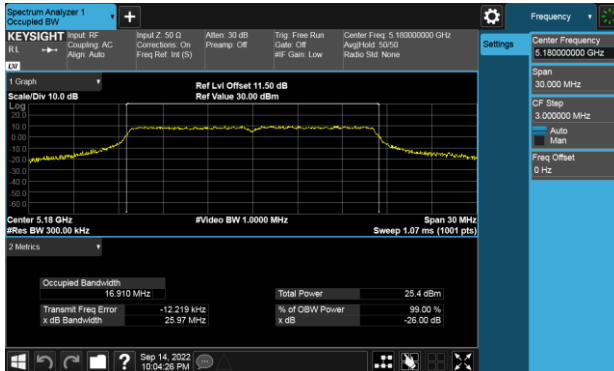
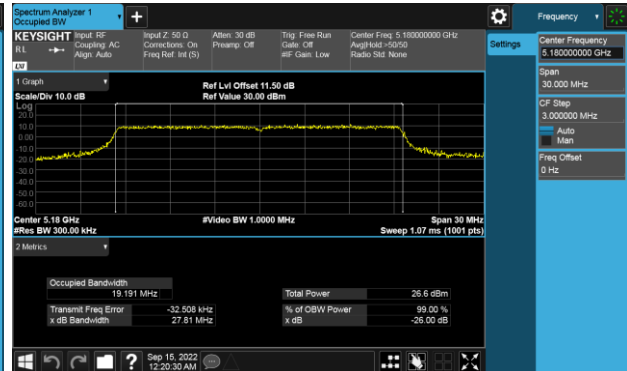




99% Occupied Bandwidth
Non BeamForming
ANT C
Modulation Type: 802.11a (6Mbps)
CH36



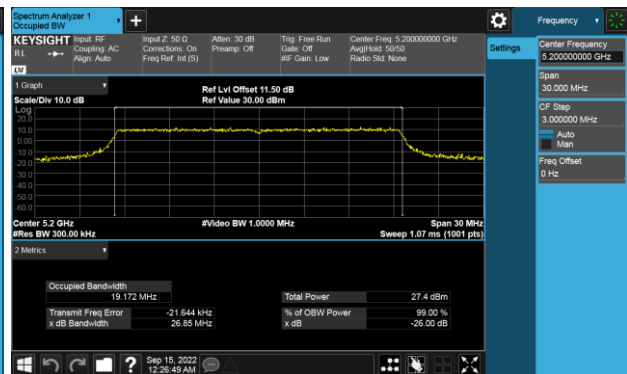
Modulation Type: 802.11ac VHT20 (6.5Mbps)
CH36



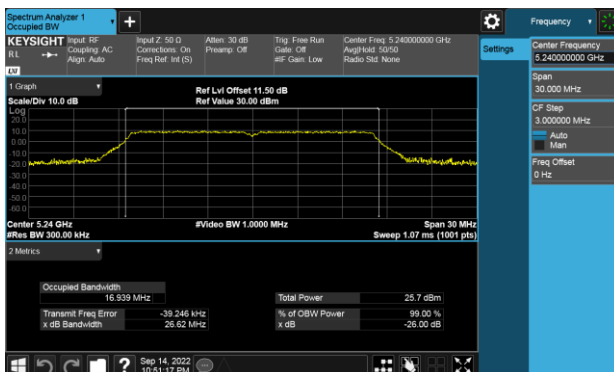
CH40



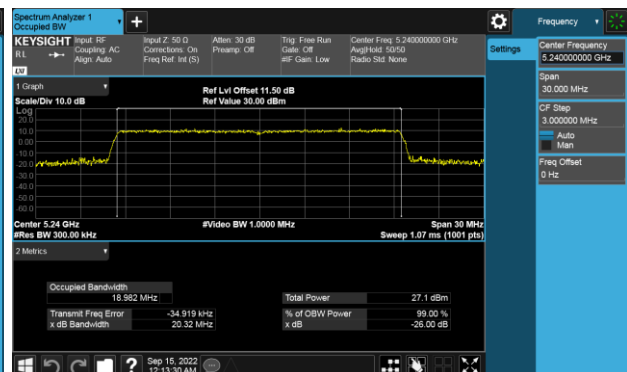
CH40



CH48

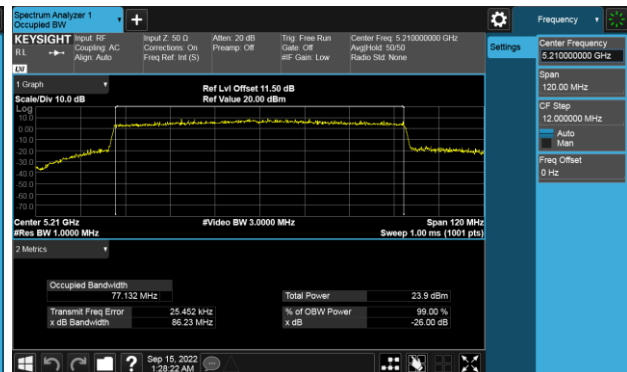


CH48

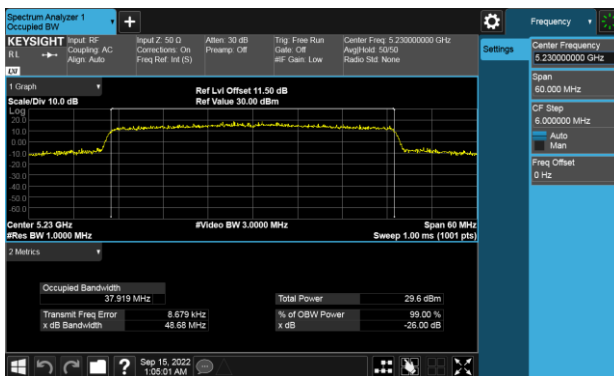




99% Occupied Bandwidth

Modulation Type: 802.11ax HE40 (14.6Mbps)
CH38Modulation Type: 802.11ax HE80 (30.6Mbps)
CH42

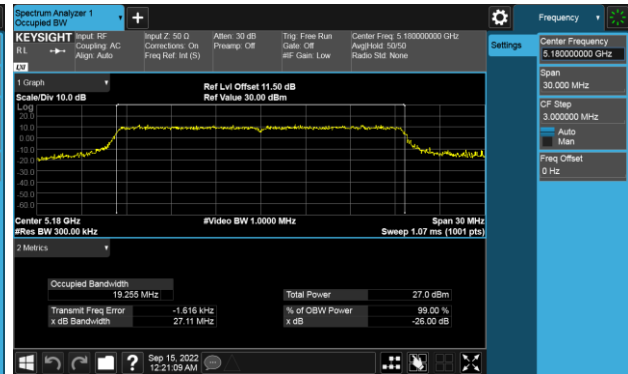
CH46





99% Occupied Bandwidth
Non BeamForming
ANT D
Modulation Type: 802.11a (6Mbps)
CH36

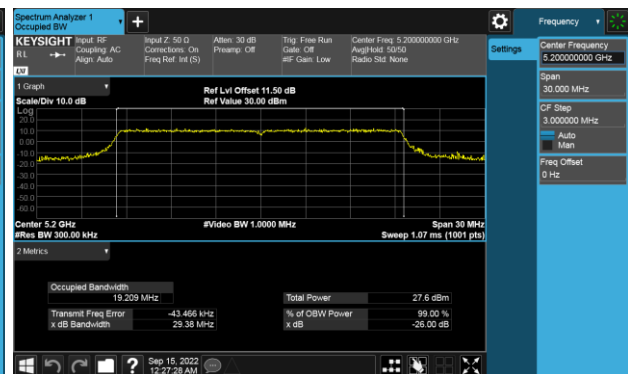
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH36



