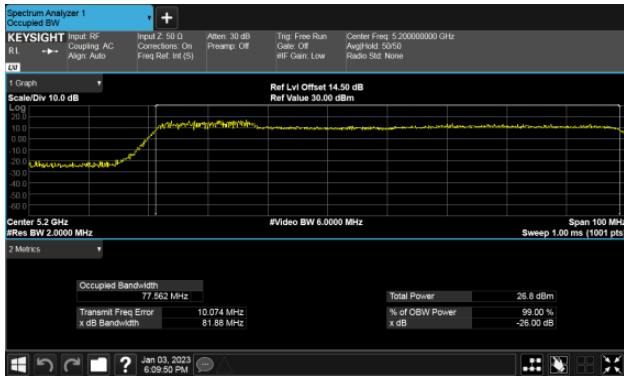




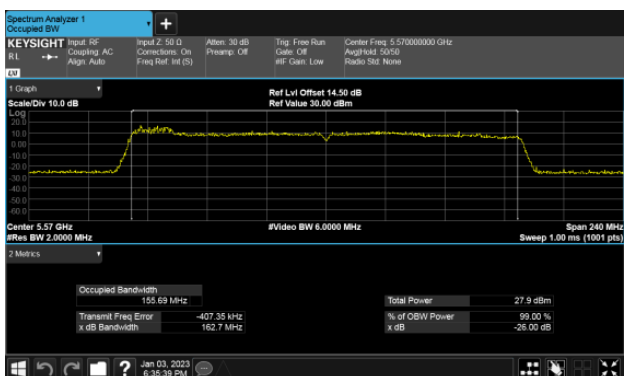
99% Bandwidth
Beamforming, ANT B
Straddle Channel, Within 5150-5250MHz band
Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50



Straddle Channel, Extends across 5250MHz band
Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

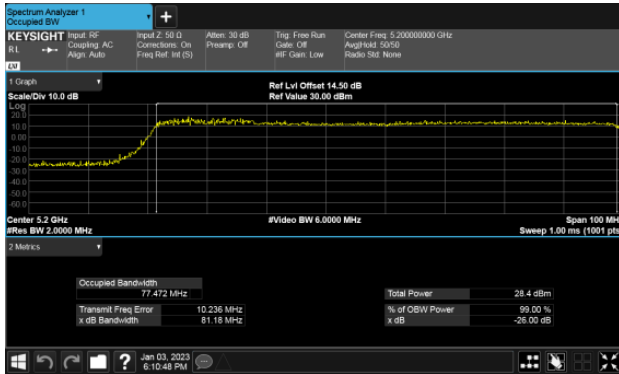


Modulation Type: 802.11ax HE160 (61.3Mbps)
CH114

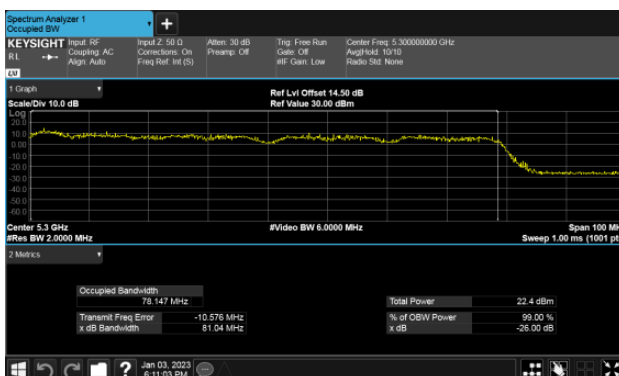




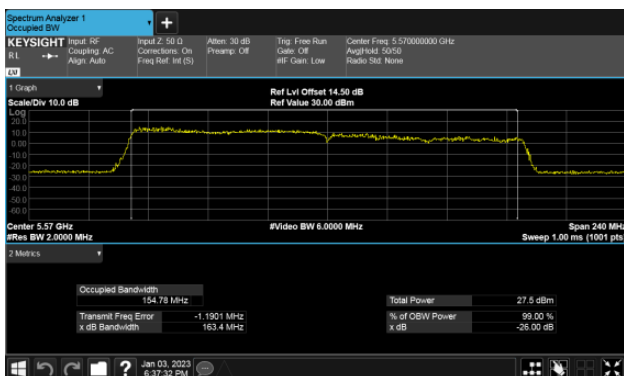
99% Bandwidth
Beamforming, ANT C
Straddle Channel, Within 5150-5250MHz band
Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50



Straddle Channel, Extends across 5250MHz band
Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

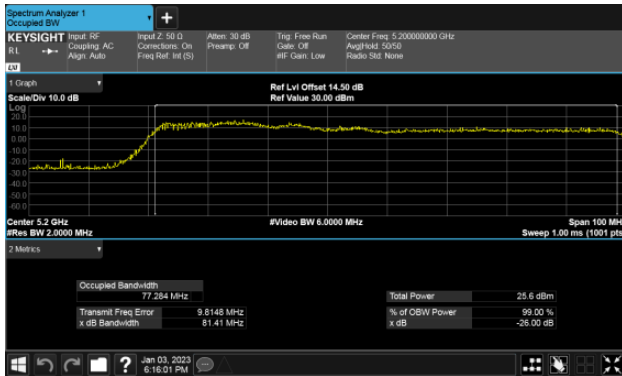


Modulation Type: 802.11ax HE160 (61.3Mbps)
CH114

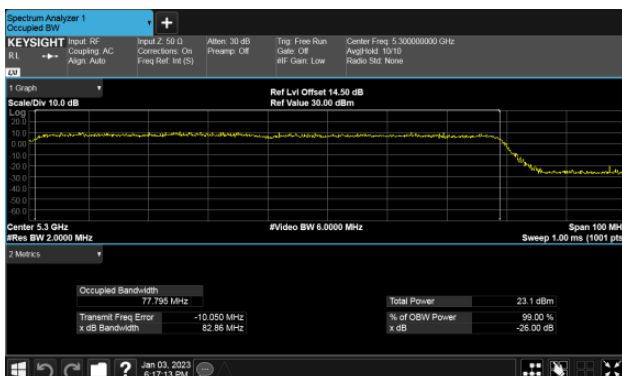




99% Bandwidth
Beamforming, ANT D
Straddle Channel, Within 5150-5250MHz band
Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50



Straddle Channel, Extends across 5250MHz band
Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

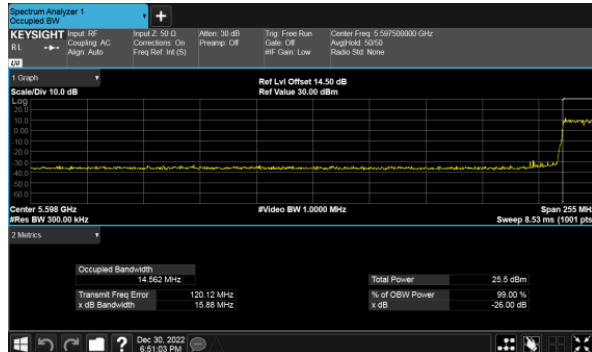


Modulation Type: 802.11ax HE160 (61.3Mbps)
CH114

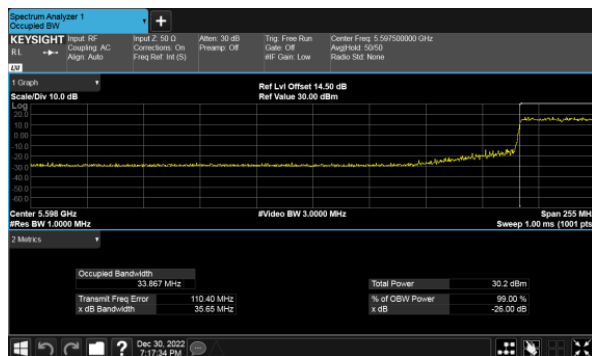




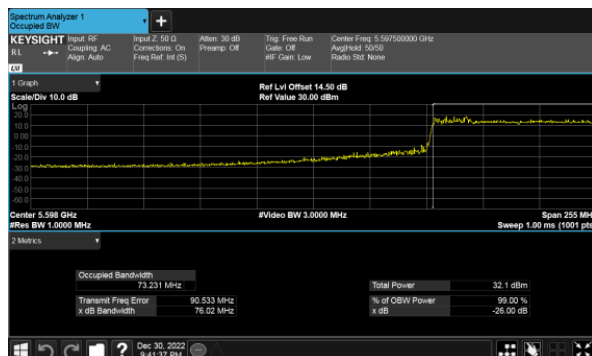
99% Bandwidth
Beamforming, ANT A
Within 5470-5725MHz Band, Straddle Channel
Modulation Type: 802.11ax HE20(7.3Mbps)
CH144



Modulation Type: 802.11ax HE40(14.6Mbps)
CH142

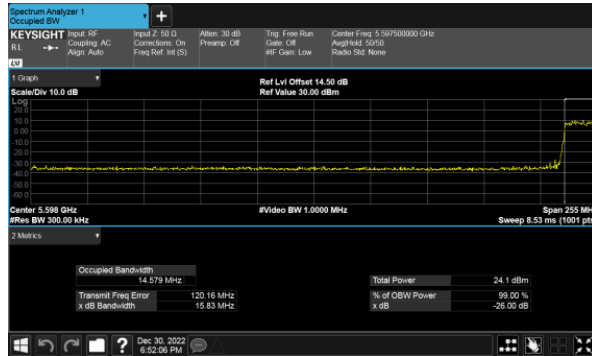


Modulation Type: 802.11ax HE80(30.6Mbps)
CH138

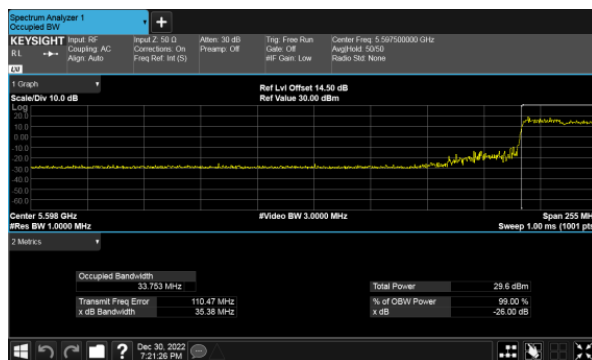




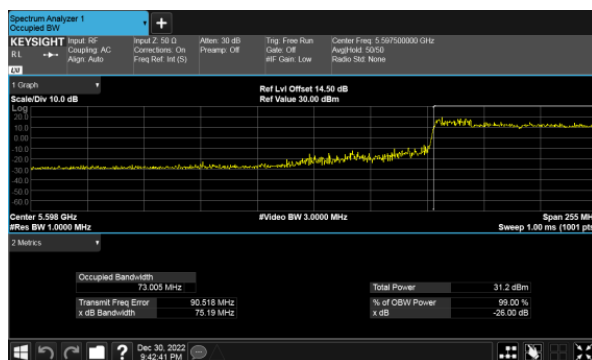
99% Bandwidth
Beamforming, ANT B
Within 5470-5725MHz Band, Straddle Channel
Modulation Type: 802.11ax HE20(7.3Mbps)
CH144



Modulation Type: 802.11ax HE40(14.6Mbps)
CH142

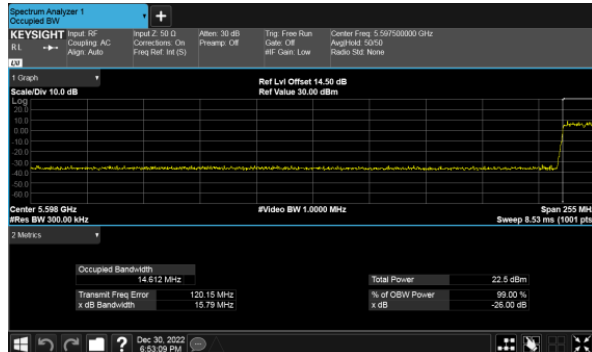


Modulation Type: 802.11ax HE80(30.6Mbps)
CH138

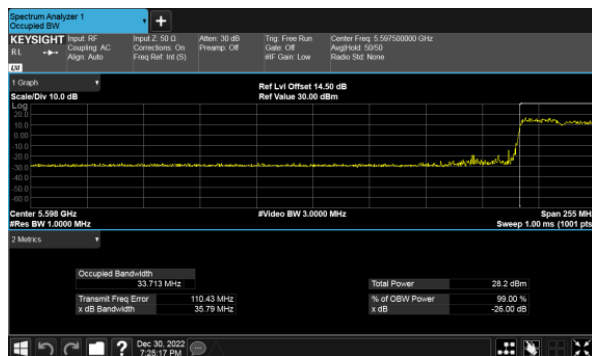




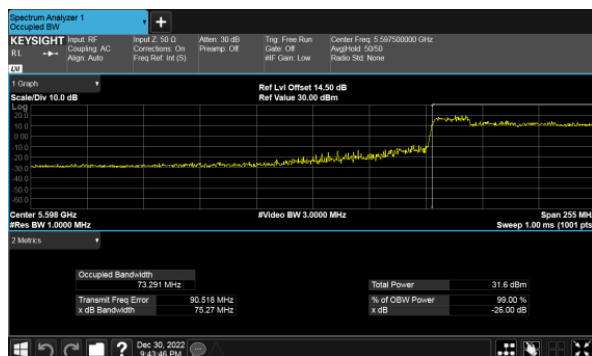
99% Bandwidth
Beamforming, ANT C
Within 5470-5725MHz Band, Straddle Channel
Modulation Type: 802.11ax HE20(7.3Mbps)
CH144



