Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Smart IR Blaster

Trade Mark: SIMPNIC

Test Model: IRB-01-SW

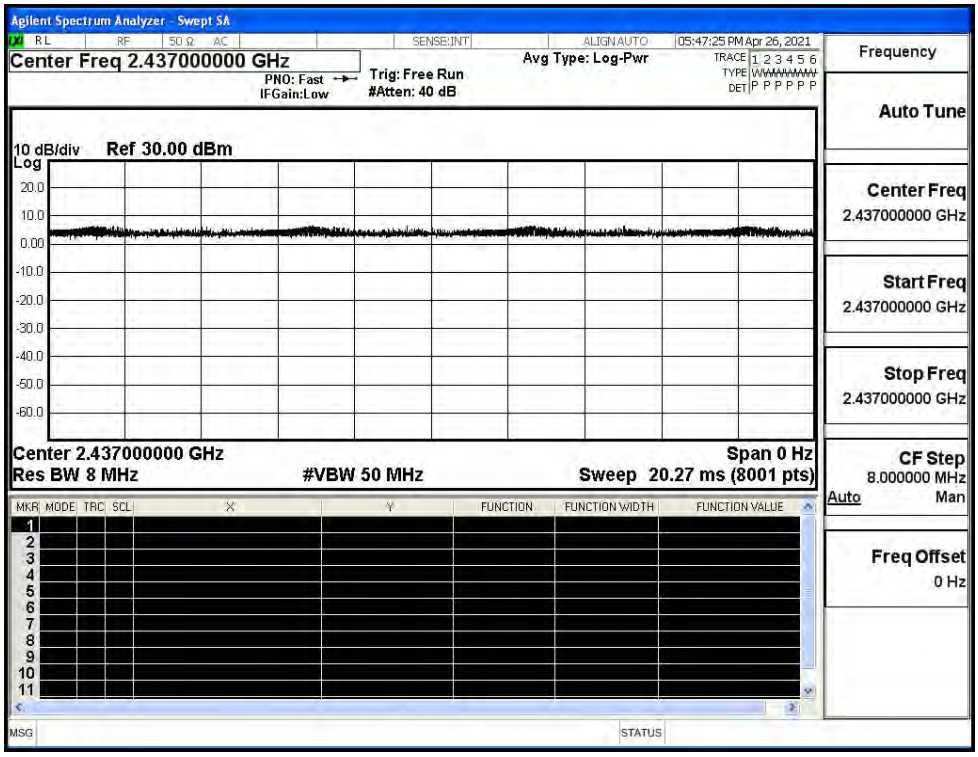
Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Ken He
Supervised by:	Li Huan

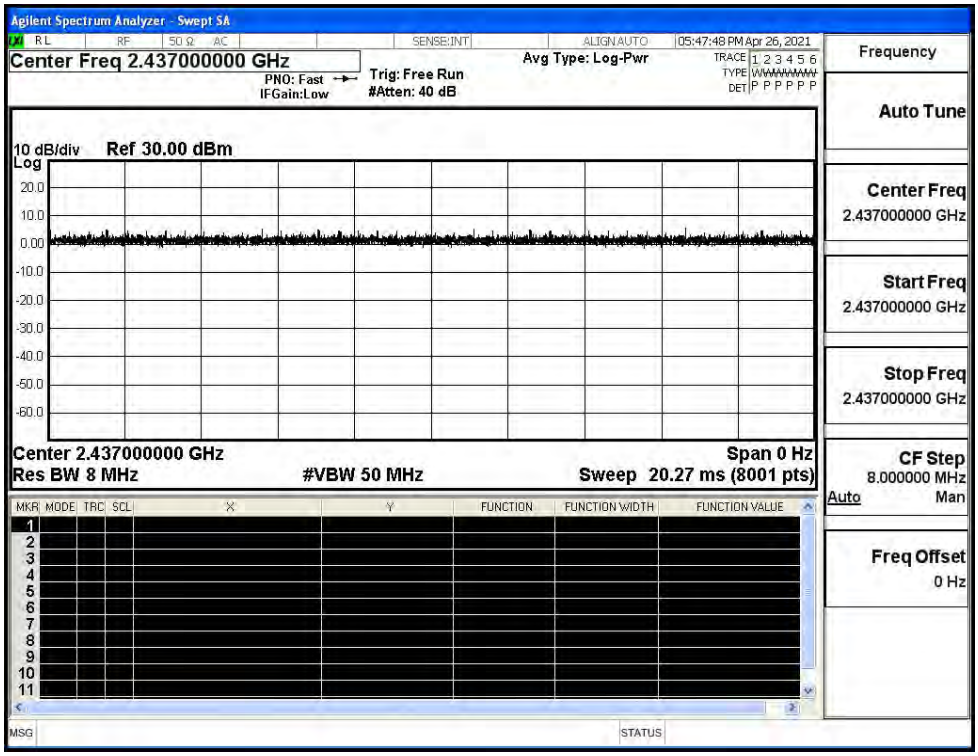
A.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	100	PASS
11G	2437	Ant1	100	PASS
11N20SISO	2437	Ant1	100	PASS

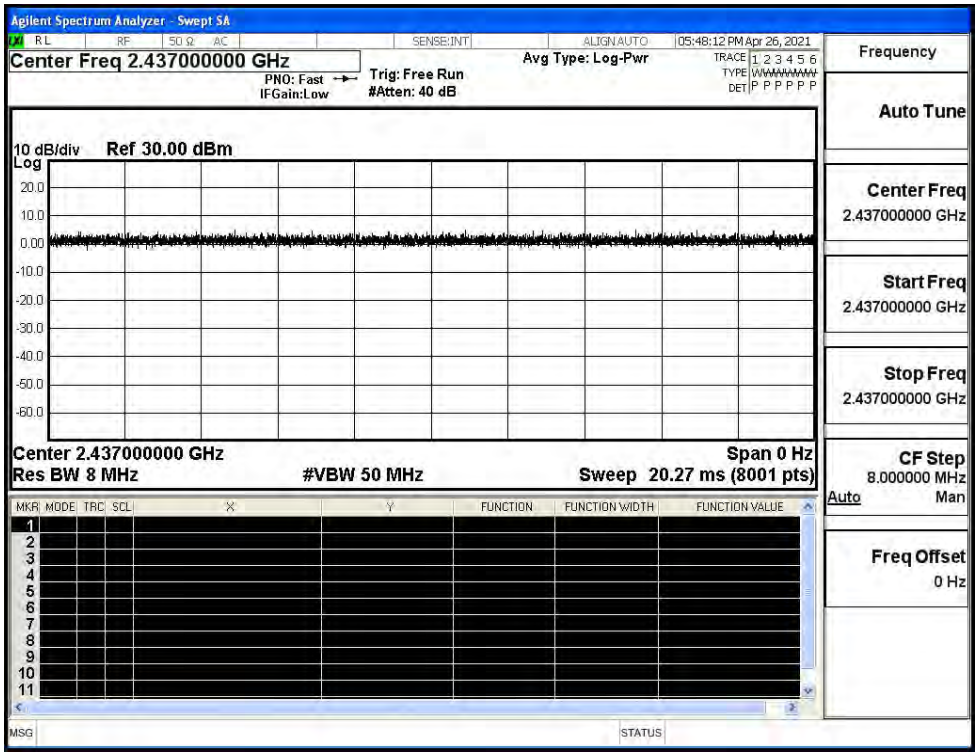
Duty Cycle_11B_2437_Ant1



Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1

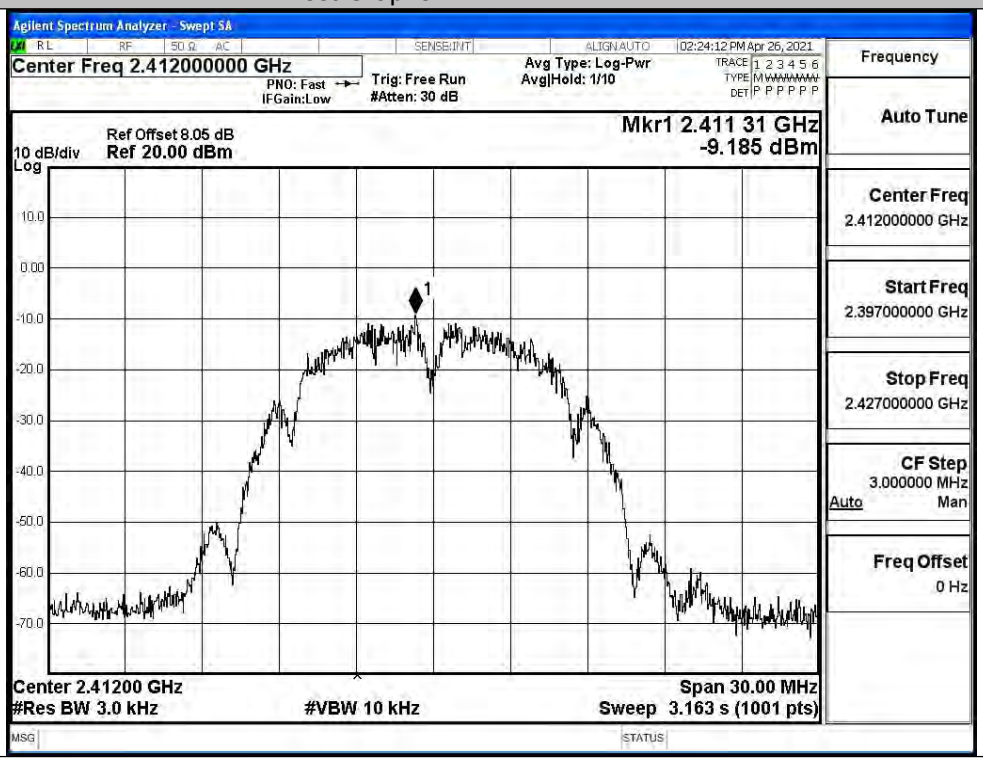


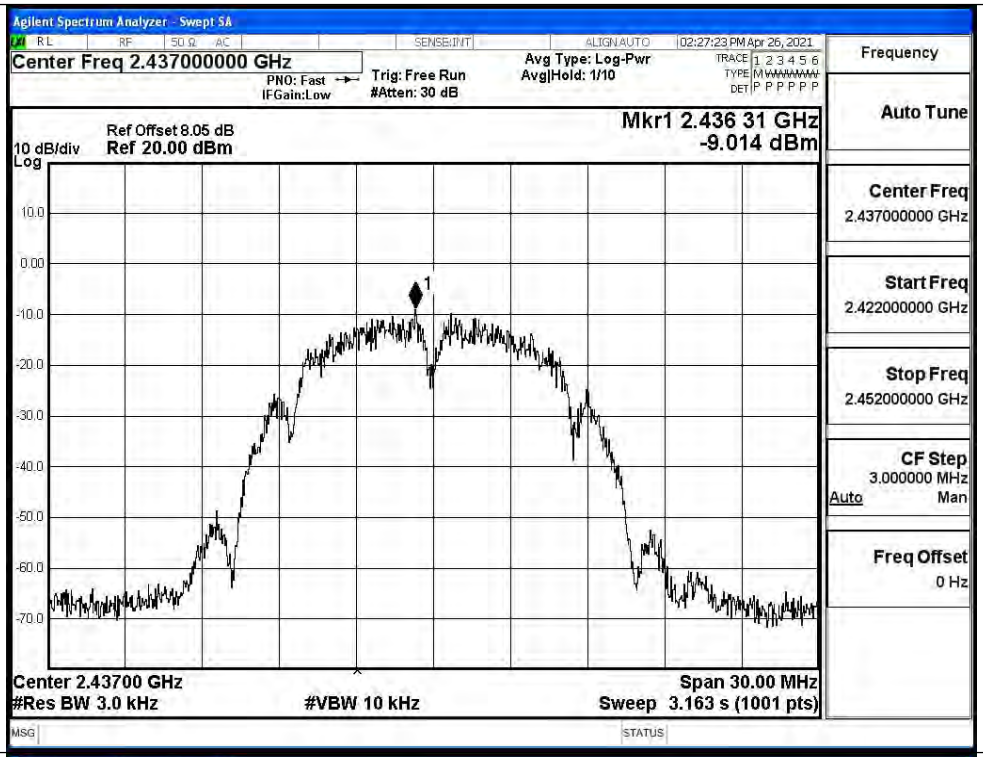
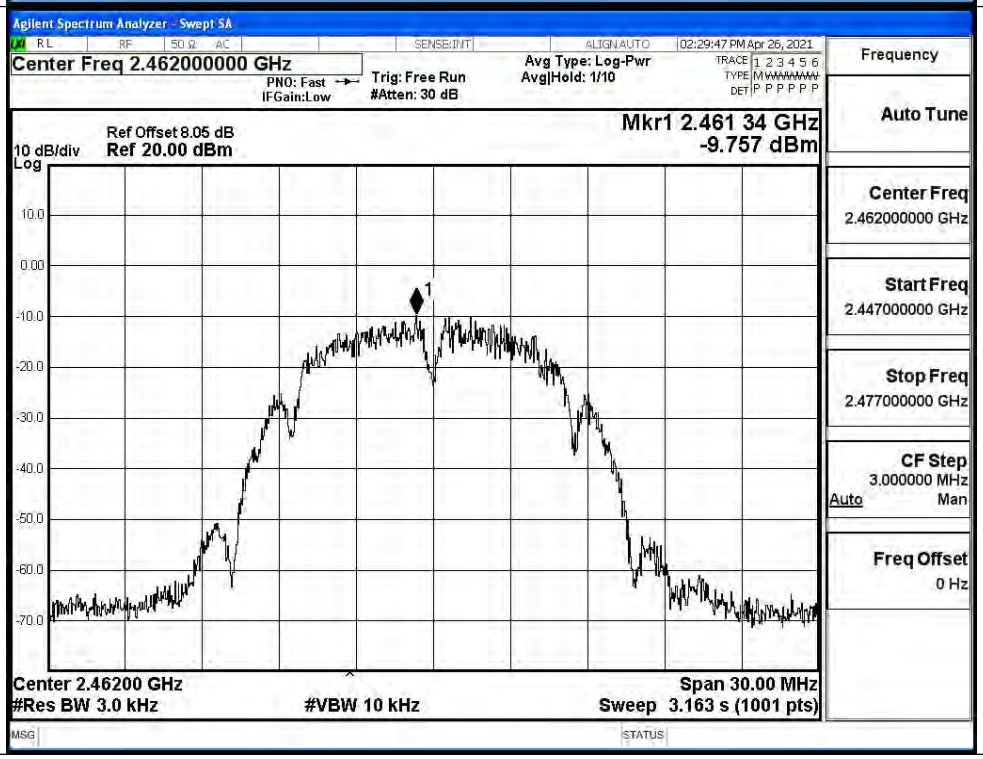
A.2 Maximum Conducted Output Power

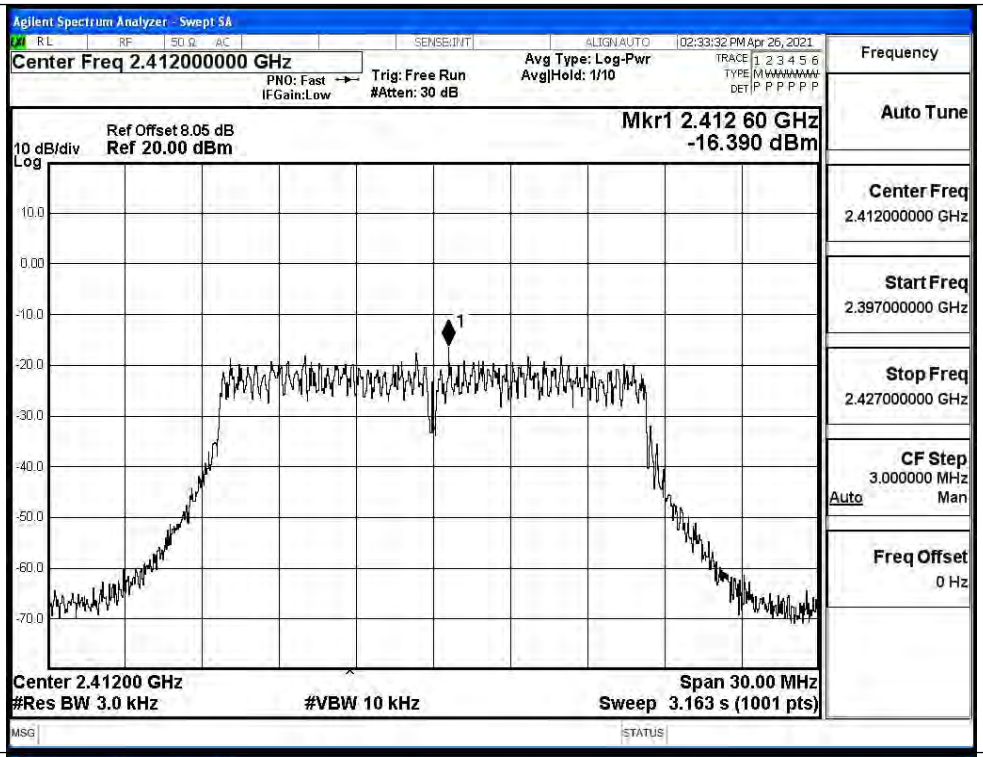
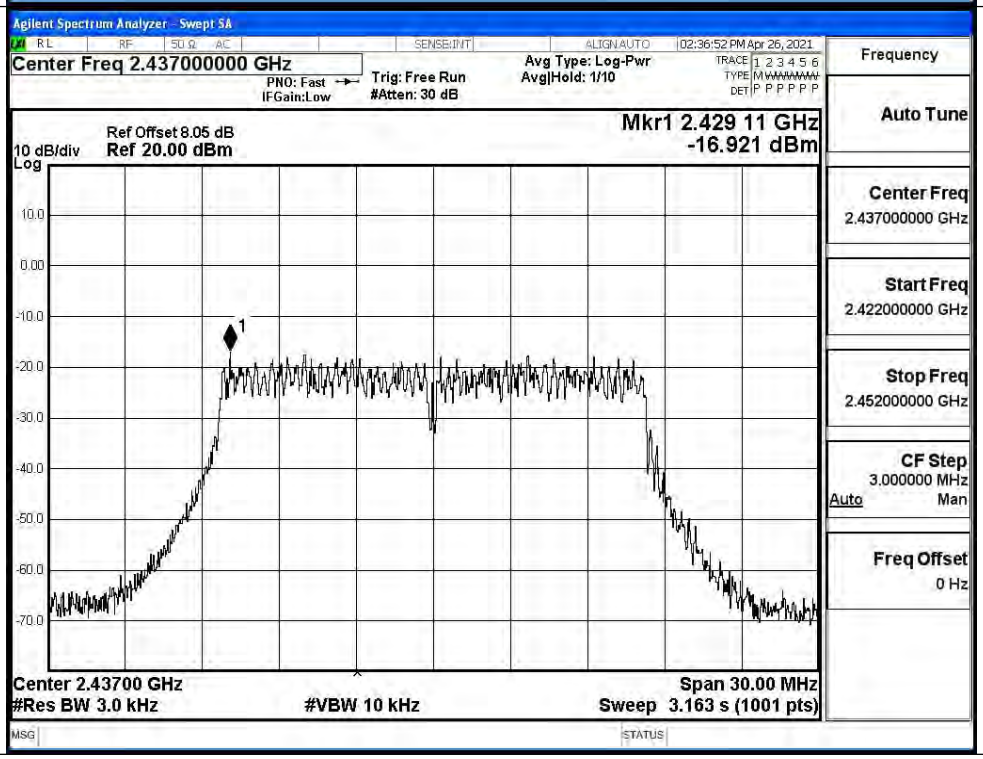
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	16.36	30	PASS
	MCH	16.72	30	PASS
	HCH	16.49	30	PASS
11G	LCH	16.14	30	PASS
	MCH	16.77	30	PASS
	HCH	16.66	30	PASS
11N20SISO	LCH	16.19	30	PASS
	MCH	**17.89**	30	PASS
	HCH	16.70	30	PASS

