Appendix-2.4G WiFi
Conducted Test Data

Conducted Output Power

Test Result

Mode	Channel	Peak Output Power (dBm)	Peak Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Result
IEEE 802.11b	1	21.25	≤30	22.50	≤36	PASS
	6	21.25	≤30	22.50	≤36	PASS
	11	**21.47**	≤30	22.72	≤36	PASS
IEEE 802.11g	1	25.60	≤30	26.85	≤36	PASS
	6	25.53	≤30	26.78	≤36	PASS
	11	**25.74**	≤30	26.99	≤36	PASS
IEEE 802.11n_20	1	23.77	≤30	25.02	≤36	PASS
	6	**23.80**	≤30	25.05	≤36	PASS
	11	23.70	≤30	24.95	≤36	PASS
IEEE 802.11n_40	3	23.89	≤30	25.14	≤36	PASS
	6	**23.98**	≤30	25.23	≤36	PASS
	9	23.85	≤30	25.10	≤36	PASS

Note: EIRP = P_{out} + G_{ant}, where P_{out} is the conducted output power (i.e., the Peak Output Power in the table), and G_{ant} is the antenna gain equal to 1.25 dBi.

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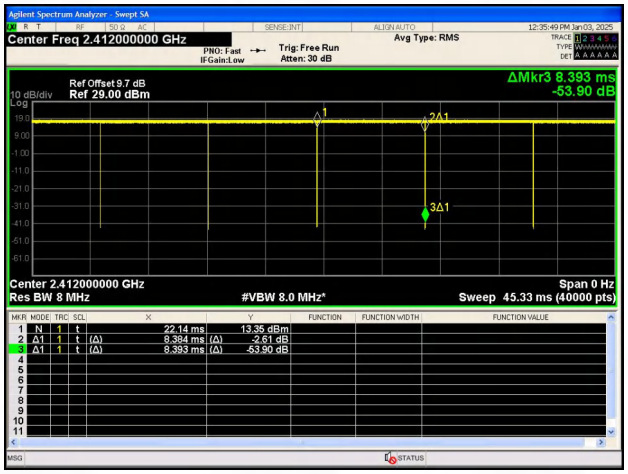
Email: info@btf-lab.com Tel: +86-755-23146130 http://www.btf-lab.com

Duty Cycle

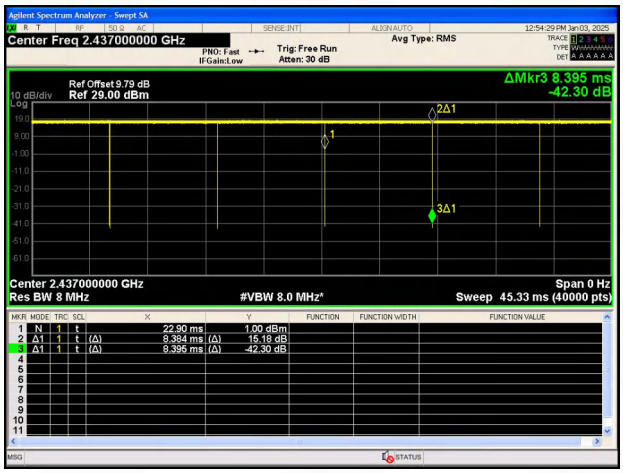
Test Result

Mode	Data rates	Channel	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
IEEE 802.11b	1	1	1	8.384	8.393	99.89	0.9989	0.0048	0.1193
		6		8.384	8.395	99.88	0.9988	0.0052	0.1193
		11		8.384	8.394	99.88	0.9988	0.0052	0.1193
IEEE 802.11g	6	1		1.396	1.409	99.08	0.9908	0.0401	0.7163
		6		1.395	1.409	99.01	0.9901	0.0432	0.7168
		11		1.395	1.409	99.01	0.9901	0.0432	0.7168
IEEE 802.11n_20	MCS 0	1		1.302	1.316	98.94	0.9894	0.0463	0.7680
		6		1.302	1.316	98.94	0.9894	0.0463	0.7680
		11		1.303	1.317	98.94	0.9894	0.0463	0.7675
IEEE 802.11n_40		3		0.650	0.665	97.73	0.9773	0.0997	1.5385
		6		0.650	0.665	97.73	0.9773	0.0997	1.5385
		9		0.649	0.665	97.66	0.9766	0.1028	1.5408

Test Graphs



IEEE 802.11b_20MHz_Channel 1



IEEE 802.11b_20MHz_Channel 6

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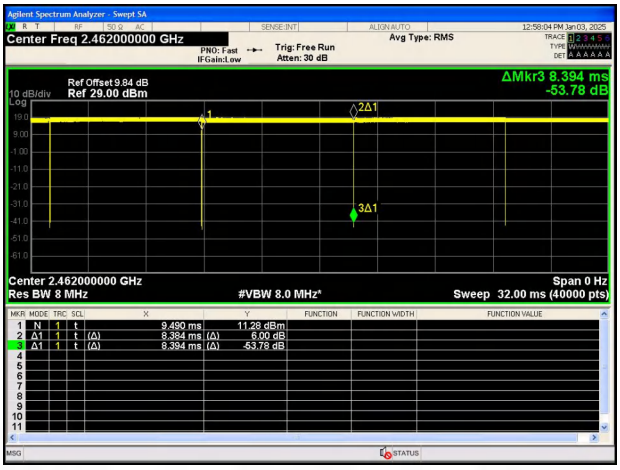
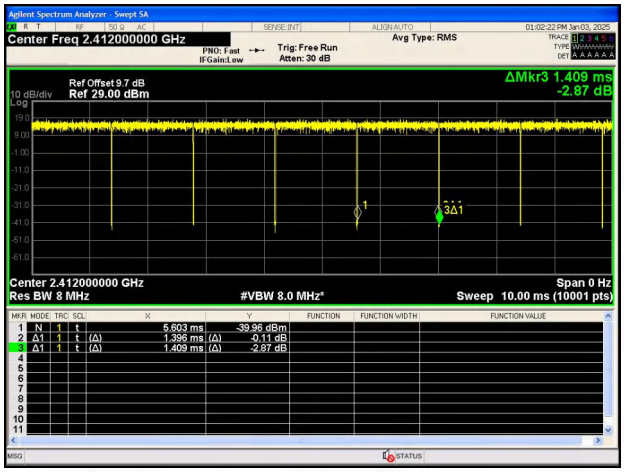
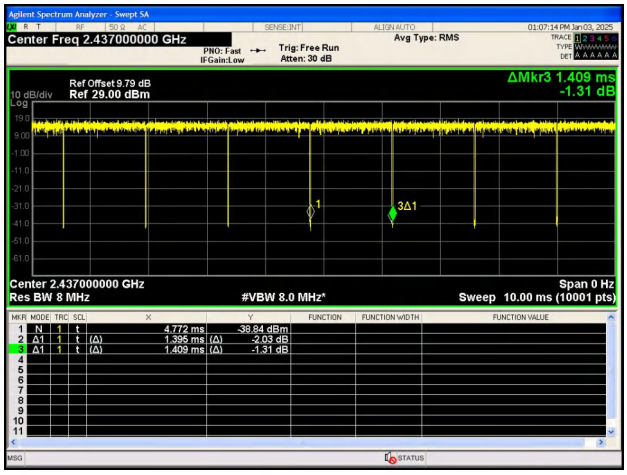