Modulation Type: 802.11ax HE40(14.6Mbps)
CH142

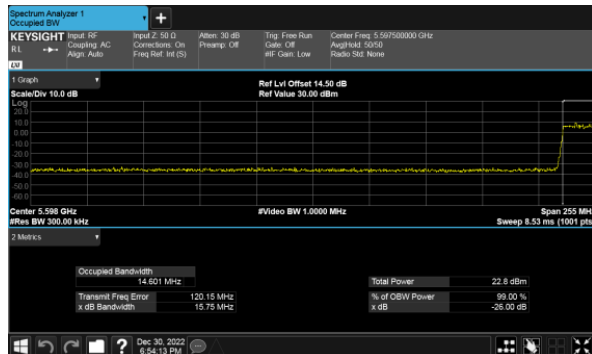


Modulation Type: 802.11ax HE80(30.6Mbps)
CH138

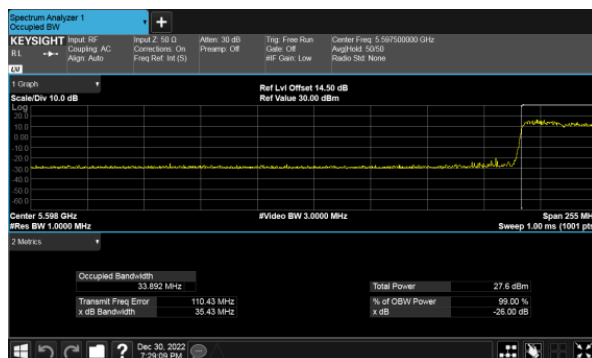




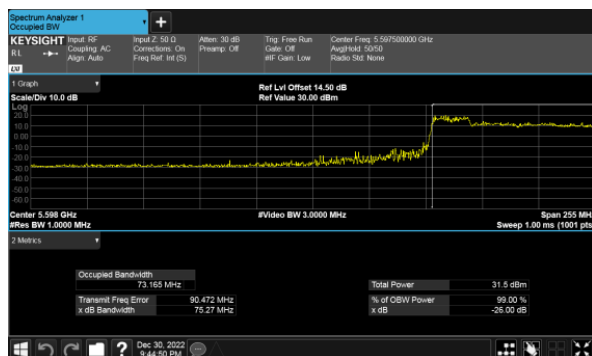
99% Bandwidth
Beamforming, ANT D
Within 5470-5725MHz Band, Straddle Channel
Modulation Type: 802.11ax HE20(7.3Mbps)
CH144



Modulation Type: 802.11ax HE40(14.6Mbps)
CH142



Modulation Type: 802.11ax HE80(30.6Mbps)
CH138





10. Average Power

10.1. Test Limit

Output Power:

Frequency Band		Limit
☒	5.15~5.25GHz	
	Operating Mode	
☐	Outdoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30degrees as measured from the horizon must not exceed 125 mW (21 dBm).
☒	Indoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
☐	Fixed point-to-point access points	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.
☐	client devices	The maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

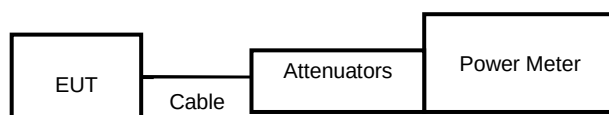


Frequency Band		Limit
☒	5.25-5.35 GHz	The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
☒	5.470-5.725 GHz	
☒	5.725~5.85 GHz	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power.

10.2.Test Procedure

According to the methods defined in ANSI C63.10-2013 Section 12.3
The transmitter output is connected to a power meter.

10.3.Test Setup Layout



**10.4. Test Result and Data**

Non-Beamforming

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)				Total power (dBm)	Total power (mW)	FCC Limit (dBm)
					ANT A	ANT B	ANT C	ANT D			
11a	6 Mbps	91	36	5180	21.99	22.90	22.95	22.82	28.70	741.777	30.00
11a	6 Mbps	91	40	5200	22.01	22.79	22.90	22.89	28.68	738.483	30.00
11a	6 Mbps	91	48	5240	21.87	22.60	22.79	22.64	28.51	709.547	30.00
11ax HE20	NSS1-MCS0	85	36	5180	20.56	21.48	21.62	21.20	27.25	531.404	30.00
11ax HE20	NSS1-MCS0	90	40	5200	21.67	22.64	22.86	22.75	28.53	712.108	30.00
11ax HE20	NSS1-MCS0	90	48	5240	21.78	22.53	22.71	22.44	28.40	691.747	30.00
11ax HE40	NSS1-MCS0	71	38	5190	17.40	18.02	18.29	17.90	23.94	247.468	30.00
11ax HE40	NSS1-MCS0	92	46	5230	22.27	23.26	23.41	23.33	29.11	815.050	30.00
11ax HE80	NSS1-MCS0	72	42	5210	17.02	17.33	17.35	16.73	23.14	205.848	30.00



Non-Beamforming

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)				Total power (dBm)	Total power (mW)	FCC Limit (dBm)
					ANT A	ANT B	ANT C	ANT D			
11a	6 Mbps	65	52	5260	16.50	16.65	16.68	16.77	22.67	184.999	24.00
11a	6 Mbps	64	60	5300	16.07	16.49	16.36	16.35	22.34	171.427	24.00
11a	6 Mbps	64	64	5320	15.96	16.19	16.06	16.22	22.13	163.281	24.00
11ax HE20	NSS1-MCS0	63	52	5260	16.03	16.21	16.09	16.29	22.18	165.074	24.00
11ax HE20	NSS1-MCS0	63	60	5300	15.96	16.23	16.05	16.14	22.12	162.808	24.00
11ax HE20	NSS1-MCS0	63	64	5320	15.68	15.92	15.99	16.03	21.93	155.873	24.00
11ax HE40	NSS1-MCS0	71	54	5270	17.19	17.57	17.78	17.88	23.63	230.863	24.00
11ax HE40	NSS1-MCS0	71	62	5310	17.17	17.48	17.75	17.67	23.54	226.140	24.00
11ax HE80	NSS1-MCS0	71	58	5290	17.62	17.68	17.88	17.94	23.80	240.030	24.00



Non-Beamforming

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)				Total power (dBm)	Total power (mW)	FCC Limit (dBm)
					ANT A	ANT B	ANT C	ANT D			
11a	6 Mbps	66	100	5500	15.99	15.77	16.27	16.03	22.04	159.93	23.54
11a	6 Mbps	67	120	5600	16.03	15.69	16.02	15.91	21.94	156.14	23.54
11a	6 Mbps	68	140	5700	15.85	15.61	15.90	15.81	21.81	151.86	23.54
11ax HE20	NSS1-MCS0	66	100	5500	16.07	15.98	16.41	16.05	22.15	164.11	23.54
11ax HE20	NSS1-MCS0	65	120	5600	15.53	15.28	15.75	15.65	21.58	143.77	23.54
11ax HE20	NSS1-MCS0	67	140	5700	15.66	15.43	15.71	15.56	21.61	144.94	23.54
11ax HE40	NSS1-MCS0	71	102	5510	17.29	17.16	17.67	17.42	23.41	219.27	23.54
11ax HE40	NSS1-MCS0	72	118	5590	17.53	17.16	17.58	17.23	23.40	218.75	23.54
11ax HE40	NSS1-MCS0	73	134	5670	17.52	17.30	17.48	17.44	23.46	221.64	23.54
11ax HE80	NSS1-MCS0	71	106	5530	17.12	17.10	17.51	16.94	23.19	208.60	23.54
11ax HE80	NSS1-MCS0	71	122	5610	17.62	17.28	17.65	17.21	23.47	222.08	23.54



Non-Beamforming

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)				Total power (dBm)	Total power (mW)	FCC Limit (dBm)
					ANT A	ANT B	ANT C	ANT D			
11a	6 Mbps	100	149	5745	23.13	23.15	24.08	23.63	29.54	898.660	29.66
11a	6 Mbps	100	157	5785	23.02	23.16	24.09	23.82	29.57	904.900	29.66
11a	6 Mbps	100	165	5825	19.89	22.18	22.31	22.67	27.91	617.838	29.66
11ax HE20	NSS1-MCS0	99	149	5745	23.12	23.22	24.08	23.56	29.53	897.855	29.66
11ax HE20	NSS1-MCS0	99	157	5785	23.29	23.25	24.27	23.59	29.64	920.514	29.66
11ax HE20	NSS1-MCS0	100	165	5825	20.52	22.35	22.68	22.90	28.23	664.848	29.66
11ax HE40	NSS1-MCS0	99	151	5755	23.36	23.65	24.00	23.45	29.64	921.008	29.66
11ax HE40	NSS1-MCS0	99	159	5795	23.35	23.67	23.98	23.46	29.64	920.935	29.66
11ax HE80	NSS1-MCS0	88	155	5775	20.65	21.15	21.86	21.45	27.32	539.560	29.66
11ax HE160	NSS1-MCS0	71	114	5570	16.69	16.58	17.21	16.66	22.81	191.111	23.54



Non-Beamforming

FCC Maximum Conducted Output Power (Within 5150-5250MHz band) RF Output Power(dBm)												
Setting	Modulation Type	Data Rate	Frequency (MHz)	W/O Duty Factor Measured value of each antenna port (dBm)				W/O duty factor Total power (dBm)	Duty Factor (dB)	With duty factor Total power (mW)	With duty factor Total power (dBm)	FCC Limit (dBm)
				ANT A	ANT B	ANT C	ANT D					
74	11ax HE160	NSS1-MCS0	5250	14.32	14.48	14.86	13.80	20.40	0.46	121.959	20.86	30.00

FCC Maximum Conducted Output Power (Extends across 5250MHz band) RF Output Power(dBm)												
Setting	Modulation Type	Data Rate	Frequency (MHz)	W/O Duty Factor Measured value of each antenna port (dBm)				W/O duty factor Total power (dBm)	Duty Factor (dB)	With duty factor Total power (mW)	With duty factor Total power (dBm)	FCC Limit (dBm)
				ANT A	ANT B	ANT C	ANT D					
74	11ax HE160	NSS1-MCS0	5250	14.19	14.77	14.77	14.33	20.54	0.46	125.990	21.00	24.00

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Avg Power Output (dBm)				Total Power
					ANT A	ANT B	ANT C	ANT D	(dBm)
Meter power (for full power)									
11ax HE160	NSS1-MCS0	74	50	5250	17.46	17.65	17.85	17.68	23.68

Note: Power Meter Average power is for reference only.



Non-Beamforming

FCC Maximum Conducted Output Power (Within 5470-5725MHz band) RF Output Power(dBm)												
Setting	Modulation Type	Data Rate	Frequency (MHz)	W/O Duty Factor Measured value of each antenna port (dBm)				W/O duty factor Total power (dBm)	Duty Factor (dB)	With duty factor Total power (mW)	With duty factor Total power (dBm)	FCC Limit (dBm)
				ANT A	ANT B	ANT C	ANT D					
69	11a	6M	5720	15.09	14.87	15.40	15.27	21.18	0.20	137.488	21.38	22.53
67	11ax HE20	NSS1-MCS0	5720	15.12	14.53	14.76	14.85	20.84	0.00	121.360	20.84	22.55
71	11ax HE40	NSS1-MCS0	5710	13.88	13.87	13.90	13.89	19.91	0.14	101.056	20.05	23.54
71	11ax HE80	NSS1-MCS0	5690	14.35	14.35	14.31	14.30	20.35	0.30	116.096	20.65	23.54

FCC Maximum Conducted Output Power (Extends across 5725MHz band) RF Output Power(dBm)												
Setting	Modulation Type	Data Rate	Frequency (MHz)	W/O Duty Factor Measured value of each antenna port (dBm)				W/O duty factor Total power (dBm)	Duty Factor (dB)	With duty factor Total power (mW)	With duty factor Total power (dBm)	FCC Limit (dBm)
				ANT A	ANT B	ANT C	ANT D					
69	11a	6M	5720	9.47	8.79	8.96	9.01	15.09	0.20	33.772	15.29	29.66
67	11ax HE20	NSS1-MCS0	5720	9.88	9.41	9.72	9.65	15.69	0.00	37.059	15.69	29.66
71	11ax HE40	NSS1-MCS0	5710	3.99	3.99	4.00	4.00	10.02	0.14	10.365	10.16	29.66
71	11ax HE80	NSS1-MCS0	5690	0.96	0.88	0.84	0.83	6.90	0.30	5.246	7.20	29.66

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Avg Power Output (dBm)				Total Power
					ANT A	ANT B	ANT C	ANT D	(dBm)
Meter power (for full power)									
11a	6 Mbps	69	Ch144	5720MHz	15.92	15.79	16.10	16.09	22.00
11ax HE20	NSS1-MCS0	67	Ch144	5720MHz	15.65	15.41	15.76	15.55	21.62
11ax HE40	NSS1-MCS0	71	Ch142	5710MHz	16.94	16.78	16.86	16.76	22.86
11ax HE80	NSS1-MCS0	71	Ch138	5690MHz	17.51	17.15	17.37	17.24	23.34

Note: Power Meter Average power is for reference only.



Beamforming

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)				Total power (dBm)	Total power (mW)	FCC Limit (dBm)
					ANT A	ANT B	ANT C	ANT D			
11ax HE20	NSS1-MCS0	87	36	5180	20.84	21.28	21.34	21.92	27.38	547.356	30.00
11ax HE20	NSS1-MCS0	95	40	5200	22.68	23.06	23.57	24.15	29.42	875.181	30.00
11ax HE20	NSS1-MCS0	95	48	5240	22.89	22.94	23.69	24.17	29.48	886.424	30.00
11ax HE40	NSS1-MCS0	75	38	5190	17.83	19.11	18.49	19.13	24.69	294.622	30.00
11ax HE40	NSS1-MCS0	95	46	5230	22.65	23.74	23.17	24.33	29.54	899.180	30.00
11ax HE80	NSS1-MCS0	78	42	5210	17.60	18.41	18.57	18.12	24.36	272.650	30.00



Beamforming

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)				Total power (dBm)	Total power (mW)	FCC Limit (dBm)
					ANT A	ANT B	ANT C	ANT D			
11ax HE20	NSS1-MCS0	72	52	5260	17.03	18.10	17.88	17.48	23.66	232.384	24.00
11ax HE20	NSS1-MCS0	73	60	5300	17.24	18.12	17.91	17.52	23.73	236.125	24.00
11ax HE20	NSS1-MCS0	74	64	5320	17.28	18.15	17.99	17.59	23.79	239.132	24.00
11ax HE40	NSS1-MCS0	74	54	5270	17.26	18.25	17.89	18.14	23.92	246.726	24.00
11ax HE40	NSS1-MCS0	73	62	5310	17.21	18.30	17.91	17.98	23.89	244.818	24.00
11ax HE80	NSS1-MCS0	75	58	5290	17.35	18.43	17.85	18.14	23.98	250.104	24.00



Beamforming

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)				Total power (dBm)	Total power (mW)	FCC Limit (dBm)
					ANT A	ANT B	ANT C	ANT D			
11ax HE20	NSS1-MCS0	75	100	5500	17.65	17.87	15.05	17.88	23.28	212.811	23.54
11ax HE20	NSS1-MCS0	79	120	5600	14.04	18.62	17.97	17.44	23.35	216.253	23.54
11ax HE20	NSS1-MCS0	71	140	5700	11.73	16.56	15.63	15.66	21.26	133.556	23.54
11ax HE40	NSS1-MCS0	65	102	5510	13.14	16.13	16.10	15.49	21.39	137.764	23.54
11ax HE40	NSS1-MCS0	78	118	5590	14.23	18.52	18.15	17.68	23.45	221.533	23.54
11ax HE40	NSS1-MCS0	76	134	5670	13.35	18.51	17.13	16.85	22.85	192.644	23.54
11ax HE80	NSS1-MCS0	70	106	5530	14.04	16.62	16.67	16.52	22.11	162.597	23.54
11ax HE80	NSS1-MCS0	77	122	5610	14.52	18.23	18.55	17.48	23.47	222.431	23.54
11ax HE160	NSS1-MCS0	70	114	5570	13.19	16.72	16.19	15.13	21.52	142.009	23.54