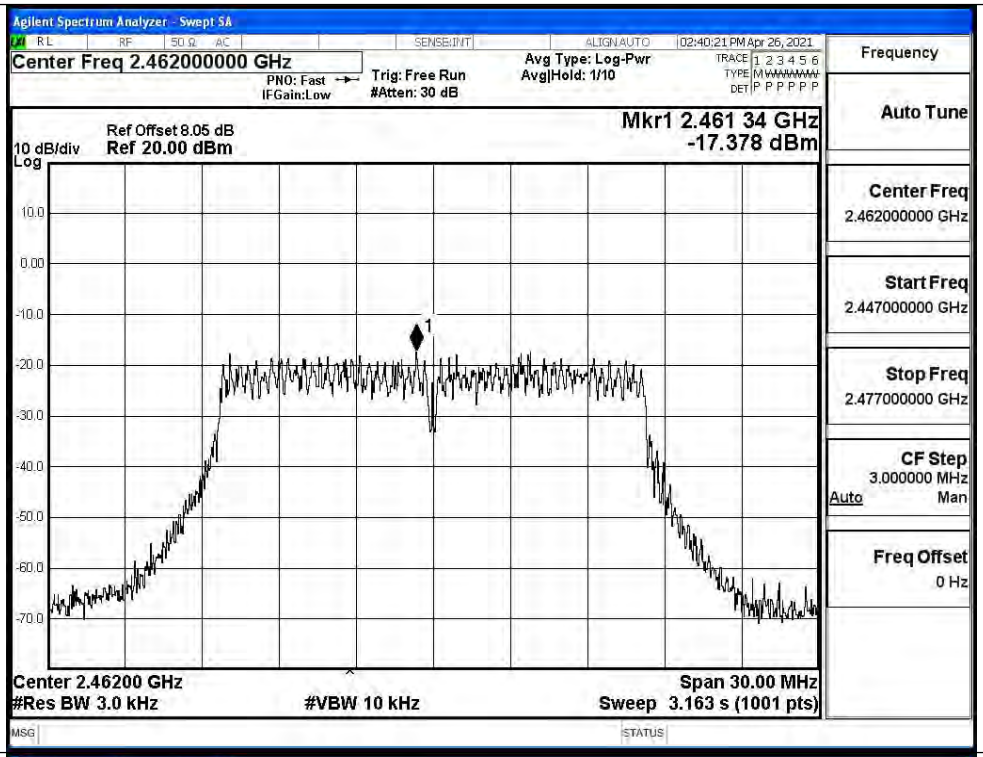
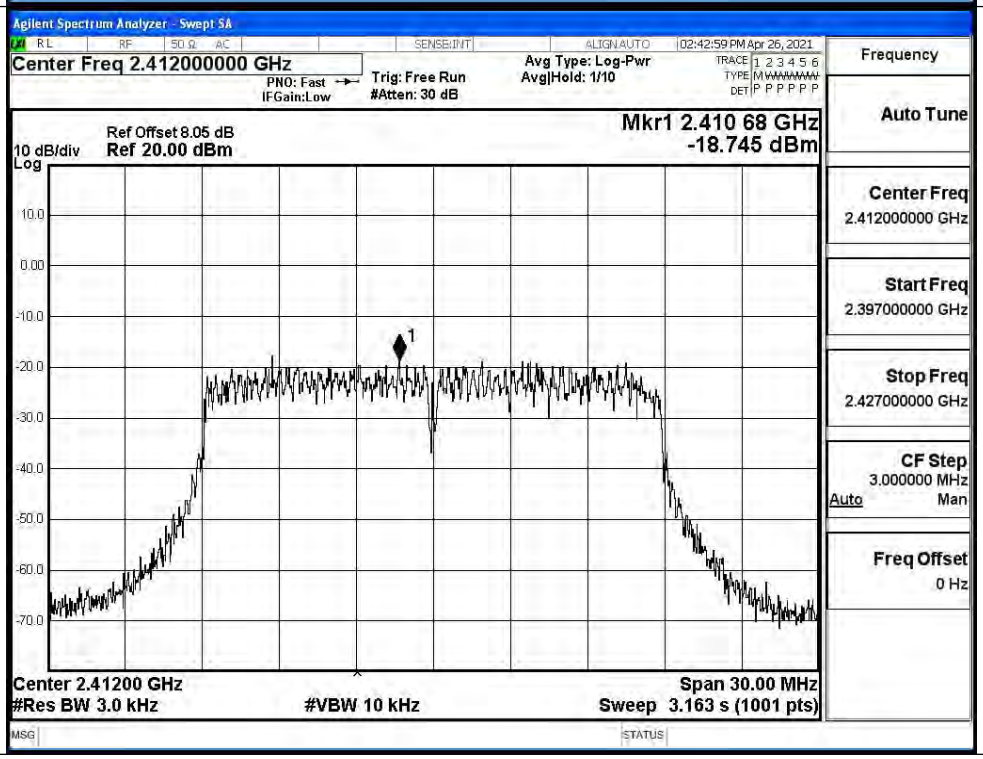
A.3 Maximum Power Spectral Density

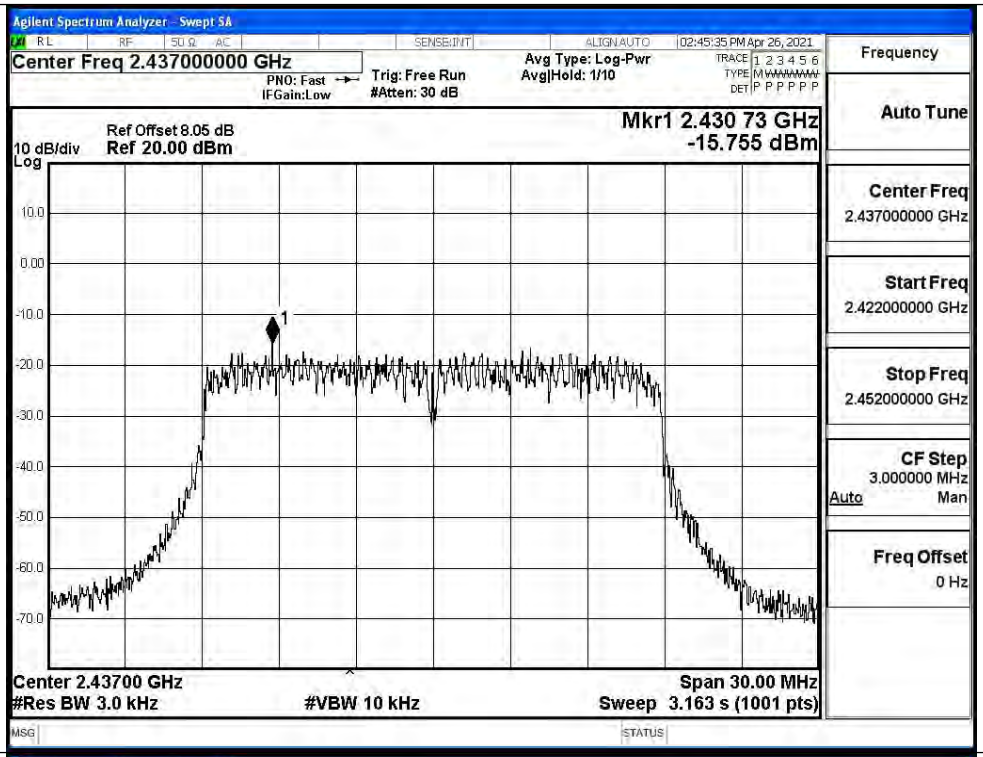
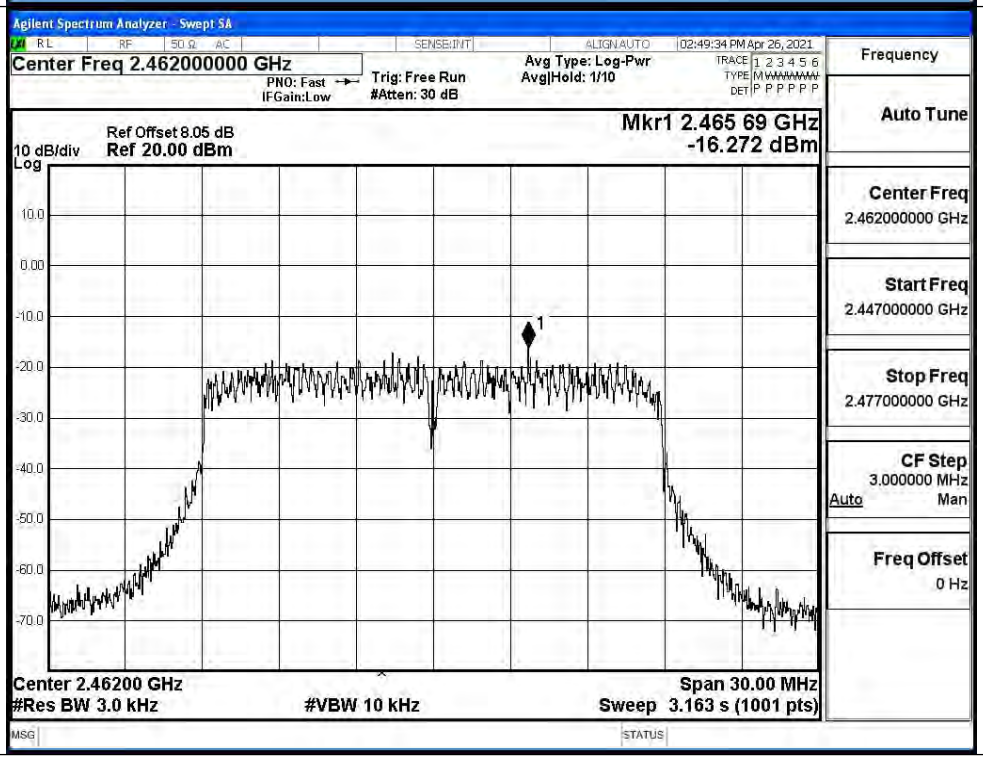
Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-9.185	8	PASS
	MCH	-9.014	8	PASS
	HCH	-9.757	8	PASS
11G	LCH	-16.390	8	PASS
	MCH	-16.921	8	PASS
	HCH	-17.378	8	PASS
11N20SISO	LCH	-18.745	8	PASS
	MCH	-15.755	8	PASS
	HCH	-16.272	8	PASS

Test Graphs	
11B/LCH	

11B/MCH	
11B/HCH	

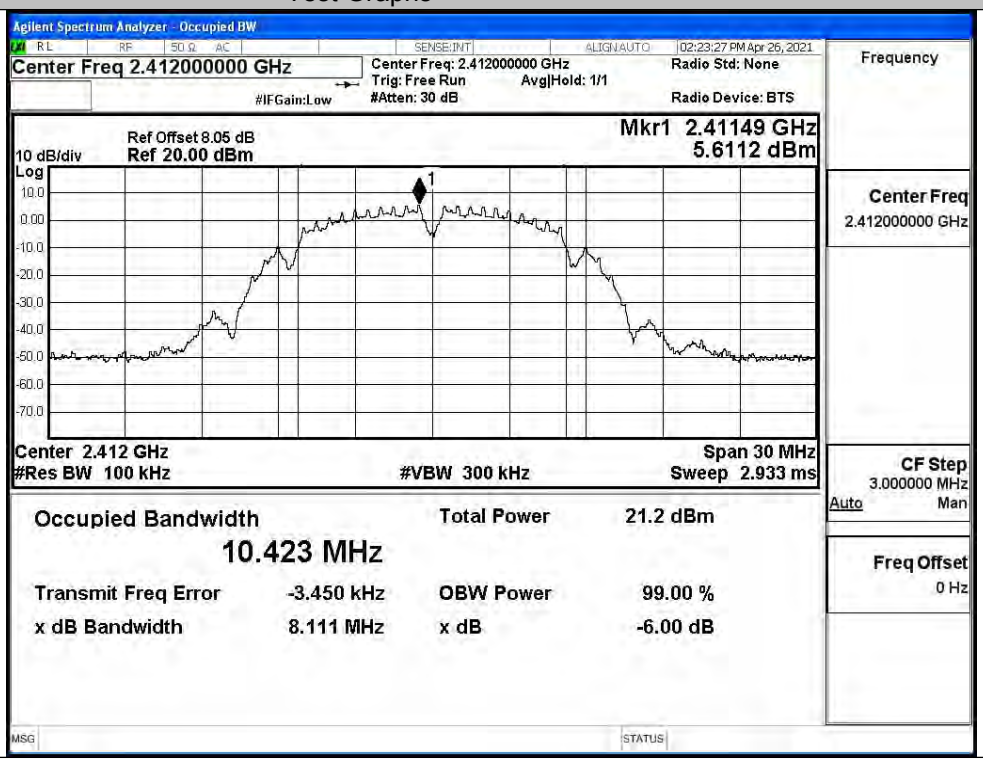
11G/LCH	
11G/MCH	

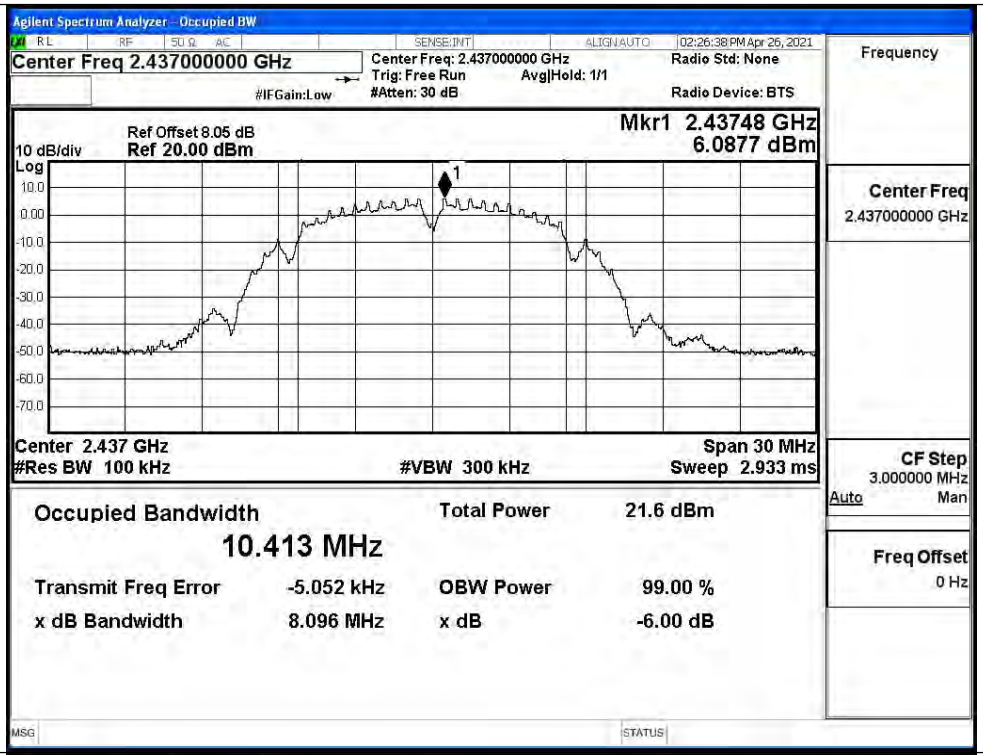
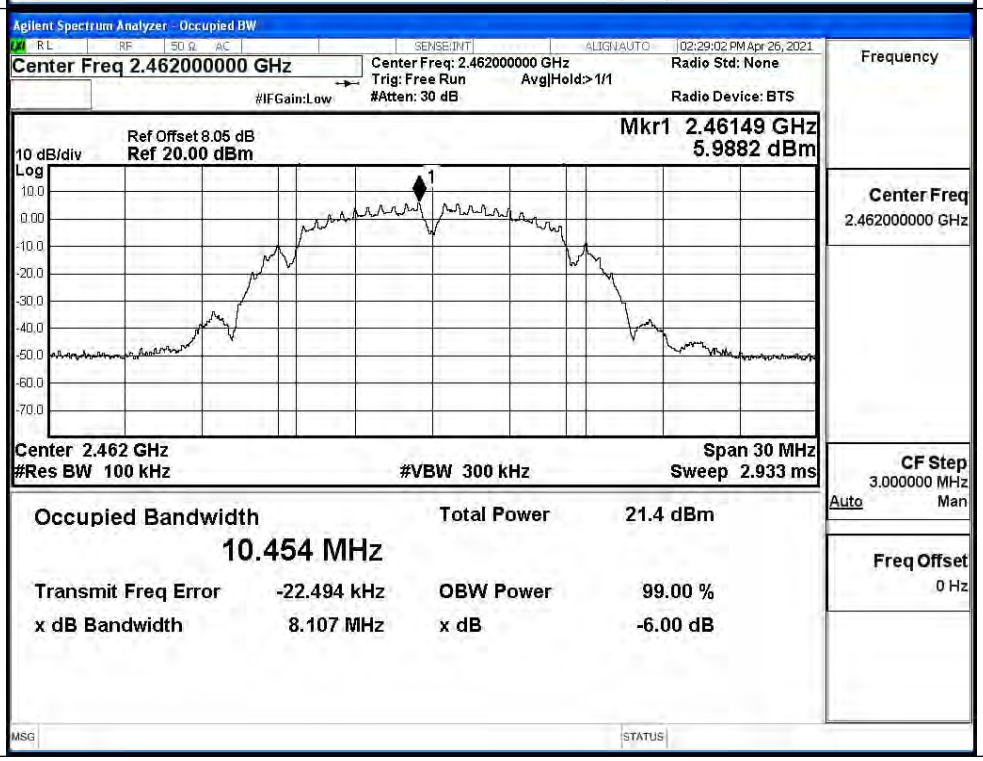
11G/HCH		
11N20SISO/LCH		

