

Appendix A Test Data:

1.Frequency Tolerance

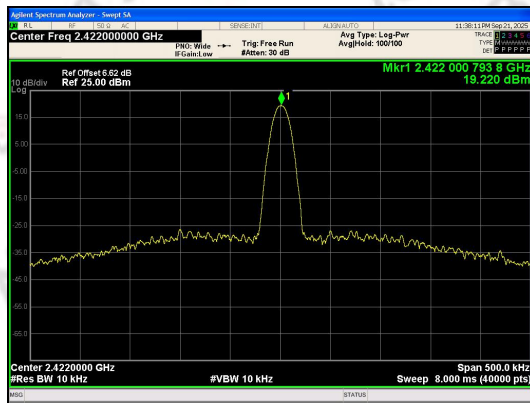
Test Result

Condition	Mode	Ch.	Antenna	Center Frequency (MHz)	Measured Value (MHz)	Deviation (ppm)	Limit (ppm)	Result
NT/NV	IEEE 802.11b(CW)	14	0	2484	2484.0010938	0.44	± 50	PASS
	IEEE 802.11n_20(CW)	1		2412	2412.0004563	0.19		PASS
		7		2442	2442.0010438	0.43		PASS
		13		2472	2472.0005313	0.21		PASS
	IEEE 802.11n_40(CW)	3		2422	2422.0007938	0.33		PASS
		7		2442	2442.0007063	0.29		PASS
		11		2462	2462.0004313	0.18		PASS

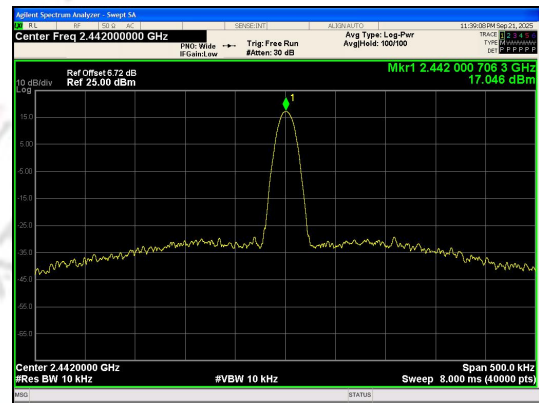
Test Graphs

NT/NV

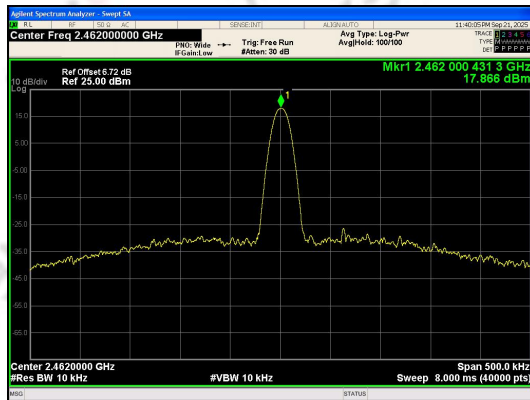
NT/NV_Antenna 0 IEEE 802.11b_Channel 14_20MHz	NT/NV_Antenna 0 IEEE 802.11n_Channel 1_20MHz
NT/NV_Antenna 0 IEEE 802.11n_Channel 7_20MHz	NT/NV_Antenna 0 IEEE 802.11n_Channel 13_20MHz



NT/NV_Antenna 0
IEEE 802.11n_Channel 3_40MHz



NT/NV_Antenna 0
IEEE 802.11n_Channel 7_40MHz



NT/NV_Antenna 0
IEEE 802.11n_Channel 11_40MHz

2. Antenna Power

Test Result

Antenna Power

Condition	Mode	Frequency (MHz)	Ant.0 (mW/MHz)	Limit (mW/MHz)	Result
NT/NV	IEEE 802.11b	2412	4.5288	10	PASS
		2442	4.1136	10	PASS
		2472	4.7107	10	PASS
	IEEE 802.11g	2412	3.2229	10	PASS
		2442	2.3228	10	PASS
		2472	2.5003	10	PASS
	IEEE 802.11n_20	2412	1.9934	10	PASS
		2442	1.9224	10	PASS
		2472	2.5253	10	PASS

Condition	Modulation	Frequency (MHz)	Ant.0 (mW/MHz)	Tolerance (%)	Tolerance Limit (%)	Rated power (mW/MHz)	Result
NT/NV	IEEE 802.11b	2412	4.5288	-9.42%	-80 to +20	5	PASS
		2442	4.1136	-17.73%	-80 to +20	5	PASS
		2472	4.7107	-5.79%	-80 to +20	5	PASS
	IEEE 802.11g	2412	3.2229	-7.92%	-80 to +20	3.5	PASS
		2442	2.3228	-33.63%	-80 to +20	3.5	PASS
		2472	2.5003	-28.56%	-80 to +20	3.5	PASS
	IEEE 802.11n_20	2412	1.9934	-33.55%	-80 to +20	3	PASS
		2442	1.9224	-35.92%	-80 to +20	3	PASS
		2472	2.5253	-15.82%	-80 to +20	3	PASS

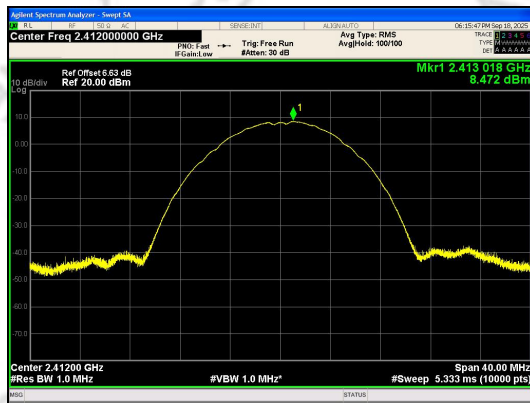
EIRP

Condition	Mode	Frequency (MHz)	Ant.0 (dBm/MHz)	Gain(dBi)	EIRP (dBm/MHz)	Limit (dBm/MHz)	Result
NT/NV	IEEE 802.11b	2412	6.5598	-0.08	6.4798	12.14	PASS
		2442	6.1422	-0.08	6.0622	12.14	PASS
		2472	6.7309	-0.08	6.6509	12.14	PASS
	IEEE 802.11g	2412	5.0825	-0.08	5.0025	12.14	PASS
		2442	3.6602	-0.08	3.5802	12.14	PASS
		2472	3.9799	-0.08	3.8999	12.14	PASS
	IEEE 802.11n_20	2412	2.9959	-0.08	2.9159	12.14	PASS
		2442	2.8385	-0.08	2.7585	12.14	PASS
		2472	4.0232	-0.08	3.9432	12.14	PASS

Antenna Power(dBm/MHz)

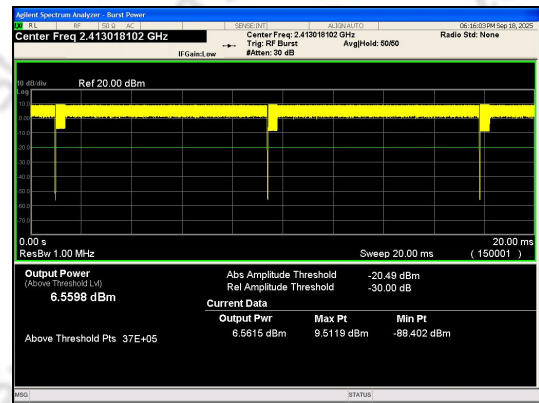
Condition	Mode	Frequency (MHz)	Ant.0 (dBm/MHz)	Total (dBm/MHz)
NT/NV	IEEE 802.11b	2412	6.5598	6.56
		2442	6.1422	6.14
		2472	6.7309	6.73
	IEEE 802.11g	2412	5.0825	5.08
		2442	3.6602	3.66
		2472	3.9799	3.98
	IEEE 802.11n_20	2412	2.9959	3.0
		2442	2.8385	2.84
		2472	4.0232	4.02

Test Graphs



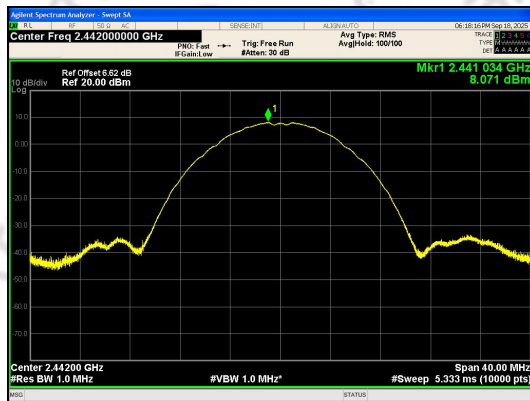
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NT/NV_IEEE 802.11b_Channel 1_Antenna 0



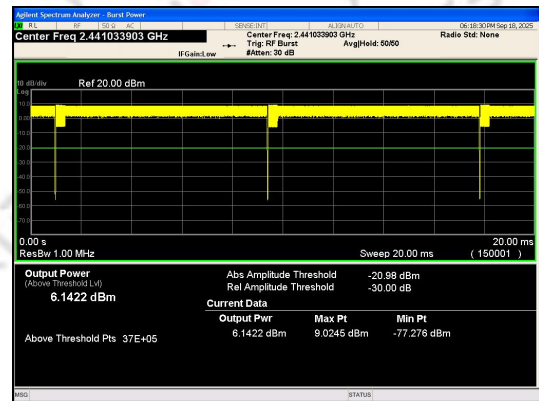
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NT/NV_IEEE 802.11b_Channel 1_Antenna 0



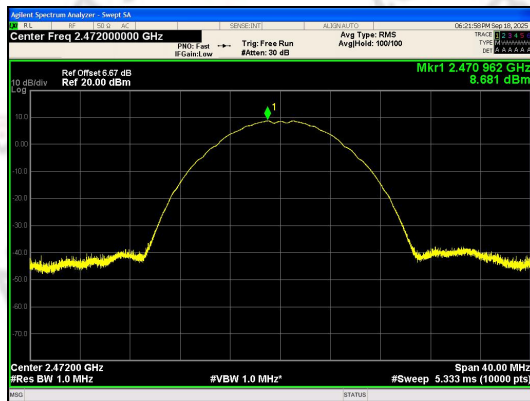
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NT/NV_IEEE 802.11b_Channel 7_Antenna 0



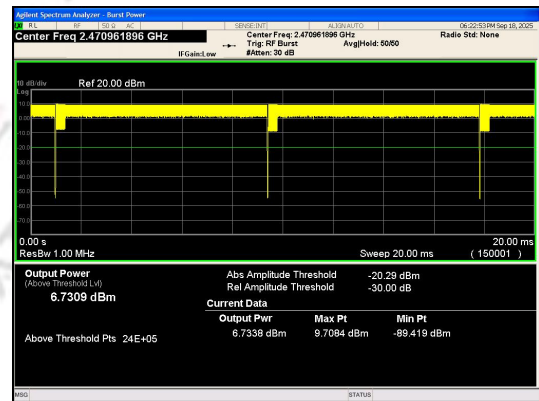
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NT/NV_IEEE 802.11b_Channel 7_Antenna 0