Beamforming

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)				Total power (dBm)	Total power (mW)	FCC Limit (dBm)
					ANT A	ANT B	ANT C	ANT D			
11ax HE20	NSS1-MCS0	98	149	5745	19.26	23.38	23.34	22.99	28.55	716.946	29.66
11ax HE20	NSS1-MCS0	100	157	5785	20.29	23.80	24.13	23.27	29.13	817.935	29.66
11ax HE20	NSS1-MCS0	100	165	5825	18.89	20.35	20.34	21.18	26.29	425.202	29.66
11ax HE40	NSS1-MCS0	98	151	5755	19.13	22.97	22.63	22.06	27.95	623.925	29.66
11ax HE40	NSS1-MCS0	104	159	5795	20.82	23.98	24.17	23.24	29.26	842.895	29.66
11ax HE80	NSS1-MCS0	83	155	5775	16.01	20.44	20.02	19.30	25.27	336.140	29.66



Beamforming

FCC Maximum Conducted Output Power (Within 5150-5250MHz band) RF Output Power(dBm)												
Setting	Modulation Type	Data Rate	Frequency (MHz)	W/O Duty Factor Measured value of each antenna port (dBm)				W/O duty factor Total power (dBm)	Duty Factor (dB)	With duty factor Total power (mW)	With duty factor Total power (dBm)	FCC Limit (dBm)
				ANT A	ANT B	ANT C	ANT D					
79	11ax HE160	NSS1-MCS0	5250	14.64	16.34	17.54	12.92	21.72	0.42	163.582	22.14	30.00

FCC Maximum Conducted Output Power (Extends across 5250MHz band) RF Output Power(dBm)												
Setting	Modulation Type	Data Rate	Frequency (MHz)	W/O Duty Factor Measured value of each antenna port (dBm)				W/O duty factor Total power (dBm)	Duty Factor (dB)	With duty factor Total power (mW)	With duty factor Total power (dBm)	FCC Limit (dBm)
				ANT A	ANT B	ANT C	ANT D					
79	11ax HE160	NSS1-MCS0	5250	15.44	16.36	12.45	13.41	20.71	0.42	129.710	21.13	24.00

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Avg Power Output (dBm)				Total Power
					ANT A	ANT B	ANT C	ANT D	(dBm)
Meter power (for full power)									
11ax HE160	NSS1-MCS0	79	50	5250	17.89	18.52	18.54	18.76	24.46

Note: Power Meter Average power is for reference only.



Beamforming

FCC Maximum Conducted Output Power (Within 5470-5725MHz band) RF Output Power(dBm)												
Setting	Modulation Type	Data Rate	Frequency (MHz)	W/O Duty Factor Measured value of each antenna port (dBm)				W/O duty factor Total power (dBm)	Duty Factor (dB)	With duty factor Total power (mW)	With duty factor Total power (dBm)	FCC Limit (dBm)
				ANT A	ANT B	ANT C	ANT D					
81	11ax HE20	NSS1-MCS0	5720	17.66	16.66	12.22	11.81	21.35	0.22	143.627	21.57	22.57
84	11ax HE40	NSS1-MCS0	5710	18.32	18.97	14.40	13.98	23.00	0.13	205.410	23.13	23.54
82	11ax HE80	NSS1-MCS0	5690	19.14	18.97	14.96	14.01	23.37	0.16	225.591	23.53	23.54

FCC Maximum Conducted Output Power (Extends across 5725MHz band) RF Output Power(dBm)												
Setting	Modulation Type	Data Rate	Frequency (MHz)	W/O Duty Factor Measured value of each antenna port (dBm)				W/O duty factor Total power (dBm)	Duty Factor (dB)	With duty factor Total power (mW)	With duty factor Total power (dBm)	FCC Limit (dBm)
				ANT A	ANT B	ANT C	ANT D					
81	11ax HE20	NSS1-MCS0	5720	12.17	10.84	6.98	6.44	15.80	0.22	39.985	16.02	29.66
84	11ax HE40	NSS1-MCS0	5710	8.28	9.23	4.82	4.05	13.16	0.13	21.308	13.29	29.66
82	11ax HE80	NSS1-MCS0	5690	5.49	5.71	0.26	1.64	9.91	0.16	10.152	10.07	29.66

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Avg Power Output (dBm)				Total Power
					ANT A	ANT B	ANT C	ANT D	(dBm)
Meter power (for full power)									
11ax HE20	NSS1-MCS0	81	Ch144	5720MHz	14.12	18.83	17.74	17.88	23.48
11ax HE40	NSS1-MCS0	84	Ch142	5710MHz	15.82	20.92	19.52	19.09	25.22
11ax HE80	NSS1-MCS0	82	Ch138	5690MHz	15.12	19.54	19.38	18.74	24.53

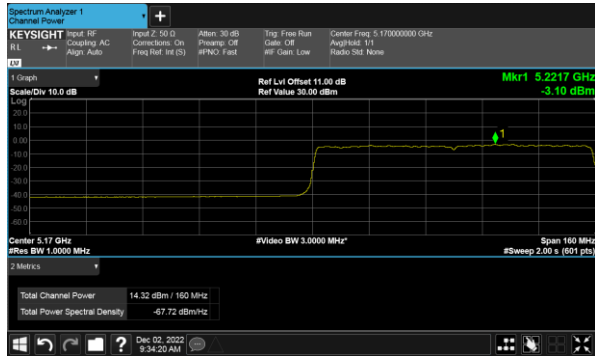
Note: Power Meter Average power is for reference only.



Non-Beamforming, ANT A

Straddle Channel, Within 5150-5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

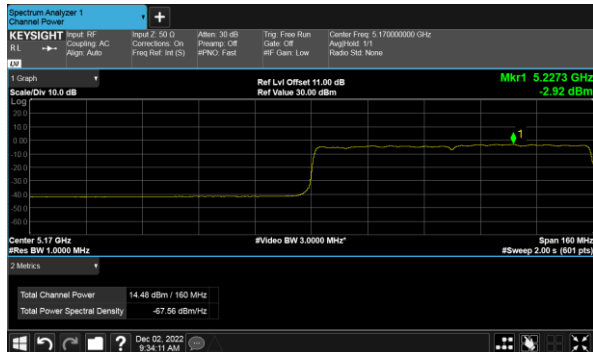




Non-Beamforming, ANT B

Straddle Channel, Within 5150-5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

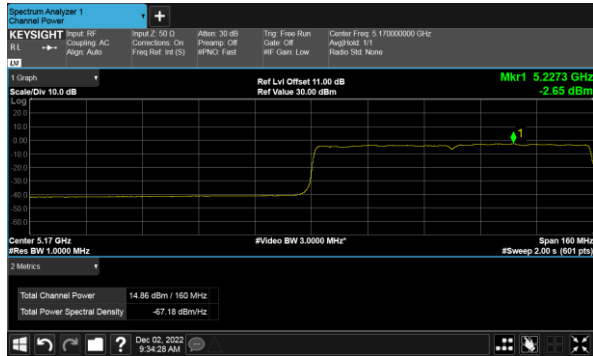




Non-Beamforming, ANT C

Straddle Channel, Within 5150-5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

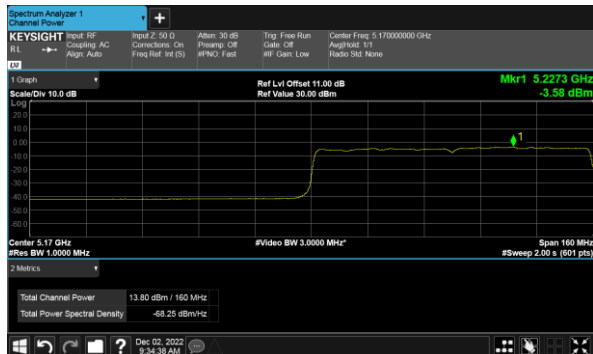




Non-Beamforming, ANT D

Straddle Channel, Within 5150-5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

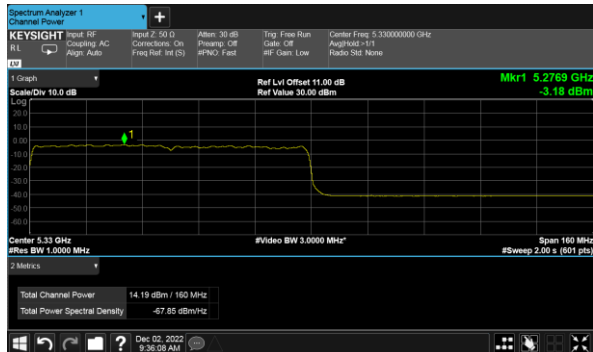




Non-Beamforming, ANT A

Straddle Channel, Extends across 5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

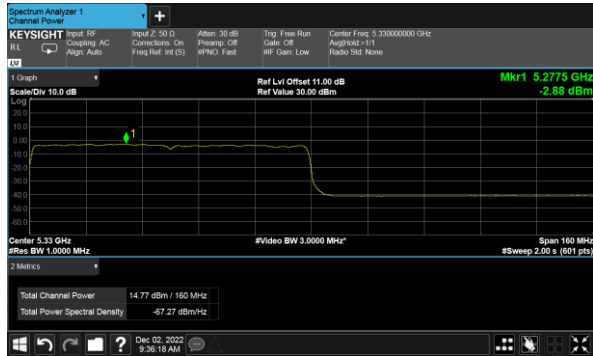




Non-Beamforming, ANT B

Straddle Channel, Extends across 5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

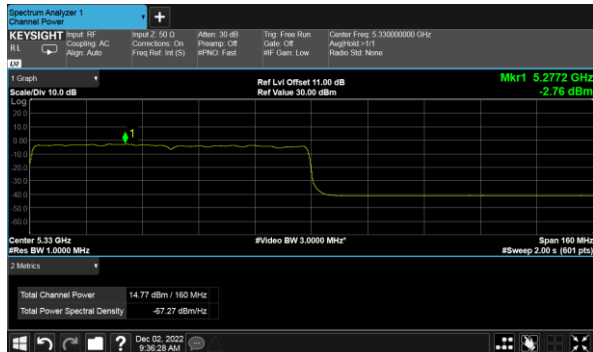




Non-Beamforming, ANT C

Straddle Channel, Extends across 5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

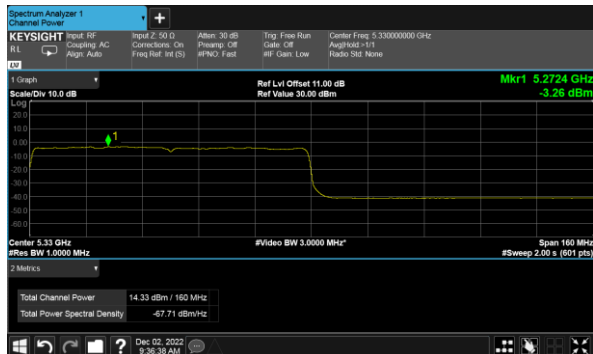




Non-Beamforming, ANT D

Straddle Channel, Extends across 5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50





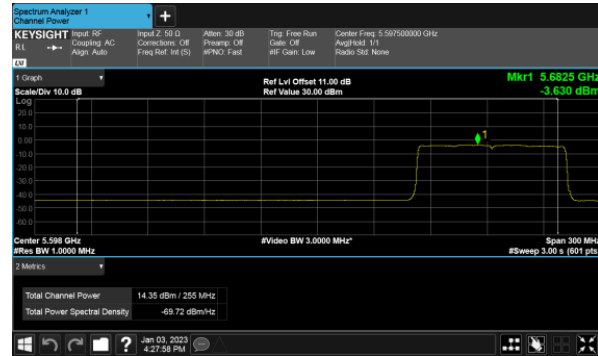
Non-Beamforming, ANT A

Within 5470-5725MHz Band, Straddle Channel

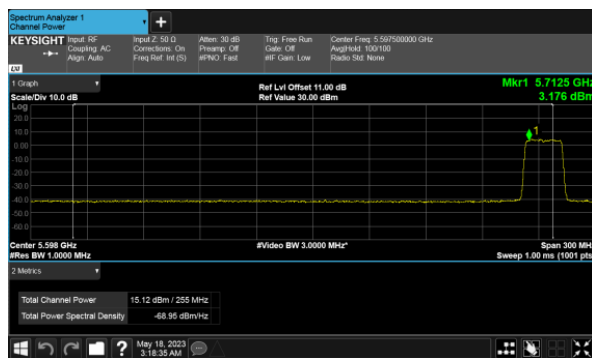
Modulation Type: 802.11a (6Mbps)
CH144



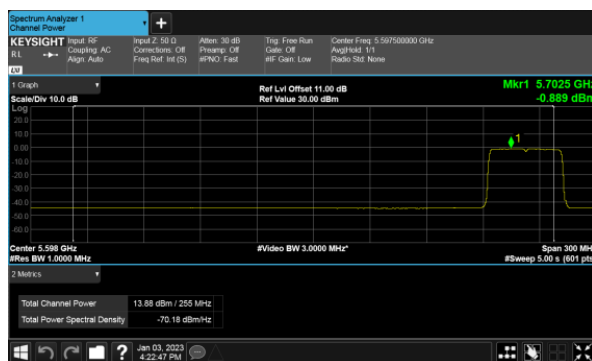
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138



Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144



Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142





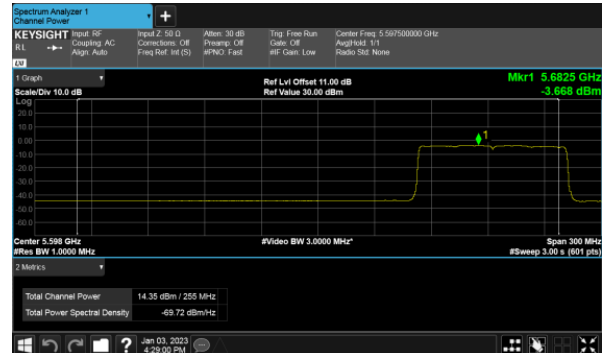
Non-Beamforming, ANT B

Within 5470-5725MHz Band, Straddle Channel

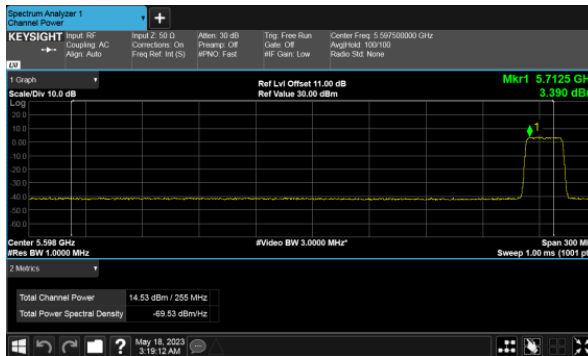
Modulation Type: 802.11a (6Mbps)
CH144



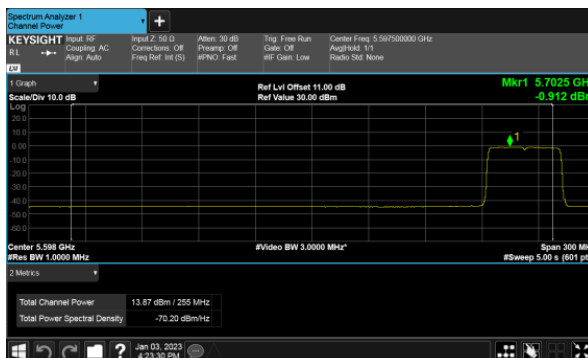
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138



Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144



Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142





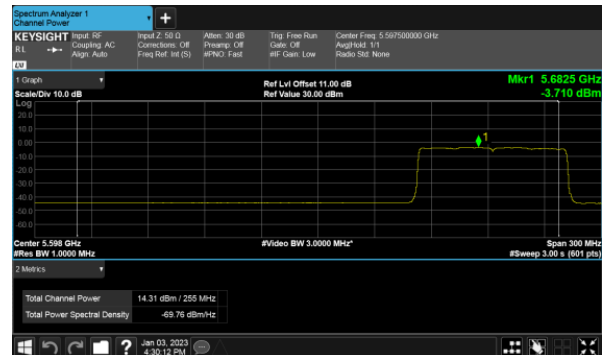
Non-Beamforming, ANT C

Within 5470-5725MHz Band, Straddle Channel

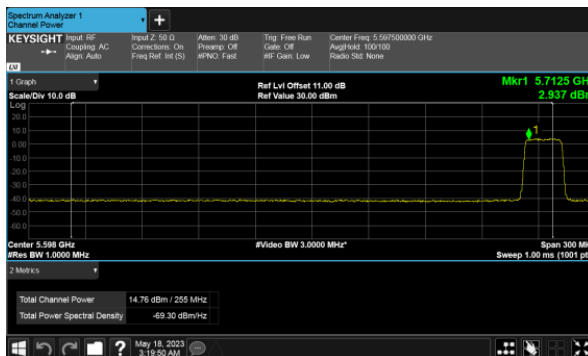
Modulation Type: 802.11a (6Mbps)
CH144



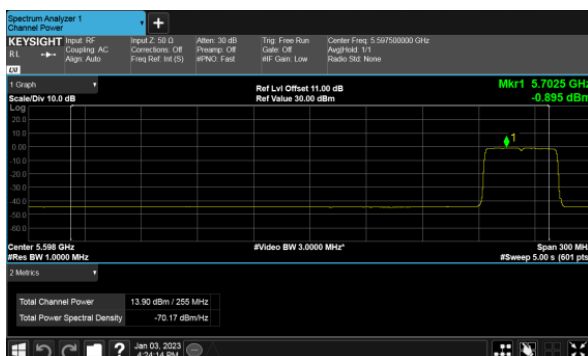
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138



Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144



Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142

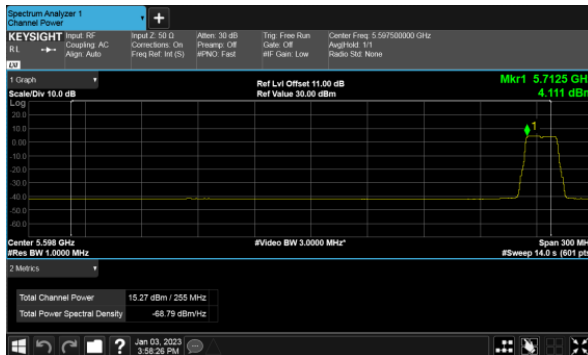




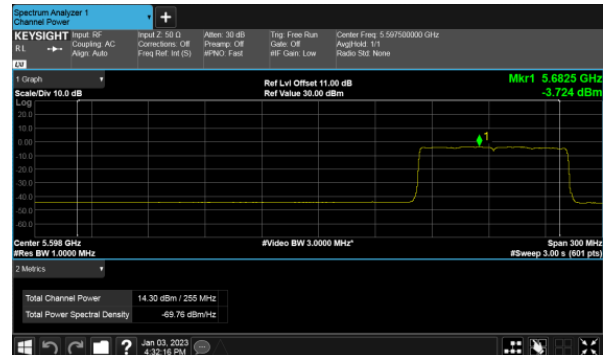
Non-Beamforming, ANT D

Within 5470-5725MHz Band, Straddle Channel

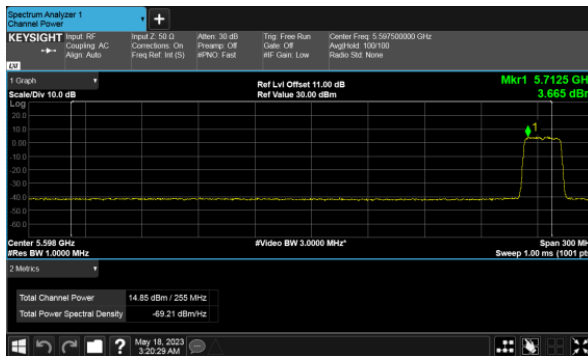
Modulation Type: 802.11a (6Mbps)
CH144



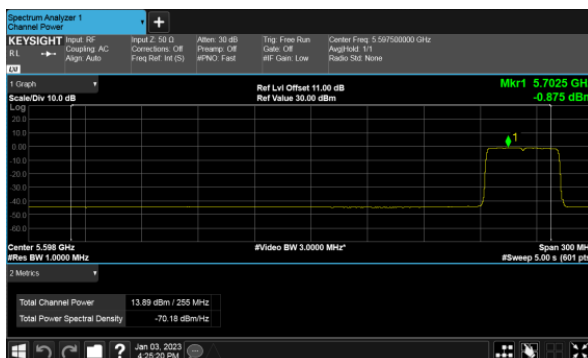
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138



Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144



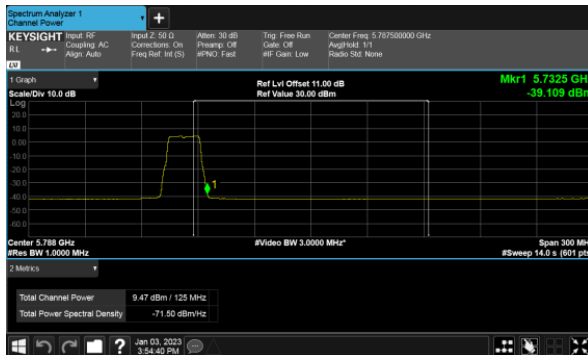
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142





Non-Beamforming, ANT A

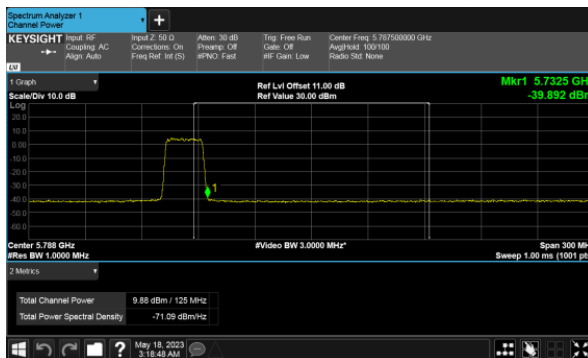
Extends across 5725MHz band, Straddle Channel
Modulation Type: 802.11a (6Mbps)
CH144



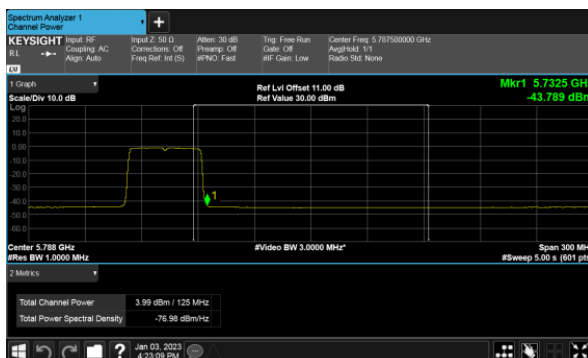
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138



Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144

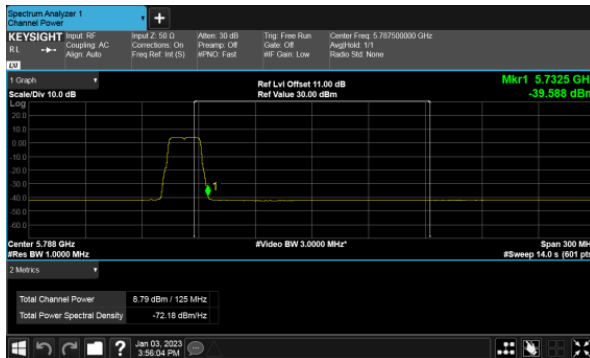


Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142

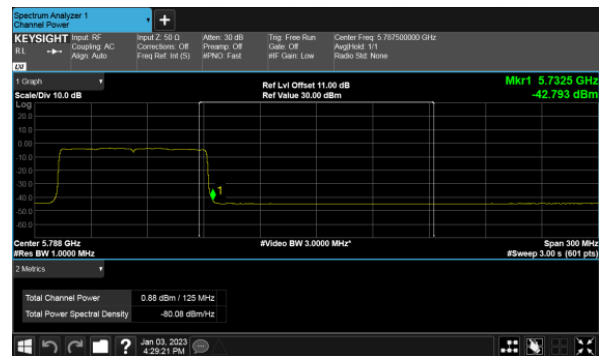




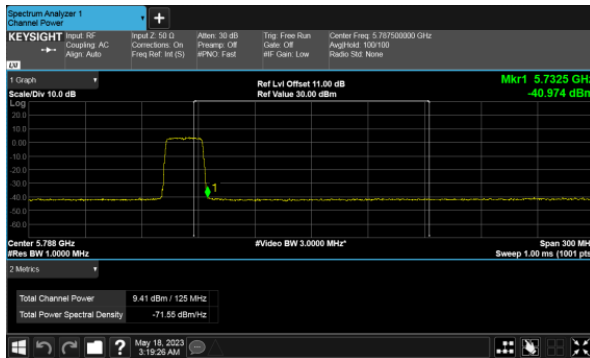
Non-Beamforming, ANT B
Extends across 5725MHz band, Straddle Channel
Modulation Type: 802.11a (6Mbps)
CH144



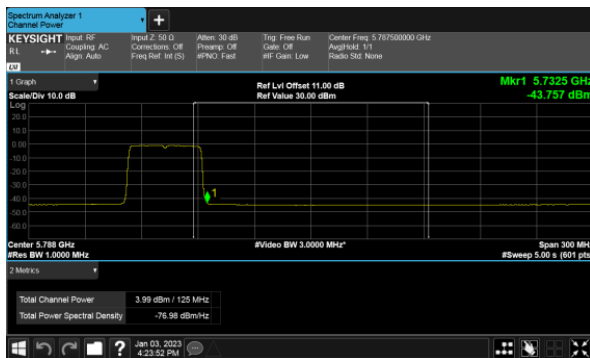
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138



Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144

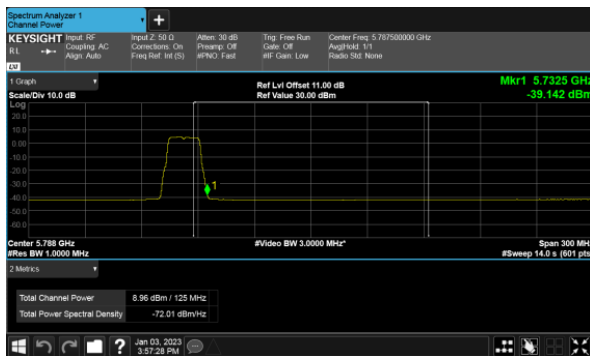


Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142

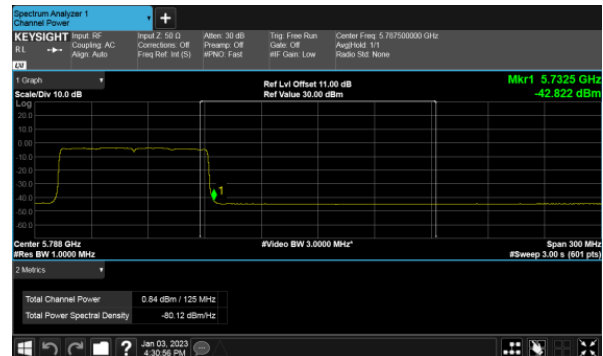




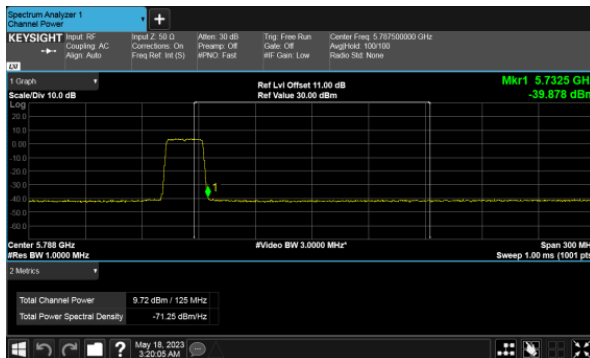
Non-Beamforming, ANT C
Extends across 5725MHz band, Straddle Channel
Modulation Type: 802.11a (6Mbps)
CH144



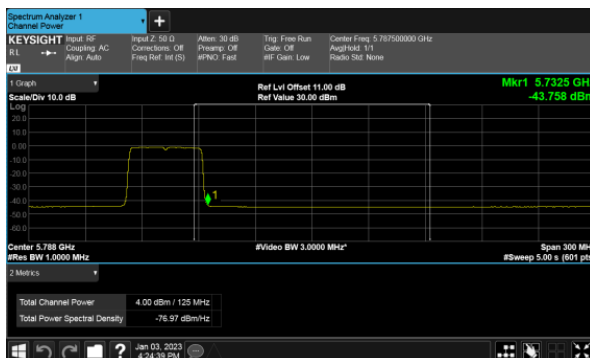
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138



Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144

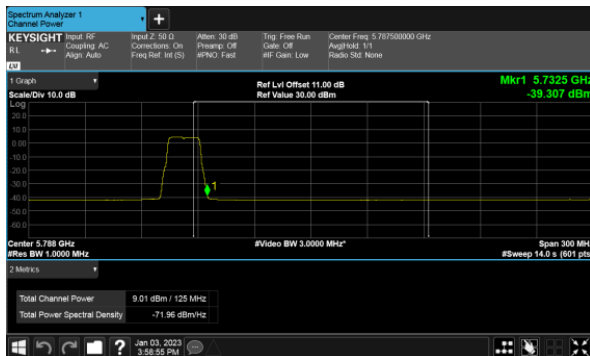


Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142





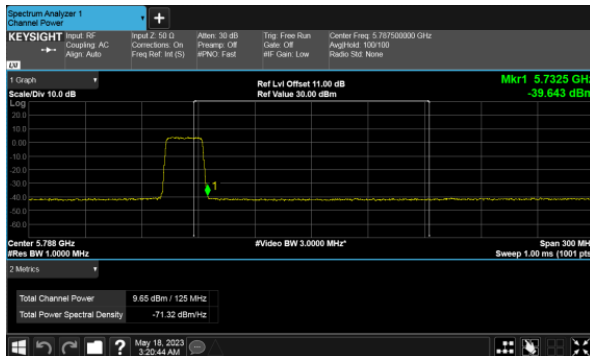
Non-Beamforming, ANT D
Extends across 5725MHz band, Straddle Channel
Modulation Type: 802.11a (6Mbps)
CH144



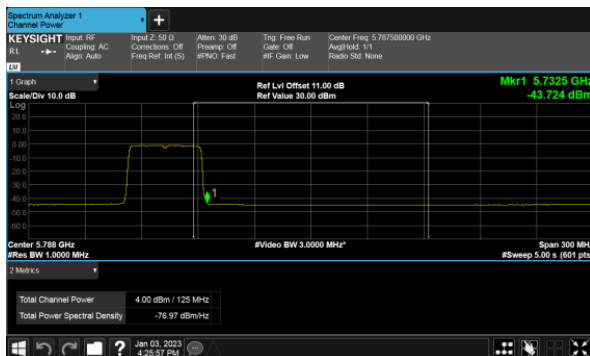
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138



Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144



Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142



Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

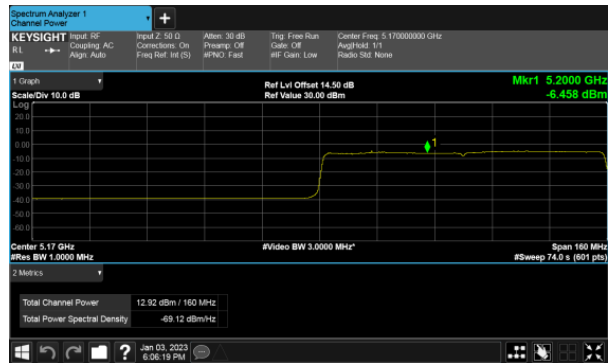




Beamforming, ANT D

Straddle Channel, Within 5150-5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50

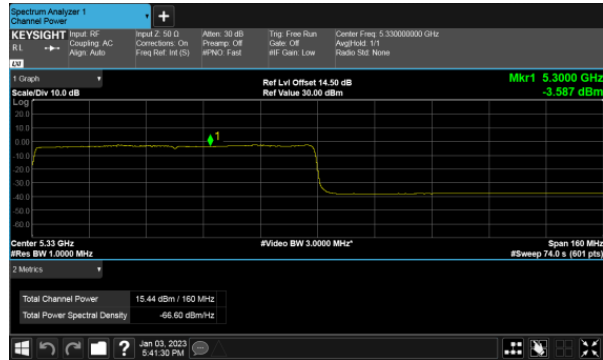




Beamforming, ANT A

Straddle Channel, Extends across 5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50





Beamforming, ANT B

Straddle Channel, Extends across 5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50



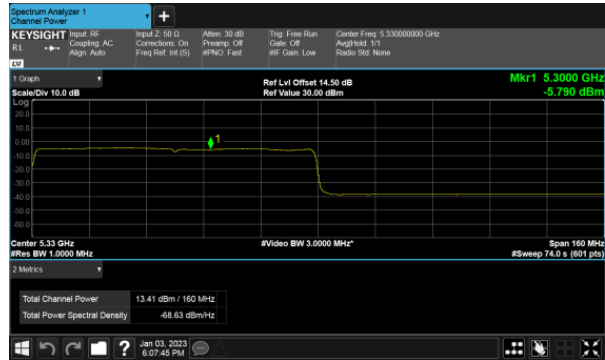


Beamforming, ANT C

Straddle Channel, Extends across 5250MHz band

Modulation Type: 802.11ax HE160 (61.3Mbps)
CH50



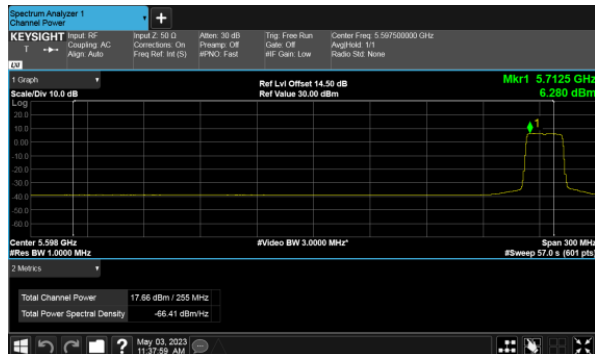




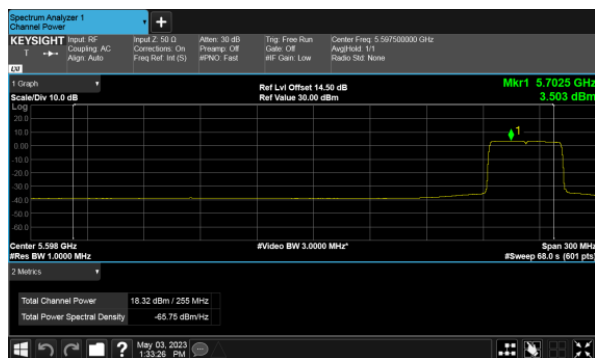
Beamforming, ANT A

Within 5470-5725MHz Band, Straddle Channel

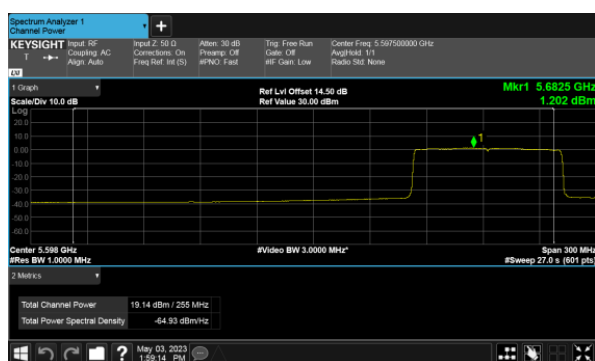
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144



Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142



Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138





Beamforming, ANT B

Within 5470-5725MHz Band, Straddle Channel

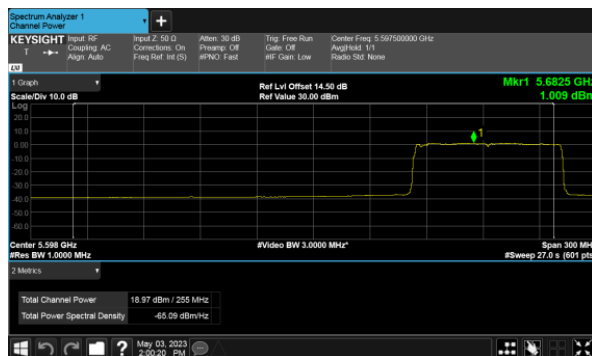
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144



Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142



Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138





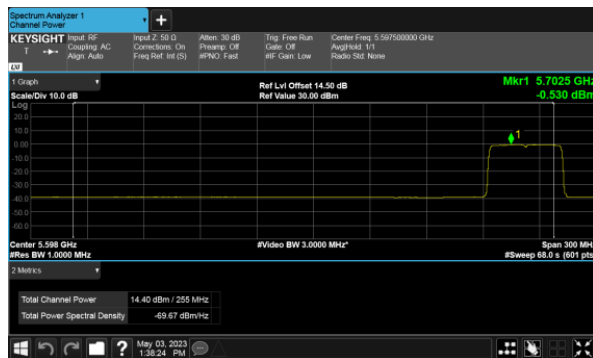
Beamforming, ANT C

Within 5470-5725MHz Band, Straddle Channel

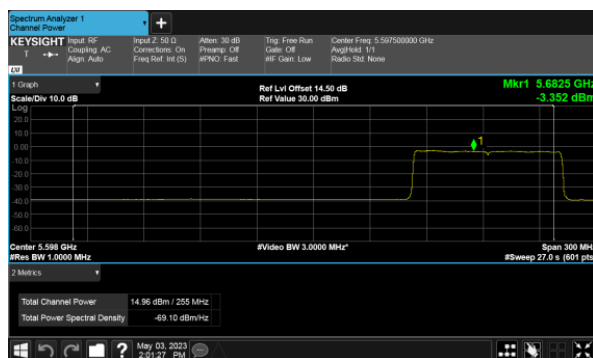
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144



Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142



Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138

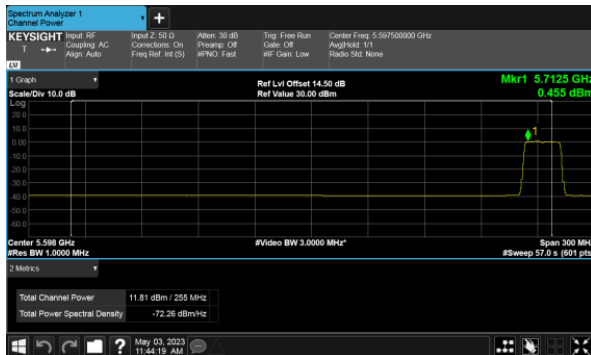




Beamforming, ANT D

Within 5470-5725MHz Band, Straddle Channel

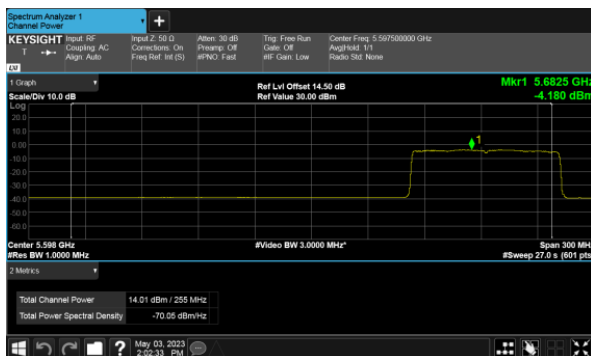
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144



Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142



Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138



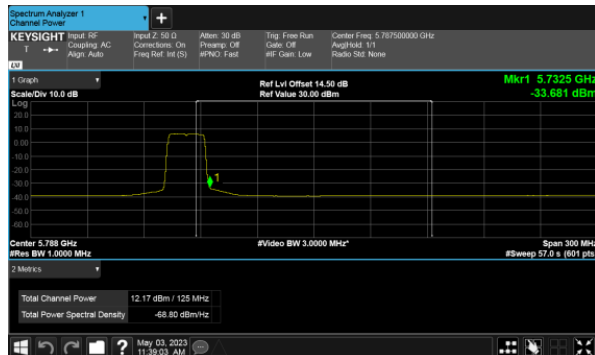


Beamforming, ANT A

Extends across 5725MHz band, Straddle Channel

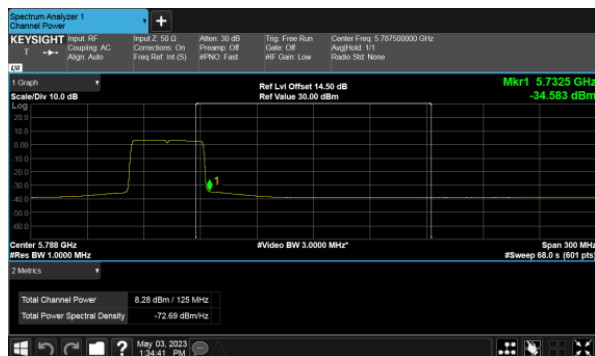
Modulation Type: 802.11ax HE20 (7.3Mbps)

CH144



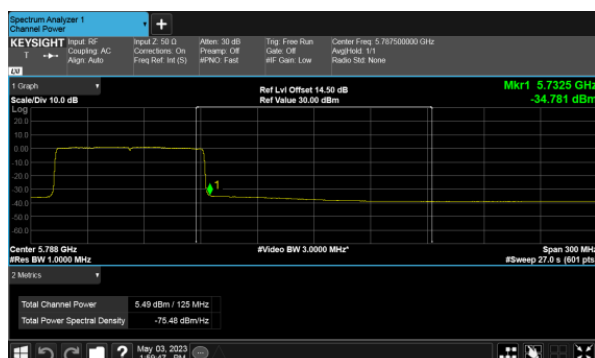
Modulation Type: 802.11ax HE40 (14.6Mbps)

CH142



Modulation Type: 802.11ax HE80 (30.6Mbps)

CH138

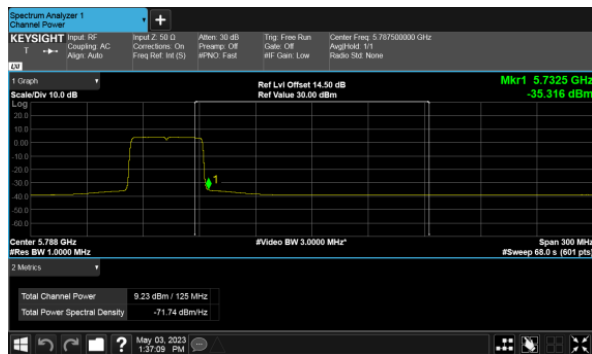




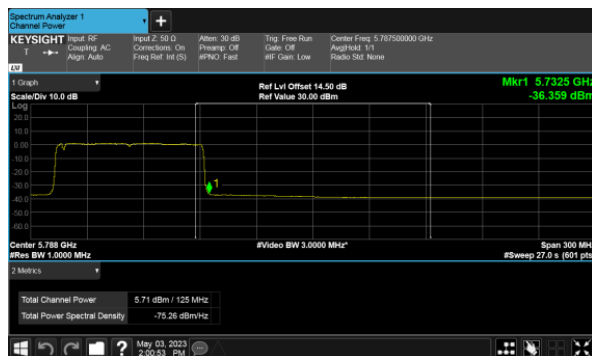
Beamforming, ANT B
Extends across 5725MHz band, Straddle Channel
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH144