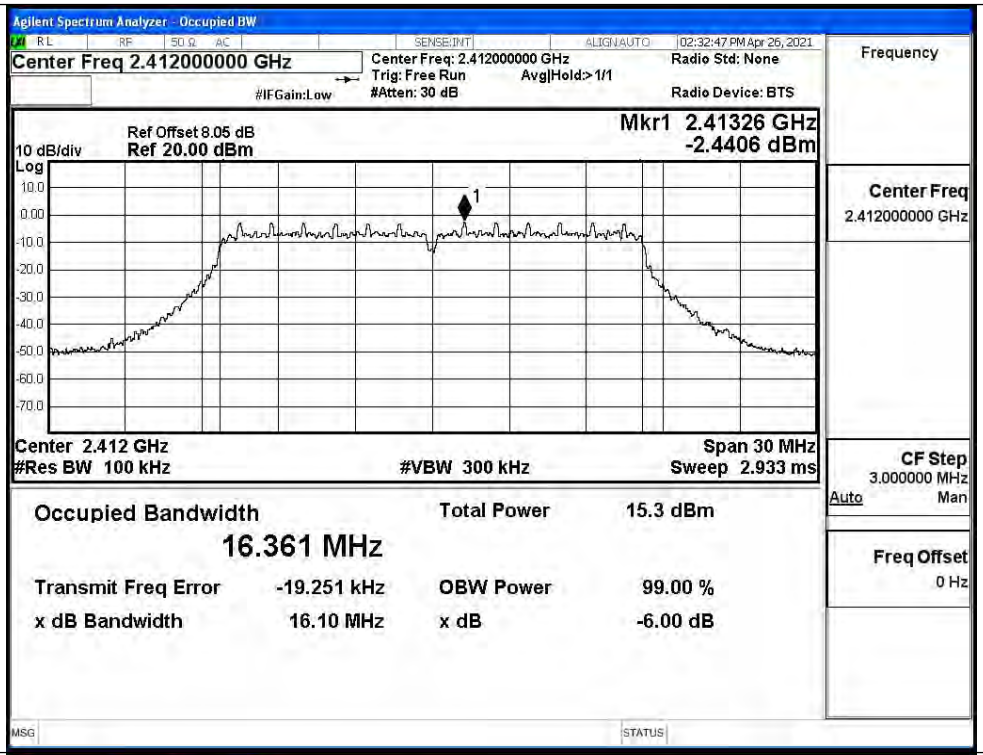
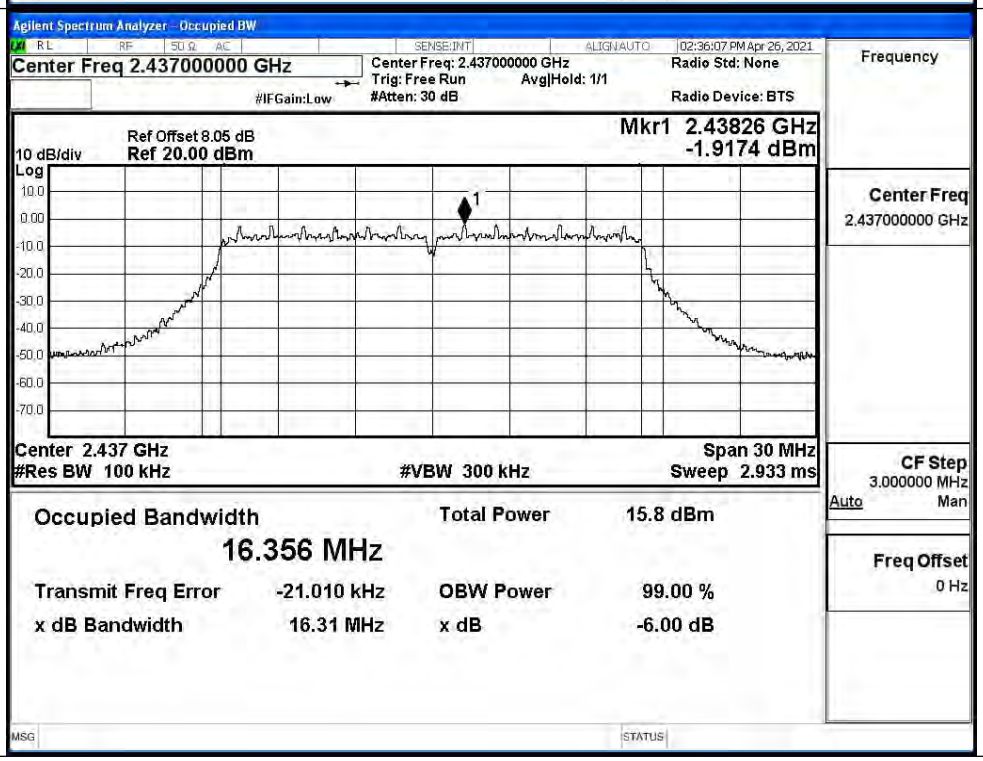
11N20SISO/MCH		
11N20SISO/HCH		

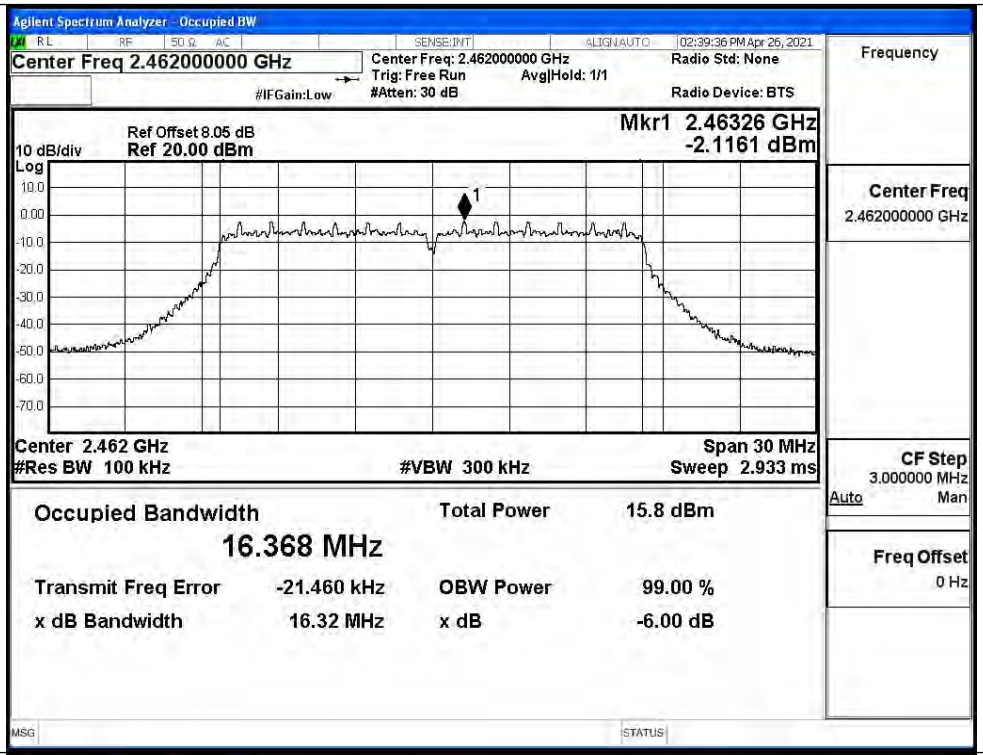
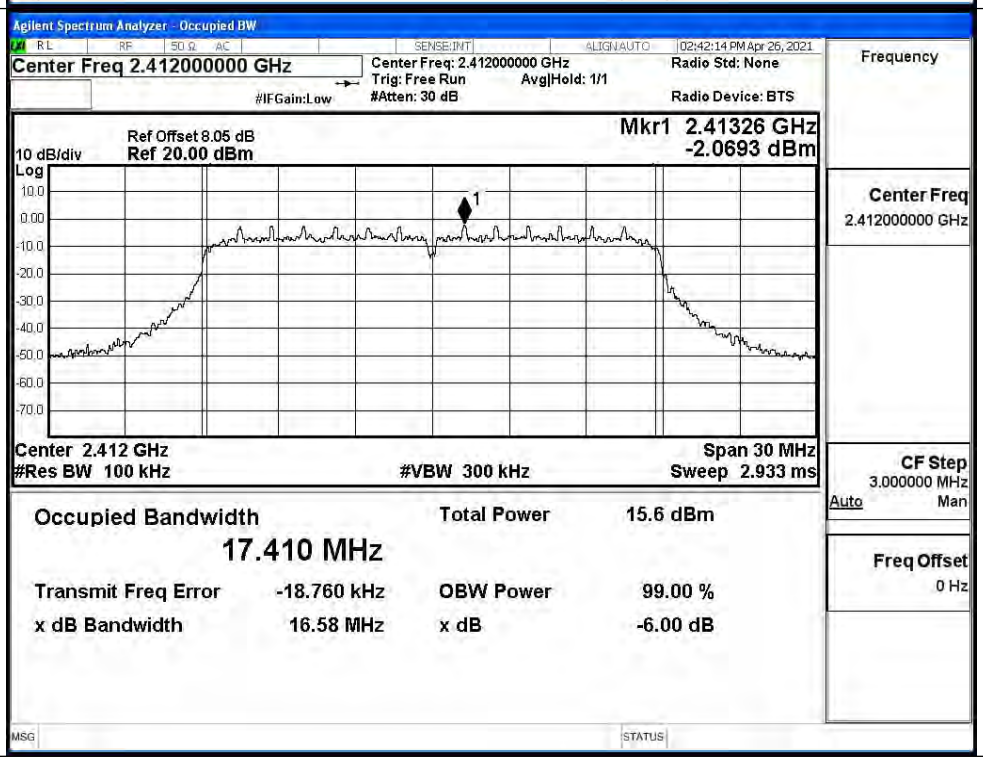
A.4 6dB Bandwidth

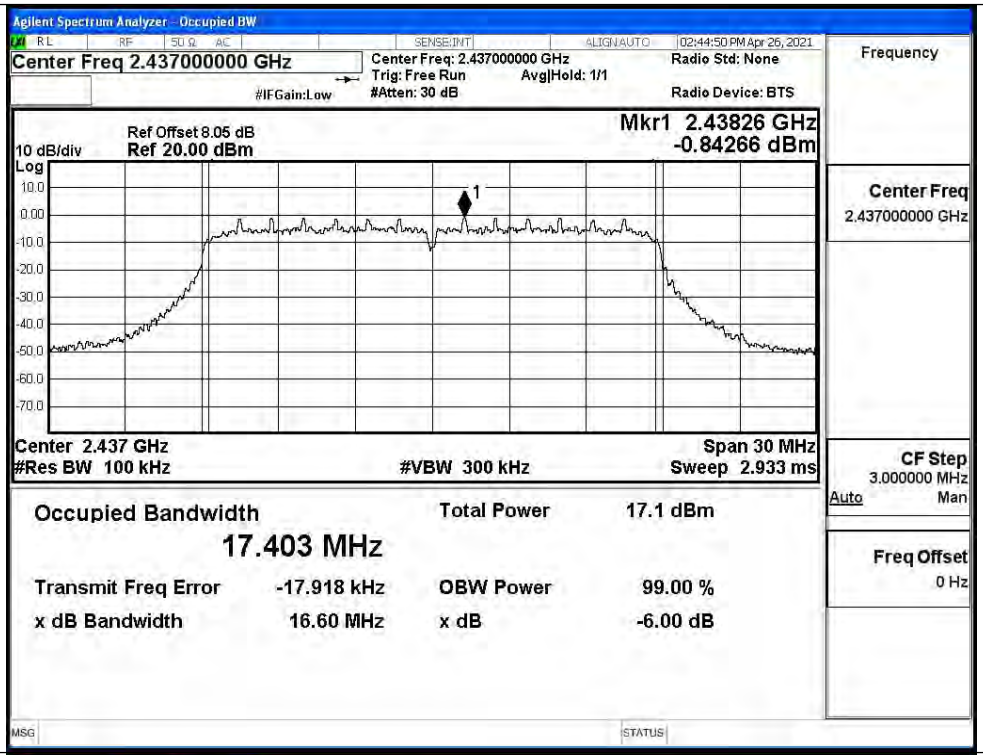
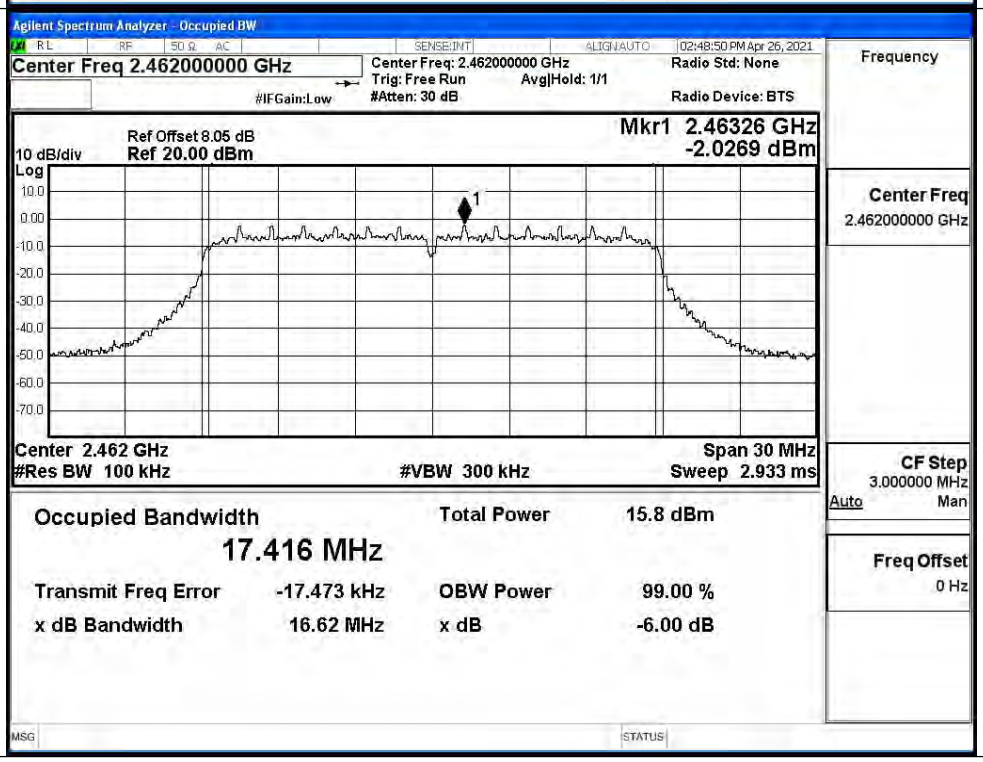
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.111	≥0.5	PASS
	MCH	8.096	≥0.5	PASS
	HCH	8.107	≥0.5	PASS
11G	LCH	16.10	≥0.5	PASS
	MCH	16.31	≥0.5	PASS
	HCH	16.32	≥0.5	PASS
11N20SISO	LCH	16.58	≥0.5	PASS
	MCH	16.60	≥0.5	PASS
	HCH	16.62	≥0.5	PASS

