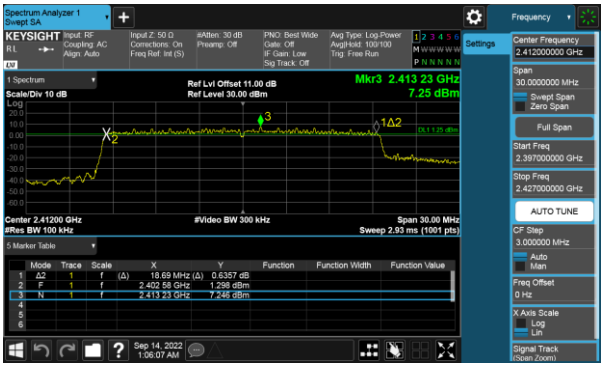
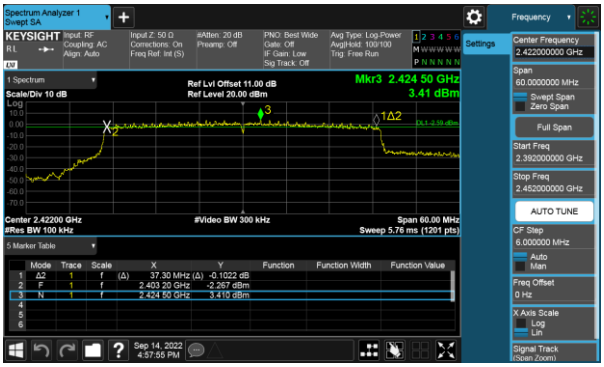
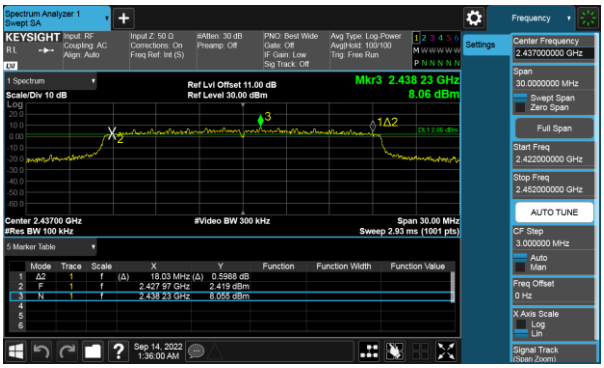
Modulation Type: 802.11ax HE20
CH01