Modulation Type: 802.11ax HE40 (14.6Mbps)
CH142



Modulation Type: 802.11ax HE80 (30.6Mbps)
CH138



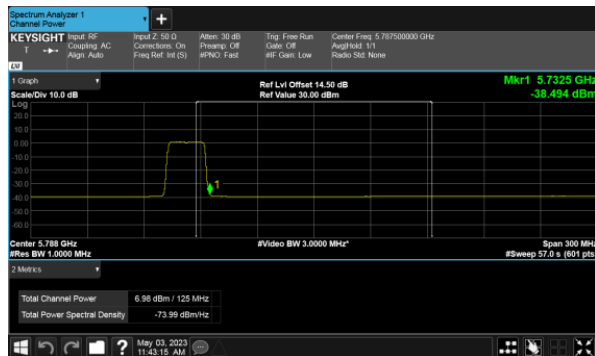


Beamforming, ANT C

Extends across 5725MHz band, Straddle Channel

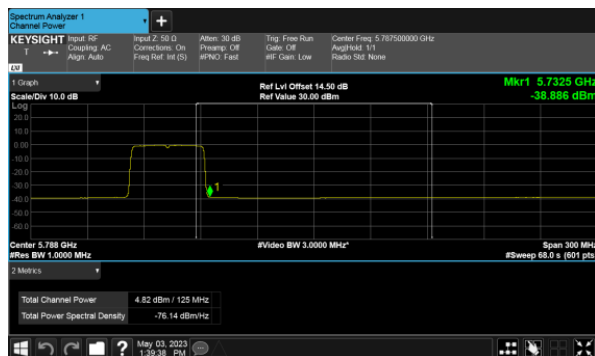
Modulation Type: 802.11ax HE20 (7.3Mbps)

CH144



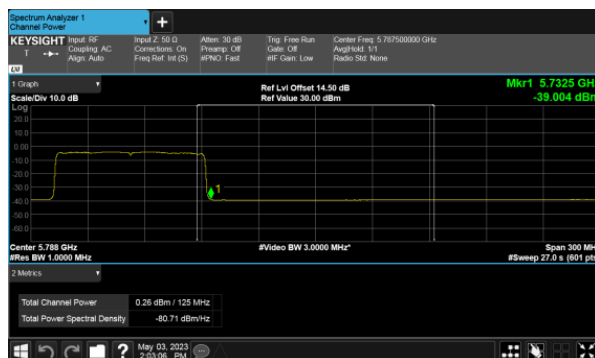
Modulation Type: 802.11ax HE40 (14.6Mbps)

CH142



Modulation Type: 802.11ax HE80 (30.6Mbps)

CH138



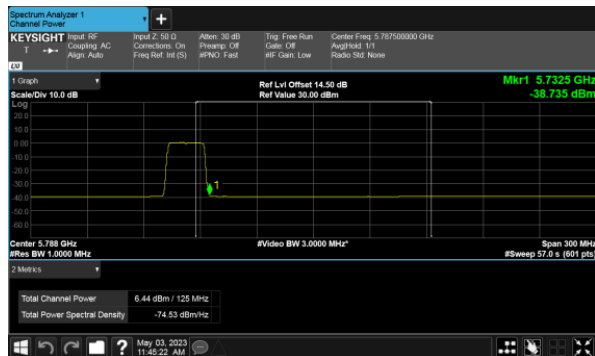


Beamforming, ANT D

Extends across 5725MHz band, Straddle Channel

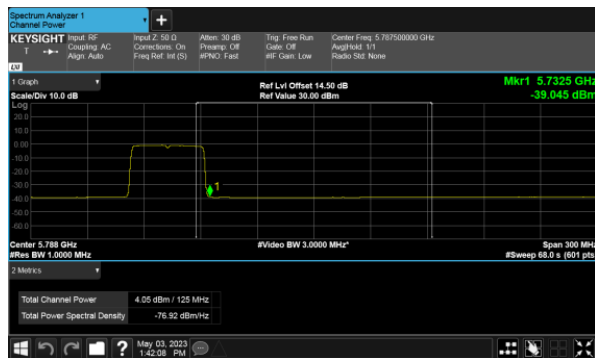
Modulation Type: 802.11ax HE20 (7.3Mbps)

CH144



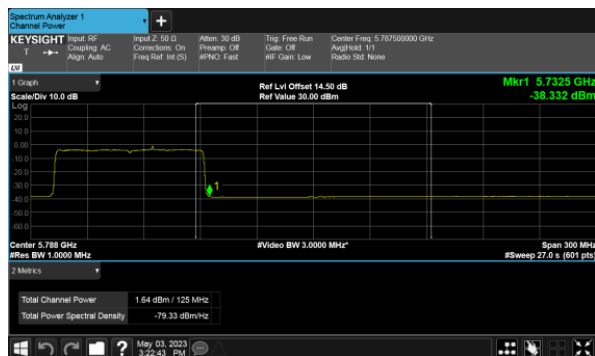
Modulation Type: 802.11ax HE40 (14.6Mbps)

CH142



Modulation Type: 802.11ax HE80 (30.6Mbps)

CH138





11. Power Spectral Density

11.1. Test Limit

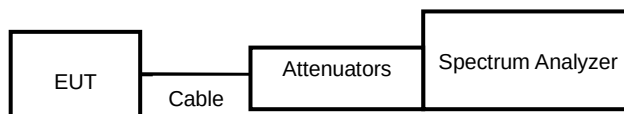
PSD:

Frequency Band		Limit
☒	5.15~5.25GHz	
	Operating Mode	
☐	Outdoor access point	17 dBm/MHz
☒	Indoor access point	17 dBm/MHz
☐	Fixed point-to-point access points	17 dBm/MHz
☐	Mobile and portable client devices	11 dBm/MHz
☒	5.725~5.85 GHz	11 dBm/MHz
☒	5.470-5.725 GHz	11 dBm/MHz
☒	5.725~5.85 GHz	30 dBm/500kHz

11.2. Test Procedure

Reference to KDB789033 D02 General UNII Test Procedures New Rules v02r01

11.3. Test Setup Layout



**11.4. Test Result and Data**

Non-Beamforming

In the 5.2G Band

Modulation Type	Channel	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT A	ANT B	ANT C	ANT D				
11a	36	5180	10.35	10.61	10.88	10.54	16.62	0.20	16.82	17.00
11a	40	5200	10.23	10.55	10.73	10.40	16.50	0.20	16.70	17.00
11a	48	5240	10.27	10.22	10.42	10.39	16.35	0.20	16.55	17.00
11ax HE20	36	5180	9.75	9.98	10.17	9.72	15.93	0.00	15.93	17.00
11ax HE20	40	5200	10.58	11.27	11.00	10.79	16.94	0.00	16.94	17.00
11ax HE20	48	5240	10.41	10.73	10.82	10.94	16.75	0.00	16.75	17.00
11ax HE40	38	5190	2.86	3.07	3.30	3.03	9.09	0.14	9.23	17.00
11ax HE40	46	5230	7.41	7.90	8.13	8.04	13.90	0.14	14.04	17.00
11ax HE80	42	5210	-0.79	-0.68	-0.72	-1.22	5.17	0.30	5.47	17.00



Non-Beamforming
In the 5.3G Band

Modulation Type	Channel	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT A	ANT B	ANT C	ANT D				
11a	52	5260	5.01	4.51	4.72	4.76	10.78	0.20	10.98	11.00
11a	60	5300	4.69	4.38	4.44	4.31	10.48	0.20	10.68	11.00
11a	64	5320	4.49	4.49	4.48	4.27	10.45	0.20	10.65	11.00
11ax HE20	52	5260	4.75	4.57	4.73	4.63	10.69	0.00	10.69	11.00
11ax HE20	60	5300	4.74	4.75	4.95	4.80	10.83	0.00	10.83	11.00
11ax HE20	64	5320	4.61	4.44	4.68	4.40	10.56	0.00	10.56	11.00
11ax HE40	54	5270	2.73	2.35	2.74	2.81	8.68	0.14	8.82	11.00
11ax HE40	62	5310	2.55	2.42	2.87	2.69	8.66	0.14	8.80	11.00
11ax HE80	58	5290	-0.33	-0.51	-0.53	-0.35	5.59	0.30	5.89	11.00



Non-Beamforming
In the 5.5G Band

Modulation Type	Channel (MHz)	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT A	ANT B	ANT C	ANT D				
11a	100	5500	4.54	4.20	4.29	3.81	10.24	0.20	10.44	10.54
11a	120	5600	4.46	4.05	4.36	3.93	10.23	0.20	10.43	10.54
11a	140	5700	4.68	3.77	4.02	4.14	10.19	0.20	10.39	10.54
11a	144	5720	4.53	3.88	4.20	4.07	10.20	0.20	10.40	10.54
11ax HE20	100	5500	4.81	3.88	4.56	4.28	10.42	0.00	10.42	10.54
11ax HE20	120	5600	4.72	3.95	4.73	4.39	10.48	0.00	10.48	10.54
11ax HE20	140	5700	5.28	3.95	4.29	4.33	10.51	0.00	10.51	10.54
11ax HE20	144	5720	5.01	3.95	4.30	4.36	10.44	0.00	10.44	10.54
11ax HE40	102	5510	3.03	2.46	2.92	2.61	8.78	0.14	8.92	10.54
11ax HE40	118	5590	3.23	2.64	2.93	2.68	8.90	0.14	9.04	10.54
11ax HE40	134	5670	3.07	2.44	2.62	2.65	8.72	0.14	8.86	10.54
11ax HE40	142	5710	-0.85	-0.71	-0.73	-0.73	5.27	0.14	5.41	10.54
11ax HE80	106	5530	-0.18	-0.80	-0.27	-0.71	5.54	0.30	5.84	10.54
11ax HE80	122	5610	0.60	-0.23	0.20	-0.11	6.15	0.30	6.45	10.54
11ax HE80	138	5690	-3.48	-3.53	-3.51	-3.54	2.50	0.30	2.80	10.54



Non-Beamforming

In the 5.8G Band

Modulation Type	Channel (MHz)	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	10log(500KHz /RBW) CF (dB)	Total Corr'd PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)
			ANT A	ANT B	ANT C	ANT D					
11a	149	5745	11.76	11.61	12.54	11.16	17.82	0.20	-3.01	15.01	29.66
11a	157	5785	11.14	10.99	12.10	11.19	17.40	0.20	-3.01	14.59	29.66
11a	165	5825	8.00	9.84	9.83	10.01	15.51	0.20	-3.01	12.70	29.66
11ax HE20	149	5745	12.95	12.48	13.47	12.37	18.86	0.00	-3.01	15.85	29.66
11ax HE20	157	5785	12.12	12.25	12.71	11.69	18.23	0.00	-3.01	15.22	29.66
11ax HE20	165	5825	9.11	11.13	10.42	10.72	16.43	0.00	-3.01	13.42	29.66
11ax HE40	151	5755	9.30	9.16	9.36	7.93	14.99	0.14	-3.01	12.12	29.66
11ax HE40	159	5795	8.73	8.70	8.78	7.81	14.54	0.14	-3.01	11.67	29.66
11ax HE80	155	5775	3.14	3.28	3.95	2.76	9.32	0.30	-3.01	6.61	29.66



Non-Beamforming
802.11ax(160)

Modulation Type	Channel (MHz)	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT A	ANT B	ANT C	ANT D				
11ax HE160	50	5210	-3.06	-3.14	-2.85	-3.66	2.86	0.46	3.32	17.00
11ax HE160		5290	-3.18	-3.04	-2.89	-3.43	2.89	0.46	3.35	11.00
11ax HE160	114	5570	-3.42	-3.90	-3.11	-5.26	2.17	0.46	2.63	10.54



Beamforming
In the 5.2G Band

Modulation Type	Channel	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT A	ANT B	ANT C	ANT D				
11ax HE20	36	5180	9.08	8.68	9.65	9.28	15.21	0.26	15.47	17.00
11ax HE20	40	5200	10.91	11.33	11.32	8.43	16.67	0.26	16.93	17.00
11ax HE20	48	5240	10.95	11.04	11.46	8.93	16.71	0.26	16.97	17.00
11ax HE40	38	5190	3.53	4.73	3.72	1.24	9.50	0.13	9.63	17.00
11ax HE40	46	5230	8.32	9.35	8.36	6.36	14.25	0.13	14.38	17.00
11ax HE80	42	5210	0.36	1.48	1.01	-2.58	6.34	0.16	6.50	17.00



Beamforming
In the 5.3G Band

Modulation Type	Channel	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT A	ANT B	ANT C	ANT D				
11ax HE20	52	5260	5.47	4.54	3.37	3.77	10.39	0.26	10.65	11.00
11ax HE20	60	5300	5.27	4.52	3.57	4.13	10.44	0.26	10.70	11.00
11ax HE20	64	5320	5.02	4.50	3.79	4.28	10.44	0.26	10.70	11.00
11ax HE40	54	5270	3.28	4.38	0.57	0.55	8.54	0.13	8.67	11.00
11ax HE40	62	5310	3.44	3.61	-0.01	0.13	8.15	0.13	8.28	11.00
11ax HE80	58	5290	0.19	-1.54	-1.60	-1.67	4.94	0.16	5.10	11.00

Beamforming
In the 5.5G Band

Modulation Type	Channel (MHz)	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT A	ANT B	ANT C	ANT D				
11ax HE20	100	5500	3.90	3.70	2.14	3.45	9.37	0.26	9.63	10.54
11ax HE20	120	5600	3.68	4.64	4.76	2.92	10.08	0.26	10.34	10.54
11ax HE20	140	5700	3.81	2.88	1.43	1.66	8.58	0.26	8.84	10.54
11ax HE20	144	5720	6.08	5.14	1.10	0.77	9.91	0.26	10.17	10.54
11ax HE40	102	5510	-2.62	-1.54	-2.05	-1.56	4.10	0.13	4.23	10.54
11ax HE40	118	5590	1.99	1.17	1.28	-1.45	6.95	0.13	7.08	10.54
11ax HE40	134	5670	2.46	0.96	-0.46	-0.03	6.90	0.13	7.03	10.54
11ax HE40	142	5710	3.87	4.21	-0.18	-0.26	8.44	0.13	8.57	10.54
11ax HE80	106	5530	-4.47	-3.53	-3.40	-3.37	2.35	0.16	2.51	10.54
11ax HE80	122	5610	-0.86	-1.58	0.31	-2.38	5.01	0.16	5.17	10.54
11ax HE80	138	5690	1.46	1.17	-2.52	-3.46	5.71	0.16	5.87	10.54