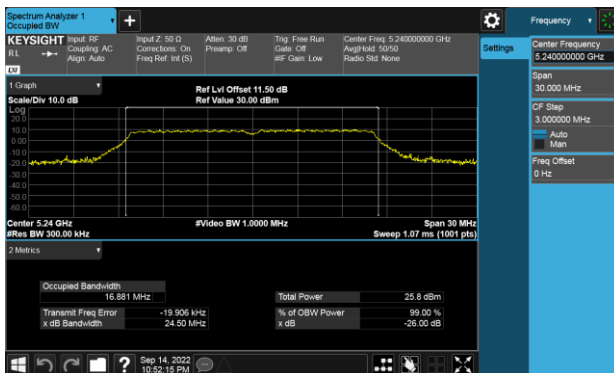
CH40



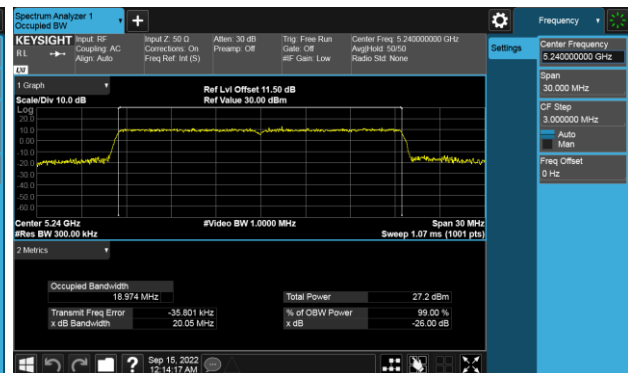
CH40



CH48

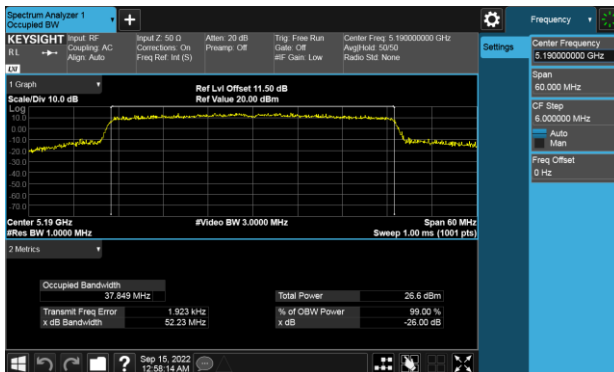


CH48

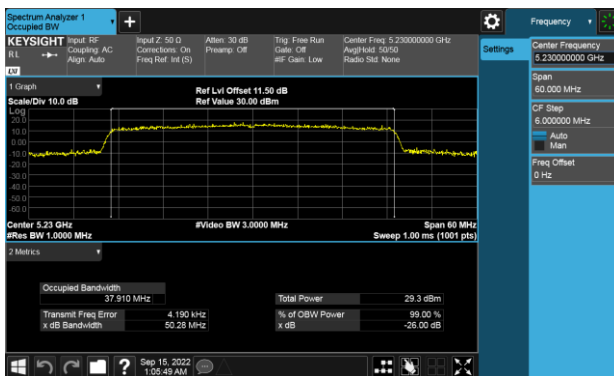




99% Occupied Bandwidth

Modulation Type: 802.11ax HE40 (14.6Mbps)
CH38Modulation Type: 802.11ax HE80 (30.6Mbps)
CH42

CH46



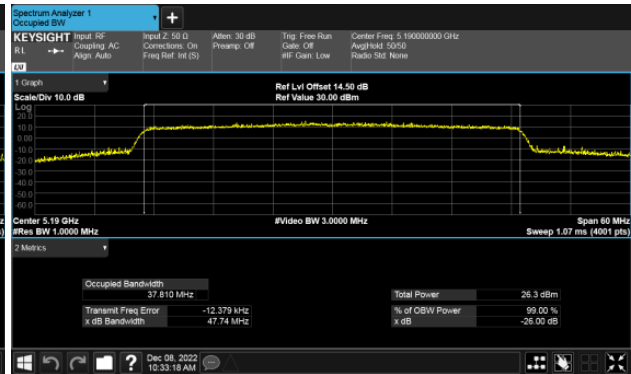
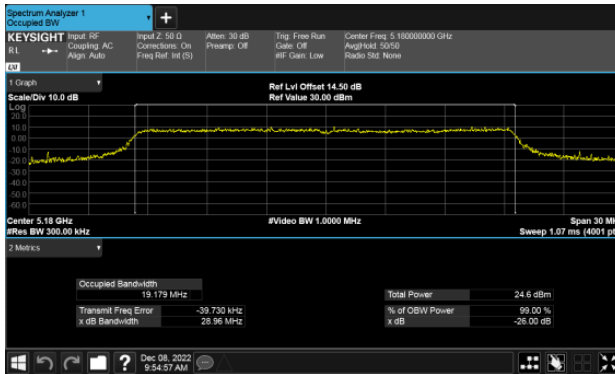


26dB Bandwidth
BeamForming

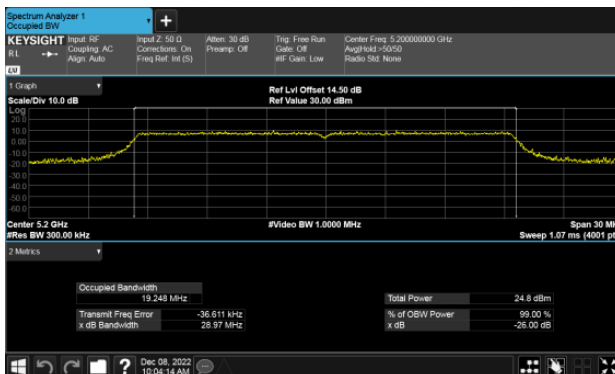
ANT A

Modulation Type: 802.11ax HE20 (7.3Mbps)
CH36

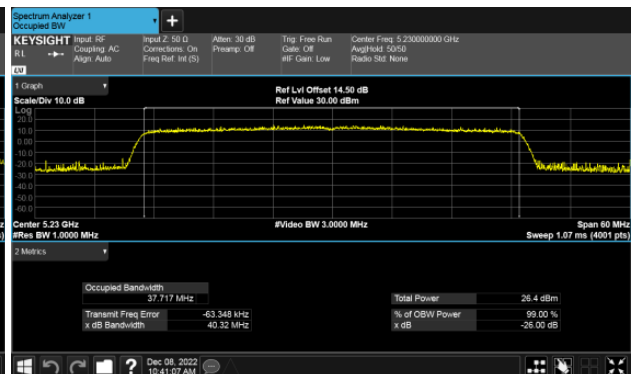
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH38



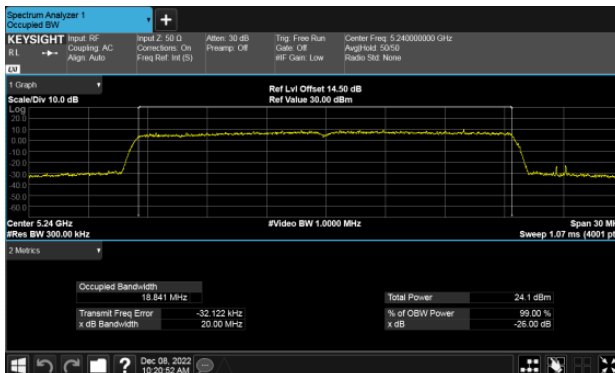
CH40



CH46



CH48





26dB Bandwidth

Modulation Type: 802.11ax HE80 (30.6Mbps)
CH42





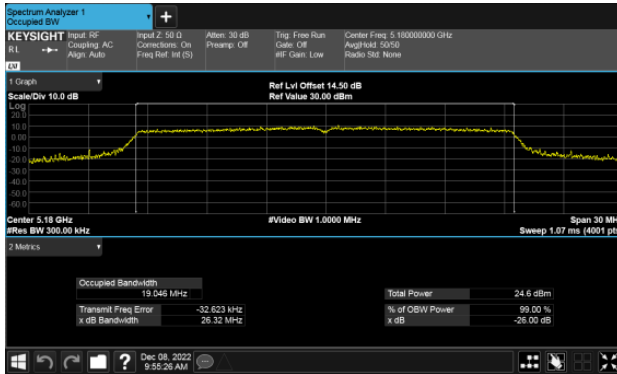
26dB Bandwidth

BeamForming

ANT B

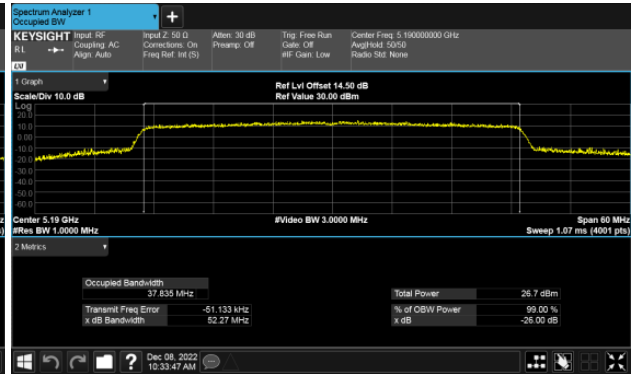
Modulation Type: 802.11ax HE20 (7.3Mbps)