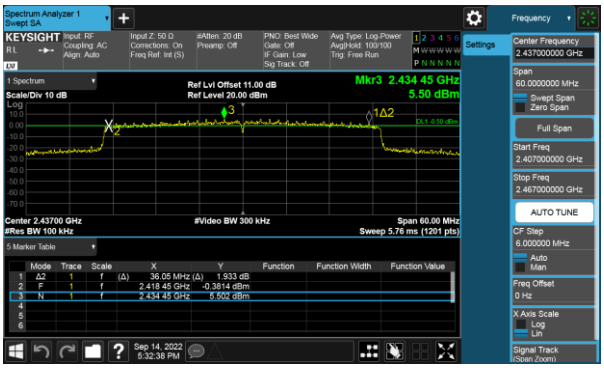
Modulation Type: 802.11ax HE40
CH03



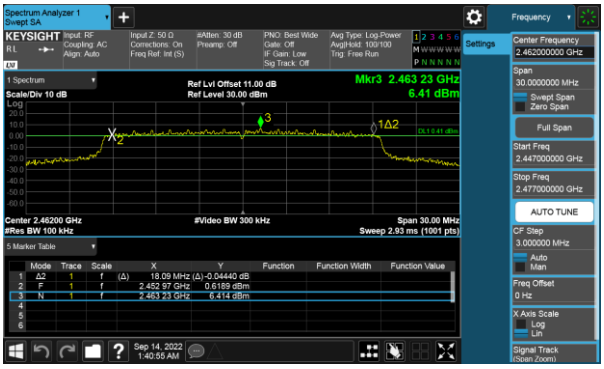
CH06



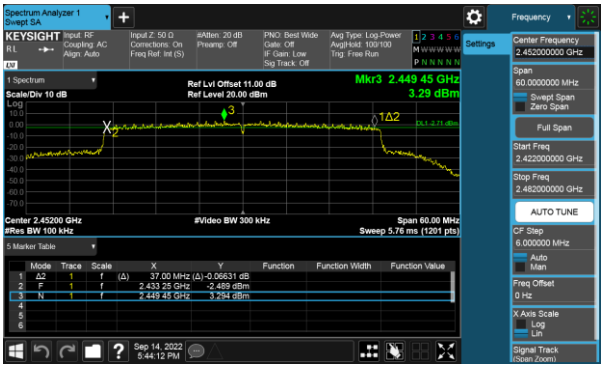
CH06



CH11

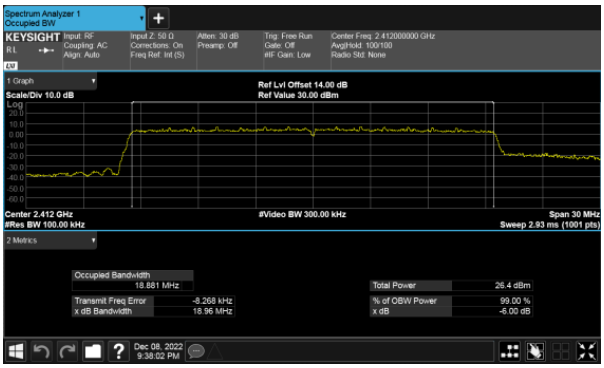


CH09



BeamForming
ANT A

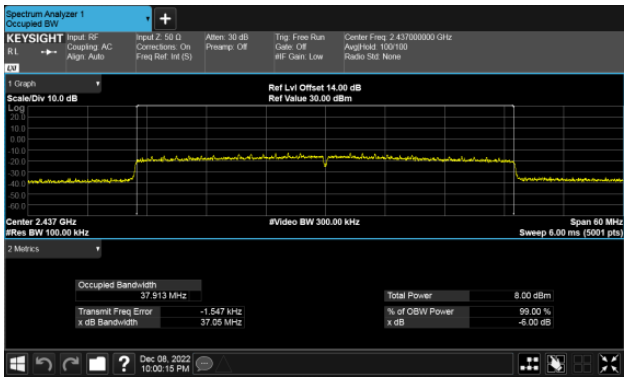
Modulation Type: 802.11ax HE20
CH01



Modulation Type: 802.11ax HE40
CH03

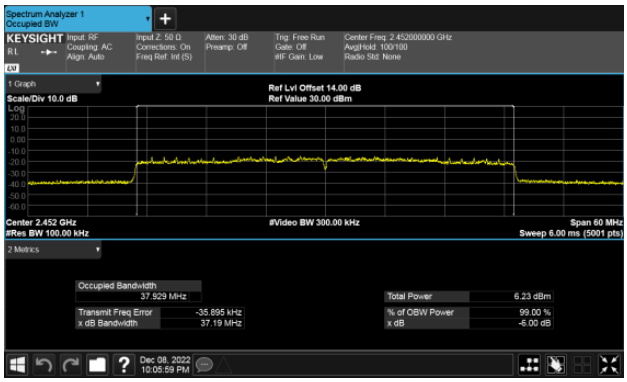
CH06

CH06



CH11

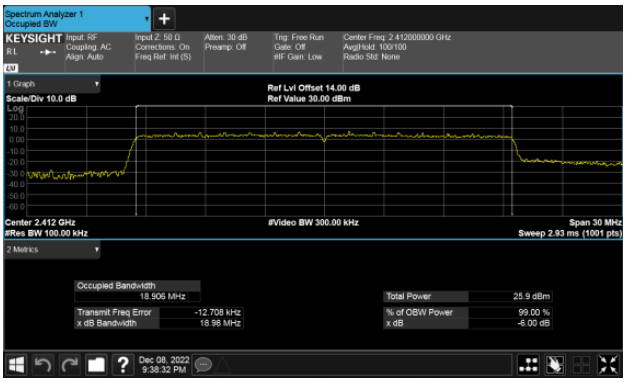
CH09



ANT B

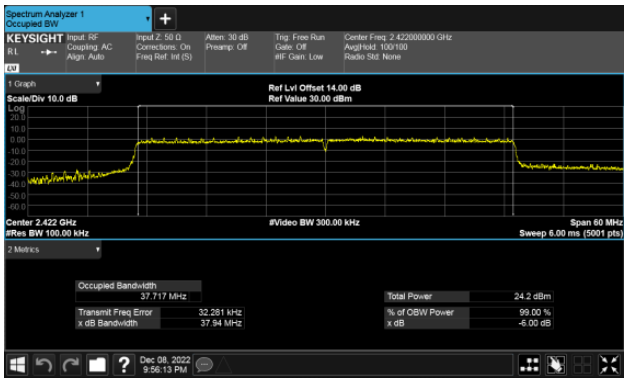
Modulation Type: 802.11ax HE20

CH01

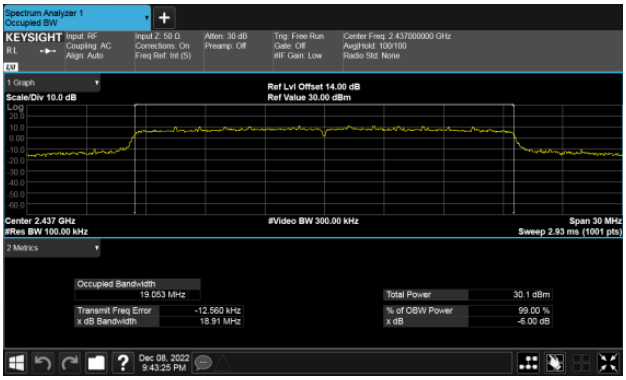


Modulation Type: 802.11ax HE40

CH03



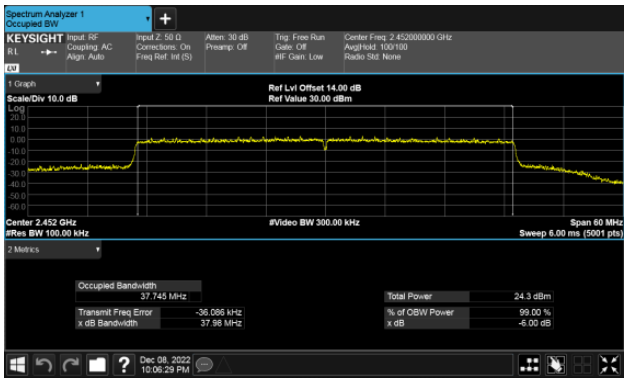
CH06



CH06

CH11

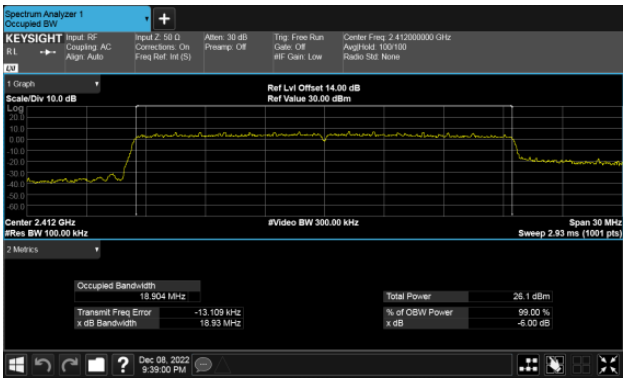
CH09



ANT C

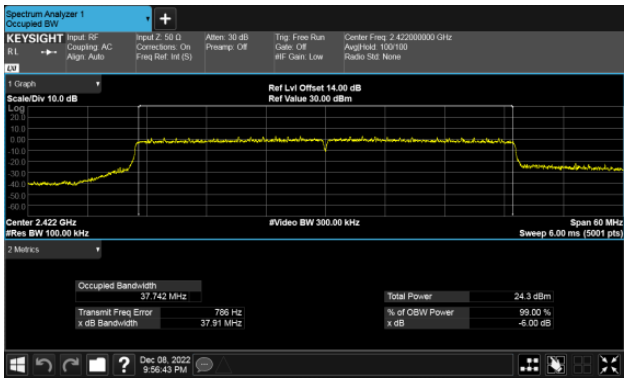
Modulation Type: 802.11ax HE20

CH01

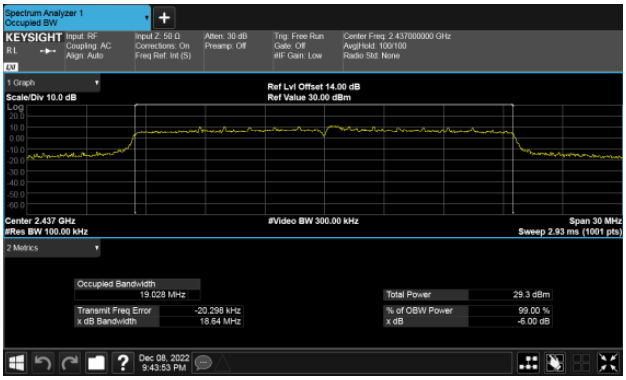


Modulation Type: 802.11ax HE40

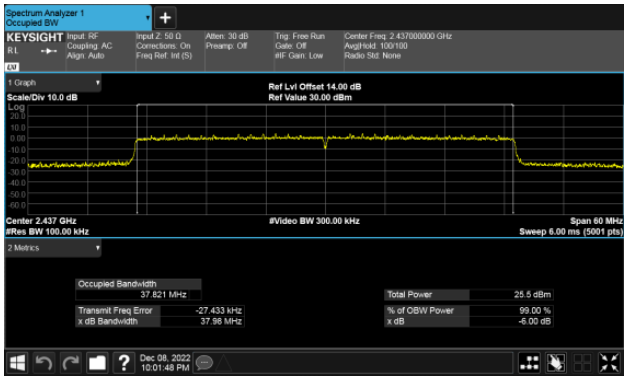
CH03



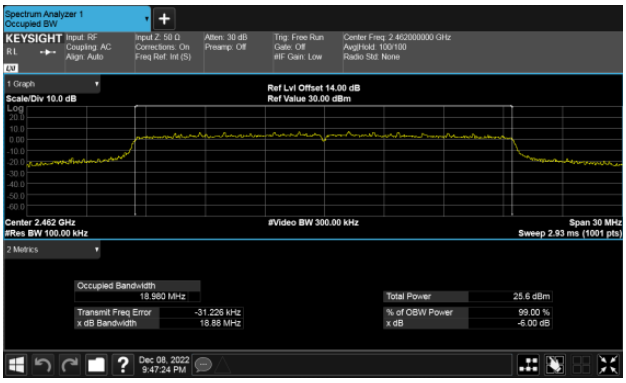
CH06



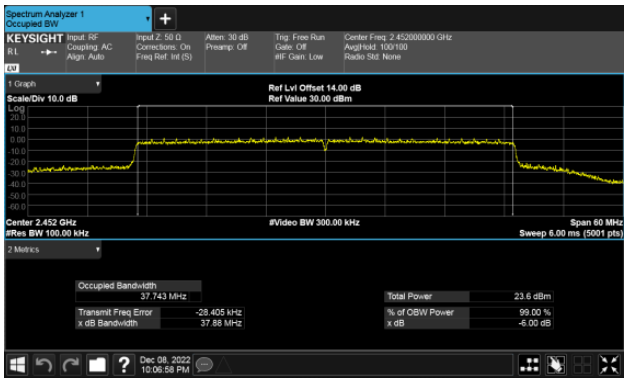
CH06



CH11



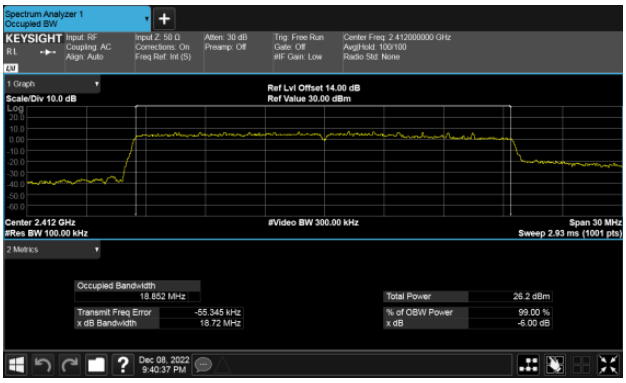
CH09



ANT D

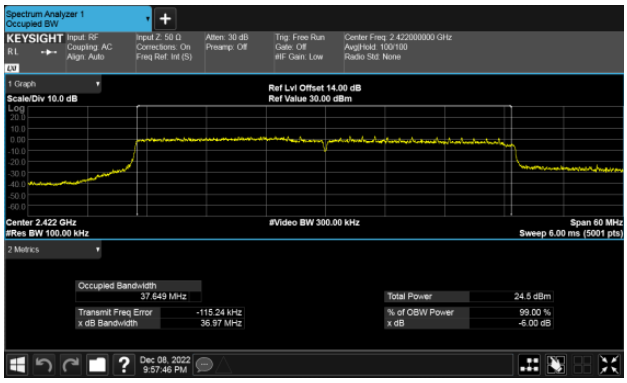
Modulation Type: 802.11ax HE20

CH01

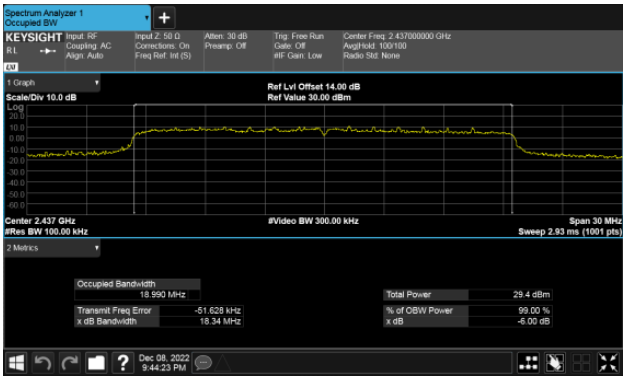


Modulation Type: 802.11ax HE40

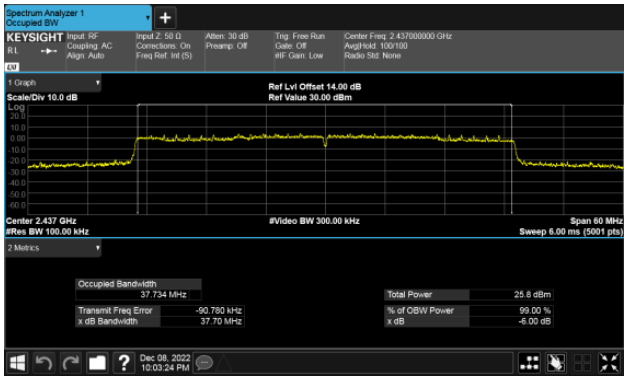
CH03



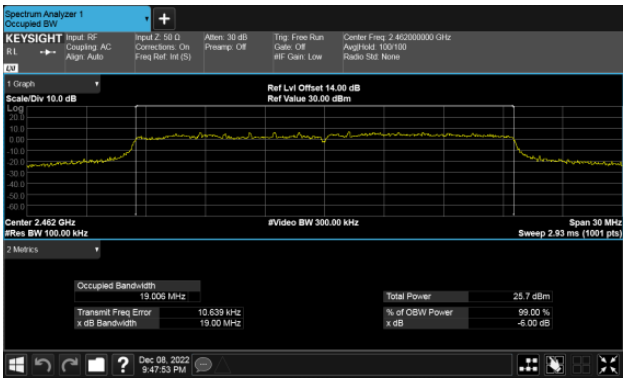
CH06



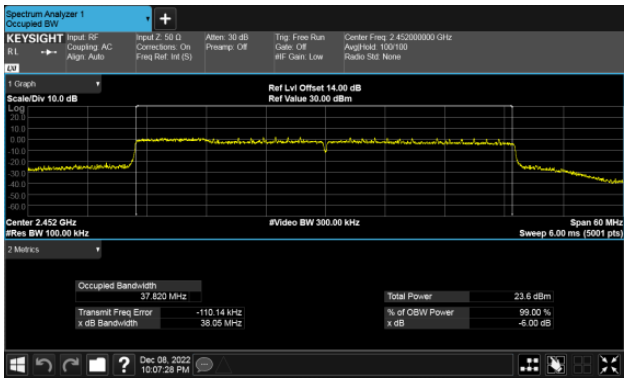
CH06



CH11



CH09



10. Maximum Average Output Power

10.1 Test Limit

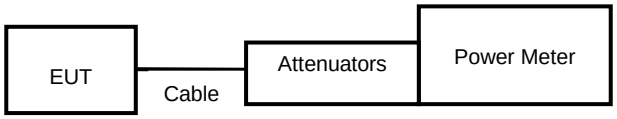
The Maximum Average Output Power Measurement is 30dBm.
If transmitting antennas of directional gain greater than 6 dBi are used, the average output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