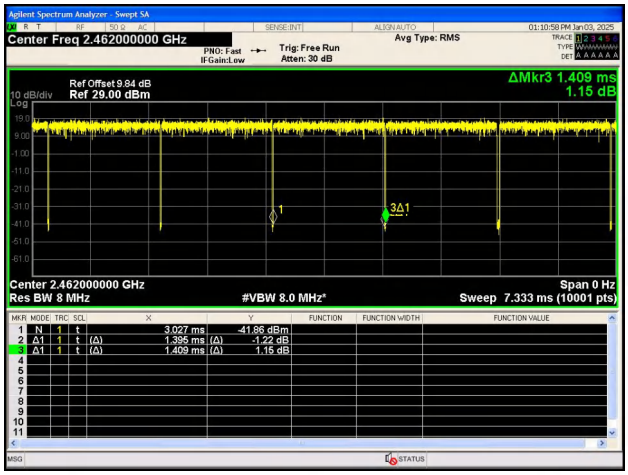
IEEE 802.11b_20MHz_Channel 11



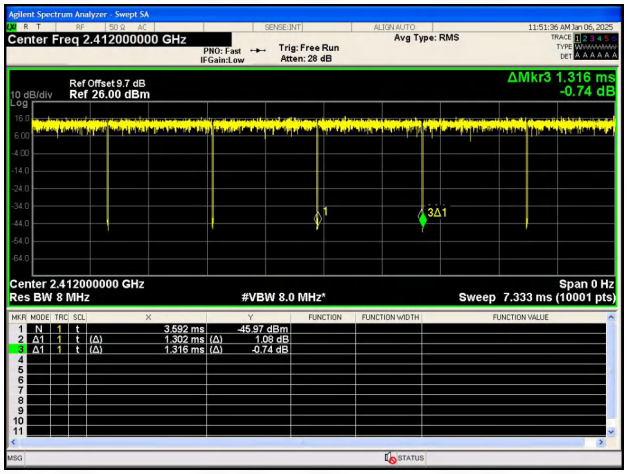
IEEE 802.11g_20MHz_Channel 1



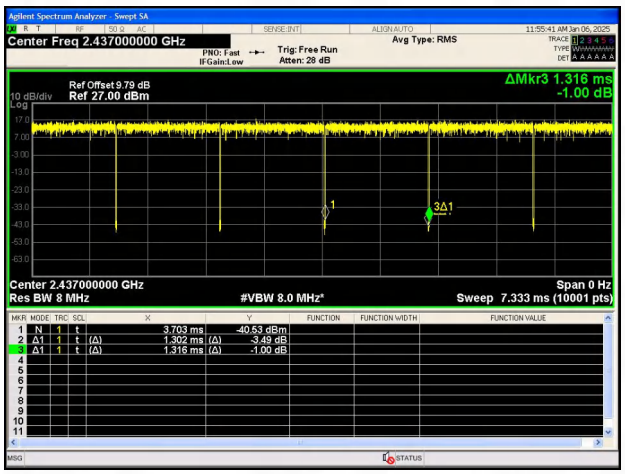
IEEE 802.11g_20MHz_Channel 6



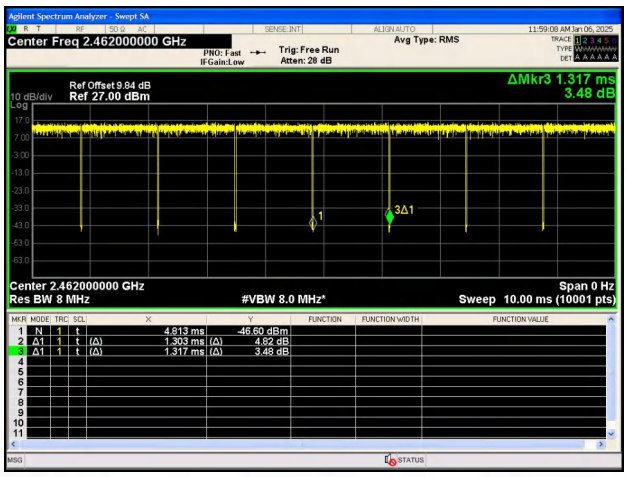
IEEE 802.11g_20MHz_Channel 11



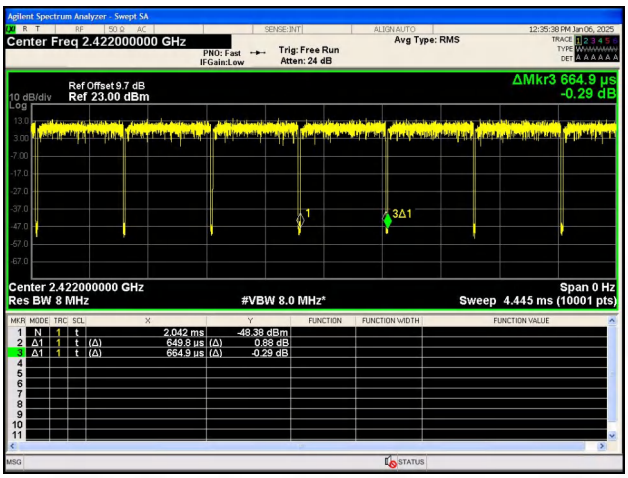
IEEE 802.11n_20MHz_Channel 1



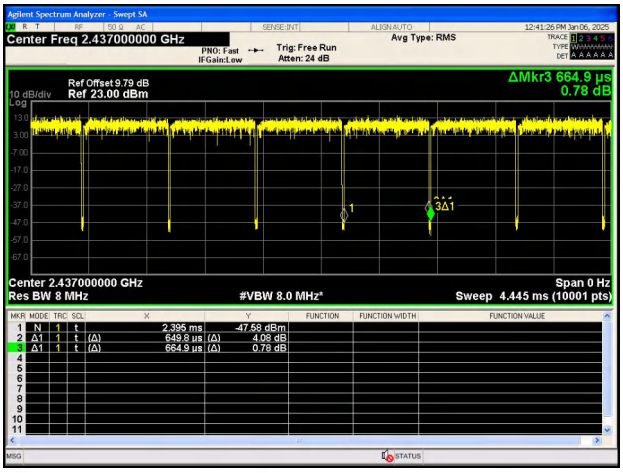
IEEE 802.11n_20MHz_Channel 6



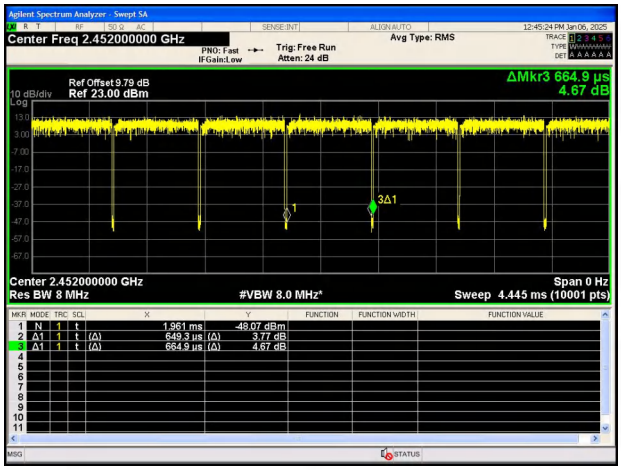
IEEE 802.11n_20MHz_Channel 11



IEEE 802.11n_40MHz_Channel 3



IEEE 802.11n_40MHz_Channel 6



IEEE 802.11n_40MHz_Channel 9

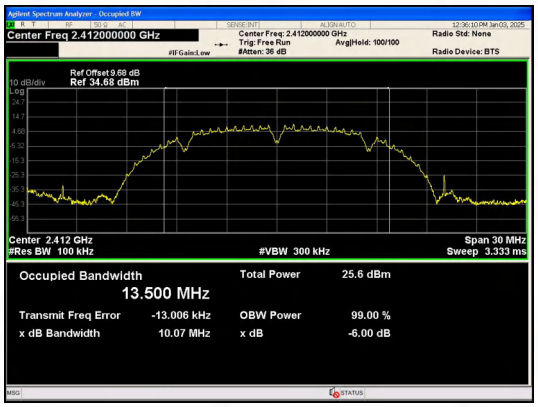
6dB Bandwidth and 99% Bandwidth

6dB Bandwidth

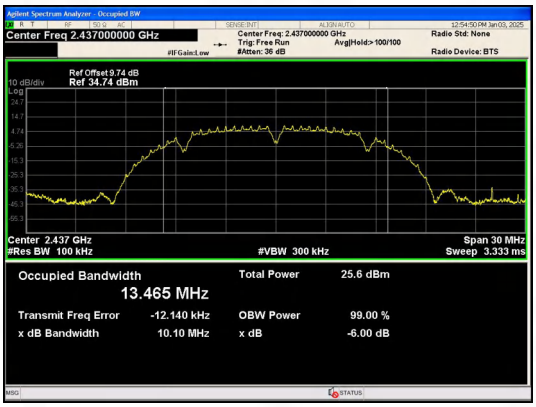
Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	10.07	≥0.5	PASS
	6		2437	10.10		PASS
	11		2462	10.08		PASS
IEEE 802.11g	1		2412	16.36		PASS
	6		2437	16.36		PASS
	11		2462	16.42		PASS
IEEE 802.11n_20	1		2412	17.57		PASS
	6		2437	17.58		PASS
	11		2462	17.56		PASS
IEEE 802.11n_40	3		2422	35.82		PASS
	6		2437	35.49		PASS
	9		2452	35.70		PASS