Test Graphs	
11B/LCH	

11B/MCH	
11B/HCH	

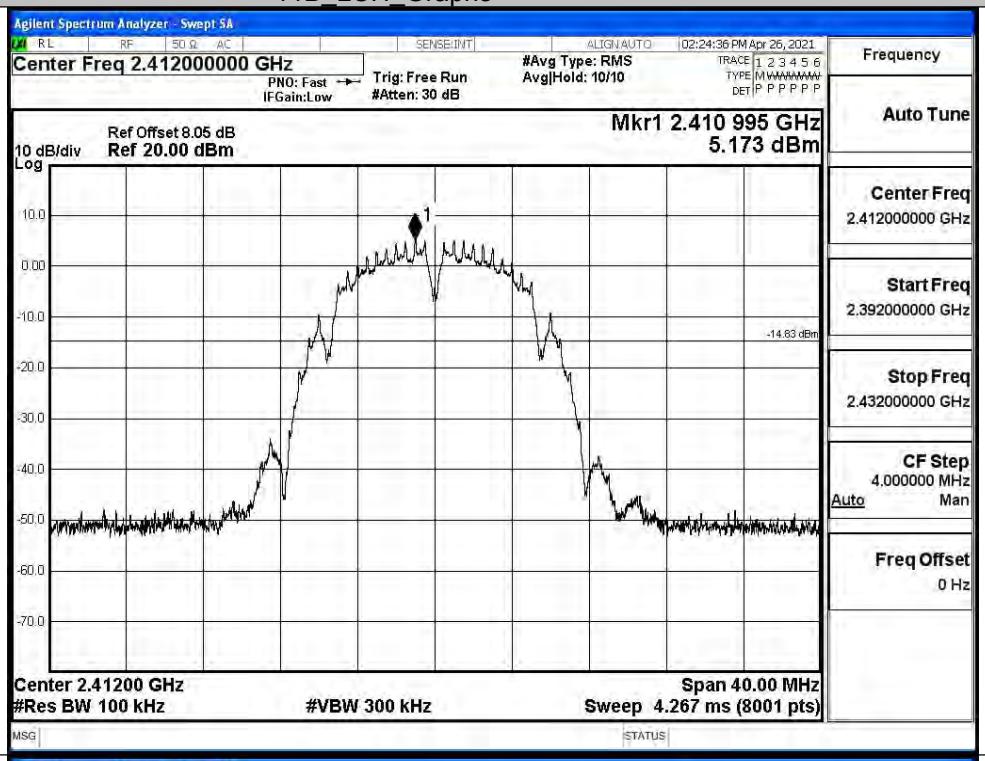
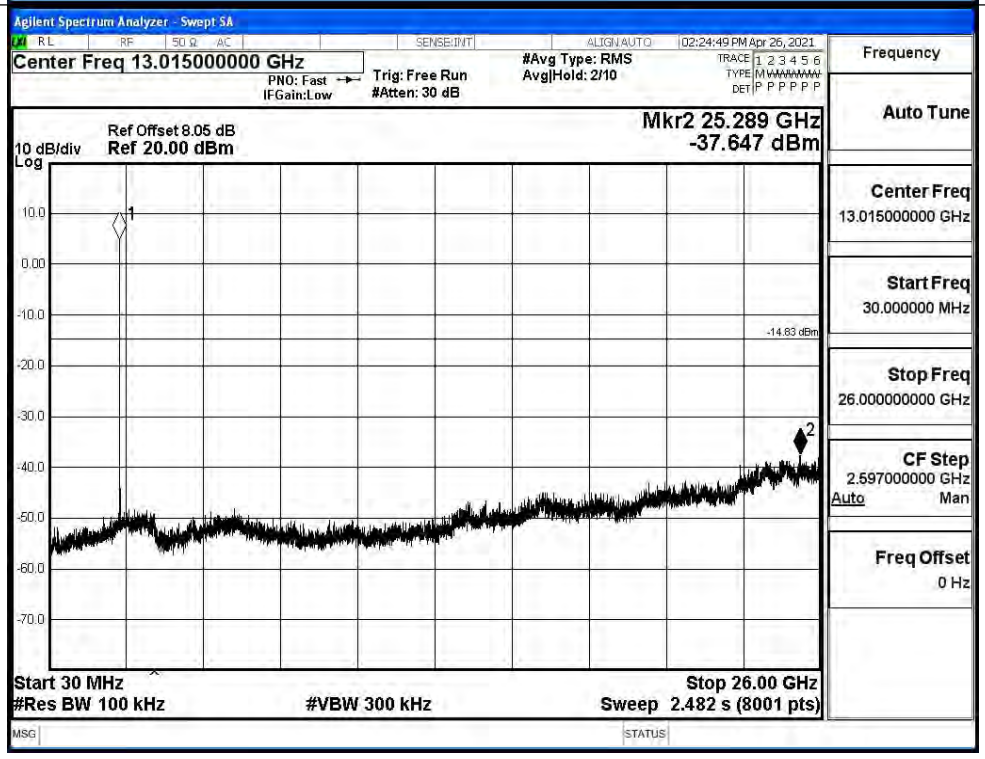
11G/LCH	
11G/MCH	

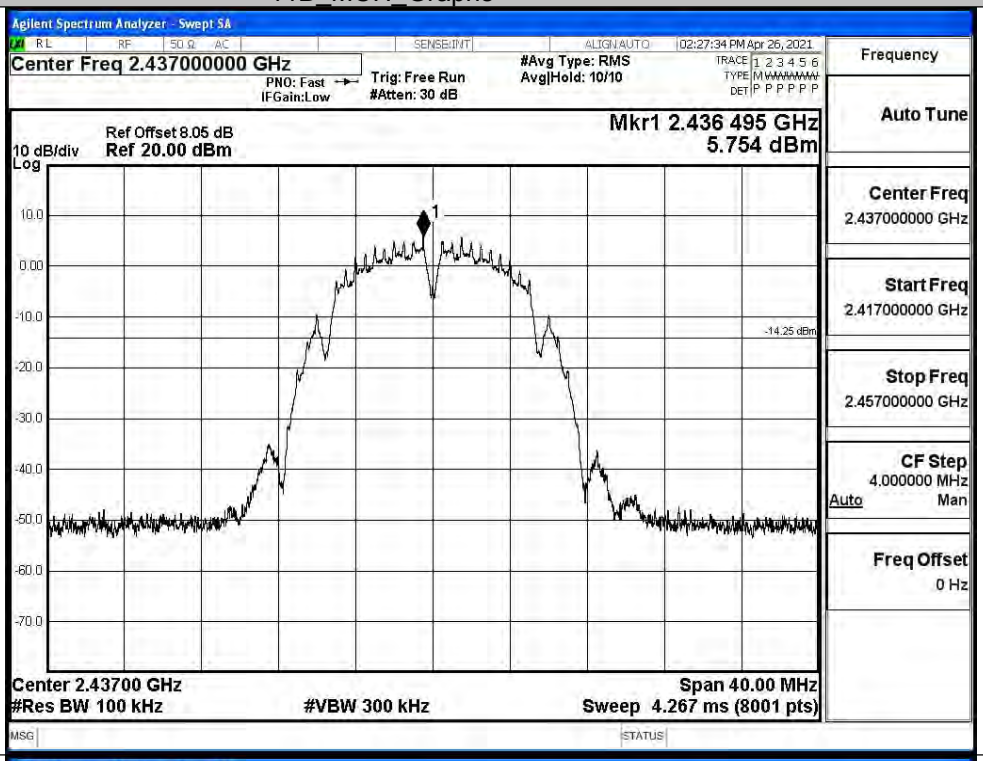
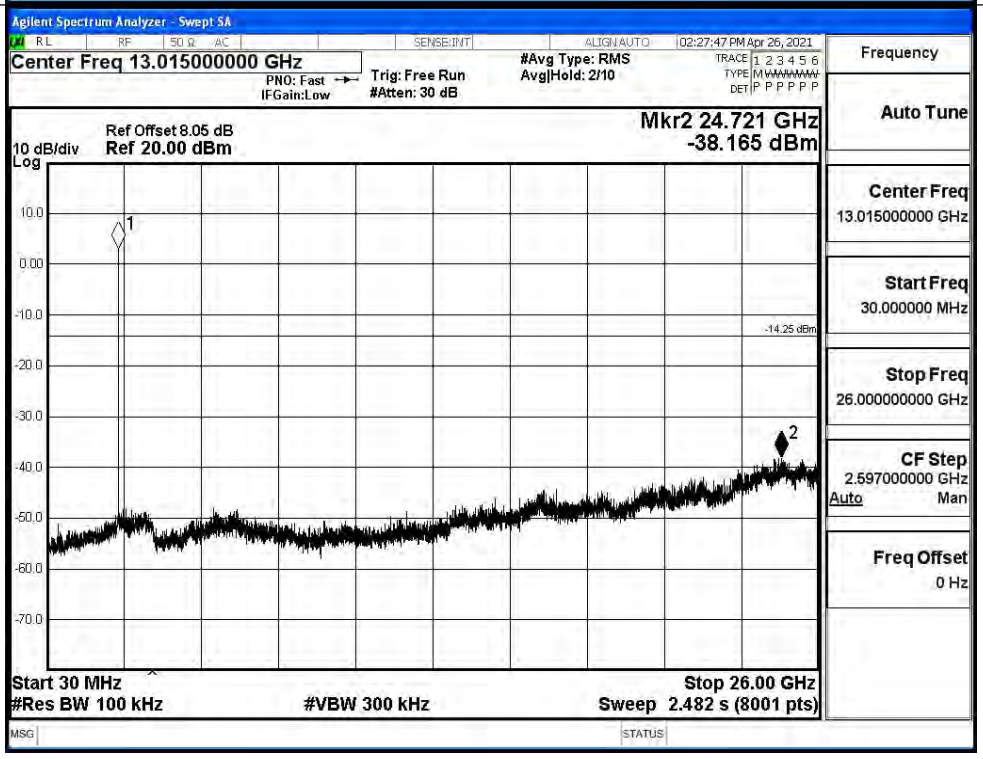
11G/HCH	
11N20SISO/LCH	

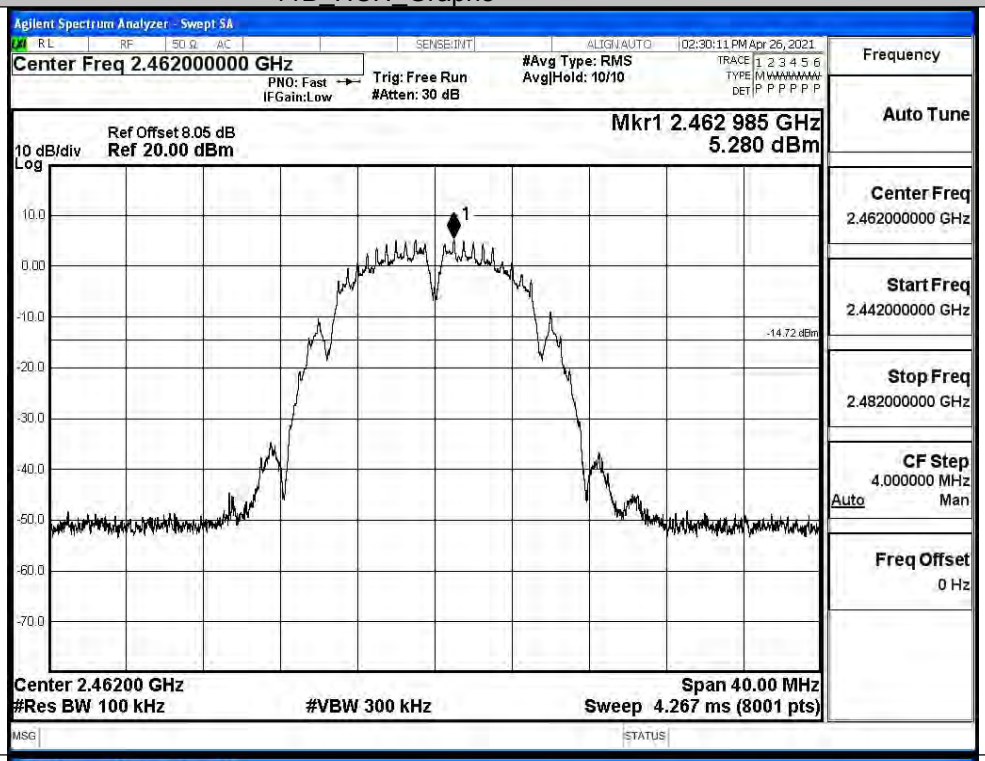
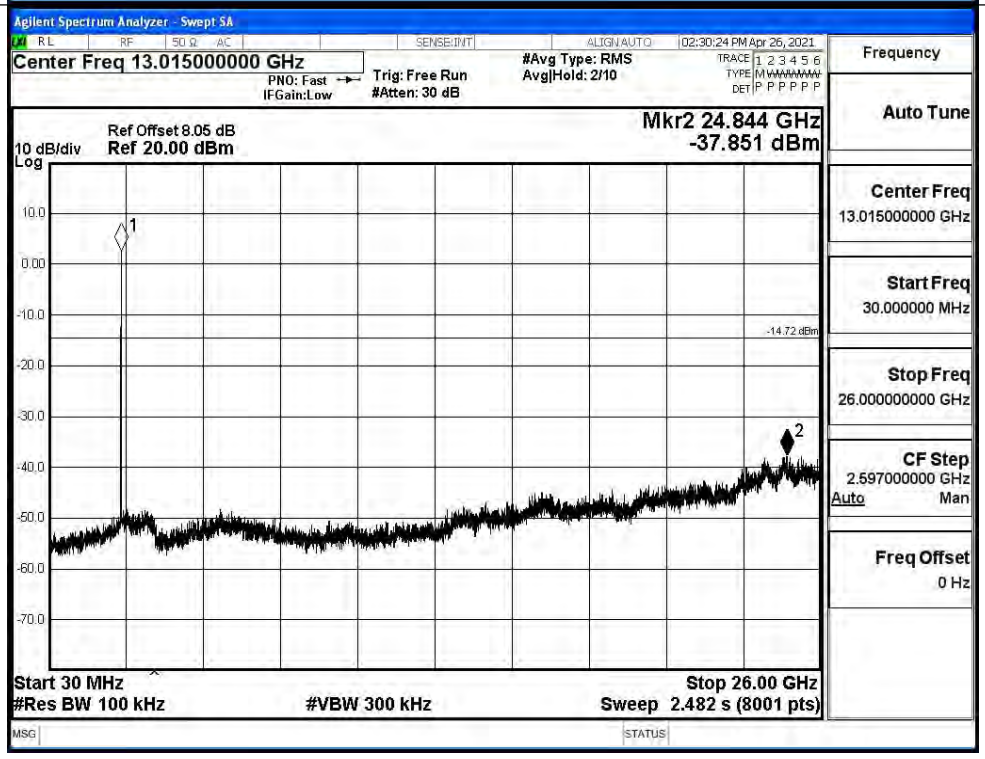
11N20SISO/MCH	
11N20SISO/HCH	

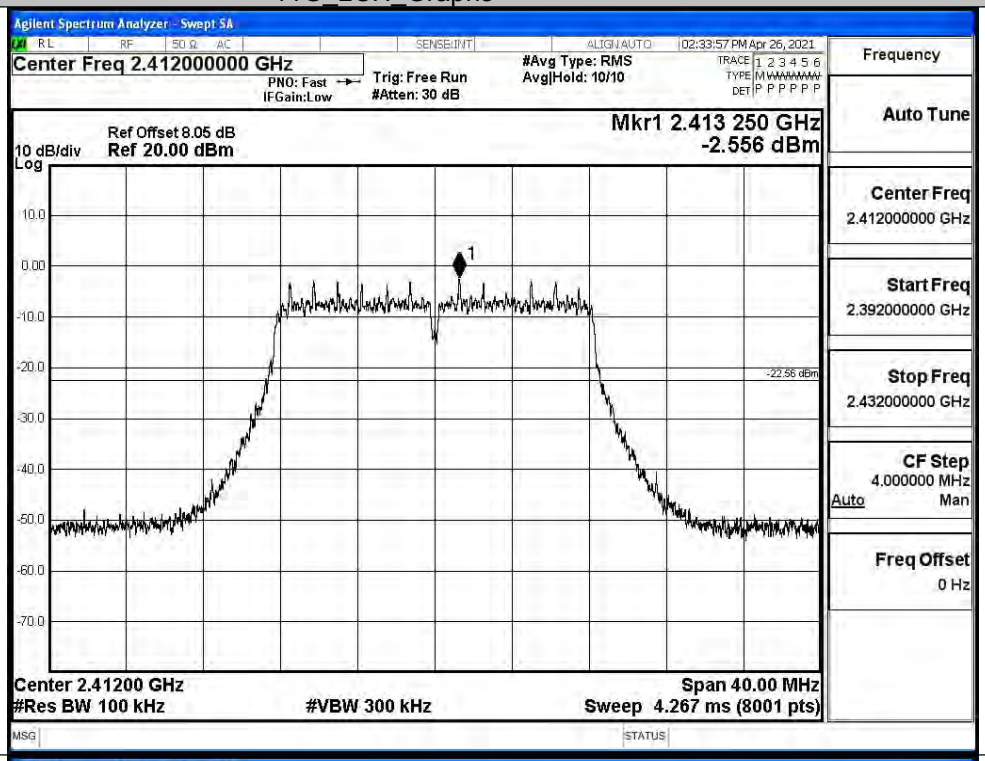
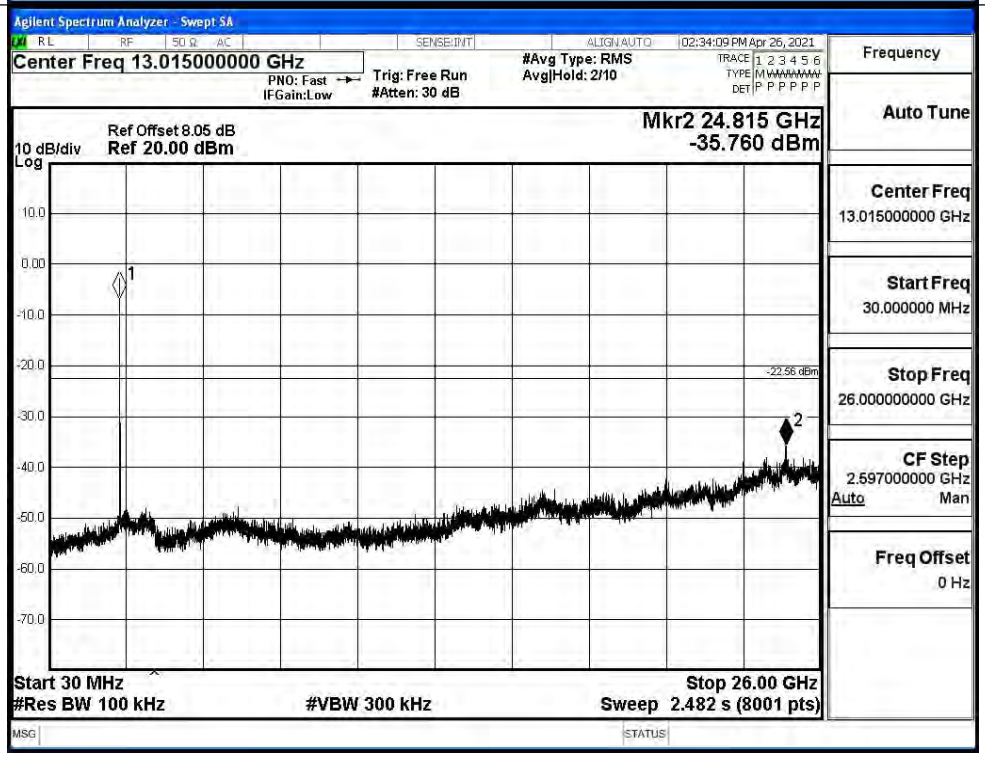
A.5 RF Conducted Spurious Emissions