10.2 Test Procedures

According to the methods defined in ANSI C63.10-2013 Section 11.9.2.3.2

The antenna port (RF output) of the EUT was connected to the input (RF input) of a power meter. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

10.3 Test Setup Layout



10.4 Test Result and Data

Non Beamforming

Setting	Modulation Mode	Channel	Frequency (MHz)	Conducted(average) output power (dBm)				Total AV power (dBm)	Total AV power (mW)	Powe Limit (dBm)
				ANT A	ANT B	ANT C	ANT D			
15	11b	1	2412	18.71	18.47	18.34	18.27	24.47	279.986	29.97
15		6	2437	18.48	18.81	18.11	18.13	24.41	276.229	29.97
14.5		11	2462	18.21	17.95	17.90	17.87	24.01	251.490	29.97
18	11g	1	2412	20.06	19.74	19.50	19.63	25.76	376.538	29.97
18.5		6	2437	20.46	20.62	20.52	20.45	26.53	450.156	29.97
18		11	2462	19.77	19.98	19.96	19.70	25.87	386.791	29.97
16	11ax HE20	1	2412	17.92	17.60	17.49	17.58	23.67	232.873	29.97
18.5		6	2437	20.61	20.83	20.59	20.68	26.70	467.641	29.97
15		11	2462	16.79	17.01	16.61	16.44	22.74	187.857	29.97
15	11ax HE40	3	2422	17.26	17.03	16.85	16.81	23.01	200.068	29.97
16.5		6	2437	18.70	18.72	18.95	18.57	24.76	299.073	29.97
14.5		9	2452	15.96	16.11	16.20	16.07	22.11	162.422	29.97

Beamforming

Setting	Modulation Mode	Channel	Frequency (MHz)	Conducted(average) output power (dBm)				Total AV power (dBm)	Total AV power (mW)	Powe Limit (dBm)
				ANT A	ANT B	ANT C	ANT D			
32	11ax HE20	1	2412	18.74	18.48	18.33	18.22	24.47	279.737	29.97
39		6	2437	21.87	22.29	21.78	21.48	27.89	614.515	29.97
31		11	2462	18.33	18.29	18.14	17.83	24.17	261.366	29.97
29	11ax HE40	3	2422	16.85	16.70	16.72	16.55	22.73	187.366	29.97
32		6	2437	18.19	18.63	18.04	17.76	24.19	262.246	29.97
28		9	2452	16.12	16.55	16.02	15.75	22.14	163.690	29.97

11. Power Spectral Density

11.1 Test Limit

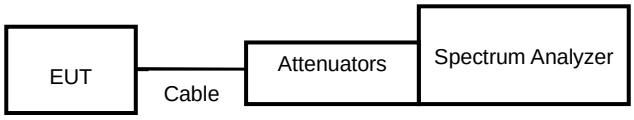
The Maximum of Power Spectral Density Measurement is 8dBm.

If transmitting antennas of directional gain greater than 6 dBi are used, the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

11.2 Test Procedures

According to the methods defined in ANSI C63.10-2013 Section 11.10

11.3 Test Setup Layout



11.4 Test Result and Data

Non Beamforming

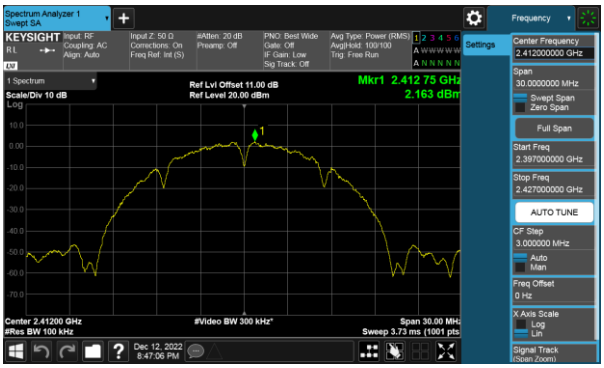
Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 100KHz Bandwidth(dBm)				Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A	ANT B	ANT C	ANT D				
11b	1	2412	2.163	1.672	1.820	1.867	7.90	0.00	7.90	7.97
	6	2437	2.023	2.052	1.808	1.455	7.86	0.00	7.86	7.97
	11	2462	2.112	1.666	1.399	1.715	7.75	0.00	7.75	7.97
11g	1	2412	0.459	0.072	0.045	0.032	6.18	0.18	6.36	7.97
	6	2437	0.830	1.170	0.592	0.555	6.81	0.18	6.99	7.97
	11	2462	0.666	0.415	0.401	0.225	6.45	0.18	6.63	7.97
11ax HE20	1	2412	-2.748	-3.056	-3.215	-3.129	2.99	0.67	3.66	7.97
	6	2437	-0.267	0.041	-0.556	-0.642	5.67	0.67	6.34	7.97
	11	2462	-4.141	-3.859	-4.162	-4.222	1.93	0.67	2.60	7.97
11ax HE40	3	2422	-6.071	-6.327	-6.485	-6.769	-0.39	0.67	0.28	7.97
	6	2437	-4.579	-4.499	-4.398	-4.700	1.48	0.67	2.15	7.97
	9	2452	-6.892	-6.664	-6.660	-6.850	-0.74	0.67	-0.07	7.97

Beamforming

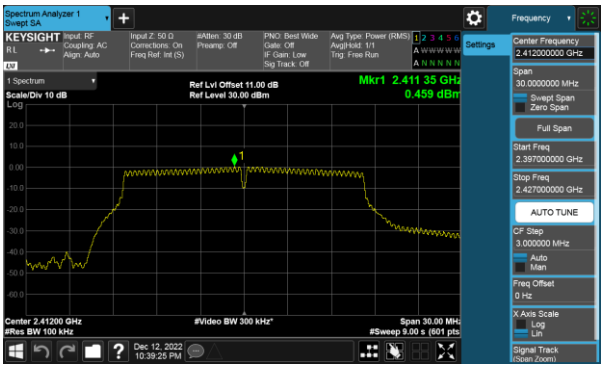
Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 100KHz Bandwidth(dBm)				Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A	ANT B	ANT C	ANT D				
11ax HE20	1	2412	-3.483	-3.527	-3.612	-3.166	2.58	0.33	2.91	7.97
	6	2437	-0.326	1.204	-0.703	0.181	6.17	0.33	6.50	7.97
	11	2462	-2.788	-3.557	-4.278	-3.387	2.55	0.33	2.88	7.97
11ax HE40	3	2422	-6.821	-6.997	-7.367	-6.715	-0.95	0.60	-0.35	7.97
	6	2437	-6.448	-5.493	-6.718	-6.476	-0.24	0.60	0.36	7.97
	9	2452	-8.169	-7.701	-8.931	-8.583	-2.30	0.60	-1.70	7.97