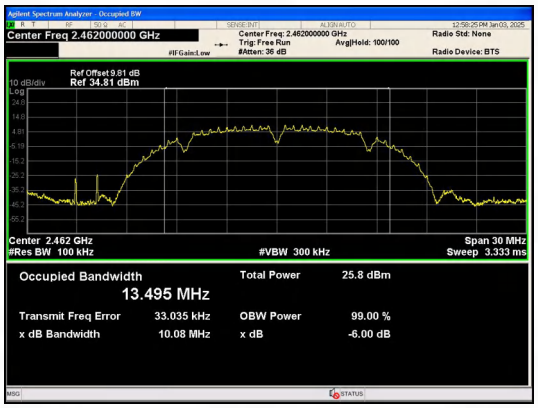
Test Graphs



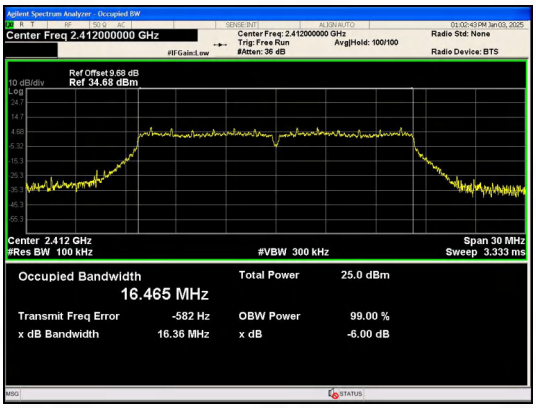
IEEE 802.11b_Channel 1_20MHz_Antenna 0



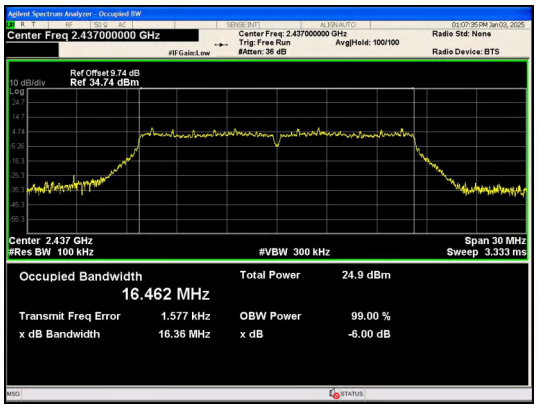
IEEE 802.11b_Channel 6_20MHz_Antenna 0



IEEE 802.11b_Channel 11_20MHz_Antenna 0



IEEE 802.11g_Channel 1_20MHz_Antenna 0



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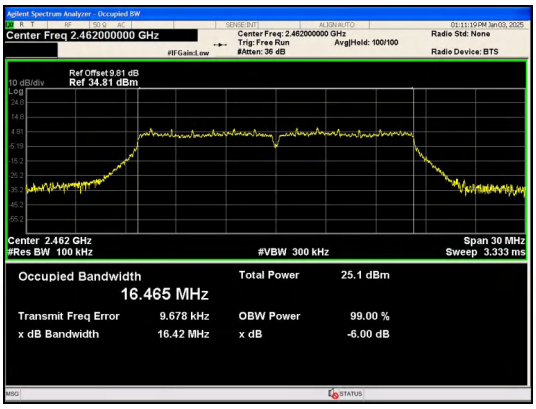

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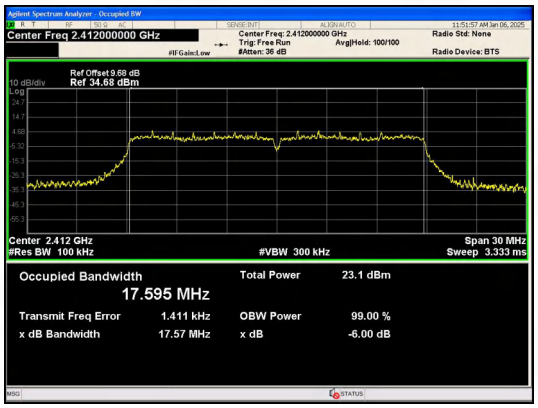
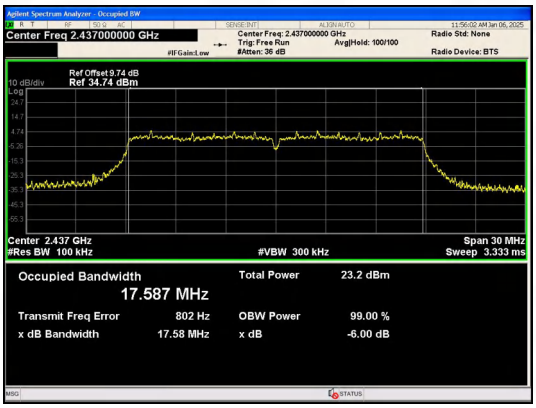


IEEE 802.11n_Channel 1_20MHz_Antenna 0



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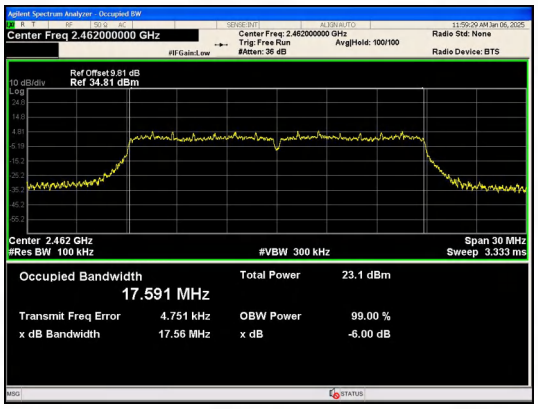
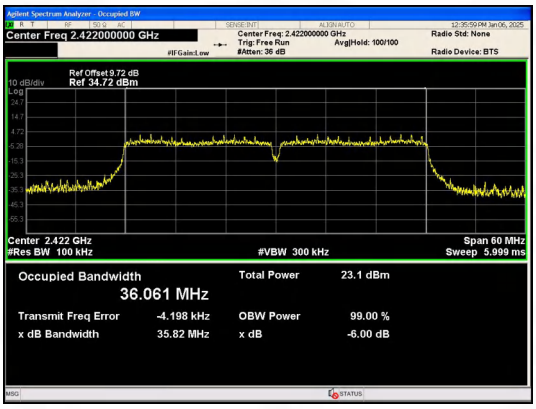
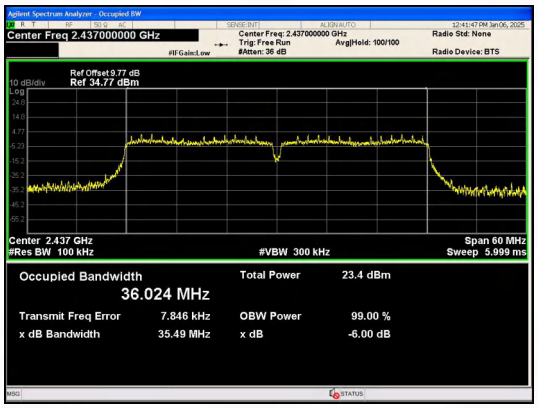


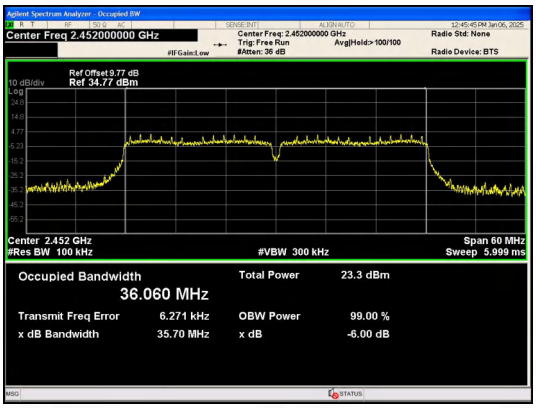
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



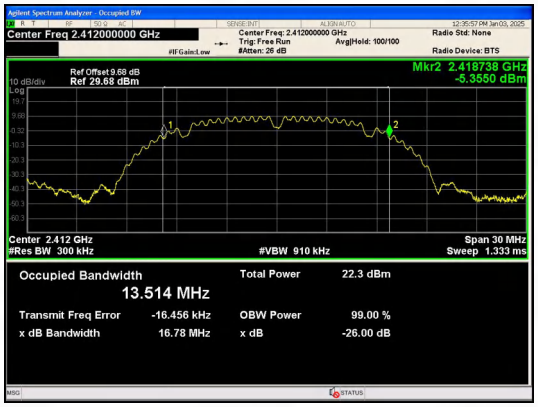
IEEE 802.11n_Channel 9_40MHz_Antenna 0

99% Bandwidth

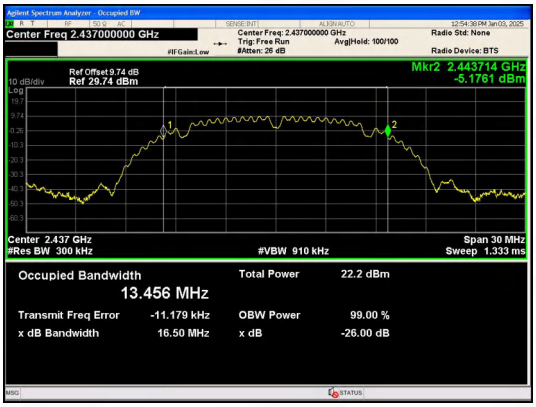
Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	99% BW (MHz)
IEEE 802.11b	1	0	2412	13.514
	6		2437	13.456
	11		2462	13.470
IEEE 802.11g	1		2412	16.727
	6		2437	16.702
	11		2462	16.745
IEEE 802.11n_20	1		2412	17.703
	6		2437	17.715
	11		2462	17.713
IEEE 802.11n_40	3		2422	36.229
	6		2437	36.216
	9		2452	36.250

