

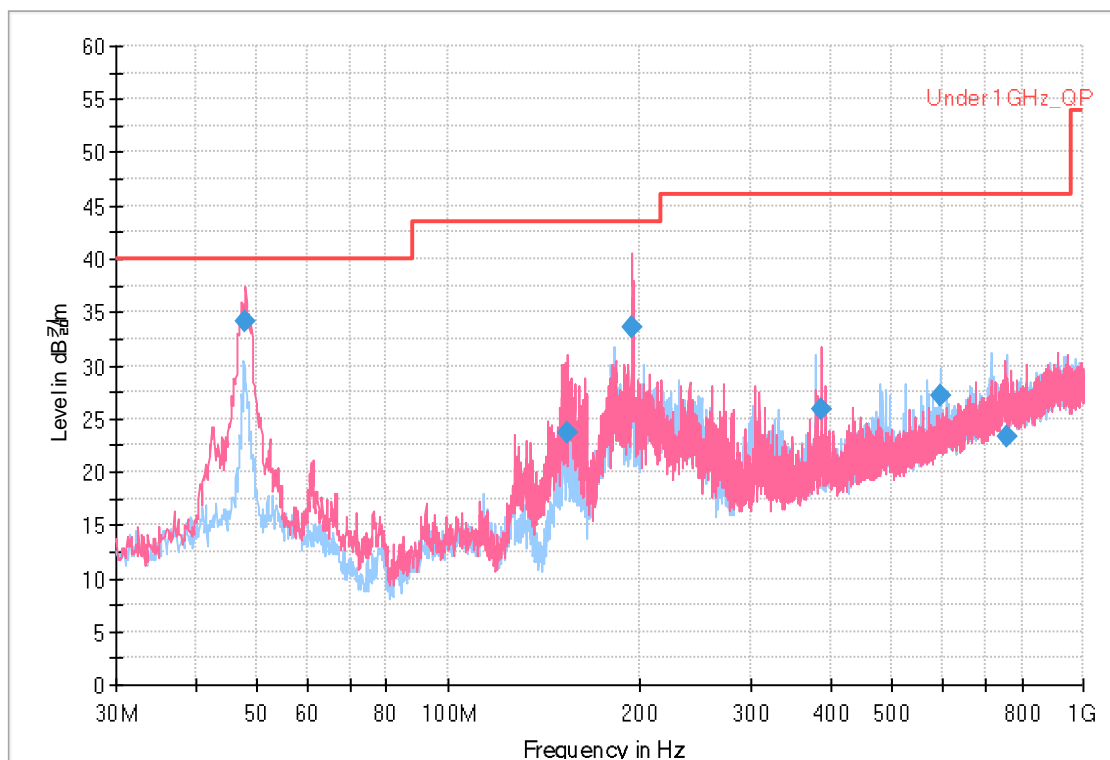
3.5.4 Test Result of Radiated Spurious Emission

Remarks

1. Quasi Peak(dBμV/m) = Quasi Peak Reading Value(dBμV/m) + Correction Factor(dB)
2. Total Factor(dB) = T.F (dB) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin(dB) = (Quasi Peak) Result (dBμV/m) – (Quasi Peak) Limit (dBμV/m)
4. Measurement Distance = 3 m
5. The intent is to test at 100 % duty cycle.
6. DCCF = Duty Cycle Correction Factor.
7. No other spurious and harmonic emissions were found greater than listed emissions on above table

3.5.4.1 Radiated Emissions (Below 1 GHz)

Worst case - RSE(Below 1 GHz)_2.4GHz WLAN_802.11n(HT20)



Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBuV]	Pol [H/V]	EUT Axis	Detector Mode	T.F [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]
2412	47.95	52.25	V	X	Quasi Peak	-18.10	34.15	40.00	5.85
	154.16	47.63	V	X	Quasi Peak	-23.90	23.73	43.52	19.79
	195.19	53.84	V	X	Quasi Peak	-20.30	33.54	43.52	9.98
	386.96	41.46	V	X	Quasi Peak	-15.50	25.96	46.02	20.06
	596.97	37.98	H	X	Quasi Peak	-10.80	27.18	46.02	18.84
	758.18	31.66	H	X	Quasi Peak	-8.30	23.36	46.02	22.66



3.5.4.2 Radiated Emissions (Above 1 GHz)

TM 1 (802.11b) _ 12 V

Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBuV]	Pol [H/V]	EUT Axis	Detector Mode	DCCF [dB]	T.F [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]
2412	2 389.09	48.01	H	X	Peak	0.00	3.05	51.06	74.00	22.94
	2 389.09	36.08	H	X	Average	0.00	3.05	39.13	54.00	14.87
	4 824.04	49.57	H	X	Peak	0.00	4.73	54.30	74.00	19.70
	4 823.98	45.65	H	X	Average	0.00	4.73	50.38	54.00	3.62
2437	4 874.05	47.91	H	X	Peak	0.00	5.08	52.99	74.00	21.01
	4 873.93	43.36	H	X	Average	0.00	5.08	48.44	54.00	5.56
2462	2 484.01	47.46	H	X	Peak	0.00	3.43	50.89	74.00	23.11
	2 483.99	35.86	H	X	Average	0.00	3.43	39.29	54.00	14.71
	4 923.96	48.49	H	X	Peak	0.00	5.29	53.78	74.00	20.22
	4 923.93	43.46	H	X	Average	0.00	5.29	48.75	54.00	5.25

TM 1 (802.11b) _ 24 V

Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBuV]	Pol [H/V]	EUT Axis	Detector Mode	DCCF [dB]	T.F [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]
2412	2 388.87	48.02	H	X	Peak	0.00	3.05	51.07	74.00	22.93
	2 388.86	35.67	H	X	Average	0.00	3.05	38.72	54.00	15.28
	4 823.91	49.76	H	X	Peak	0.00	4.73	54.49	74.00	19.51
	4 823.97	45.64	H	X	Average	0.00	4.73	50.37	54.00	3.63
2437	4 873.83	47.99	H	X	Peak	0.00	5.08	53.07	74.00	20.93
	4 874.00	43.30	H	X	Average	0.00	5.08	48.38	54.00	5.62
2462	2 484.01	44.97	H	X	Peak	0.00	3.43	48.40	74.00	25.60
	2 383.99	35.64	H	X	Average	0.00	3.04	38.68	54.00	15.32
	4 924.14	48.08	H	X	Peak	0.00	5.29	53.37	74.00	20.63
	4 923.91	43.47	H	X	Average	0.00	5.29	48.76	54.00	5.24



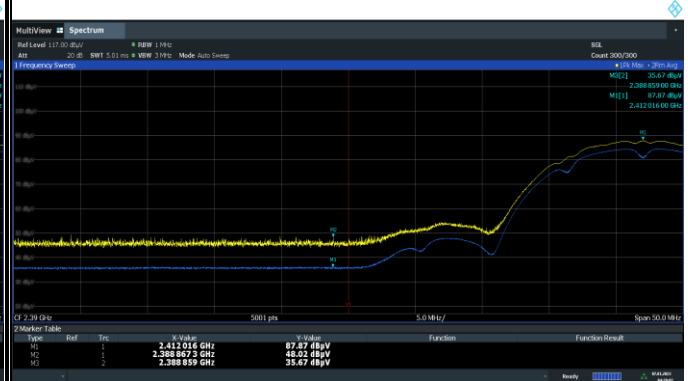
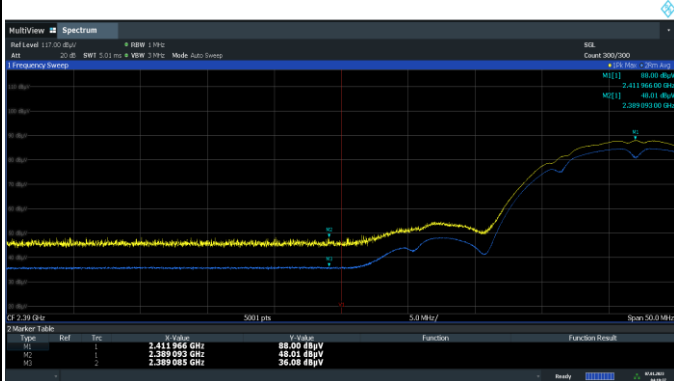
802.11b