Non Beamforming
ANT A

Modulation Type: 802.11b
CH01

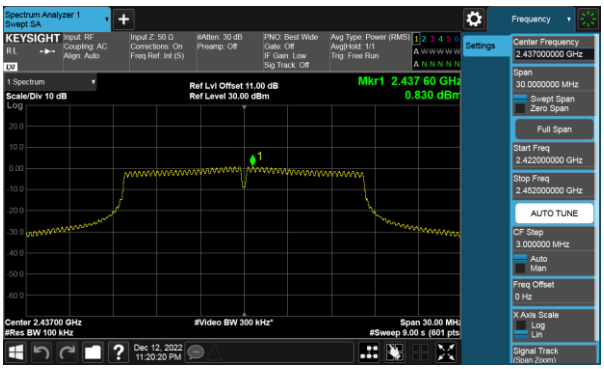


Modulation Type: 802.11g
CH01



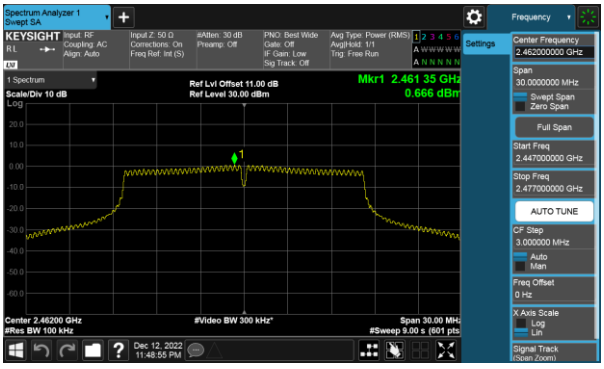
CH06

CH06

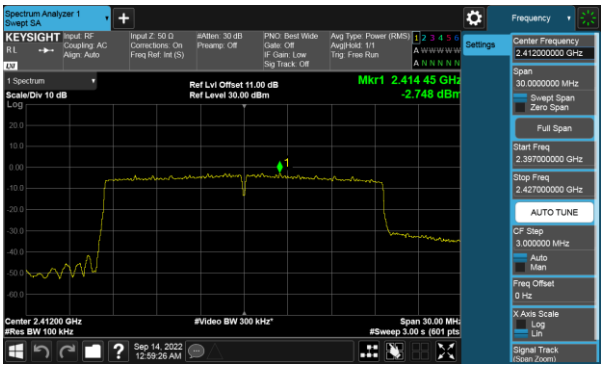


CH11

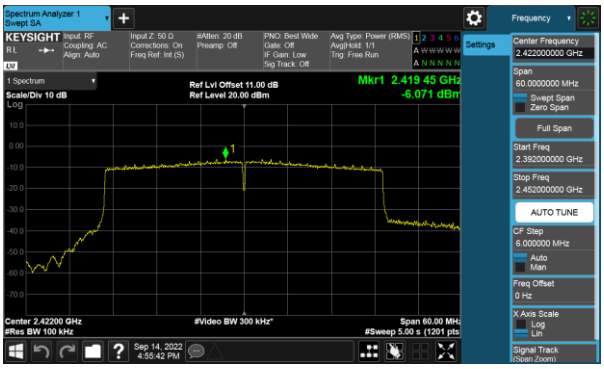
CH11



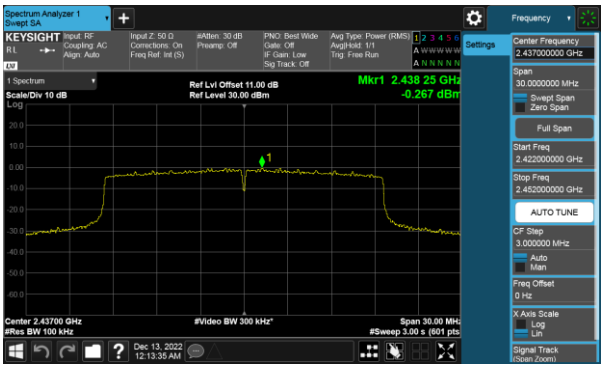
Modulation Type: 802.11ax HE20
CH01



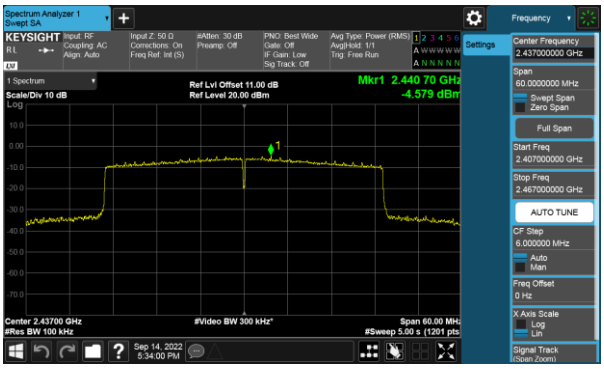
Modulation Type: 802.11ax HE40
CH03



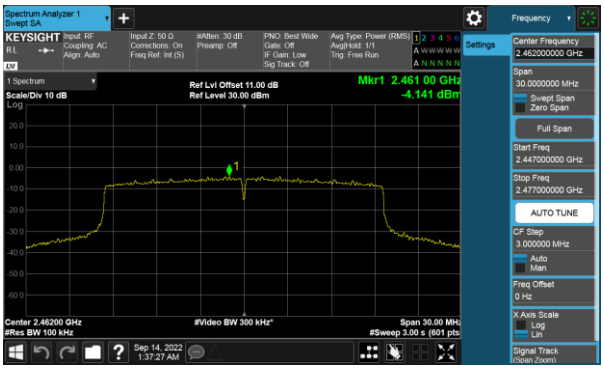
CH06



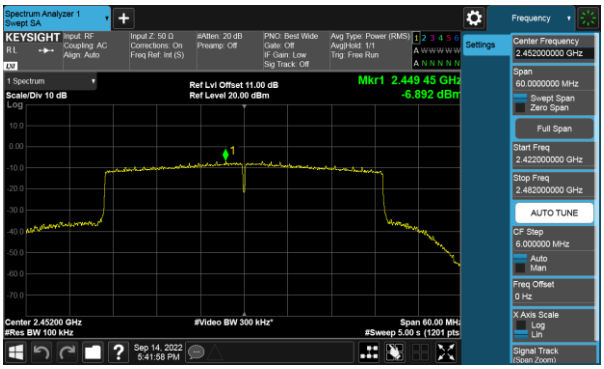
CH06



CH11



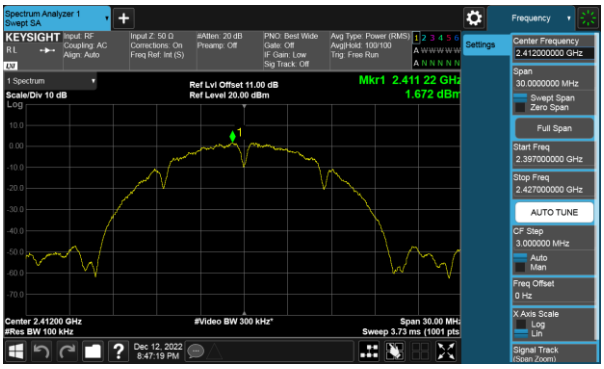
CH09



ANT B

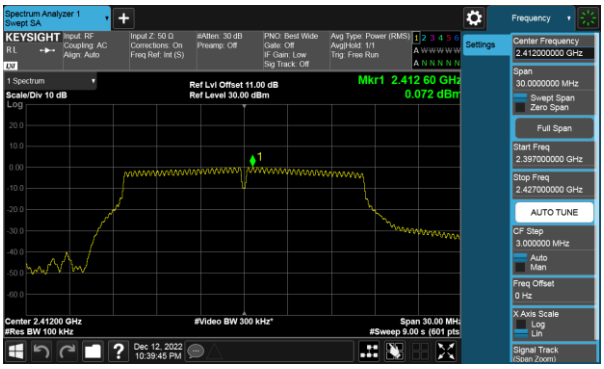
Modulation Type: 802.11b

CH01

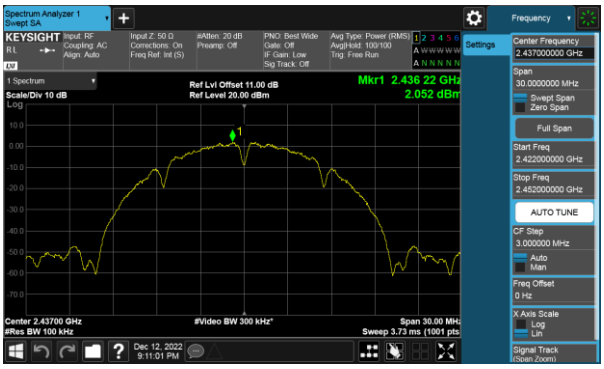


Modulation Type: 802.11g

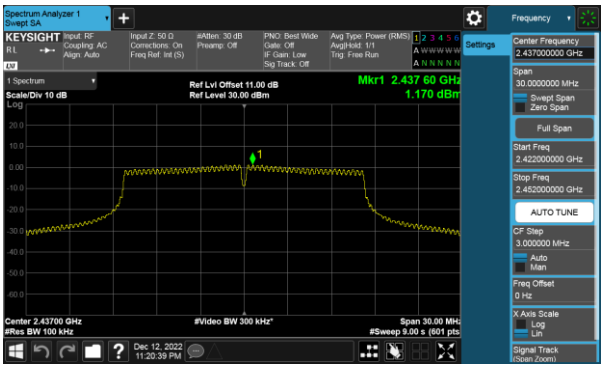