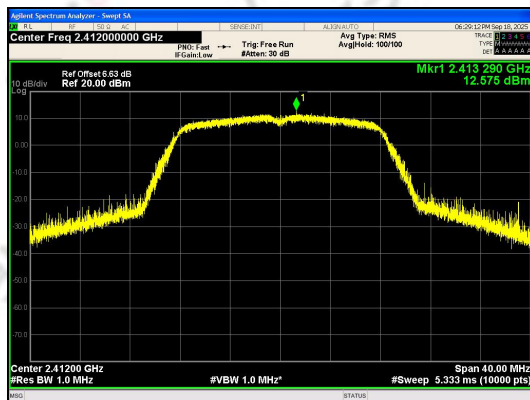
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NT/NV_IEEE 802.11b_Channel 13_Antenna 0



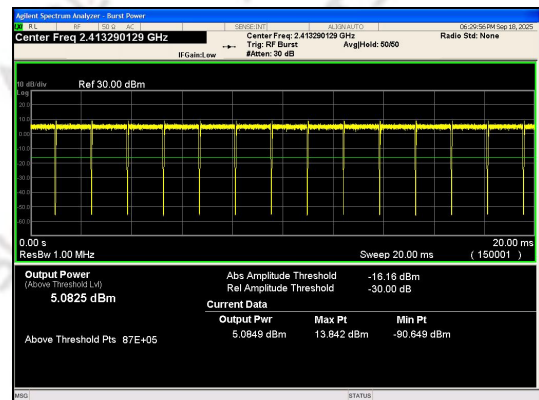
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NT/NV_IEEE 802.11b_Channel 13_Antenna 0



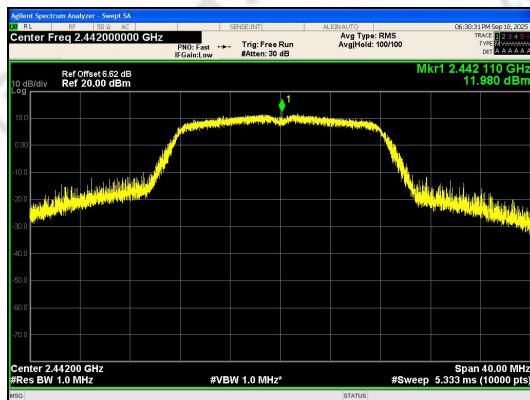
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NT/NV_IEEE 802.11g_Channel 1_Antenna 0



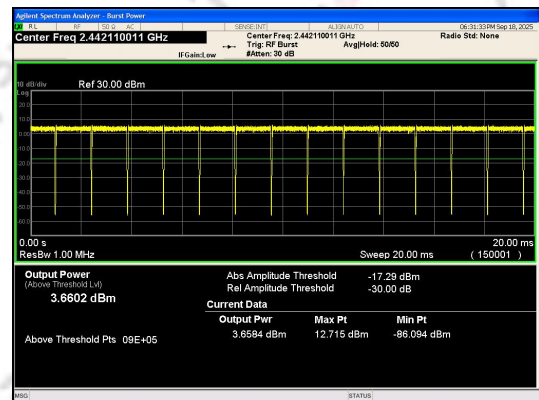
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NT/NV_IEEE 802.11g_Channel 1_Antenna 0



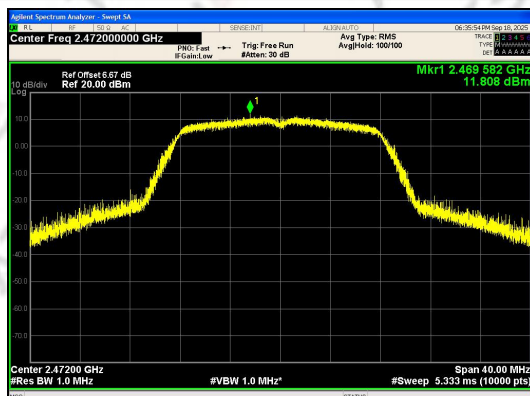
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NT/NV_IEEE 802.11g_Channel 7_Antenna 0



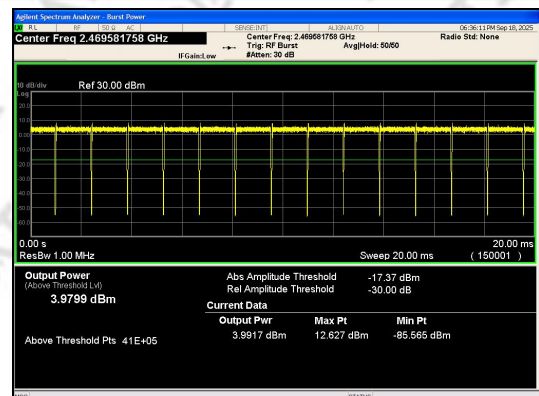
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NT/NV_IEEE 802.11g_Channel 7_Antenna 0



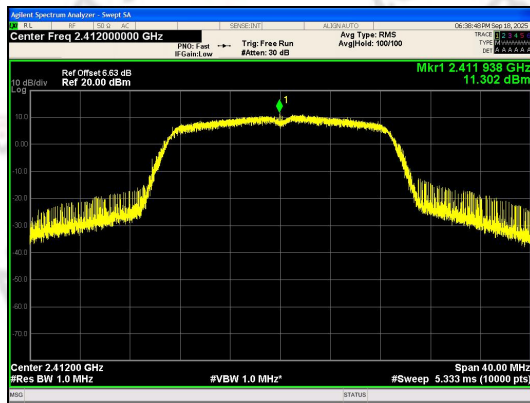
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NT/NV_IEEE 802.11g_Channel 13_Antenna 0



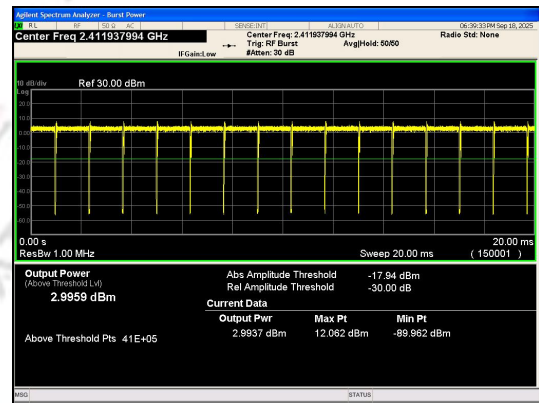
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NT/NV_IEEE 802.11g_Channel 13_Antenna 0



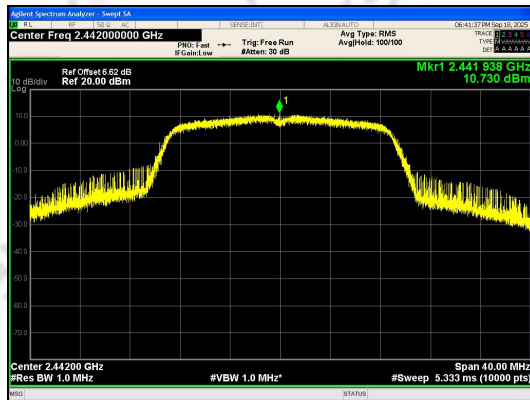
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NT/NV_IEEE 802.11n_20_Channel 1_Antenna 0



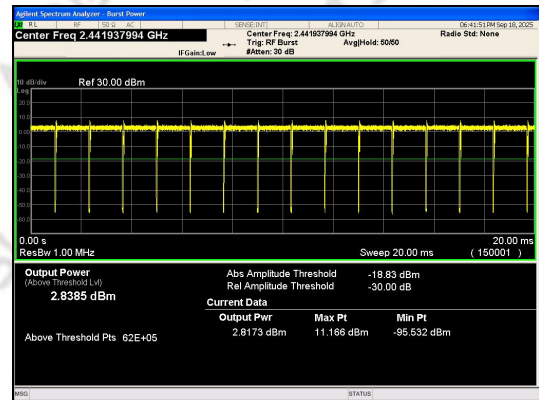
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NT/NV_IEEE 802.11n_20_Channel 1_Antenna 0



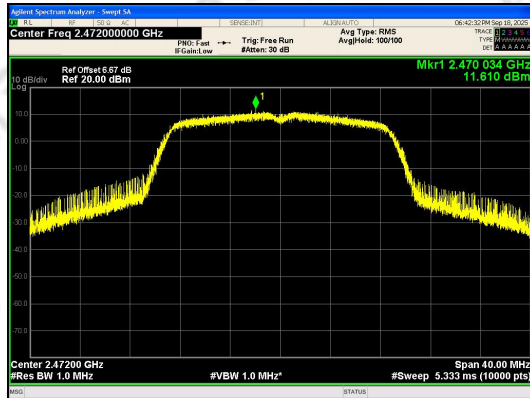
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NT/NV_IEEE 802.11n_20_Channel 7_Antenna 0



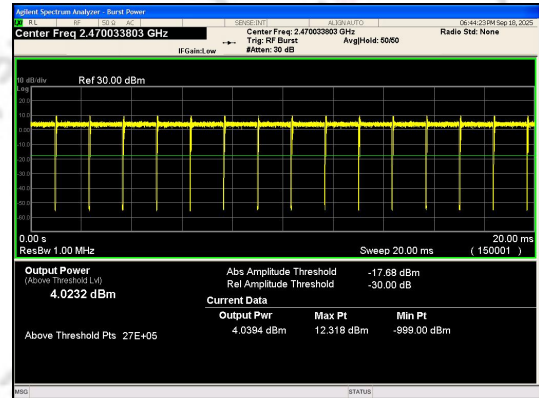
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NT/NV_IEEE 802.11n_20_Channel 7_Antenna 0



1

NT/NV_IEEE 802.11n_20_Channel 13_Antenna 0



2

NT/NV_IEEE 802.11n_20_Channel 13_Antenna 0

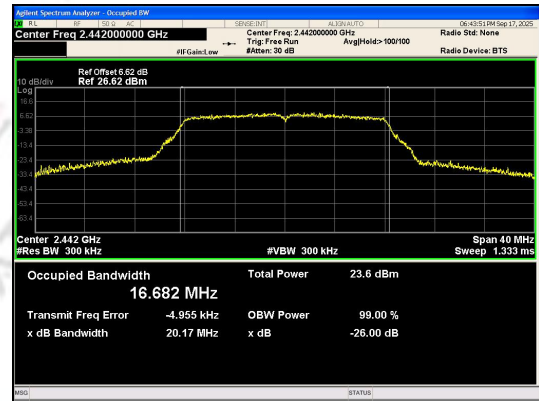
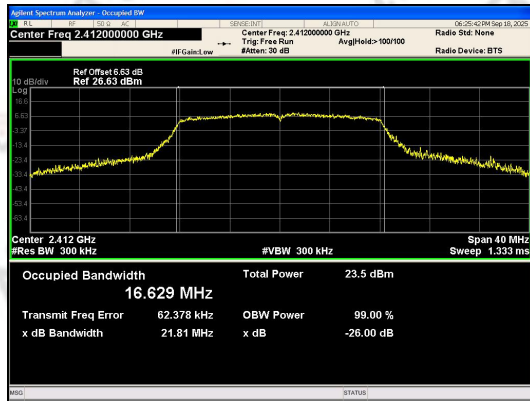
3.Occupied Bandwidth (99% BW)