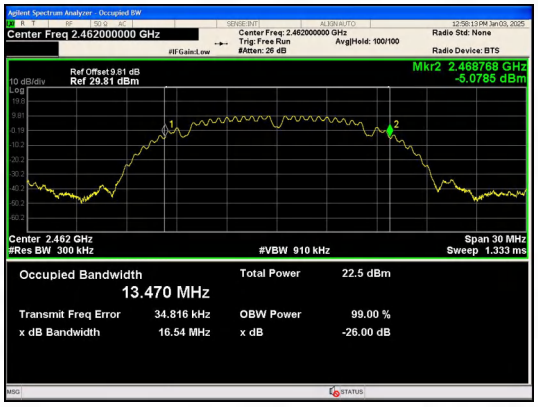
Test Graphs



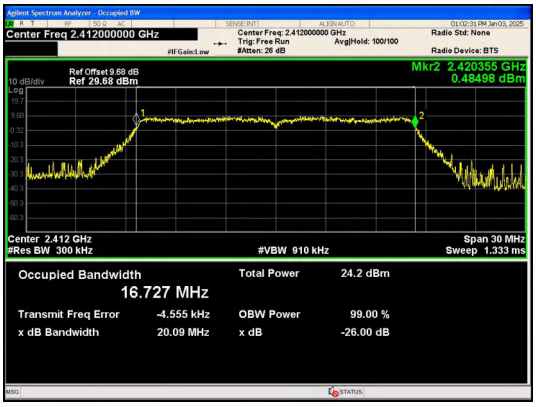
IEEE 802.11b_Channel 1_20MHz_Antenna 0



IEEE 802.11b_Channel 6_20MHz_Antenna 0



IEEE 802.11b_Channel 11_20MHz_Antenna 0



IEEE 802.11g_Channel 1_20MHz_Antenna 0

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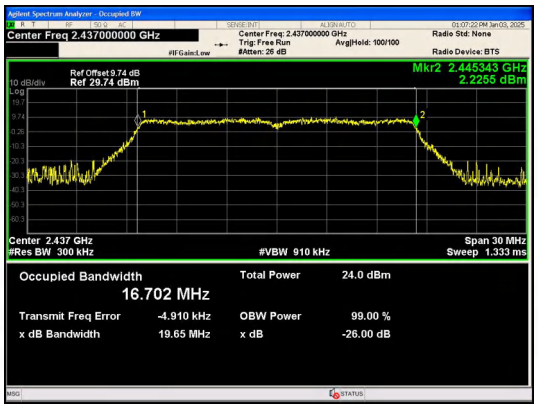
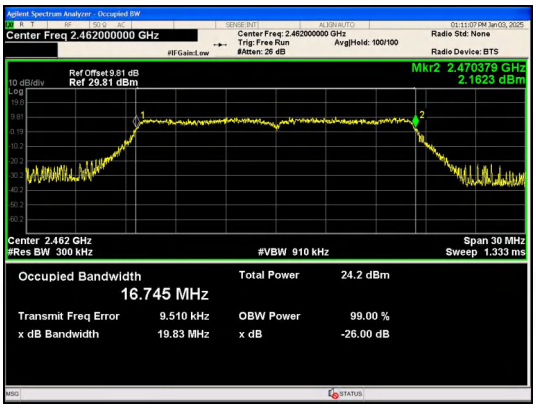


IEEE 802.11g_Channel 6_20MHz_Antenna 0



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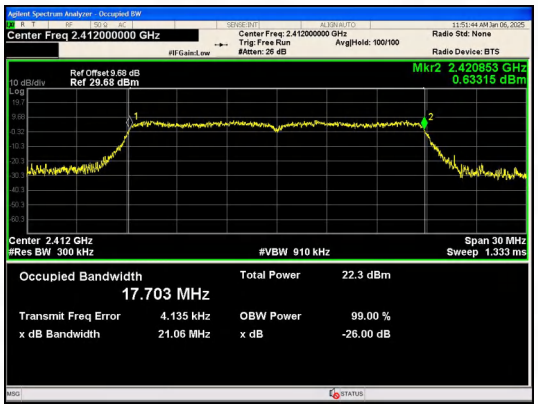
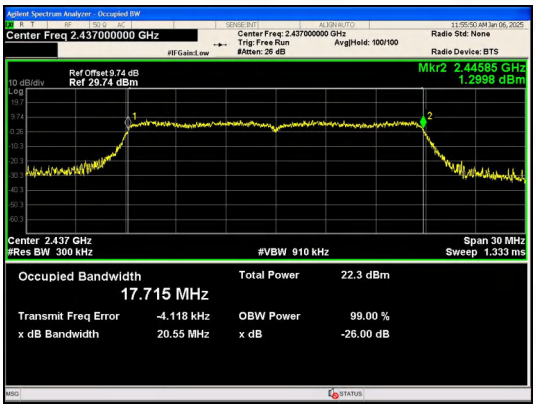
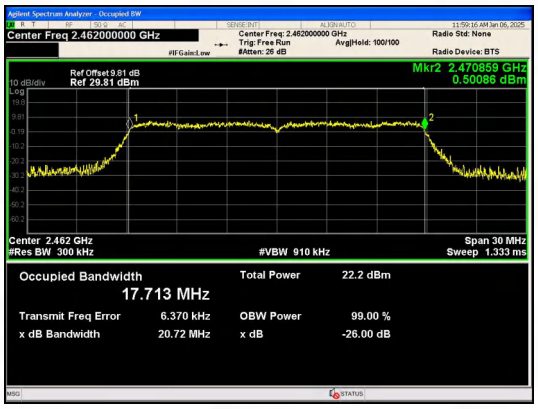


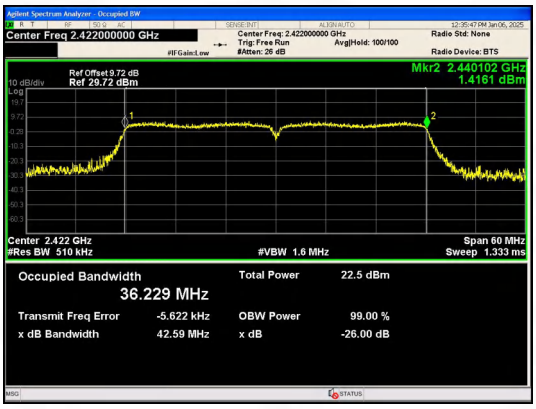
IEEE 802.11n_Channel 1_20MHz_Antenna 0



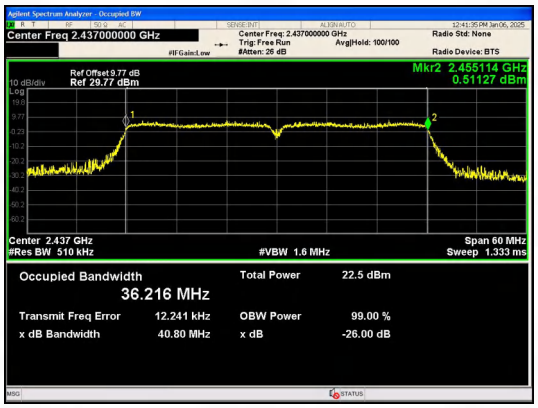
IEEE 802.11n_Channel 6_20MHz_Antenna 0



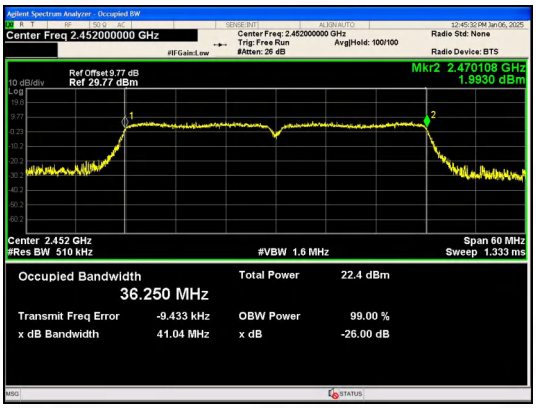
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



IEEE 802.11n_Channel 9_40MHz_Antenna 0

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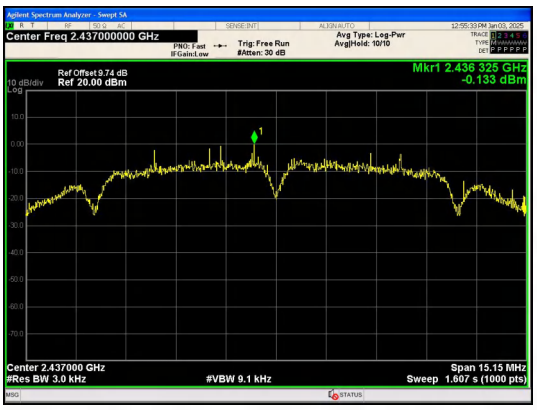
Power Spectral Density