CH01



CH06

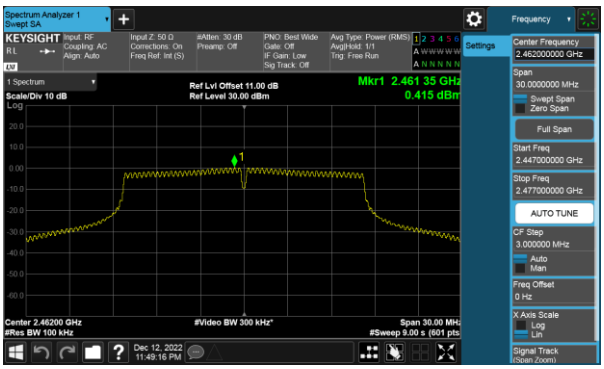


CH06

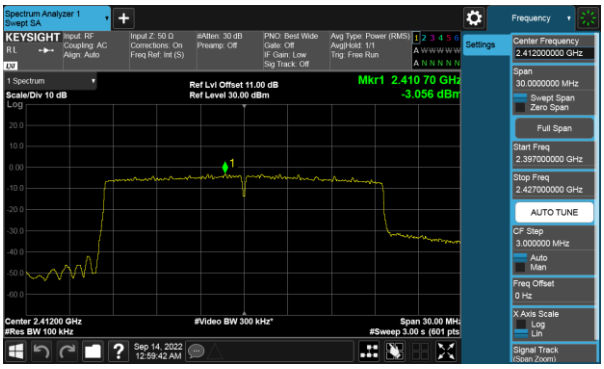


CH11

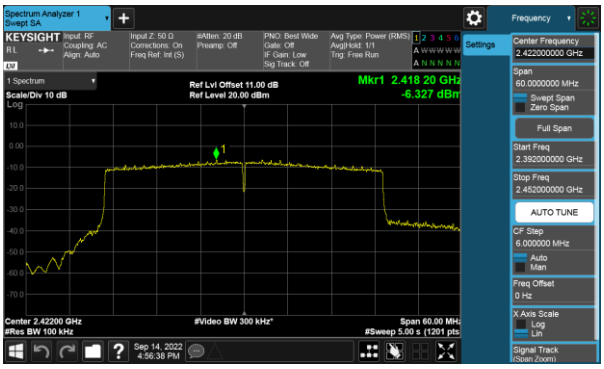
CH11



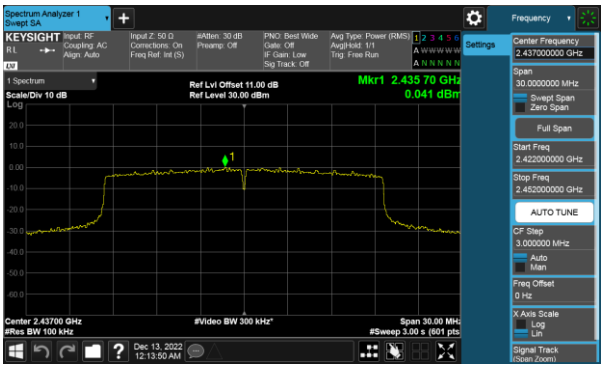
Modulation Type: 802.11ax HE20
CH01



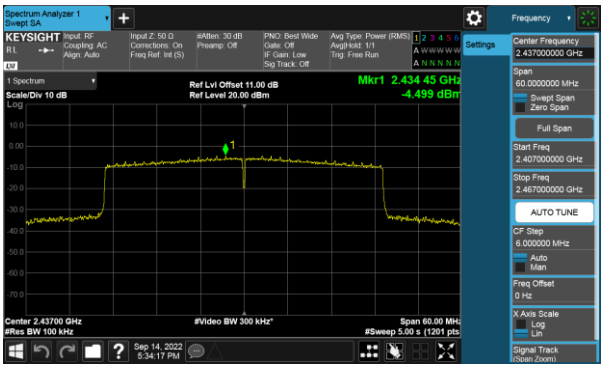
Modulation Type: 802.11ax HE40
CH03



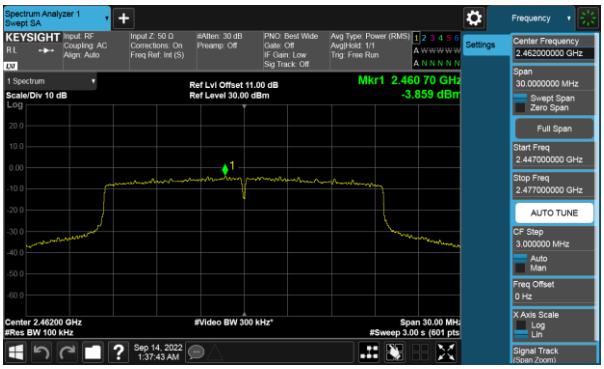
CH06



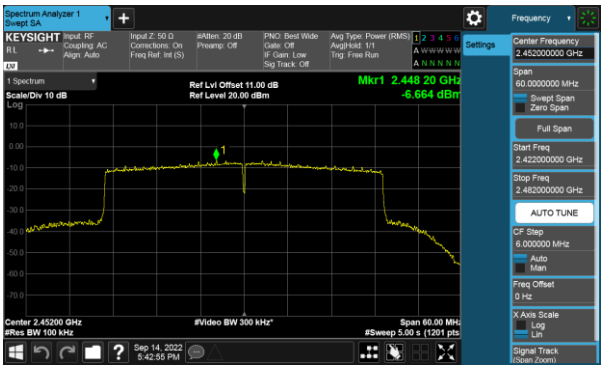
CH06



CH11



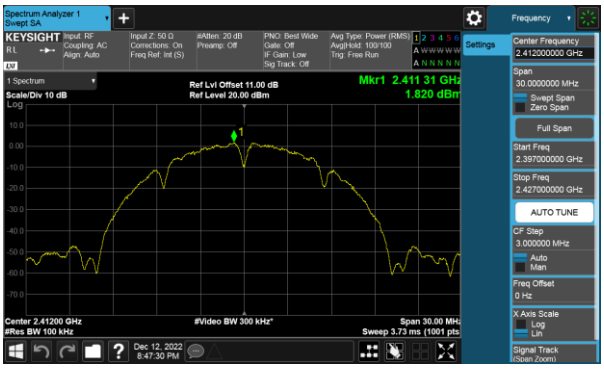
CH09



ANT C

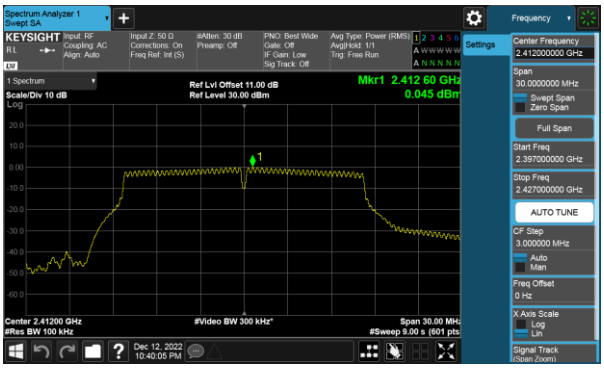
Modulation Type: 802.11b

CH01

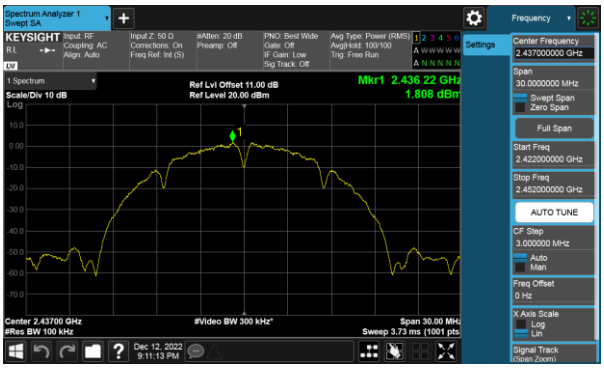


Modulation Type: 802.11g

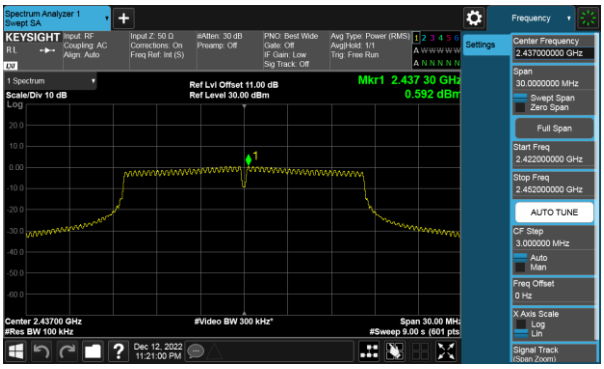
CH01



CH06

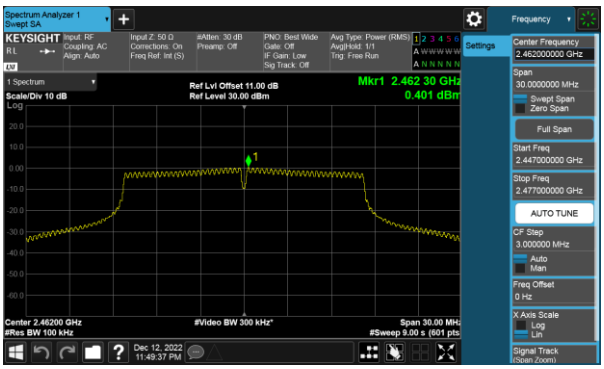


CH06

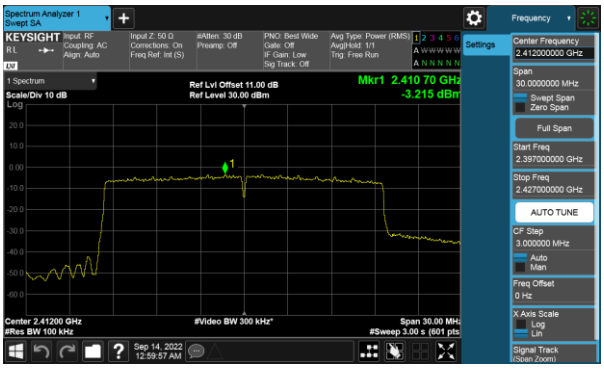


CH11