CH36

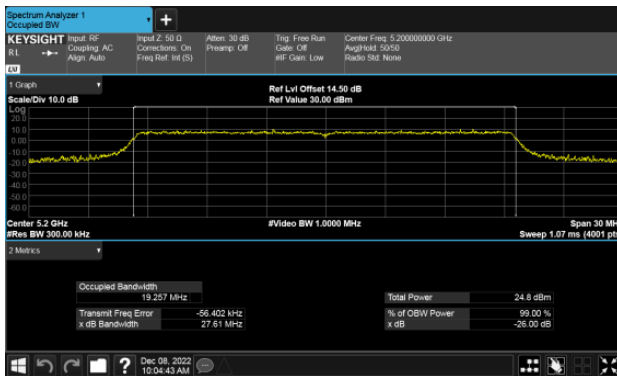


Modulation Type: 802.11ax HE40 (14.6Mbps)

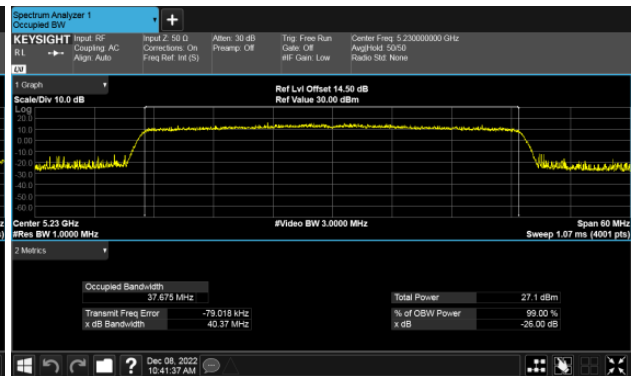
CH38



CH40



CH46



CH48





26dB Bandwidth

Modulation Type: 802.11ax HE80 (30.6Mbps)
CH42





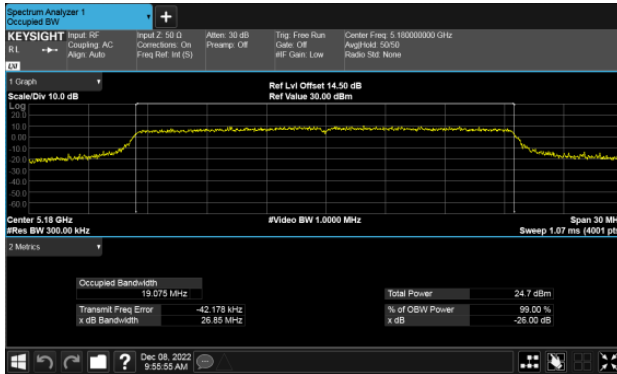
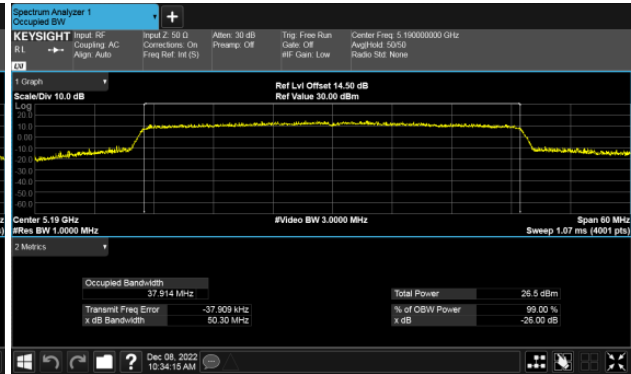
26dB Bandwidth

BeamForming

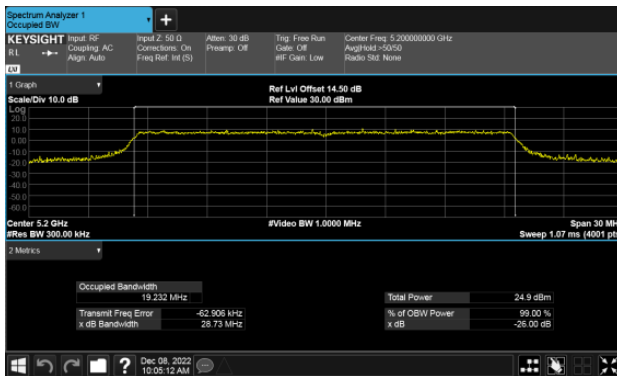
ANT C

Modulation Type: 802.11ax HE20 (7.3Mbps)

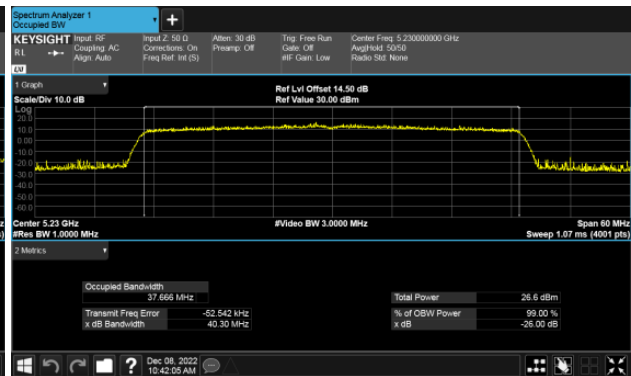
CH36

Modulation Type: 802.11ax HE40 (14.6Mbps)
CH38

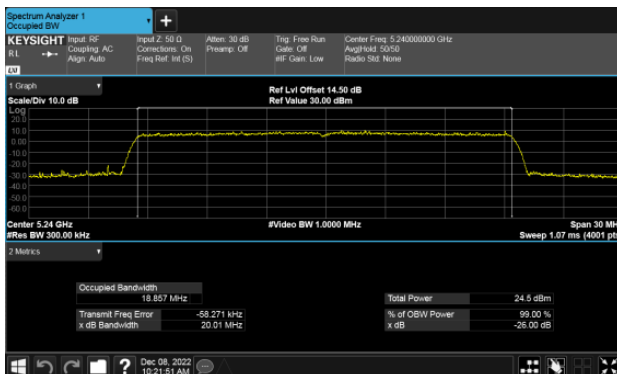
CH40



CH46



CH48





26dB Bandwidth

Modulation Type: 802.11ax HE80 (30.6Mbps)
CH42





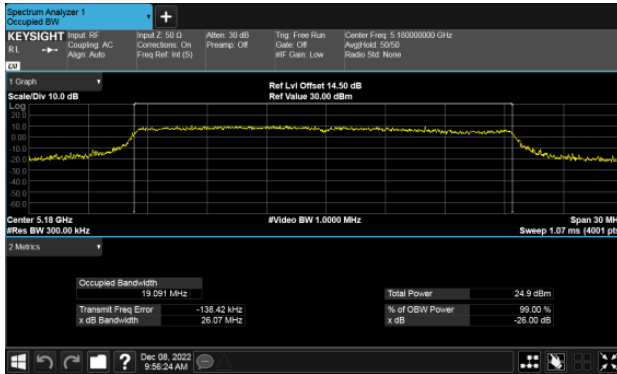
26dB Bandwidth

BeamForming

ANT D

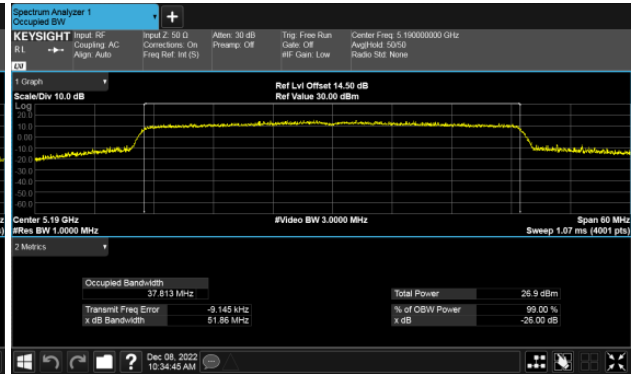
Modulation Type: 802.11ax HE20 (7.3Mbps)