Test Result

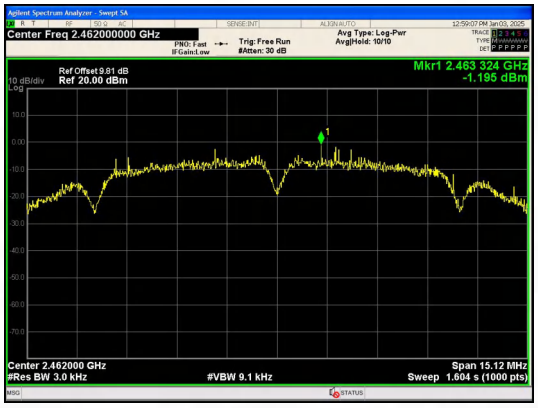
Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-1.625	≤8	PASS
	6	-0.133		PASS
	11	-1.195		PASS
IEEE 802.11g	1	-6.752		PASS
	6	-7.219		PASS
	11	-6.951		PASS
IEEE 802.11n_20	1	-9.114		PASS
	6	-8.282		PASS
	11	-7.884		PASS
IEEE 802.11n_40	3	-11.294		PASS
	6	-11.332		PASS
	9	-11.055		PASS

Test Graphs

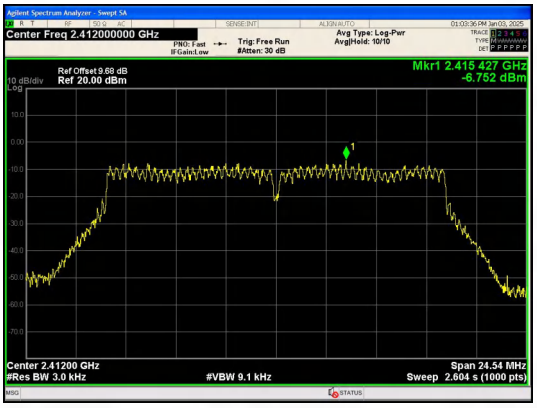
IEEE 802.11b_Channel 1_20MHz_Antenna 0



IEEE 802.11b_Channel 6_20MHz_Antenna 0



IEEE 802.11b_Channel 11_20MHz_Antenna 0



IEEE 802.11g_Channel 1_20MHz_Antenna 0

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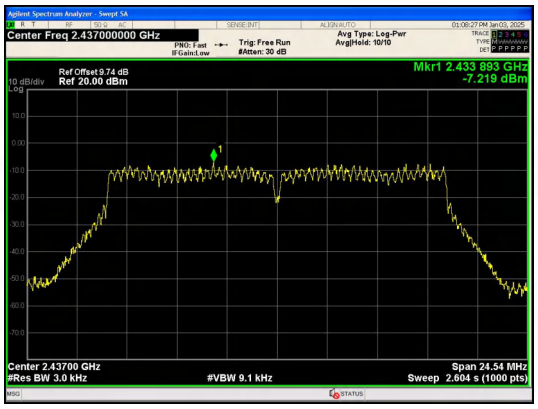
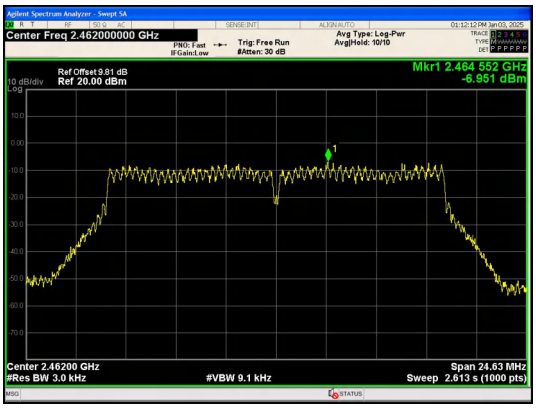
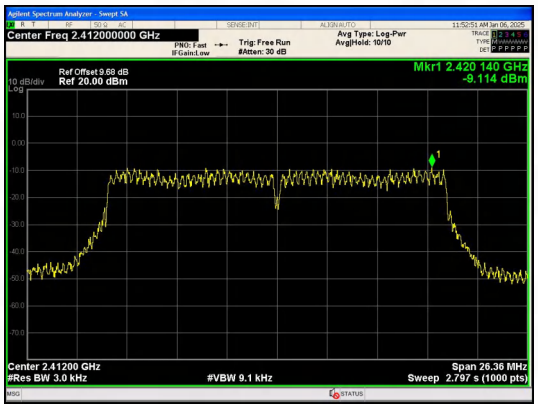


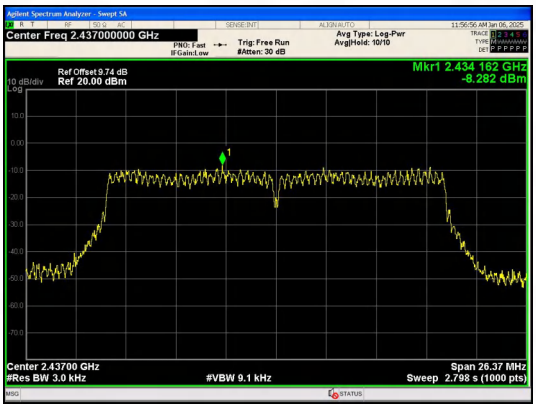
IEEE 802.11g_Channel 6_20MHz_Antenna 0



IEEE 802.11g_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 1_20MHz_Antenna 0



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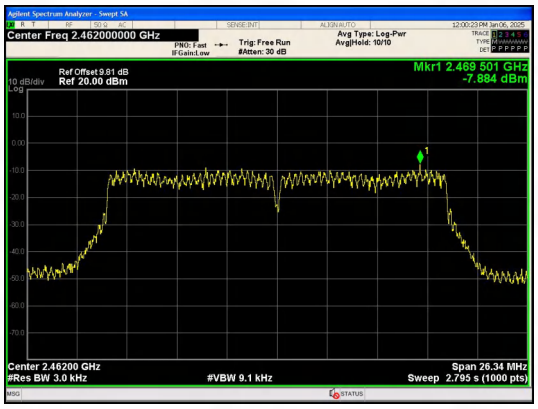

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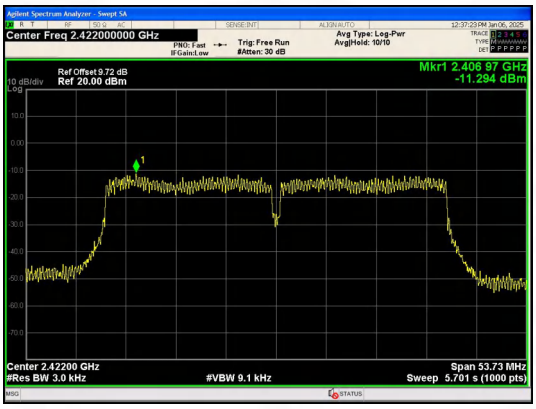
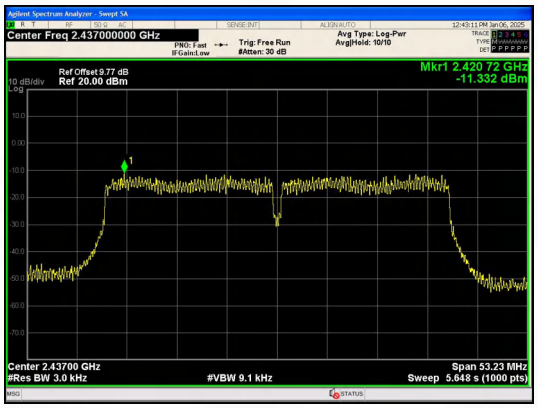
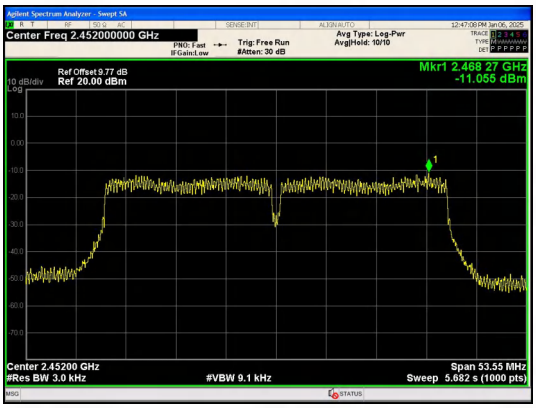


IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



IEEE 802.11n_Channel 9_40MHz_Antenna 0

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Conducted Spurious Emission

Test Result

Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
IEEE 802.11b	1	0	1608.10	-43.305	-10.58	-32.725	PASS
			2396.97	-33.833	-10.58	-23.253	PASS
			2400.00	-37.168	-10.58	-26.588	PASS
			4824.20	-54.204	-10.58	-43.624	PASS
			7222.00	-55.334	-10.58	-44.754	PASS
			9634.70	-56.987	-10.58	-46.407	PASS
	6		811.56	-42.210	-10.62	-31.590	PASS
			4874.18	-51.740	-10.62	-41.120	PASS
			7295.65	-55.825	-10.62	-45.205	PASS
			9747.70	-56.122	-10.62	-45.502	PASS
	11		1641.19	-43.760	-10.32	-33.440	PASS
			2483.50	-39.723	-10.32	-29.403	PASS
			4924.12	-51.021	-10.32	-40.701	PASS
			7386.16	-56.267	-10.32	-45.947	PASS
			9855.69	-57.098	-10.32	-46.778	PASS
IEEE 802.11g	1		2398.14	-28.511	-12.34	-16.171	PASS
			2400.00	-30.428	-12.34	-18.088	PASS
			4833.00	-56.664	-12.34	-44.324	PASS
			7240.10	-54.992	-12.34	-42.652	PASS
			9629.70	-55.910	-12.34	-43.570	PASS
			24667.3	-45.385	-12.34	-33.045	PASS
	6		809.69	-44.615	-12.39	-32.225	PASS
			4892.28	-56.137	-12.39	-43.747	PASS
			7315.62	-56.774	-12.39	-44.384	PASS
			9738.96	-56.811	-12.39	-44.421	PASS
	11		828.42	-41.686	-12.1	-29.586	PASS
			2483.50	-35.044	-12.1	-22.944	PASS
			4929.11	-56.663	-12.1	-44.563	PASS
			7396.77	-55.925	-12.1	-43.825	PASS
			9866.93	-57.751	-12.1	-45.651	PASS
IEEE 802.11n_20	1		2398.92	-26.398	-14.11	-12.288	PASS
			2400.00	-28.789	-14.11	-14.679	PASS
			4824.90	-56.949	-14.11	-42.839	PASS
			7232.60	-57.067	-14.11	-42.957	PASS
			9660.90	-56.910	-14.11	-42.800	PASS
			24724.7	-45.831	-14.11	-31.721	PASS
	6		4854.20	-56.350	-14.15	-42.200	PASS

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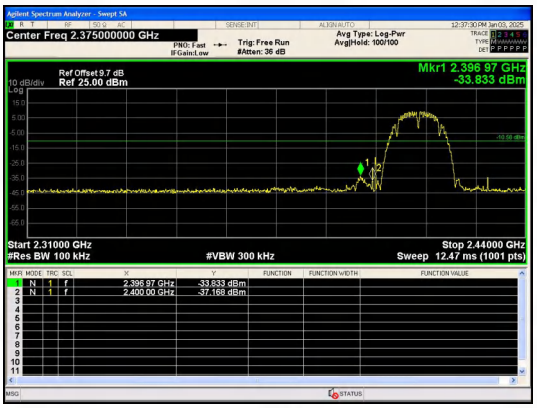
			7315.00	-57.252	-14.15	-43.102	PASS
			9755.19	-56.874	-14.15	-42.724	PASS
			24624.8	-45.416	-14.15	-31.266	PASS
	11		2483.50	-38.176	-14.28	-23.896	PASS
			4931.61	-55.894	-14.28	-41.614	PASS
			7388.66	-56.842	-14.28	-42.562	PASS
			9835.72	-58.114	-14.28	-43.834	PASS
			24980.0	-45.426	-14.28	-31.146	PASS
IEEE 802.11n_40	3		2396.19	-27.567	-16.87	-10.697	PASS
			2400.00	-31.323	-16.87	-14.453	PASS
			4854.20	-56.660	-16.87	-39.790	PASS
			7282.50	-55.789	-16.87	-38.919	PASS
			9679.70	-57.605	-16.87	-40.735	PASS
			24697.9	-45.735	-16.87	-28.865	PASS
	6		4890.41	-55.674	-16.81	-38.864	PASS
			7296.89	-56.712	-16.81	-39.902	PASS
			9743.95	-56.636	-16.81	-39.826	PASS
			24749.7	-46.184	-16.81	-29.374	PASS
	9		2483.50	-36.022	-16.81	-19.212	PASS
			4936.60	-56.346	-16.81	-39.535	PASS
			7321.86	-57.155	-16.81	-40.345	PASS
			9778.29	-57.636	-16.81	-40.826	PASS
			24708.5	-45.148	-16.81	-28.338	PASS

Note:The maximum loss of the test system for testing at 30MHz-26.5GHz is 17.2dB. The offset on the test chart is the offset of the main frequency, and the margin is sufficient to offset the difference between the maximum loss of the system and the offset of the main frequency

Test Graphs

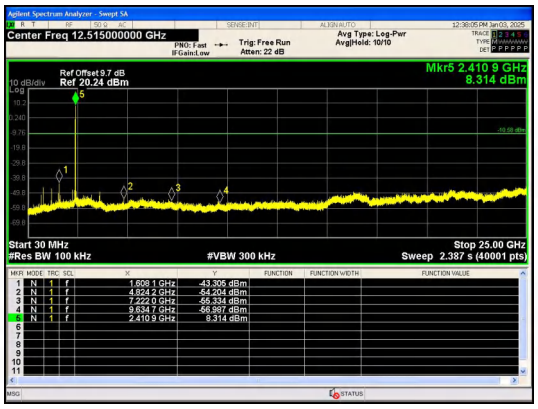
In-Band Reference Level

IEEE 802.11b_Channel 1_20MHz_Antenna 0



Out Of Band Emission

IEEE 802.11b_Channel 1_20MHz_Antenna 0

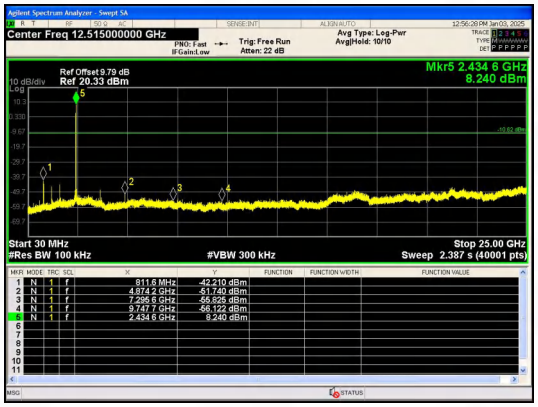


30.0 MHz - 25000.0 MHz

IEEE 802.11b_Channel 1_20MHz_Antenna 0

In-Band Reference Level

IEEE 802.11b_Channel 6_20MHz_Antenna 0

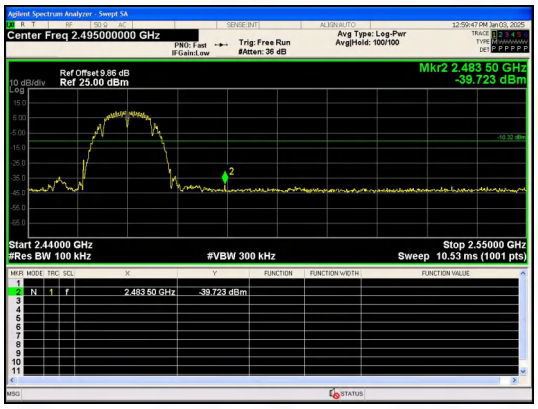


30.0 MHz - 25000.0 MHz

IEEE 802.11b_Channel 6_20MHz_Antenna 0

In-Band Reference Level

IEEE 802.11b_Channel 11_20MHz_Antenna 0



Out Of Band Emission

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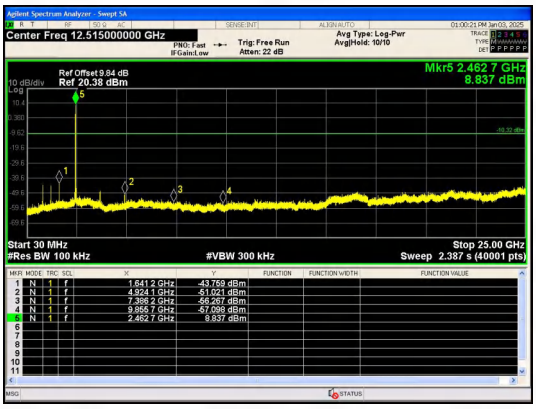