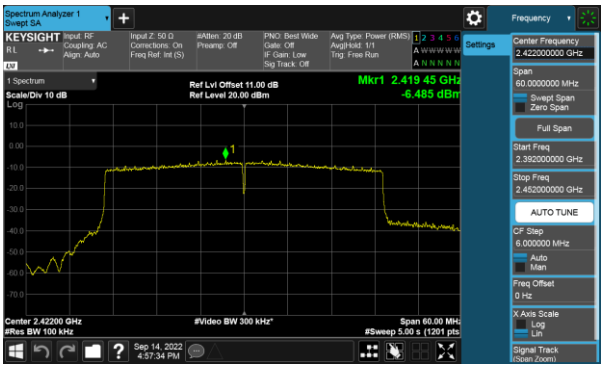
CH11



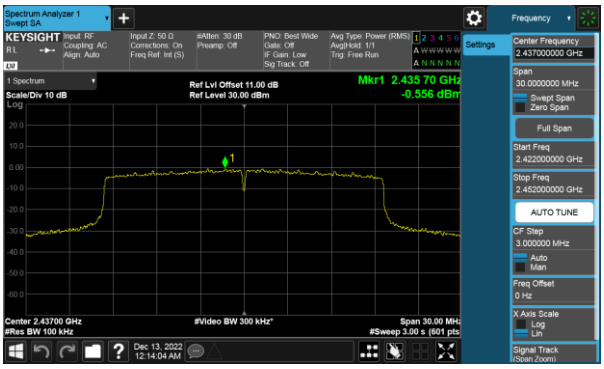
Modulation Type: 802.11ax HE20
CH01



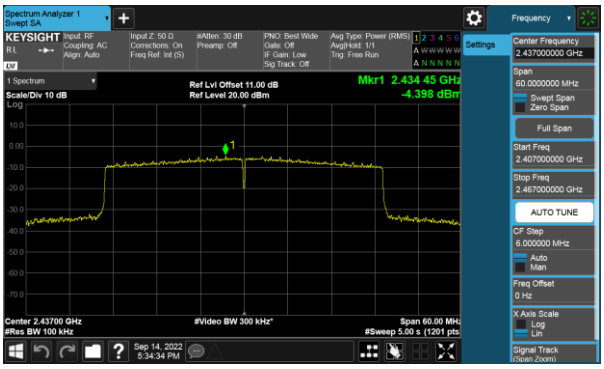
Modulation Type: 802.11ax HE40
CH03



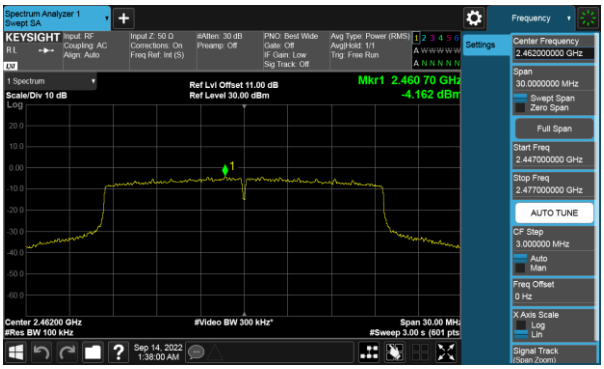
CH06



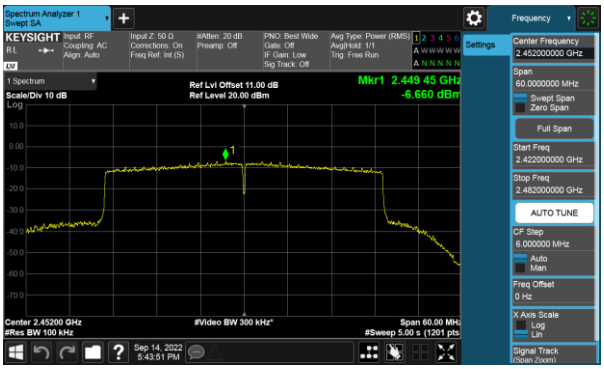
CH06



CH11



CH09



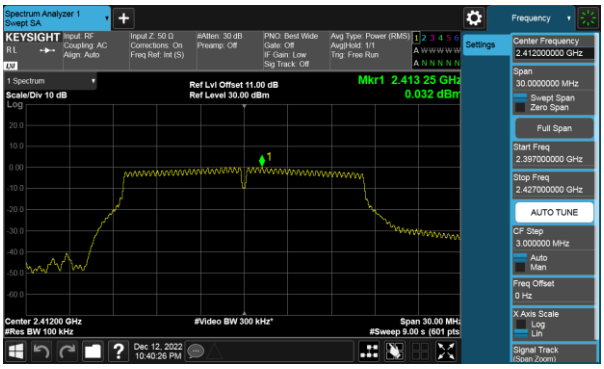
ANT D

Modulation Type: 802.11b

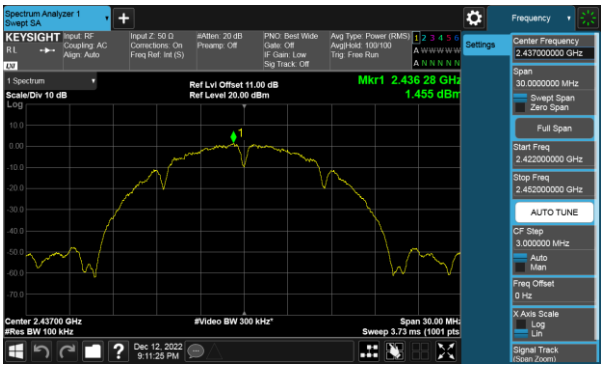
CH01

Modulation Type: 802.11g

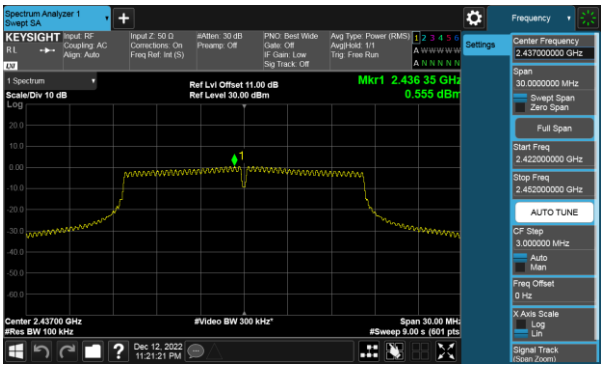
CH01



CH06

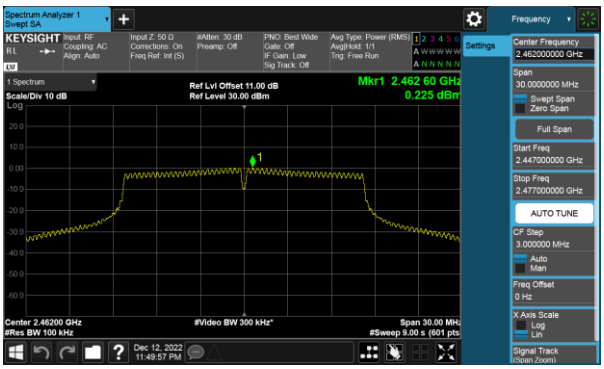


CH06

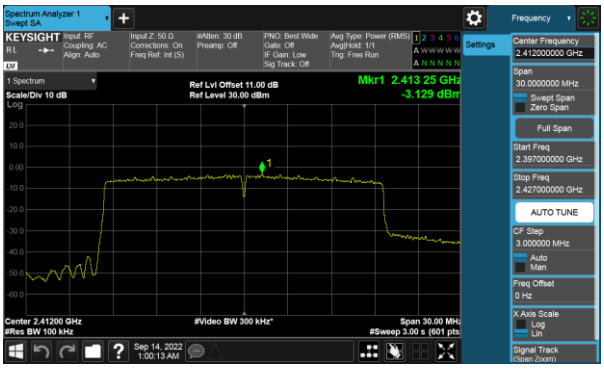


CH11

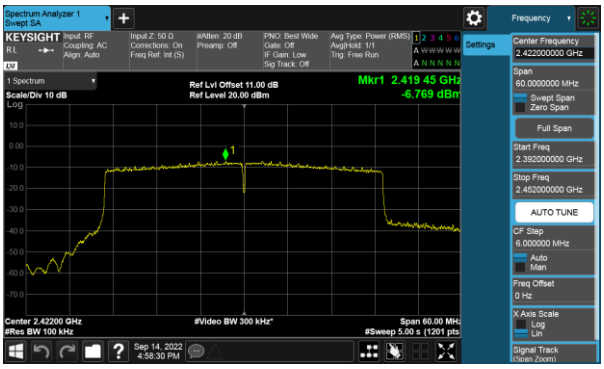
CH11



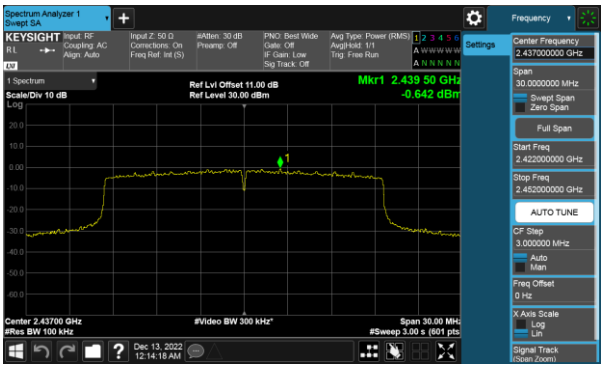
Modulation Type: 802.11ax HE20
CH01



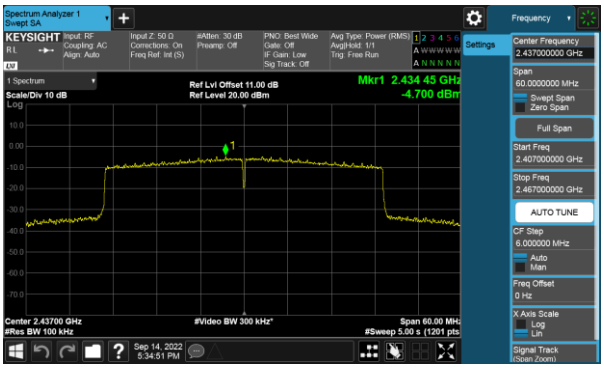