CH36

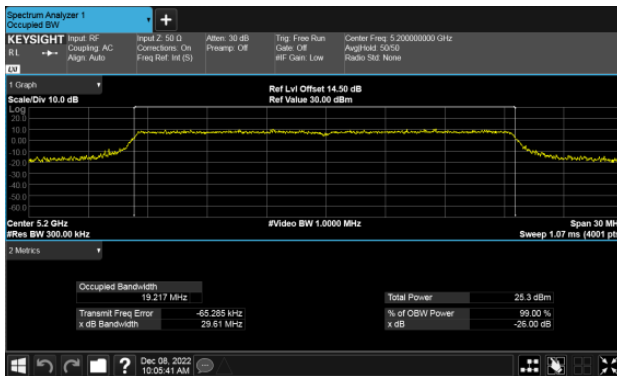


Modulation Type: 802.11ax HE40 (14.6Mbps)

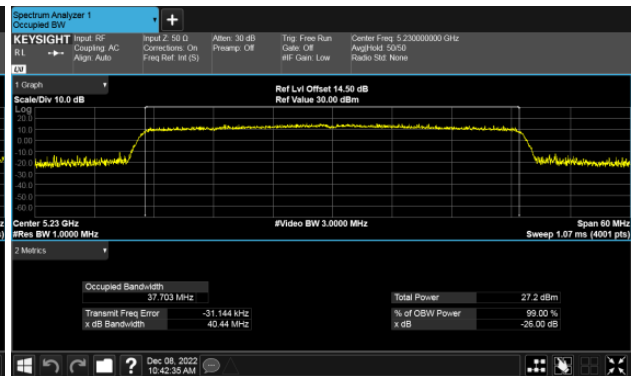
CH38



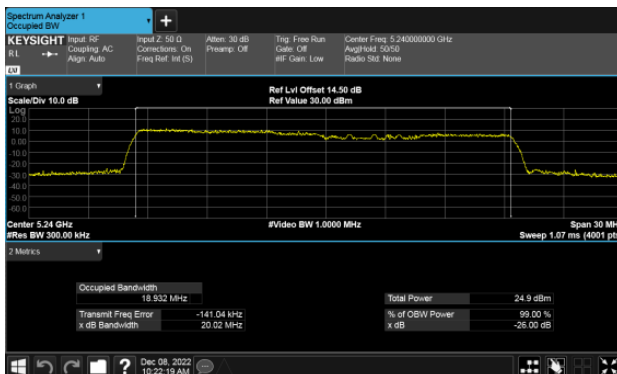
CH40



CH46



CH48





26dB Bandwidth

Modulation Type: 802.11ax HE80 (30.6Mbps)
CH42





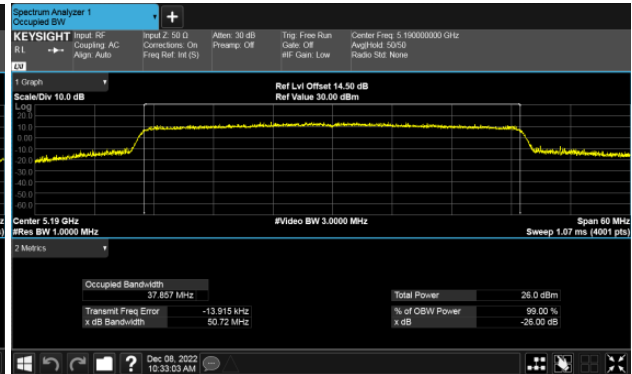
99% Occupied Bandwidth

BeamForming

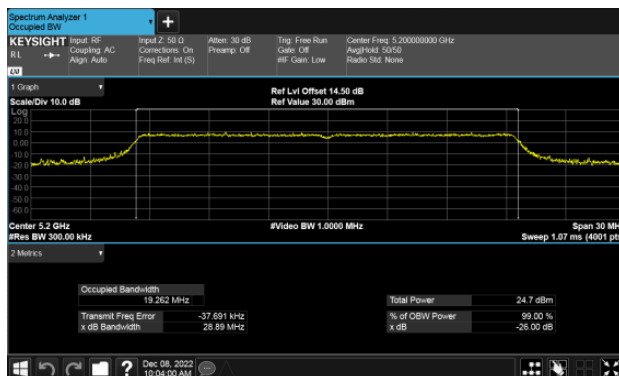
ANT A

Modulation Type: 802.11ax HE20 (7.3Mbps)

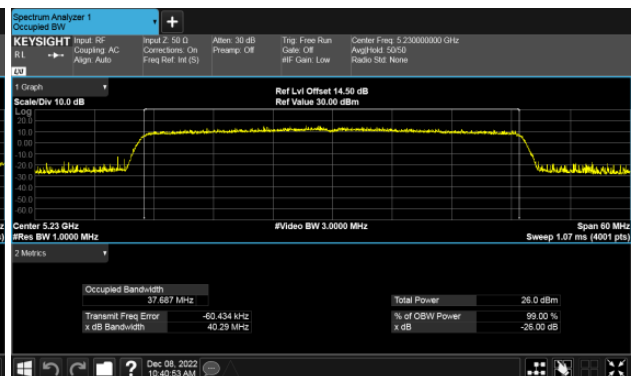
CH36

Modulation Type: 802.11ax HE40 (14.6Mbps)
CH38

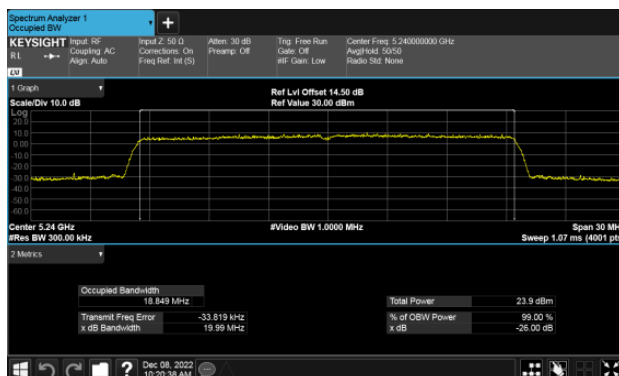
CH40



CH46



CH48





99% Occupied Bandwidth

Modulation Type: 802.11ax HE80 (30.6Mbps)

CH42





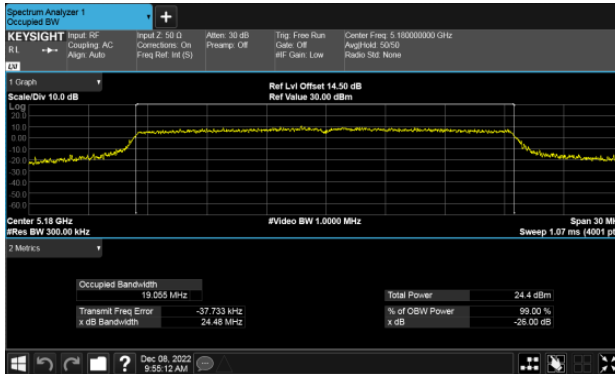
99% Occupied Bandwidth

BeamForming

ANT B

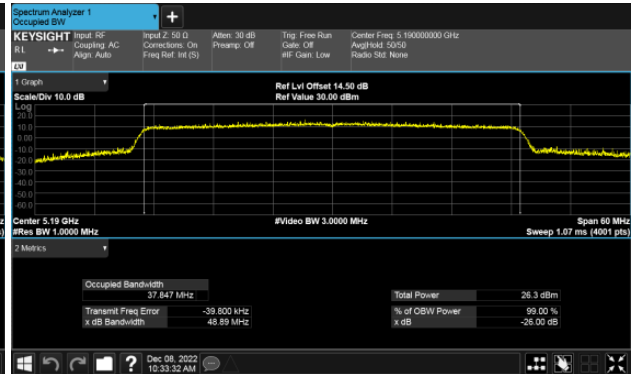
Modulation Type: 802.11ax HE20 (7.3Mbps)