Test Result

Condition	Mode	Channel	Antenna	Frequency (MHz)	99% BW (MHz)	Limit (MHz)	Result
NT/NV	IEEE 802.11b	1	1	2412	12.704	26	PASS
		7		2442	12.855		PASS
		13		2472	12.376		PASS
	IEEE 802.11g	1		2412	16.629		PASS
		7		2442	16.682		PASS
		13		2472	16.313		PASS
	IEEE 802.11n_20	1		2412	17.627		PASS
		7		2442	17.737		PASS
		13		2472	17.433		PASS

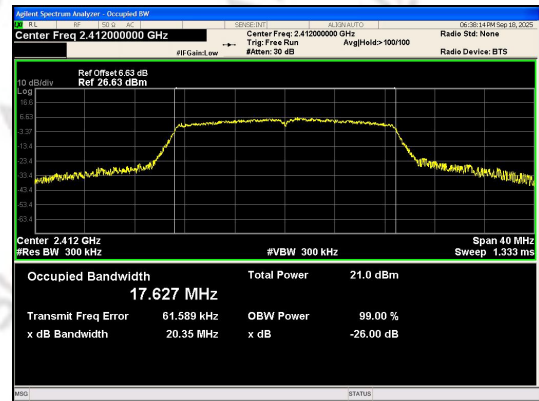
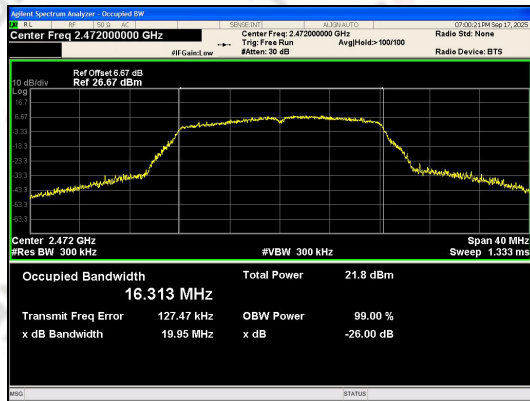
Test Graphs

Center Freq 2.412000000 GHz Ref Offset 6.63 dB Ref 26.63 dBm Center 2.412 GHz #Res BW 300 kHz #VBW 300 kHz Span 40 MHz Sweep 1.333 ms Occupied Bandwidth 12.704 MHz Total Power 18.1 dBm Transmit Freq Error 194.25 kHz x dB Bandwidth 16.27 MHz OBW Power 99.00 % x dB -26.00 dB	Center Freq 2.442000000 GHz Ref Offset 6.63 dB Ref 26.62 dBm Center 2.442 GHz #Res BW 300 kHz #VBW 300 kHz Span 40 MHz Sweep 1.333 ms Occupied Bandwidth 12.855 MHz Total Power 18.4 dBm Transmit Freq Error -78.385 kHz x dB Bandwidth 16.33 MHz OBW Power 99.00 % x dB -26.00 dB
NT/NV_IEEE 802.11b_Channel 1_20MHz_Antenna 0	NT/NV_IEEE 802.11b_Channel 7_20MHz_Antenna 0
Center Freq 2.472000000 GHz Ref Offset 6.67 dB Ref 26.67 dBm Center 2.472 GHz #Res BW 300 kHz #VBW 300 kHz Span 40 MHz Sweep 1.333 ms Occupied Bandwidth 12.376 MHz Total Power 19.5 dBm Transmit Freq Error 247.90 kHz x dB Bandwidth 15.76 MHz OBW Power 99.00 % x dB -26.00 dB	--
NT/NV_IEEE 802.11b_Channel 13_20MHz_Antenna 0	--



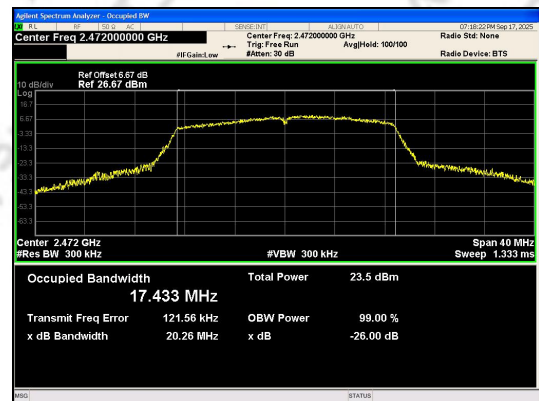
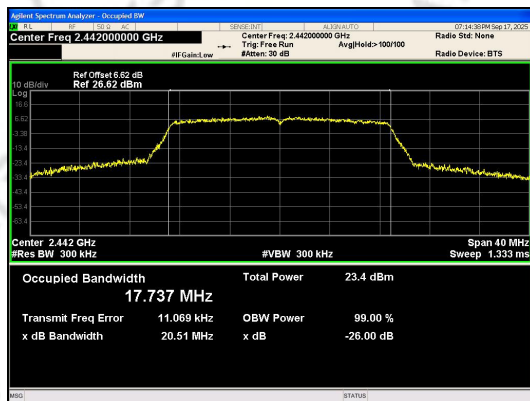
NT/NV_IEEE 802.11g_Channel 1_20MHz_Antenna 0

NT/NV_IEEE 802.11g_Channel 7_20MHz_Antenna 0



NT/NV_IEEE 802.11g_Channel 13_20MHz_Antenna 0

NT/NV_IEEE 802.11n_Channel 1_20MHz_Antenna 0



NT/NV_IEEE 802.11n_Channel 7_20MHz_Antenna 0

NT/NV_IEEE 802.11n_Channel 13_20MHz_Antenna 0

4.Spreading Bandwidth (90% BW)

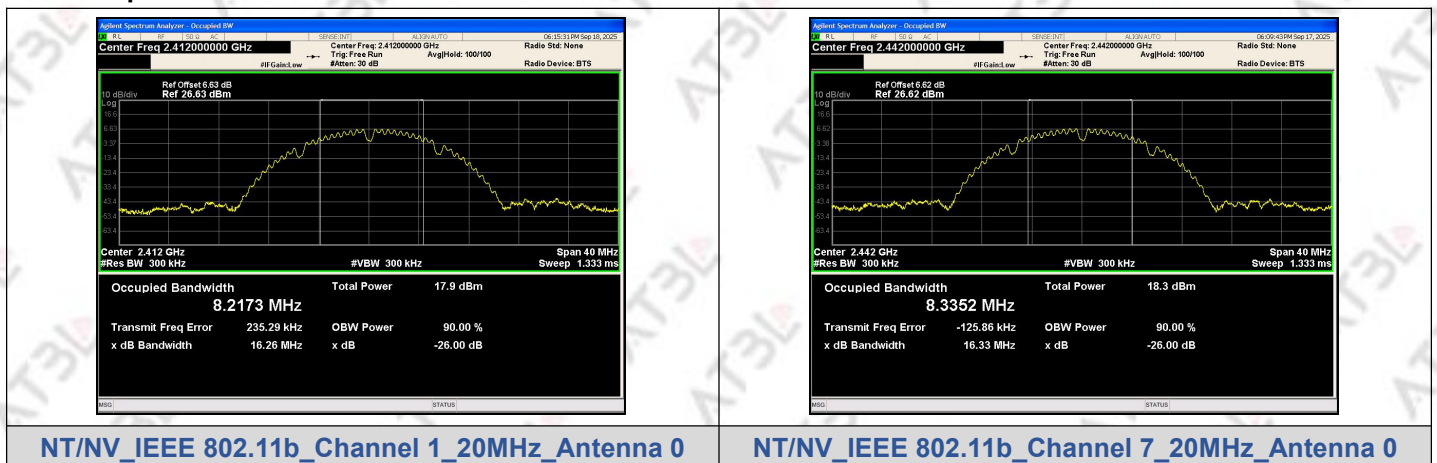
Test Result

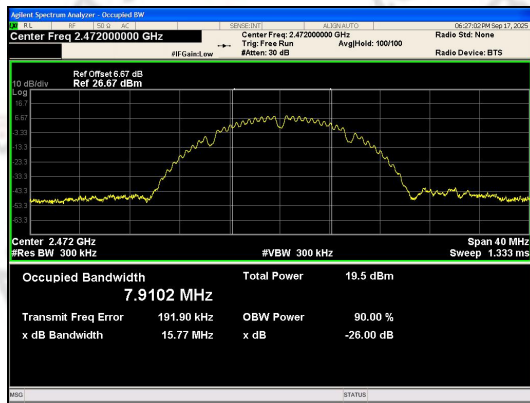
Condition	Mode	Channel	Antenna	Frequency (MHz)	90% SBW (MHz)	Spreading Bandwidth Limit (kHz)	Spreading factor	Spreading factor Limit	Result
NT/NV	IEEE 802.11b	1	0	2412	8.217	500	5.9762	5	PASS
		7		2442	8.335		6.062		PASS
		13		2472	7.910		5.7529		PASS
	IEEE 802.11g	1		2412	13.949		9.2993	5	PASS
		7		2442	14.227		9.4845		PASS
		13		2472	13.148		8.7656		PASS
	IEEE 802.11n_20	1		2412	14.880		9.9197		PASS
		7		2442	15.143		10.0952		PASS
		13		2472	13.937		9.2916		PASS

Note:

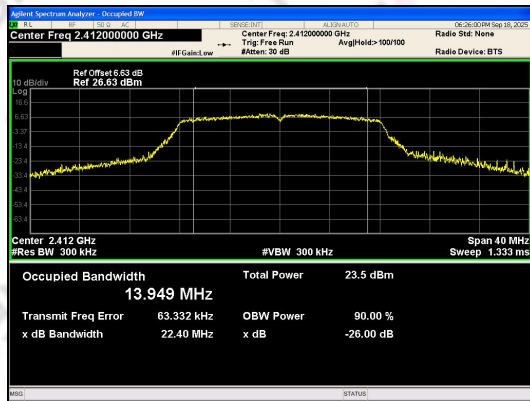
- 1) IEEE 802.11b Spreading Factor = 90% channel power bandwidth / 1.375.
- 2) IEEE 802.11g and IEEE 802.11n-HT20 Spreading Factor = 90% channel power bandwidth / 1.5.
- 3) IEEE 802.11n-HT40 Spreading Factor = 90% channel power bandwidth / 3.