Modulation Type: 802.11ax HE40
CH03



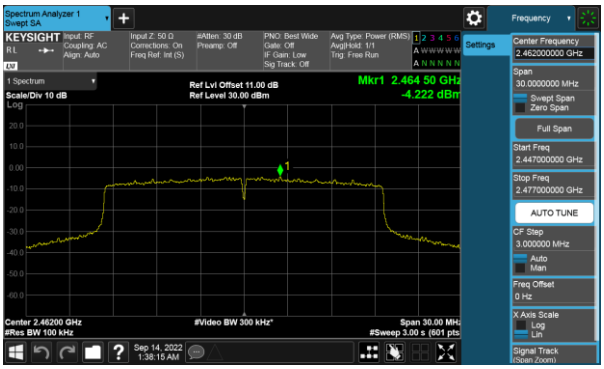
CH06



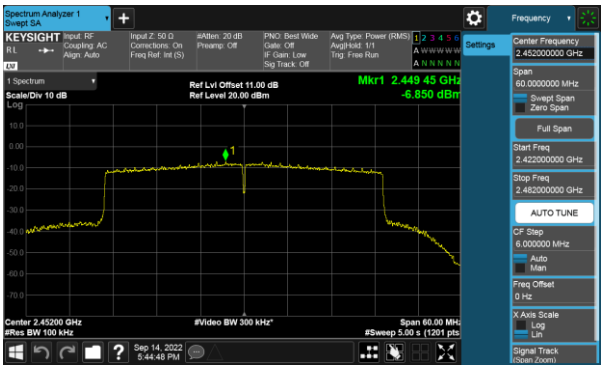
CH06



CH11

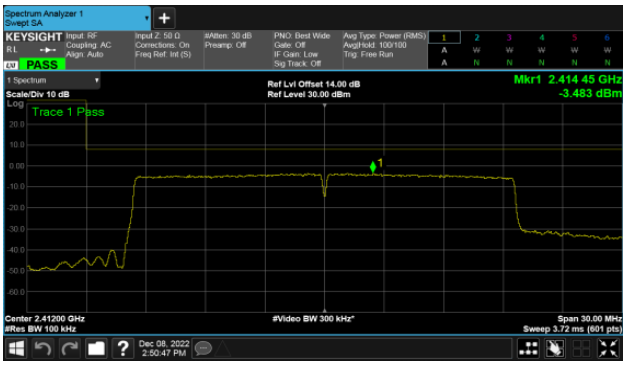


CH09

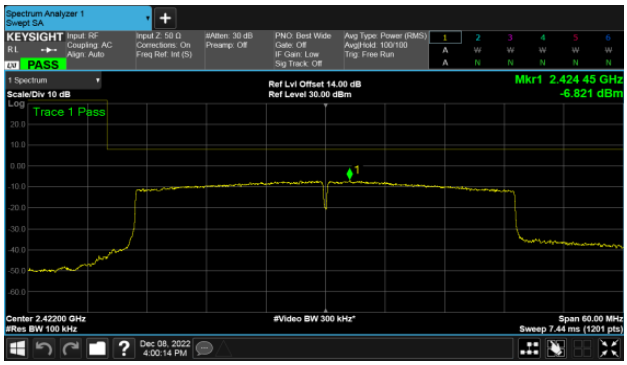


BeamForming
ANT A

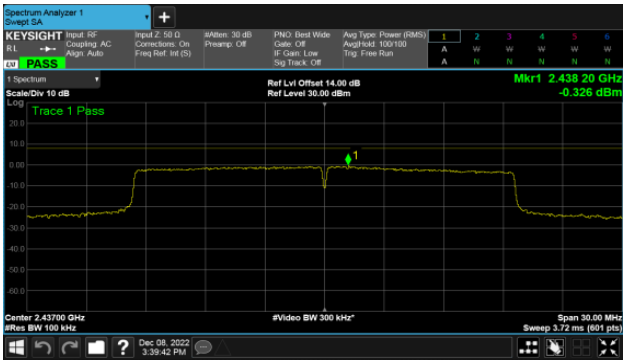
Modulation Type: 802.11ax HE20
CH01



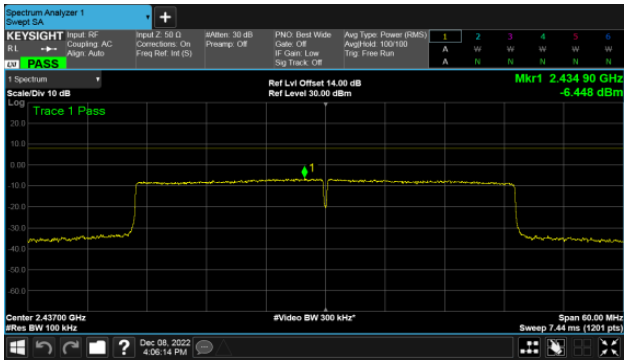
Modulation Type: 802.11ax HE40
CH03



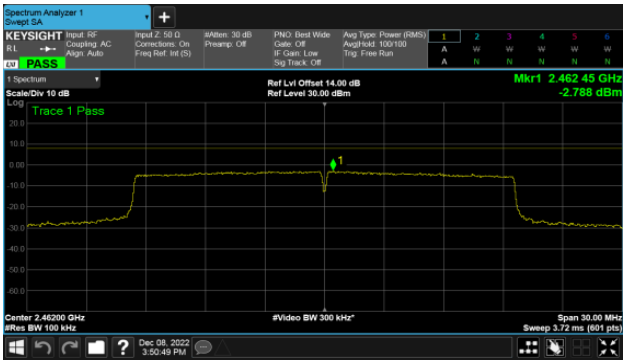
CH06



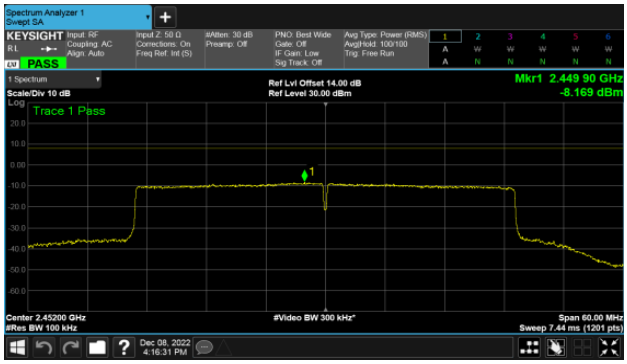
CH06



CH11



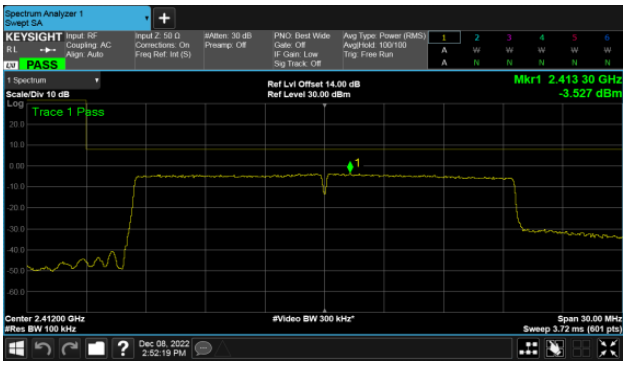
CH09



ANT B

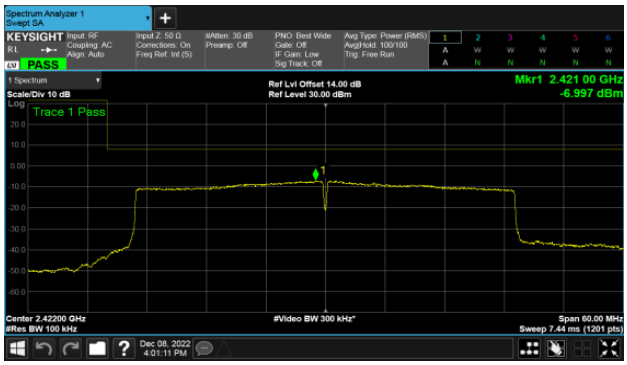
Modulation Type: 802.11ax HE20

CH01

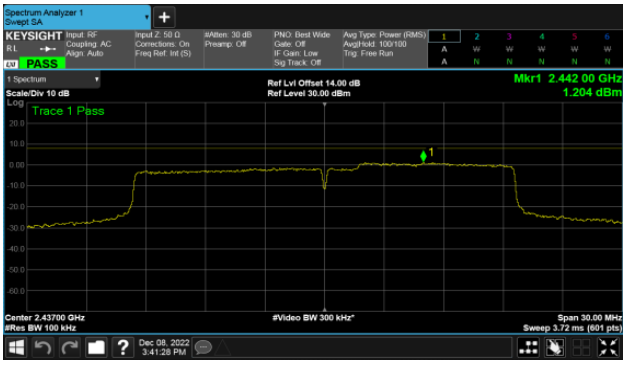


Modulation Type: 802.11ax HE40

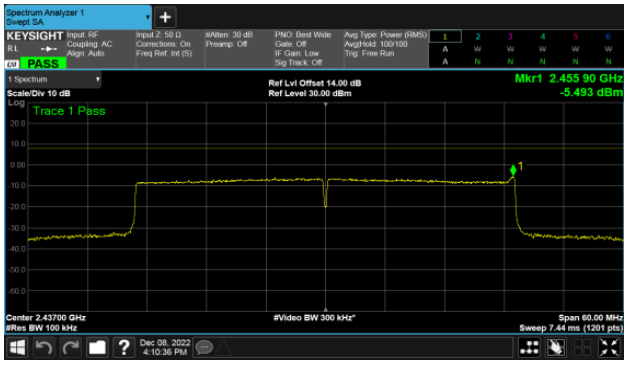
CH03