CH36

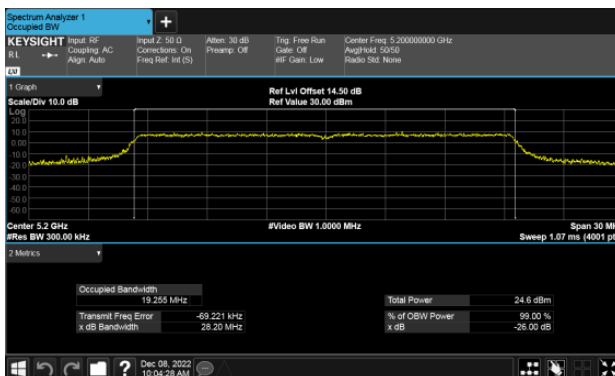


Modulation Type: 802.11ax HE40 (14.6Mbps)

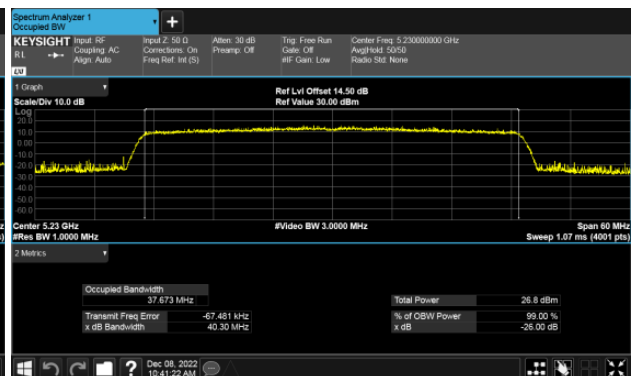
CH38



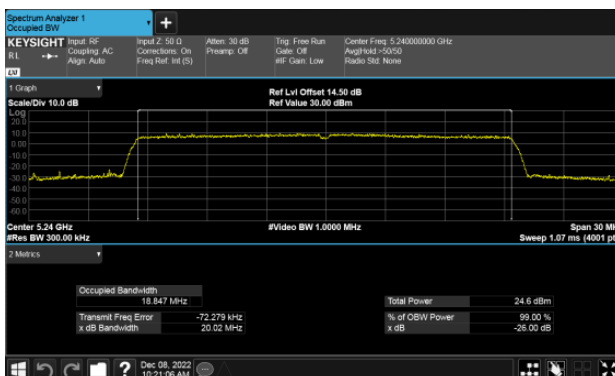
CH40



CH46



CH48





99% Occupied Bandwidth

Modulation Type: 802.11ax HE80 (30.6Mbps)

CH42





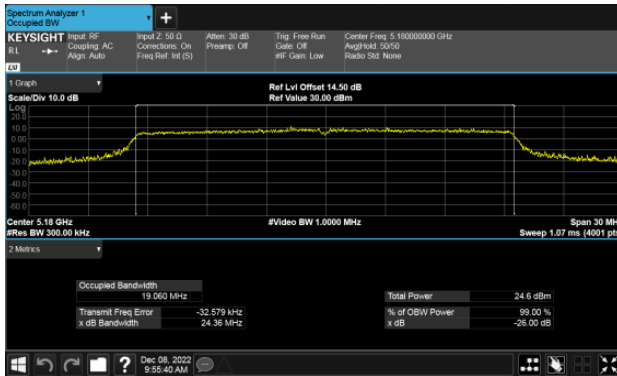
99% Occupied Bandwidth

BeamForming

ANT C

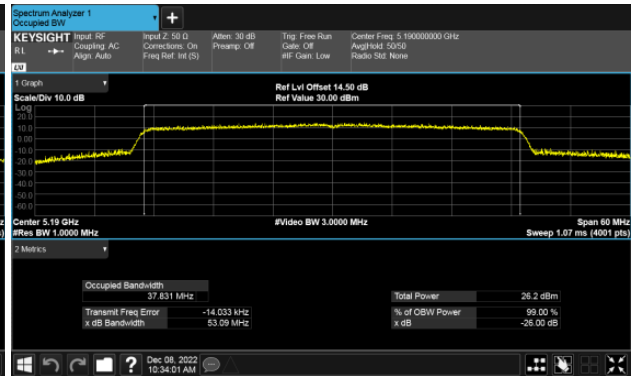
Modulation Type: 802.11ax HE20 (7.3Mbps)

CH36

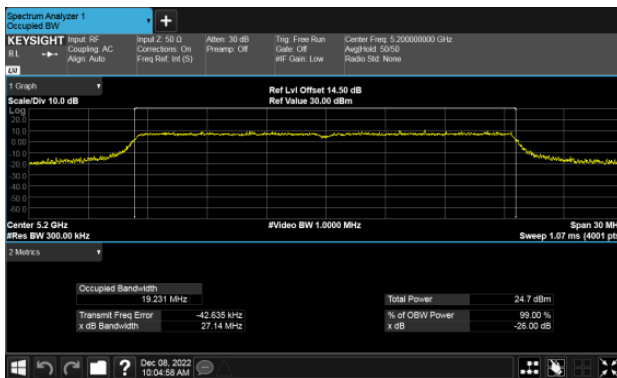


Modulation Type: 802.11ax HE40 (14.6Mbps)

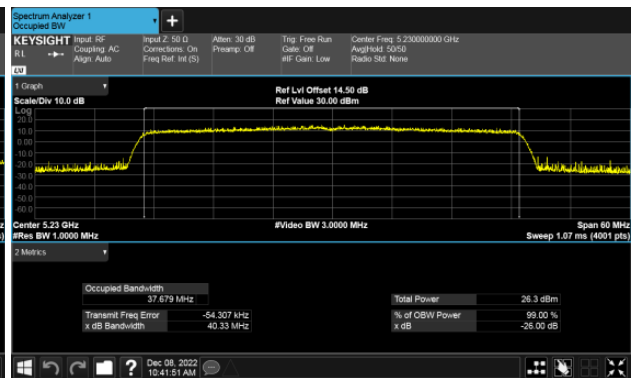
CH38



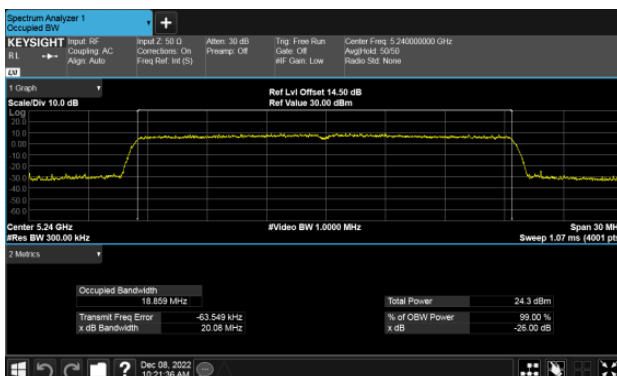
CH40



CH46



CH48





99% Occupied Bandwidth

Modulation Type: 802.11ax HE80 (30.6Mbps)

CH42





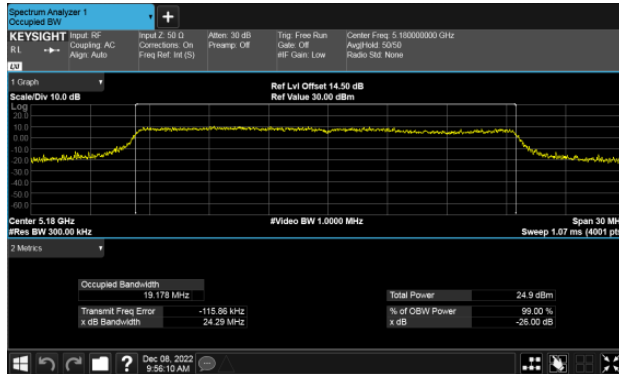
99% Occupied Bandwidth

BeamForming

ANT D

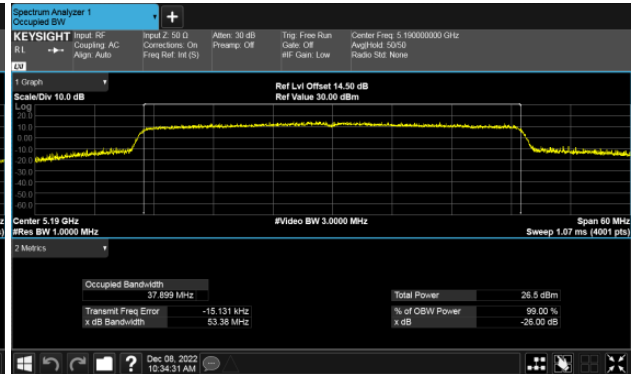
Modulation Type: 802.11ax HE20 (7.3Mbps)