Beamforming

In the 5.8G Band

Modulation Type	Channel (MHz)	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	10log(500KHz/RBW) CF (dB)	Total Corr'd PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)
			ANT A	ANT B	ANT C	ANT D					
11ax HE20	149	5745	10.92	7.59	7.61	8.13	14.82	0.26	-3.01	12.07	29.66
11ax HE20	157	5785	11.71	8.31	7.56	9.30	15.54	0.26	-3.01	12.79	29.66
11ax HE20	165	5825	9.69	5.37	6.41	6.03	13.25	0.26	-3.01	10.50	29.66
11ax HE40	151	5755	7.64	4.23	3.94	4.79	11.44	0.13	-3.01	8.56	29.66
11ax HE40	159	5795	9.05	5.36	4.93	6.66	12.84	0.13	-3.01	9.96	29.66
11ax HE80	155	5775	1.73	-0.33	-1.44	-0.21	6.12	0.16	-3.01	3.27	29.66



Beamforming

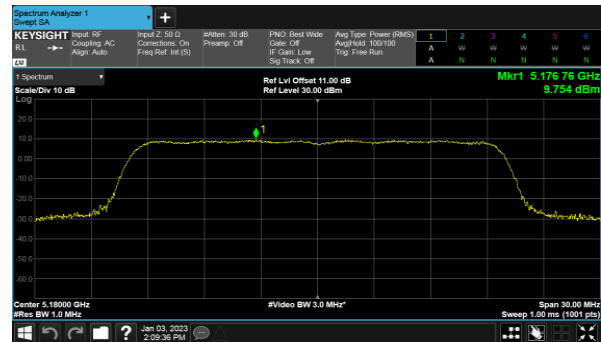
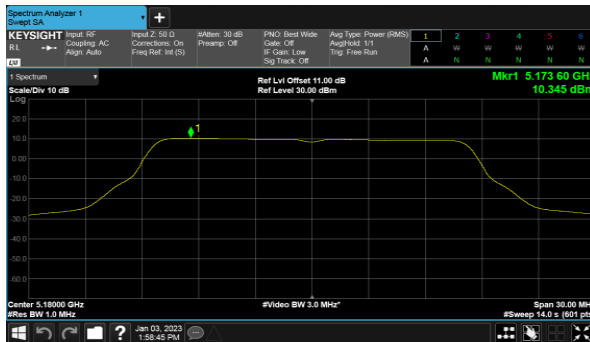
802.11ax(160)

Modulation Type	Channel (MHz)	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT A	ANT B	ANT C	ANT D				
11ac VHT160	50	5210	-3.76	-0.56	-4.73	-4.76	2.95	0.42	3.37	17.00
11ac VHT160		5290	-3.08	-1.27	-5.03	-4.37	2.83	0.42	3.25	11.00
11ac VHT160	114	5570	-7.64	-2.60	-6.72	-7.64	0.44	0.42	0.86	10.54



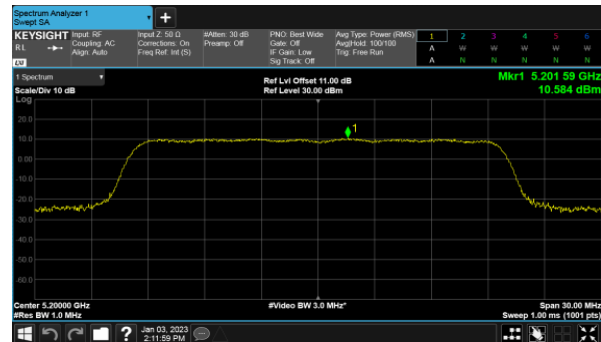
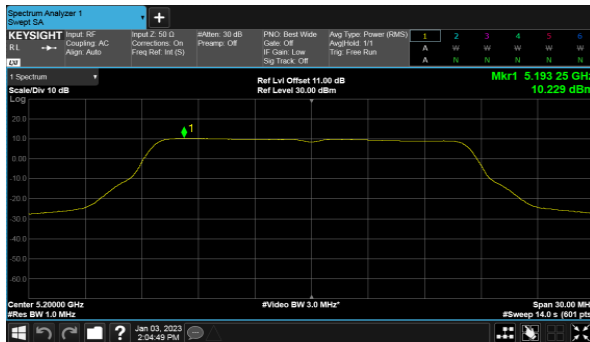
Non-Beamforming, ANT A
Modulation Type: 802.11a (6Mbps)
CH36

Modulation Type: 802.11ax HE20(7.3Mbps)
CH36



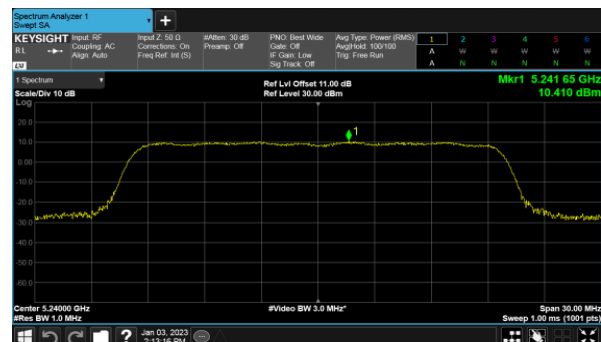
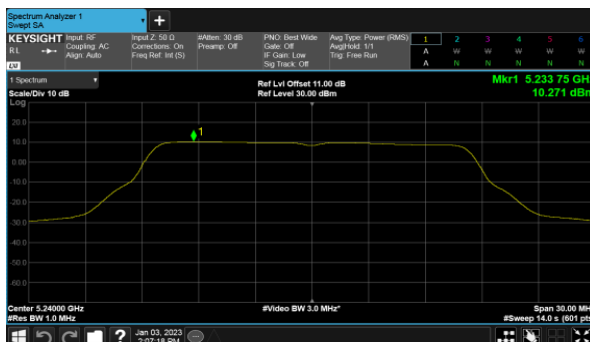
CH40

CH40



CH48

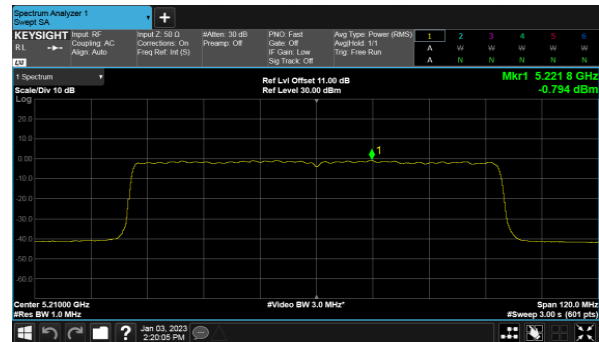
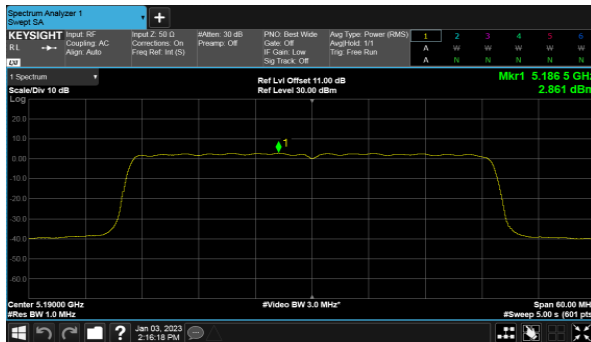
CH48



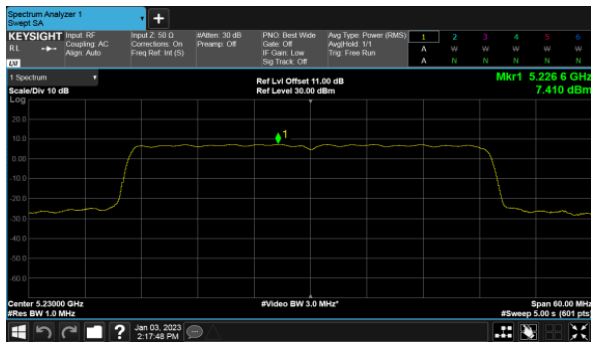


Non-Beamforming, ANT A
Modulation Type: 802.11ax HE40(14.6Mbps)
CH38

Modulation Type: 802.11ax HE80(30.6Mbps)
CH42

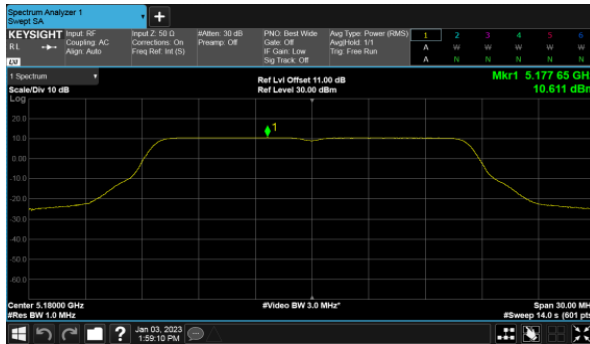


CH46

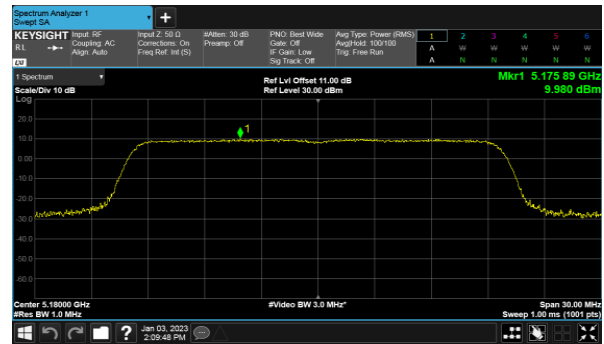




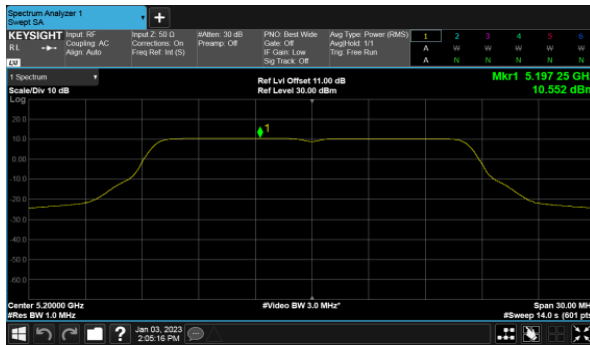
Non-Beamforming, ANT B
Modulation Type: 802.11a (6Mbps)
CH36



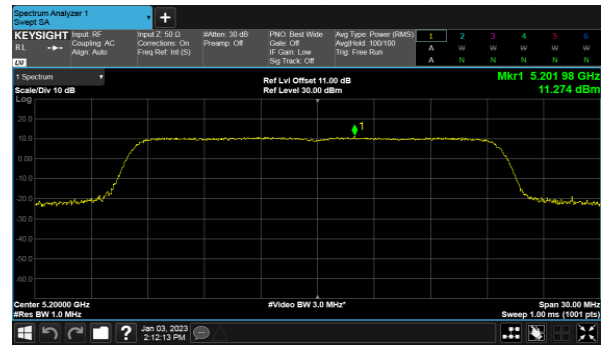
Modulation Type: 802.11ax HE20(7.3Mbps)
CH36



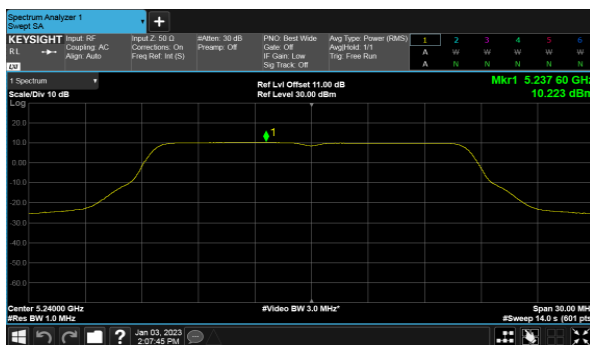
CH40



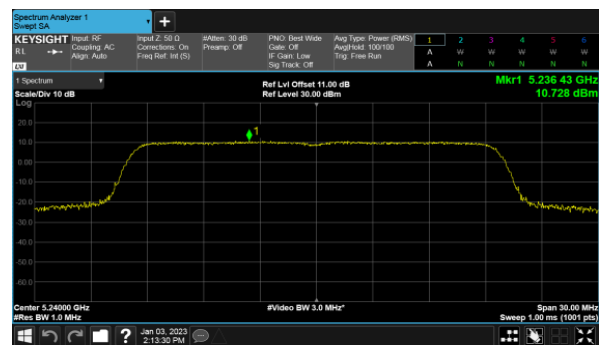
CH40



CH48



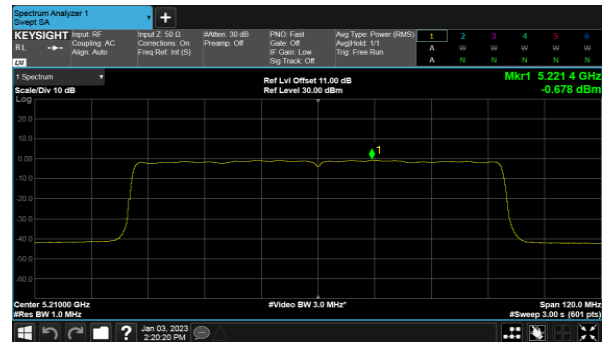
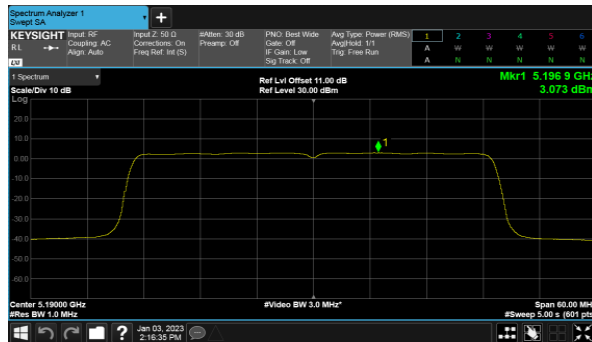
CH48