12 V

Bandedge_2 412 MHz

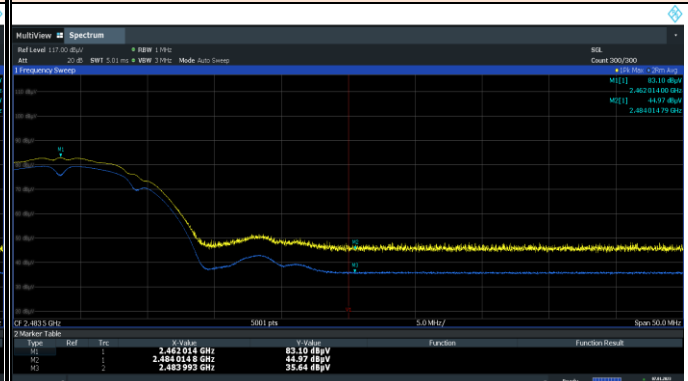
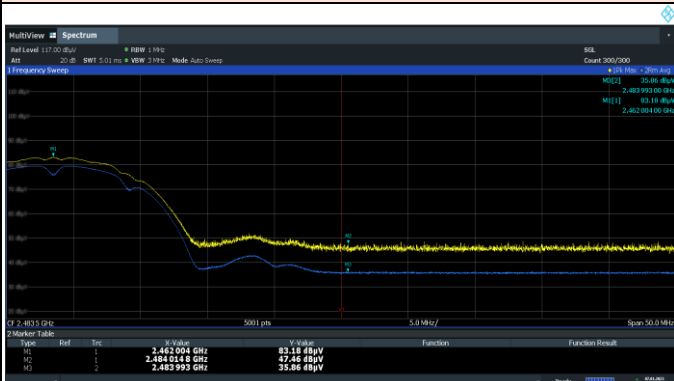
24 V

Bandedge_2 412 MHz



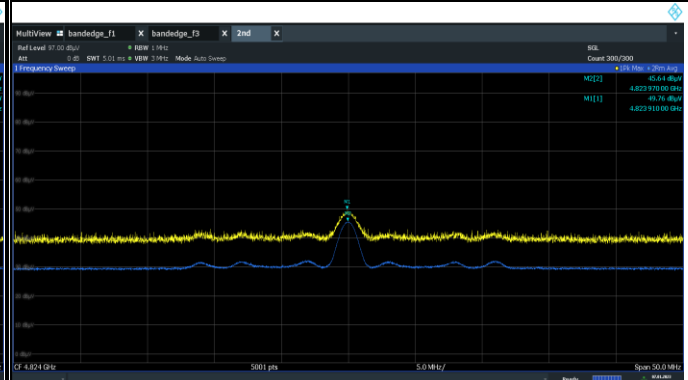
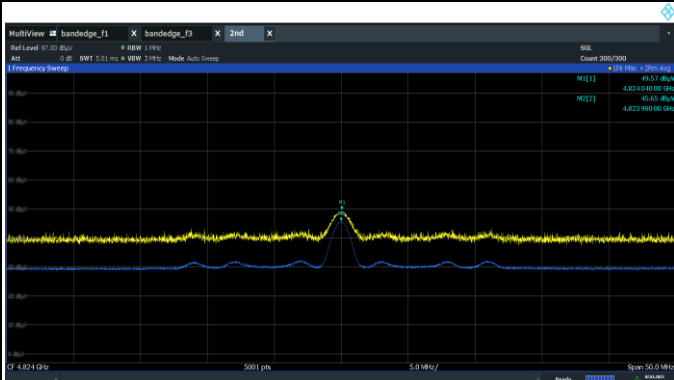
Bandedge_2 462 MHz

Bandedge_2 462 MHz



Spurious _ Worst case

Spurious _ Worst case



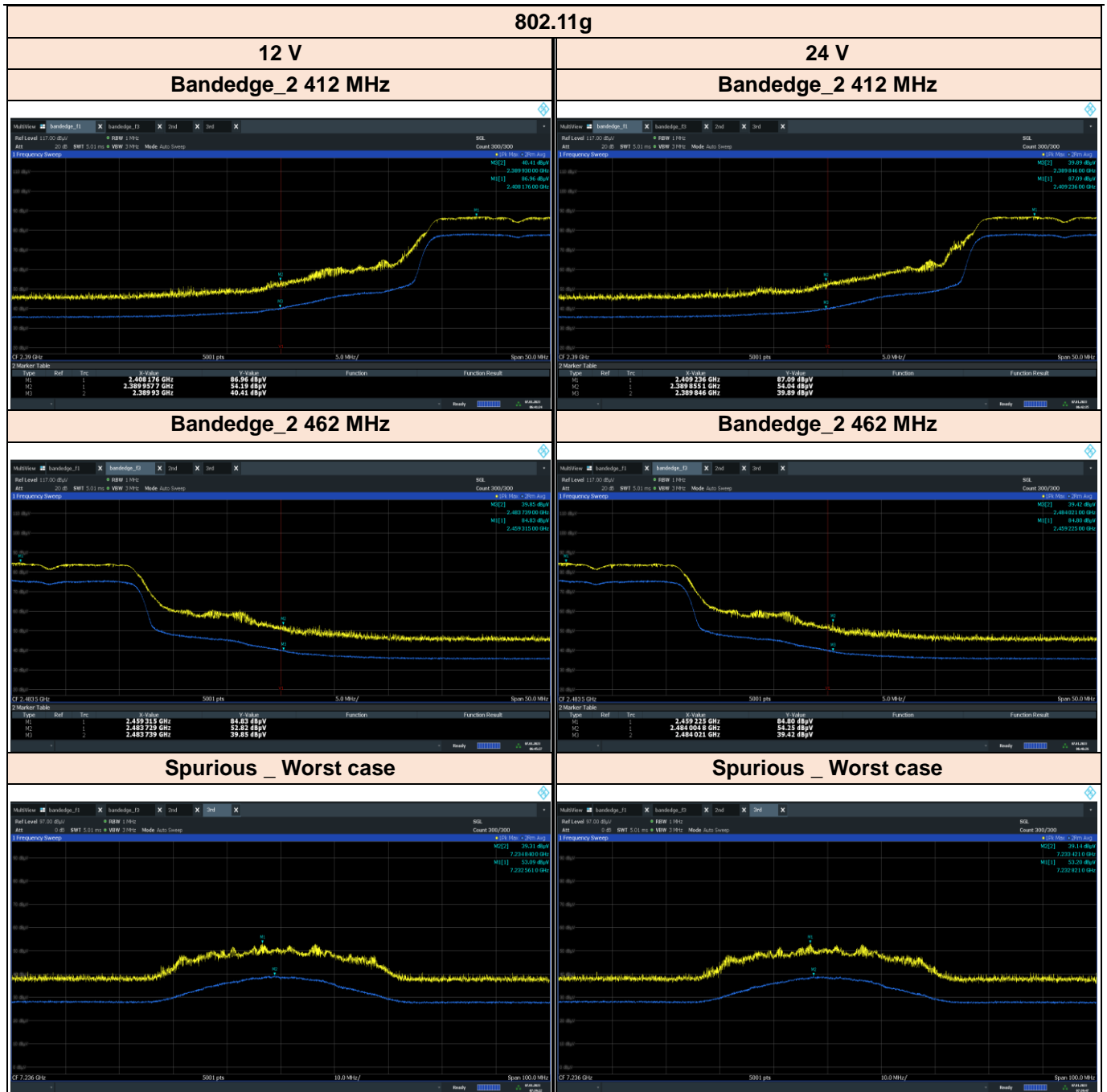


TM 2 (802.11g) _ 12 V

Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBuV]	Pol [H/V]	EUT Axis	Detector Mode	DCCF [dB]	T.F [dB/M]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]
2412	2 389.96	54.19	H	X	Peak	0.00	3.05	57.24	74.00	16.76
	2 389.93	40.41	H	X	Average	0.00	3.05	43.46	54.00	10.54
	4 824.66	53.77	H	X	Peak	0.00	4.74	58.51	74.00	15.49
	4 824.56	42.00	H	X	Average	0.00	4.74	46.74	54.00	7.26
	7 232.56	53.09	H	X	Peak	0.00	7.86	60.95	74.00	13.05
	7 234.84	39.31	H	X	Average	0.00	7.86	47.17	54.00	6.83
2437	4 874.24	51.72	H	X	Peak	0.00	5.09	56.81	74.00	17.19
	4 873.94	39.21	H	X	Average	0.00	5.08	44.29	54.00	9.71
	7 307.90	49.79	H	X	Peak	0.00	7.91	57.70	74.00	16.30
	7 308.40	36.22	H	X	Average	0.00	7.91	44.13	54.00	9.87
2462	2 483.73	52.82	H	X	Peak	0.00	3.43	56.25	74.00	17.75
	2 483.74	39.85	H	X	Average	0.00	3.43	43.28	54.00	10.72
	4 919.72	51.35	H	X	Peak	0.00	5.28	56.63	74.00	17.37
	4 925.04	38.28	H	X	Average	0.00	5.29	43.57	54.00	10.43
	7 382.78	47.44	H	X	Peak	0.00	8.02	55.46	74.00	18.54
	7 383.26	33.75	H	X	Average	0.00	8.02	41.77	54.00	12.23

