Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: WIFI Smart Plug
Trade Mark: MG/CARL&GILBERTS/POWERSECT
Test Model: W110L

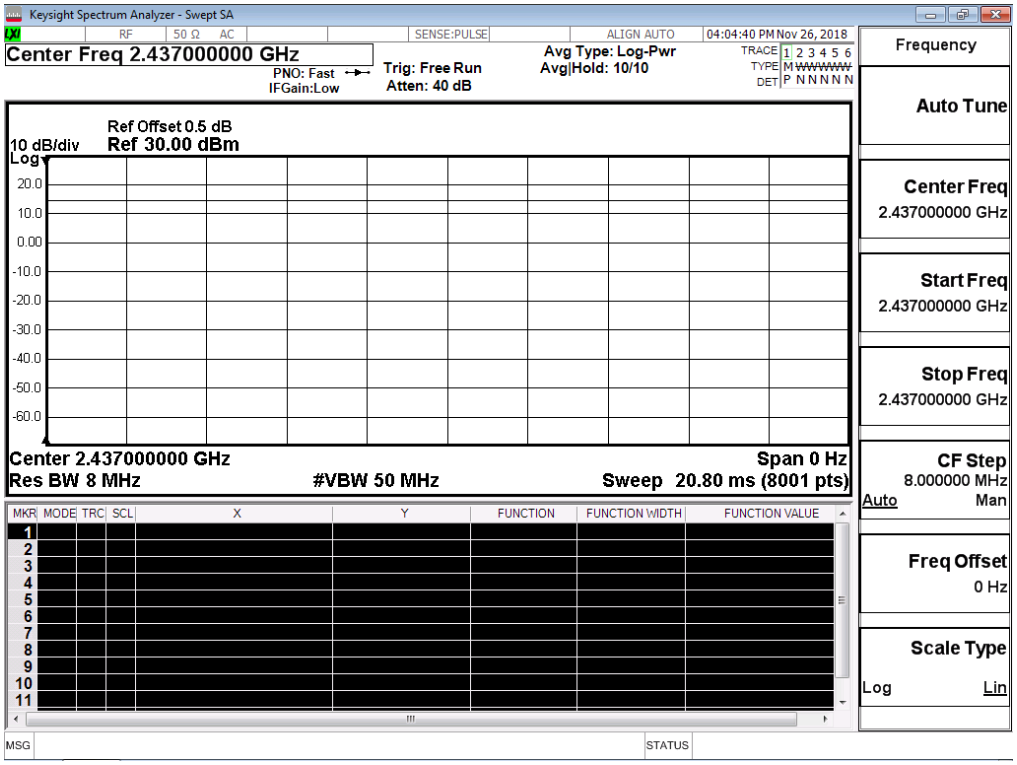
Environmental Conditions

Temperature:	23.4 ° C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom Liu
Supervised by:	Jayden.Zhuo

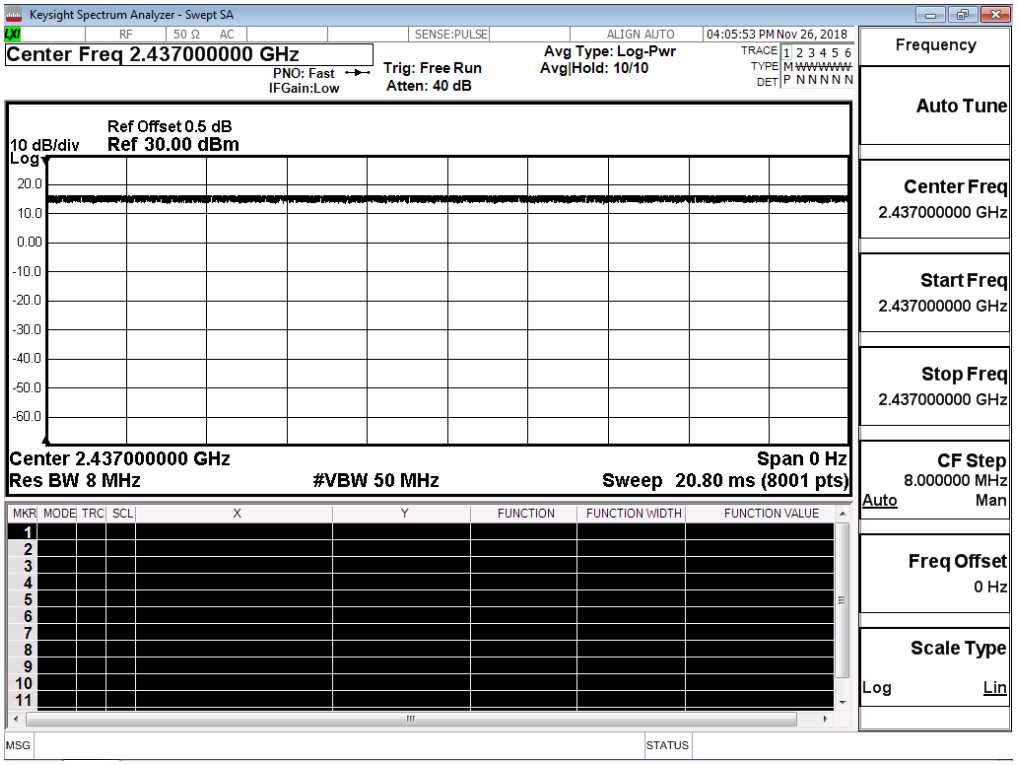
A.1 Duty Cycle

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

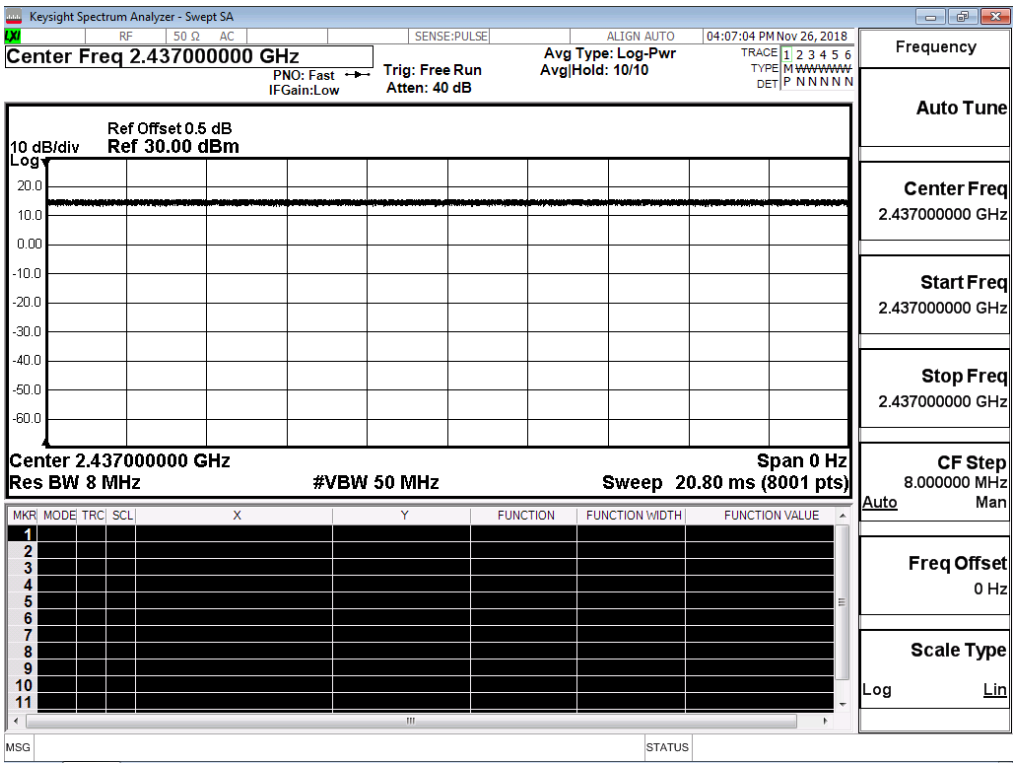
Duty Cycle_11B_2437_Ant1



Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1

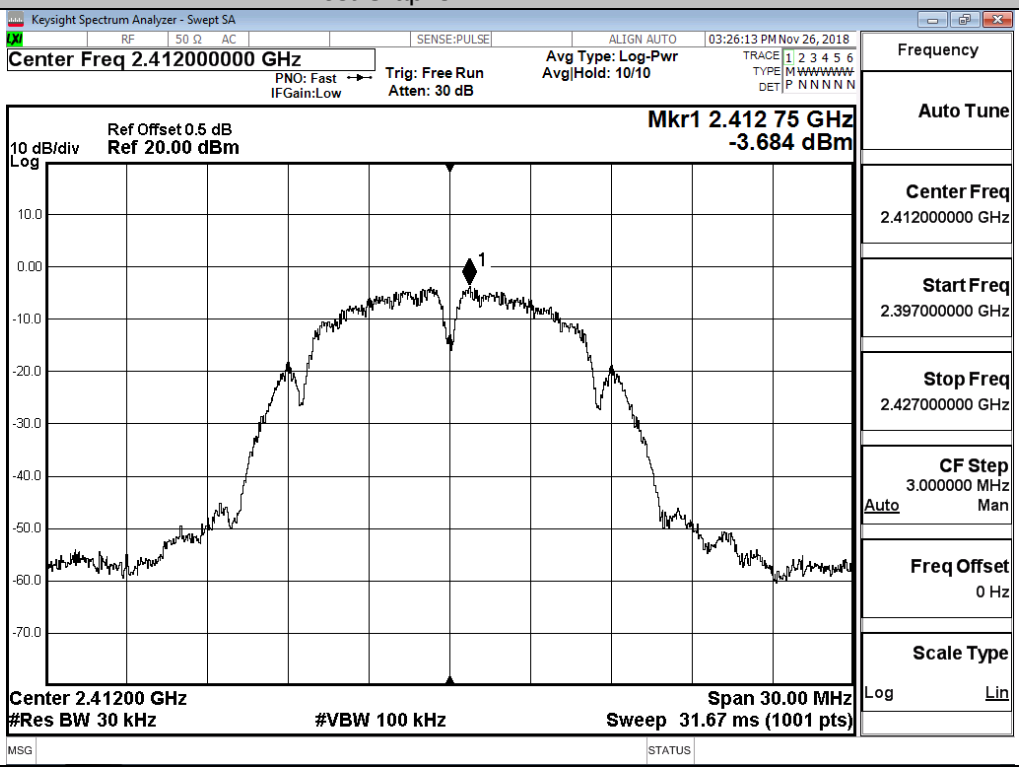


A.2 Maximum Conducted Output Power

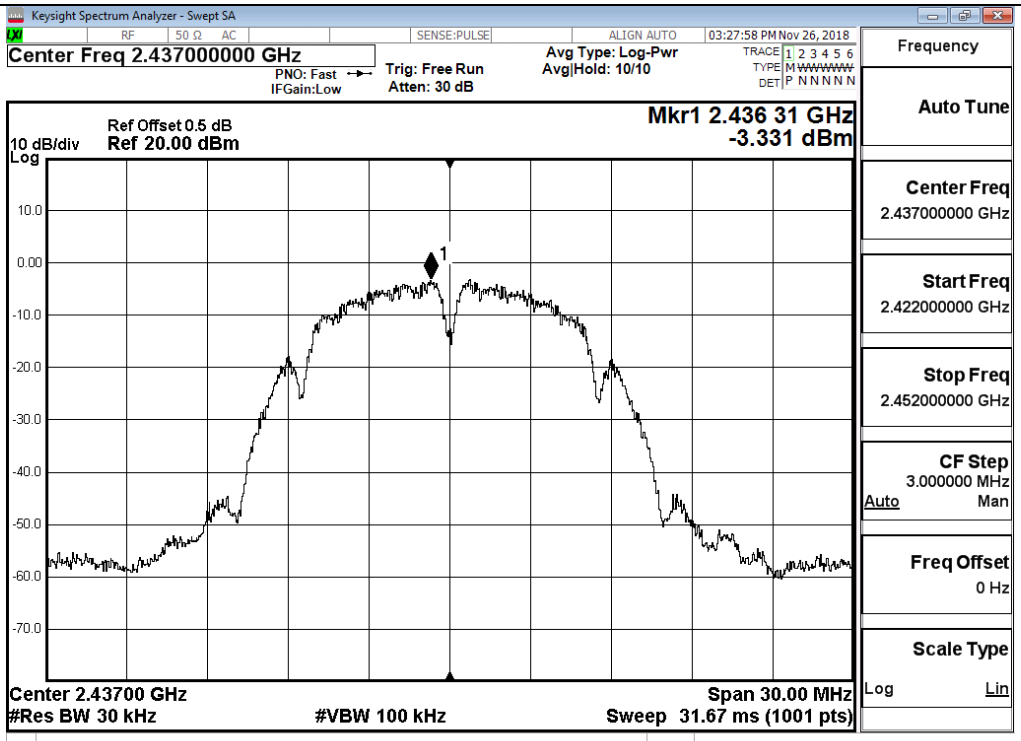
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	17.07	30	PASS
	MCH	17.28	30	PASS
	HCH	17.34	30	PASS
11G	LCH	17.29	30	PASS
	MCH	17.11	30	PASS
	HCH	16.68	30	PASS
11N20SISO	LCH	16.62	30	PASS
	MCH	16.73	30	PASS
	HCH	16.63	30	PASS