CH36

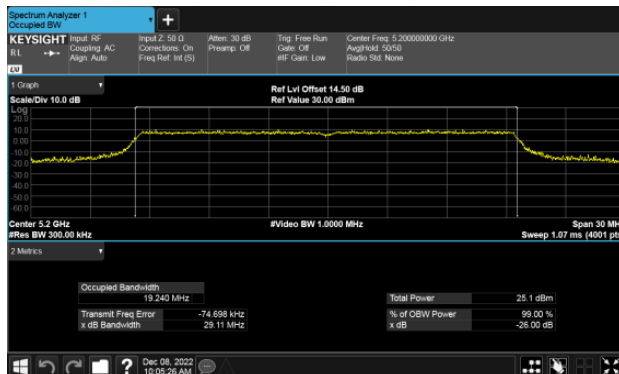


Modulation Type: 802.11ax HE40 (14.6Mbps)

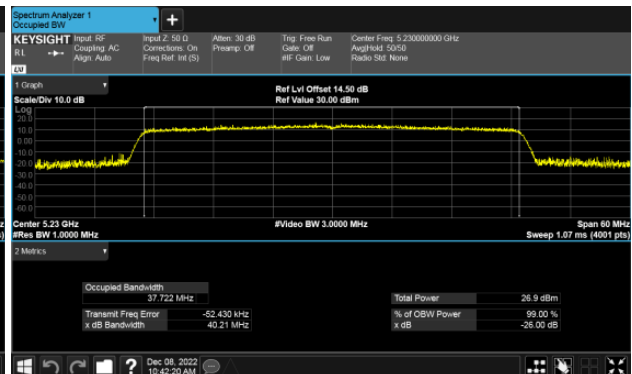
CH38



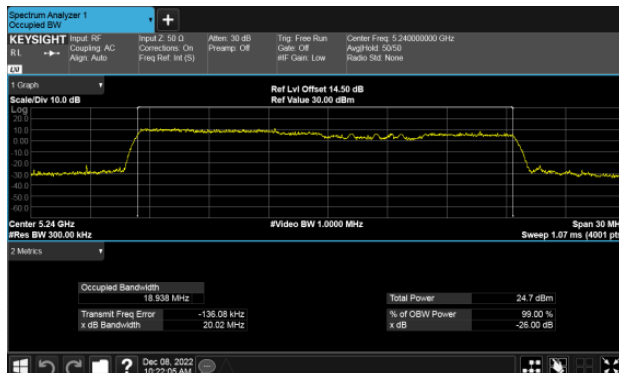
CH40



CH46



CH48





99% Occupied Bandwidth

Modulation Type: 802.11ax HE80 (30.6Mbps)

CH42





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.

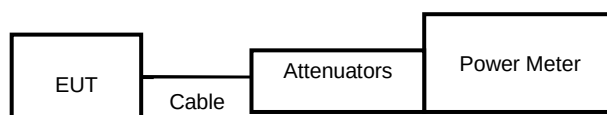


Frequency Band		Limit
☐	5.25-5.35 GHz	The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, 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 In the 5.2G Band

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	16	36	5180	17.20	16.88	17.64	17.87	23.43	220.545	30.00
11a	6 Mbps	16	40	5200	17.98	17.89	18.64	18.55	24.30	269.052	30.00
11a	6 Mbps	16	48	5240	17.89	18.77	19.17	18.62	24.66	292.235	30.00
11ax HE20	NSS1-MCS0	16.5	36	5180	18.48	18.08	18.71	18.99	24.60	288.290	30.00
11ax HE20	NSS1-MCS0	16.5	40	5200	18.43	18.08	18.99	19.06	24.68	293.719	30.00
11ax HE20	NSS1-MCS0	16	48	5240	17.89	17.64	18.85	18.60	24.29	268.774	30.00
11ax HE40	NSS1-MCS0	15.5	38	5190	17.02	16.48	17.49	17.44	23.15	206.381	30.00
11ax HE40	NSS1-MCS0	18.5	46	5230	20.37	20.32	21.18	20.95	26.74	472.211	30.00
11ax HE80	NSS1-MCS0	13.5	42	5210	14.72	14.26	15.14	15.27	20.89	122.627	30.00

In the 5.8G Band

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	17.5	149	5745	19.14	19.55	20.17	20.45	25.88	387.102	30.00
11a	6 Mbps	17.5	157	5785	19.22	19.61	20.18	20.68	25.98	396.153	30.00
11a	6 Mbps	16.5	165	5825	18.56	18.87	19.02	19.47	25.01	317.181	30.00
11ax HE20	NSS1-MCS0	17.5	149	5745	18.75	19.17	19.87	20.29	25.58	361.550	30.00
11ax HE20	NSS1-MCS0	18	157	5785	19.45	19.80	20.43	20.85	26.19	415.631	30.00
11ax HE20	NSS1-MCS0	17.5	165	5825	19.35	19.62	19.76	20.34	25.80	380.489	30.00
11ax HE40	NSS1-MCS0	18.5	151	5755	20.03	20.52	21.20	21.51	26.87	486.818	30.00
11ax HE40	NSS1-MCS0	18.5	159	5795	20.11	20.58	21.24	21.54	26.92	492.459	30.00
11ax HE80	NSS1-MCS0	18.5	155	5775	19.65	20.09	20.71	21.09	26.44	440.640	30.00

**BeamForming
In the 5.2G Band**

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	28	36	5180	16.62	16.99	17.09	17.36	23.04	201.542	30.00
11ax HE20	NSS1-MCS0	27	40	5200	16.21	16.51	16.75	17.18	22.70	186.109	30.00
11ax HE20	NSS1-MCS0	26	48	5240	15.43	16.29	16.04	16.63	22.14	163.679	30.00
11ax HE40	NSS1-MCS0	30	38	5190	16.90	17.34	17.51	17.86	23.44	220.636	30.00
11ax HE40	NSS1-MCS0	30	46	5230	16.71	17.53	17.32	18.04	23.45	221.136	30.00
11ax HE80	NSS1-MCS0	26	42	5210	14.77	15.03	15.44	15.83	21.31	135.111	30.00

In the 5.8G Band

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	30	149	5745	15.54	17.51	17.78	19.12	23.69	233.811	29.51
11ax HE20	NSS1-MCS0	30	157	5785	16.01	17.68	17.81	19.18	23.83	241.705	29.51
11ax HE20	NSS1-MCS0	30	165	5825	16.49	18.01	17.85	19.17	24.00	251.364	29.51
11ax HE40	NSS1-MCS0	30	151	5755	15.14	16.88	17.15	18.52	23.11	204.413	29.51
11ax HE40	NSS1-MCS0	30	159	5795	15.39	16.99	17.40	18.74	23.31	214.368	29.51
11ax HE80	NSS1-MCS0	35	155	5775	17.33	19.08	19.40	20.79	25.34	342.031	29.51



11. Power Spectral Density

11.1. Test Limit

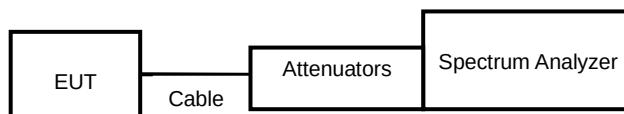
PSD:

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	6.51	6.31	6.81	7.00	12.68	0.16	12.84	17.00
11a	40	5200	6.66	6.62	7.06	7.03	12.87	0.16	13.03	17.00
11a	48	5240	6.56	7.11	7.41	7.06	13.06	0.16	13.22	17.00
11ax HE20	36	5180	5.85	5.30	6.18	6.54	12.01	0.65	12.66	17.00
11ax HE20	40	5200	5.99	5.55	6.41	6.50	12.15	0.65	12.80	17.00
11ax HE20	48	5240	5.53	5.37	6.27	6.25	11.89	0.65	12.54	17.00
11ax HE40	38	5190	2.75	2.31	3.14	3.41	8.94	0.98	9.92	17.00
11ax HE40	46	5230	5.47	5.35	6.24	5.86	11.76	0.98	12.74	17.00
11ax HE80	42	5210	-2.87	-3.21	-2.41	-2.19	3.37	1.32	4.69	17.00