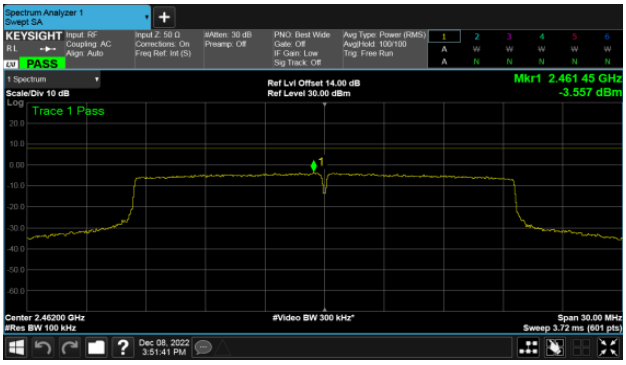
CH06



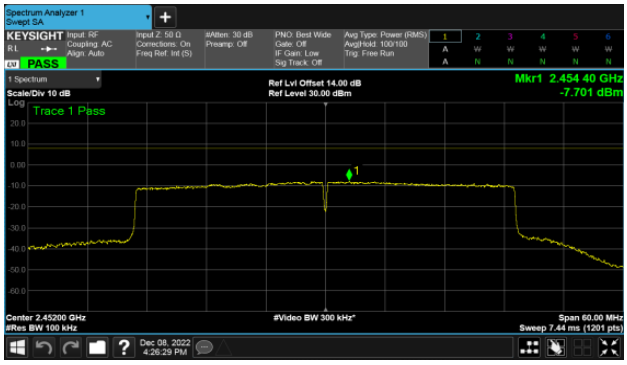
CH06



CH11



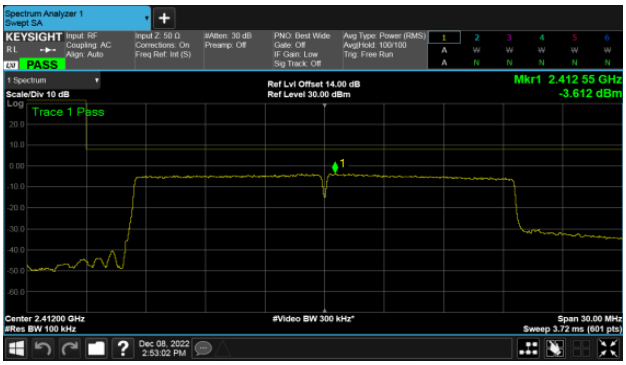
CH09



ANT C

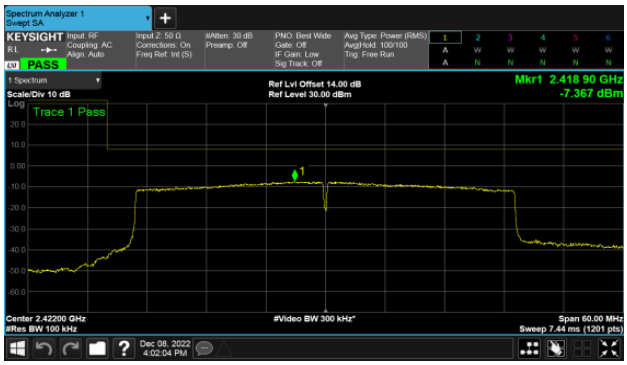
Modulation Type: 802.11ax HE20

CH01

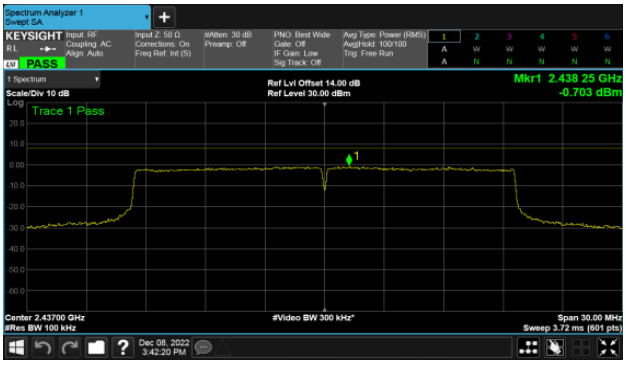


Modulation Type: 802.11ax HE40

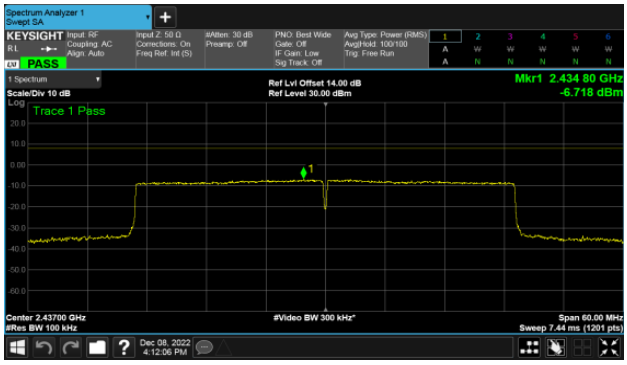
CH03



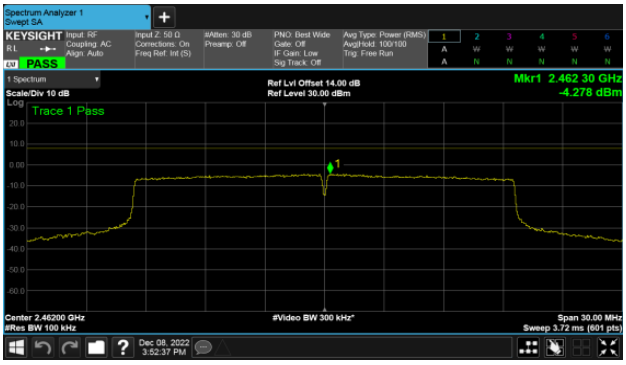
CH06



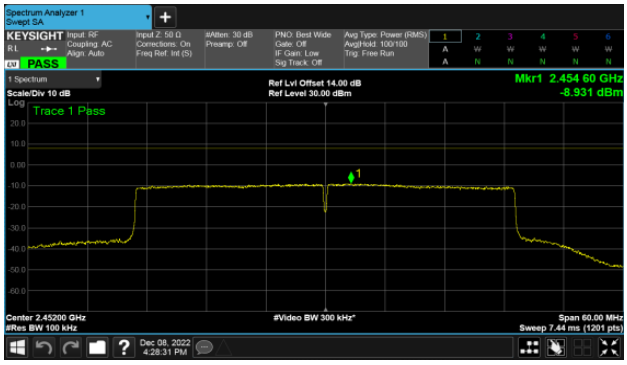
CH06



CH11



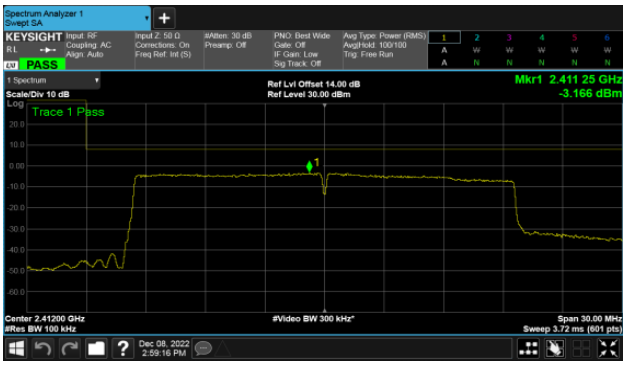
CH09



ANT D

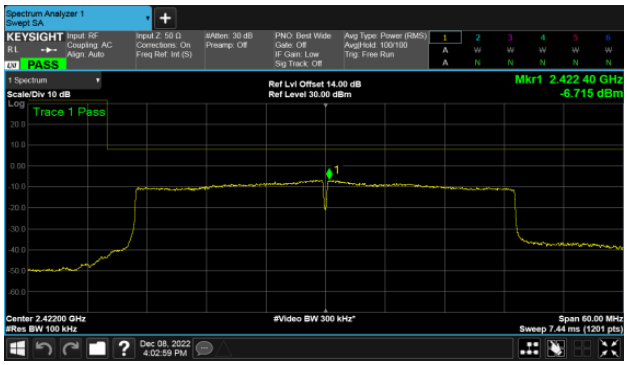
Modulation Type: 802.11ax HE20

CH01

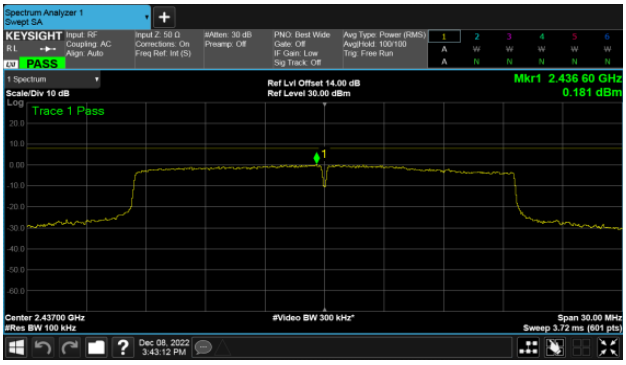


Modulation Type: 802.11ax HE40

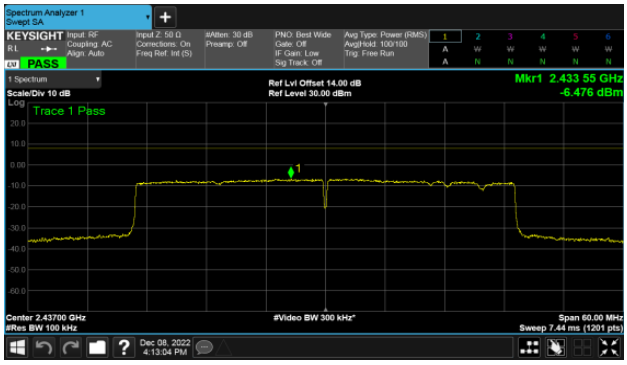
CH03



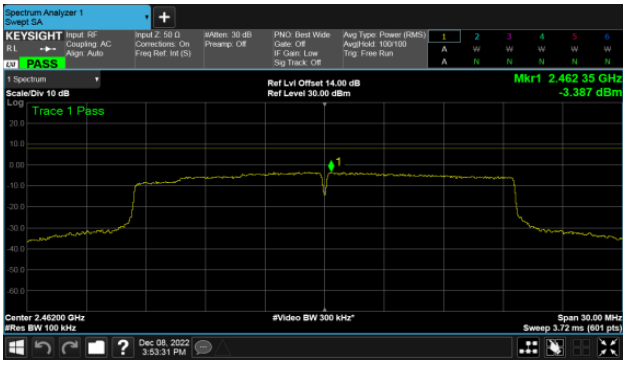
CH06



CH06



CH11



CH09