Test Graphs

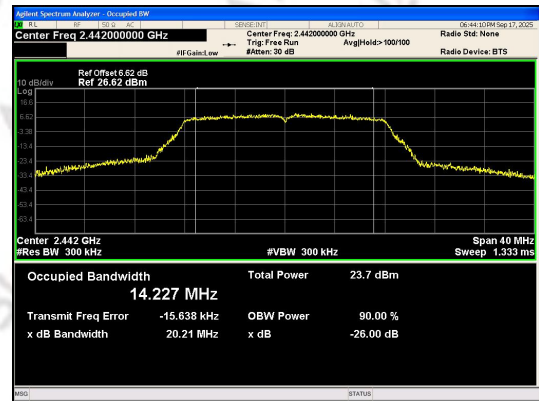




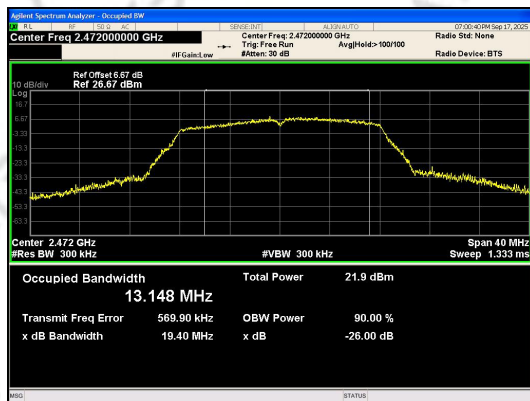
NT/NV_IEEE 802.11b_Channel 13_20MHz_Antenna 0



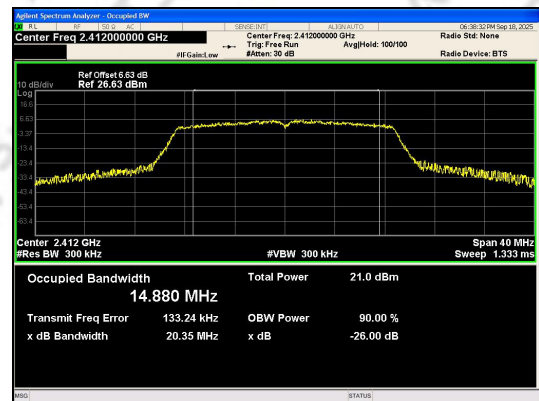
NT/NV_IEEE 802.11g_Channel 1_20MHz_Antenna 0



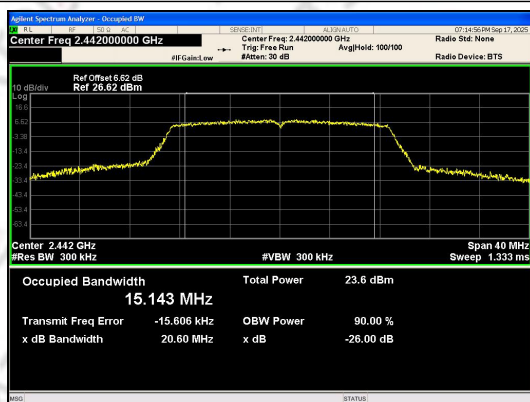
NT/NV_IEEE 802.11g_Channel 7_20MHz_Antenna 0



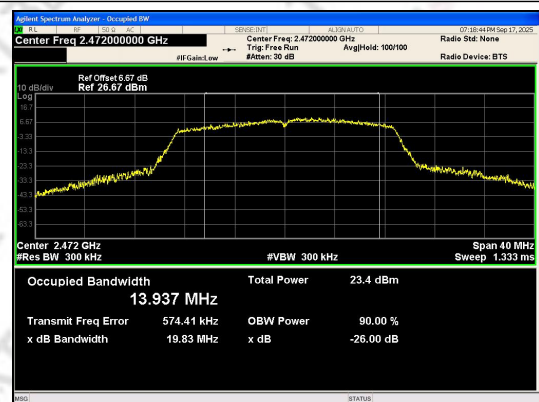
NT/NV_IEEE 802.11g_Channel 13_20MHz_Antenna 0



NT/NV_IEEE 802.11n_Channel 1_20MHz_Antenna 0



NT/NV_IEEE 802.11n_Channel 7_20MHz_Antenna 0



NT/NV_IEEE 802.11n_Channel 13_20MHz_Antenna 0

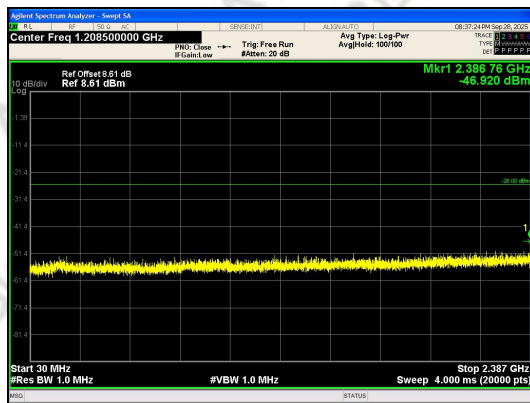
5.Spurious Emissions

Test Result

Condition	Mode	Channel	Frequency Range (MHz)	Peak (MHz)	Measured Value (uW/MHz)	Limit (uW/MHz)	Result
NT/NV	IEEE 802.11b	1	30-2387	2386.76	0.020324	2.5	PASS
			2387-2400	2399.38	0.098311	25	PASS
			2483.5-2496.5	2490.16	0.011817	25	PASS
			2496.5-12500	4824.43	0.113999	2.5	PASS
		7	30-2387	2385.0	0.013189	2.5	PASS
			2387-2400	2390.64	0.013925	25	PASS
			2483.5-2496.5	2488.54	0.018247	25	PASS
			2496.5-12500	4884.45	0.084879	2.5	PASS
		13	30-2387	2385.11	0.012142	2.5	PASS
			2387-2400	2392.89	0.009371	25	PASS
			2483.5-2496.5	2483.9	0.062762	25	PASS
			2496.5-12500	4944.48	0.046559	2.5	PASS
		14	30-2458	2456.06	0.826799	2.5	PASS
			2458-2471	2471.0	18.702514	25	PASS
			2497-2510	2497.01	5.014181	25	PASS
			2510-12500	4968.66	0.034995	2.5	PASS
	IEEE 802.11g	1	30-2387	2386.76	0.020778	2.5	PASS
			2387-2400	2398.63	2.97646	25	PASS
			2483.5-2496.5	2490.49	0.015063	25	PASS
			2496.5-12500	4817.43	0.022594	2.5	PASS
		7	30-2387	2386.65	0.012006	2.5	PASS
			2387-2400	2390.1	0.014682	25	PASS
			2483.5-2496.5	2484.45	0.021792	25	PASS
			2496.5-12500	4888.46	0.013499	2.5	PASS
		13	30-2387	1714.04	0.028887	2.5	PASS
			2387-2400	2392.73	0.016722	25	PASS
			2483.5-2496.5	2484.03	5.321083	25	PASS
			2496.5-12500	2496.5	0.017338	2.5	PASS
	IEEE 802.11n_20	1	30-2387	2386.88	0.031081	2.5	PASS
			2387-2400	2399.8	3.5465	25	PASS
			2483.5-2496.5	2483.6	0.016222	25	PASS
			2496.5-12500	4821.93	0.020054	2.5	PASS
		7	30-2387	2386.88	0.021439	2.5	PASS
			2387-2400	2392.84	0.024837	25	PASS
			2483.5-2496.5	2484.35	0.107572	25	PASS
			2496.5-12500	4885.96	0.025462	2.5	PASS
		13	30-2387	2383.82	0.015613	2.5	PASS
			2387-2400	2391.35	0.015449	25	PASS
			2483.5-2496.5	2483.52	10.143784	25	PASS
			2496.5-12500	2496.5	0.046687	2.5	PASS

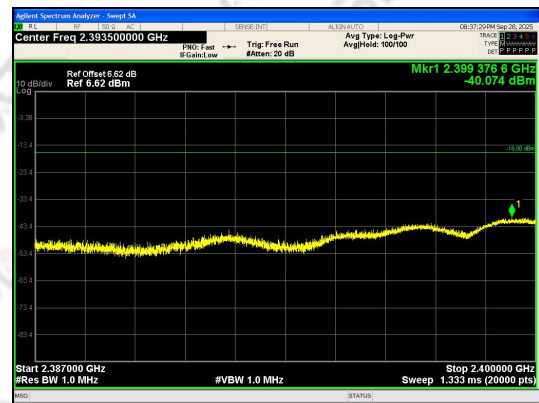
Note: For 30MHz~1000MHz, Max Value = 10 X log₁₀(RBW ref./RBW measurement) + read value,
Max Value = 10+ read value