A.3 Maximum Power Spectral Density

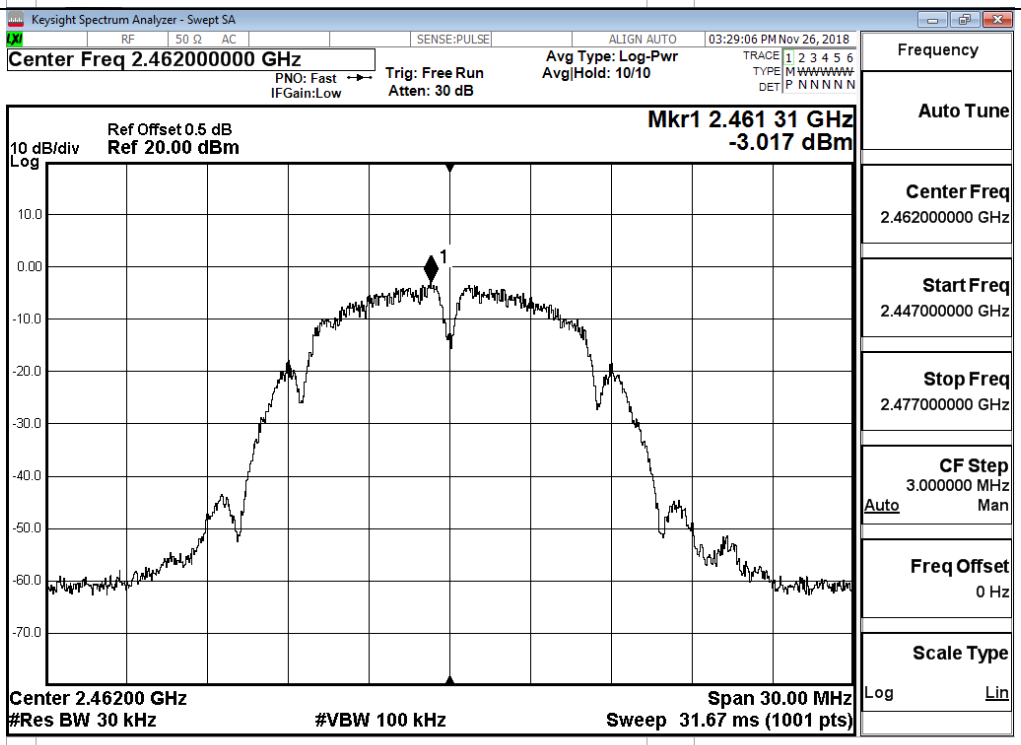
Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-3.684	8	PASS
	MCH	-3.331	8	PASS
	HCH	-3.017	8	PASS
11G	LCH	-4.747	8	PASS
	MCH	-4.193	8	PASS
	HCH	-4.190	8	PASS
11N20SISO	LCH	-4.897	8	PASS
	MCH	-4.310	8	PASS
	HCH	-4.462	8	PASS

Test Graphs	
11B/LCH	

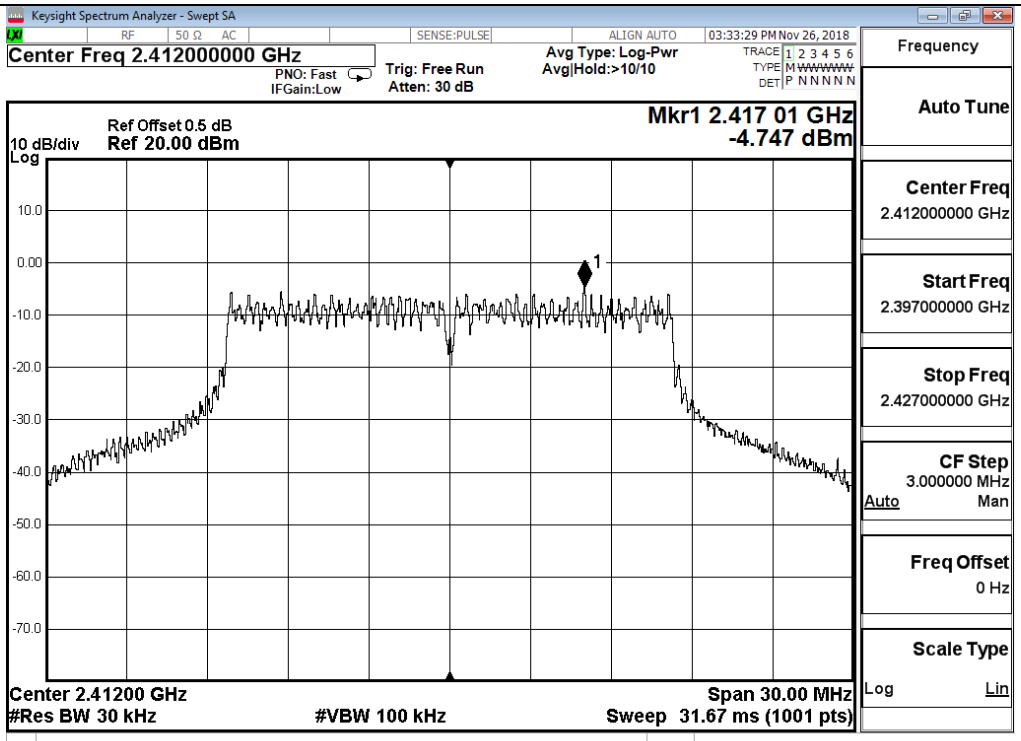
11B/MCH



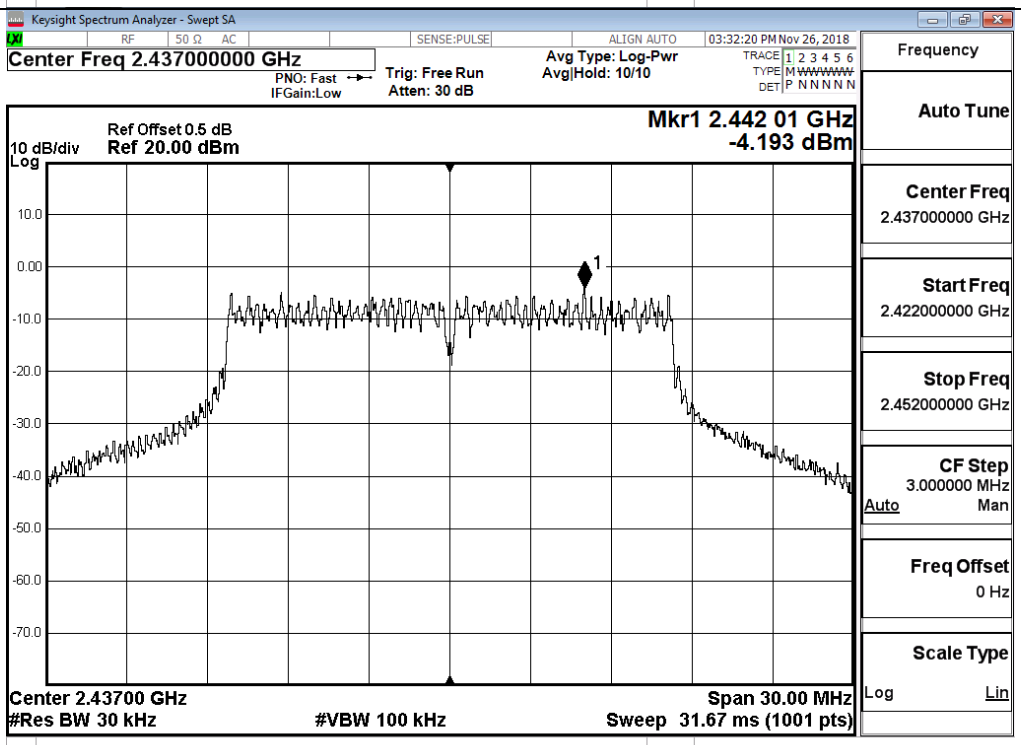
11B/HCH

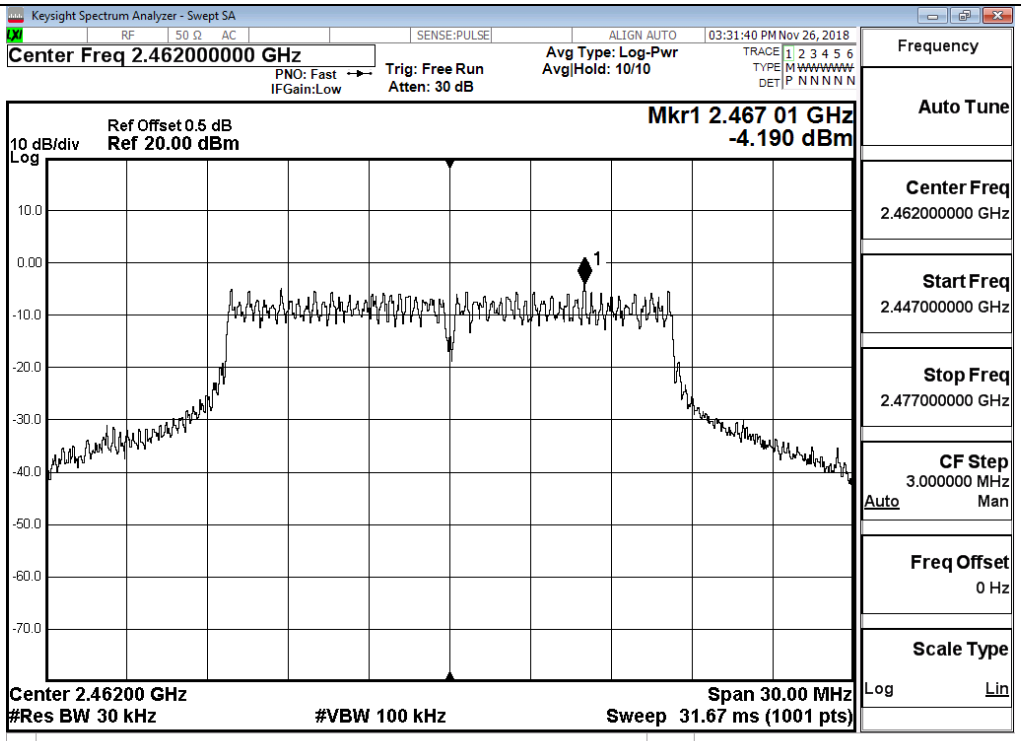
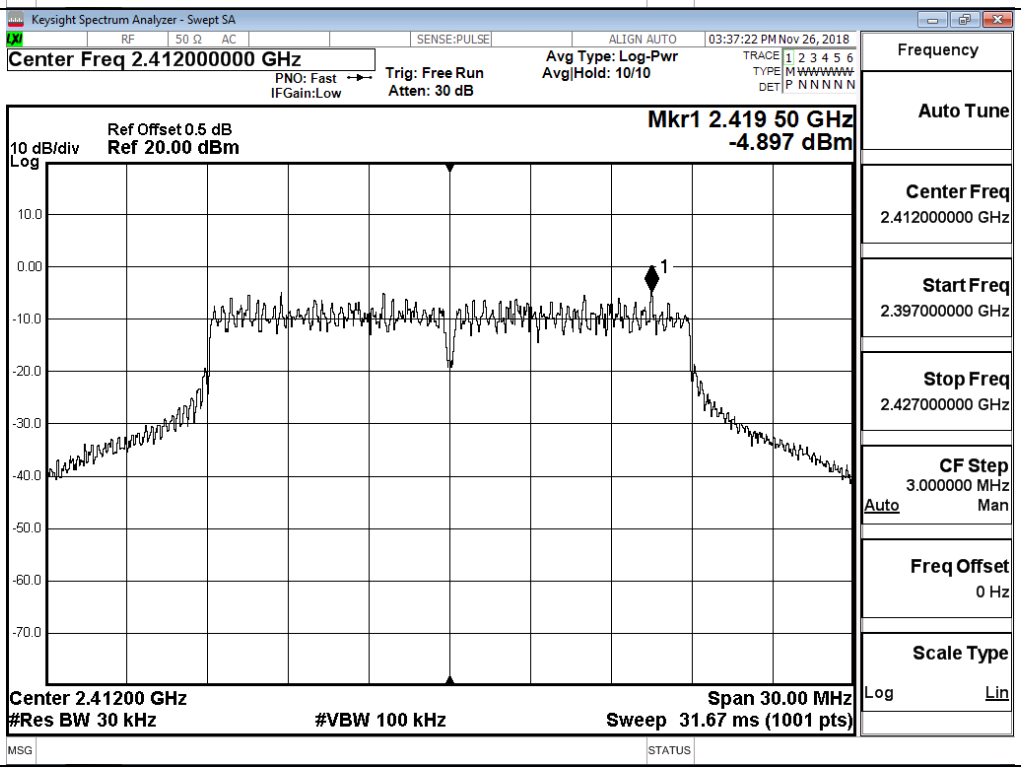


