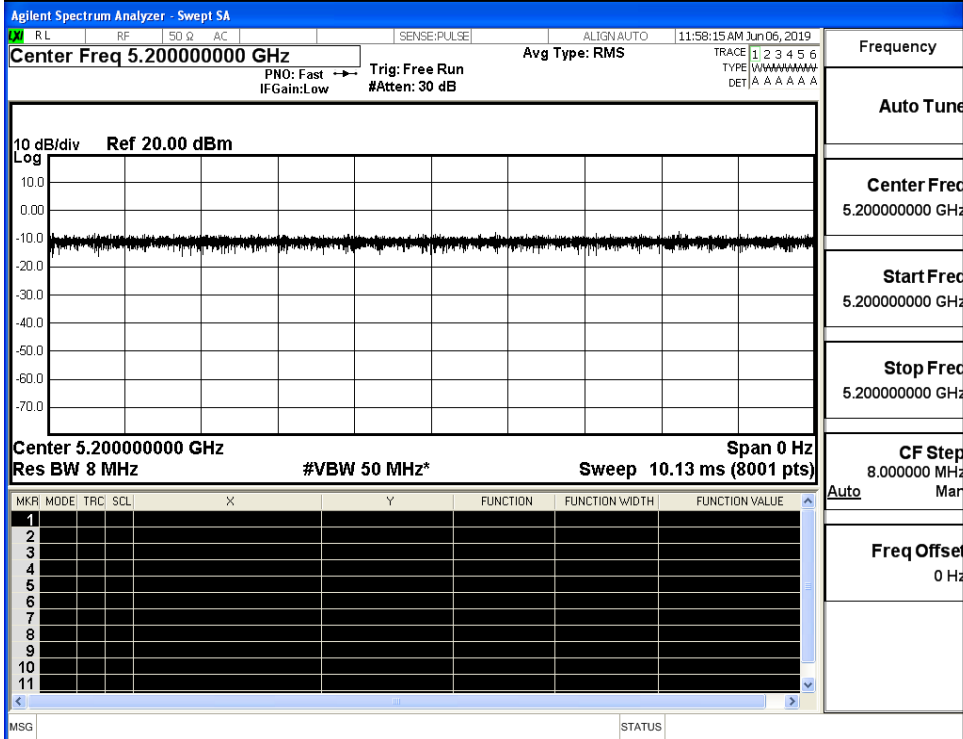


IEEE 802.11n HT40\_Ant0

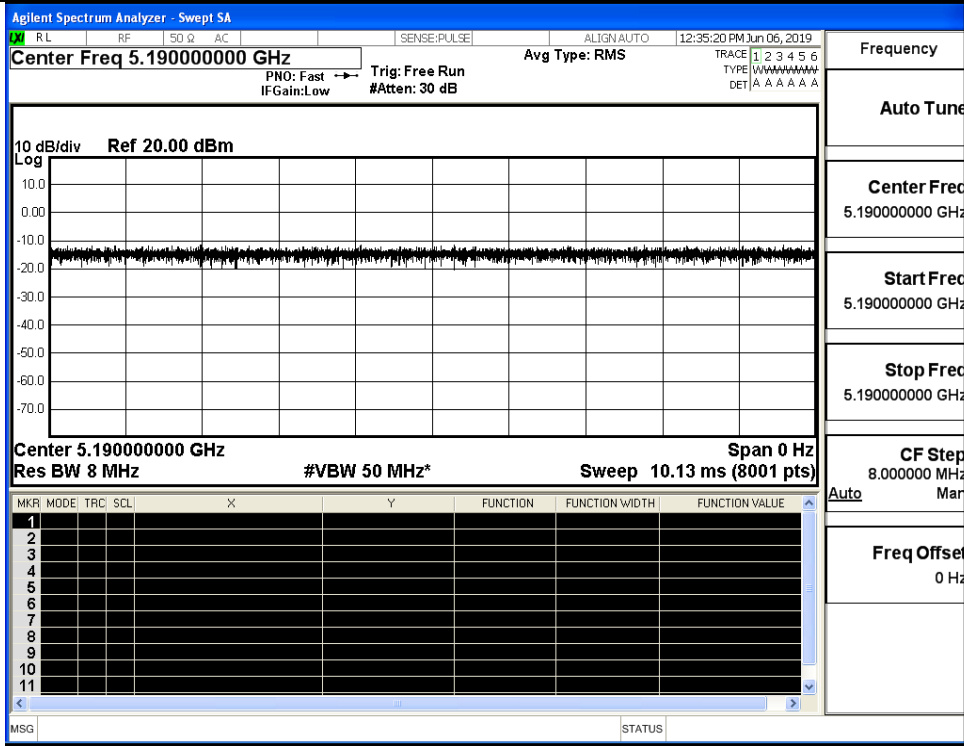
On Time and Duty Cycle



IEEE 802.11a\_Ant1



IEEE 802.11n HT20\_Ant1



IEEE 802.11n HT40\_Ant1

## A.2 Maximum Conduct Output Power

### Antenna 0

Test Mode	Channel	Frequency (MHz)	AVG Conducted Power (dBm)	Duty Cycle Factor(dB)	Report Conducted Power(dBm)	Limit (dBm)	Verdict
11A	36	5180	9.03	0	9.03	24	Pass
	40	5200	9.18	0	9.18		Pass
	48	5240	9.03	0	9.03		Pass
11N20 SISO	36	5180	8.57	0	8.57	24	Pass
	40	5200	8.27	0	8.27		Pass
	48	5240	8.48	0	8.48		Pass
11N40 SISO	38	5190	9.19	0	9.19	24	Pass
	46	5230	7.96	0	7.96		Pass

### Antenna 1

Test Mode	Channel	Frequency (MHz)	AVG Conducted Power (dBm)	Duty Cycle Factor(dB)	Report Conducted Power(dBm)	Limit (dBm)	Verdict
11A	36	5180	8.74	0	8.74	24	Pass
	40	5200	8.53	0	8.53		Pass
	48	5240	8.73	0	8.73		Pass
11N20 SISO	36	5180	7.62	0	7.62	24	Pass
	40	5200	7.43	0	7.43		Pass
	48	5240	7.28	0	7.28		Pass
11N40 SISO	38	5190	6.74	0	6.74	24	Pass
	46	5230	6.56	0	6.56		Pass

### Antenna 0+Antenna 1

Test Mode	Channel	Frequency (MHz)	AVG Conducted Power (dBm)			Duty Cycle Factor (dB)	Report Conducted Power(dBm)			Limit (dBm/ MHz)	Verdict
			Ant0	Ant1	Sum		Ant0	Ant1	Sum		
11N20	36	5180	8.57	7.62	11.13	0	8.57	7.62	11.13	14.99	Pass
	40	5200	8.27	7.43	10.88	0	8.27	7.43	10.88		Pass
	48	5240	8.48	7.28	10.93	0	8.48	7.28	10.93		Pass
11N40	38	5190	9.19	6.74	11.15	0	9.19	6.74	11.15	14.99	Pass
	46	5230	7.96	6.56	10.33	0	7.96	6.56	10.33		Pass

### A.3 Power Spectral Density

#### Antenna 0

Test Mode	Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Cycle Factor (dB)	Report Power Density (dBm/MHz)	Limit (dBm/MHz)	Verdict
11A	36	5180	-0.55	0	-0.55	17	Pass
	40	5200	-0.84	0	-0.84		Pass
	48	5240	-1.22	0	-1.22		Pass
11N20 SISO	36	5180	-1.62	0	-1.62	17	Pass
	40	5200	-1.74	0	-1.74		Pass
	48	5240	-1.95	0	-1.95		Pass
11N40 SISO	38	5190	-4.68	0	-4.68	17	Pass
	46	5230	-5.09	0	-5.09		Pass

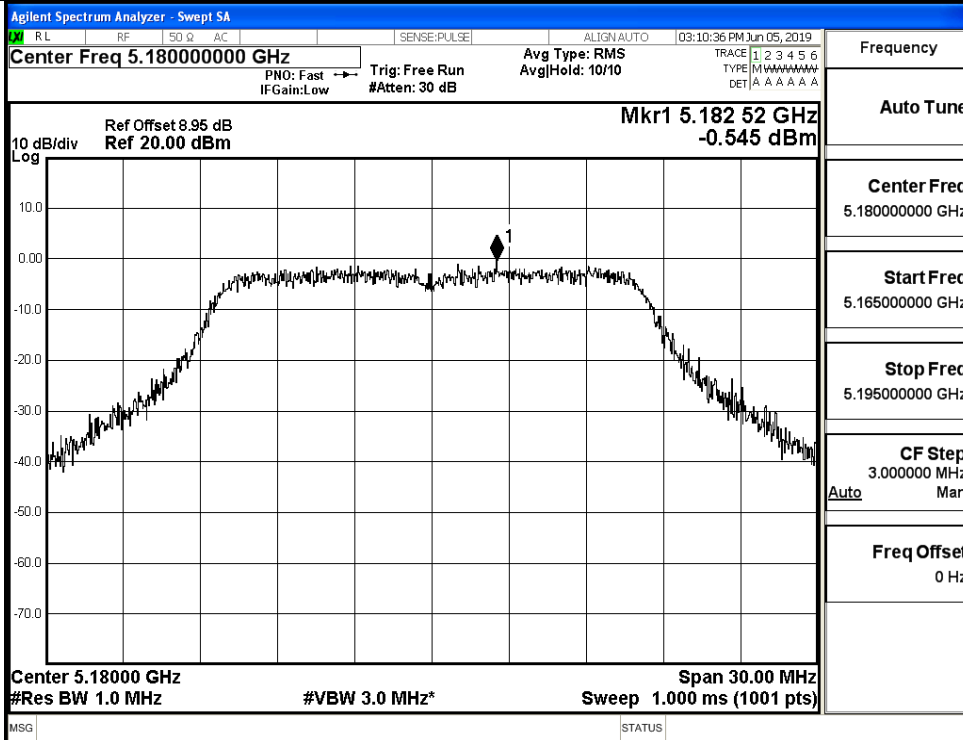
#### Antenna 1

Test Mode	Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Cycle Factor (dB)	Report Power Density (dBm/MHz)	Limit (dBm/MHz)	Verdict
11A	36	5180	-3.16	0	-3.16	17	Pass
	40	5200	-2.42	0	-2.42		Pass
	48	5240	-3.38	0	-3.38		Pass
11N20 SISO	36	5180	-4.53	0	-4.53	17	Pass
	40	5200	-3.73	0	-3.73		Pass
	48	5240	-4.12	0	-4.12		Pass
11N40 SISO	38	5190	-6.92	0	-6.92	17	Pass
	46	5230	-7.01	0	-7.01		Pass

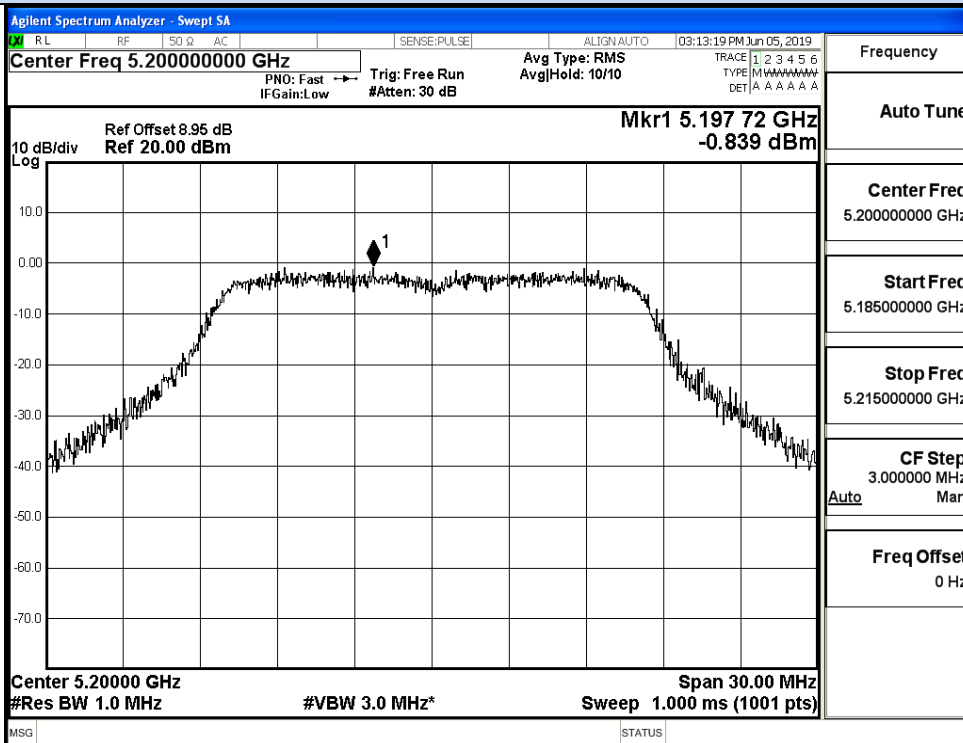
#### Antenna 0+Antenna 1

Test Mode	Channel	Frequency (MHz)	Power Density (dBm/MHz)			Duty Cycle Factor (dB)	Report Power Density (dBm/MHz)			Limit (dBm/MHz)	Verdict
			Ant0	Ant1	Sum		Ant0	Ant1	Sum		
11N20	36	5180	-1.62	-4.53	0.17	0	-1.62	-4.53	0.17	7.99	Pass
	40	5200	-1.74	-3.73	0.39	0	-1.74	-3.73	0.39		Pass
	48	5240	-1.95	-4.12	0.11	0	-1.95	-4.12	0.11		Pass
11N40	38	5190	-4.68	-6.92	-2.65	0	-4.68	-6.92	-2.65	7.99	Pass
	46	5230	-5.09	-7.01	-2.93	0	-5.09	-7.01	-2.93		Pass

Power Spectral Density

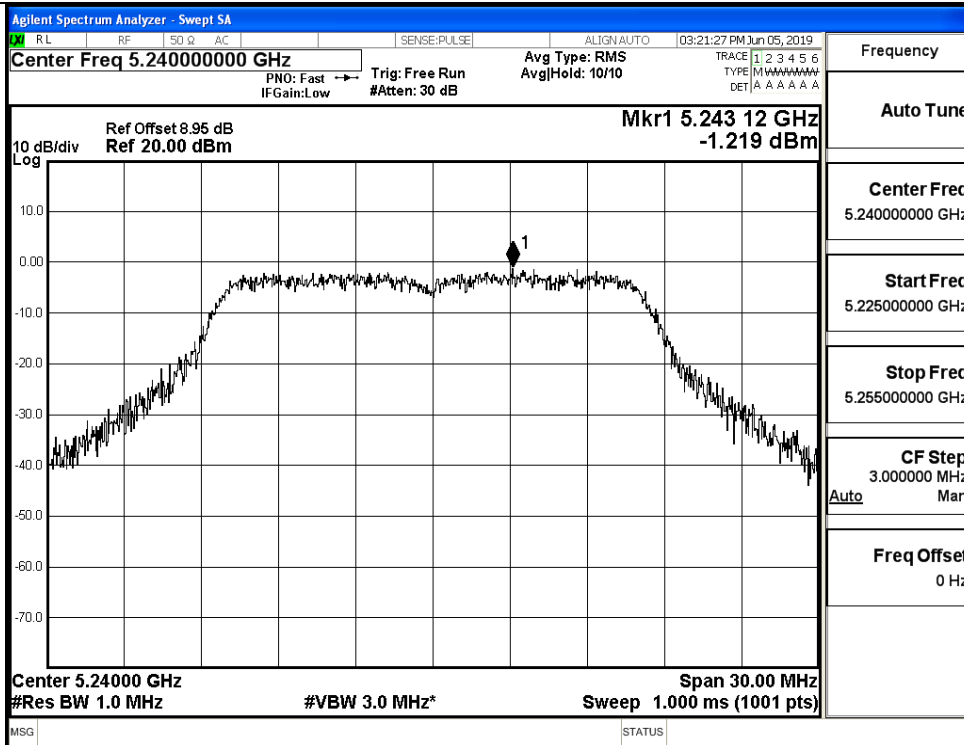


IEEE 802.11a / Channel 36 / 5180MHz \_Ant0



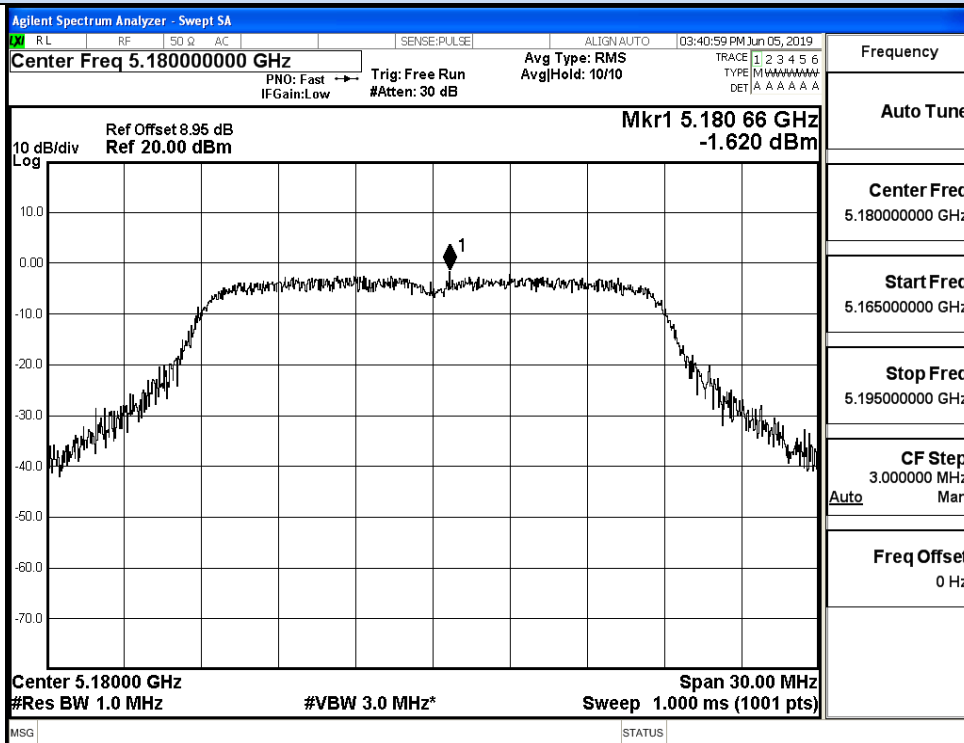
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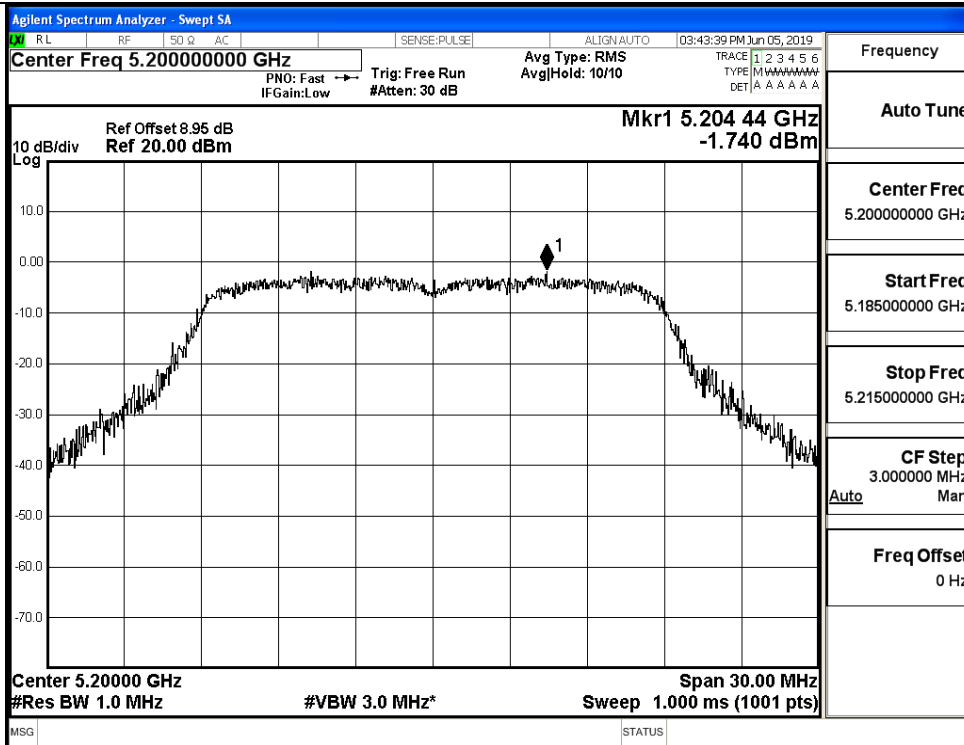