Test Graphs



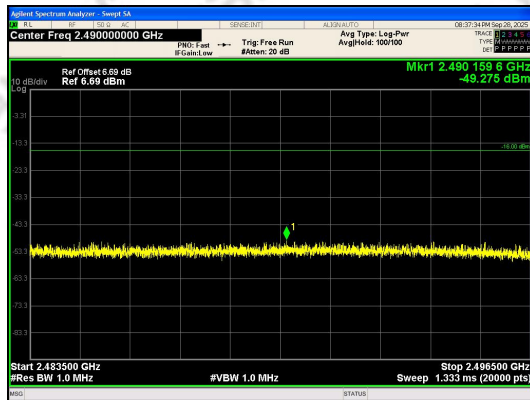
30 to 2387

NT/NV_Antenna 0_IEEE 802.11b_Channel 1



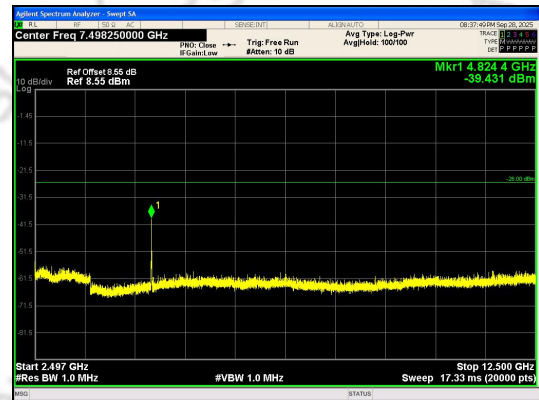
2387 to 2400

NT/NV_Antenna 0_IEEE 802.11b_Channel 1



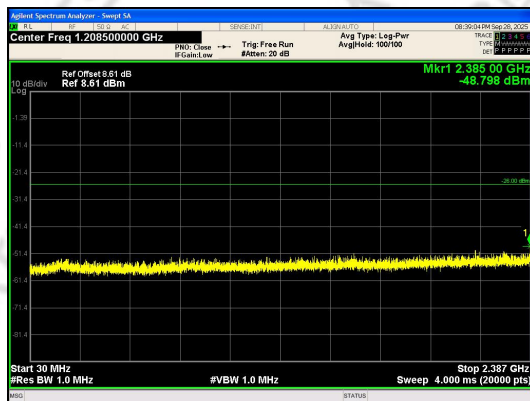
2483.5 to 2496.5

NT/NV_Antenna 0_IEEE 802.11b_Channel 1



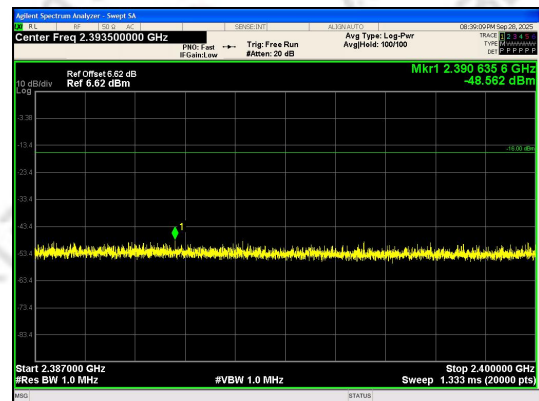
2496.5 to 12500

NT/NV_Antenna 0_IEEE 802.11b_Channel 1



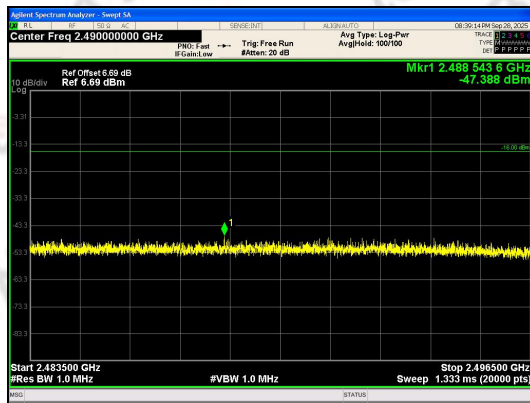
30 to 2387

NT/NV_Antenna 0_IEEE 802.11b_Channel 7



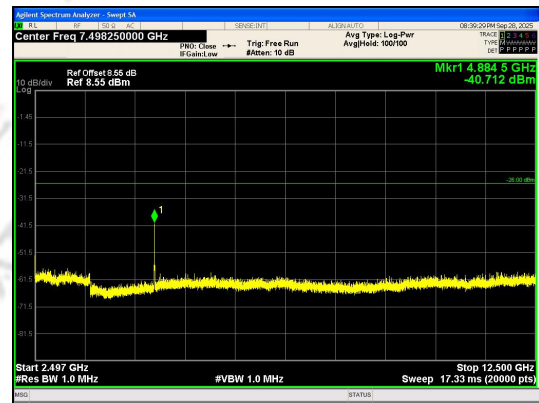
2387 to 2400

NT/NV_Antenna 0_IEEE 802.11b_Channel 7



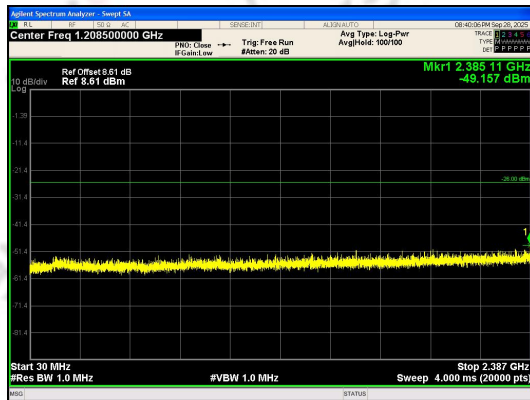
2483.5 to 2496.5

NT/NV_Antenna 0_IEEE 802.11b_Channel 7



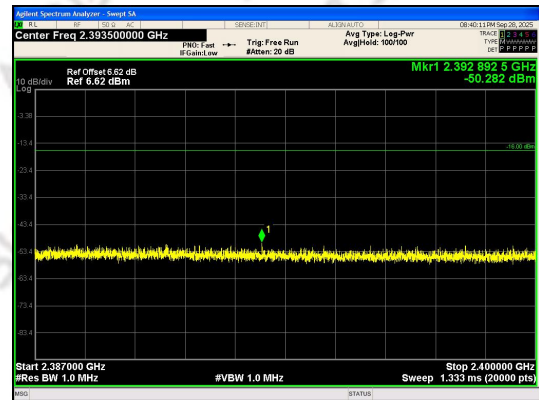
2496.5 to 12500

NT/NV_Antenna 0_IEEE 802.11b_Channel 7



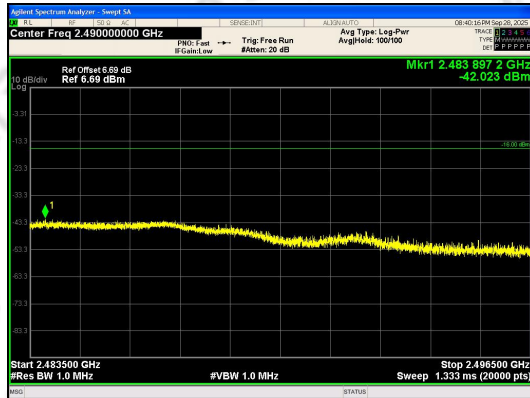
30 to 2387

NT/NV_Antenna 0_IEEE 802.11b_Channel 13



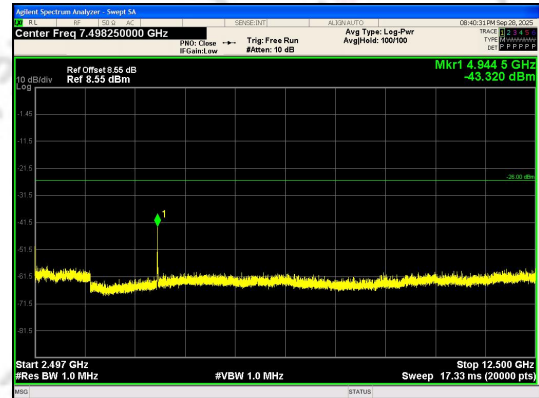
2387 to 2400

NT/NV_Antenna 0_IEEE 802.11b_Channel 13



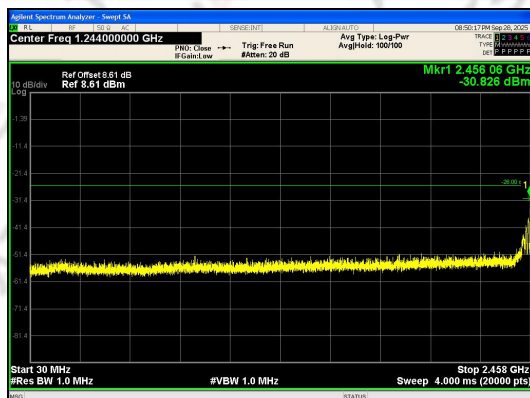
2483.5 to 2496.5

NT/NV_Antenna 0_IEEE 802.11b_Channel 13



2496.5 to 12500

NT/NV_Antenna 0_IEEE 802.11b_Channel 13



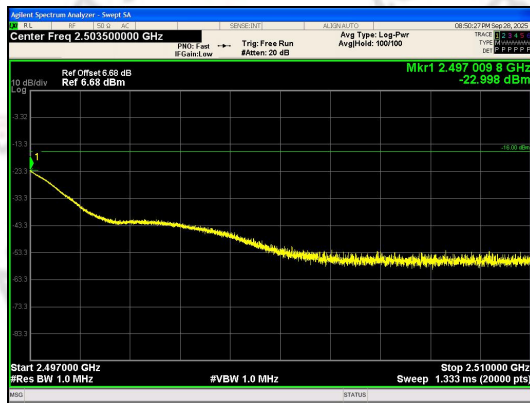
30 to 2458

NT/NV_Antenna 0_IEEE 802.11b_Channel 14



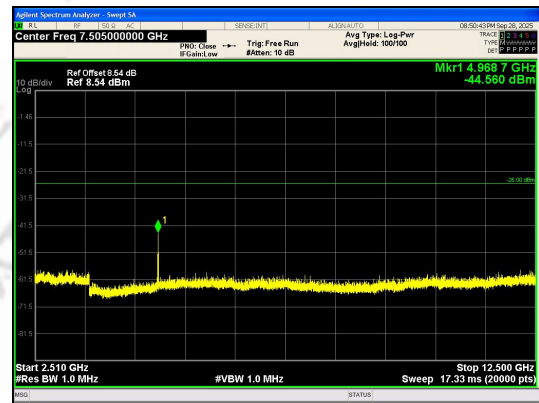
2458 to 2471

NT/NV_Antenna 0_IEEE 802.11b_Channel 14



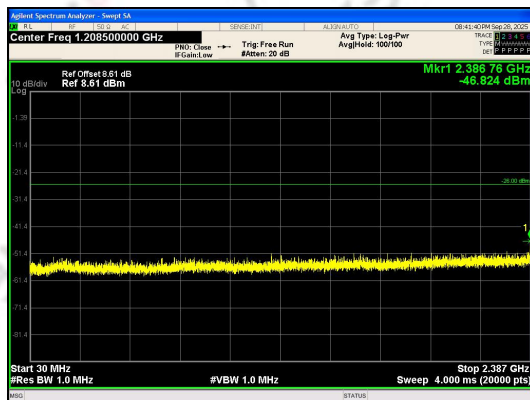
2497 to 2510

NT/NV_Antenna 0_IEEE 802.11b_Channel 14



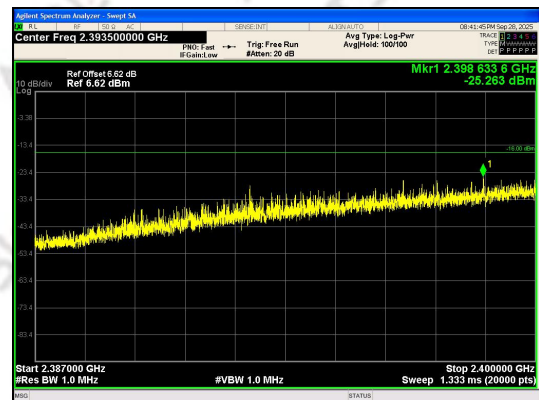
2510 to 12500

NT/NV_Antenna 0_IEEE 802.11b_Channel 14



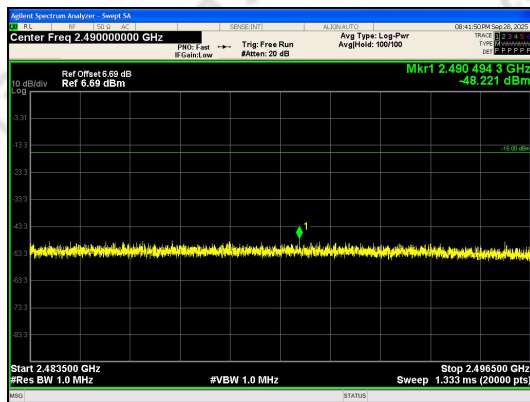
30 to 2387

NT/NV_Antenna 0_IEEE 802.11g_Channel 1



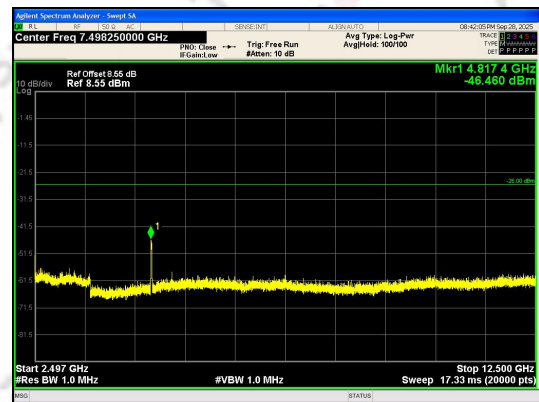
2387 to 2400

NT/NV_Antenna 0_IEEE 802.11g_Channel 1



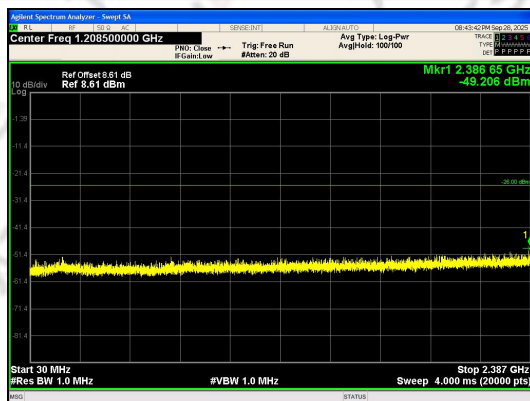
2483.5 to 2496.5