11G/LCH

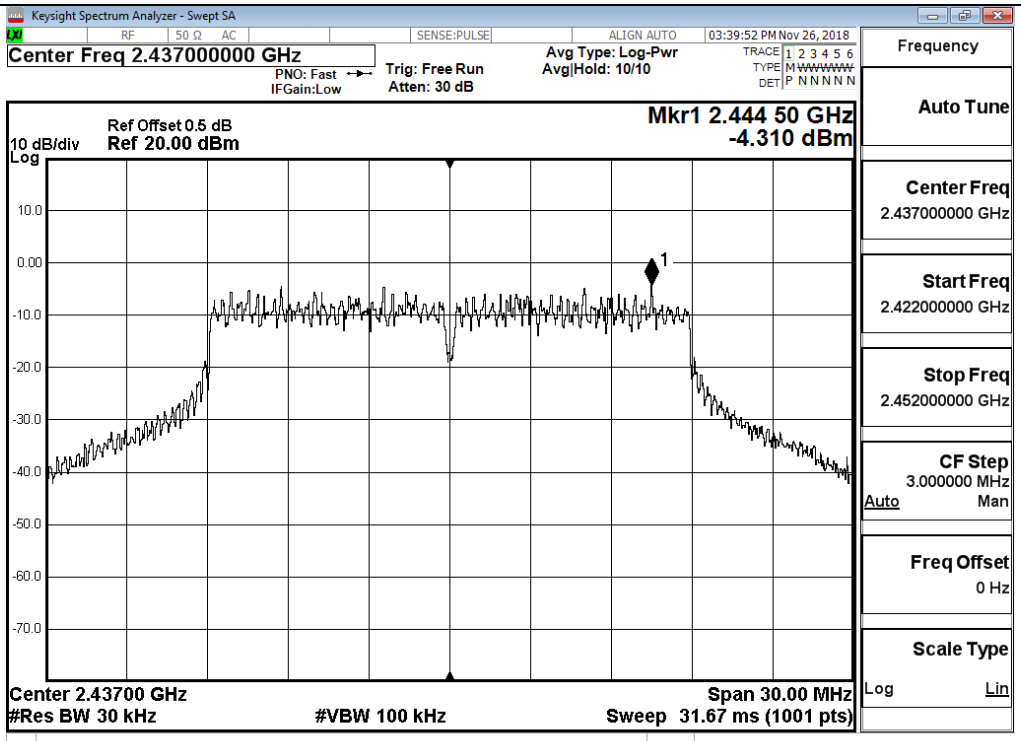


11G/MCH

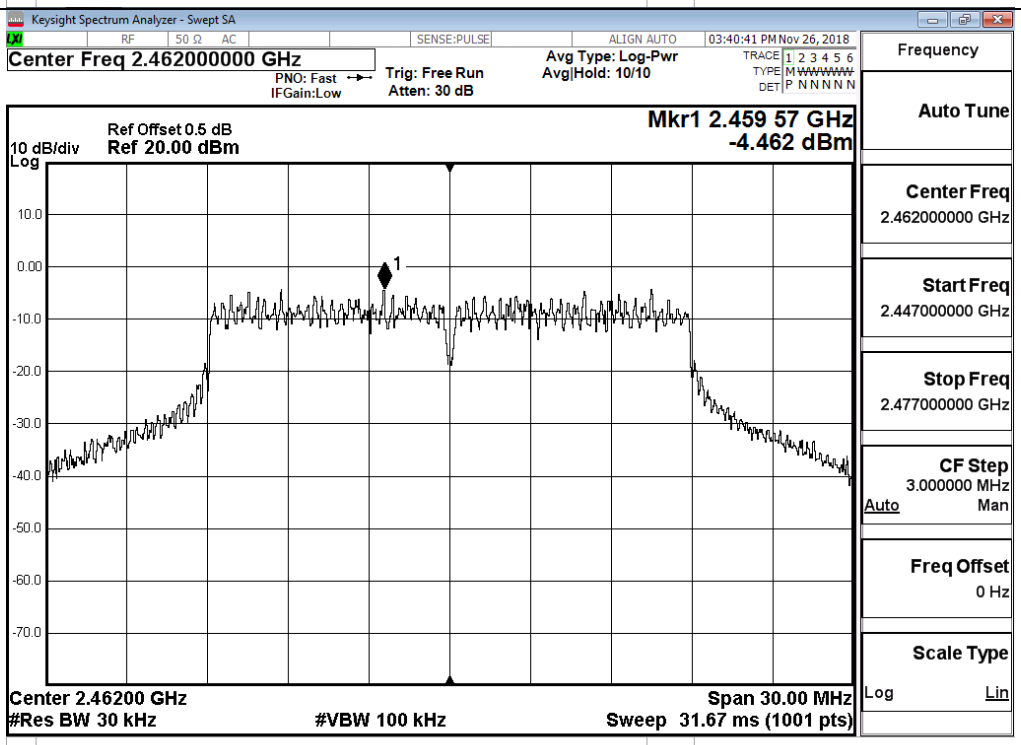


11G/HCH	
11N20SISO/LCH	

11N20SISO/MCH

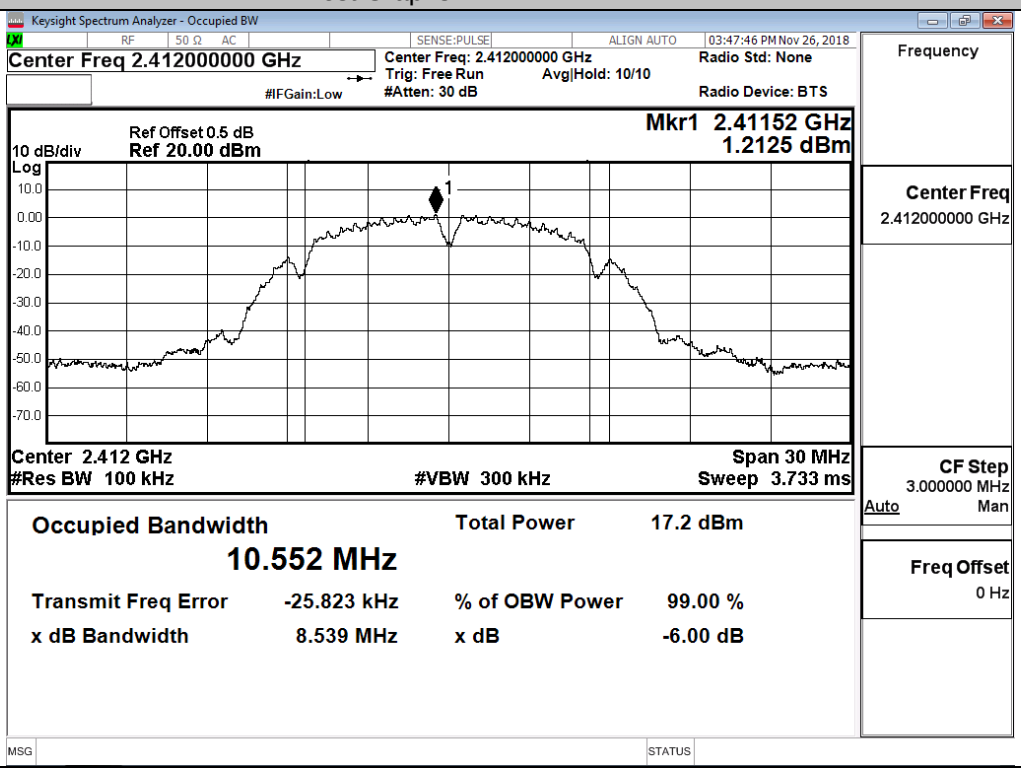


11N20SISO/HCH

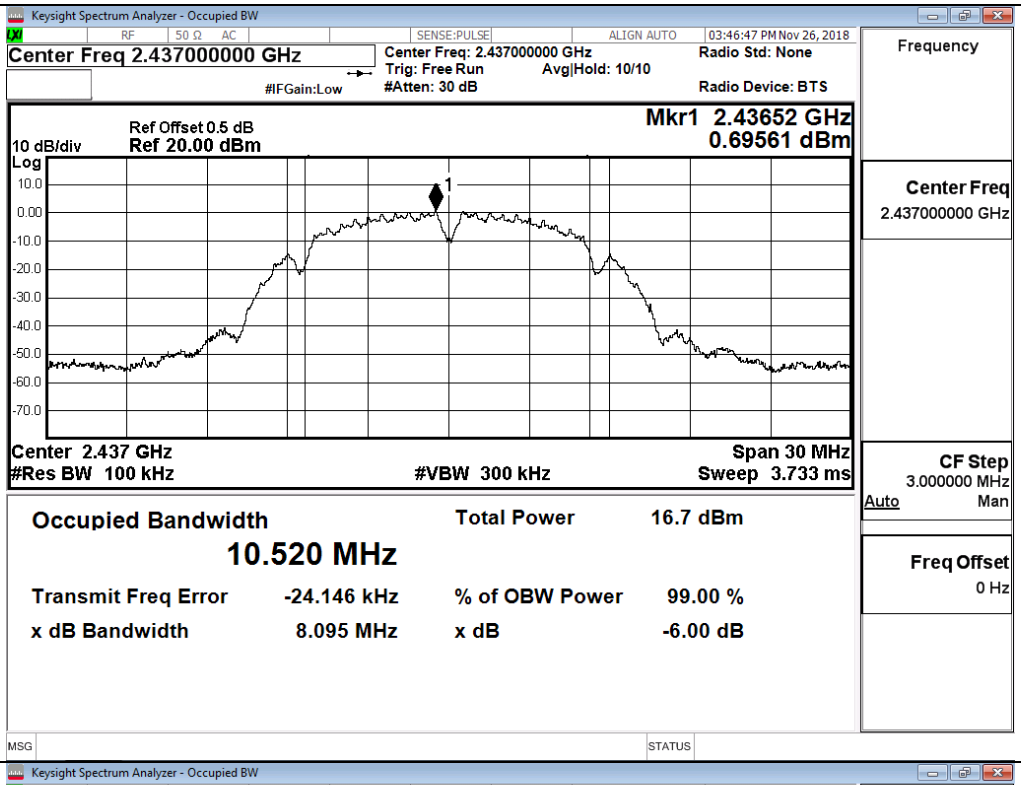


A.4 6dB Bandwidth

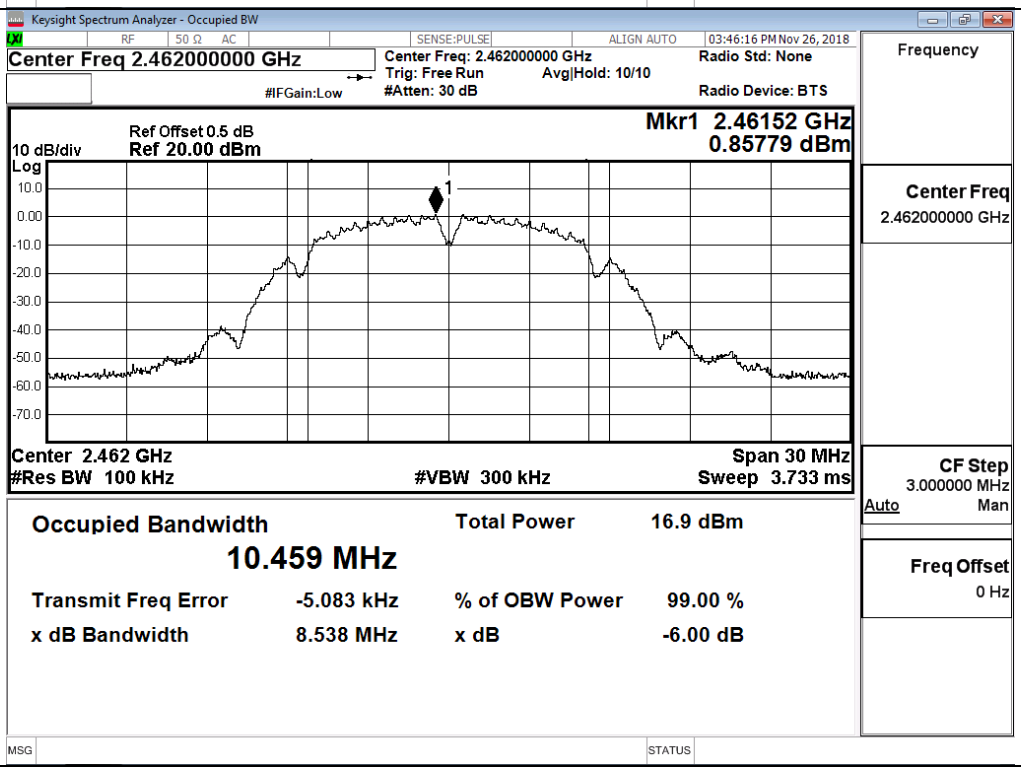
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.539	≥0.5	PASS
	MCH	8.095	≥0.5	PASS
	HCH	8.538	≥0.5	PASS
11G	LCH	16.36	≥0.5	PASS
	MCH	16.35	≥0.5	PASS
	HCH	16.36	≥0.5	PASS
11N20SISO	LCH	17.60	≥0.5	PASS
	MCH	17.61	≥0.5	PASS
	HCH	17.60	≥0.5	PASS