IEEE 802.11na / Channel 48 / 5240MHz \_Ant0

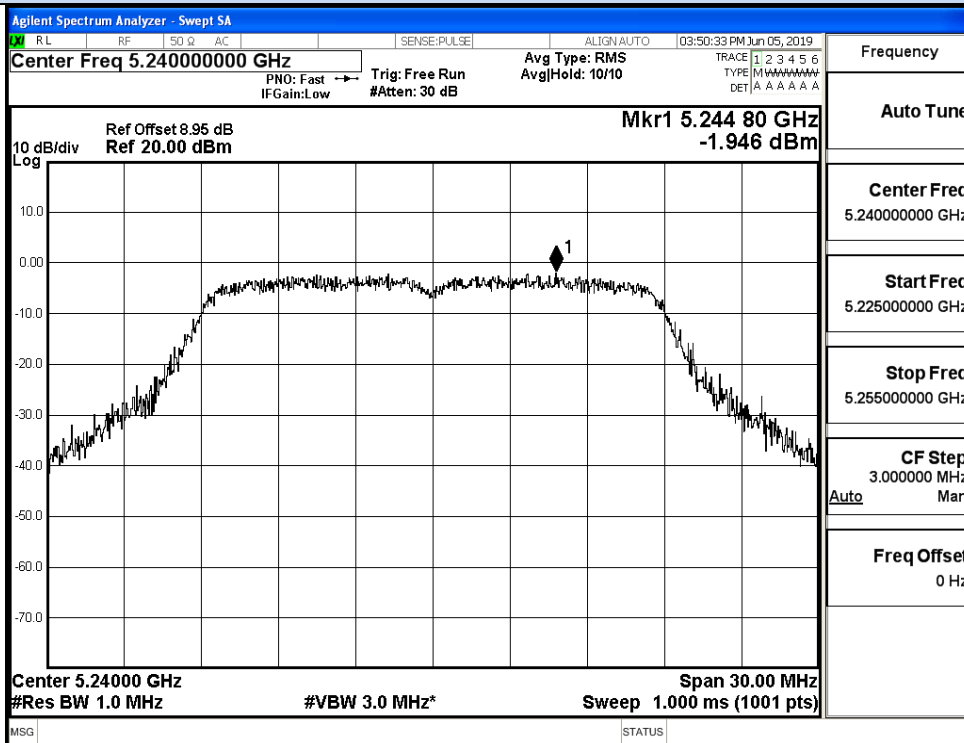
Power Spectral Density



IEEE 802.11n20 / Channel 36 / 5180MHz \_Ant0

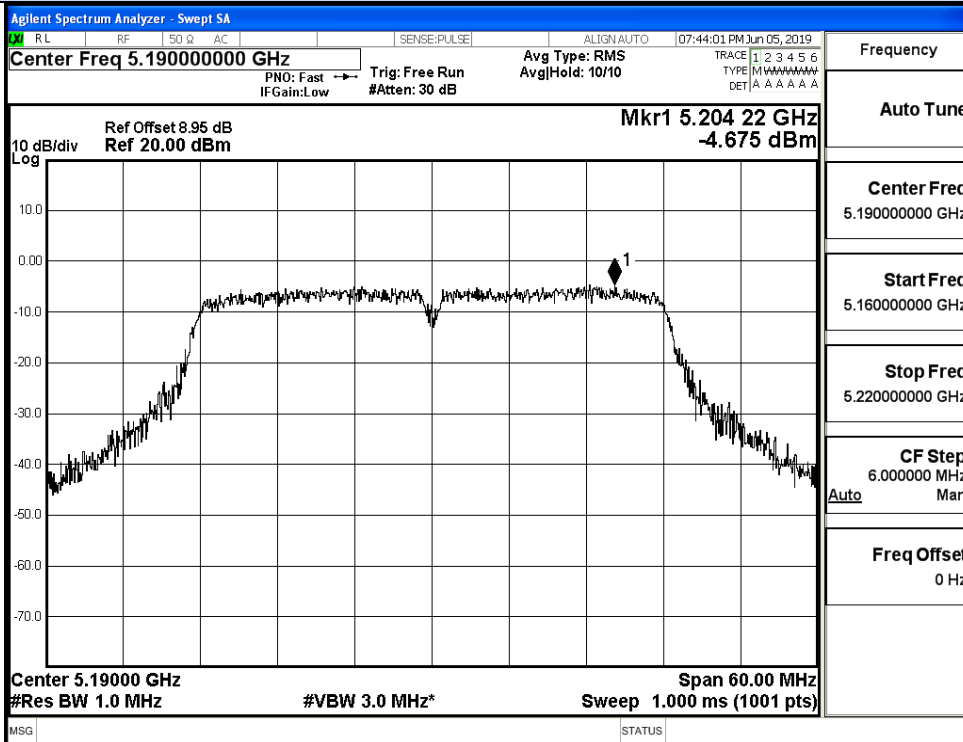


IEEE 802.11n20 / Channel 40 / 5200MHz\_Ant0

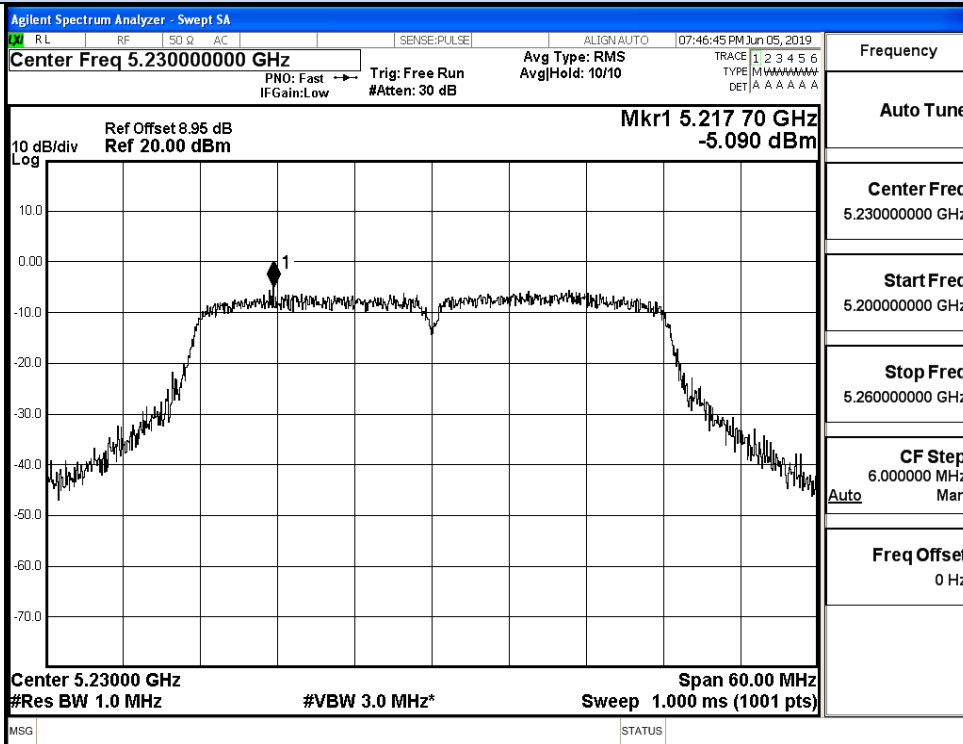


IEEE 802.11n20 / Channel 48 / 5240MHz\_Ant0

Power Spectral Density

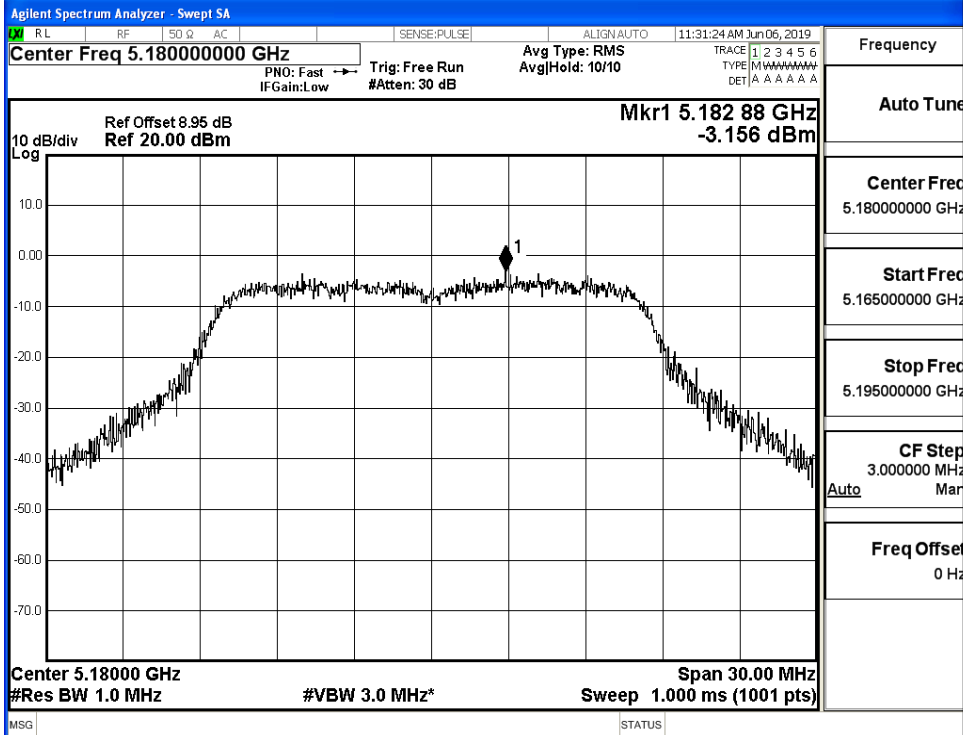


IEEE 802.11n40 / Channel 38 / 5190MHz\_Ant0

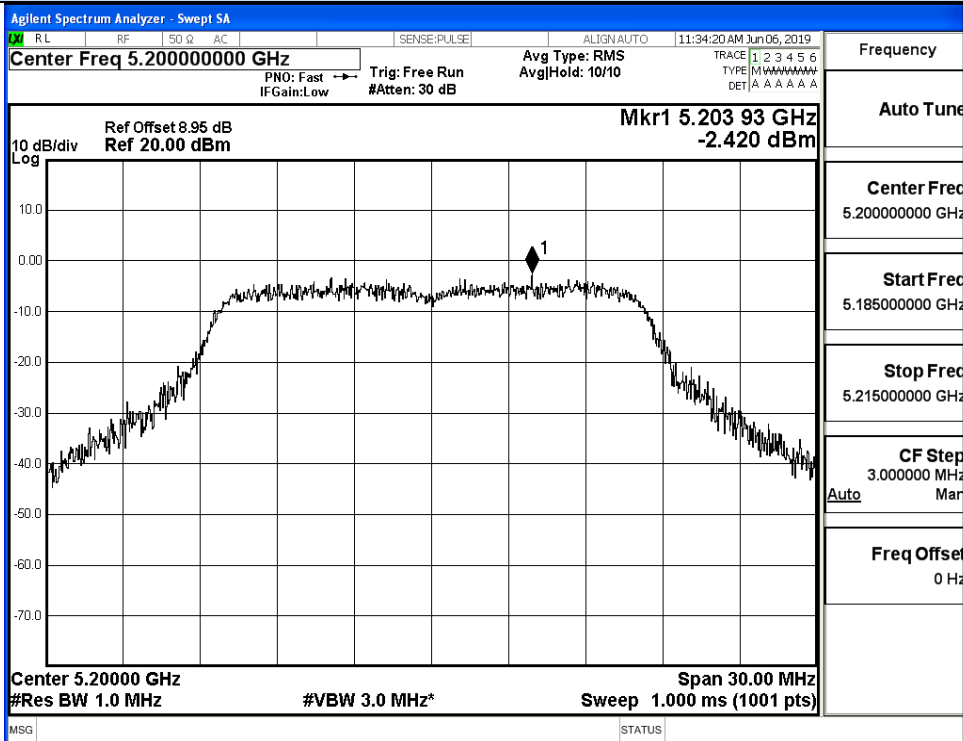


IEEE 802.11n40 / Channel 46 / 5230MHz\_Ant0

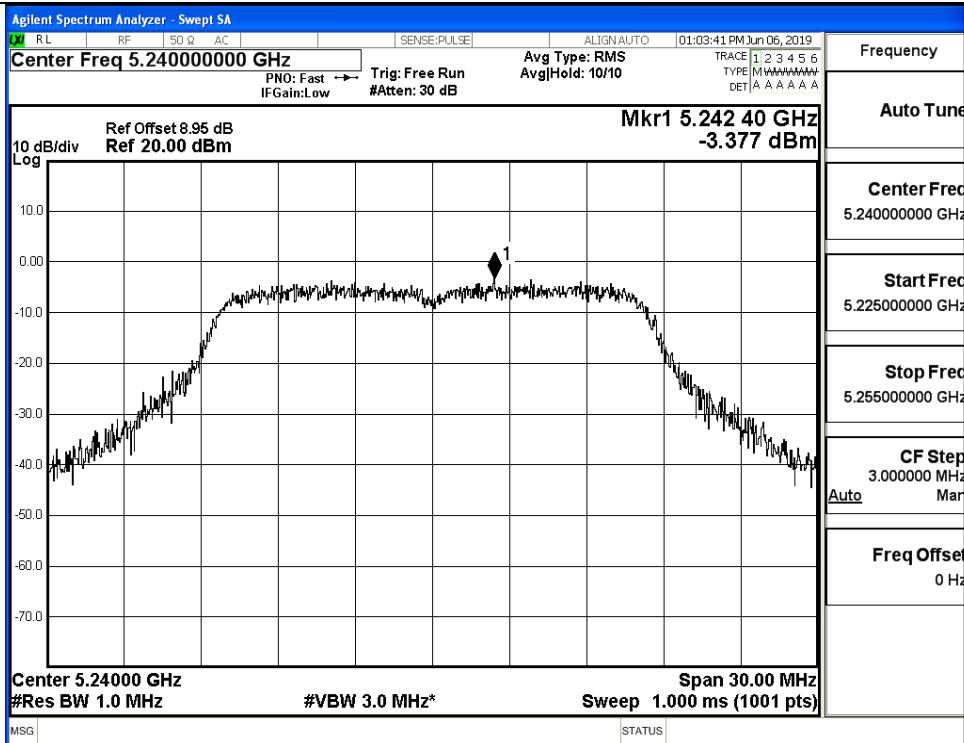
Power Spectral Density



IEEE 802.11a / Channel 36 / 5180MHz\_Ant1

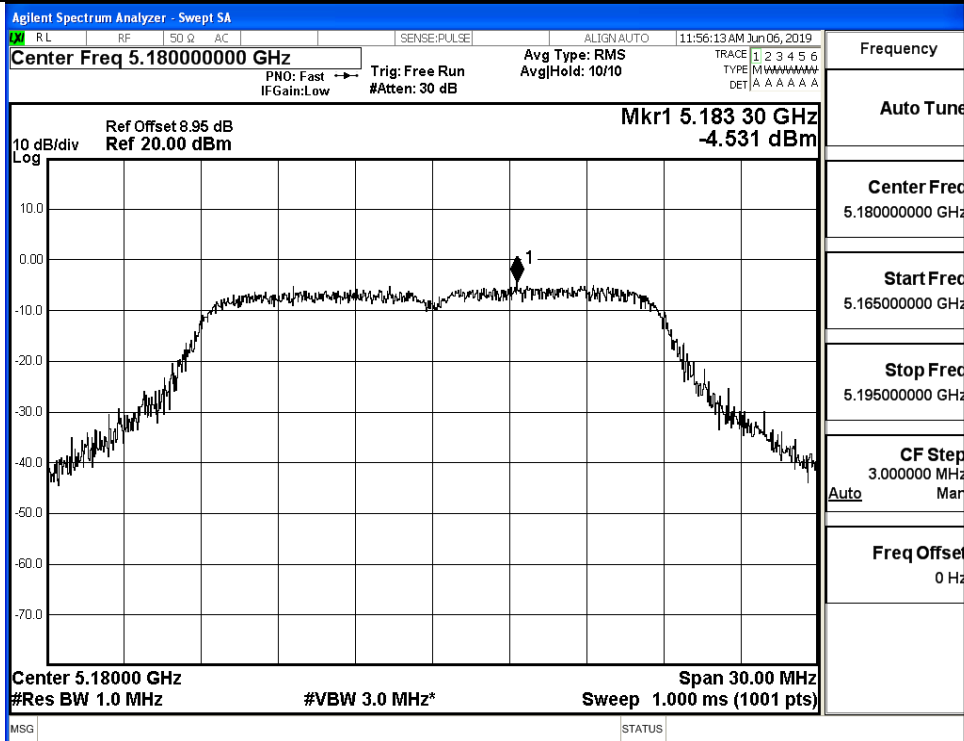


IEEE 802.11a / Channel 40 / 5200MHz\_Ant1

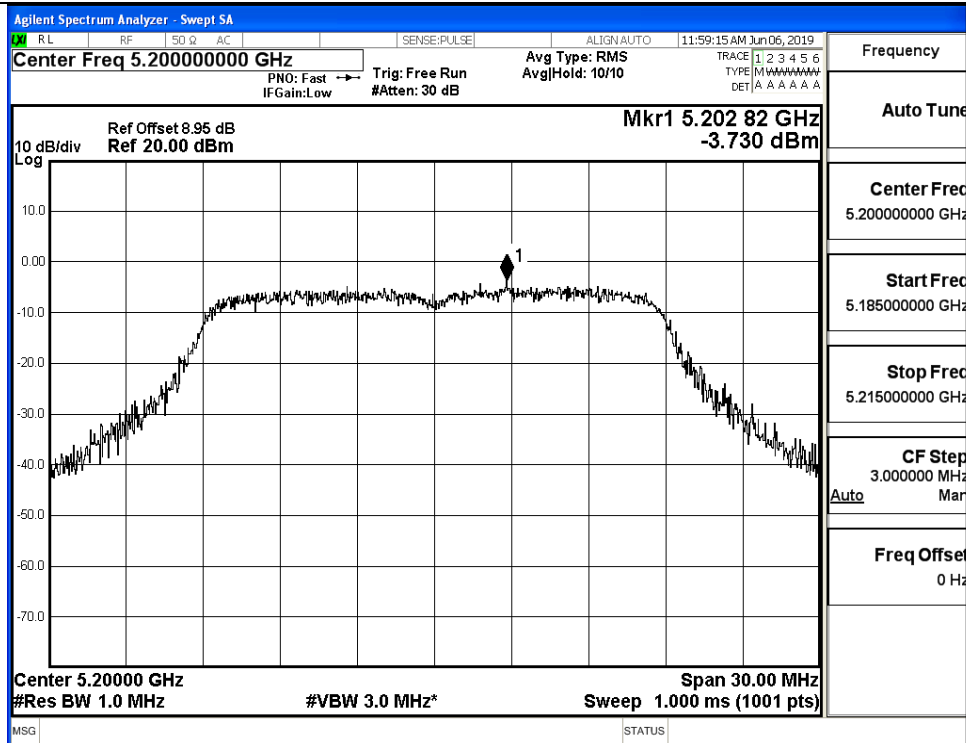


IEEE 802.11na / Channel 48 / 5240MHz\_Ant1

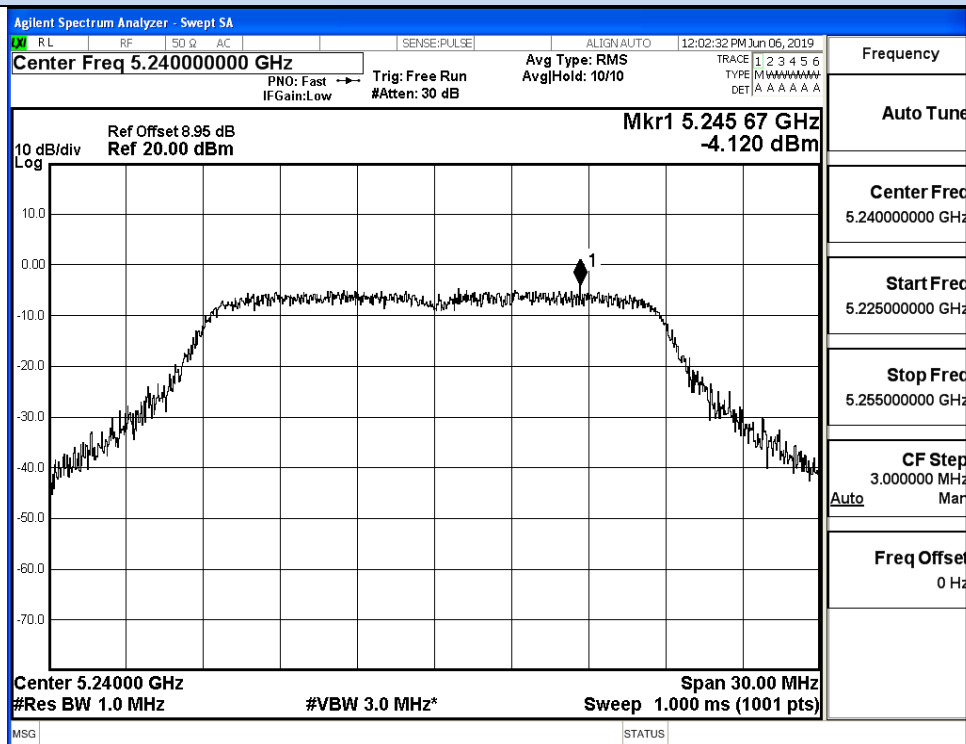
Power Spectral Density



IEEE 802.11n20 / Channel 36 / 5180MHz\_Ant1

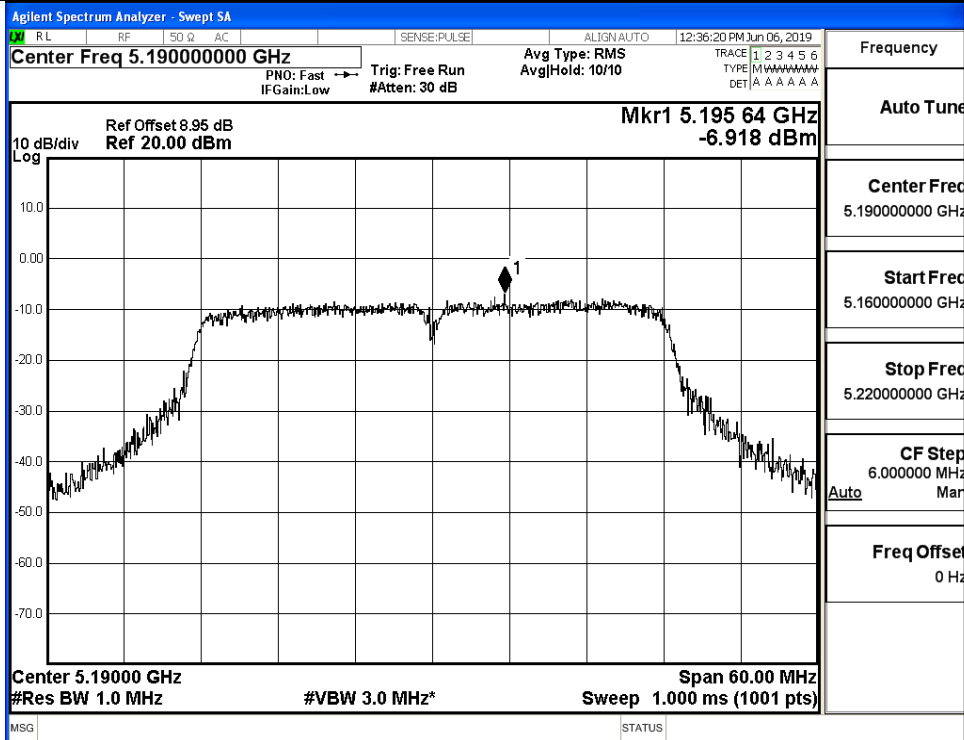