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	7.89	8.40	9.12	9.45	14.78	0.16	-3.01	11.93	29.51
11a	157	5785	8.00	8.13	8.94	9.50	14.71	0.16	-3.01	11.86	29.51
11a	165	5825	7.43	7.61	7.63	8.22	13.75	0.16	-3.01	10.90	29.51
11ax HE20	149	5745	6.60	6.99	7.59	8.24	13.42	0.65	-3.01	11.06	29.51
11ax HE20	157	5785	6.99	7.26	7.81	8.61	13.73	0.65	-3.01	11.37	29.51
11ax HE20	165	5825	6.98	7.02	7.21	7.83	13.30	0.65	-3.01	10.94	29.51
11ax HE40	151	5755	5.33	5.71	6.27	6.72	12.06	0.98	-3.01	10.03	29.51
11ax HE40	159	5795	5.18	5.47	6.18	6.74	11.96	0.98	-3.01	9.93	29.51
11ax HE80	155	5775	1.55	1.90	2.43	3.09	8.30	1.32	-3.01	6.61	29.51

**BeamForming****In the 5.2G Band**

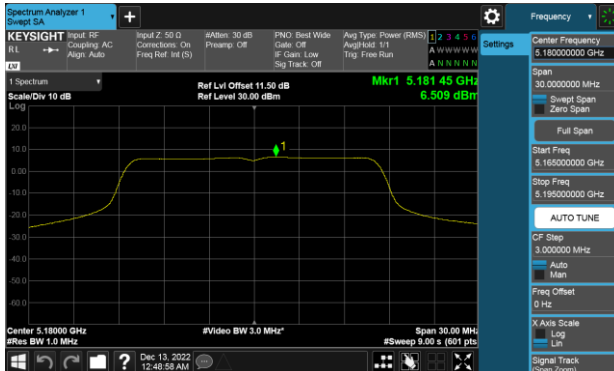
Modulation Type	Channel	Frequency (MHz)	Meas PSD (dBm/MHz)				Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT A	ANT B	ANT C	ANT D				
11ax HE20	36	5180	5.16	5.23	5.51	6.06	11.52	0.30	11.82	17.00
11ax HE20	40	5200	3.70	3.58	3.81	4.08	9.82	0.30	10.12	17.00
11ax HE20	48	5240	3.69	3.99	3.92	4.26	9.99	0.30	10.29	17.00
11ax HE40	38	5190	2.88	2.99	3.24	3.40	9.15	1.09	10.24	17.00
11ax HE40	46	5230	2.89	3.33	3.16	3.66	9.29	1.09	10.38	17.00
11ax HE80	42	5210	-2.97	-2.87	-2.59	-2.40	3.32	2.20	5.52	17.00

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	4.75	6.66	6.29	7.01	12.28	0.30	-3.01	9.57	29.51
11ax HE20	157	5785	5.08	4.94	5.47	7.15	11.78	0.30	-3.01	9.07	29.51
11ax HE20	165	5825	5.31	5.72	5.86	8.08	12.41	0.30	-3.01	9.70	29.51
11ax HE40	151	5755	1.21	1.22	1.12	3.97	8.08	1.09	-3.01	6.16	29.51
11ax HE40	159	5795	1.61	1.65	3.17	3.95	8.73	1.09	-3.01	6.81	29.51
11ax HE80	155	5775	0.71	0.11	0.73	3.74	7.60	2.20	-3.01	6.79	29.51



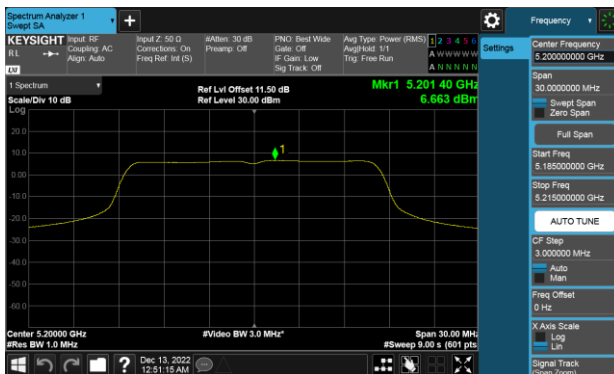
Non BeamForming,Band1
ANT A
Modulation Type: 802.11a (6Mbps)
CH36



Modulation Type: 802.11ax HE20 (7.3Mbps)
CH36



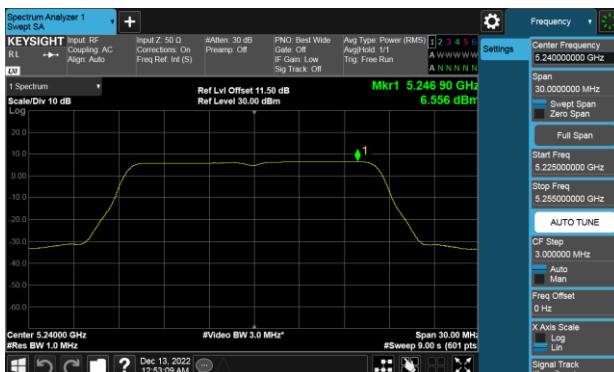
CH40



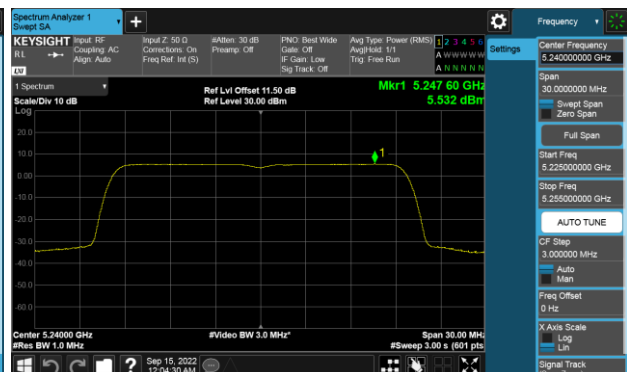
CH40



CH48



CH48





Modulation Type: 8802.11ax HE40 (14.6Mbps)
CH38



Modulation Type: 802.11ax HE80 (30.6Mbps)
CH42



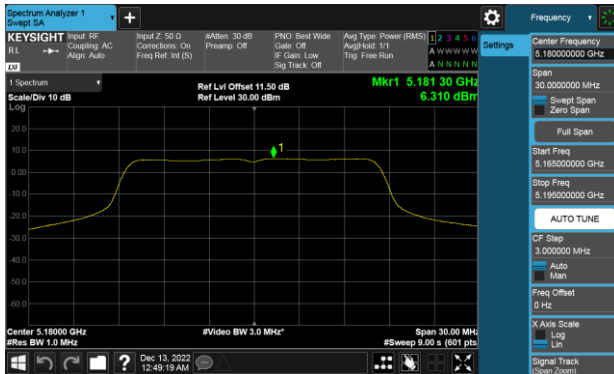
CH46





Non BeamForming,Band1
ANT B
Modulation Type: 802.11a (6Mbps)
CH36

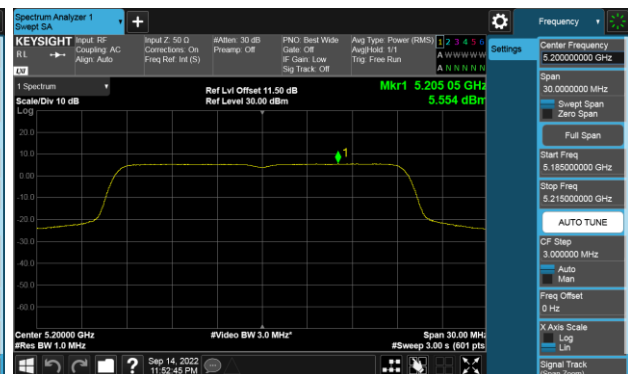
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH36