Test Graphs	
11B/LCH	

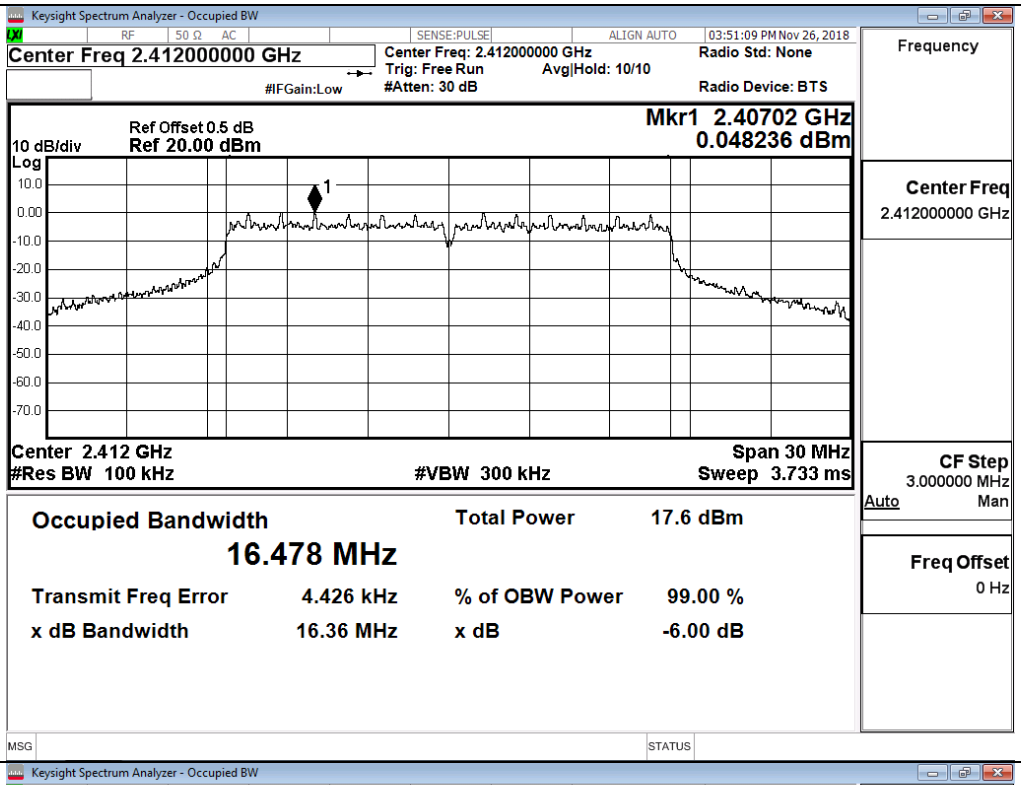
11B/MCH



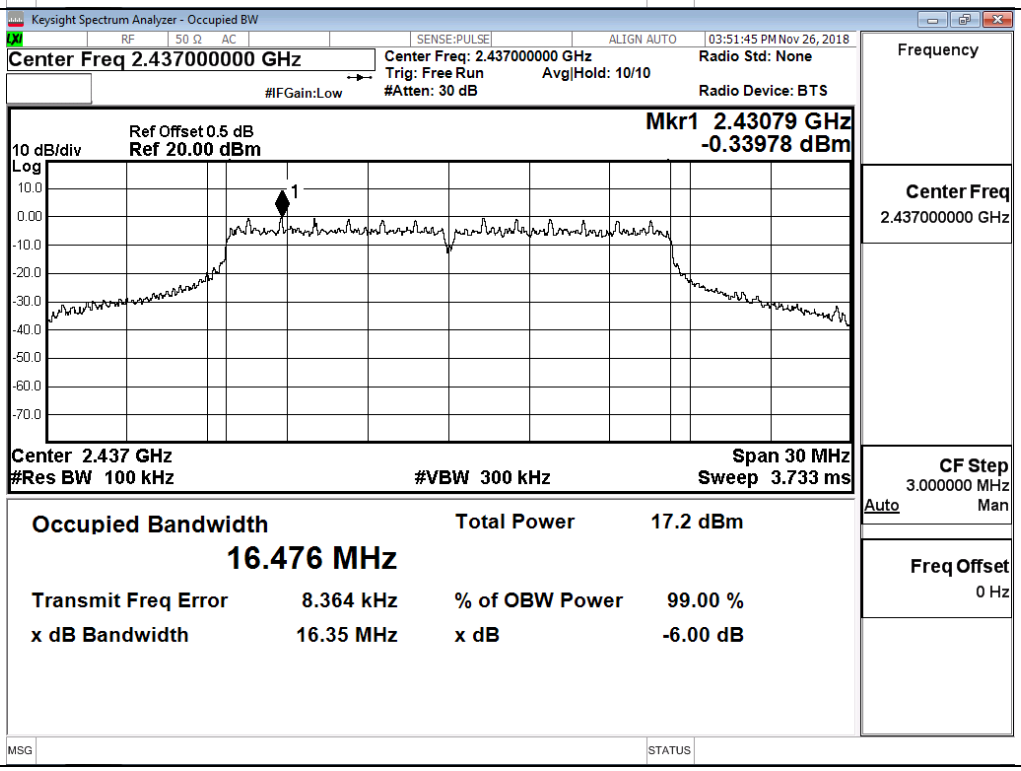
11B/HCH

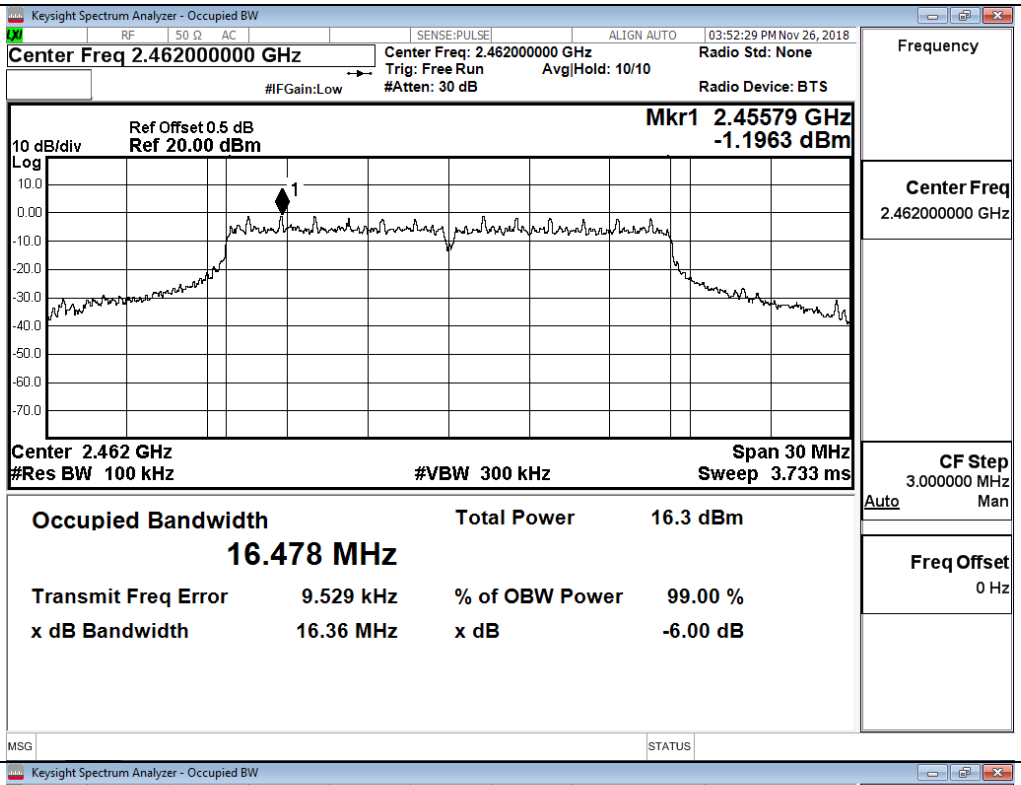
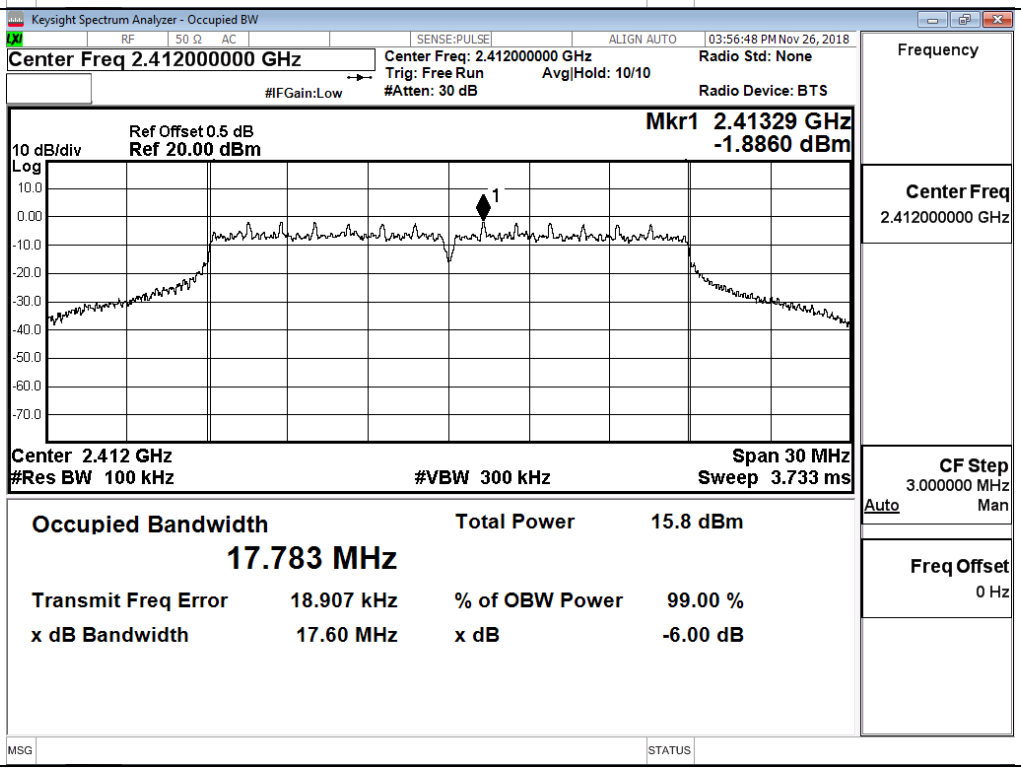