TM 2 (802.11g) _ 24 V

Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBuV]	Pol [H/V]	EUT Axis	Detector Mode	DCCF [dB]	T.F [dB/M]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]
2412	2 389.86	54.04	H	X	Peak	0.00	3.05	57.09	74.00	16.91
	2 389.85	39.89	H	X	Average	0.00	3.05	42.94	54.00	11.06
	4 824.04	53.80	H	X	Peak	0.00	4.73	58.53	74.00	15.47
	4 822.08	42.03	H	X	Average	0.00	4.72	46.75	54.00	7.25
	7 232.82	53.20	H	X	Peak	0.00	7.86	61.06	74.00	12.94
	7 233.42	39.14	H	X	Average	0.00	7.86	47.00	54.00	7.00
2437	4 876.74	51.57	H	X	Peak	0.00	5.10	56.67	74.00	17.33
	4 874.42	39.11	H	X	Average	0.00	5.09	44.20	54.00	9.80
	7 307.54	50.24	H	X	Peak	0.00	7.91	58.15	74.00	15.85
	7 308.18	36.11	H	X	Average	0.00	7.91	44.02	54.00	9.98
2462	2 484.00	54.25	H	X	Peak	0.00	3.43	57.68	74.00	16.32
	2 484.02	39.42	H	X	Average	0.00	3.43	42.85	54.00	11.15
	4 919.54	50.83	H	X	Peak	0.00	5.28	56.11	74.00	17.89
	4 924.22	38.30	H	X	Average	0.00	5.29	43.59	54.00	10.41
	7 382.52	48.02	H	X	Peak	0.00	8.02	56.04	74.00	17.96
	7 385.32	33.54	H	X	Average	0.00	8.03	41.57	54.00	12.43





TM 3 (802.11n(HT20)) _ 12 V

Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBuV]	Pol [H/V]	EUT Axis	Detector Mode	DCCF [dB]	T.F [dB/M]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]
2412	2 389.78	58.45	H	X	Peak	0.00	3.05	61.50	74.00	12.50
	2 389.79	41.57	H	X	Average	0.00	3.05	44.62	54.00	9.38
	4 824.20	54.56	H	X	Peak	0.00	4.73	59.29	74.00	14.71
	4 822.52	41.65	H	X	Average	0.00	4.72	46.37	54.00	7.63
	7 225.86	54.00	H	X	Peak	0.00	7.85	61.85	74.00	12.15
	7 240.20	39.07	H	X	Average	0.00	7.86	46.93	54.00	7.07
2437	4 874.80	52.71	H	X	Peak	0.00	5.09	57.80	74.00	16.20
	4 873.48	38.82	H	X	Average	0.00	5.08	43.90	54.00	10.10
	7 306.82	50.64	H	X	Peak	0.00	7.91	58.55	74.00	15.45
	7 306.68	36.42	H	X	Average	0.00	7.91	44.33	54.00	9.67
2462	2 483.74	55.94	H	X	Peak	0.00	3.43	59.37	74.00	14.63
	2 483.74	41.37	H	X	Average	0.00	3.43	44.80	54.00	9.20
	4 924.72	52.44	H	X	Peak	0.00	5.29	57.73	74.00	16.27
	4 923.74	37.99	H	X	Average	0.00	5.29	43.28	54.00	10.72
	7 384.10	48.39	H	X	Peak	0.00	8.02	56.41	74.00	17.59
	7 381.62	33.59	H	X	Average	0.00	8.02	41.61	54.00	12.39

TM 3 (802.11n(HT20)) _ 24 V

Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBuV]	Pol [H/V]	EUT Axis	Detector Mode	DCCF [dB]	T.F [dB/M]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]
2412	2 389.78	59.02	H	X	Peak	0.00	3.05	62.07	74.00	11.93
	2 389.79	41.29	H	X	Average	0.00	3.05	44.34	54.00	9.66
	4 824.98	54.60	H	X	Peak	0.00	4.74	59.34	74.00	14.66
	4 823.16	41.43	H	X	Average	0.00	4.73	46.16	54.00	7.84
	7 237.14	53.60	H	X	Peak	0.00	7.86	61.46	74.00	12.54
	7 234.20	38.99	H	X	Average	0.00	7.86	46.85	54.00	7.15
2437	4 875.38	52.75	H	X	Peak	0.00	5.09	57.84	74.00	16.16
	4 873.40	38.96	H	X	Average	0.00	5.08	44.04	54.00	9.96
	7 297.32	51.05	H	X	Peak	0.00	7.90	58.95	74.00	15.05
	7 307.02	36.00	H	X	Average	0.00	7.91	43.91	54.00	10.09
2462	2 383.82	55.92	H	X	Peak	0.00	3.04	58.96	74.00	15.04
	2 483.82	41.21	H	X	Average	0.00	3.43	44.64	54.00	9.36
	4 924.74	52.10	H	X	Peak	0.00	5.29	57.39	74.00	16.61
	4 924.62	37.97	H	X	Average	0.00	5.29	43.26	54.00	10.74
	7 384.26	47.90	H	X	Peak	0.00	8.02	55.92	74.00	18.08
	7 381.20	33.57	H	X	Average	0.00	8.02	41.59	54.00	12.41

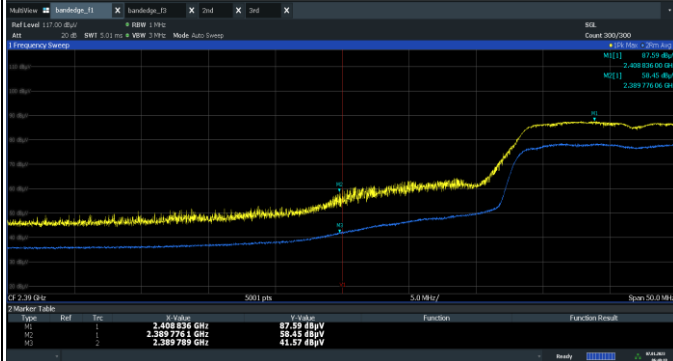


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VERITAS

802.11n(HT20)

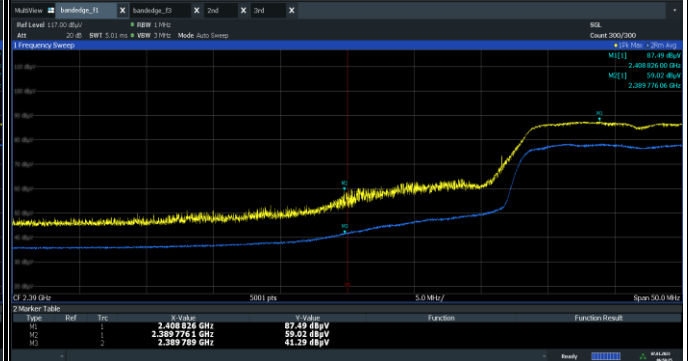
12 V

Bandedge_2 412 MHz

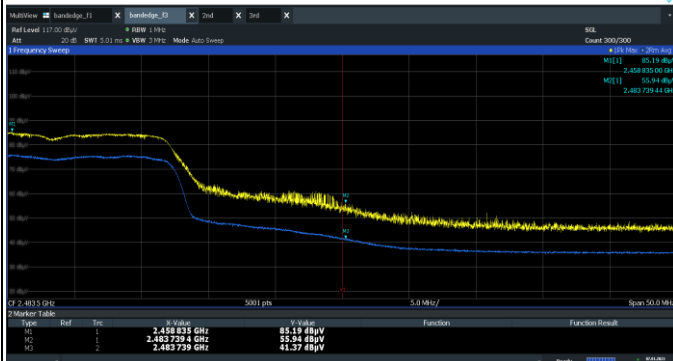


24 V

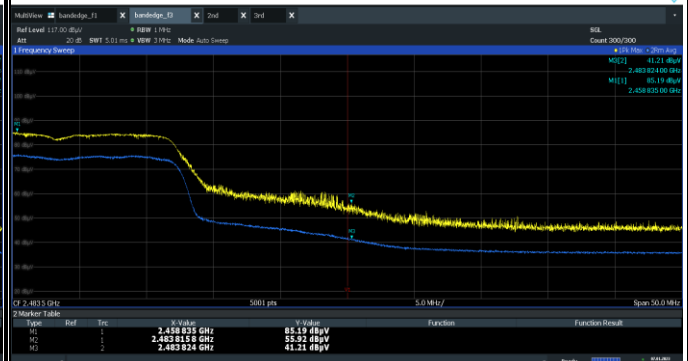
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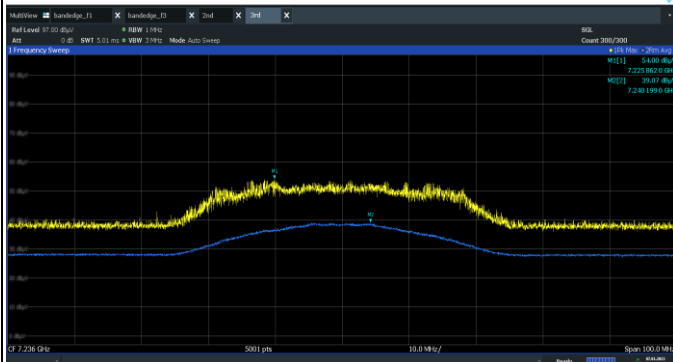
Bandedge_2 462 MHz