IEEE 802.11n20 / Channel 40 / 5200MHz\_Ant1

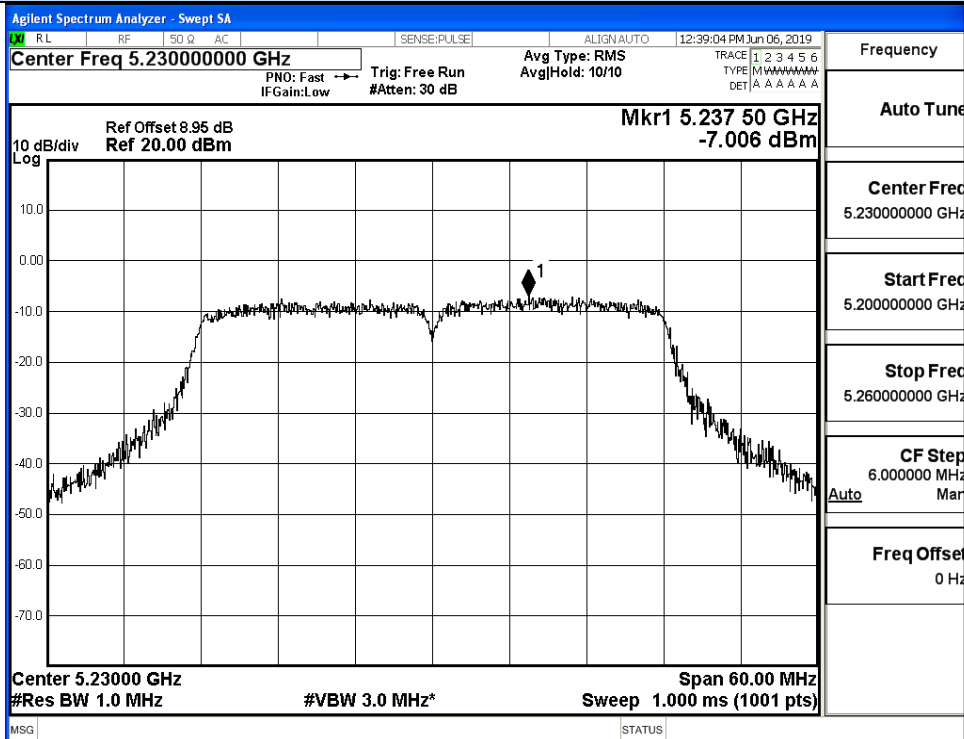


IEEE 802.11n20 / Channel 48 / 5240MHz\_Ant1

Power Spectral Density



IEEE 802.11n40 / Channel 38 / 5190MHz\_Ant1



IEEE 802.11n40 / Channel 46 / 5230MHz\_Ant1

**A.4 Emission Bandwidth  
Antenna 0**

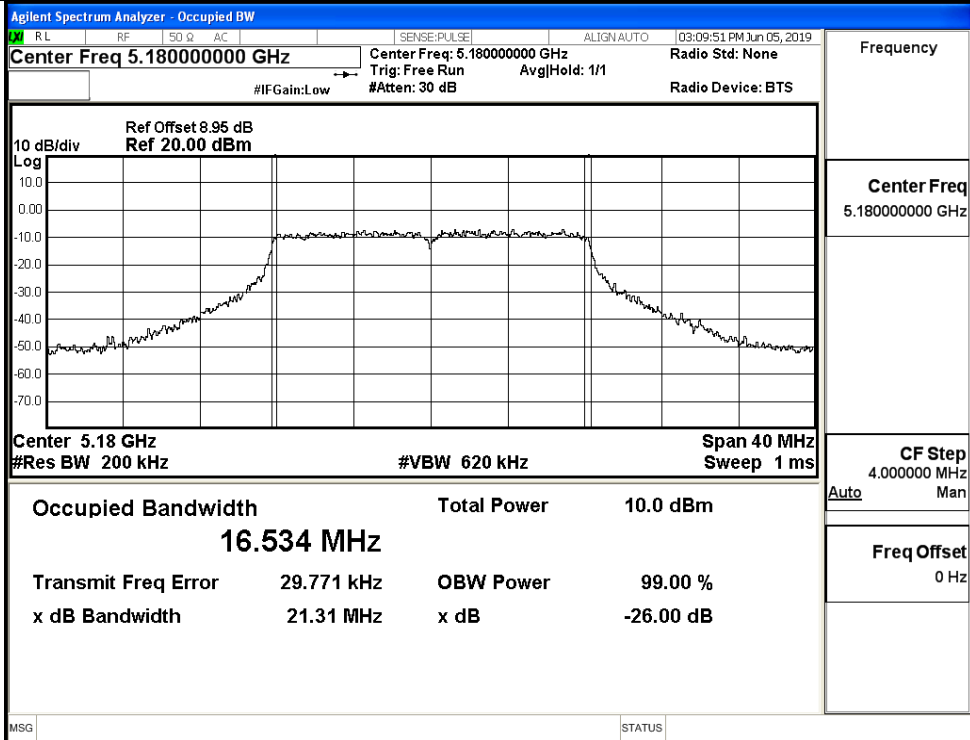
Test Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
11A	36	5180	21.31	No Limit	Pass
	40	5200	21.29		Pass
	48	5240	21.34		Pass
11N20 SISO	36	5180	21.99	No Limit	Pass
	40	5200	22.15		Pass
	48	5240	21.91		Pass
11N40 SISO	38	5190	44.46	No Limit	Pass
	46	5230	44.65		Pass

**Antenna 1**

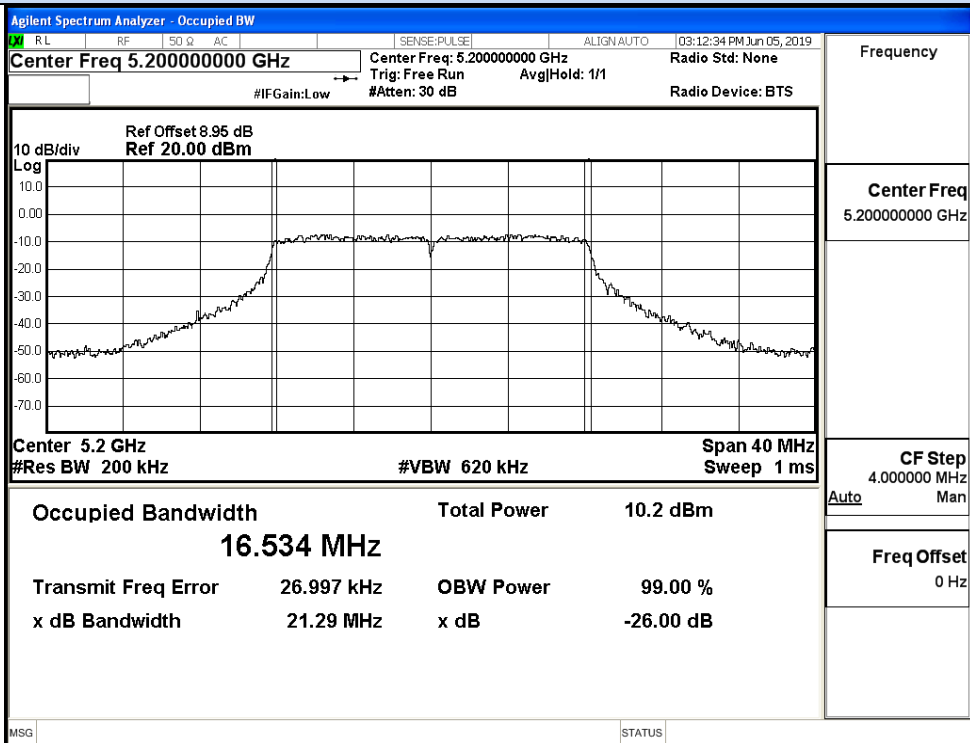
Test Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
11A	36	5180	20.92	No Limit	Pass
	40	5200	21.33		Pass
	48	5240	21.07		Pass
11N20 SISO	36	5180	21.96	No Limit	Pass
	40	5200	21.83		Pass
	48	5240	22.11		Pass
11N40 SISO	38	5190	43.85	No Limit	Pass
	46	5230	43.65		Pass