11G/LCH

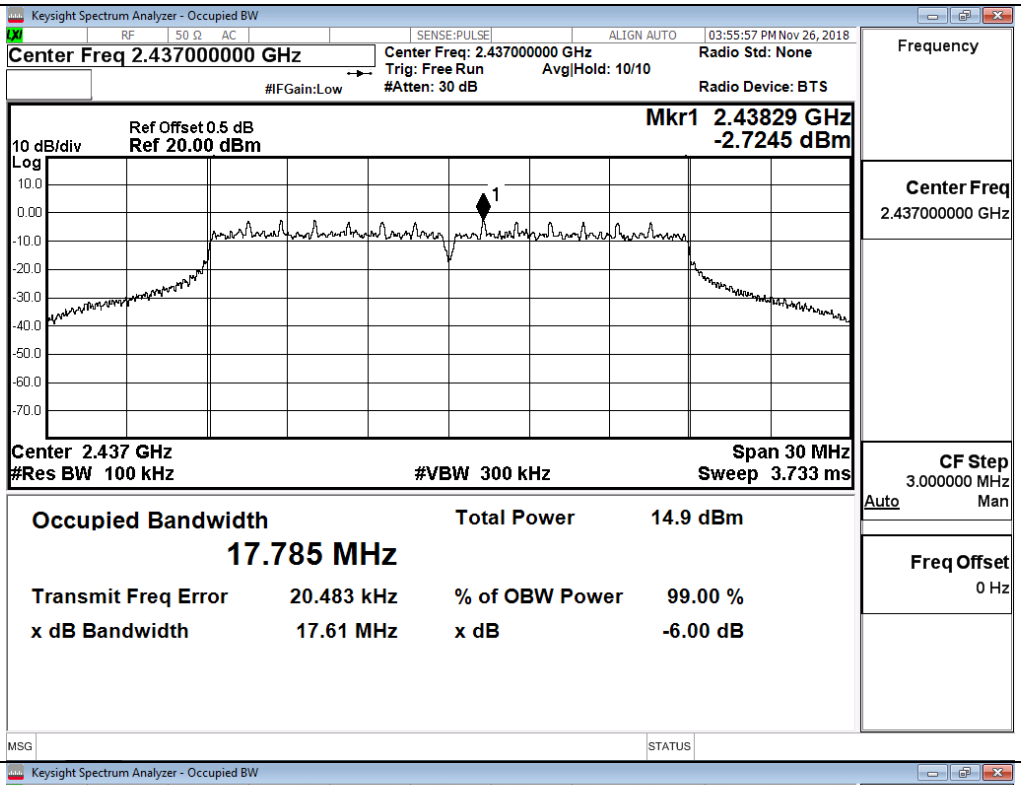


11G/MCH

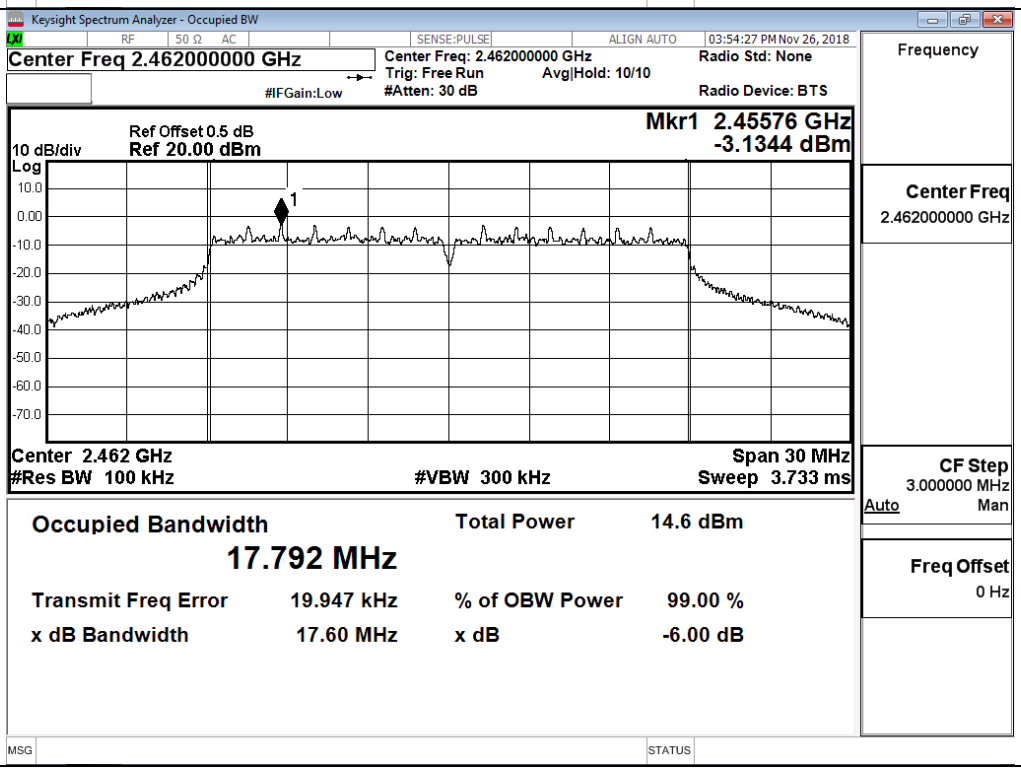


11G/HCH	
11N20SISO/LCH	

11N20SISO/MCH

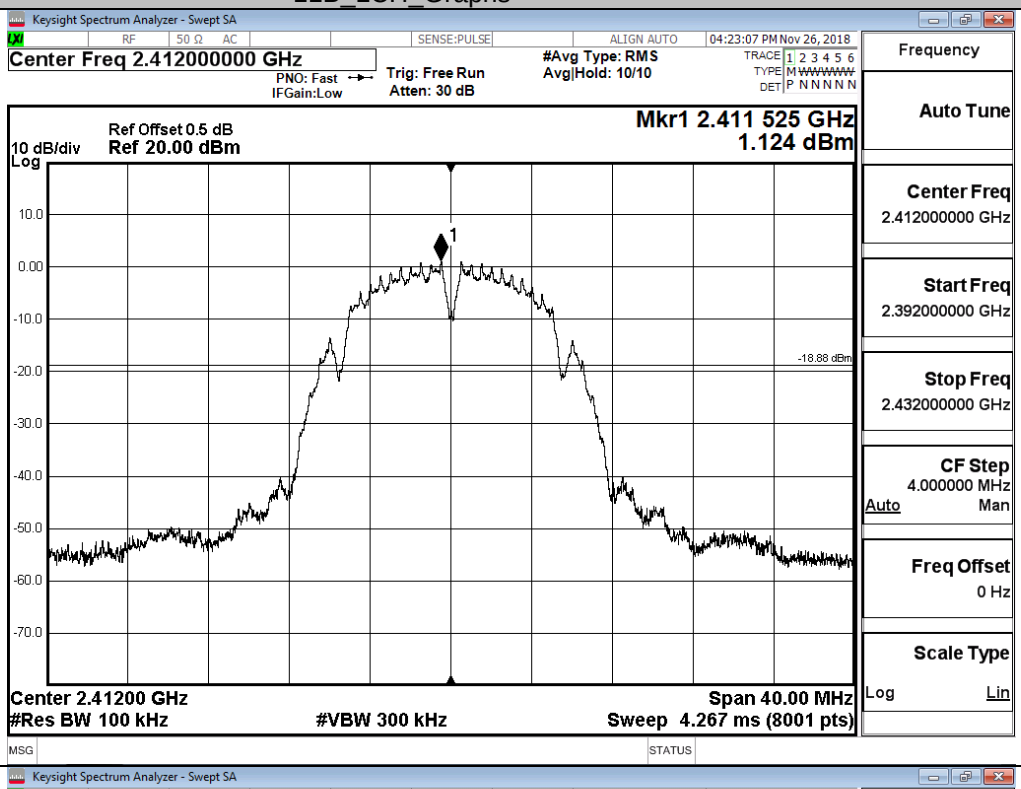
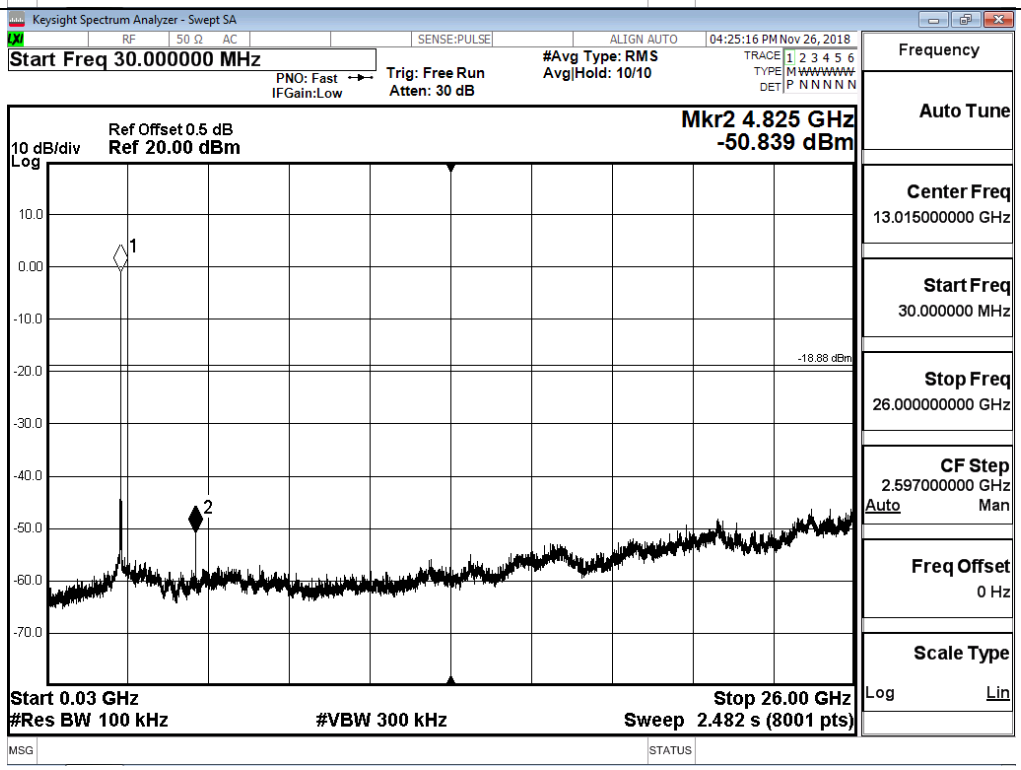


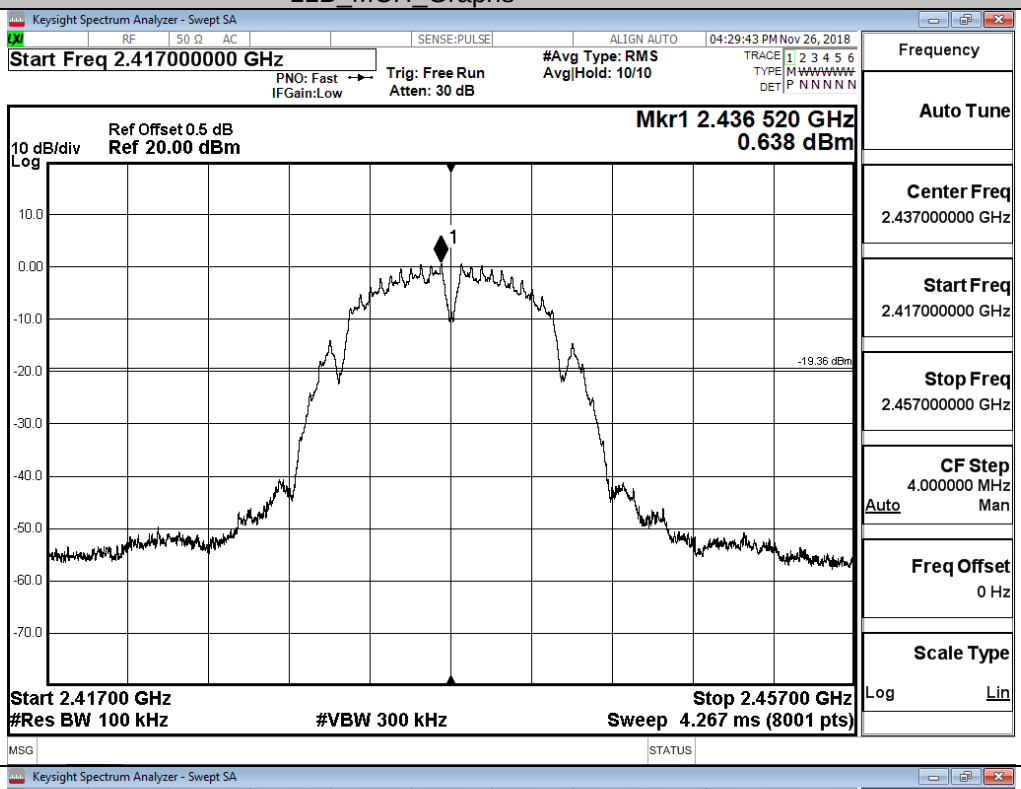
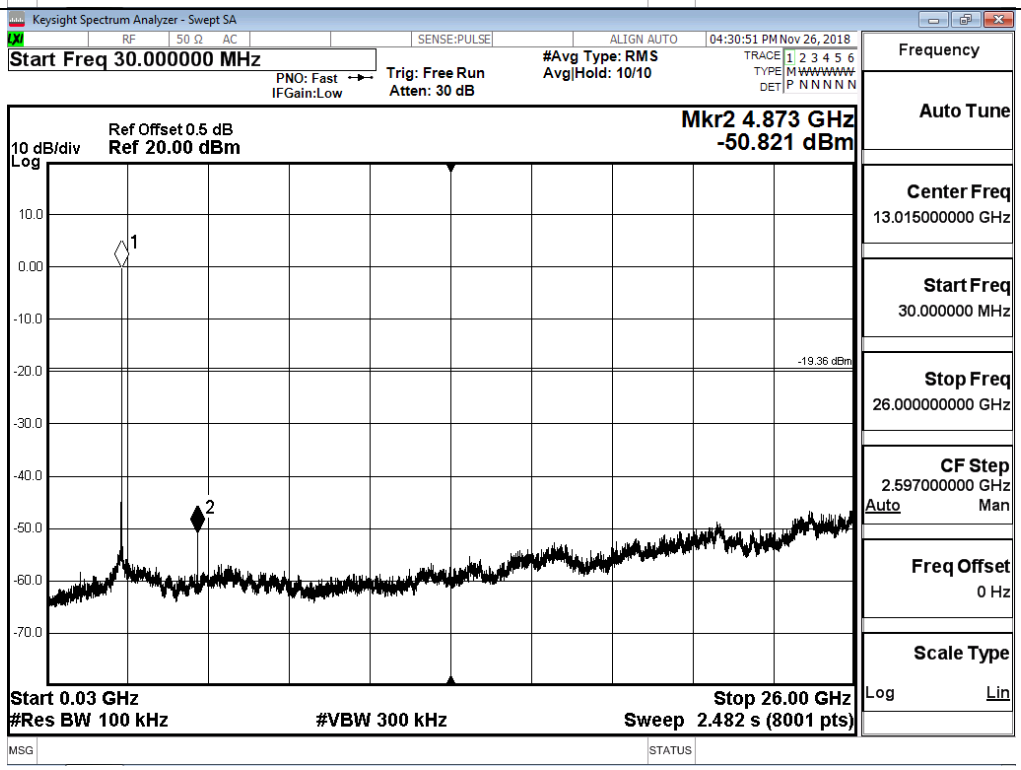
11N20SISO/HCH

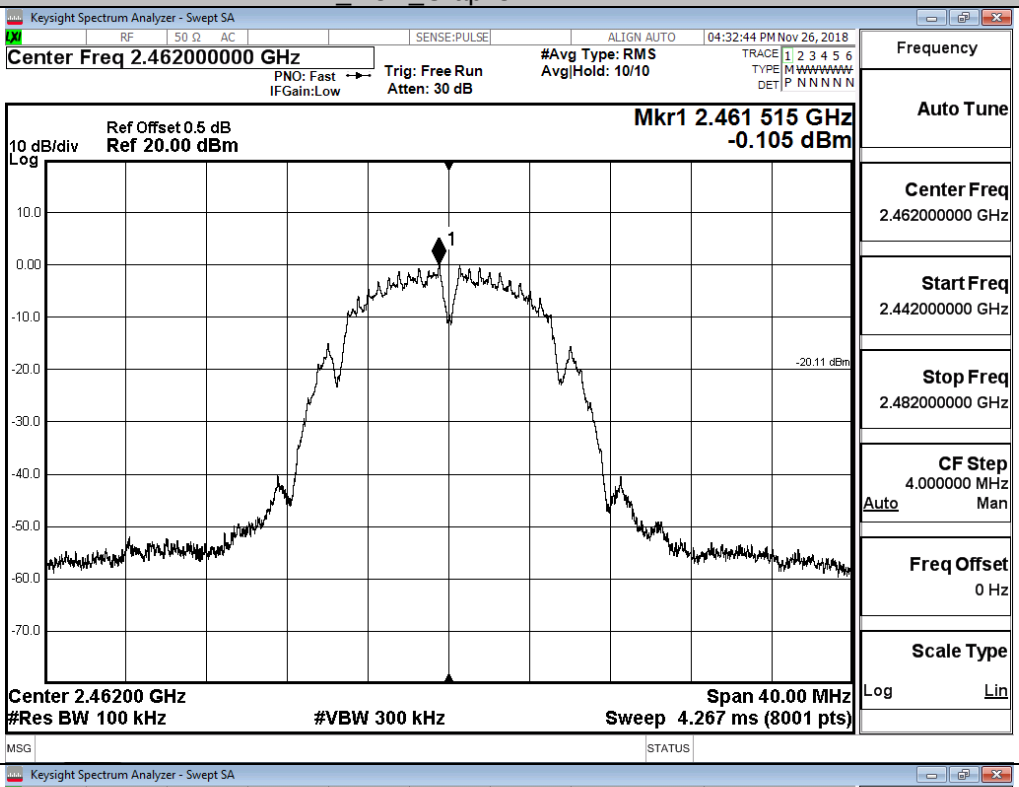
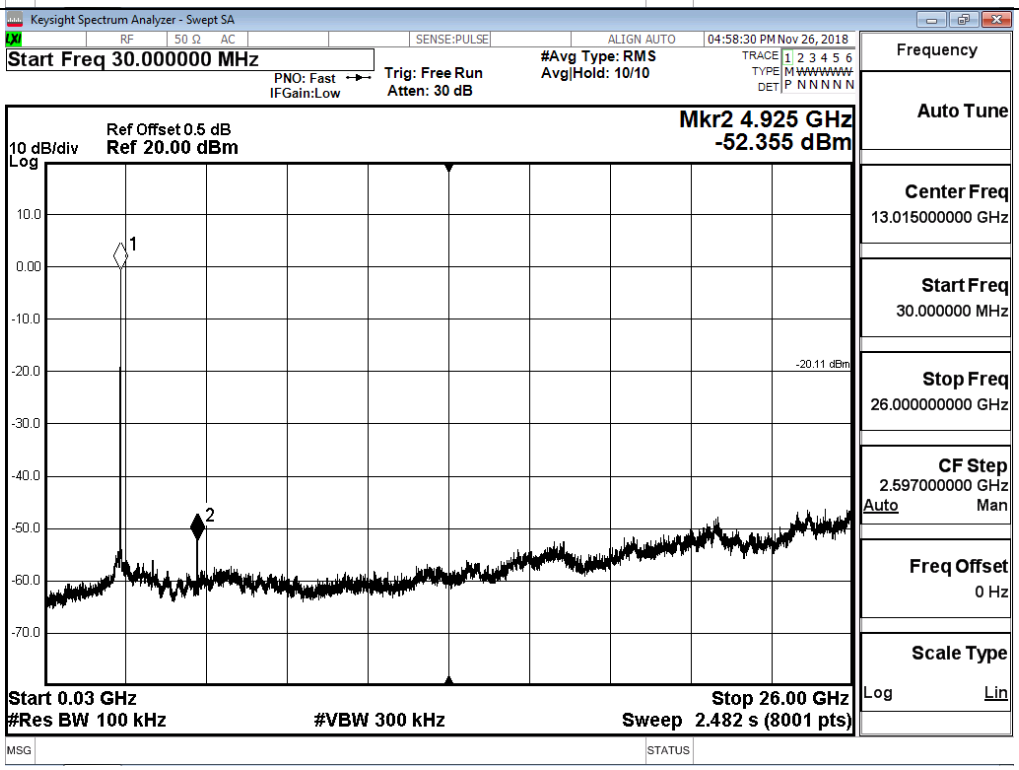