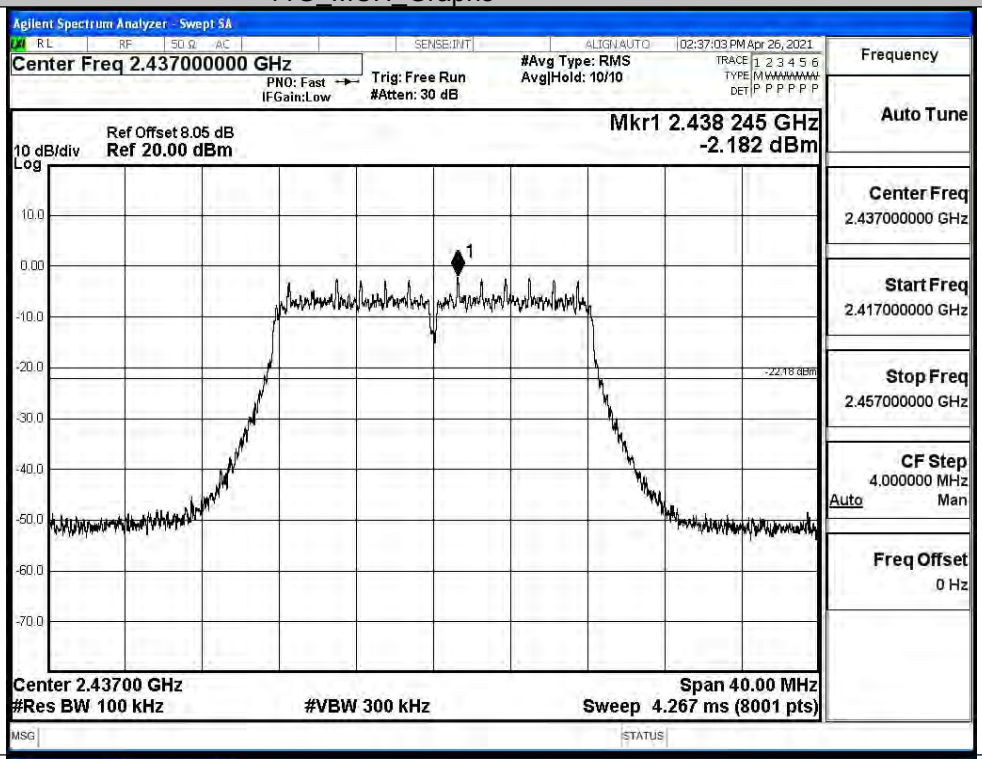
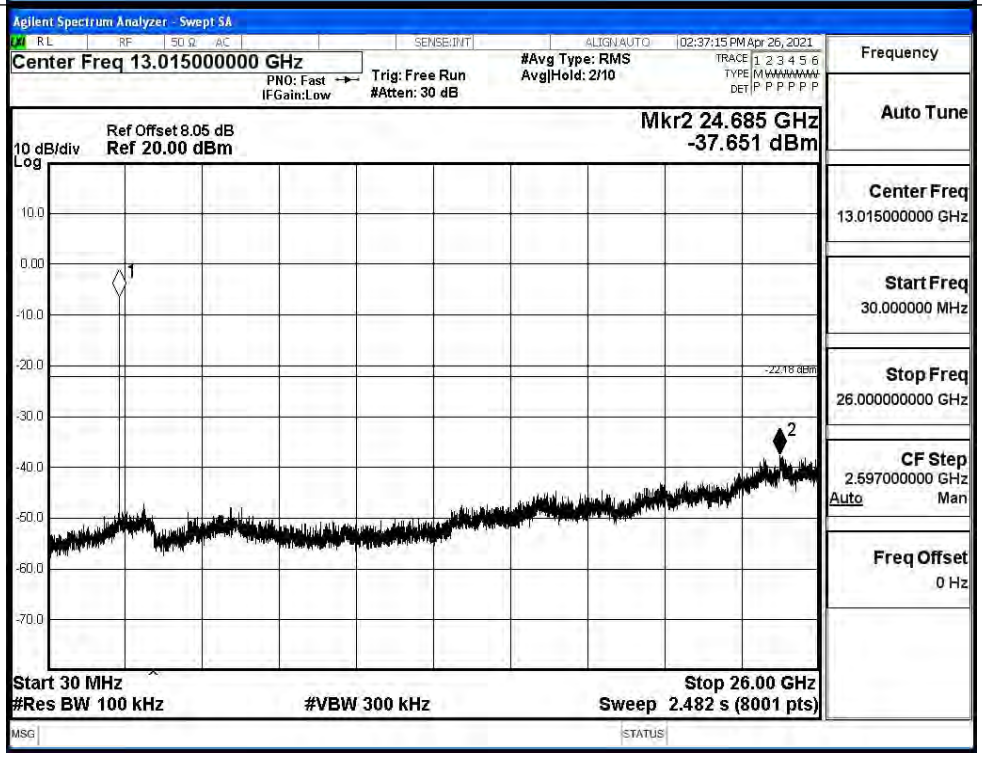
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	5.173	-37.647	-14.827	PASS
	MCH	5.754	-38.165	-14.246	PASS
	HCH	5.28	-37.851	-14.720	PASS
11G	LCH	-2.556	-35.760	-22.556	PASS
	MCH	-2.182	-37.651	-22.182	PASS
	HCH	-2.57	-38.094	-22.570	PASS
11N20 SISO	LCH	-2.509	-37.880	-22.509	PASS
	MCH	-1.165	-37.382	-21.165	PASS
	HCH	-2.41	-37.954	-22.410	PASS

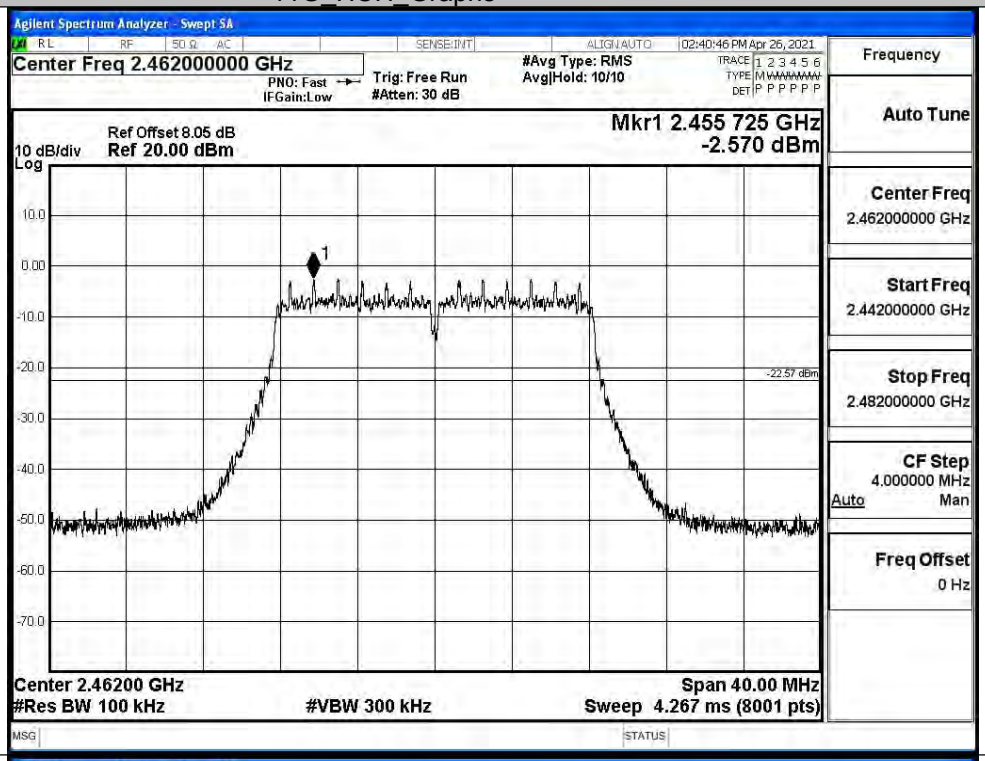
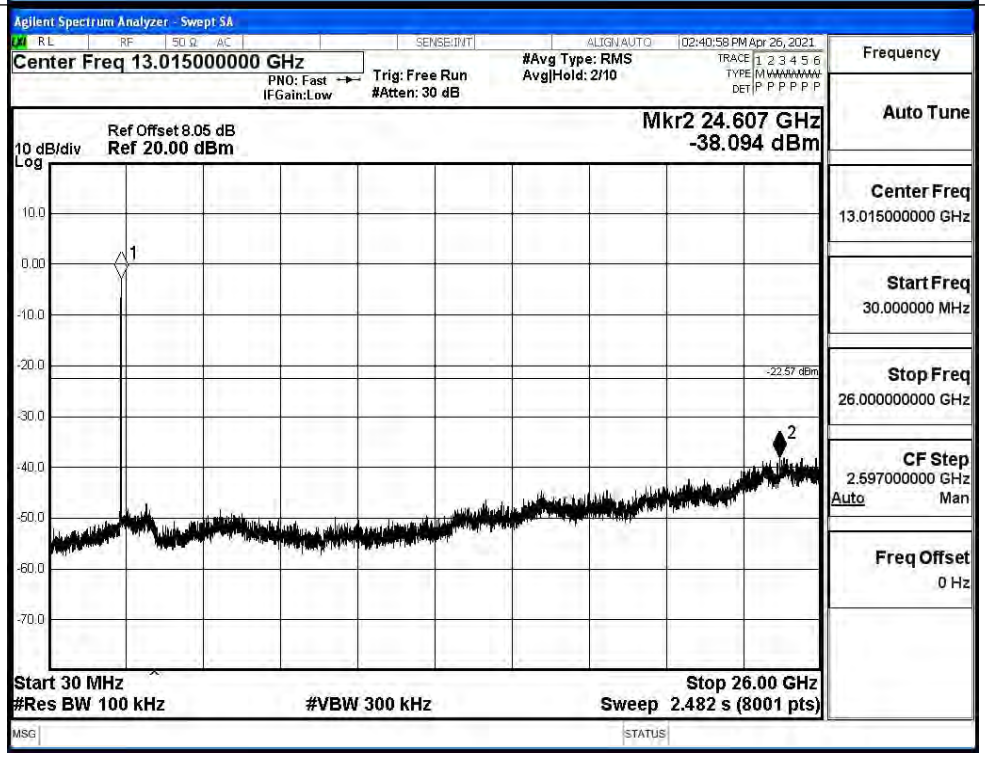
11B_LCH_Graphs	
Pref/11B/LCH	
Puw/11B/LCH	

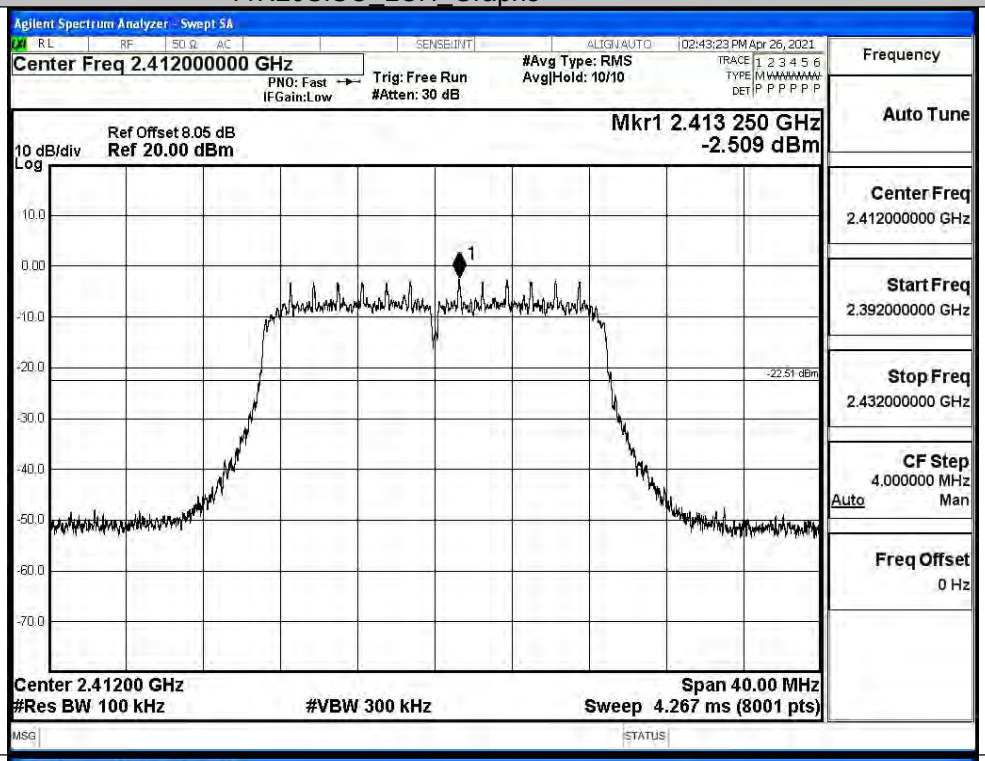
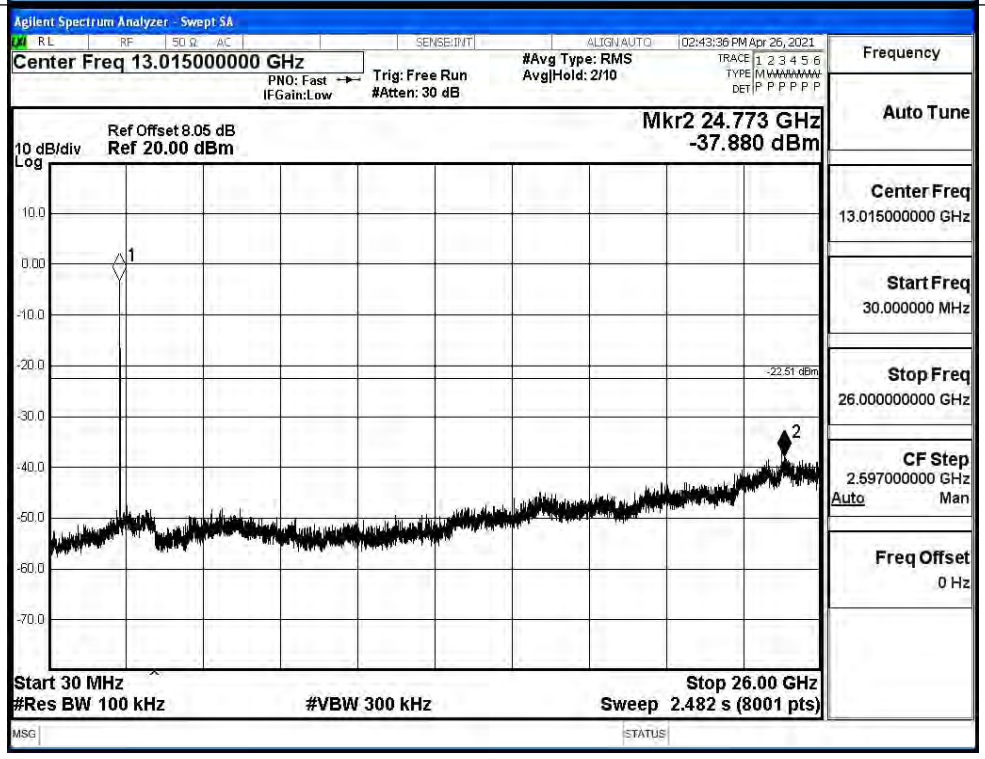
11B_MCH_Graphs	
Pref/11B/MCH	
Puw/11B/MCH	