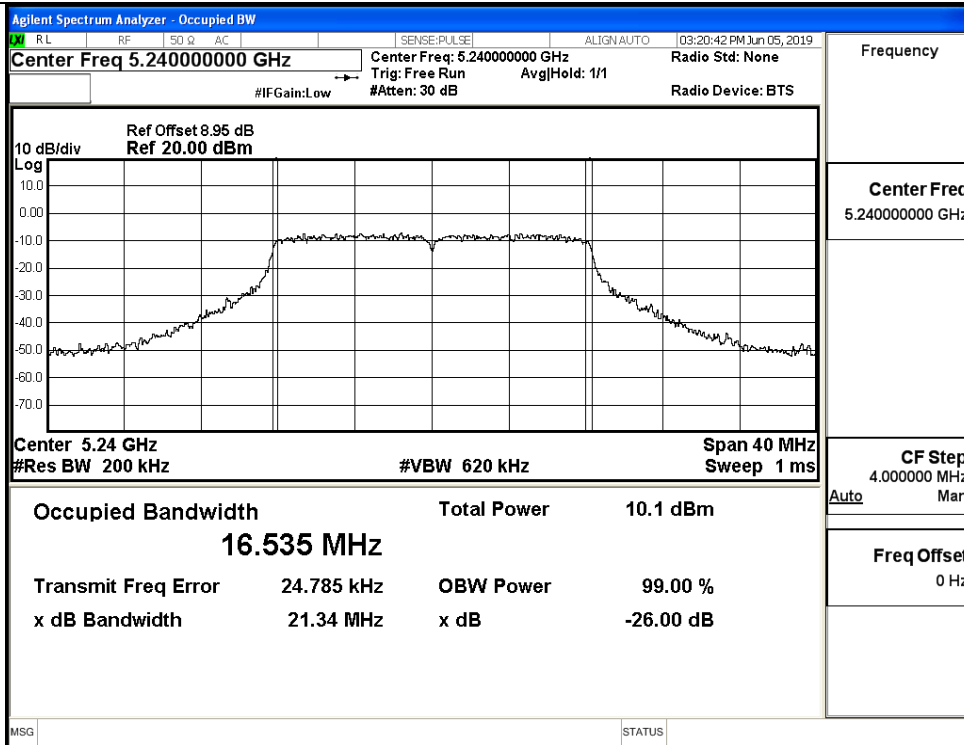
26dB Bandwidth



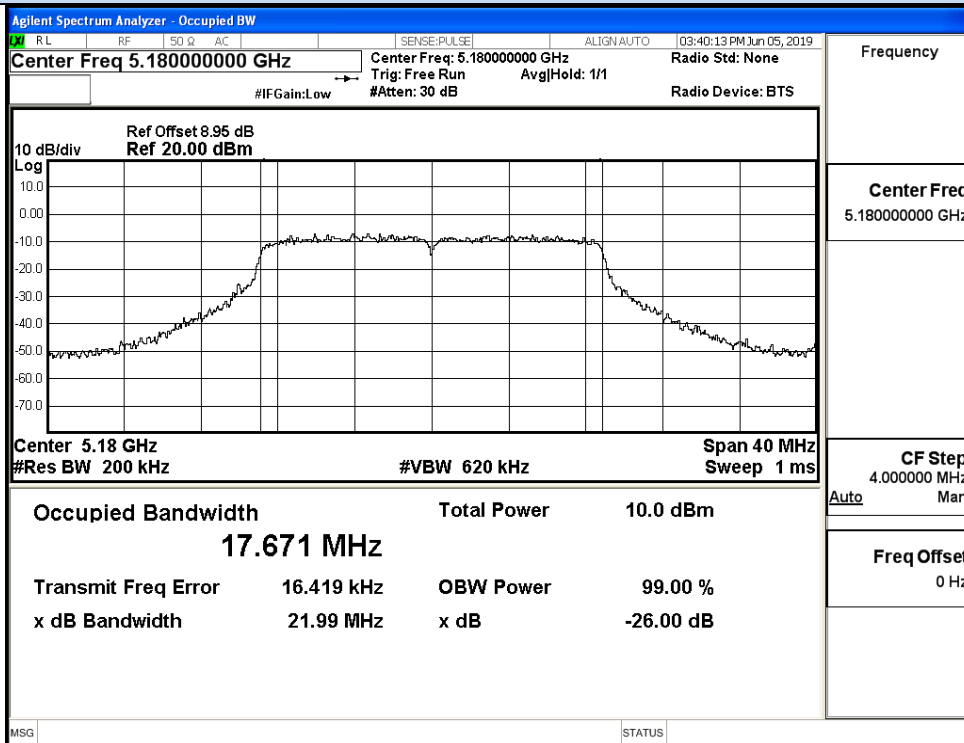
IEEE 802.11a / Channel 36 / 5180MHz\_Ant0



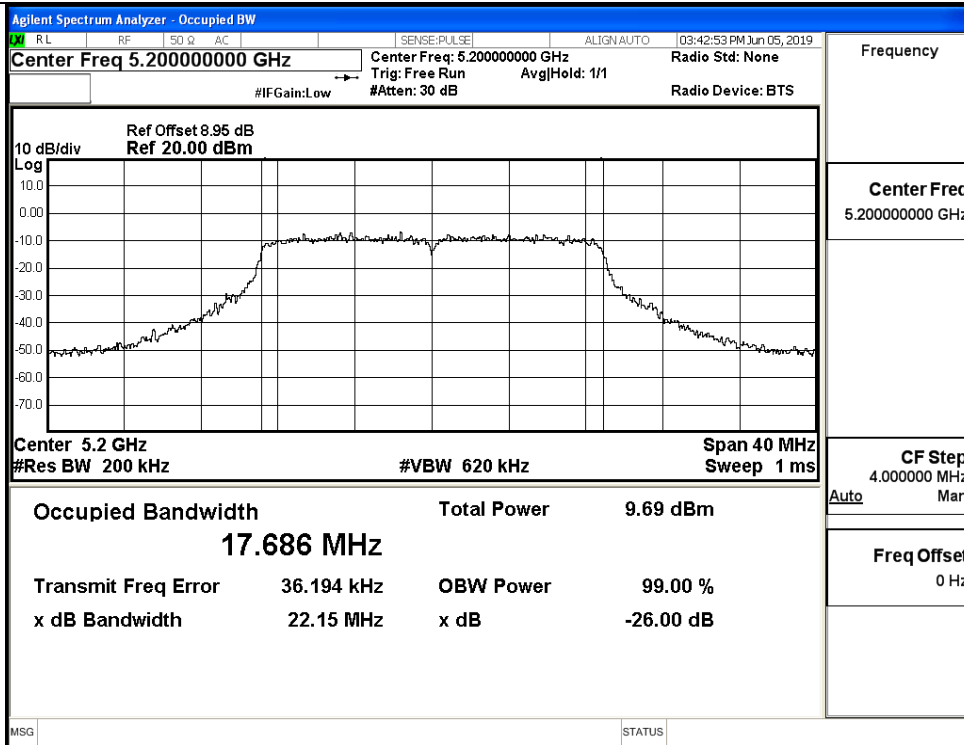
IEEE 802.11a / Channel 40 / 5200MHz\_Ant0



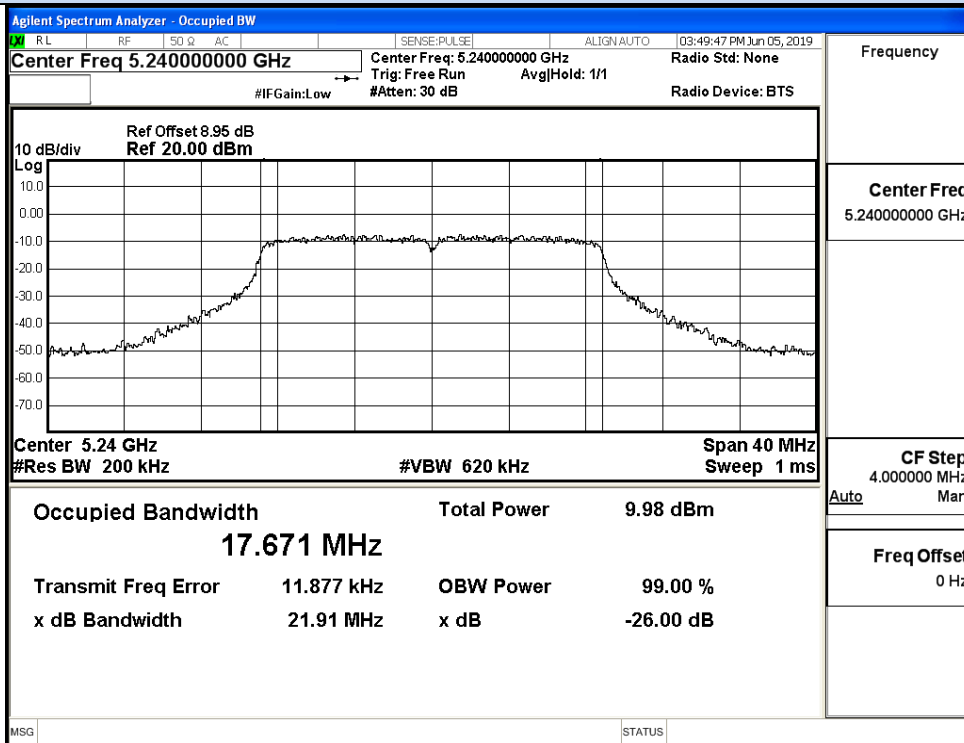
IEEE 802.11a / Channel 48 / 5240MHz\_Ant0  
26dB Bandwidth