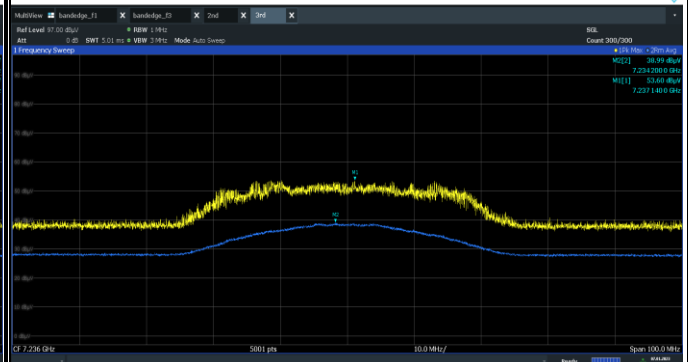
Bandedge_2 462 MHz



Spurious _ Worst case



Spurious _ Worst case





TM 4 (802.11n(HT40)) _ 12 V

Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBuV]	Pol [H/V]	EUT Axis	Detector Mode	DCCF [dB]	T.F [dB/M]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]
2422	2 389.08	58.14	H	X	Peak	0.00	3.05	61.19	74.00	12.81
	2 389.03	43.30	H	X	Average	0.00	3.05	46.35	54.00	7.65
	4 837.70	50.34	H	X	Peak	0.00	4.84	55.18	74.00	18.82
	4 844.20	38.69	H	X	Average	0.00	4.89	43.58	54.00	10.42
	7 254.72	49.75	H	X	Peak	0.00	7.87	57.62	74.00	16.38
	7 269.06	36.49	H	X	Average	0.00	7.88	44.37	54.00	9.63
2437	4 883.54	49.09	H	X	Peak	0.00	5.14	54.23	74.00	19.77
	4 873.80	37.16	H	X	Average	0.00	5.08	42.24	54.00	11.76
	7 308.76	47.29	H	X	Peak	0.00	7.91	55.20	74.00	18.80
	7 306.52	34.53	H	X	Average	0.00	7.91	42.44	54.00	11.56
2452	2 483.67	57.50	H	X	Peak	0.00	3.43	60.93	74.00	13.07
	2 483.70	44.67	H	X	Average	0.00	3.43	48.10	54.00	5.90
	4 906.84	48.72	H	X	Peak	0.00	5.25	53.97	74.00	20.03
	4 904.28	36.69	H	X	Average	0.00	5.25	41.94	54.00	12.06
	7 354.80	46.17	H	X	Peak	0.00	7.95	54.12	74.00	19.88
	7 351.12	33.21	H	X	Average	0.00	7.94	41.15	54.00	12.85

TM 4 (802.11n(HT40)) _ 24 V

Tested Frequency [MHz]	Frequency [MHz]	Reading Value [dBuV]	Pol [H/V]	EUT Axis	Detector Mode	DCCF [dB]	T.F [dB/M]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]
2422	2 388.64	58.37	H	X	Peak	0.00	3.05	61.42	74.00	12.58
	2 388.63	43.37	H	X	Average	0.00	3.05	46.42	54.00	7.58
	4 837.68	50.21	H	X	Peak	0.00	4.84	55.05	74.00	18.95
	4 844.46	38.50	H	X	Average	0.00	4.90	43.40	54.00	10.60
	7 263.74	49.45	H	X	Peak	0.00	7.88	57.33	74.00	16.67
	7 269.66	36.44	H	X	Average	0.00	7.88	44.32	54.00	9.68
2437	4 873.94	50.13	H	X	Peak	0.00	5.08	55.21	74.00	18.79
	4 874.12	37.11	H	X	Average	0.00	5.08	42.19	54.00	11.81
	7 298.20	47.40	H	X	Peak	0.00	7.90	55.30	74.00	18.70
	7 306.58	34.50	H	X	Average	0.00	7.91	42.41	54.00	11.59
2452	2 483.74	57.62	H	X	Peak	0.00	3.43	61.05	74.00	12.95
	2 483.79	44.86	H	X	Average	0.00	3.43	48.30	54.00	5.70
	4 901.96	48.85	H	X	Peak	0.00	5.24	54.09	74.00	19.91
	4 904.20	36.65	H	X	Average	0.00	5.25	41.90	54.00	12.10
	7 353.34	45.94	H	X	Peak	0.00	7.94	53.88	74.00	20.12
	7 351.14	33.18	H	X	Average	0.00	7.94	41.12	54.00	12.88

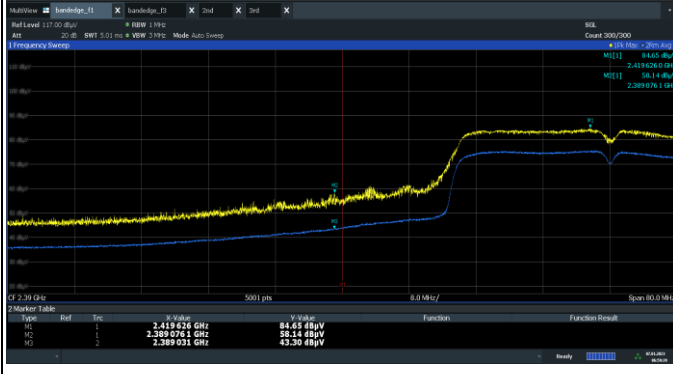


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802.11n(HT40)