30.0 MHz - 25000.0 MHz

IEEE 802.11b_Channel 11_20MHz_Antenna 0

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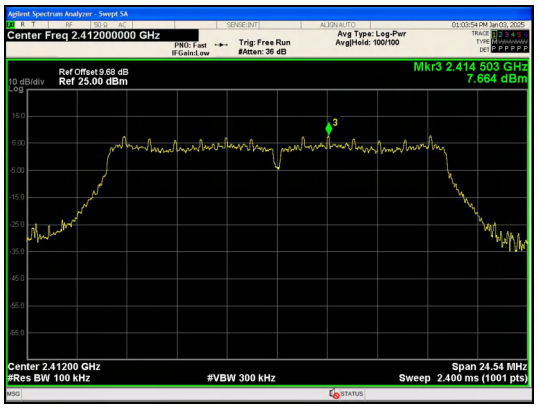
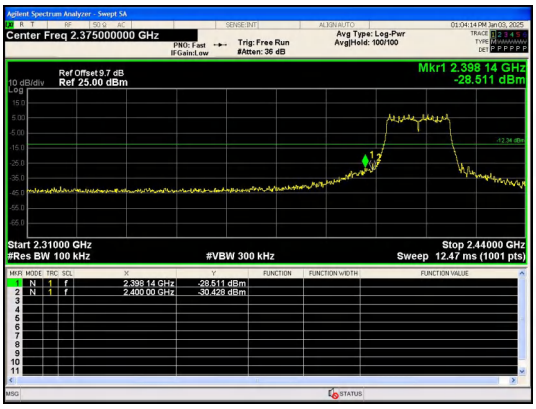


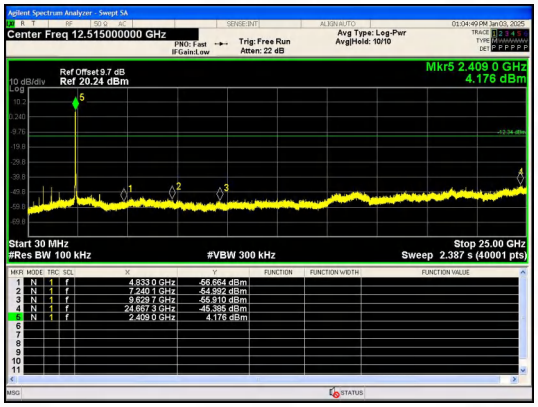
In-Band Reference Level

IEEE 802.11g_Channel 1_20MHz_Antenna 0



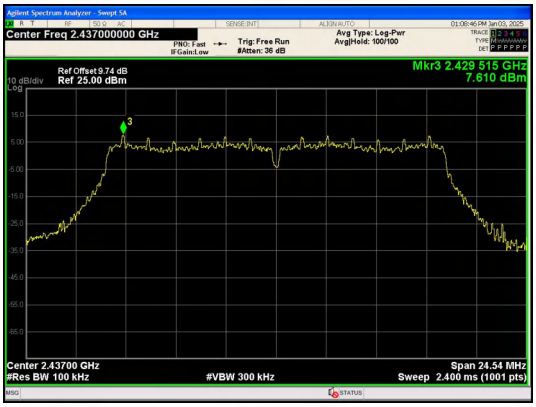
Out Of Band Emission

IEEE 802.11g_Channel 1_20MHz_Antenna 0



30.0 MHz - 25000.0 MHz

IEEE 802.11g_Channel 1_20MHz_Antenna 0



In-Band Reference Level

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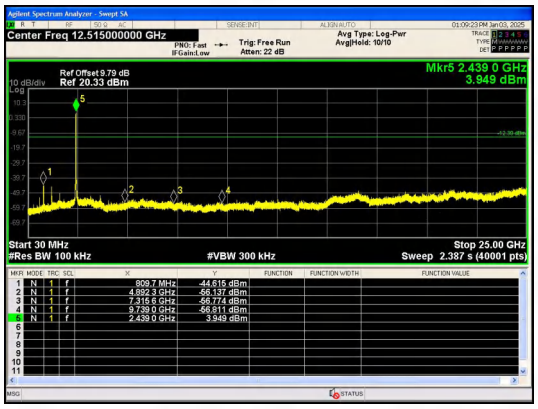
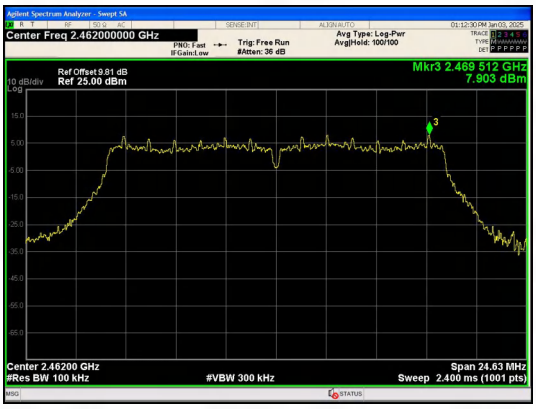


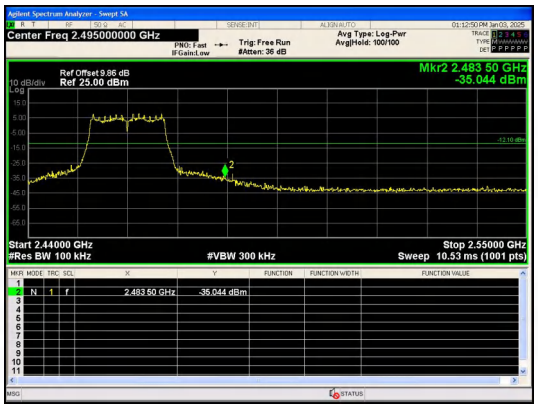
30.0 MHz - 25000.0 MHz

IEEE 802.11g_Channel 6_20MHz_Antenna 0



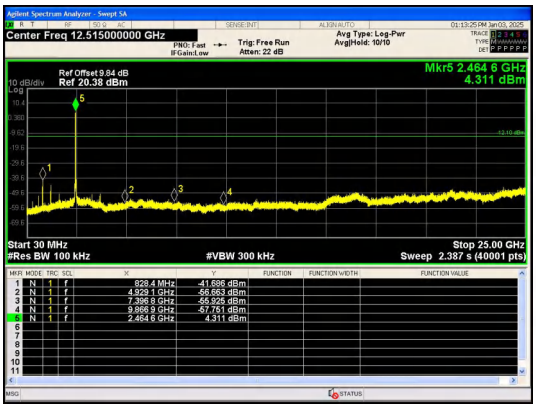
In-Band Reference Level

IEEE 802.11g_Channel 11_20MHz_Antenna 0



Out Of Band Emission

IEEE 802.11g_Channel 11_20MHz_Antenna 0



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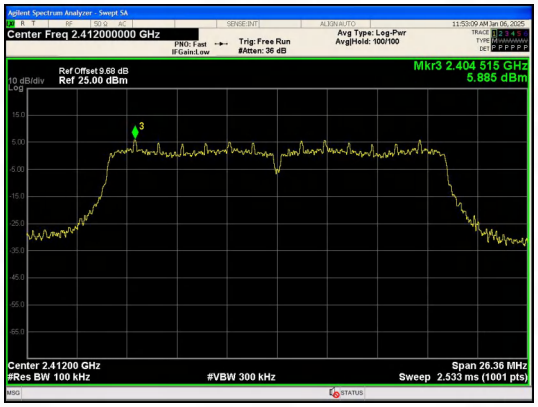
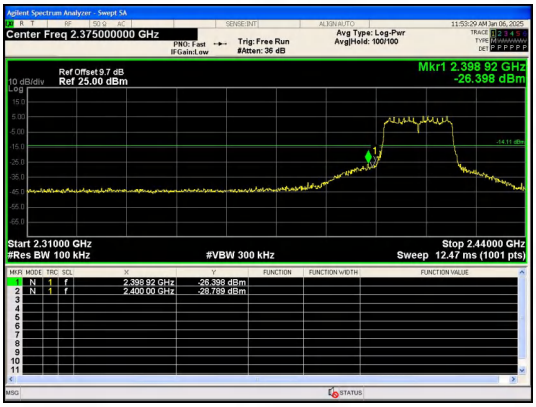


In-Band Reference Level

IEEE 802.11n_Channel 1_20MHz_Antenna 0



Out Of Band Emission

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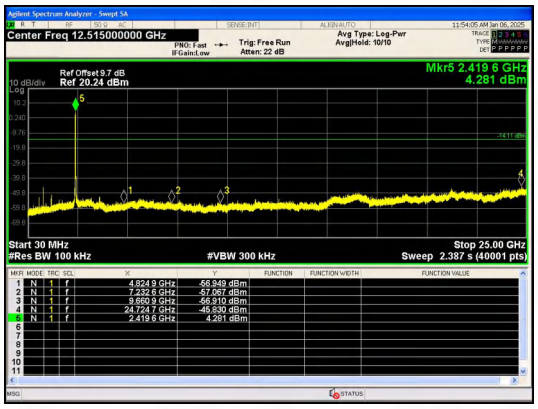
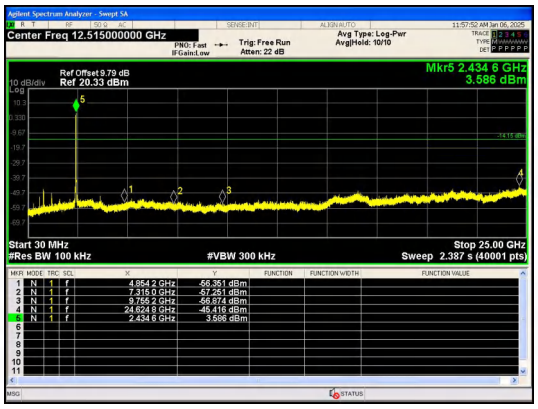