IEEE 802.11n20 / Channel 36 / 5180MHz\_Ant0

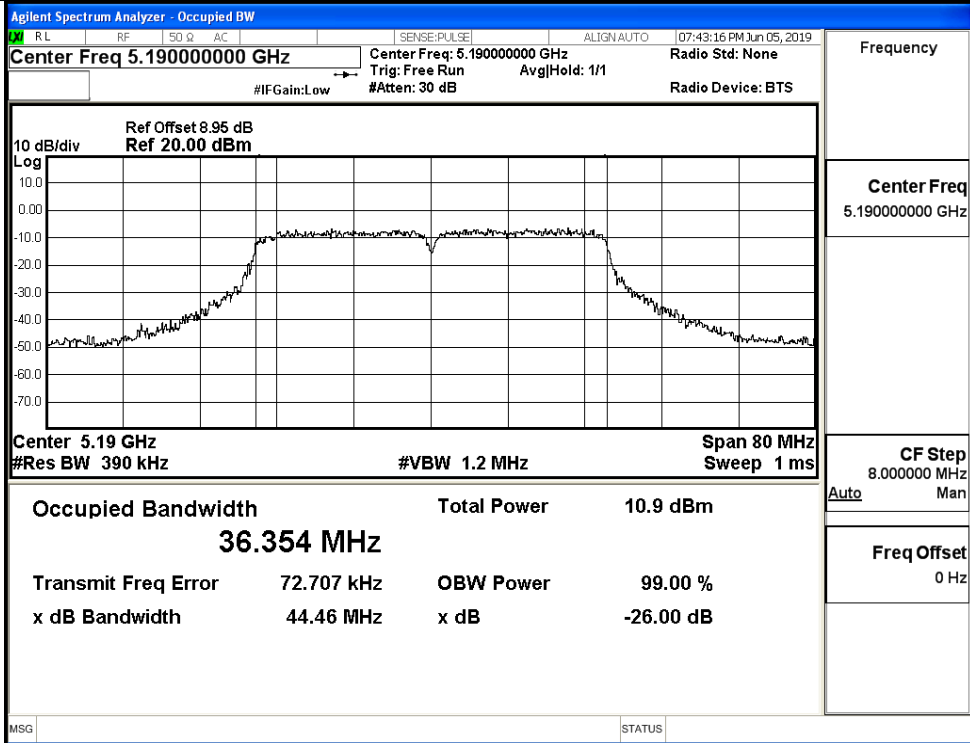


IEEE 802.11n20 / Channel 40 / 5200MHz\_Ant0

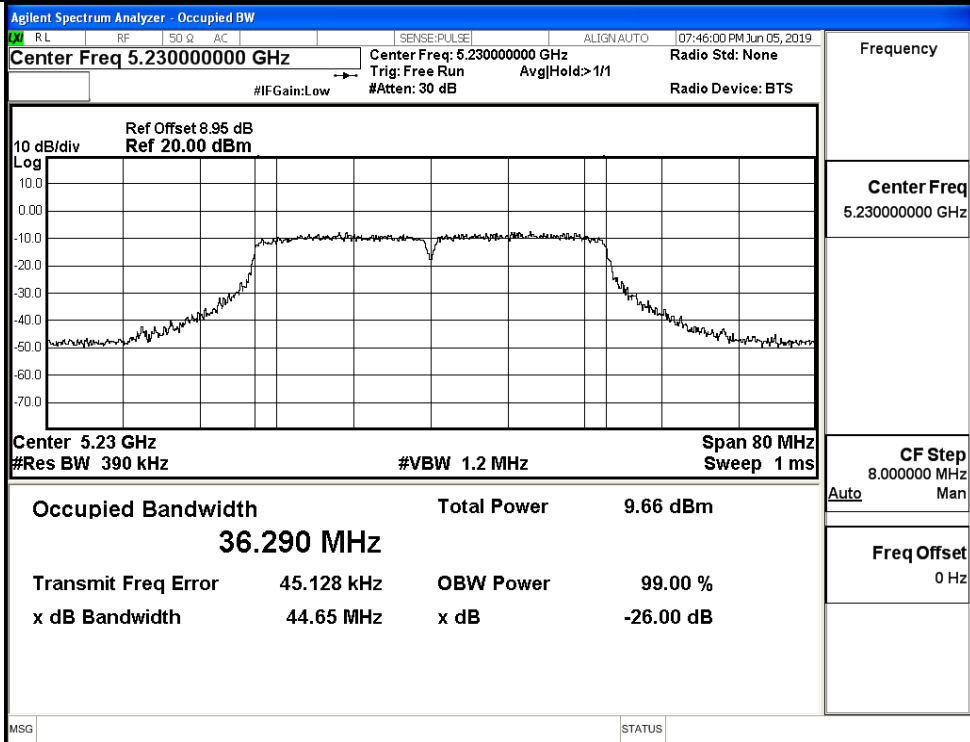


IEEE 802.11n20 / Channel 48 / 5240MHz\_Ant0

26dB Bandwidth

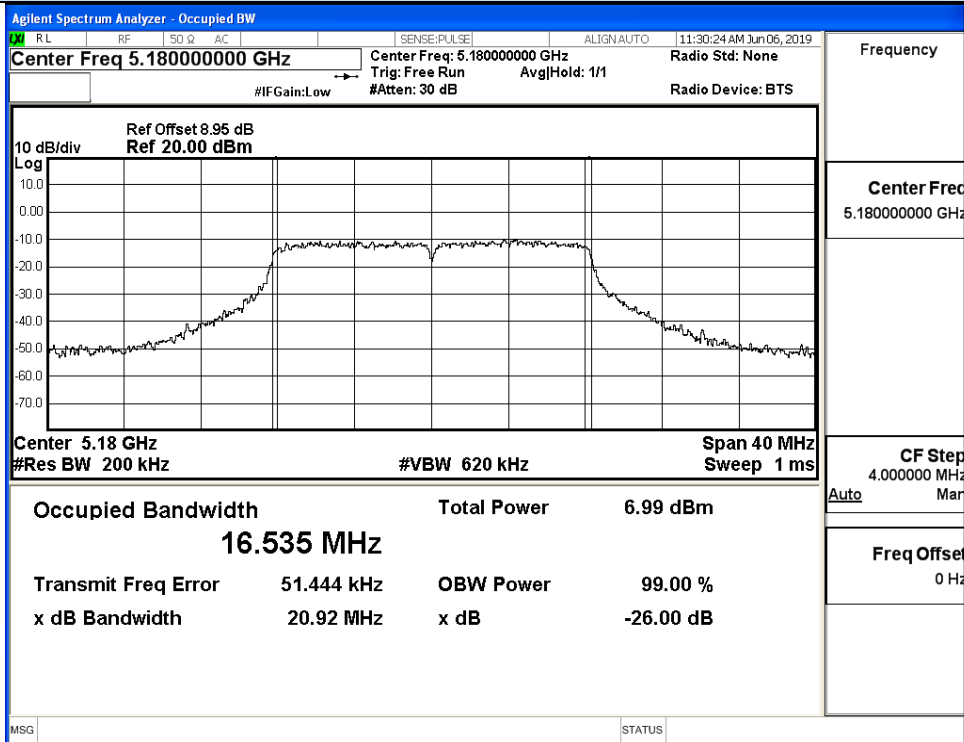


IEEE 802.11n40 / Channel 38 / 5190MHz\_Ant0

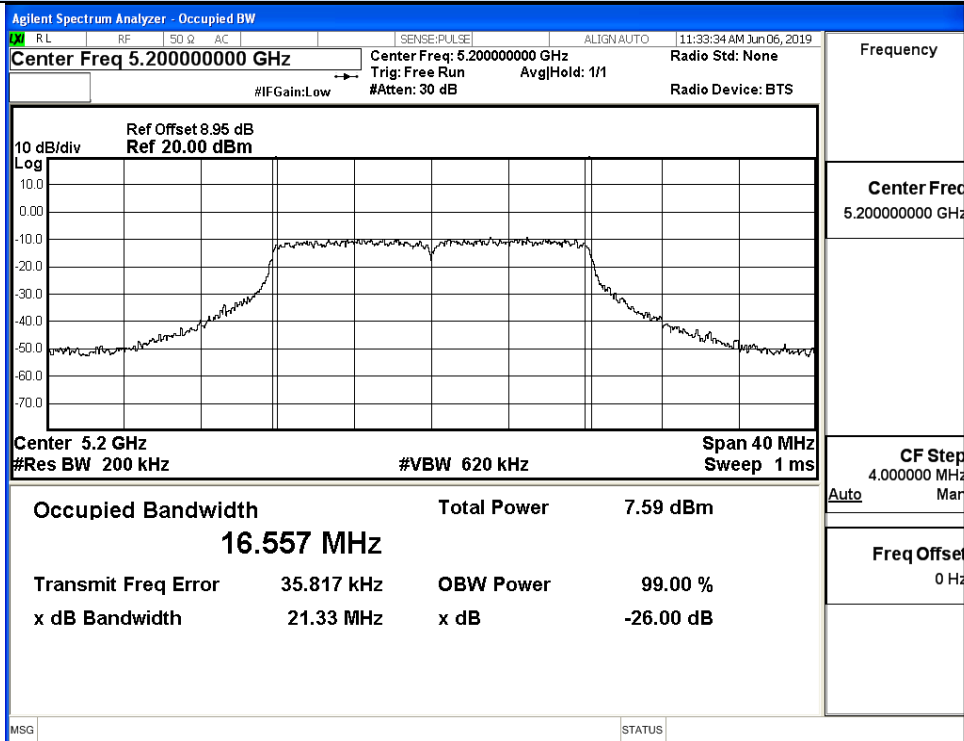


IEEE 802.11n40 / Channel 46 / 5230MHz\_Ant0

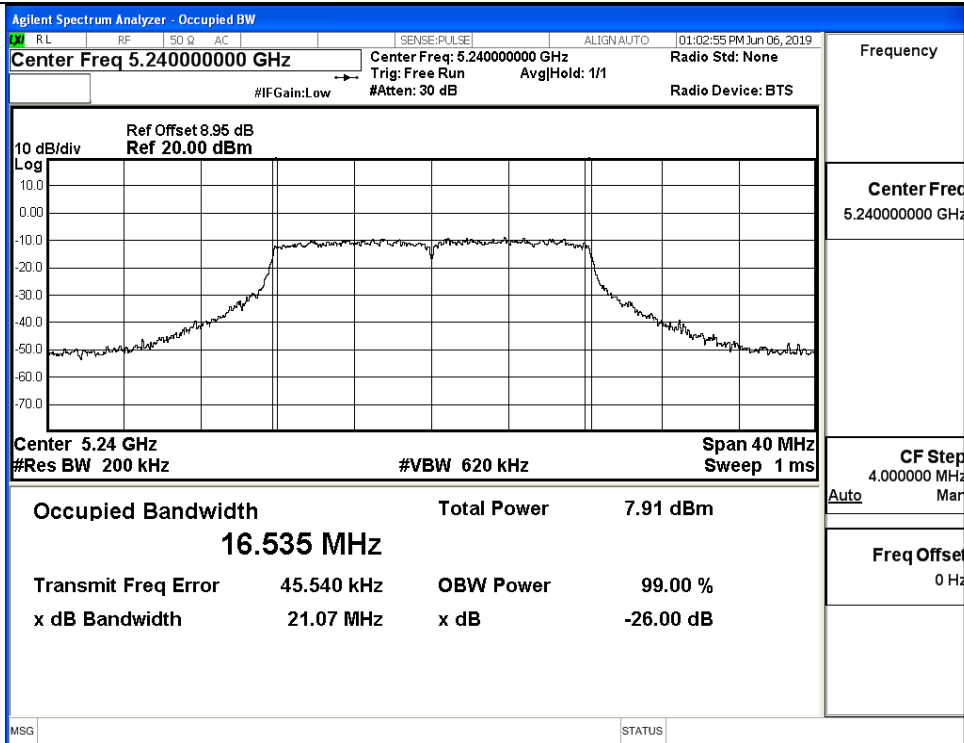
26dB Bandwidth



IEEE 802.11a / Channel 36 / 5180MHz\_Ant1

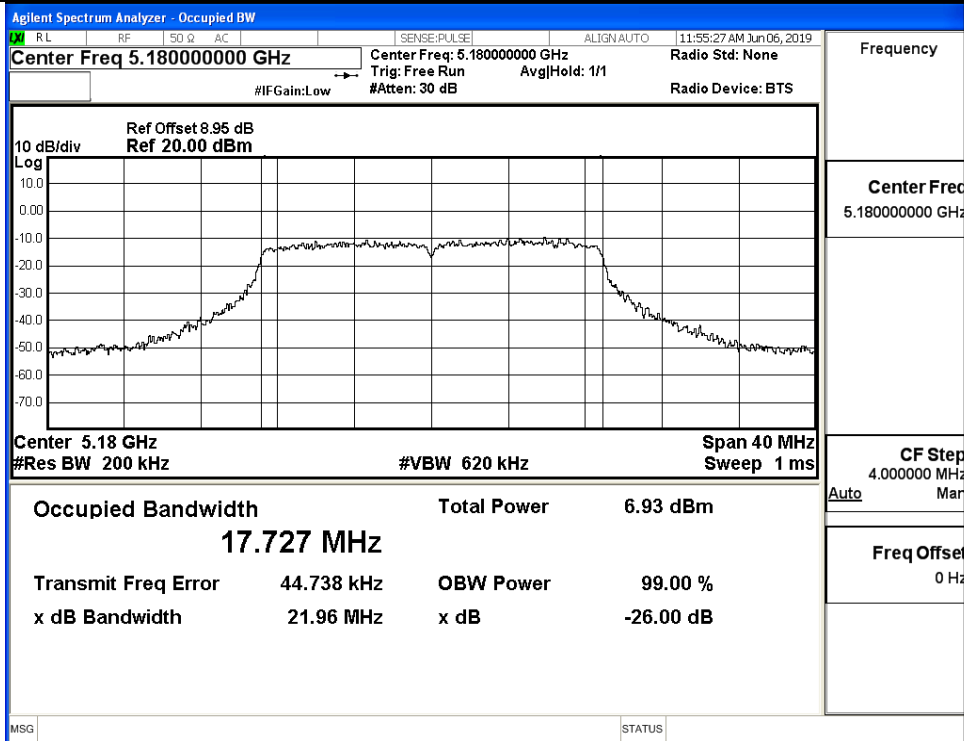


IEEE 802.11a / Channel 40 / 5200MHz\_Ant1

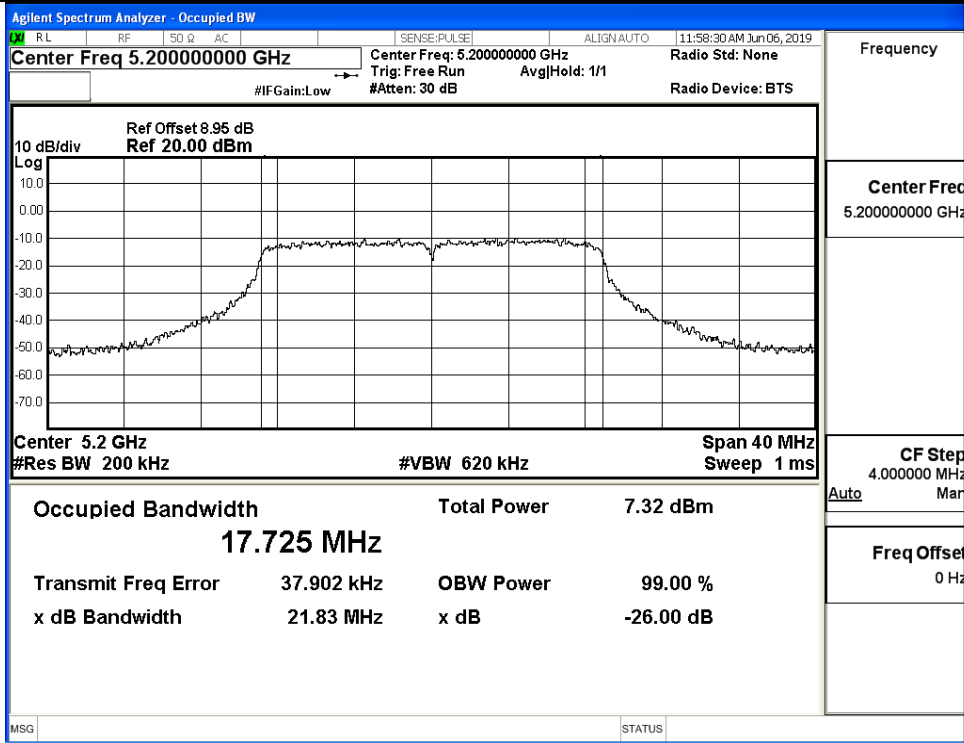


IEEE 802.11a / Channel 48 / 5240MHz\_Ant1

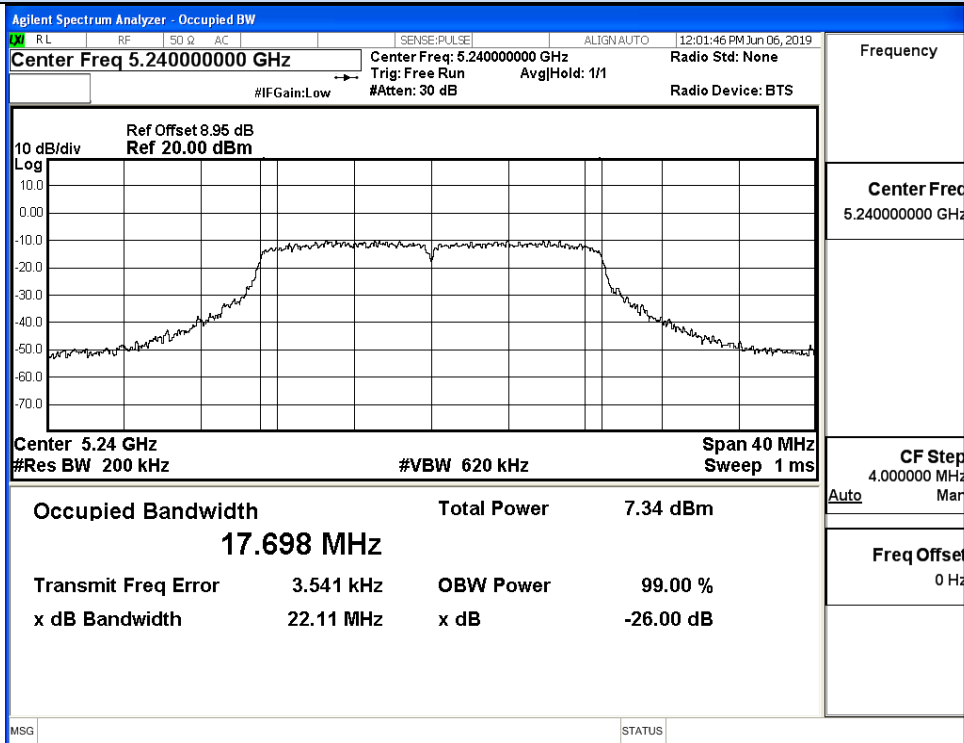
26dB Bandwidth



IEEE 802.11n20 / Channel 36 / 5180MHz\_Ant1

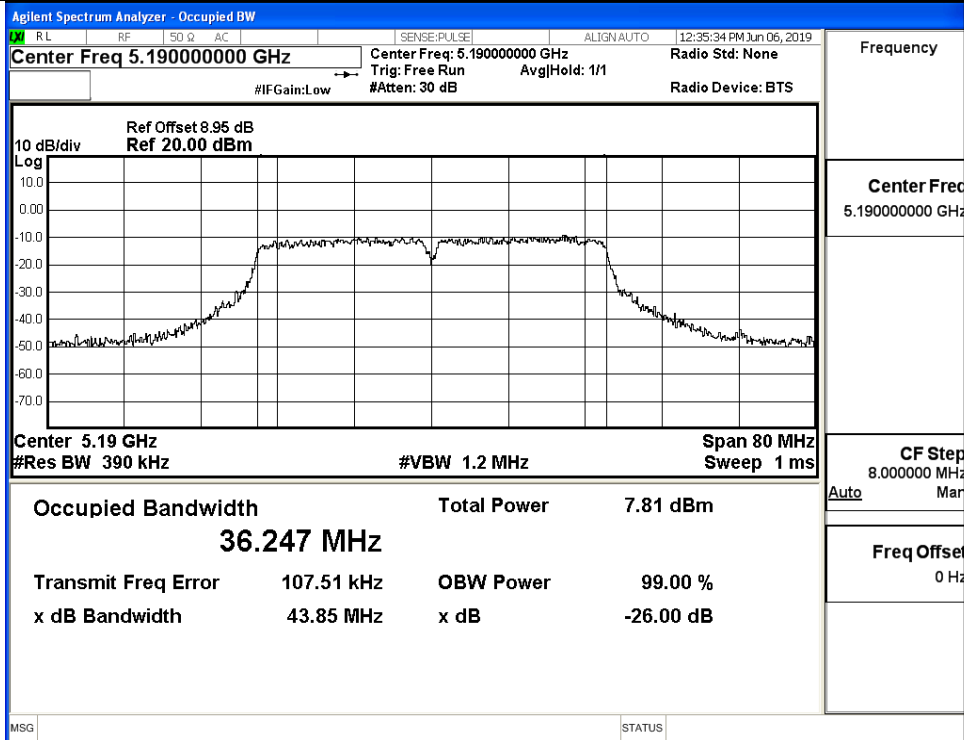


IEEE 802.11n20 / Channel 40 / 5200MHz\_Ant1

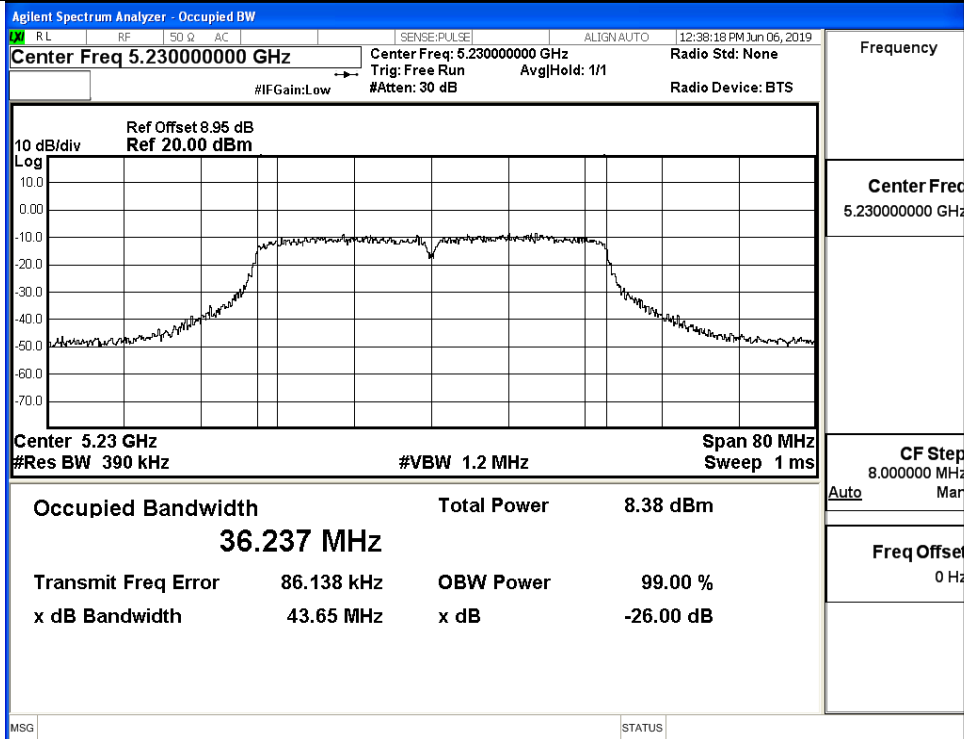


IEEE 802.11n20 / Channel 48 / 5240MHz\_Ant1

26dB Bandwidth



IEEE 802.11n40 / Channel 38 / 5190MHz\_Ant1



IEEE 802.11n40 / Channel 46 / 5230MHz\_Ant1



**A.5 Undesirable Emissions Measurement  
Antenna 0**

Test Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Ground Reflection Factor (dB)	Covert Radiated E Level At 3m (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
11A	36	4500.0	-51.11	12.00	0	56.15	Peak	68.20	Pass
		4500.0	-60.15	12.00	0	47.11	Average	54.00	Pass
		5150.0	-48.37	12.00	0	58.89	Peak	68.20	Pass
		5150.0	-57.67	12.00	0	49.59	Average	54.00	Pass
	48	5350.0	-47.93	12.00	0	59.33	Peak	68.20	Pass
		5350.0	-59.21	12.00	0	48.05	Average	54.00	Pass
		5460.0	-47.84	12.00	0	59.42	Peak	68.20	Pass
		5460.0	-59.35	12.00	0	47.91	Average	54.00	Pass
11N2 0 SISO	36	4500.0	-53.35	12.00	0	53.91	Peak	68.20	Pass
		4500.0	-63.52	12.00	0	43.74	Average	54.00	Pass
		5150.0	-52.14	12.00	0	55.12	Peak	68.20	Pass
		5150.0	-61.89	12.00	0	45.37	Average	54.00	Pass
	48	5350.0	-50.86	12.00	0	56.4	Peak	68.20	Pass
		5350.0	-62.40	12.00	0	44.86	Average	54.00	Pass
		5460.0	-51.93	12.00	0	55.33	Peak	68.20	Pass
		5460.0	-62.69	12.00	0	44.57	Average	54.00	Pass
11N4 0 SISO	38	4500.0	-54.36	12.00	0	52.9	Peak	68.20	Pass
		4500.0	-63.53	12.00	0	43.73	Average	54.00	Pass
		5150.0	-53.36	12.00	0	53.9	Peak	68.20	Pass
		5150.0	-61.85	12.00	0	45.41	Average	54.00	Pass
	46	5350.0	-50.27	12.00	0	56.99	Peak	68.20	Pass
		5350.0	-62.44	12.00	0	44.82	Average	54.00	Pass
		5460.0	-51.13	12.00	0	56.13	Peak	68.20	Pass
		5460.0	-62.66	12.00	0	44.6	Average	54.00	Pass

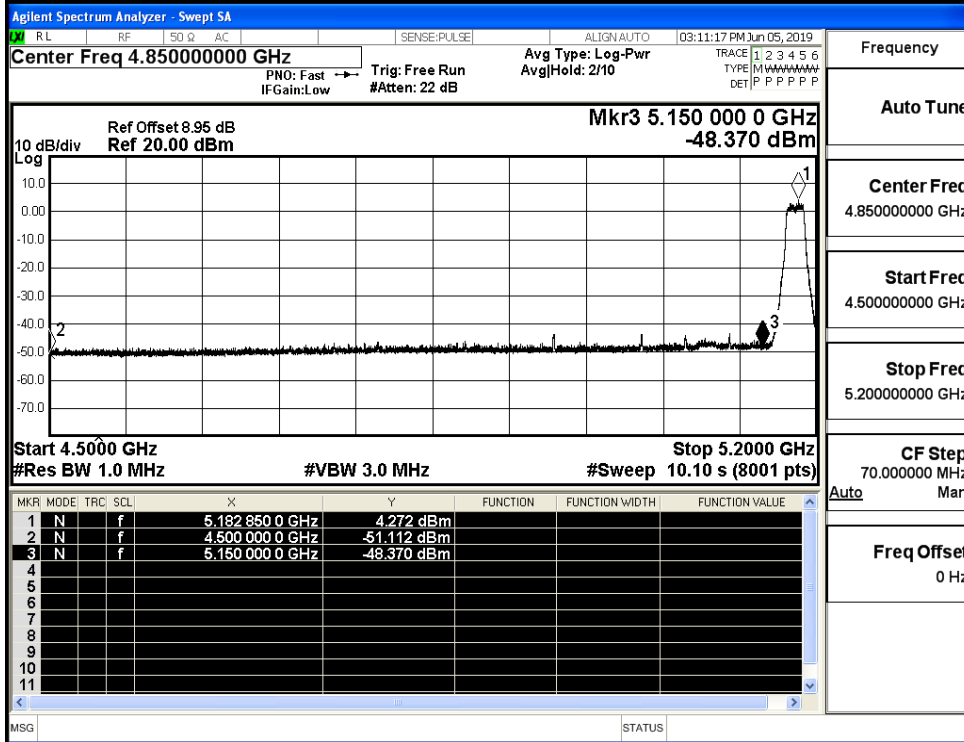
**Antenna 1**

Test Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Ground Reflection Factor (dB)	Covert Radiated E Level At 3m (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
11A	36	4500.0	-50.34	12.00	0	56.92	Peak	68.20	Pass
		4500.0	-60.14	12.00	0	47.12	Average	54.00	Pass
		5150.0	-48.00	12.00	0	59.26	Peak	68.20	Pass
		5150.0	-58.18	12.00	0	49.08	Average	54.00	Pass
	48	5350.0	-47.26	12.00	0	60.00	Peak	68.20	Pass
		5350.0	-59.23	12.00	0	48.03	Average	54.00	Pass
		5460.0	-48.98	12.00	0	58.28	Peak	68.20	Pass
		5460.0	-59.61	12.00	0	47.65	Average	54.00	Pass
11N2 0 SISO	36	4500.0	-53.29	12.00	0	53.97	Peak	68.20	Pass
		4500.0	-63.51	12.00	0	43.75	Average	54.00	Pass
		5150.0	-52.56	12.00	0	54.7	Peak	68.20	Pass
		5150.0	-62.85	12.00	0	44.41	Average	54.00	Pass
	48	5350.0	-52.95	12.00	0	54.31	Peak	68.20	Pass
		5350.0	-62.41	12.00	0	44.85	Average	54.00	Pass
		5460.0	-54.11	12.00	0	53.15	Peak	68.20	Pass
		5460.0	-62.69	12.00	0	44.57	Average	54.00	Pass
11N4 0 SISO	38	4500.0	-54.67	12.00	0	52.59	Peak	68.20	Pass
		4500.0	-63.49	12.00	0	43.77	Average	54.00	Pass
		5150.0	-52.02	12.00	0	55.24	Peak	68.20	Pass
		5150.0	-61.84	12.00	0	45.42	Average	54.00	Pass
	46	5350.0	-52.34	12.00	0	54.92	Peak	68.20	Pass
		5350.0	-62.43	12.00	0	44.83	Average	54.00	Pass
		5460.0	-54.11	12.00	0	53.15	Peak	68.20	Pass
		5460.0	-62.72	12.00	0	44.54	Average	54.00	Pass