NT/NV_Antenna 0_IEEE 802.11g_Channel 1



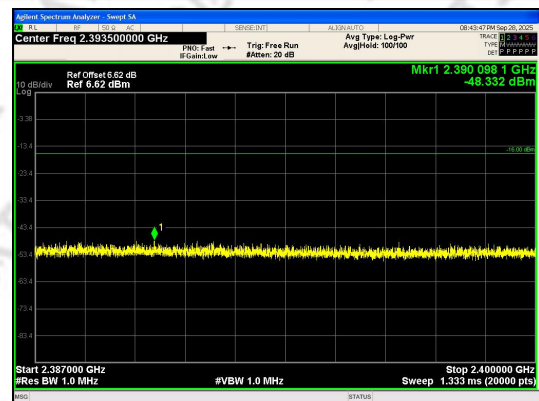
2496.5 to 12500

NT/NV_Antenna 0_IEEE 802.11g_Channel 1



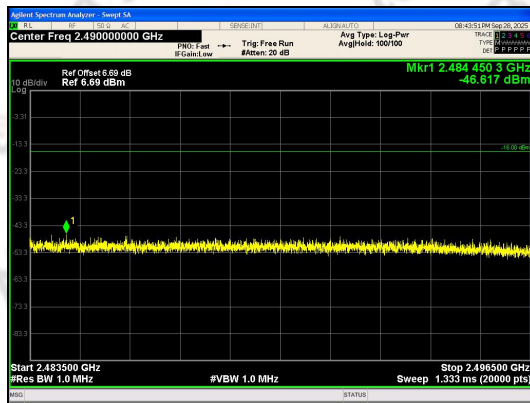
30 to 2387

NT/NV_Antenna 0_IEEE 802.11g_Channel 7



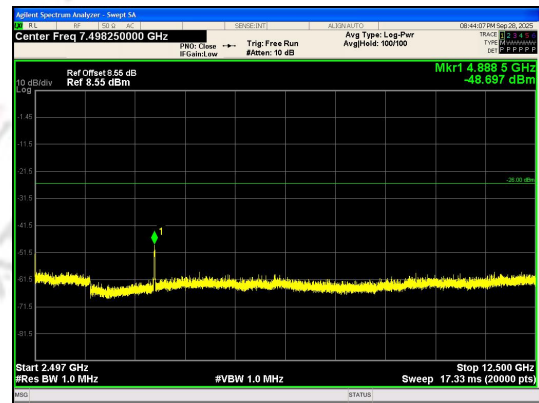
2387 to 2400

NT/NV_Antenna 0_IEEE 802.11g_Channel 7



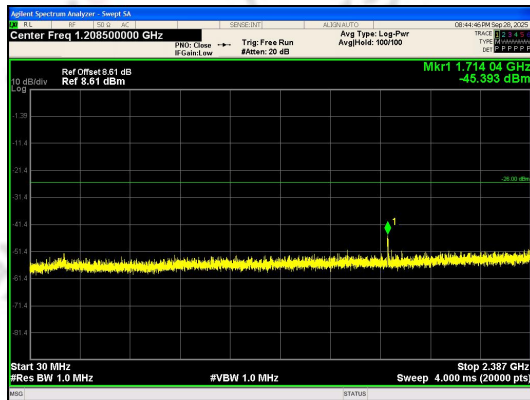
2483.5 to 2496.5

NT/NV_Antenna 0_IEEE 802.11g_Channel 7



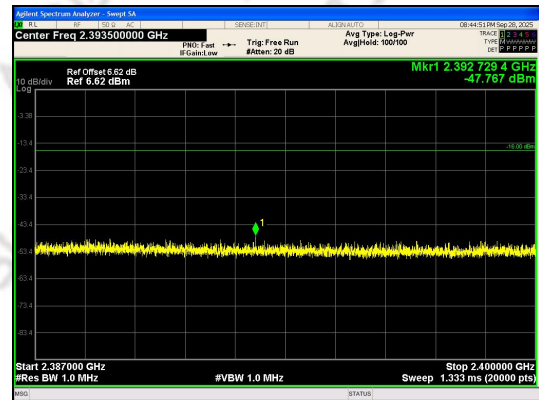
2496.5 to 12500

NT/NV_Antenna 0_IEEE 802.11g_Channel 7



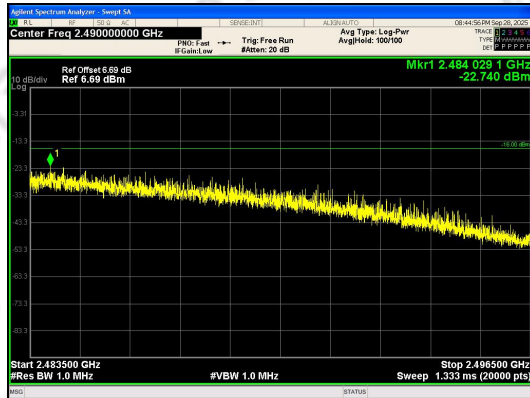
30 to 2387

NT/NV_Antenna 0_IEEE 802.11g_Channel 13



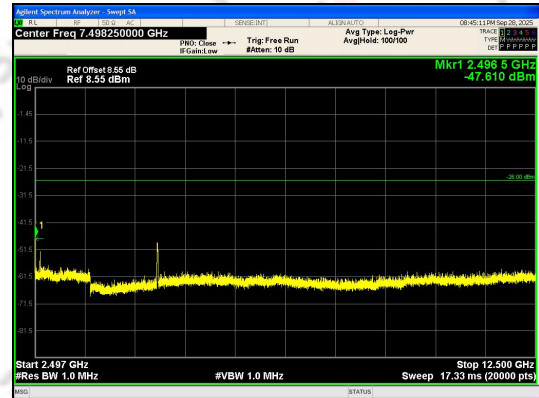
2387 to 2400

NT/NV_Antenna 0_IEEE 802.11g_Channel 13



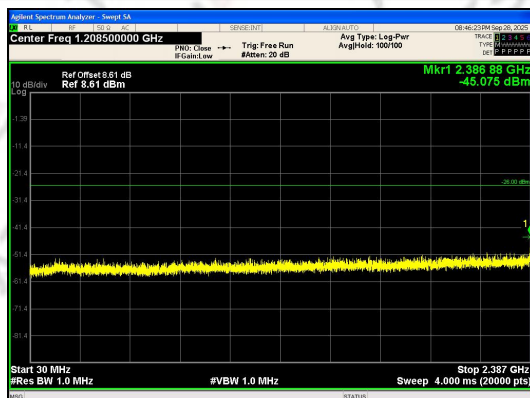
2483.5 to 2496.5

NT/NV_Antenna 0_IEEE 802.11g_Channel 13



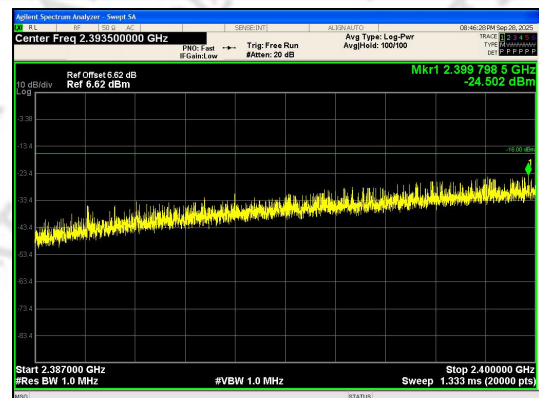
2496.5 to 12500

NT/NV_Antenna 0_IEEE 802.11g_Channel 13



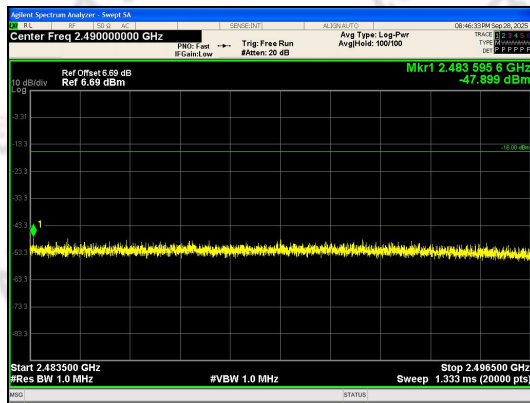
30 to 2387

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 1



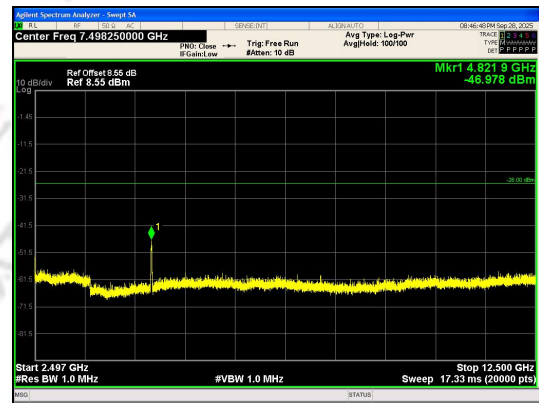
2387 to 2400

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 1



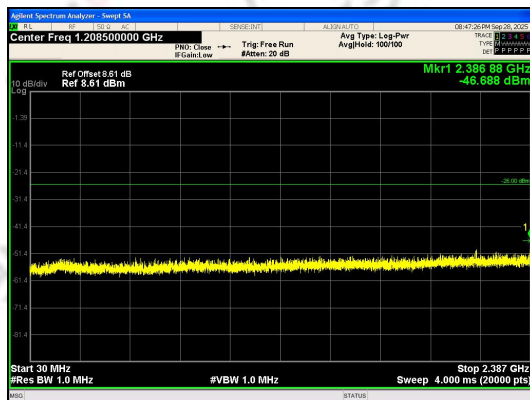
2483.5 to 2496.5

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 1



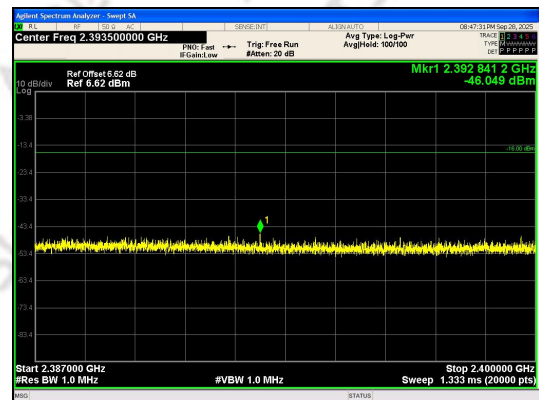
2496.5 to 12500

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 1



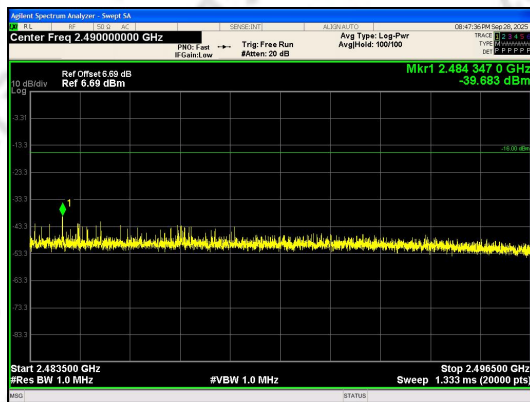
30 to 2387

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 7



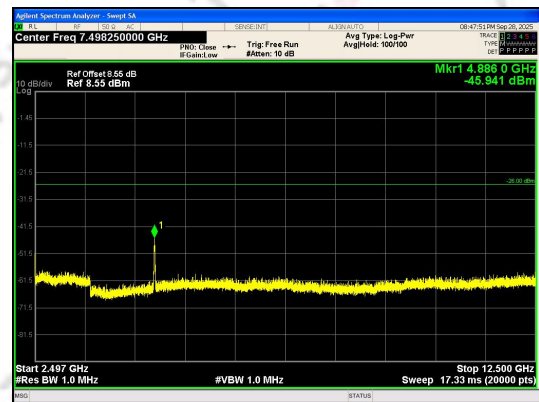
2387 to 2400

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 7



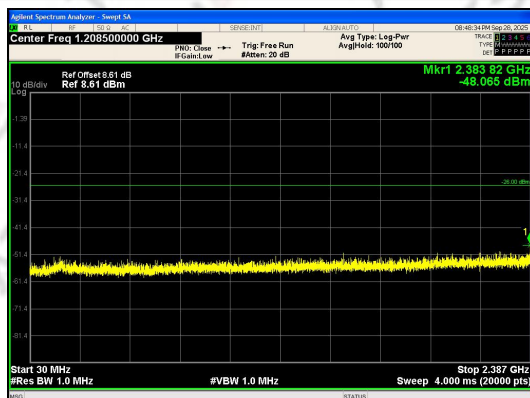
2483.5 to 2496.5

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 7



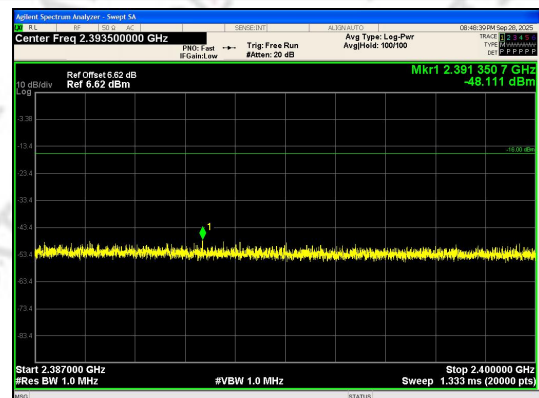
2496.5 to 12500

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 7