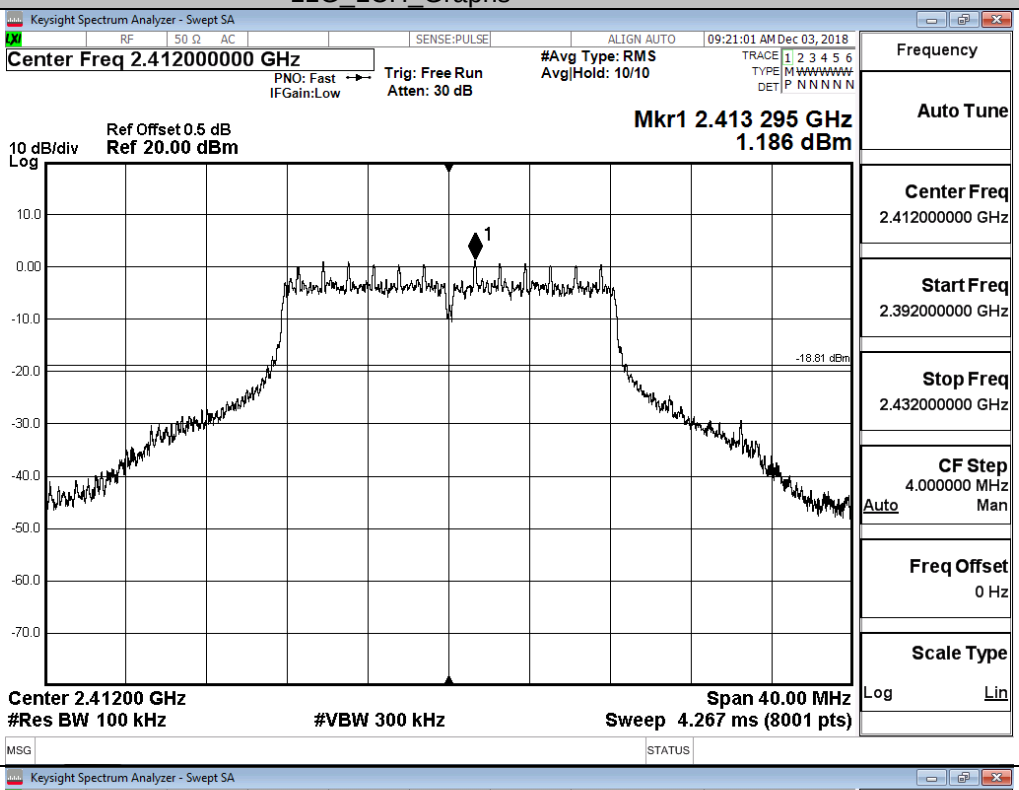
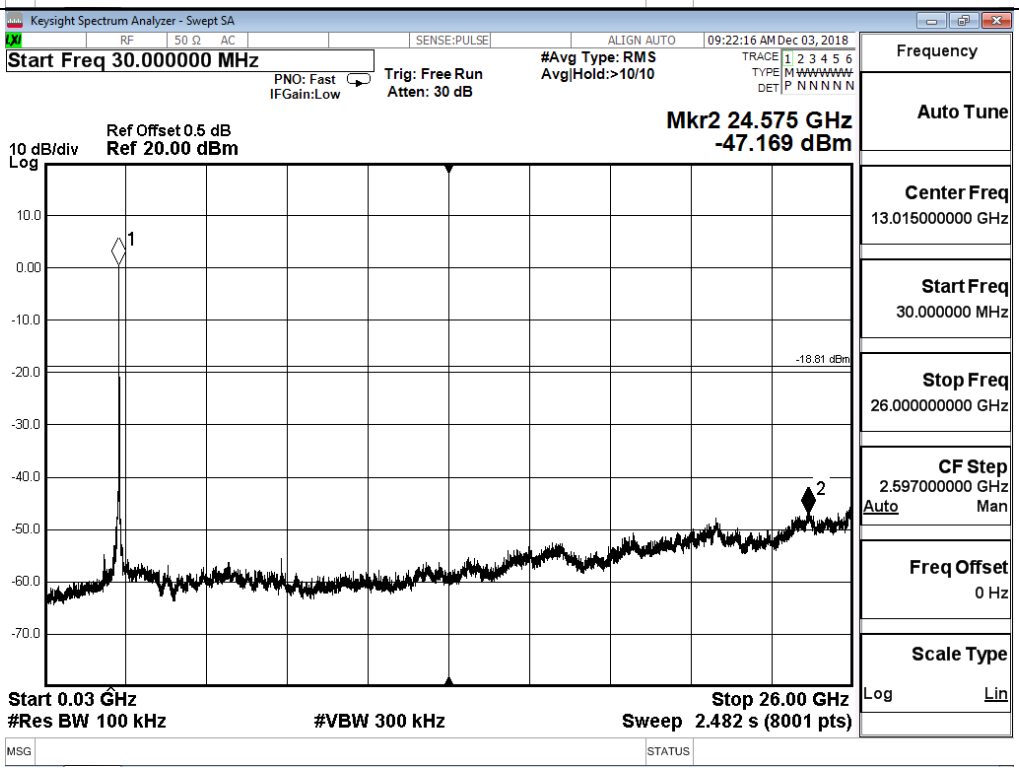
A.5 RF Conducted Spurious Emissions

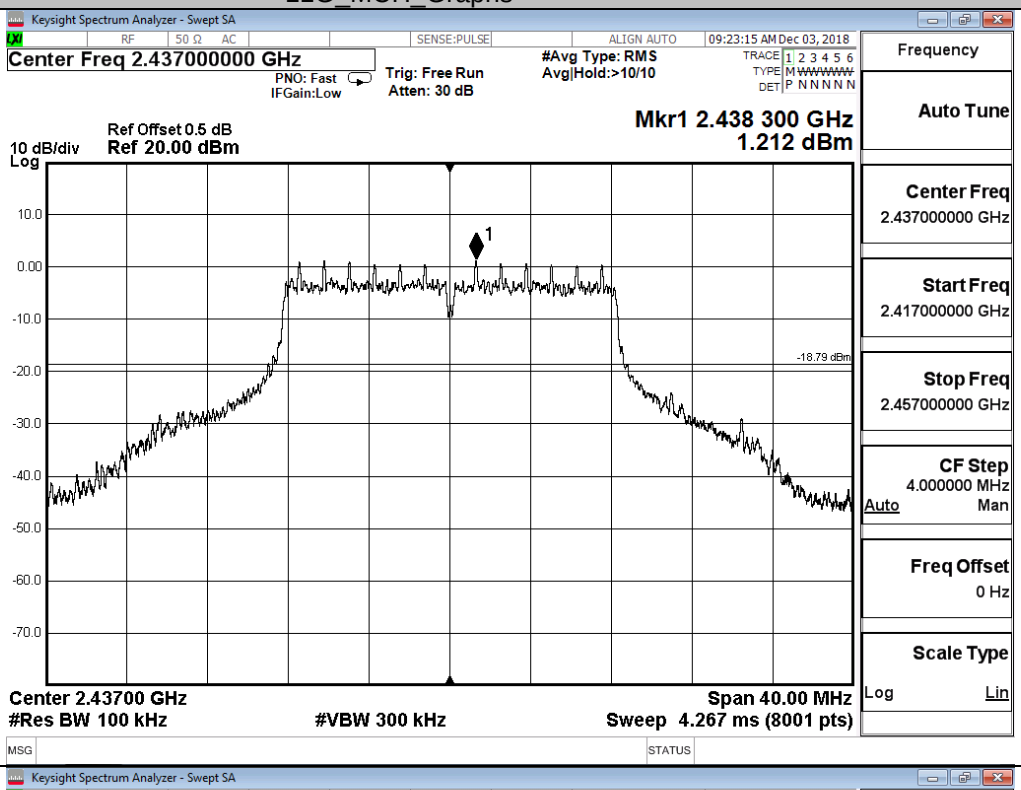
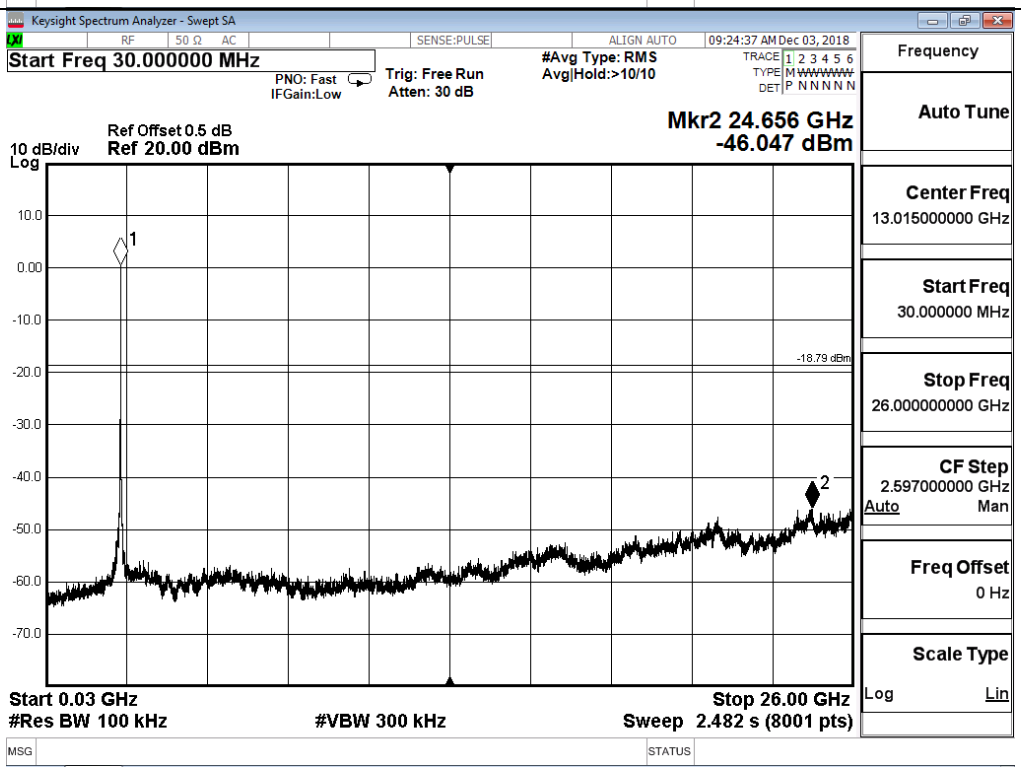
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	1.124	-50.829	-18.88	PASS
	MCH	0.638	-50.821	-19.36	PASS
	HCH	-0.105	-52.355	-20.11	PASS
11G	LCH	1.186	-47.169	-18.81	PASS
	MCH	1.212	-46.047	-18.79	PASS
	HCH	0.906	-47.934	-19.09	PASS
11N20SISO	LCH	1.343	-48.014	-18.66	PASS
	MCH	1.246	-46.919	-18.75	PASS
	HCH	0.800	-46.903	-19.20	PASS