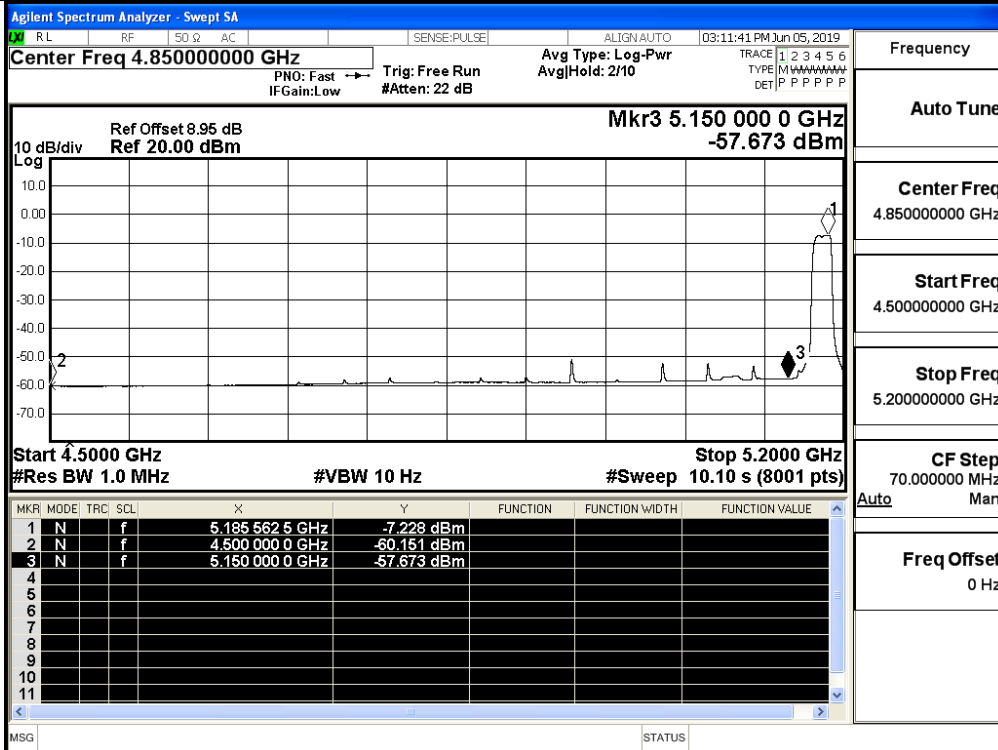
**Antenna 0+Antenna 1**

Test Mode	Channel	Frequency (MHz)	Conducted Power (dBm)			Antenna Gain (dBi)	Ground Reflection Factor (dB)	Covert Radiated E Level At 3m (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
			Ant0	Ant1	Sum						
11N 20	36	4500.0	-53.35	-53.29	-50.31	15.01	0	59.96	Peak	68.20	Pass
		4500.0	-63.52	-63.51	-60.50	15.01	0	49.77	Average	54.00	Pass
		5150.0	-52.14	-52.56	-49.33	15.01	0	60.94	Peak	68.20	Pass
		5150.0	-61.89	-62.85	-59.33	15.01	0	50.94	Average	54.00	Pass
	48	5350.0	-50.86	-52.95	-48.77	15.01	0	61.50	Peak	68.20	Pass
		5350.0	-62.40	-62.41	-59.39	15.01	0	50.88	Average	54.00	Pass
		5460.0	-51.93	-54.11	-49.87	15.01	0	60.4	Peak	68.20	Pass
11N 40	38	4500.0	-54.36	-54.67	-51.50	15.01	0	58.77	Peak	68.20	Pass
		4500.0	-63.53	-63.49	-60.50	15.01	0	49.77	Average	54.00	Pass
		5150.0	-53.36	-52.02	-49.63	15.01	0	60.64	Peak	68.20	Pass
		5150.0	-61.85	-61.84	-58.83	15.01	0	51.44	Average	54.00	Pass
	46	5350.0	-50.27	-52.34	-48.17	15.01	0	62.10	Peak	68.20	Pass
		5350.0	-62.44	-62.43	-59.42	15.01	0	50.85	Average	54.00	Pass
		5460.0	-51.13	-54.11	-49.36	15.01	0	60.91	Peak	68.20	Pass
		5460.0	-62.66	-62.72	-59.68	15.01	0	50.59	Average	54.00	Pass