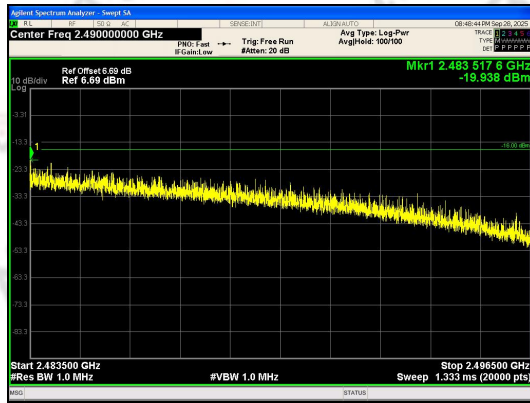
30 to 2387

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 13



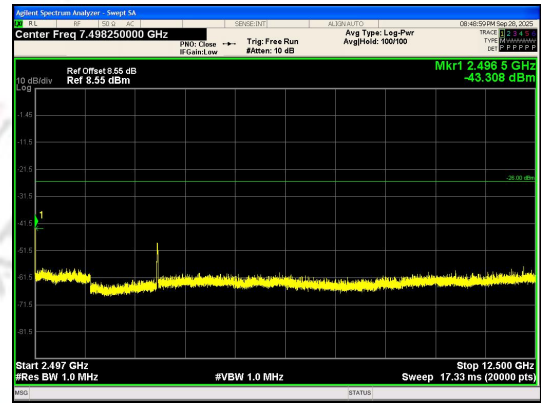
2387 to 2400

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 13



2483.5 to 2496.5

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 13



2496.5 to 12500

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 13

6.Spurious Emissions of Receiver

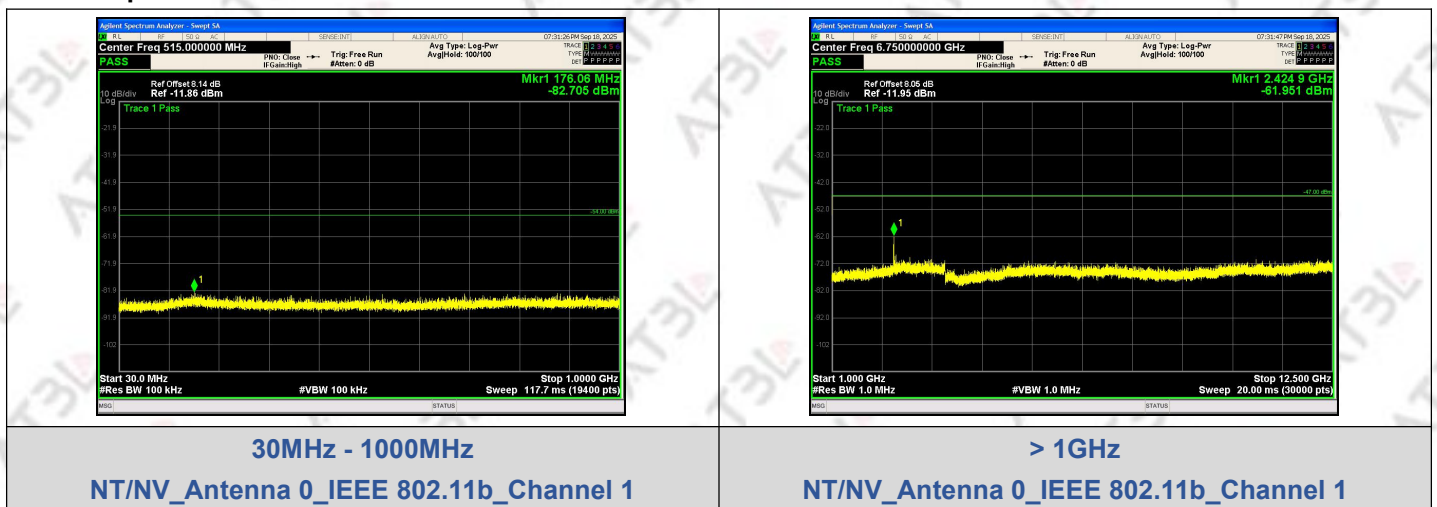
Test Result

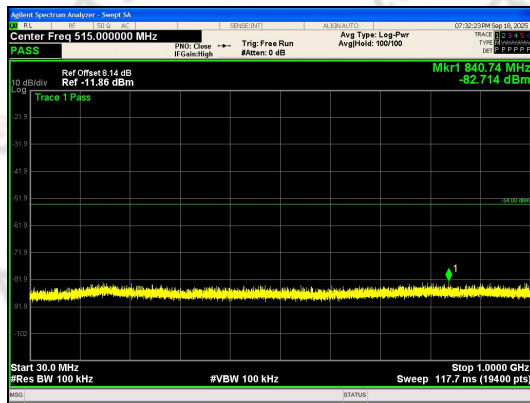
Note:

In the report, only the data from the worst Total is recorded.

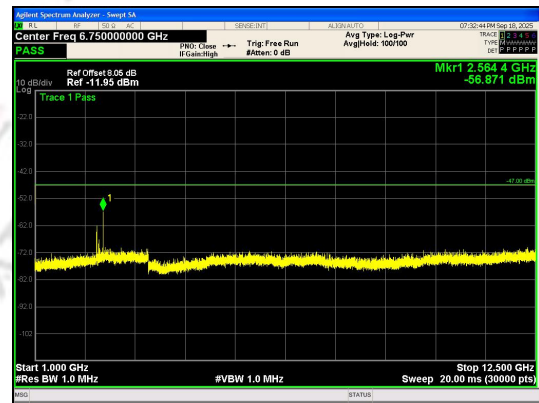
Condition	Mode	Channel	Frequency Range (MHz)	Peak (MHz)	Measured Value (dBm)	Limit		Result
						(nW)	(dBm)	
NT/NV	IEEE 802.11b (CDD Mode)	1	30-1000	176.058	-82.705	4	-54	PASS
			1000-12500	2424.897	-61.951	20	-47	PASS
		7	30-1000	840.742	-82.714	4	-54	PASS
			1000-12500	2564.435	-56.871	20	-47	PASS
		13	30-1000	799.990	-73.586	4	-54	PASS
			1000-12500	2468.599	-61.290	20	-47	PASS
	IEEE 802.11g (CDD Mode)	1	30-1000	769.888	-82.629	4	-54	PASS
			1000-12500	2421.064	-61.939	20	-47	PASS
		7	30-1000	902.095	-82.338	4	-54	PASS
			1000-12500	2425.281	-60.932	20	-47	PASS
		13	30-1000	960.748	-82.710	4	-54	PASS
			1000-12500	2421.831	-61.197	20	-47	PASS
	IEEE 802.11n_20 (MIMO Mode)	1	30-1000	182.008	-83.059	4	-54	PASS
			1000-12500	2435.631	-62.271	20	-47	PASS
		7	30-1000	923.046	-82.458	4	-54	PASS
			1000-12500	2425.281	-62.202	20	-47	PASS
		13	30-1000	944.647	-82.176	4	-54	PASS
			1000-12500	2424.514	-60.801	20	-47	PASS

Test Graphs

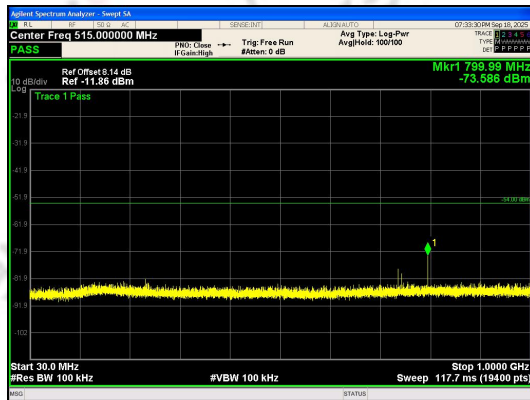




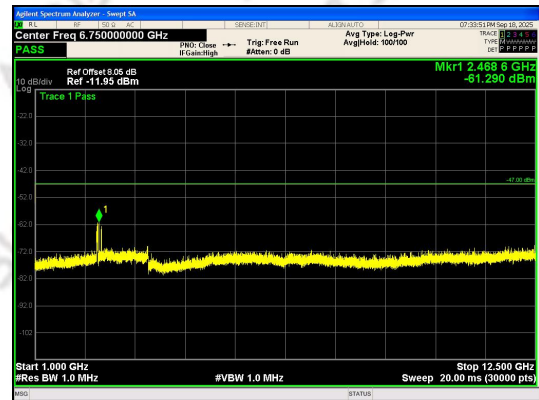
30MHz - 1000MHz
NT/NV_Antenna 0_IEEE 802.11b_Channel 7



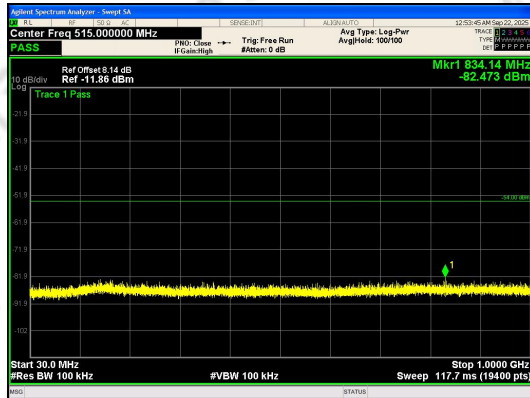
> 1GHz
NT/NV_Antenna 0_IEEE 802.11b_Channel 7