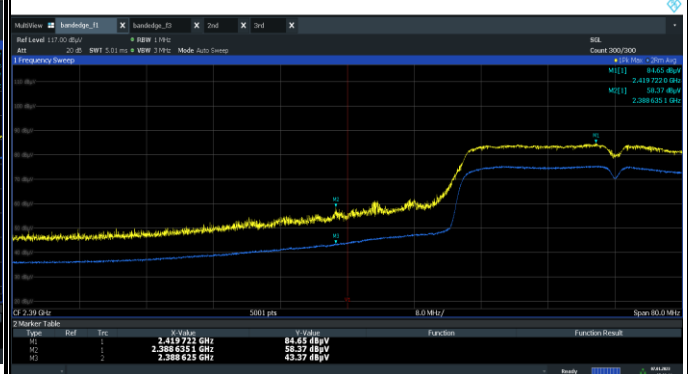
12 V

Bandedge_2 422 MHz

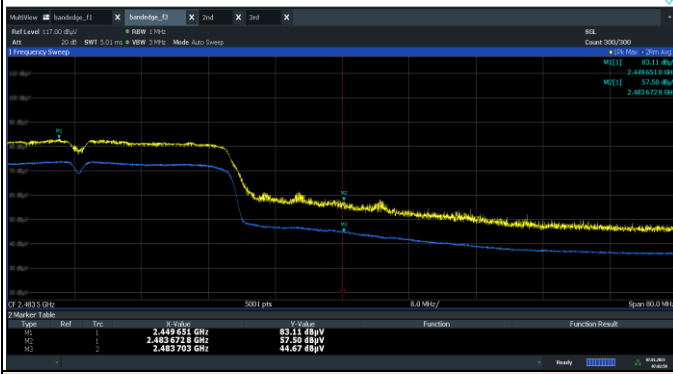


24 V

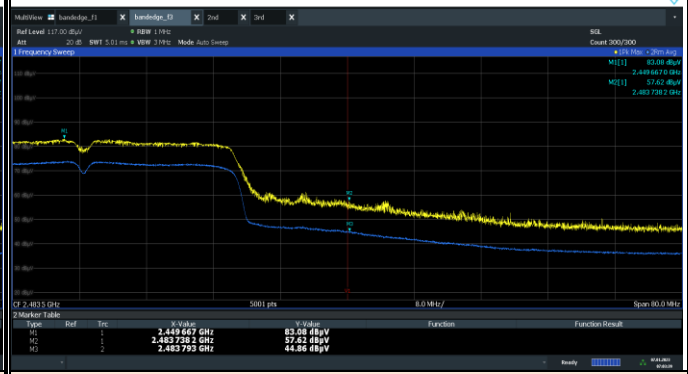
Bandedge_2 422 MHz



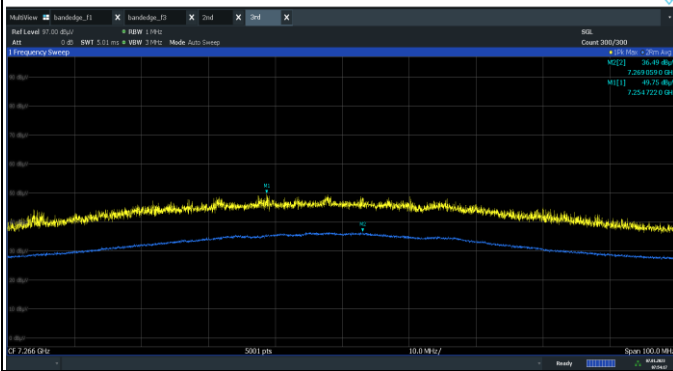
Bandedge_2 452 MHz



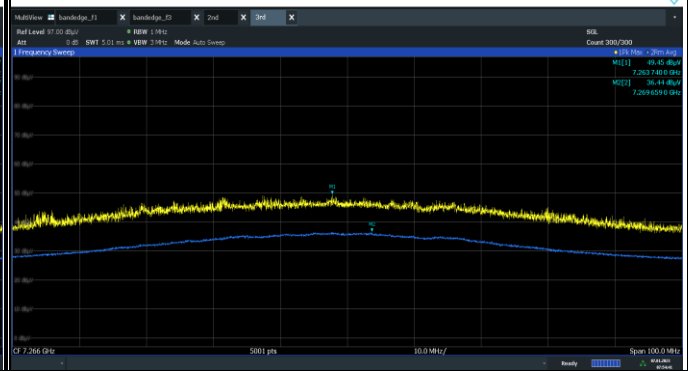
Bandedge_2 45 MHz



Spurious _ Worst case



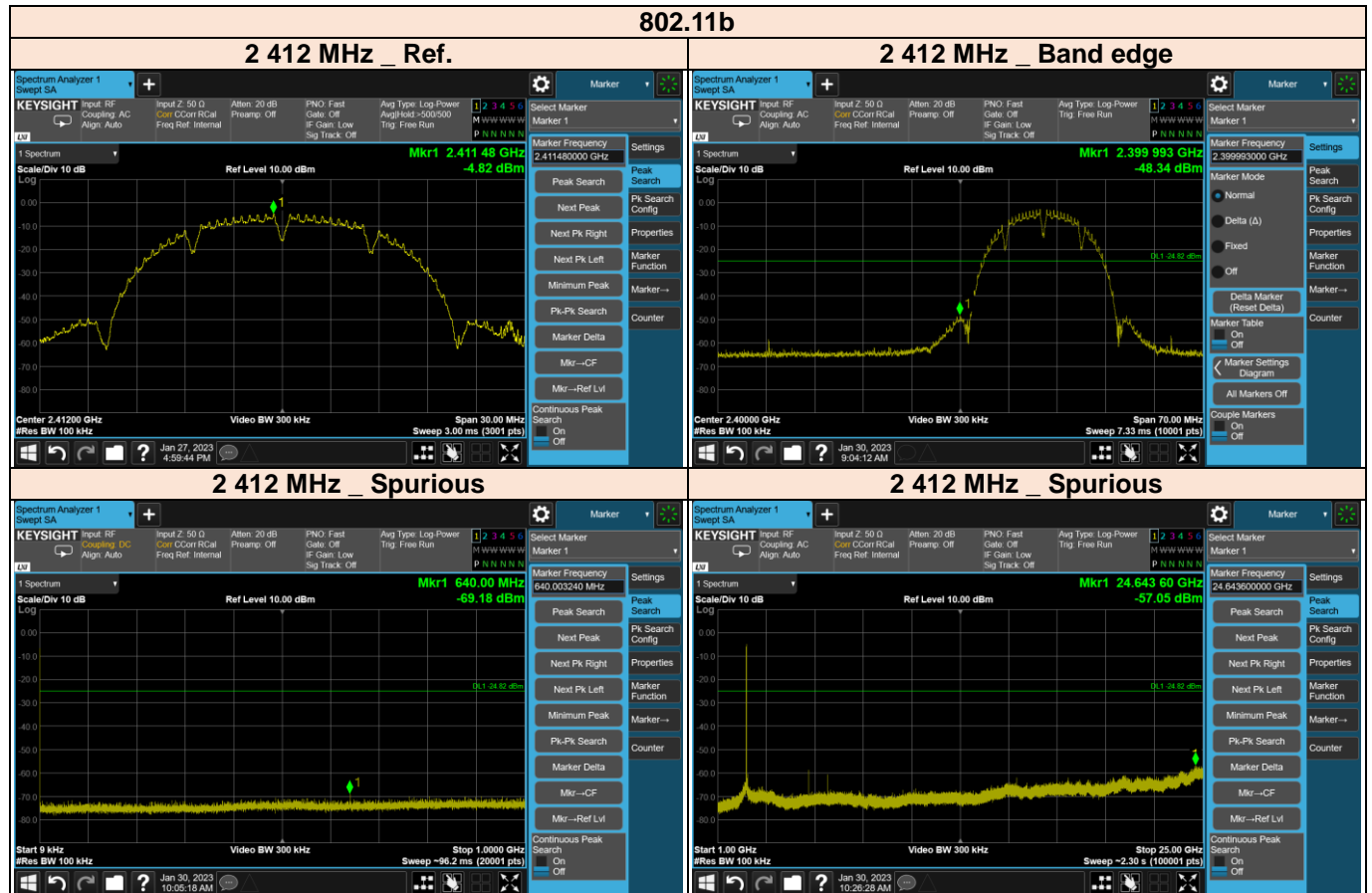
Spurious _ Worst case





3.5.5 Test Result of Conducted Spurious Emission

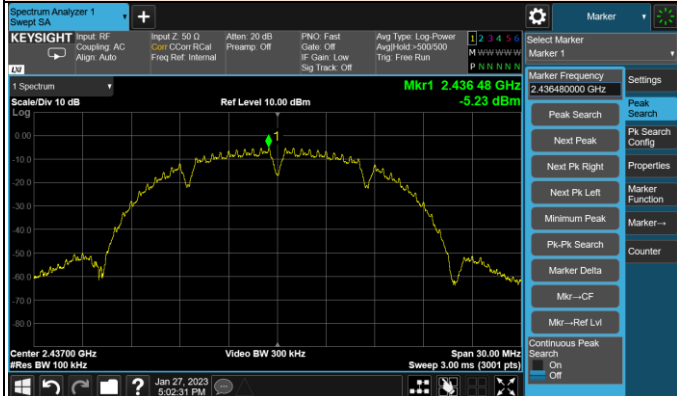
[DC 12 V Spurious Emission]



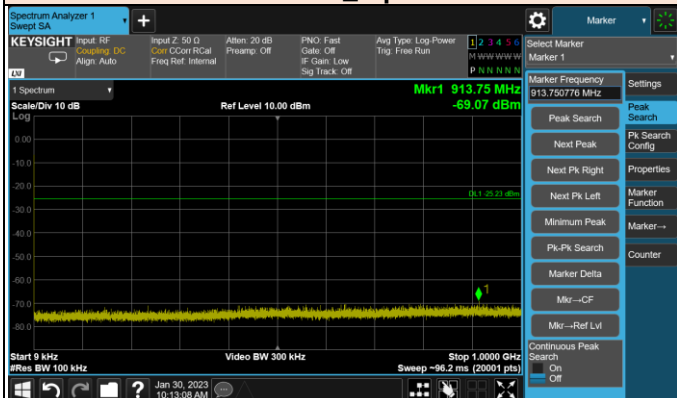


802.11b

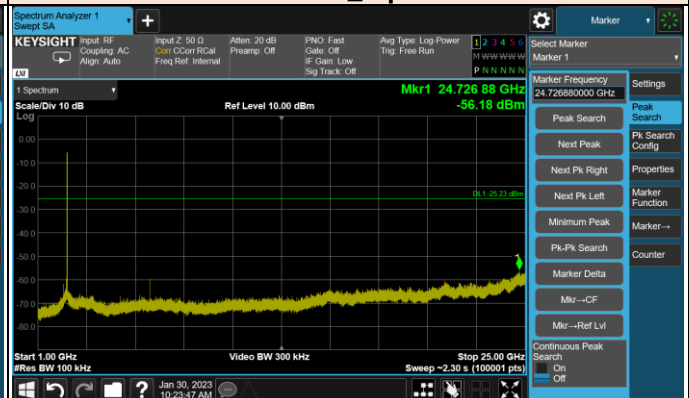
2 437 MHz _ Ref.