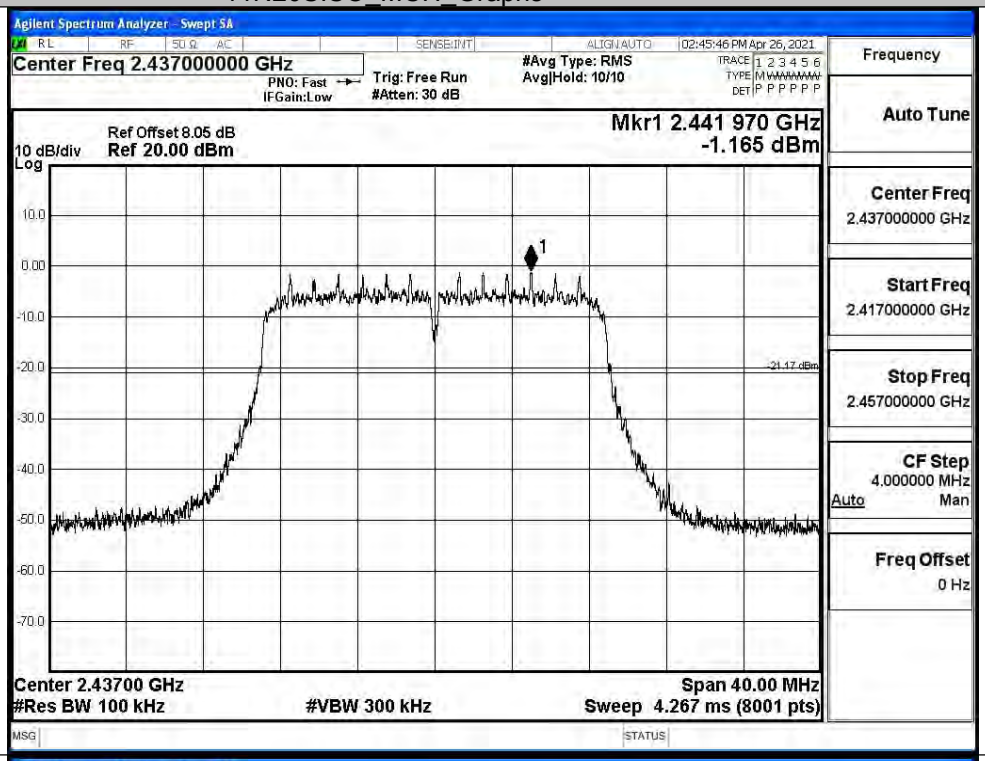
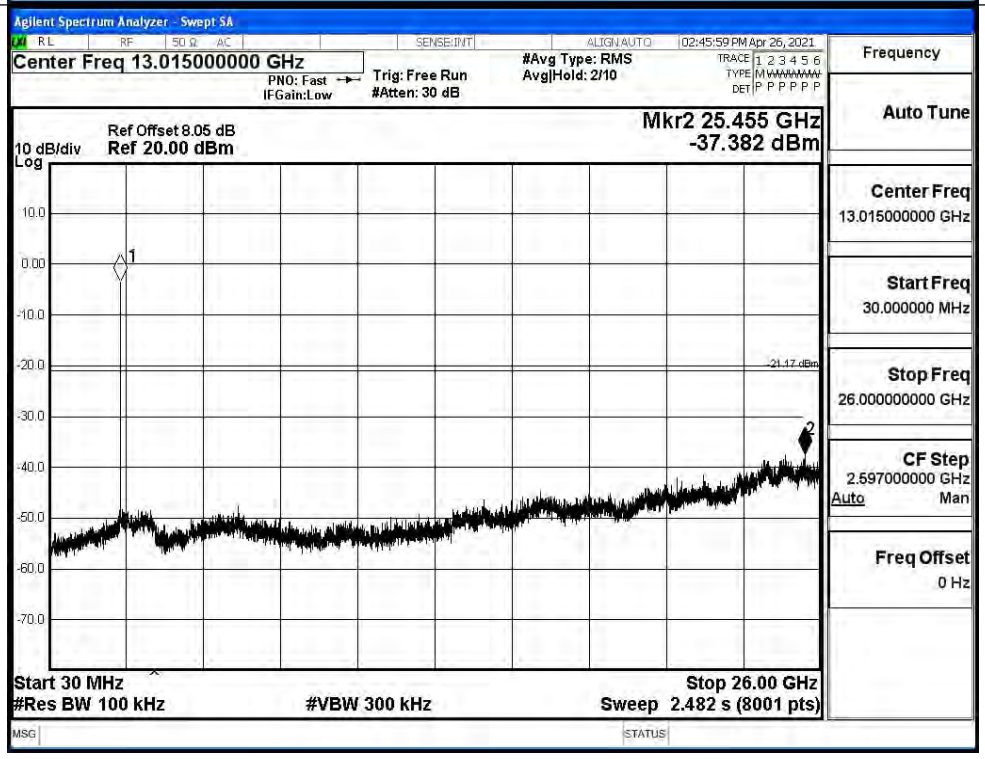
11B_HCH_Graphs	
Pref/11B/HCH	
Puw/11B/HCH	

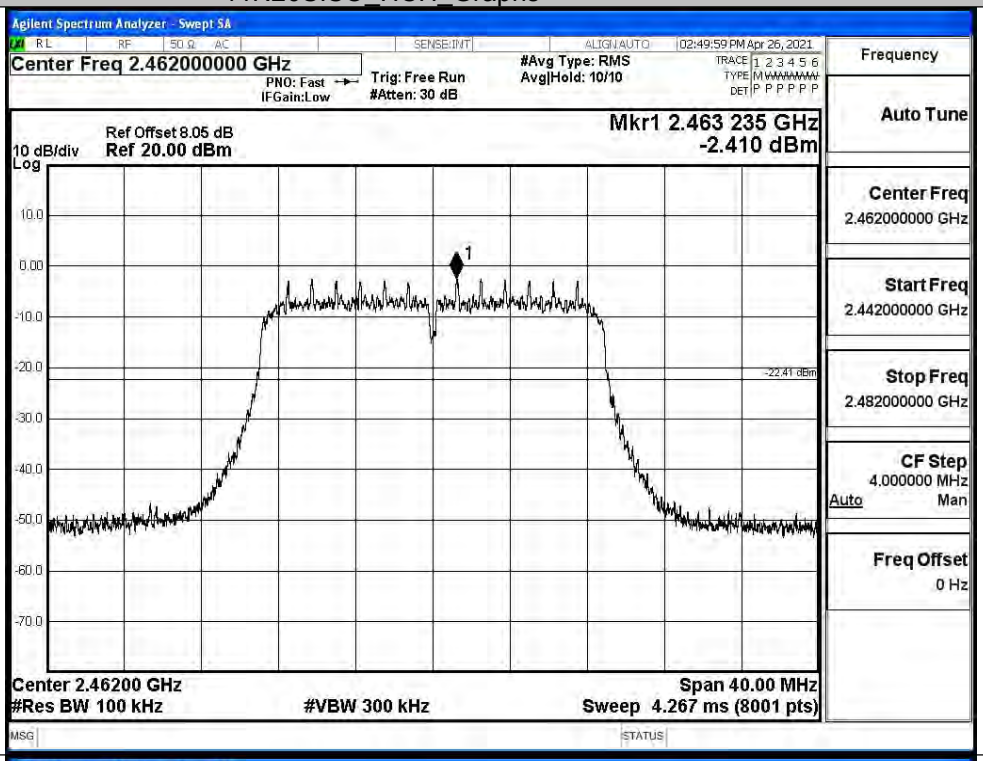
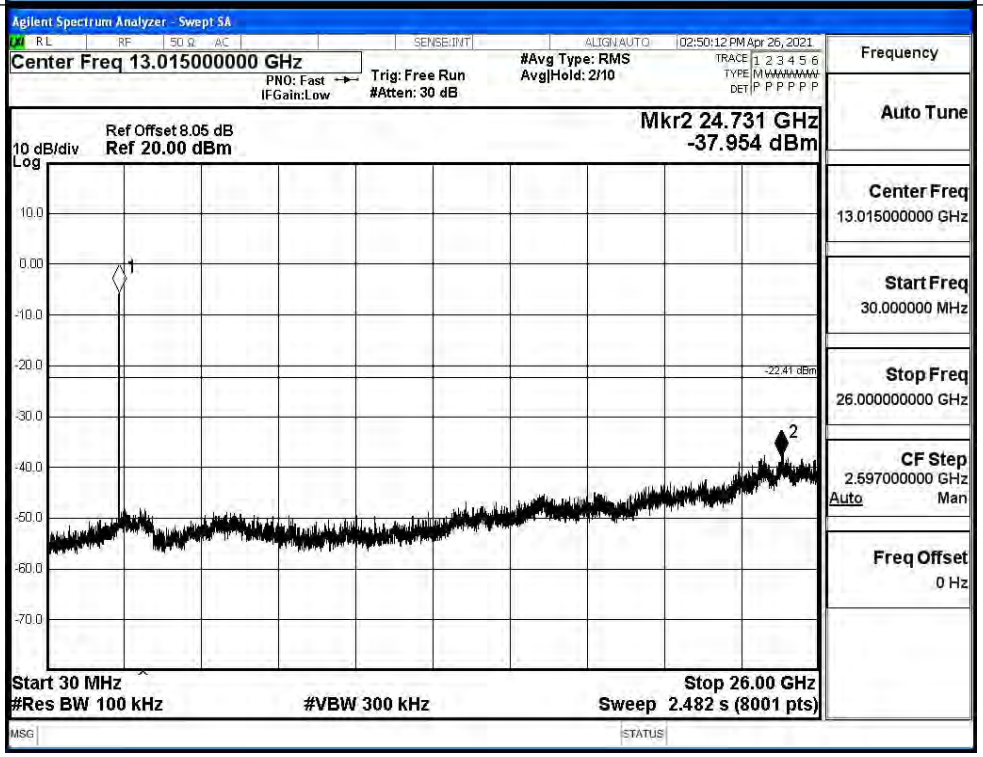
11G_LCH_Graphs	
Pref/11G/LCH	
Puw/11G/LCH	

11G_MCH_Graphs	
Pref/11G/MCH	
Puw/11G/MCH	

11G_HCH_Graphs	
Pref/11G/HCH	
Puw/11G/HCH	

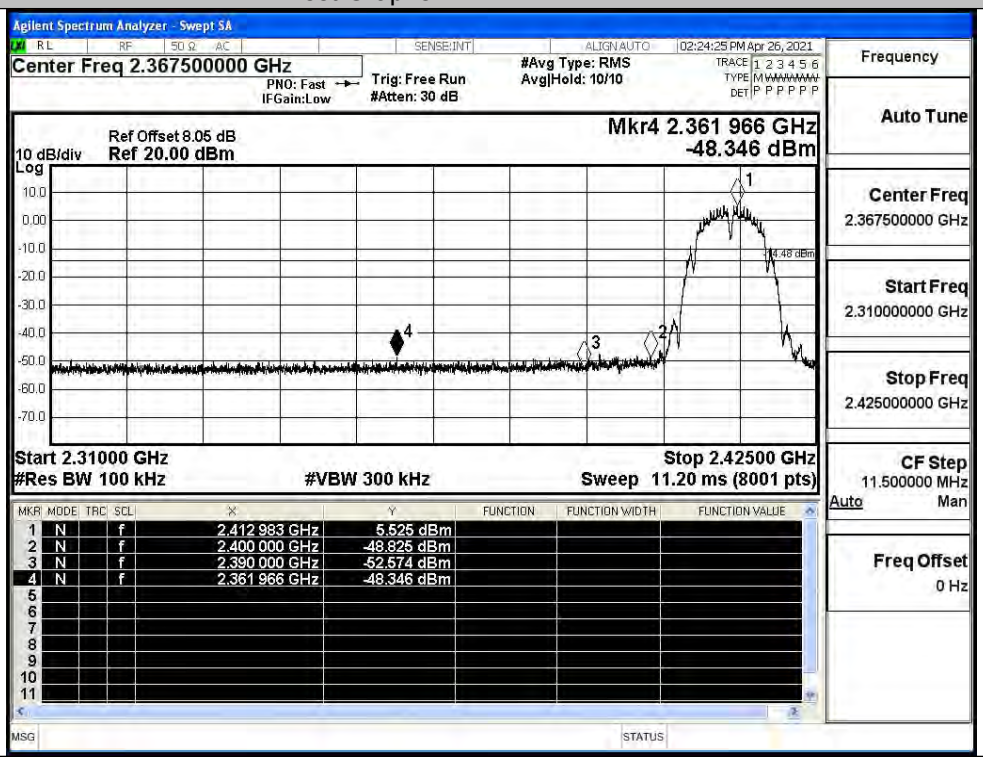
11N20SISO_LCH_Graphs	
Pref/11N20SISO/LCH	
Puw/11N20SISO/LCH	

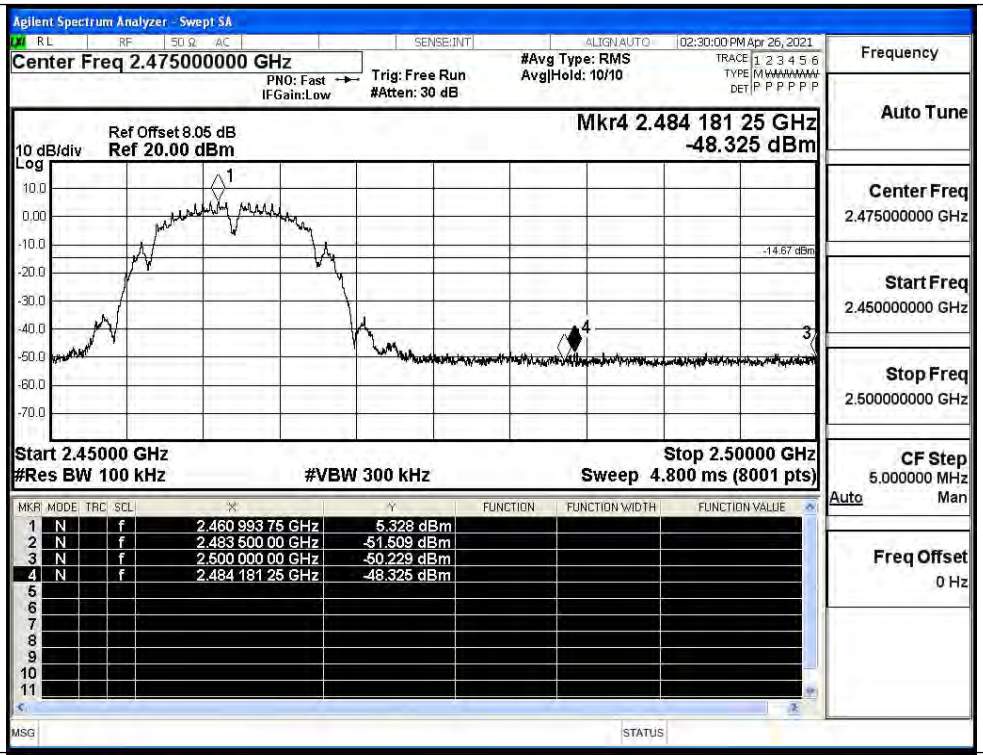
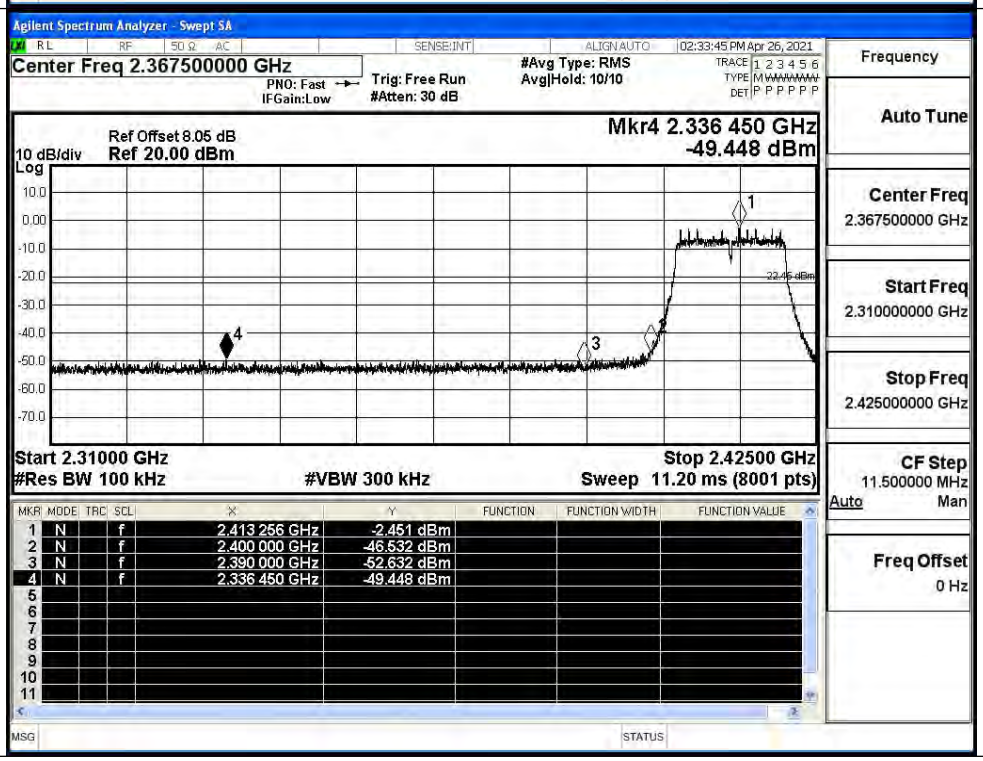
11N20SISO_MCH_Graphs	
Pref/11N20 SISO/MCH	
Puw/11N20 SISO/MCH	