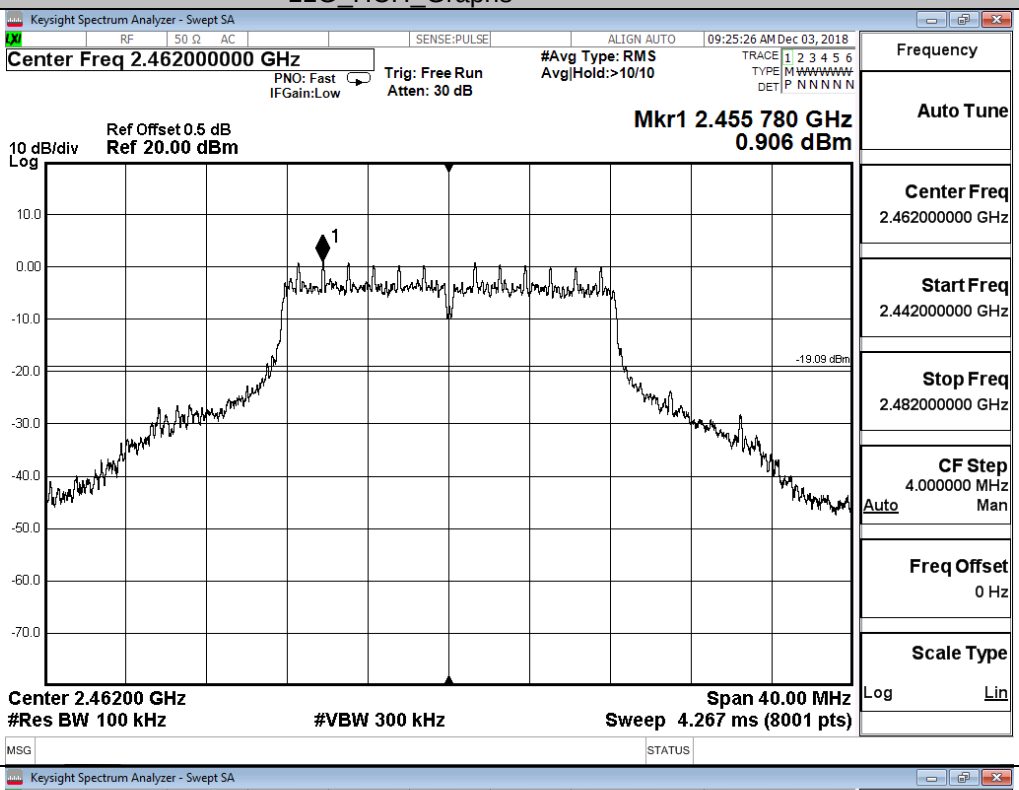
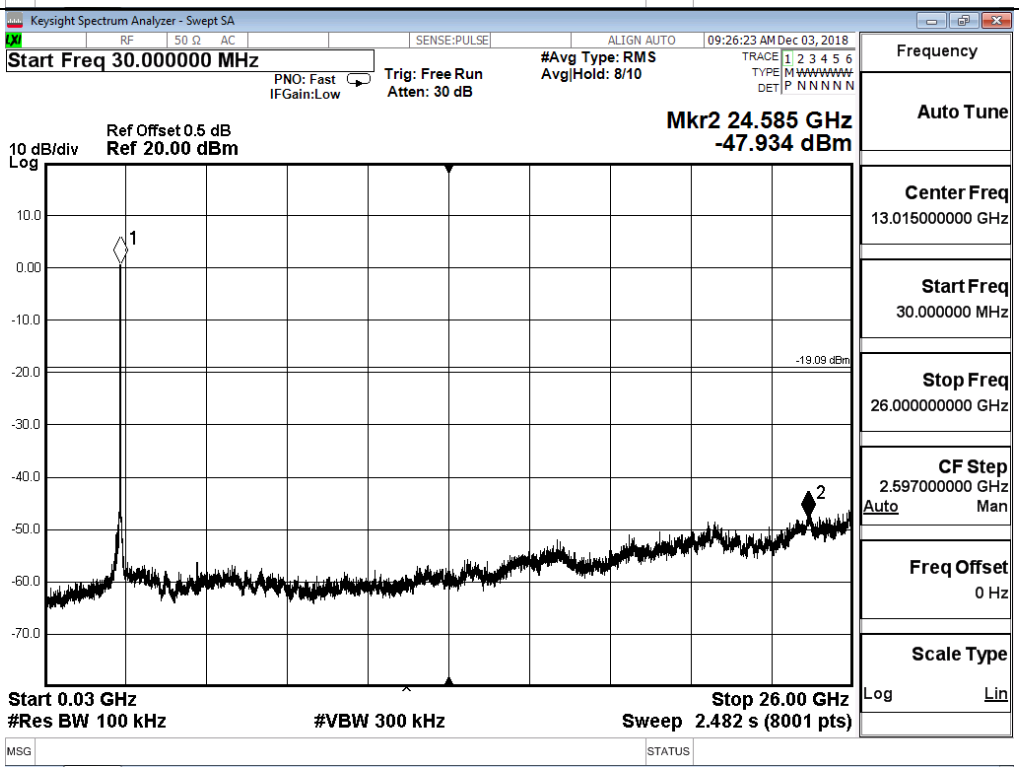
11B_LCH_Graphs	
Pref/11B/LCH	
Puw/11B/LCH	

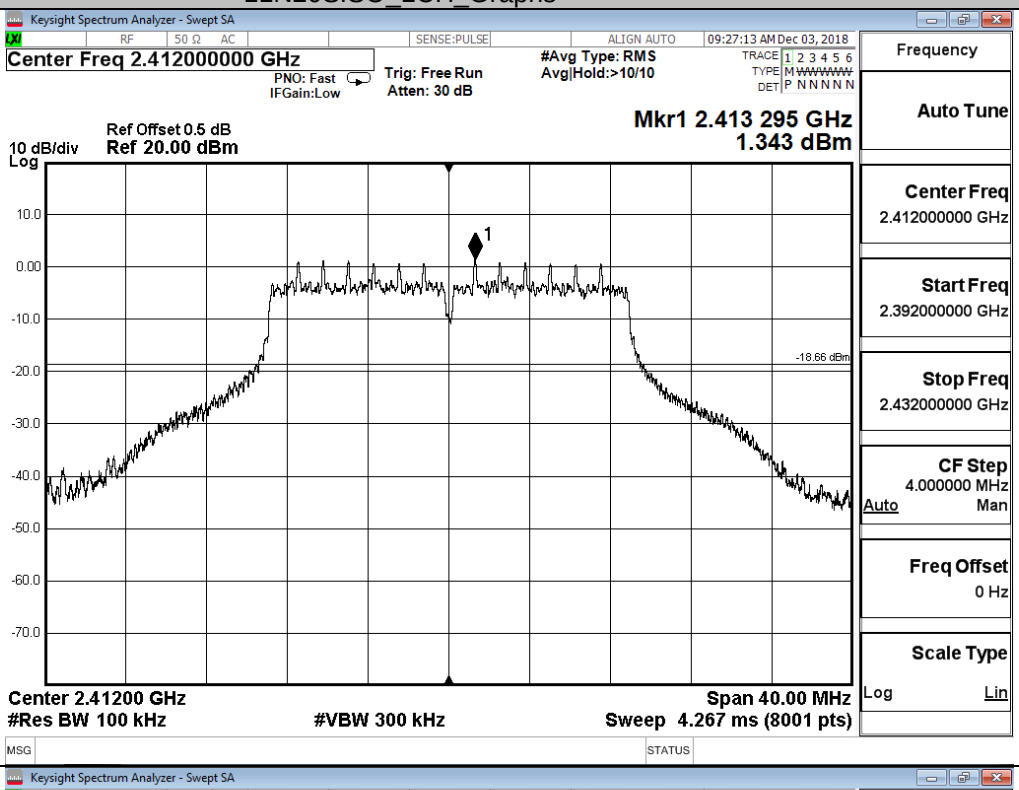
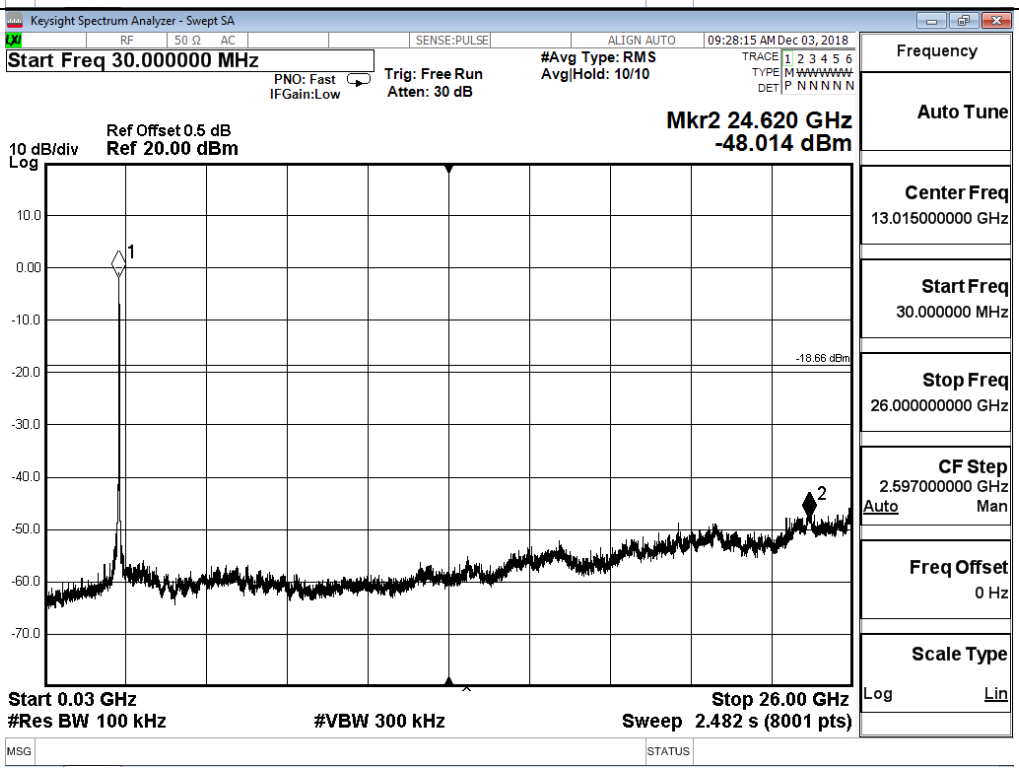
11B_MCH_Graphs	
Pref/11B/MCH	
Puw/11B/MCH	

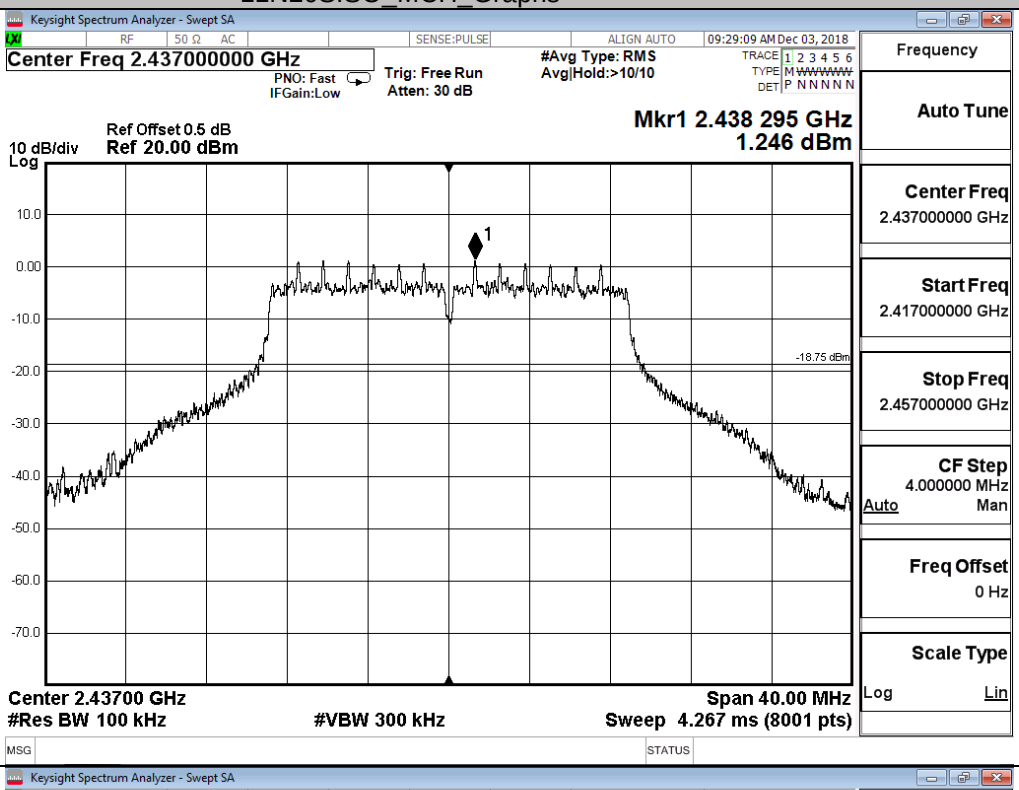
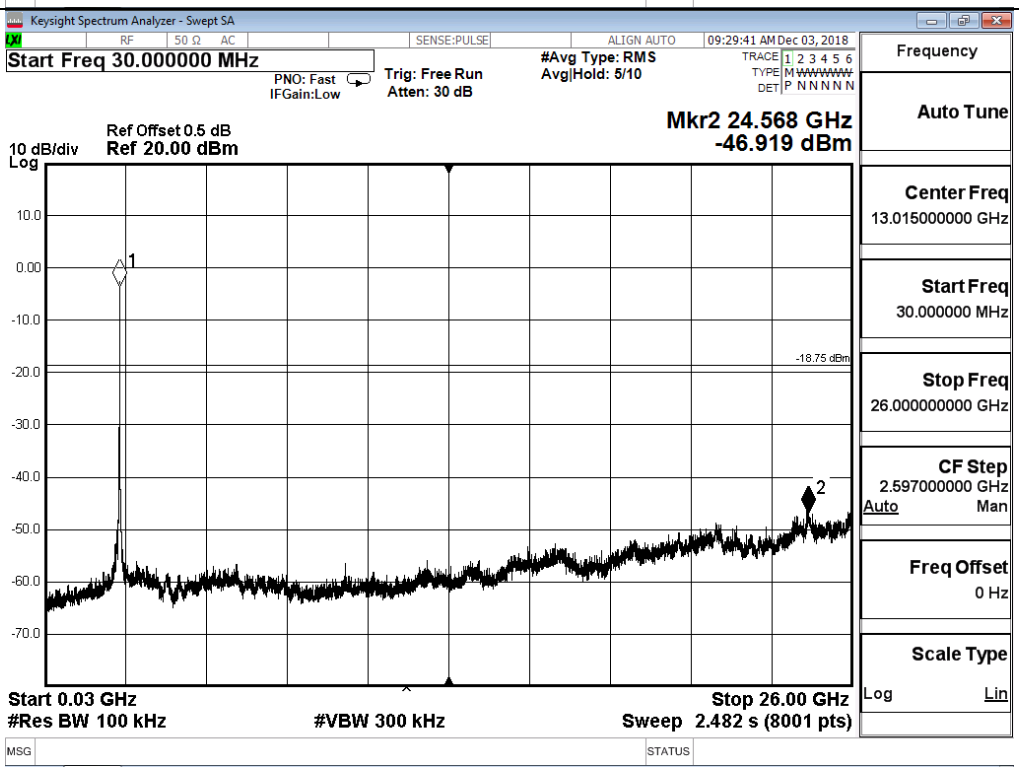
11B_HCH_Graphs	
Pref/11B/HCH	
Puw/11B/HCH	