Undesirable Emissions Measurement

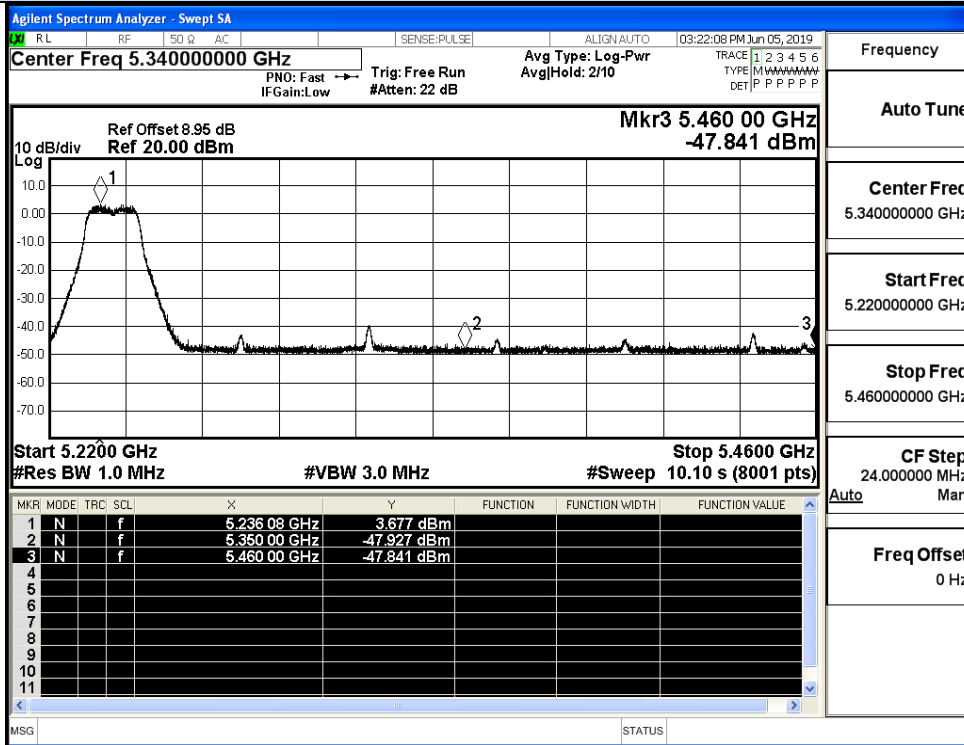


IEEE 802.11a / Channel 36 / 5180MHz / Peak\_Ant0

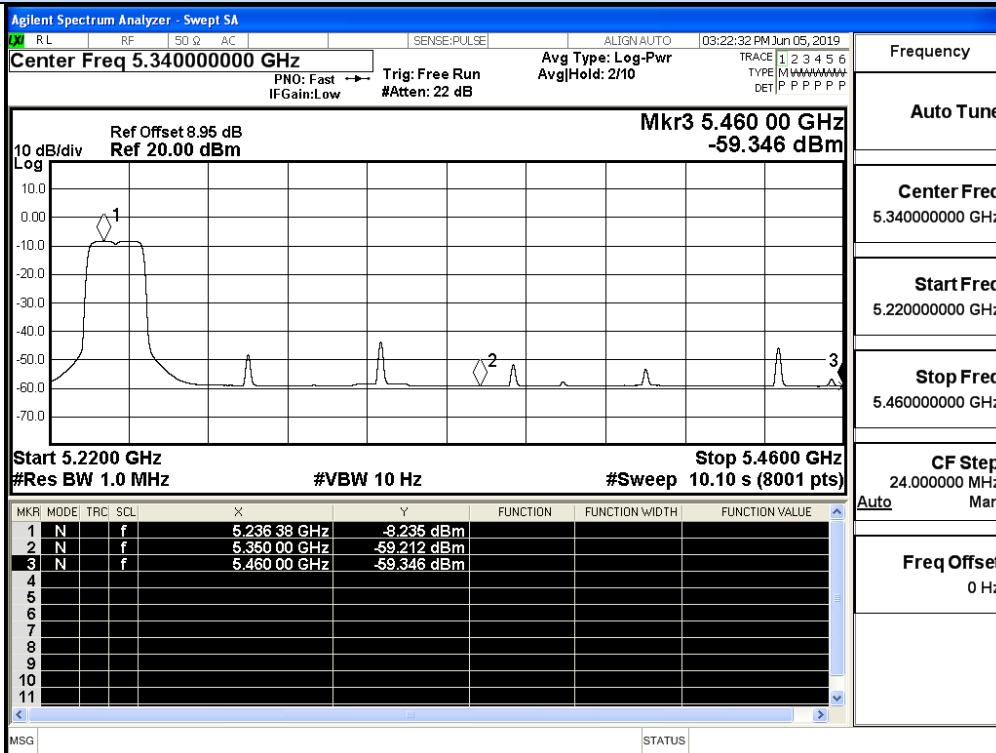


IEEE 802.11a / Channel 36 / 5180MHz / Average\_Ant0

Undesirable Emissions Measurement

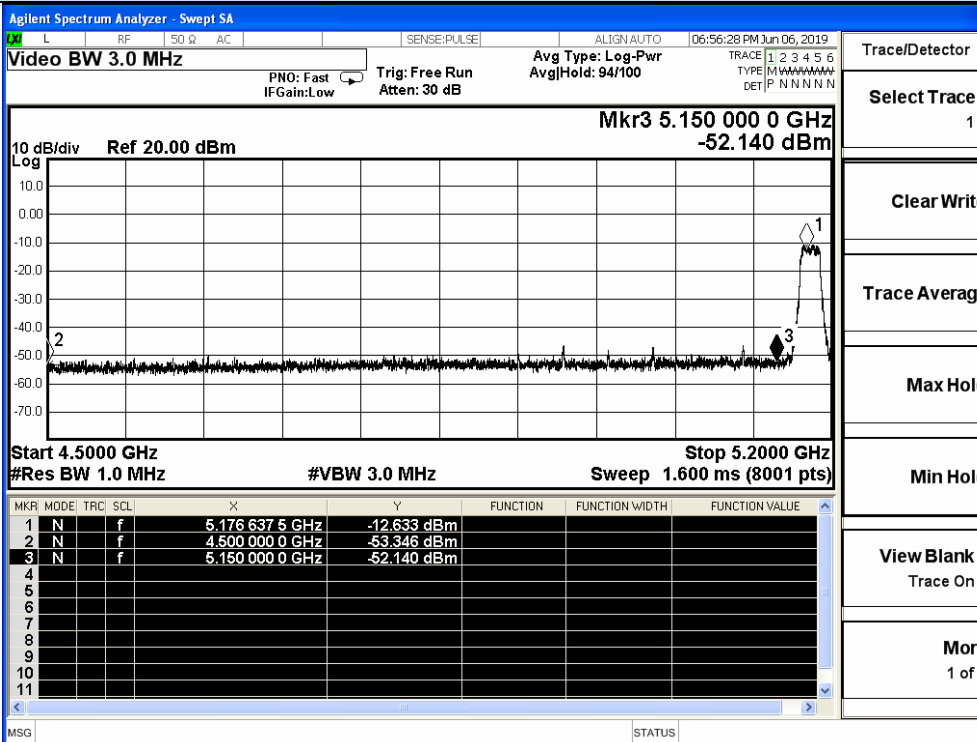


IEEE 802.11a / Channel 48 / 5240MHz / Peak\_Ant0

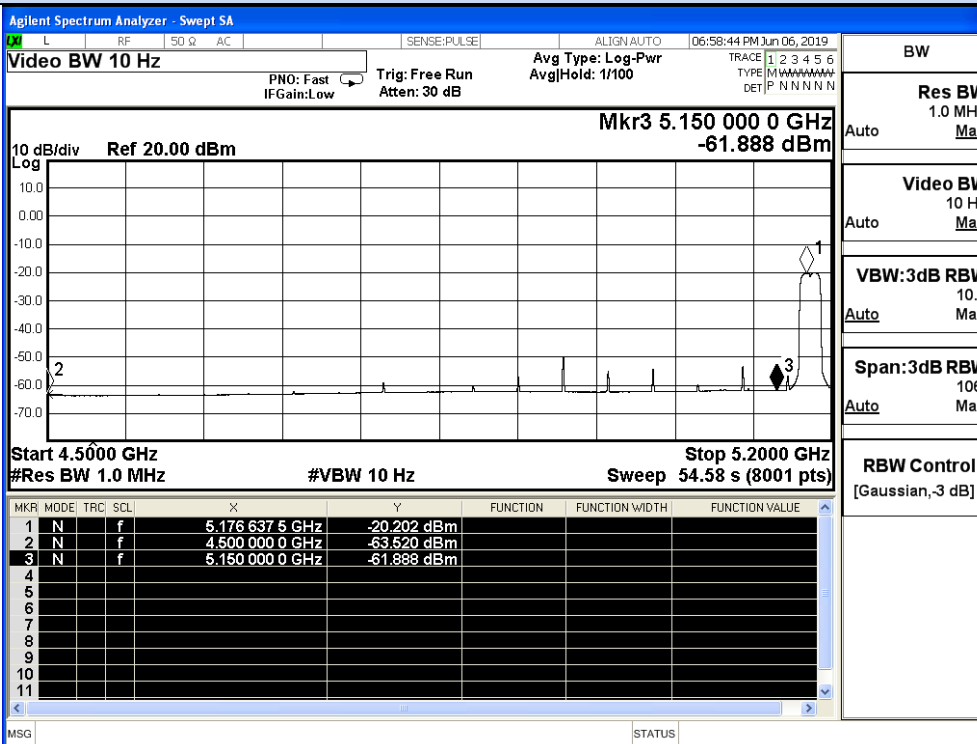


IEEE 802.11a / Channel 48 / 5240MHz / Average\_Ant0

Undesirable Emissions Measurement

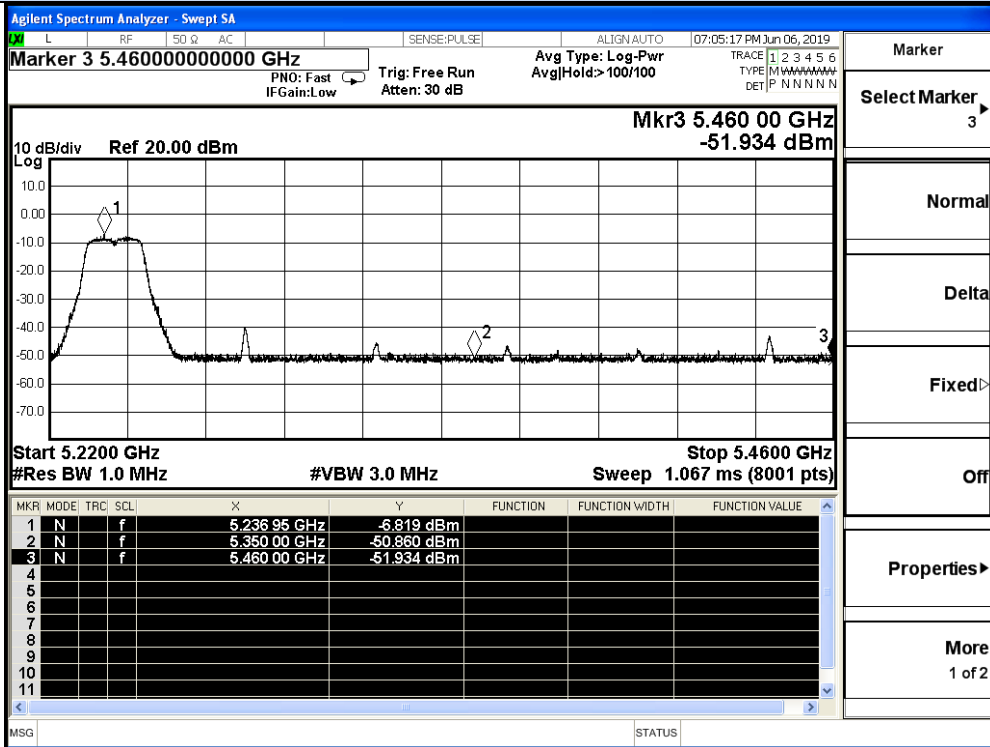


IEEE 802.11n20 / Channel 36 / 5180MHz / Peak\_Ant0

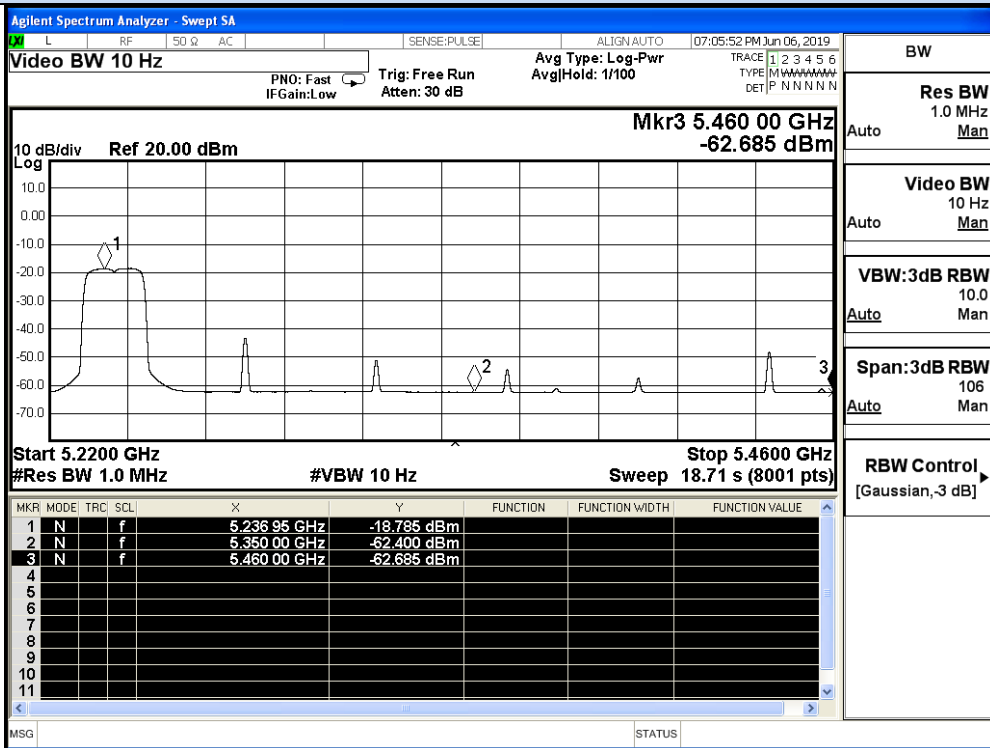


IEEE 802.11n20 / Channel 36 / 5180MHz / Average\_Ant0

Undesirable Emissions Measurement



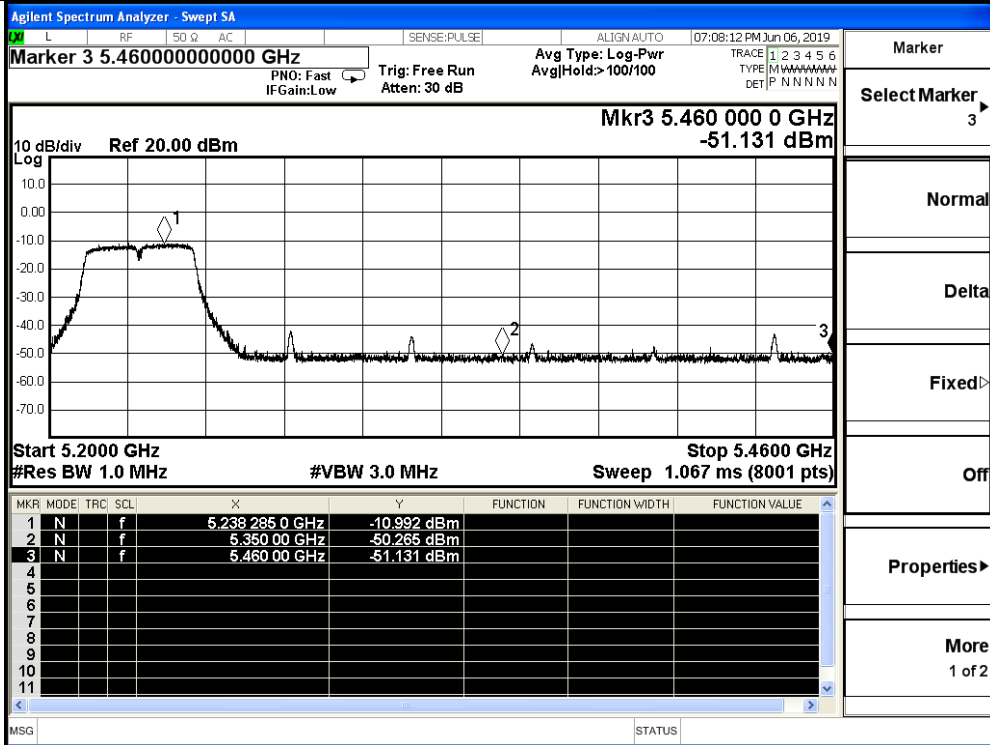
IEEE 802.11n20 / Channel 48 / 5240MHz / Peak\_Ant0



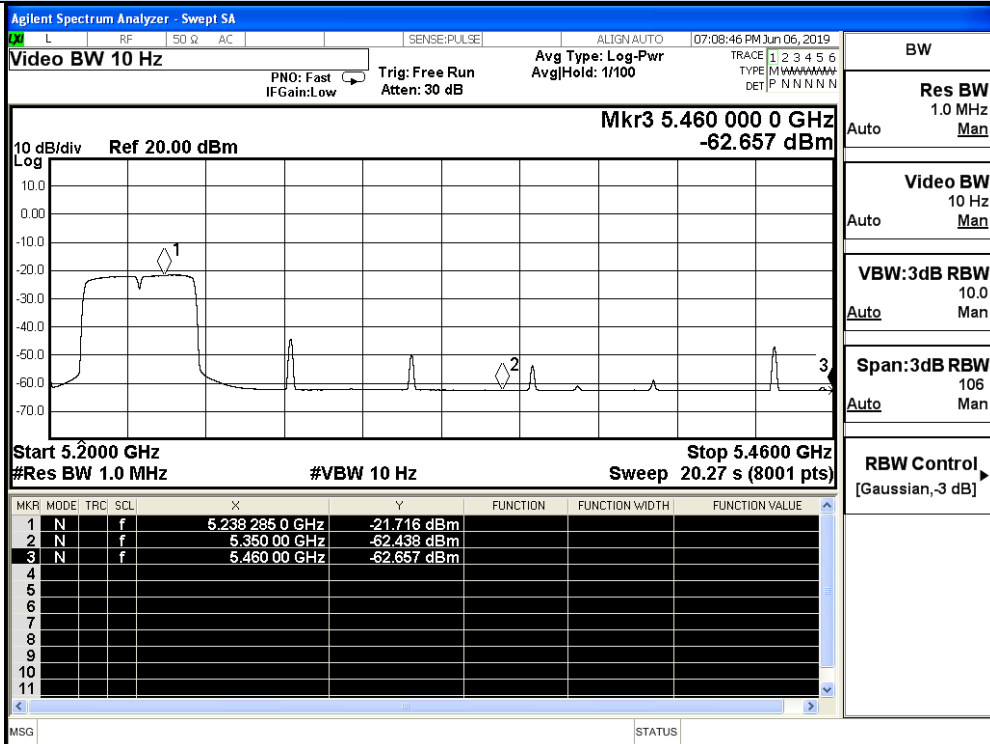
IEEE 802.11n20 / Channel 48 / 5240MHz / Average\_Ant0



Undesirable Emissions Measurement



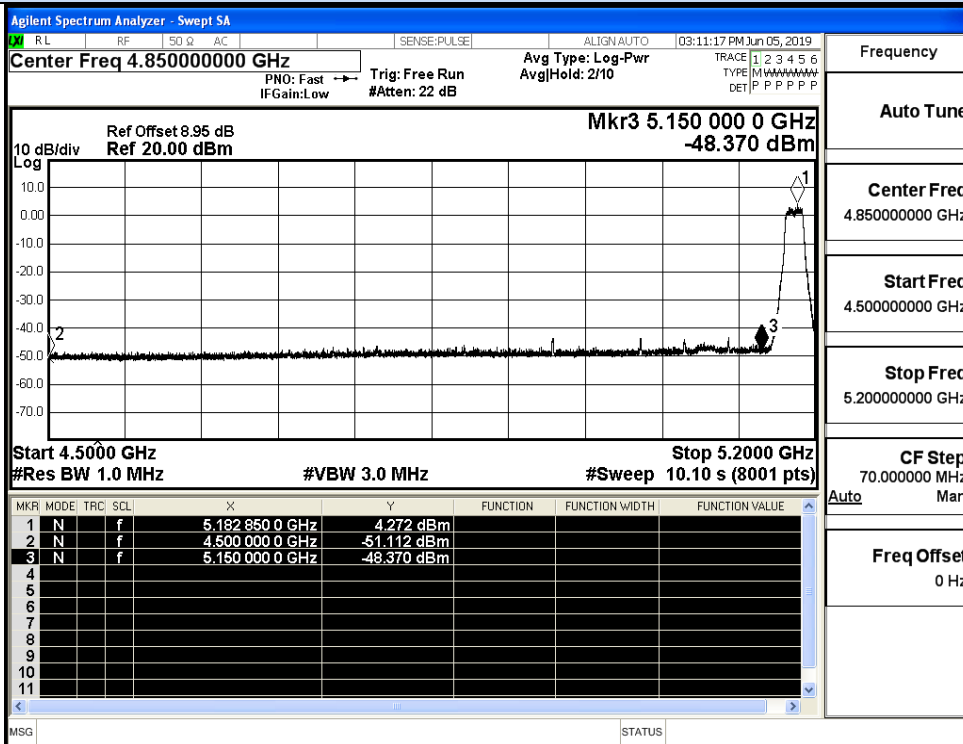
IEEE 802.11n40 / Channel 46 / 5230MHz / Peak\_Ant0



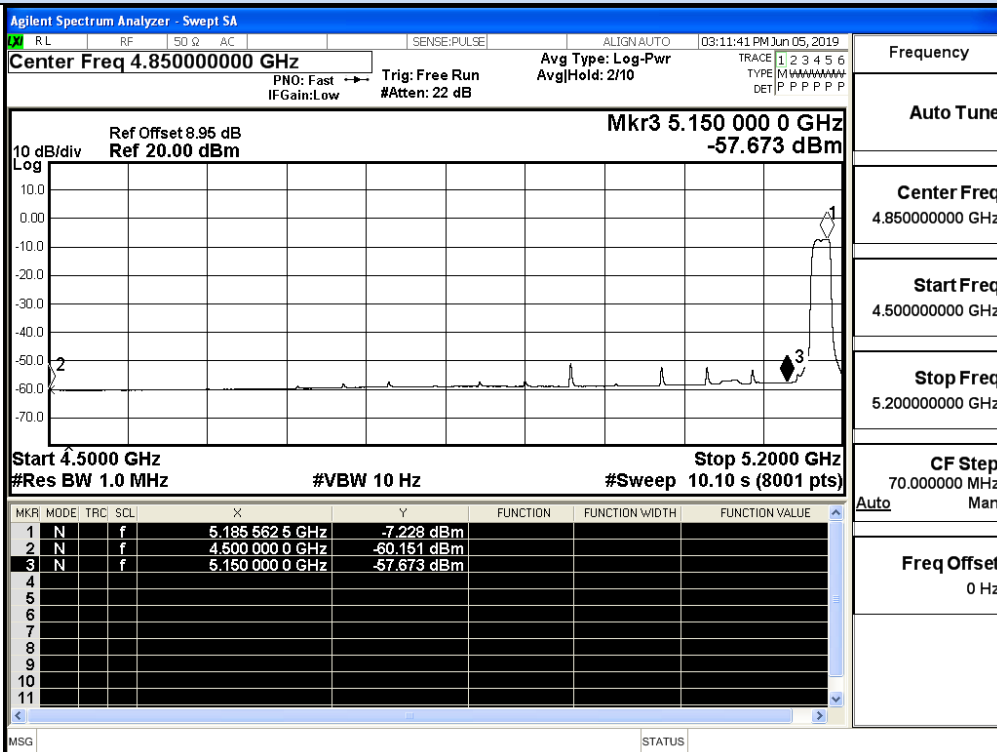
IEEE 802.11n40 / Channel 46 / 5230MHz / Average\_Ant0