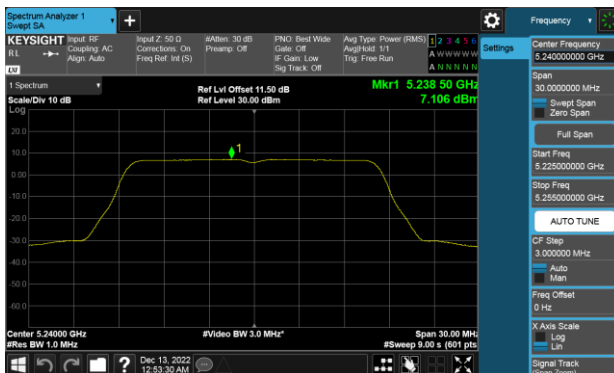
CH40



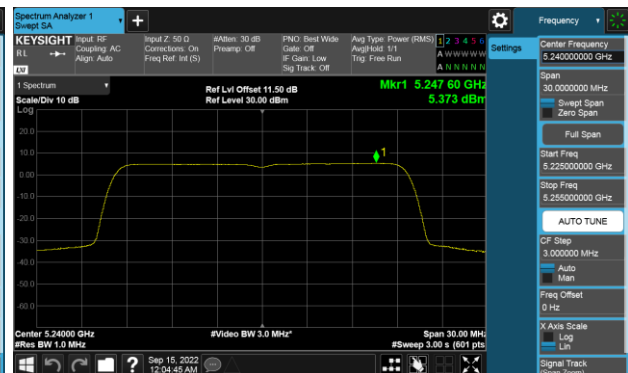
CH40



CH48



CH48





Modulation Type: 802.11ax HE40 (14.6Mbps)
CH38



Modulation Type: 802.11ax HE80 (30.6Mbps)
CH42



CH46





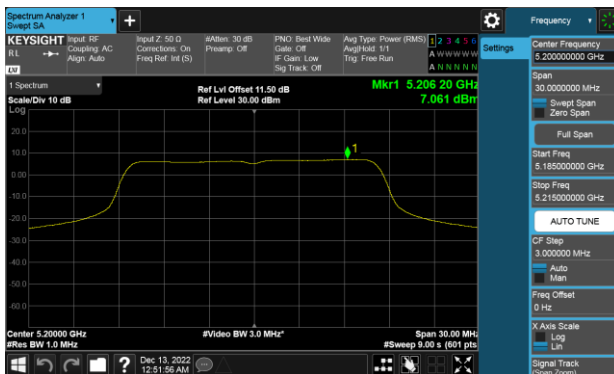
Non BeamForming,Band1
ANT C
Modulation Type: 802.11a (6Mbps)
CH36



Modulation Type: 802.11ax HE20 (7.3Mbps)
CH36



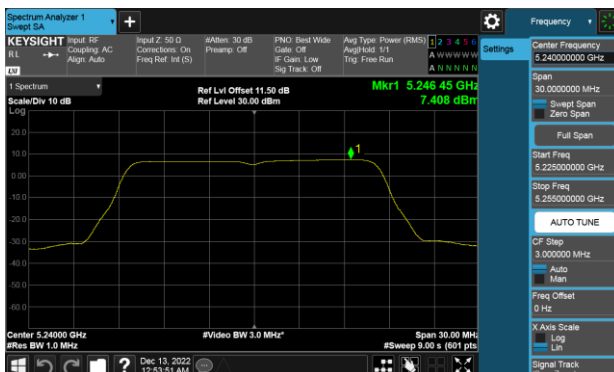
CH40



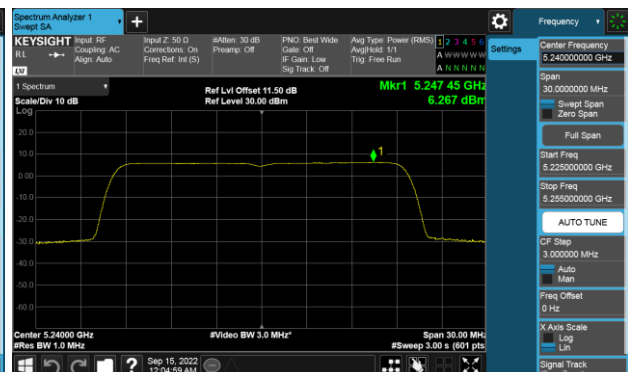
CH40



CH48



CH48

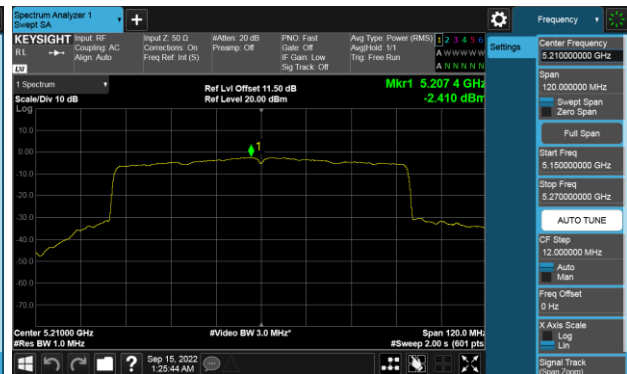




Modulation Type: 8802.11ax HE40 (14.6Mbps)
CH38



Modulation Type: 802.11ax HE80 (30.6Mbps)
CH42



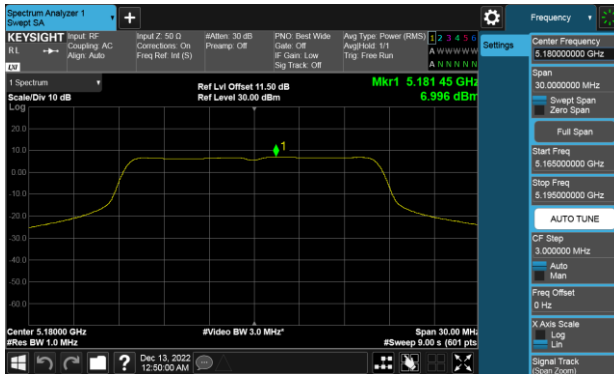
CH46





Non BeamForming,Band1
ANT D
Modulation Type: 802.11a (6Mbps)
CH36

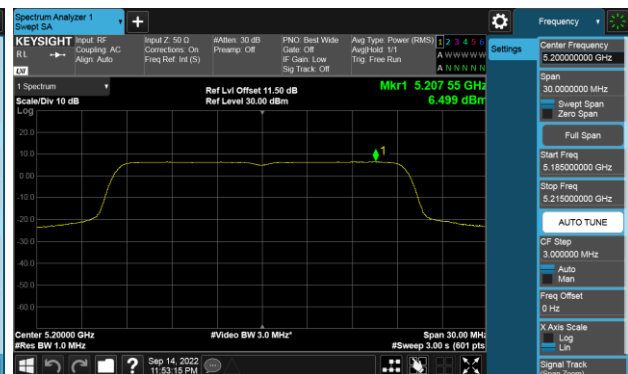
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH36



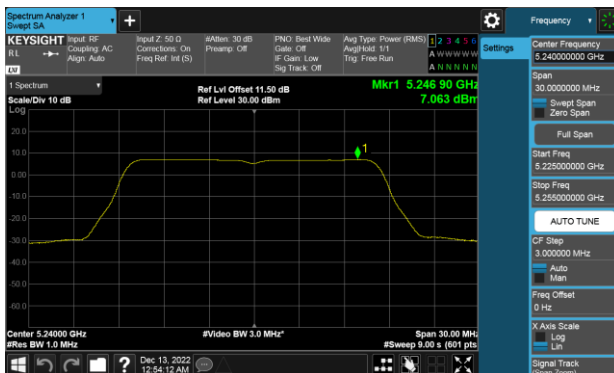
CH40



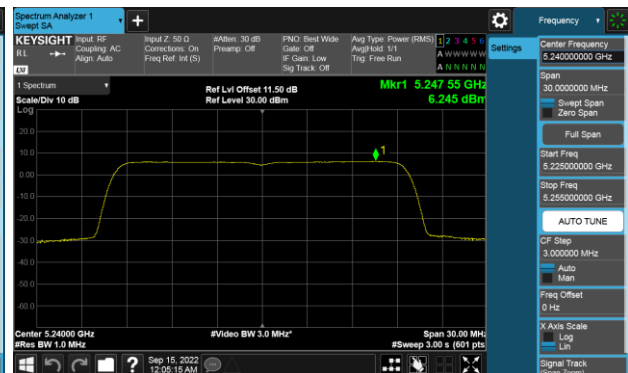
CH40



CH48



CH48





Modulation Type: 802.11ax HE40 (14.6Mbps)
CH38



Modulation Type: 802.11ax HE80 (30.6Mbps)
CH42



CH46