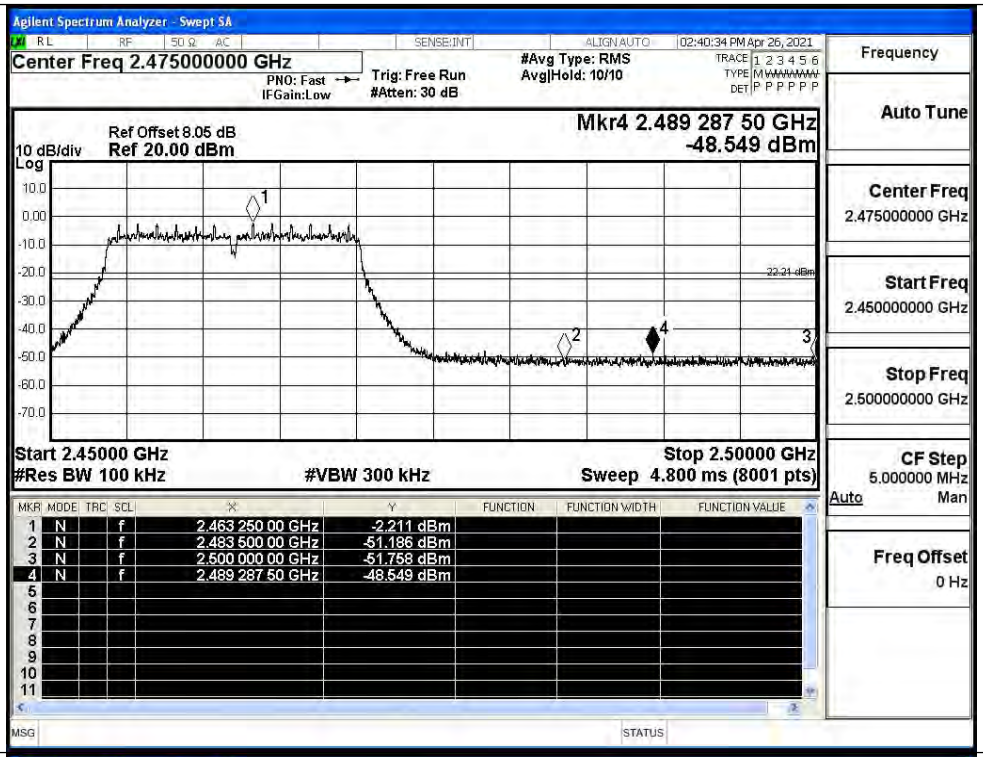
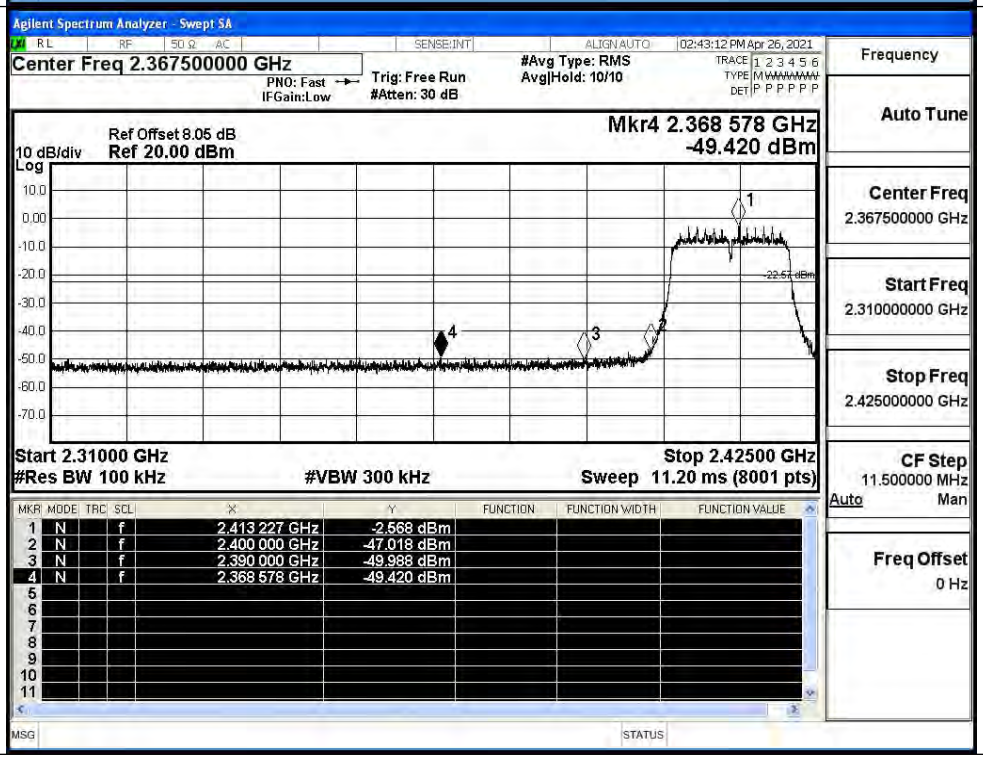
11N20SISO_HCH_Graphs	
Pref/11N20 SISO/HCH	
Puw/11N20 SISO/HCH	

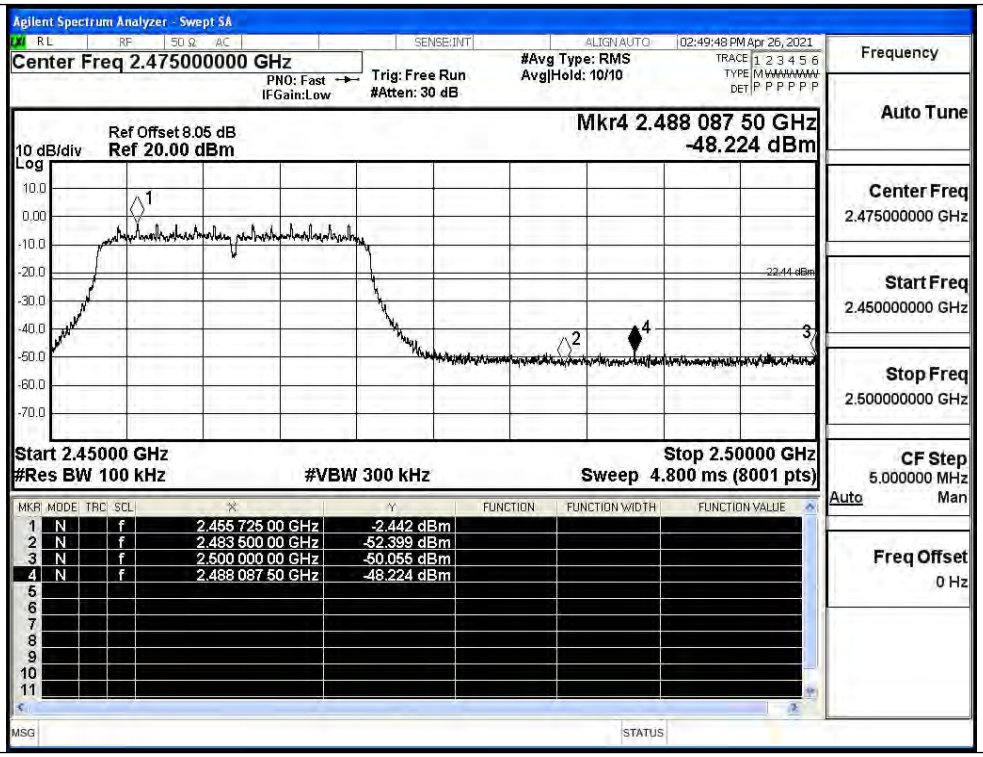
A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	5.525	-48.346	-14.48	PASS
	HCH	5.328	-48.325	-14.67	PASS
11G	LCH	-2.451	-49.448	-22.45	PASS
	HCH	-2.211	-48.549	-22.21	PASS
11N20SISO	LCH	-2.568	-49.420	-22.57	PASS
	HCH	-2.442	-48.224	-22.44	PASS

Test Graphs	
11B/LCH	

11B/HCH	
11G/LCH	

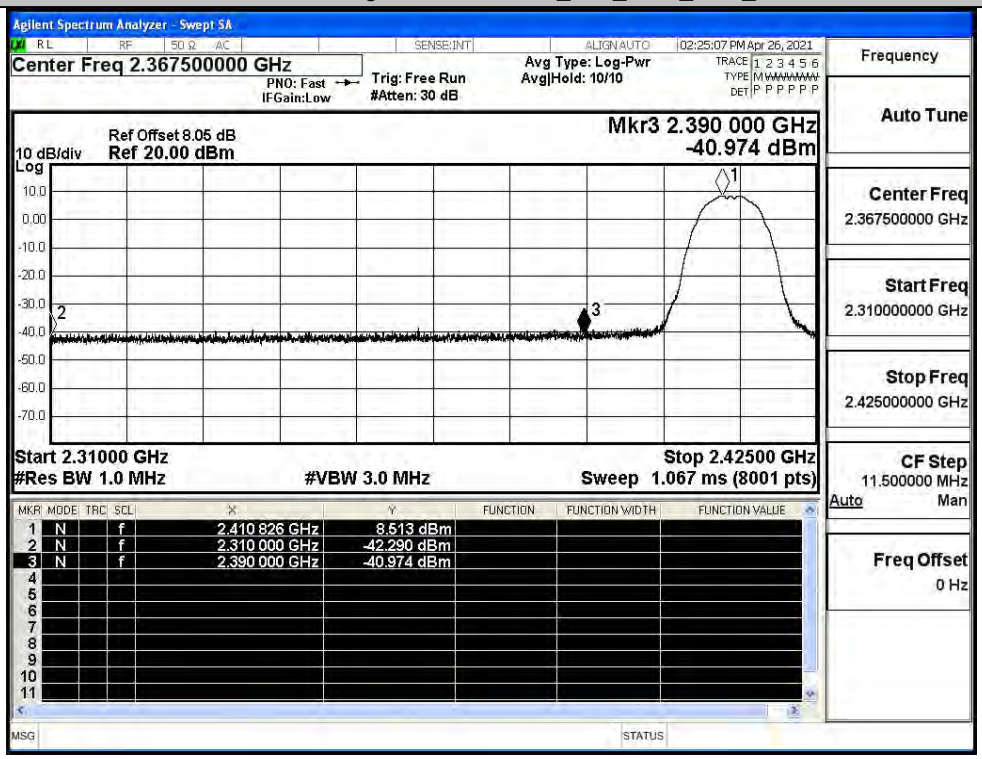
11G/HCH	
11N20SISO/LCH	

11N20SISO/HCH	

A.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-42.29	2.0	0	54.94	PEAK	74	PASS
	2412	Ant1	2310.0	-53.15	2.0	0	44.08	AV	54	PASS
	2412	Ant1	2390.0	-40.97	2.0	0	56.26	PEAK	74	PASS
	2412	Ant1	2390.0	-52.12	2.0	0	45.11	AV	54	PASS
	2462	Ant1	2483.5	-40.48	2.0	0	56.75	PEAK	74	PASS
	2462	Ant1	2483.5	-51.61	2.0	0	45.62	AV	54	PASS
	2462	Ant1	2500.0	-41.44	2.0	0	55.79	PEAK	74	PASS
	2462	Ant1	2500.0	-51.83	2.0	0	45.40	AV	54	PASS
11G	2412	Ant1	2310.0	-42.46	2.0	0	54.77	PEAK	74	PASS
	2412	Ant1	2310.0	-53.13	2.0	0	44.10	AV	54	PASS
	2412	Ant1	2390.0	-42.06	2.0	0	55.17	PEAK	74	PASS
	2412	Ant1	2390.0	-52.16	2.0	0	45.07	AV	54	PASS
	2462	Ant1	2483.5	-41.13	2.0	0	56.10	PEAK	74	PASS
	2462	Ant1	2483.5	-51.78	2.0	0	45.45	AV	54	PASS
	2462	Ant1	2500.0	-41.77	2.0	0	55.46	PEAK	74	PASS
	2462	Ant1	2500.0	-51.82	2.0	0	45.41	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-41.63	2.0	0	55.60	PEAK	74	PASS
	2412	Ant1	2310.0	-53.17	2.0	0	44.06	AV	54	PASS
	2412	Ant1	2390.0	-41.72	2.0	0	55.51	PEAK	74	PASS
	2412	Ant1	2390.0	-52.05	2.0	0	45.18	AV	54	PASS
	2462	Ant1	2483.5	-39.62	2.0	0	57.61	PEAK	74	PASS
	2462	Ant1	2483.5	-51.77	2.0	0	45.46	AV	54	PASS
	2462	Ant1	2500.0	-41.55	2.0	0	55.68	PEAK	74	PASS
	2462	Ant1	2500.0	-51.80	2.0	0	45.43	AV	54	PASS

Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



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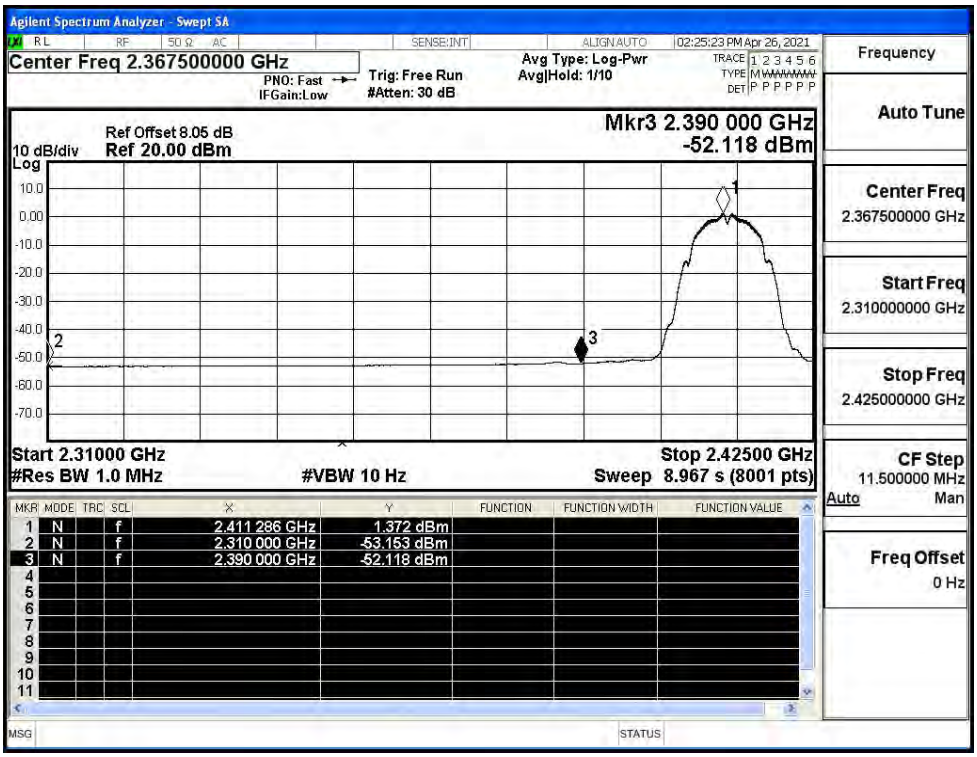

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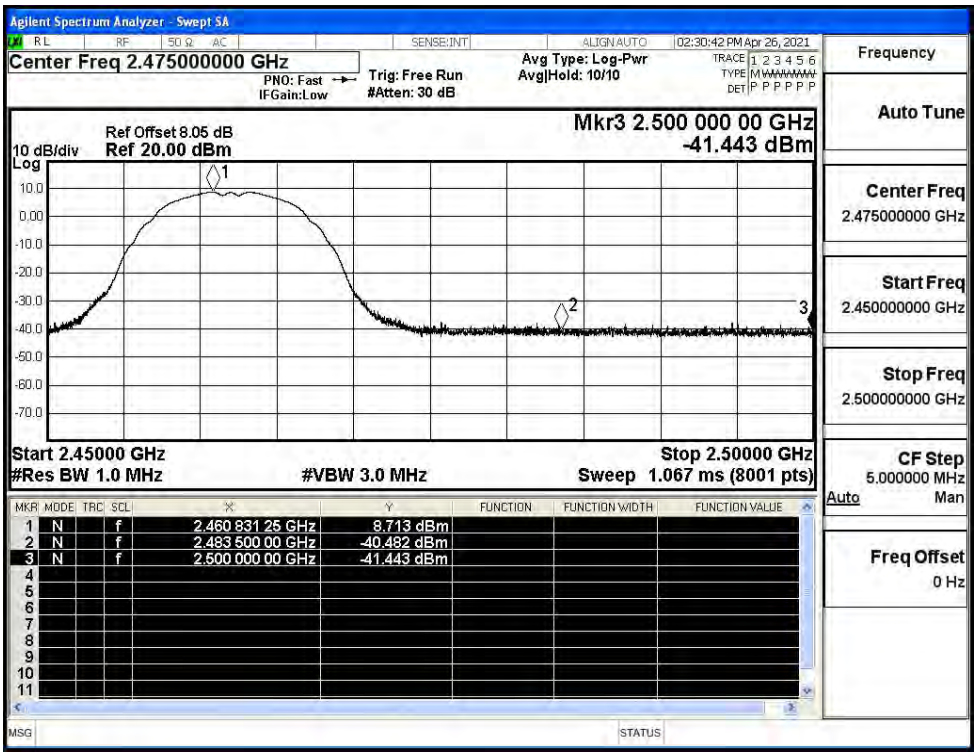

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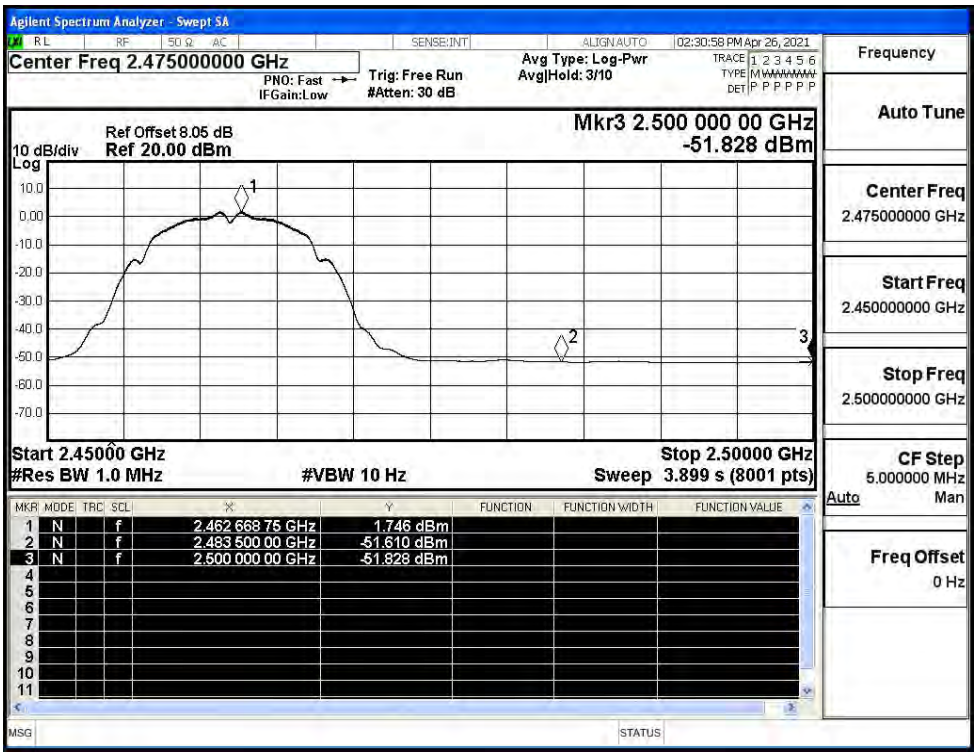