2 437 MHz _ Spurious



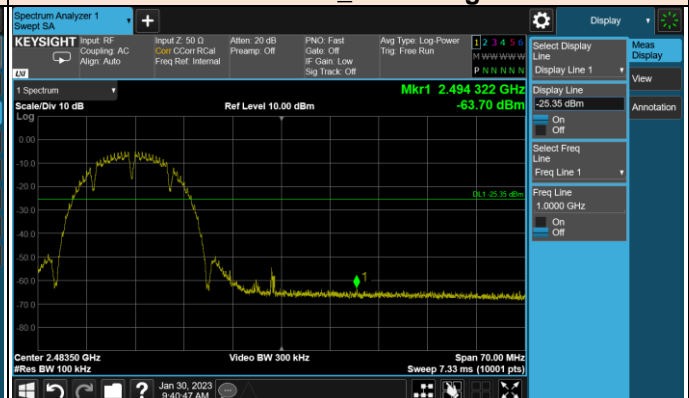
2 437 MHz _ Spurious



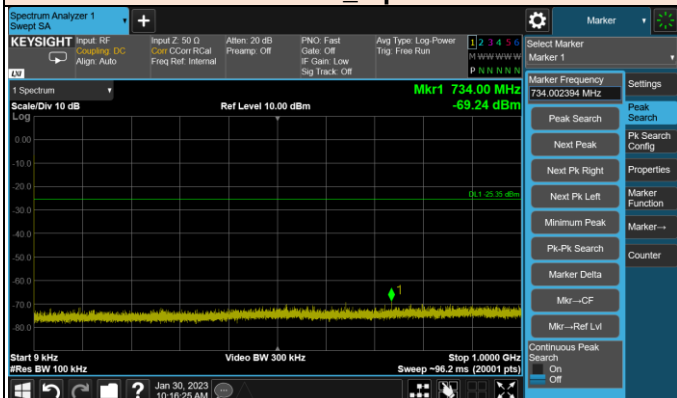
2 462 MHz _ Ref



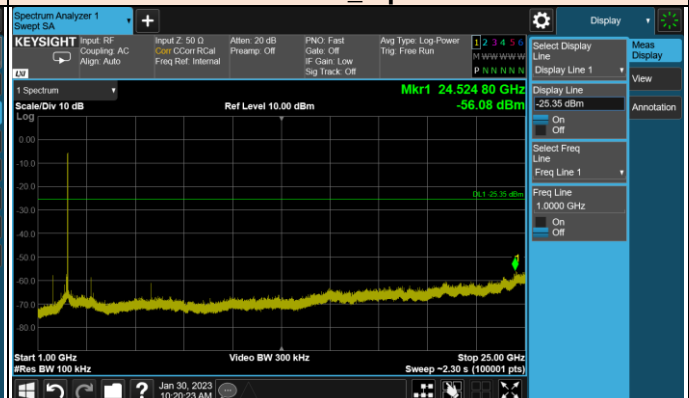
2 462 MHz _ Band edge



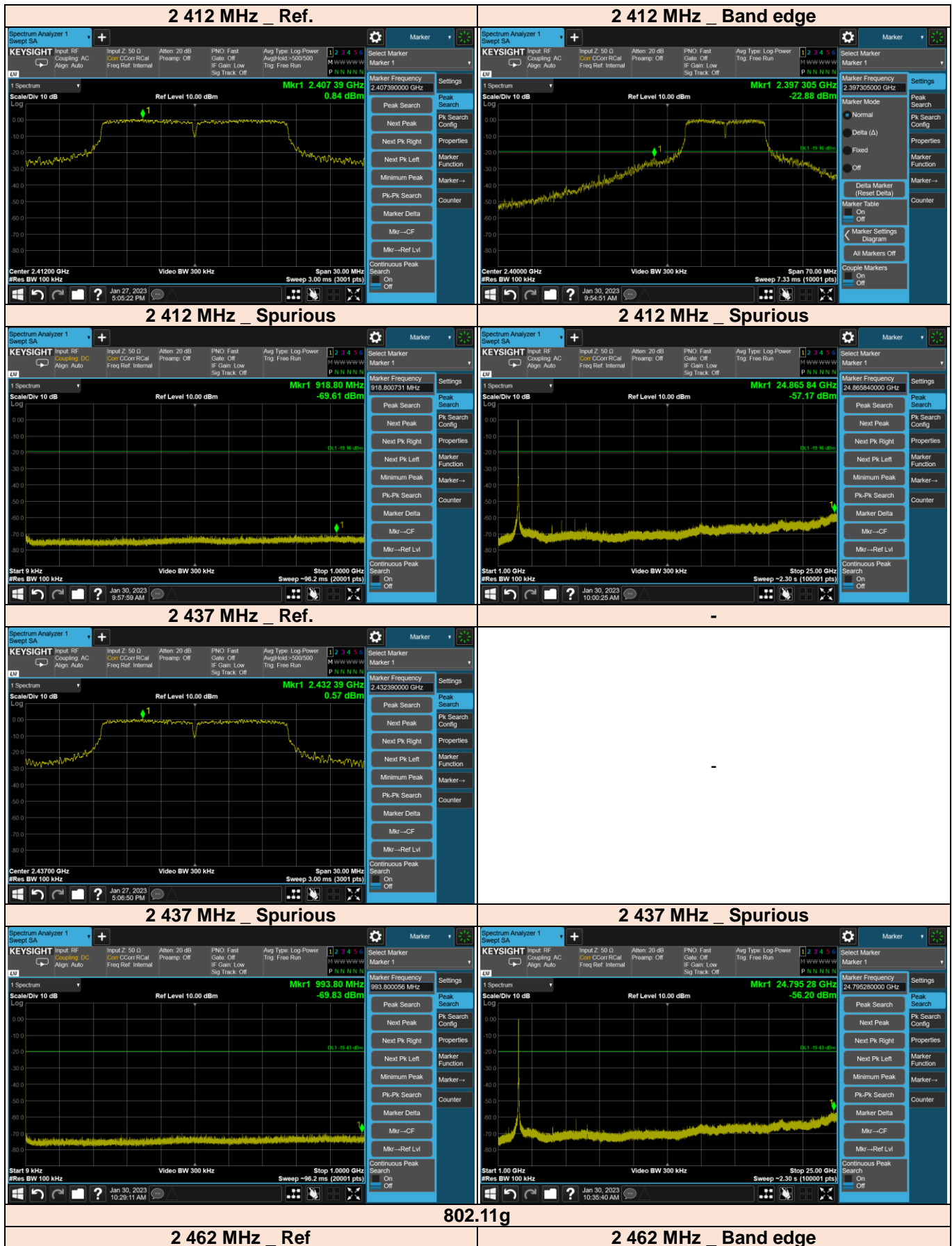
2 462 MHz _ Spurious



2 462 MHz _ Spurious



802.11g



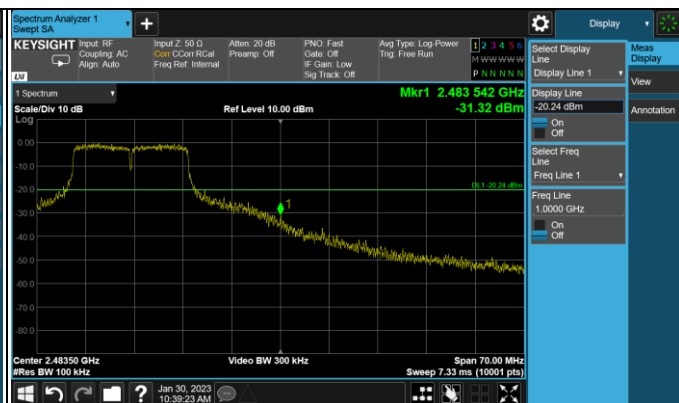
802.11g



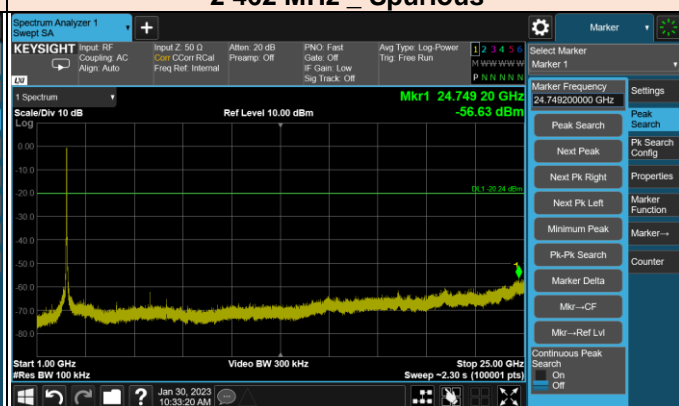
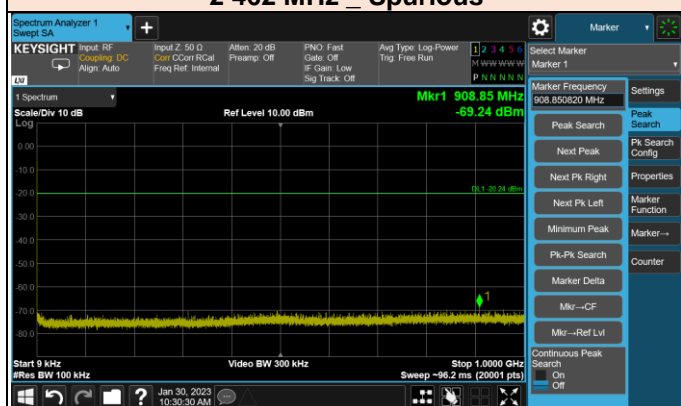
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2 462 MHz Spurious