Undesirable Emissions Measurement

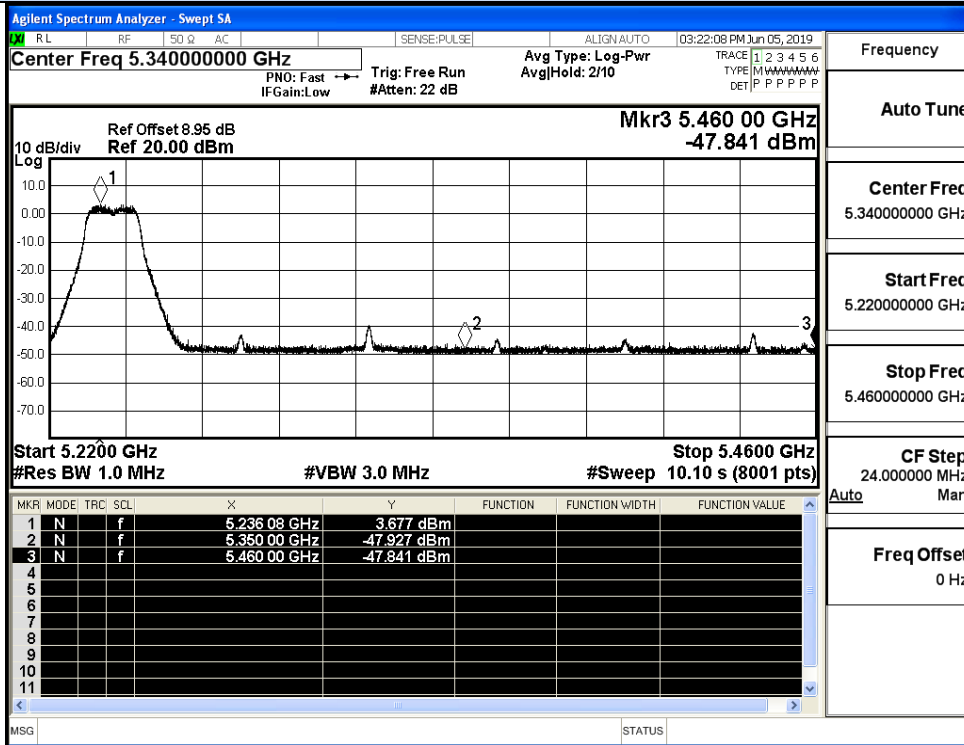


IEEE 802.11a / Channel 36 / 5180MHz / Peak\_Ant1

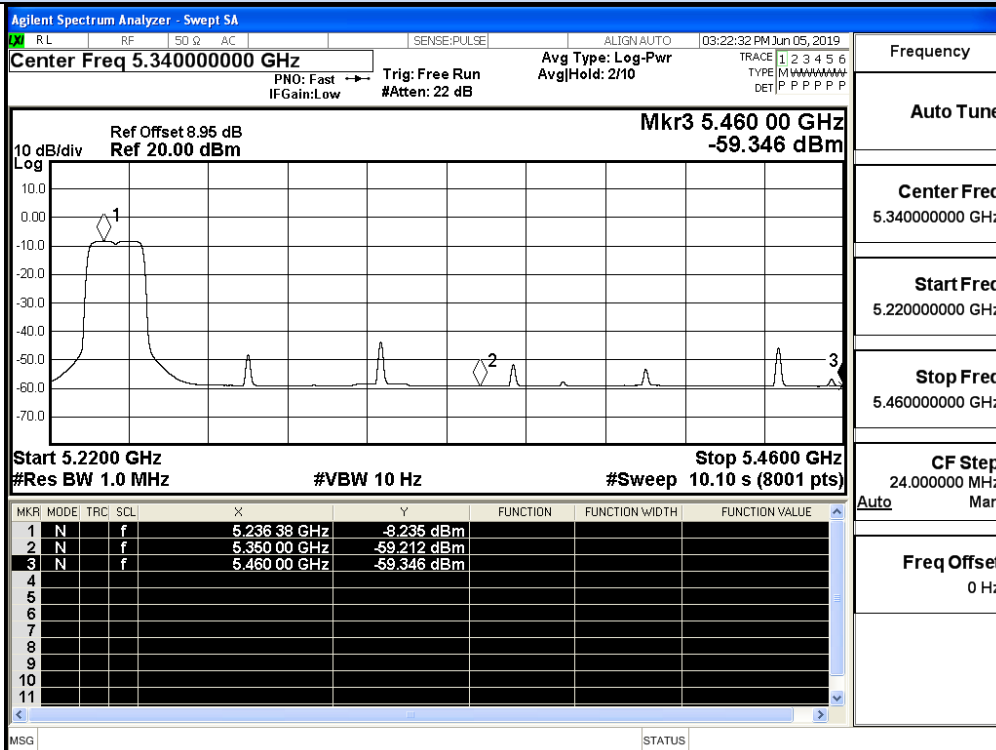


IEEE 802.11a / Channel 36 / 5180MHz / Average\_Ant1

Undesirable Emissions Measurement

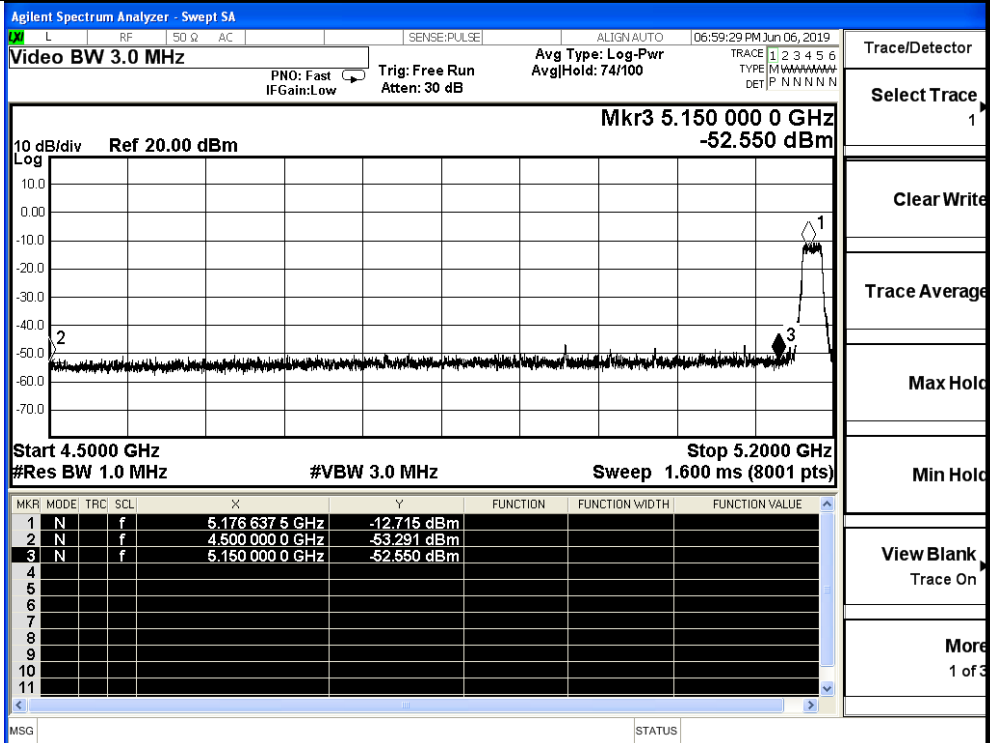


IEEE 802.11a / Channel 48 / 5240MHz / Peak\_Ant1

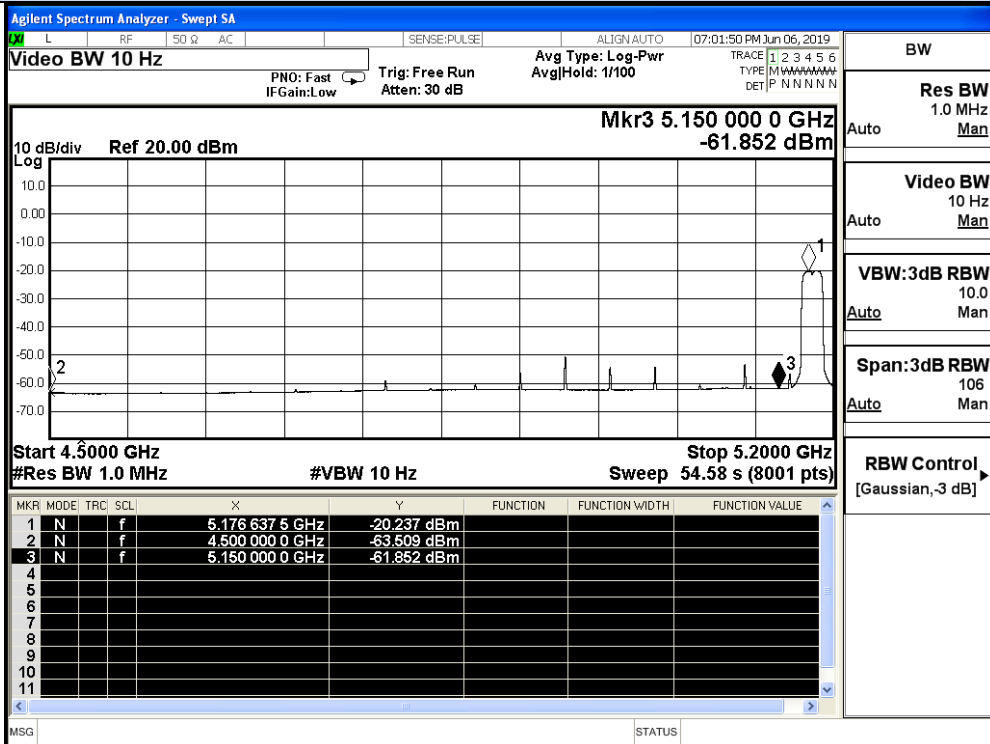


IEEE 802.11a / Channel 48 / 5240MHz / Average\_Ant1

Undesirable Emissions Measurement

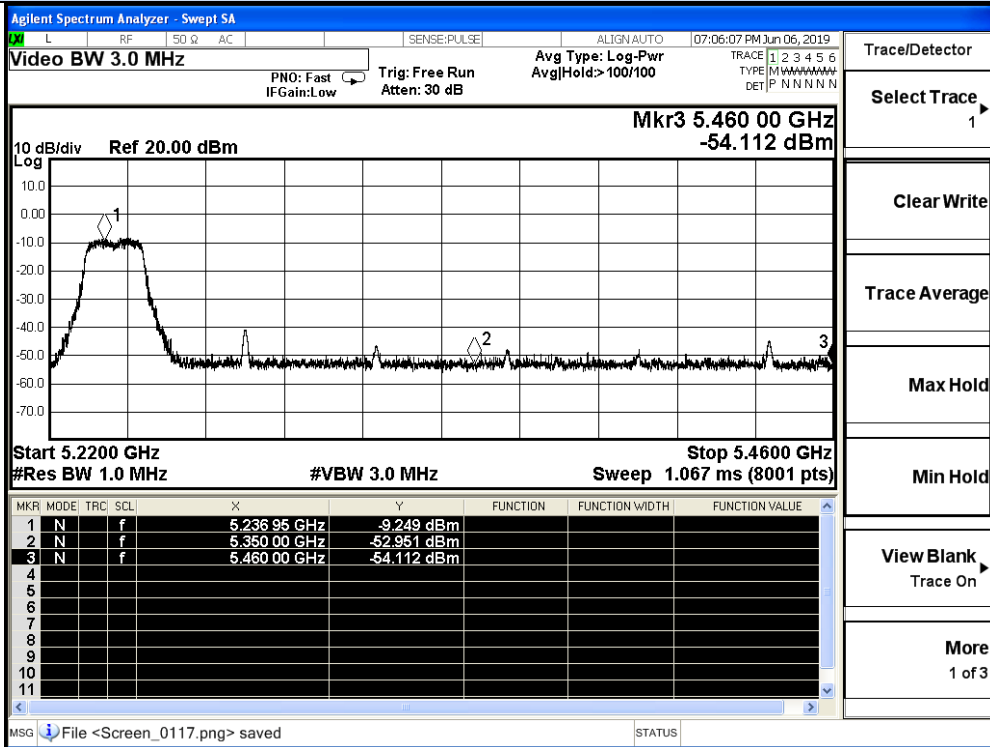


IEEE 802.11n20 / Channel 36 / 5180MHz / Peak\_Ant1

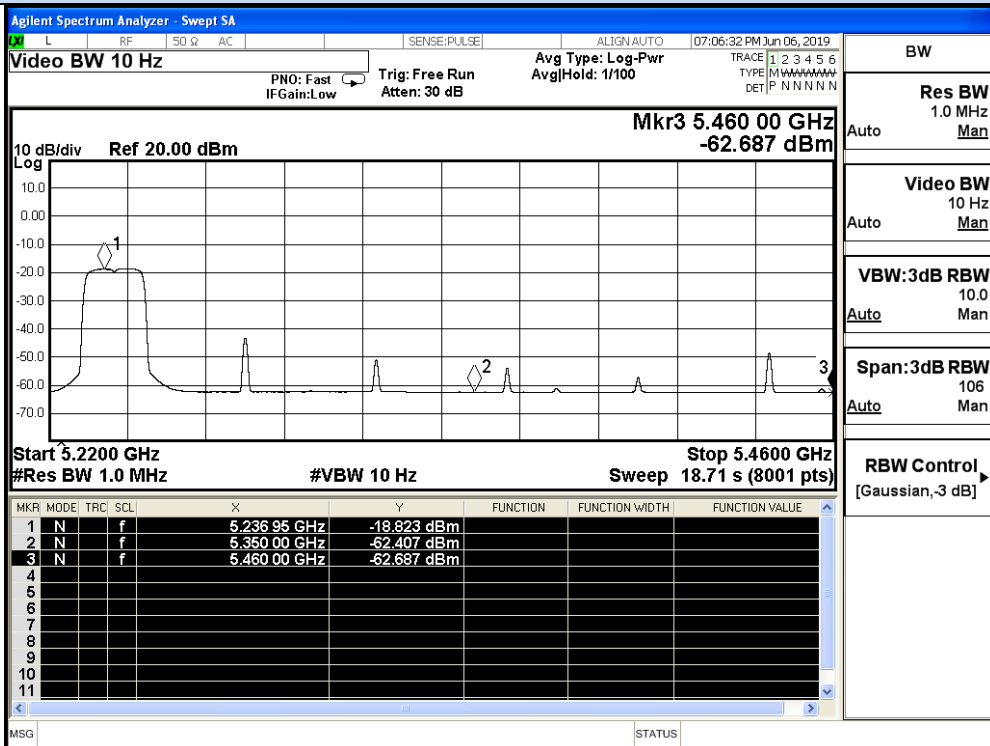


IEEE 802.11n20 / Channel 36 / 5180MHz / Average\_Ant1

Undesirable Emissions Measurement

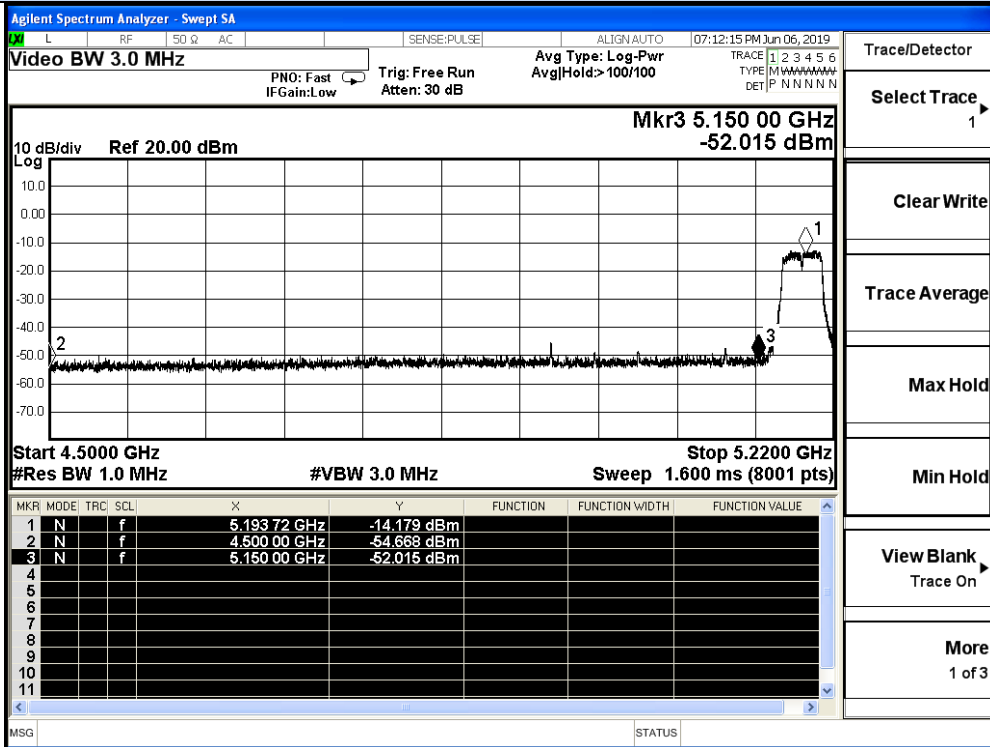


IEEE 802.11n20 / Channel 48 / 5240MHz / Peak\_Ant1

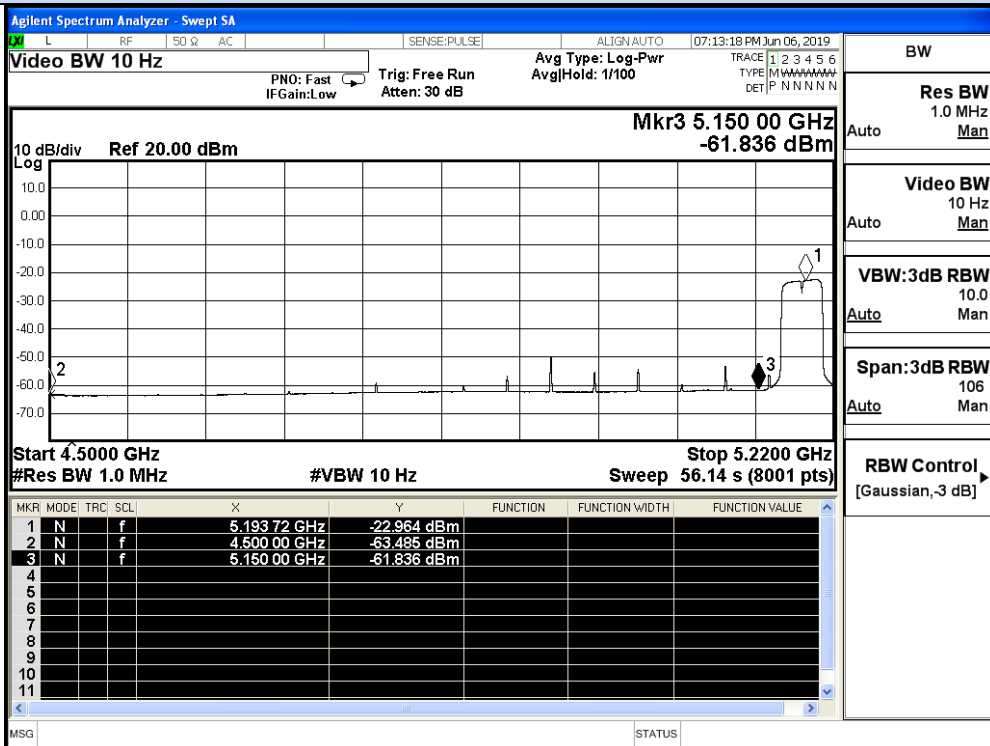


IEEE 802.11n20 / Channel 48 / 5240MHz / Average\_Ant1

Undesirable Emissions Measurement

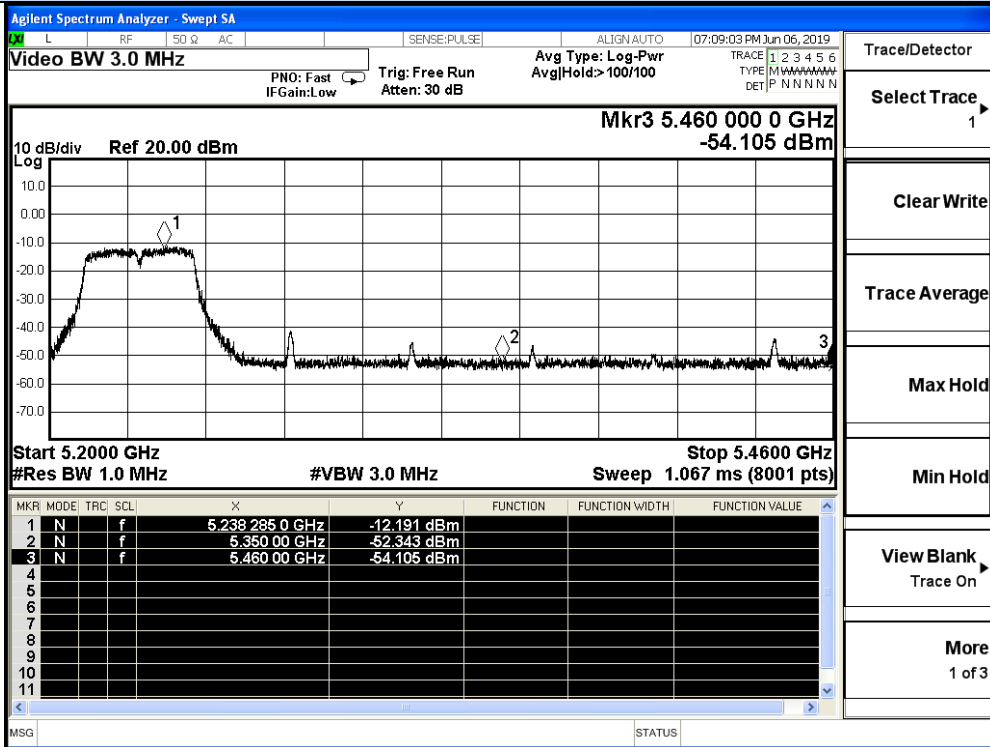


IEEE 802.11n40 / Channel 38 / 5190MHz / Peak\_Ant1

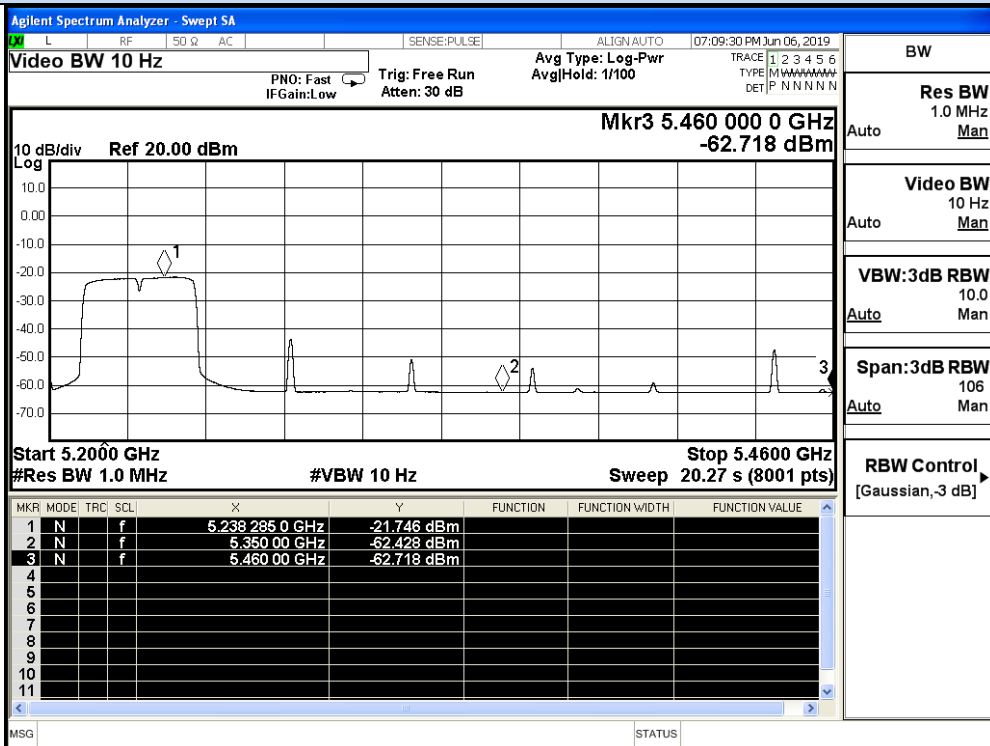


IEEE 802.11n40 / Channel 38 / 5190MHz / Average\_Ant1

Undesirable Emissions Measurement



IEEE 802.11n40 / Channel 46 / 5230MHz / Peak\_Ant1



IEEE 802.11n40 / Channel 46 / 5230MHz / Average\_Ant1