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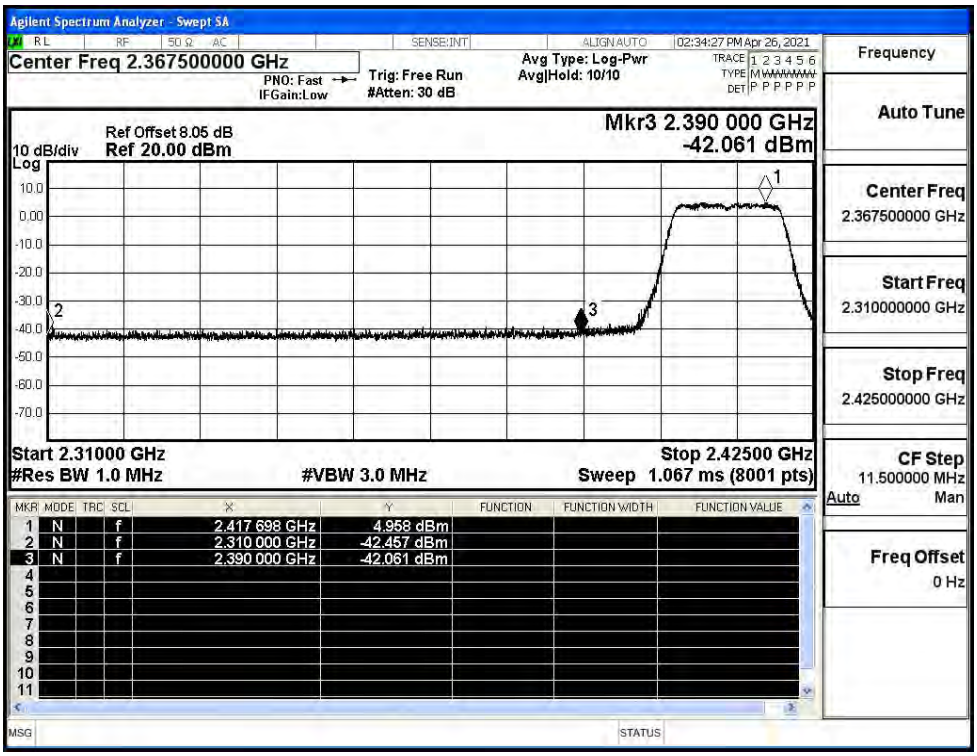

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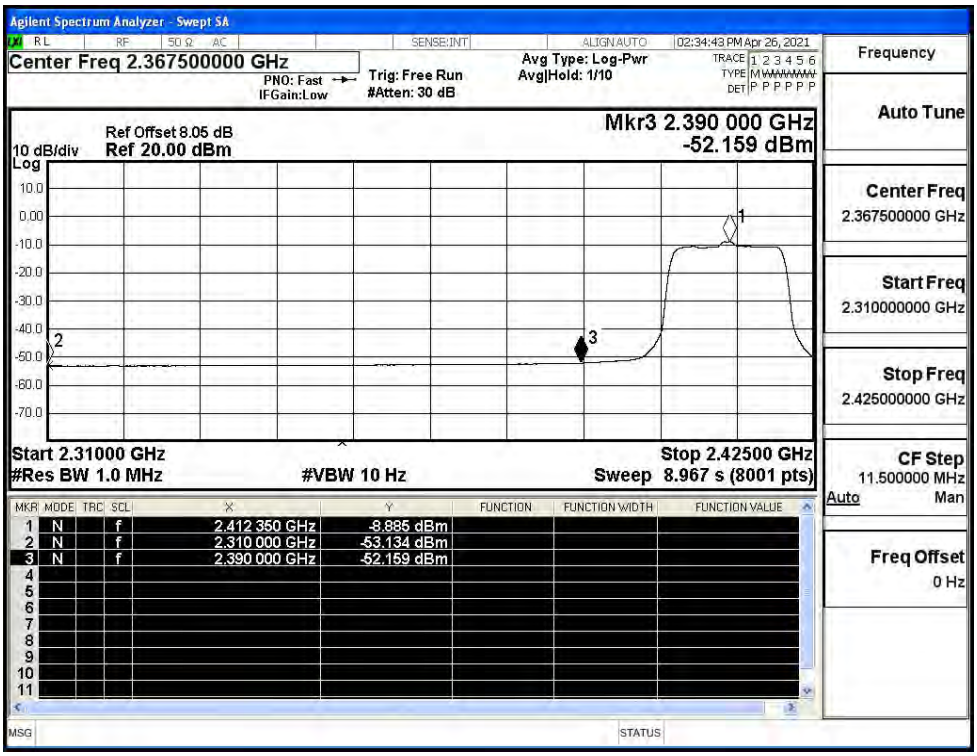

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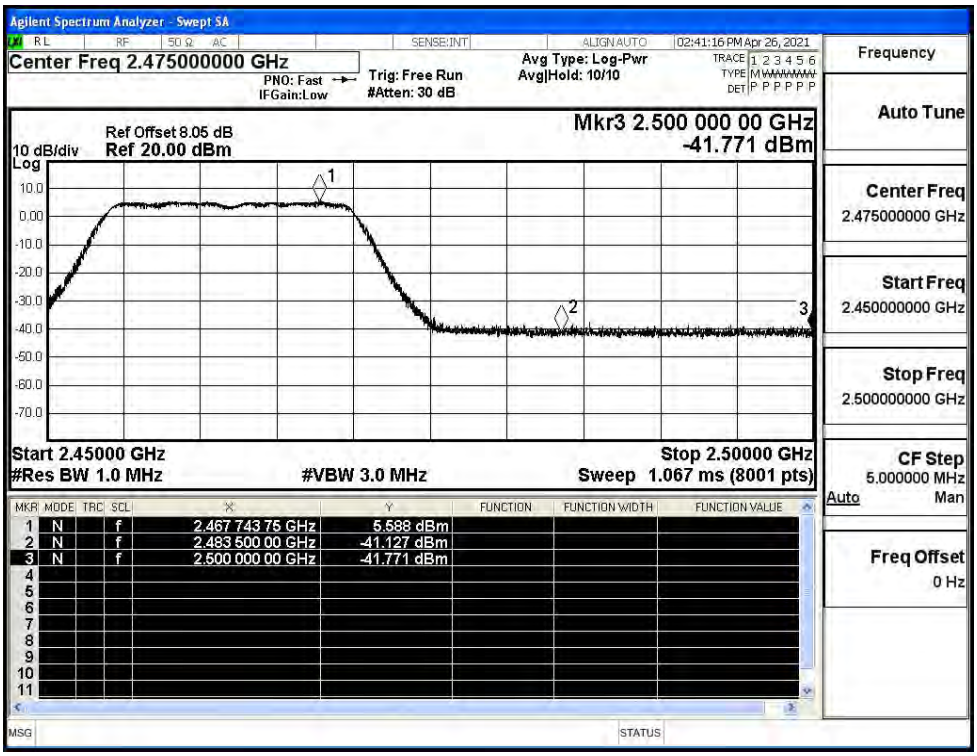

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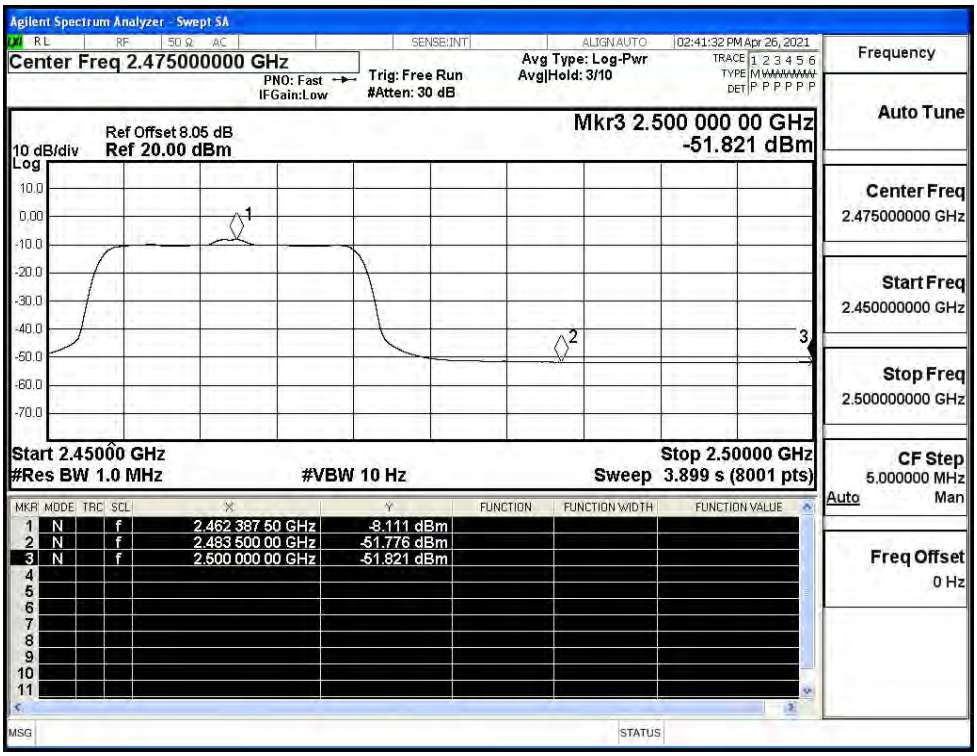

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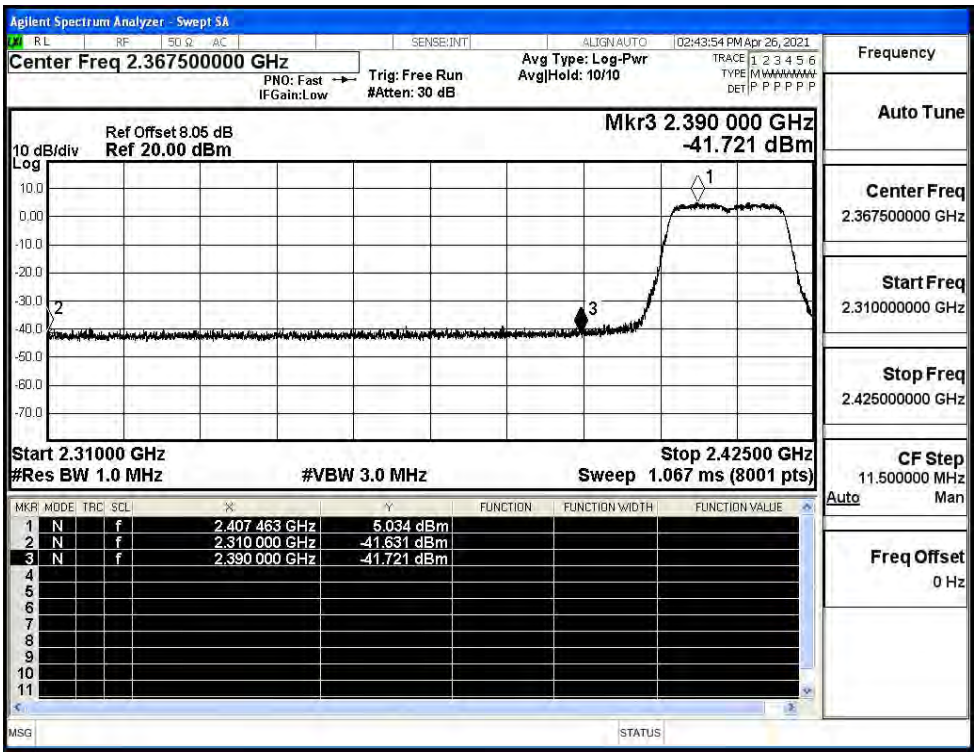

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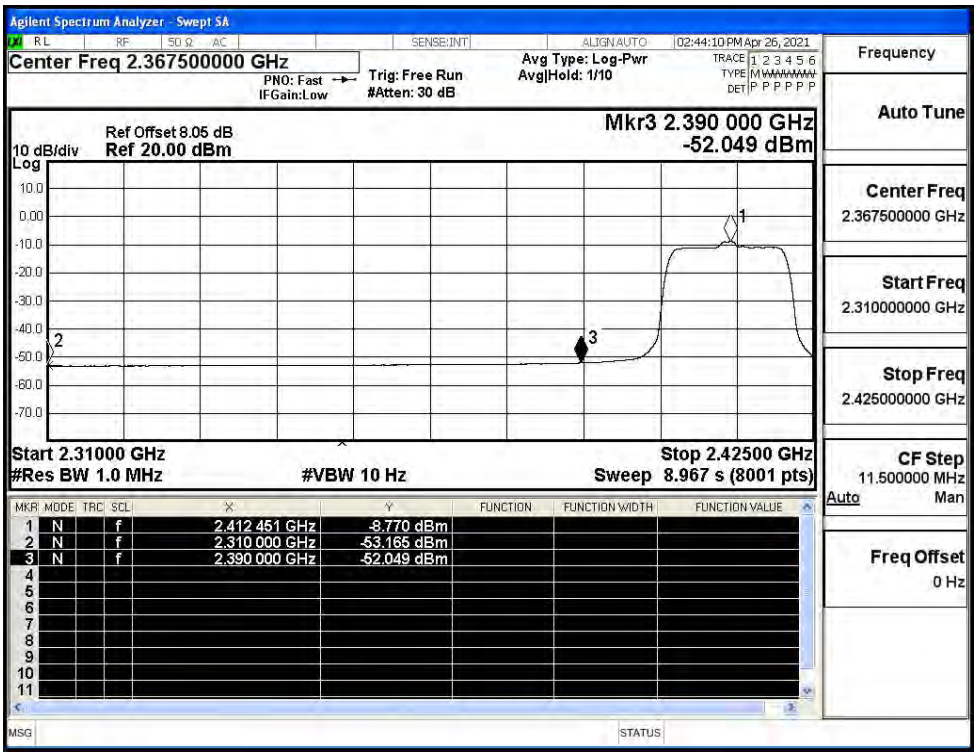

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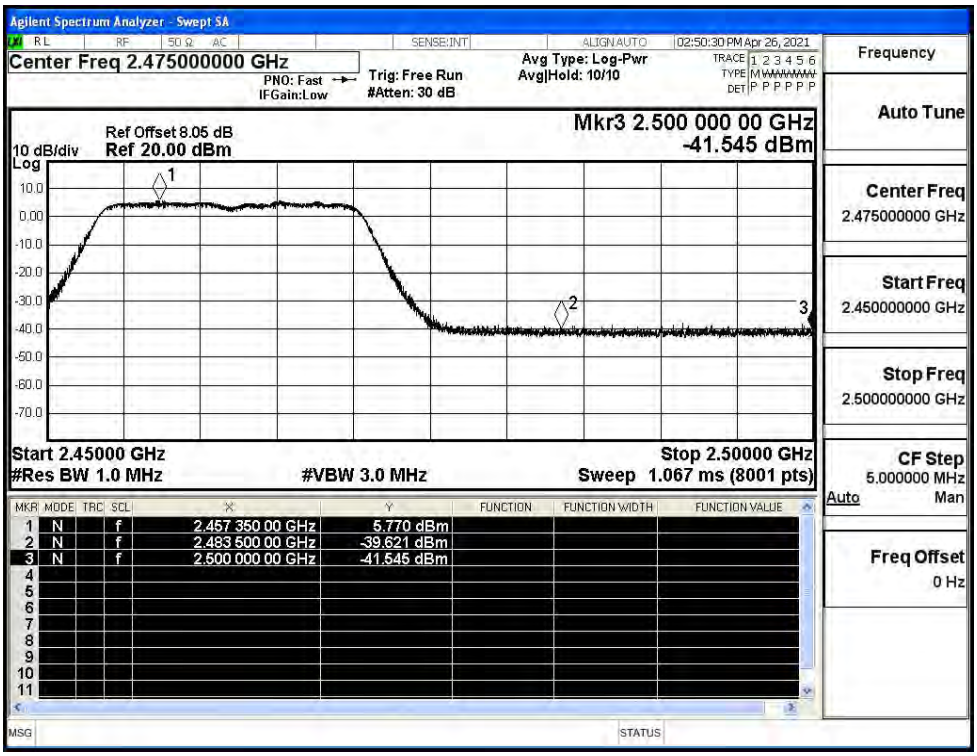
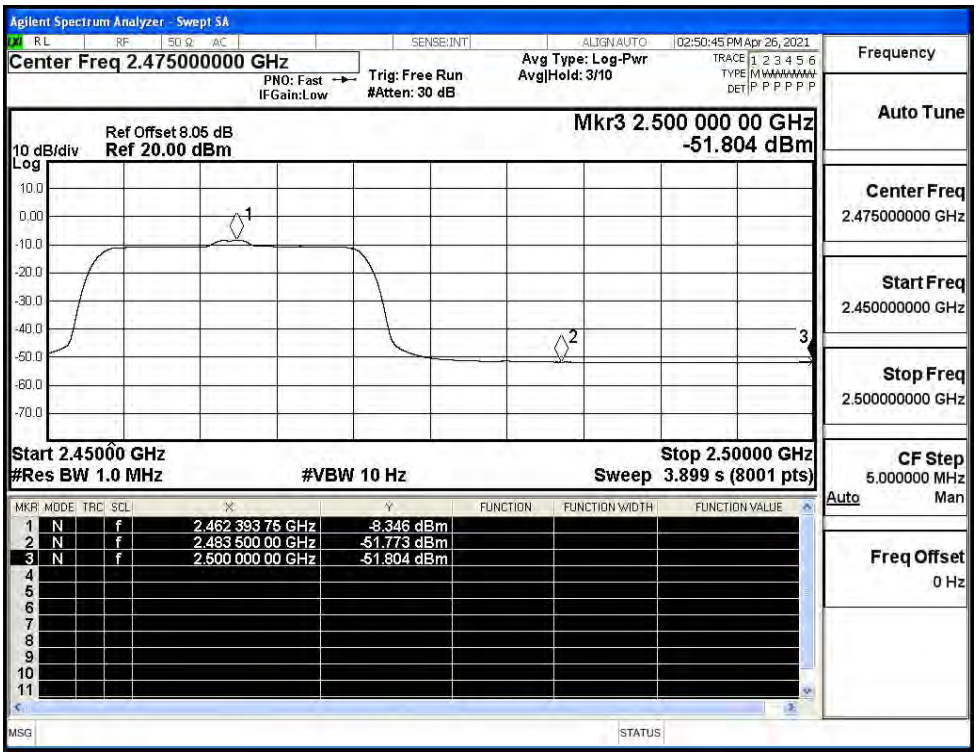
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