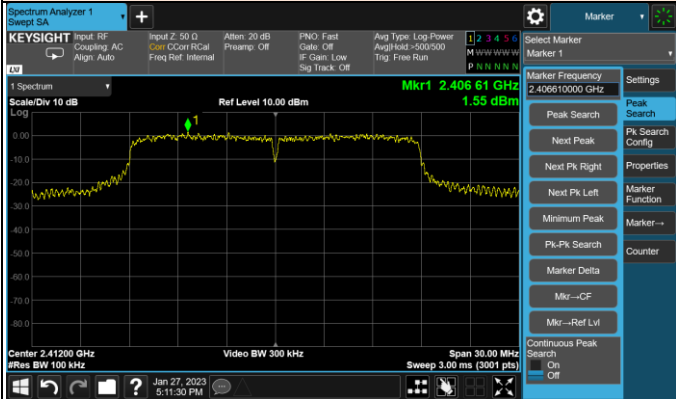
2 462 MHz Spurious



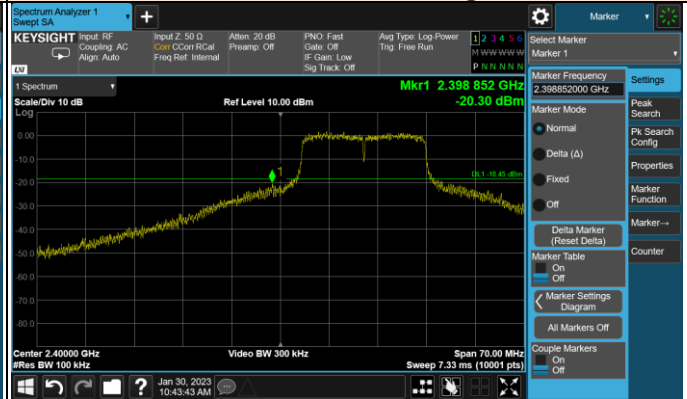


802.11n(HT20)