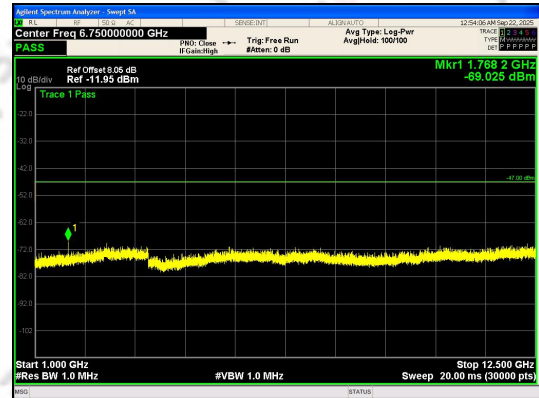
30MHz - 1000MHz
NT/NV_Antenna 0_IEEE 802.11b_Channel 13



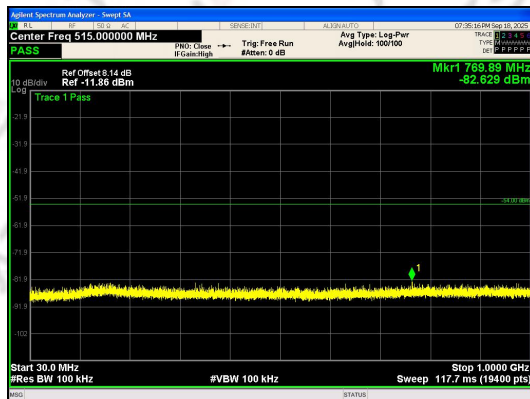
> 1GHz
NT/NV_Antenna 0_IEEE 802.11b_Channel 13



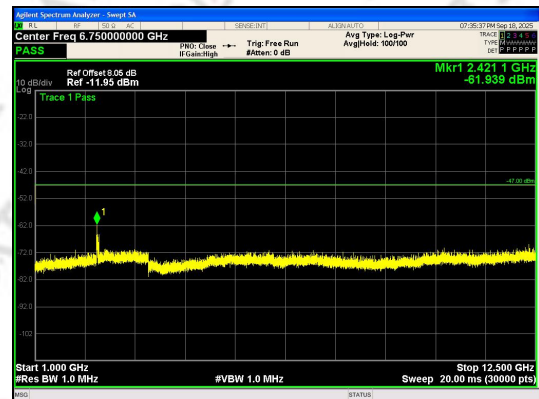
30MHz - 1000MHz
NT/NV_Antenna 0_IEEE 802.11b_Channel 14



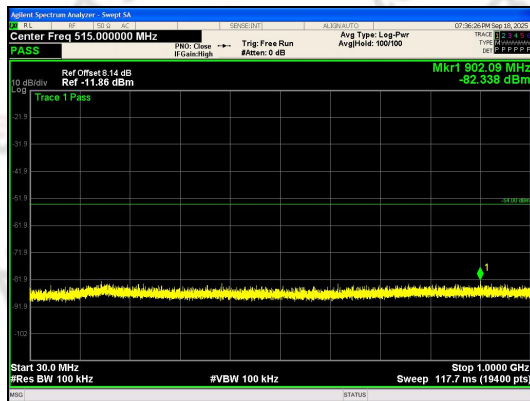
> 1GHz
NT/NV_Antenna 0_IEEE 802.11b_Channel 14



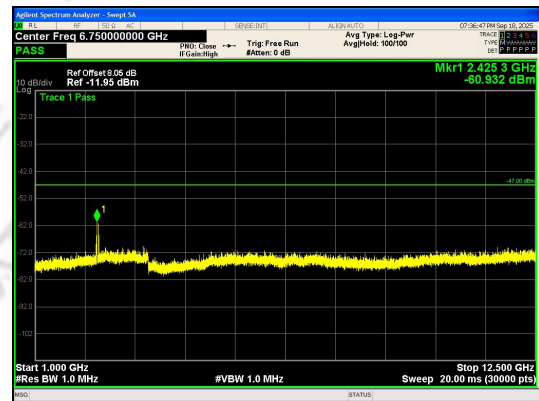
30MHz - 1000MHz
NT/NV_Antenna 0_IEEE 802.11g_Channel 1



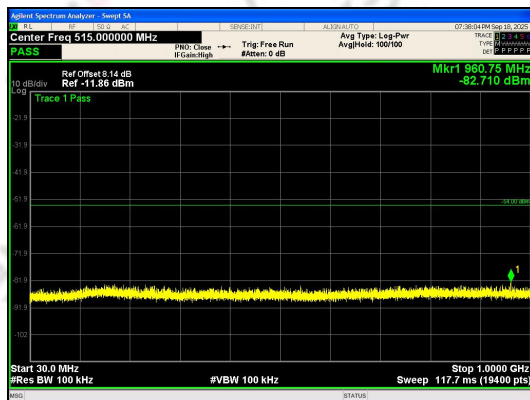
> 1GHz
NT/NV_Antenna 0_IEEE 802.11g_Channel 1



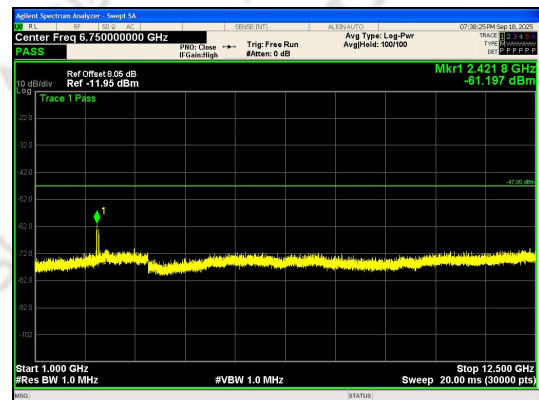
30MHz - 1000MHz
NT/NV_Antenna 0_IEEE 802.11g_Channel 7



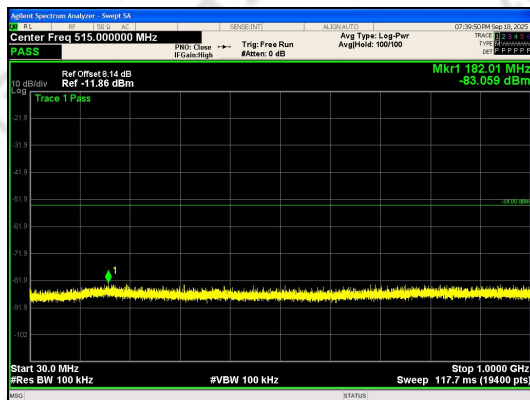
> 1GHz
NT/NV_Antenna 0_IEEE 802.11g_Channel 7



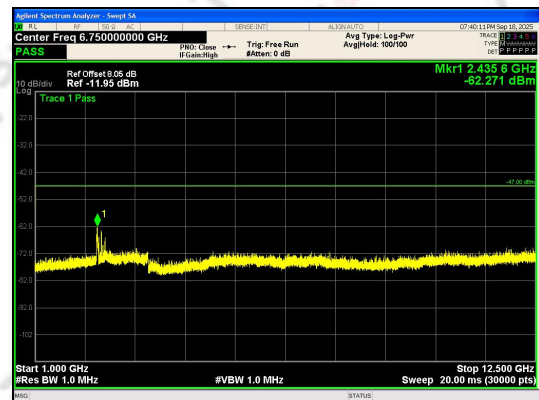
30MHz - 1000MHz
NT/NV_Antenna 0_IEEE 802.11g_Channel 13



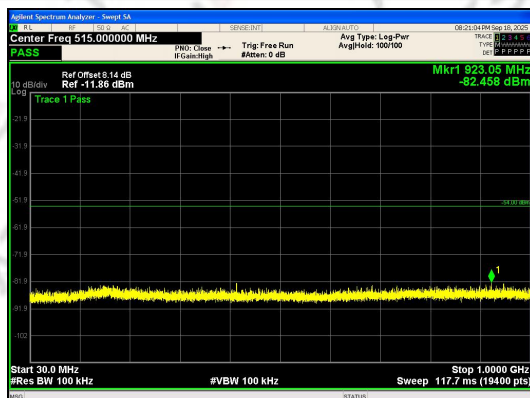
> 1GHz
NT/NV_Antenna 0_IEEE 802.11g_Channel 13



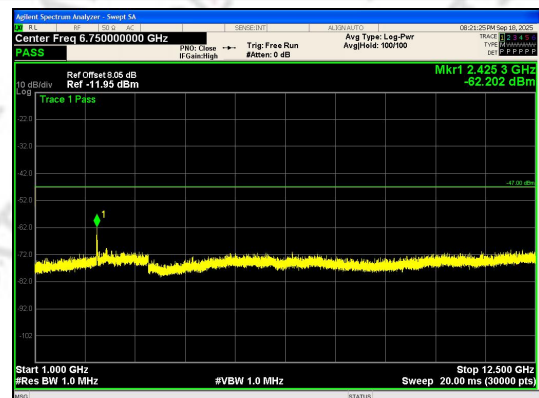
30MHz - 1000MHz
NT/NV_Antenna 0_IEEE 802.11n_20_Channel 1



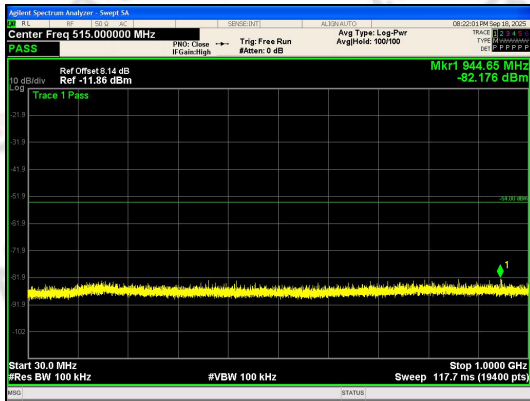
> 1GHz
NT/NV_Antenna 0_IEEE 802.11n_20_Channel 1



30MHz - 1000MHz
NT/NV_Antenna 0_IEEE 802.11n_20_Channel 7

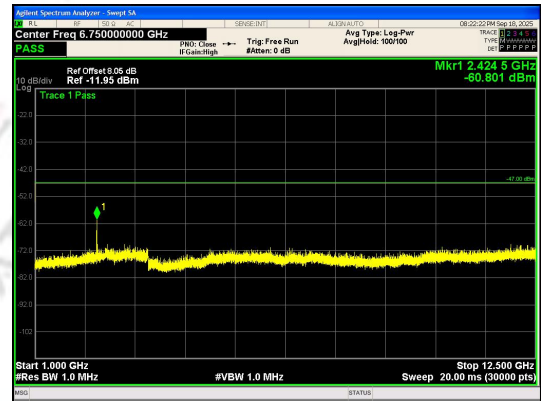


> 1GHz
NT/NV_Antenna 0_IEEE 802.11n_20_Channel 7



30MHz - 1000MHz

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 13



> 1GHz

NT/NV_Antenna 0_IEEE 802.11n_20_Channel 13

-----END OF THE REPORT-----