30.0 MHz - 25000.0 MHz

IEEE 802.11n_Channel 1_20MHz_Antenna 0

In-Band Reference Level

IEEE 802.11n_Channel 6_20MHz_Antenna 0



30.0 MHz - 25000.0 MHz

IEEE 802.11n_Channel 6_20MHz_Antenna 0

In-Band Reference Level

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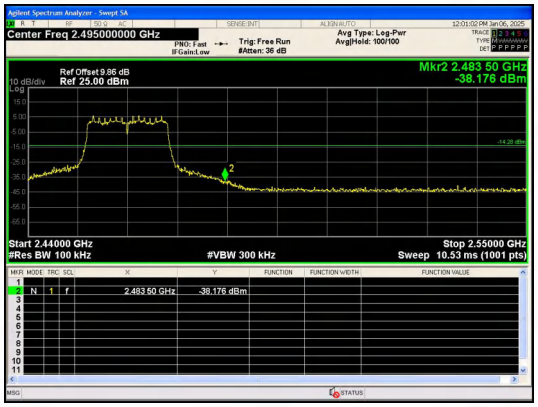

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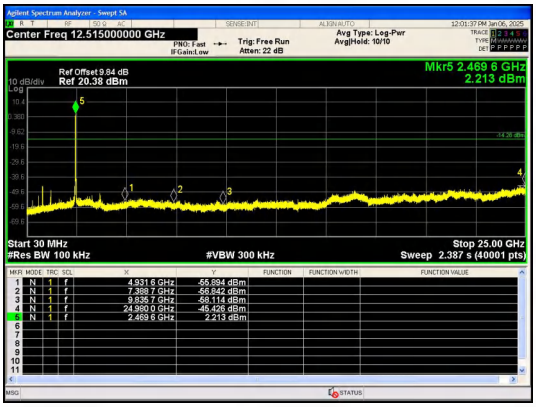
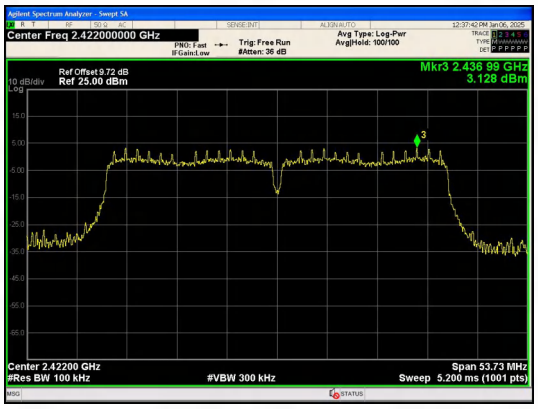
IEEE 802.11n_Channel 11_20MHz_Antenna 0



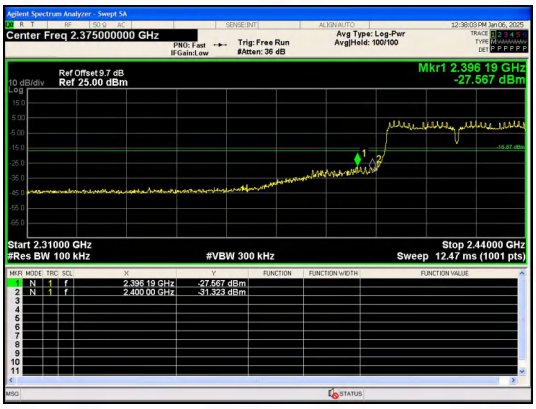
30.0 MHz - 25000.0 MHz

IEEE 802.11n_Channel 11_20MHz_Antenna 0



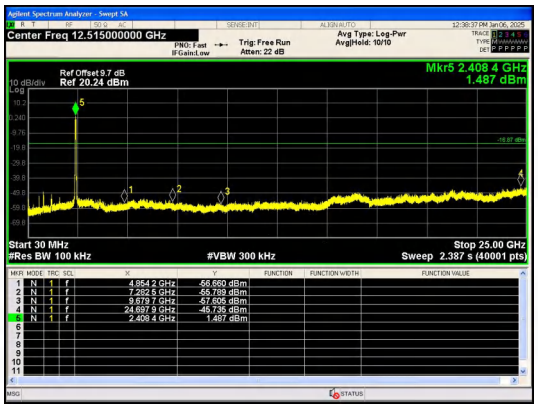
In-Band Reference Level

IEEE 802.11n_Channel 3_40MHz_Antenna 0



Out Of Band Emission

IEEE 802.11n_Channel 3_40MHz_Antenna 0

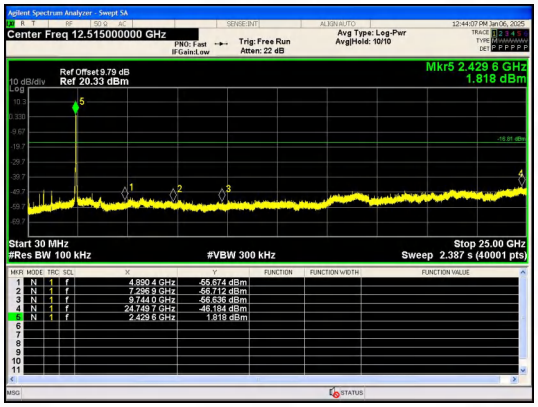


30.0 MHz - 25000.0 MHz

IEEE 802.11n_Channel 3_40MHz_Antenna 0

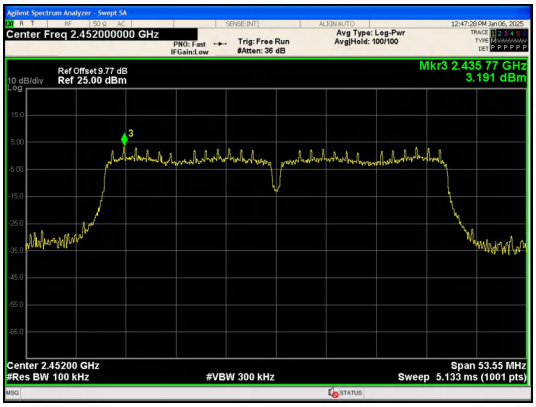
In-Band Reference Level

IEEE 802.11n_Channel 6_40MHz_Antenna 0



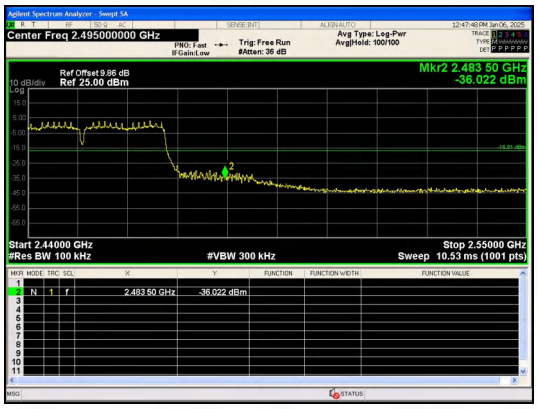
30.0 MHz - 25000.0 MHz

IEEE 802.11n_Channel 6_40MHz_Antenna 0



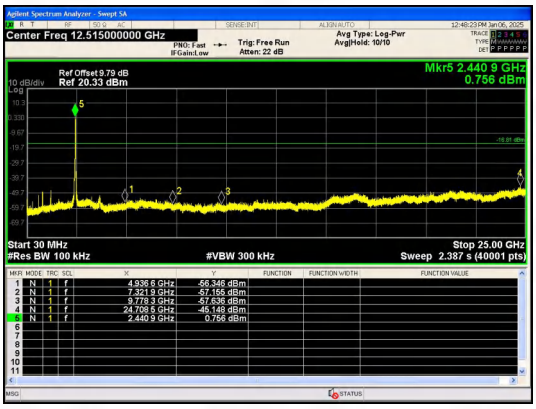
In-Band Reference Level

IEEE 802.11n_Channel 9_40MHz_Antenna 0



Out Of Band Emission

IEEE 802.11n_Channel 9_40MHz_Antenna 0



30.0 MHz - 25000.0 MHz

IEEE 802.11n_Channel 9_40MHz_Antenna 0

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101/201/301, Building 1, Block 2, Tantou Industrial Park,Tantou Community, Songgang Subdistrict, Bao'an District, Shenzhen, China
Email: info@btf-lab.com Tel: +86-755-23146130 http://www.btf-lab.com