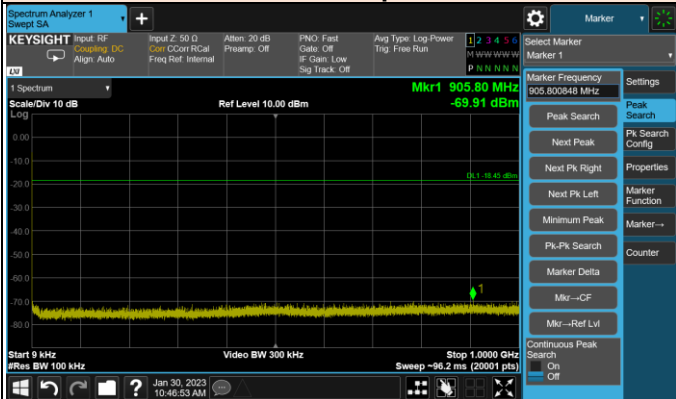
2 412 MHz _ Ref



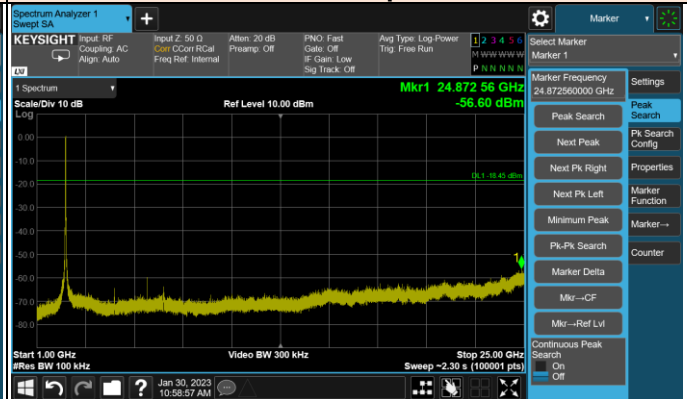
2 412 MHz _ Band edge



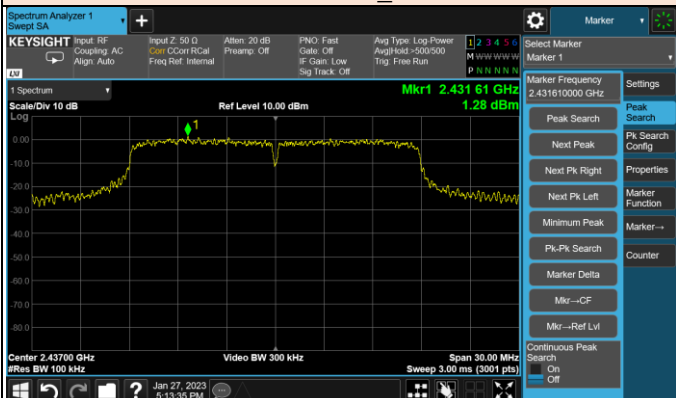
2 412 MHz _ Spurious



2 412 MHz _ Spurious

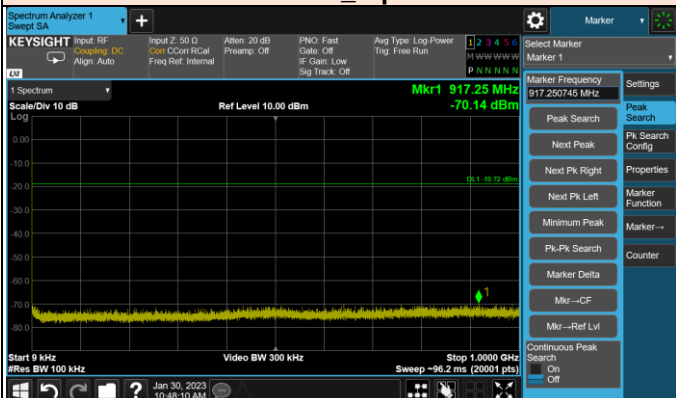


2 437 MHz _ Ref

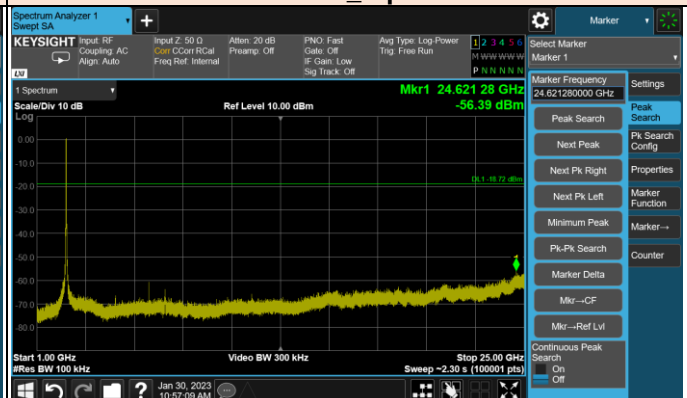


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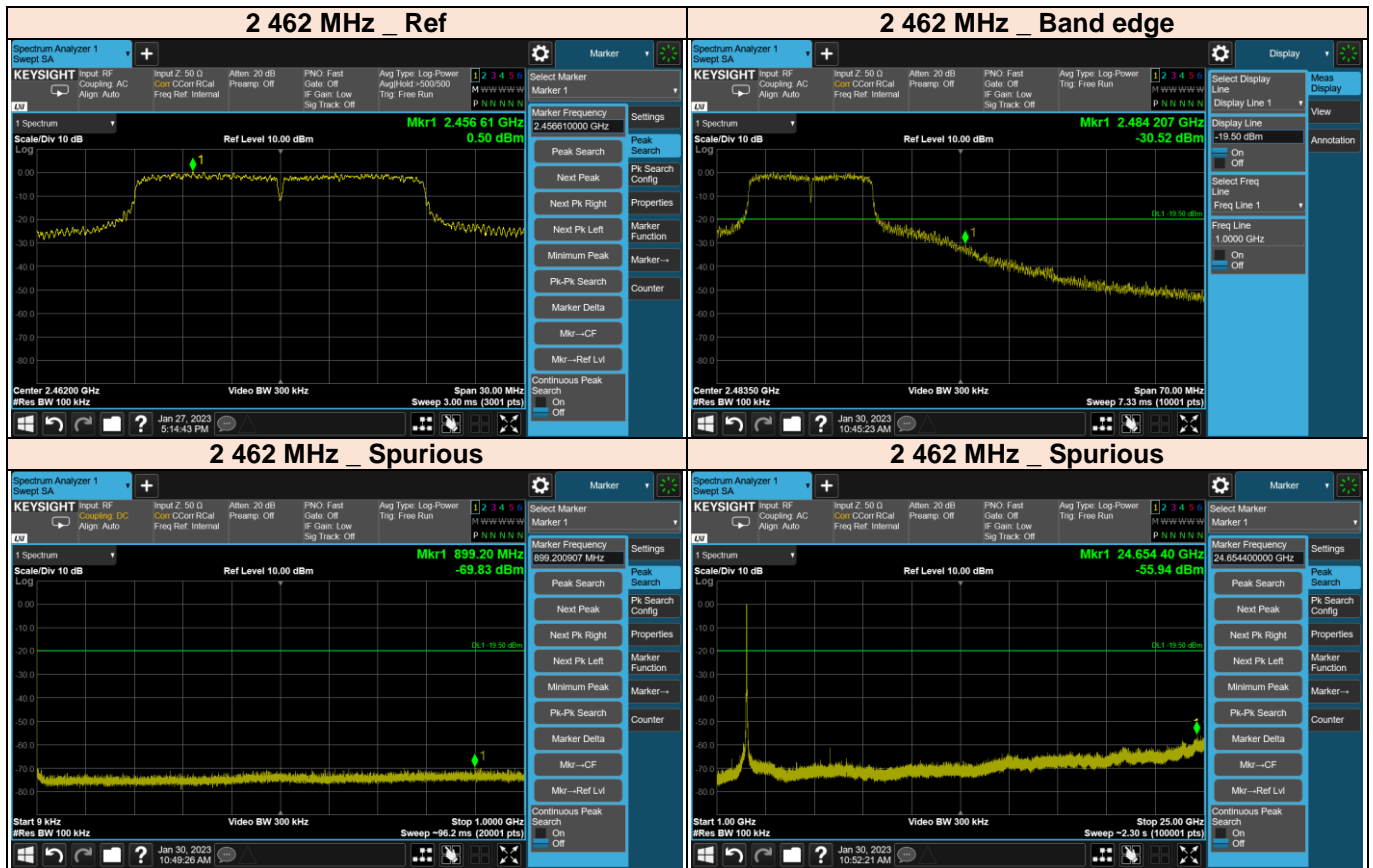
2 437 MHz _ Spurious



2 437 MHz _ Spurious



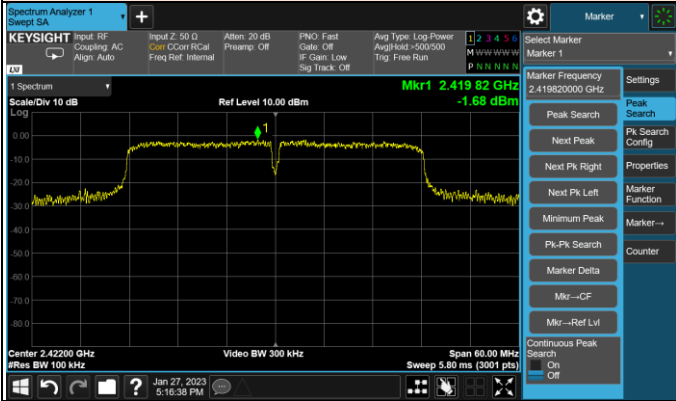
802.11n(HT20)



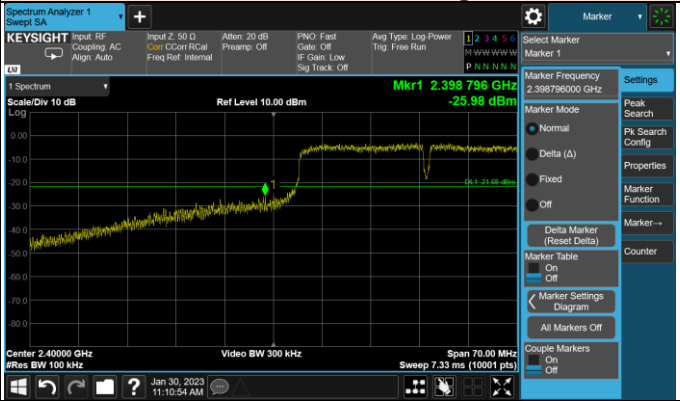


802.11n(HT40)

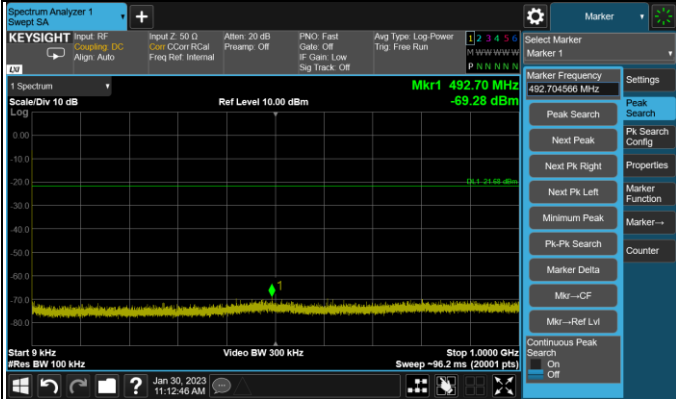
2 422 MHz _ Ref



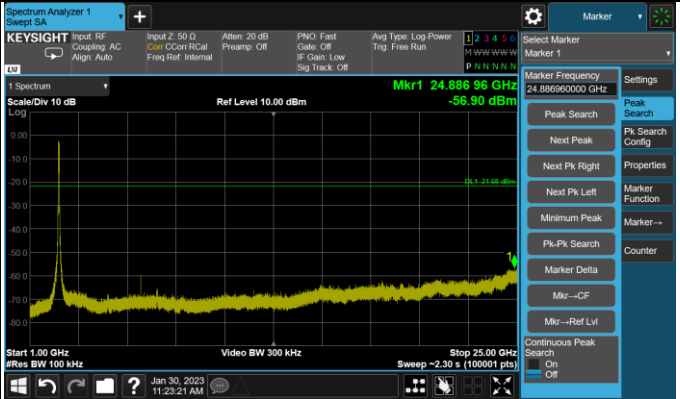
2 422 MHz _ Band edge



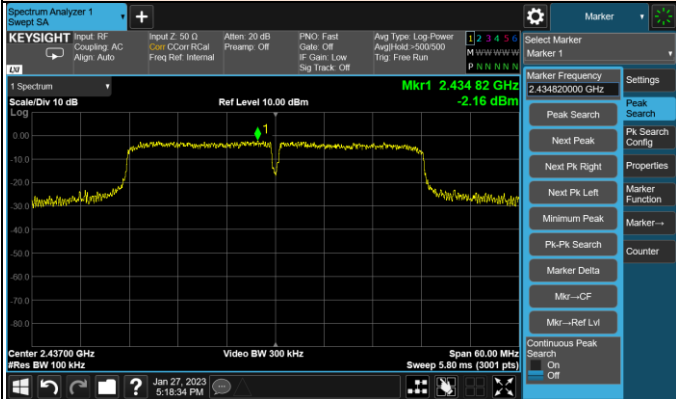
2 422 MHz _ Spurious



2 422 MHz _ Spurious

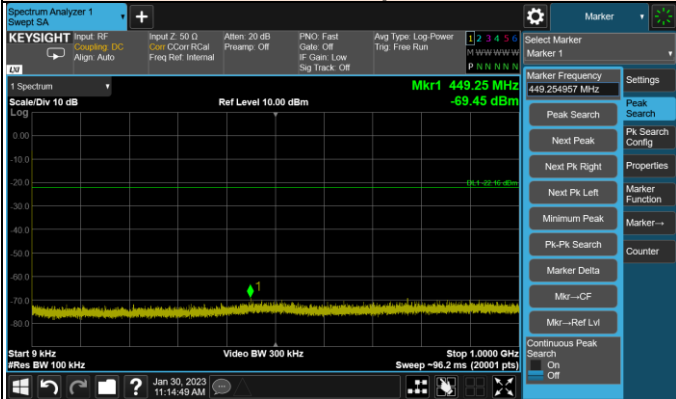


2 437 MHz _ Ref

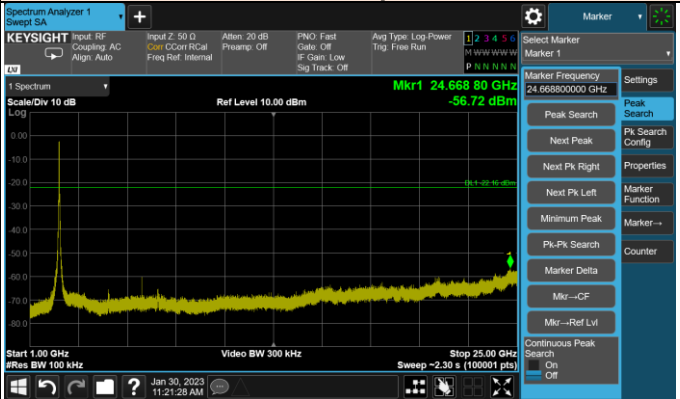


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2 437 MHz _ Spurious



2 437 MHz _ Spurious



802.11n(HT40)



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