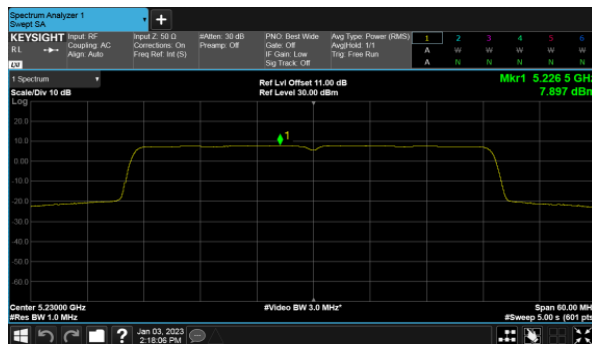


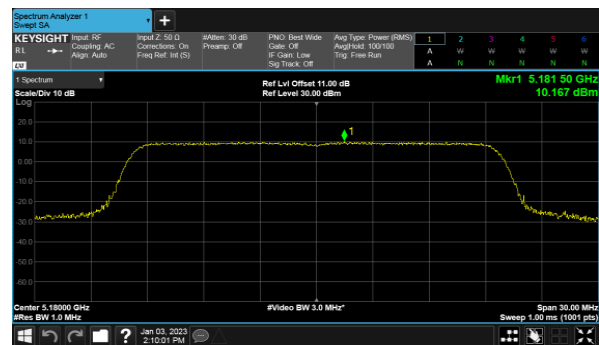
Non-Beamforming, ANT B
Modulation Type: 802.11ax HE40(14.6Mbps)
CH38

Modulation Type: 802.11ax HE80(30.6Mbps)
CH42



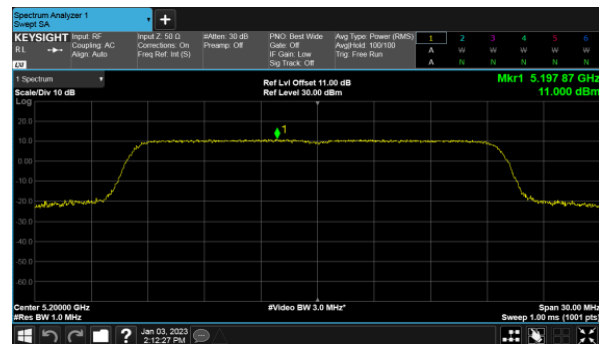
CH46



Modulation Type: 802.11ax HE20(7.3Mbps)
CH36

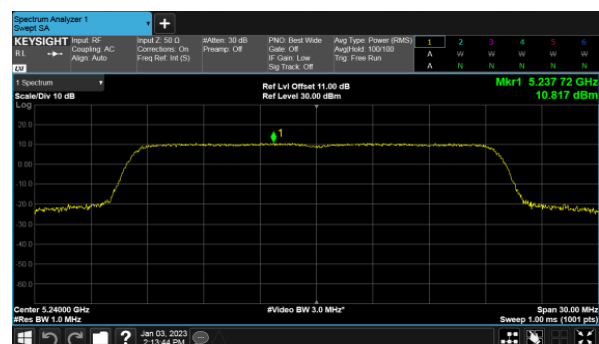
CH40

CH40



CH48

CH48

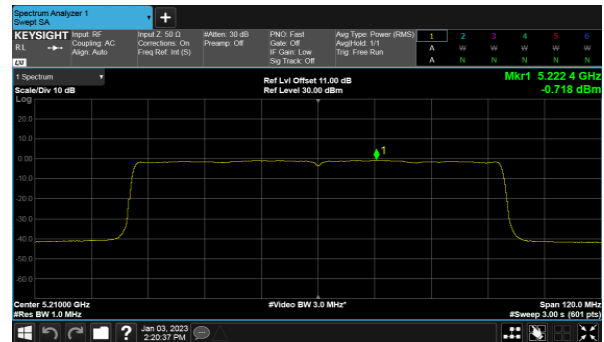
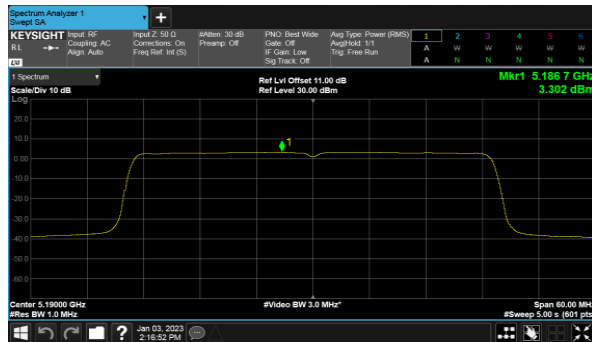




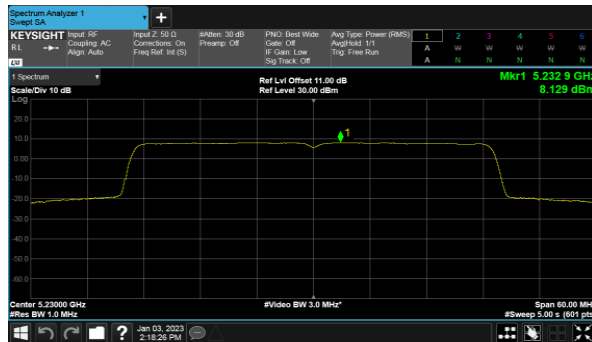
Non-Beamforming, ANT C

Modulation Type: 802.11ax HE40(14.6Mbps)
CH38

Modulation Type: 802.11ax HE80(30.6Mbps)
CH42

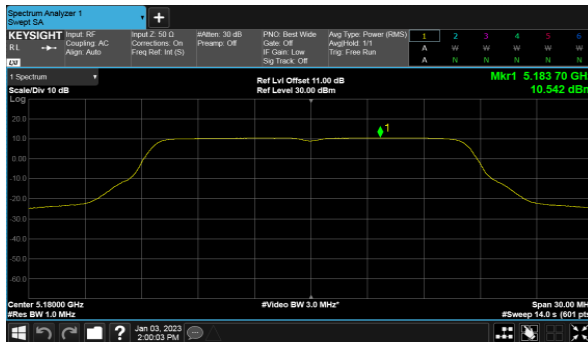


CH46

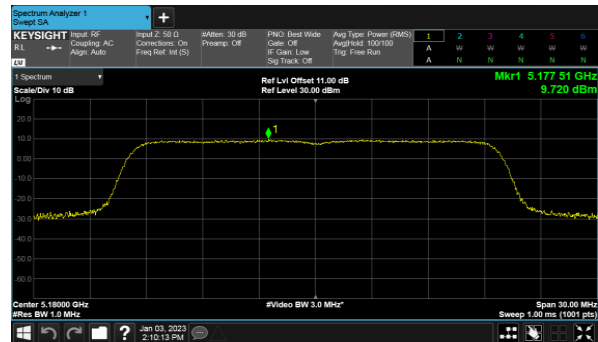




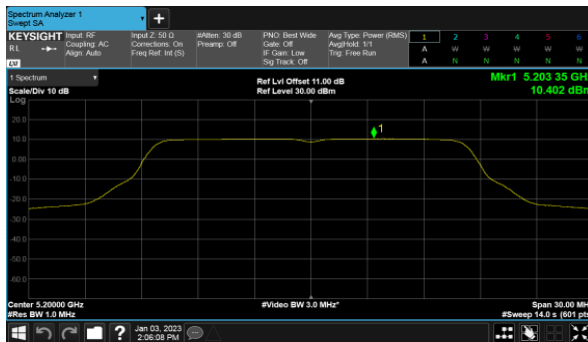
Non-Beamforming, ANT D
Modulation Type: 802.11a (6Mbps)
CH36



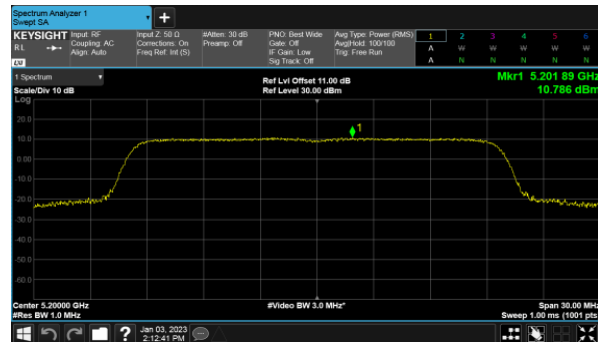
Modulation Type: 802.11ax HE20(7.3Mbps)
CH36



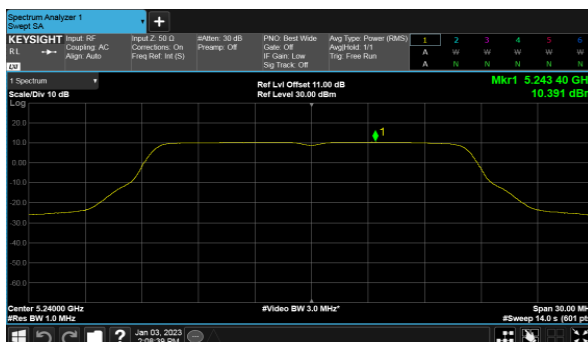
CH40



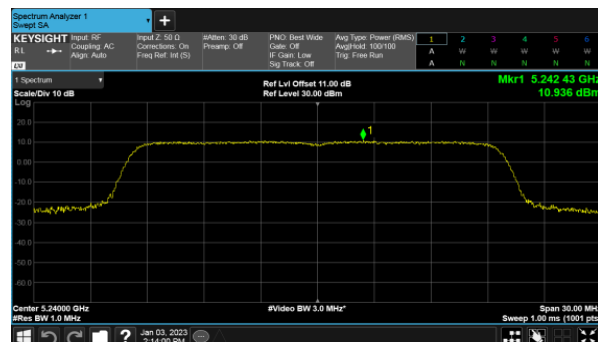
CH40



CH48



CH48

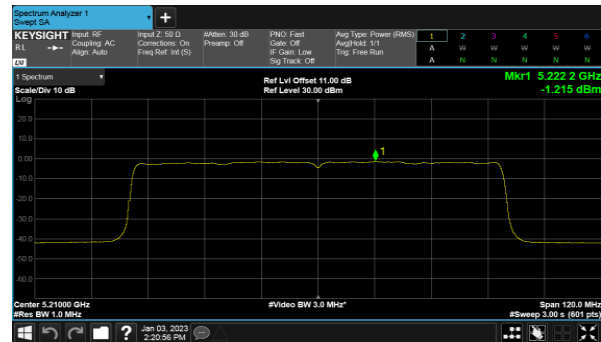
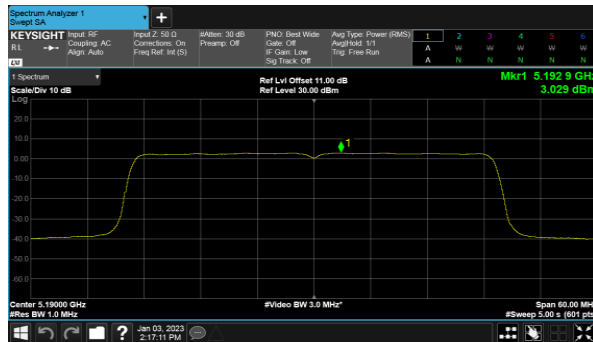




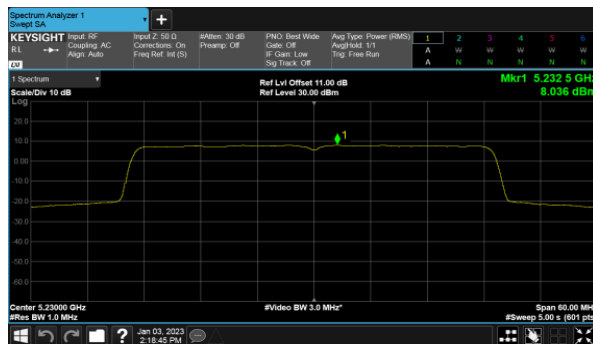
Non-Beamforming, ANT D

Modulation Type: 802.11ax HE40(14.6Mbps)
CH38

Modulation Type: 802.11ax HE80(30.6Mbps)
CH42



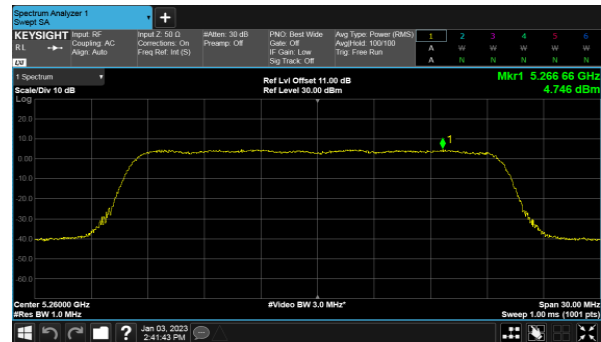
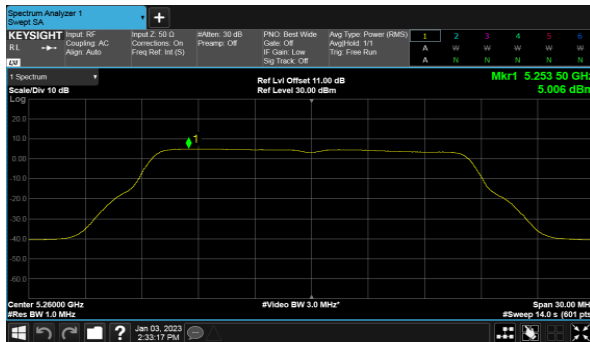
CH46





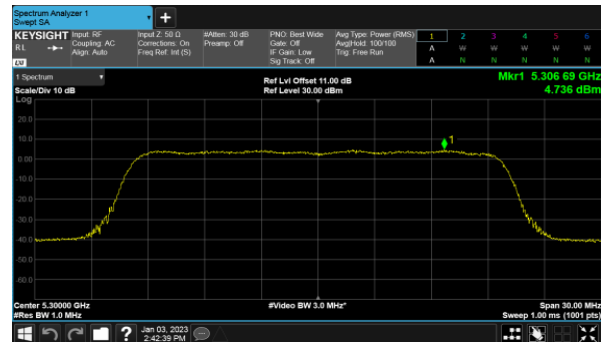
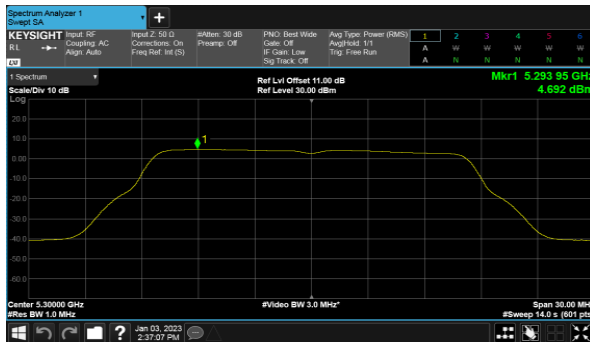
Non-Beamforming, ANT A
Modulation Type: 802.11a (6Mbps)
CH52

Modulation Type: 802.11ax HE20(7.3Mbps)
CH52



CH60

CH60



CH64

CH64