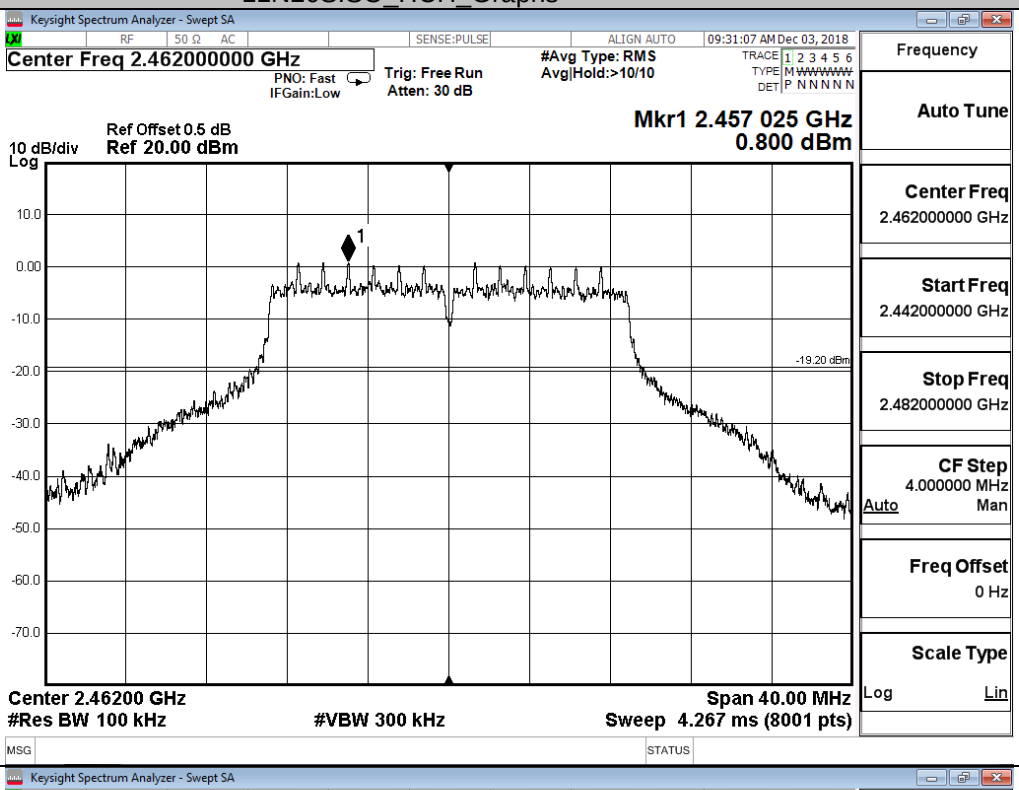
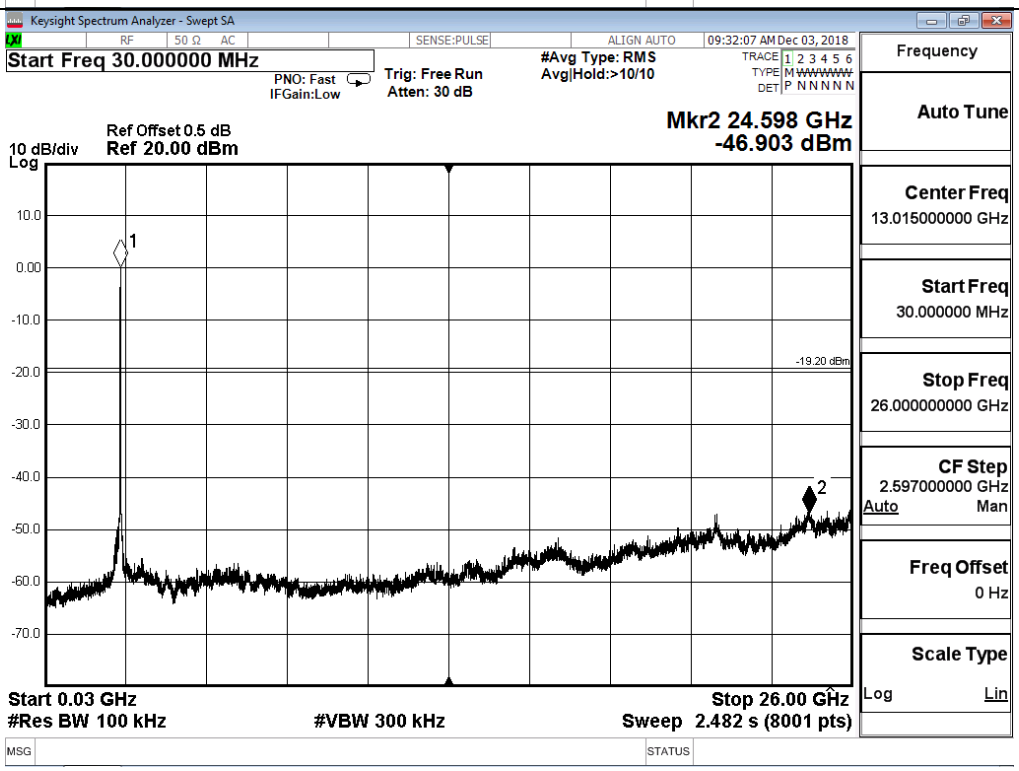
11G_LCH_Graphs	
Pref/11G/LCH	
Puw/11G/LCH	

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

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

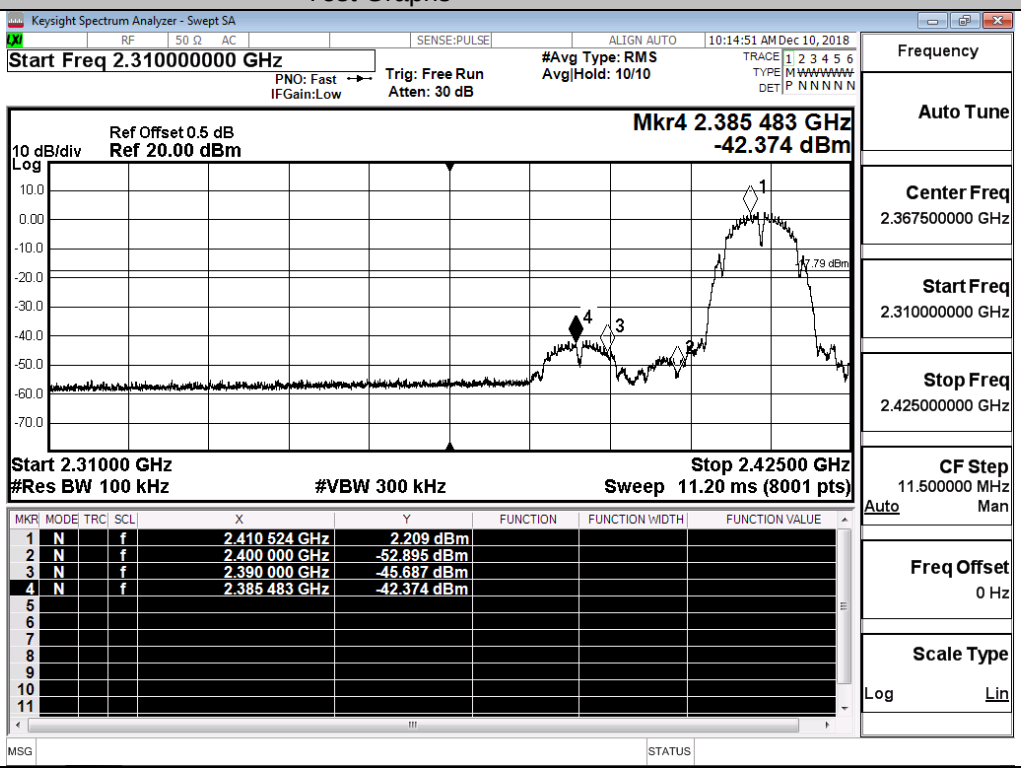
11N20SISO_LCH_Graphs	
Pref/11N20SISO/LCH	
Puw/11N20SISO/LCH	

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

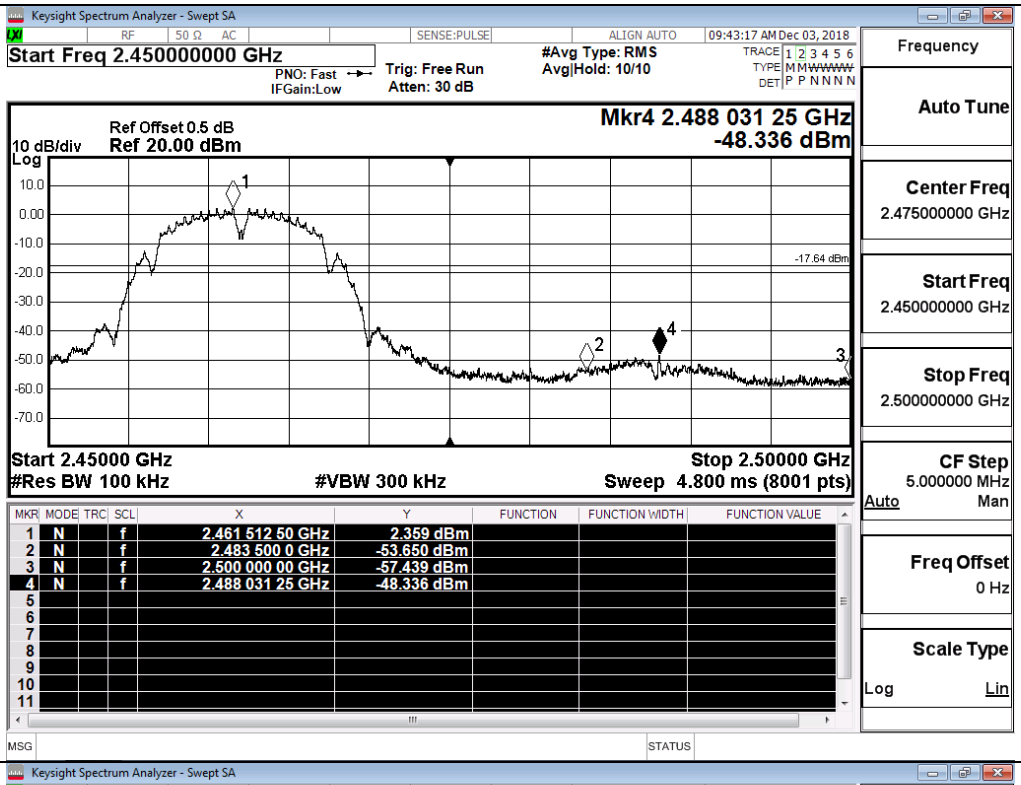
11N20SISO_HCH_Graphs	
Pref/11N20 SISO/HCH	
Puw/11N20 SISO/HCH	

A.6 Band-edge for RF Conducted Emissions

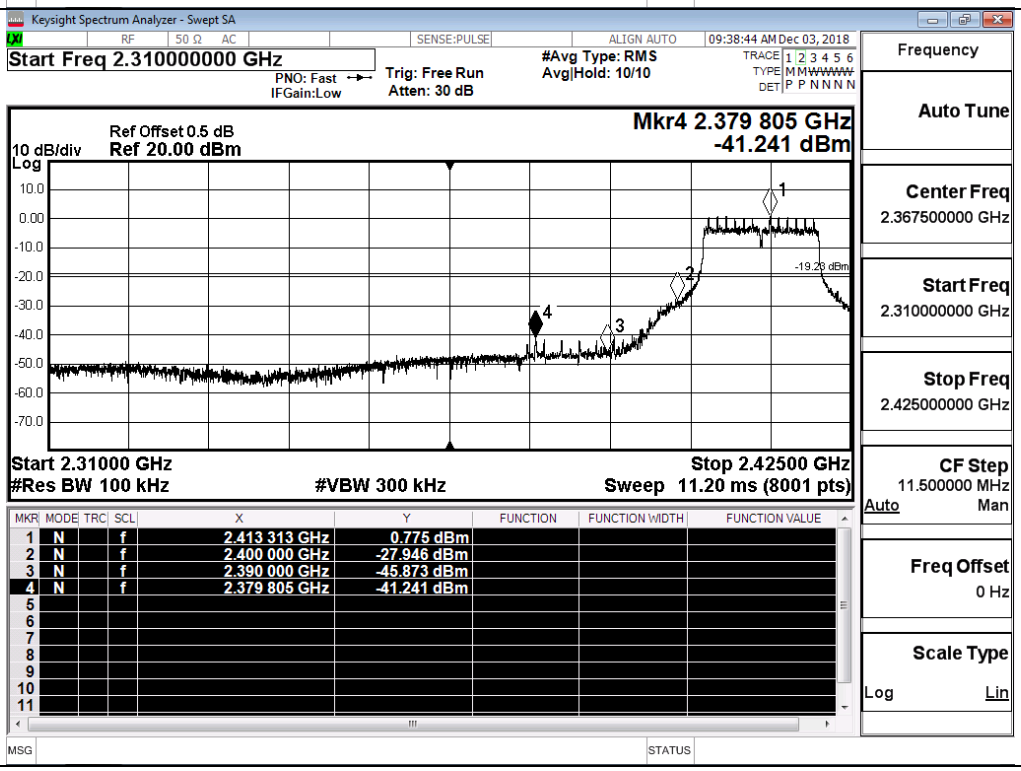
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	2.209	-42.374	-17.79	PASS
	HCH	2.359	-48.336	-17.64	PASS
11G	LCH	0.775	-41.241	-19.23	PASS
	HCH	0.605	-46.689	-19.40	PASS
11N20SISO	LCH	0.827	-41.586	-19.23	PASS
	HCH	0.710	-46.057	-19.29	PASS

Test Graphs	
11B/LCH	

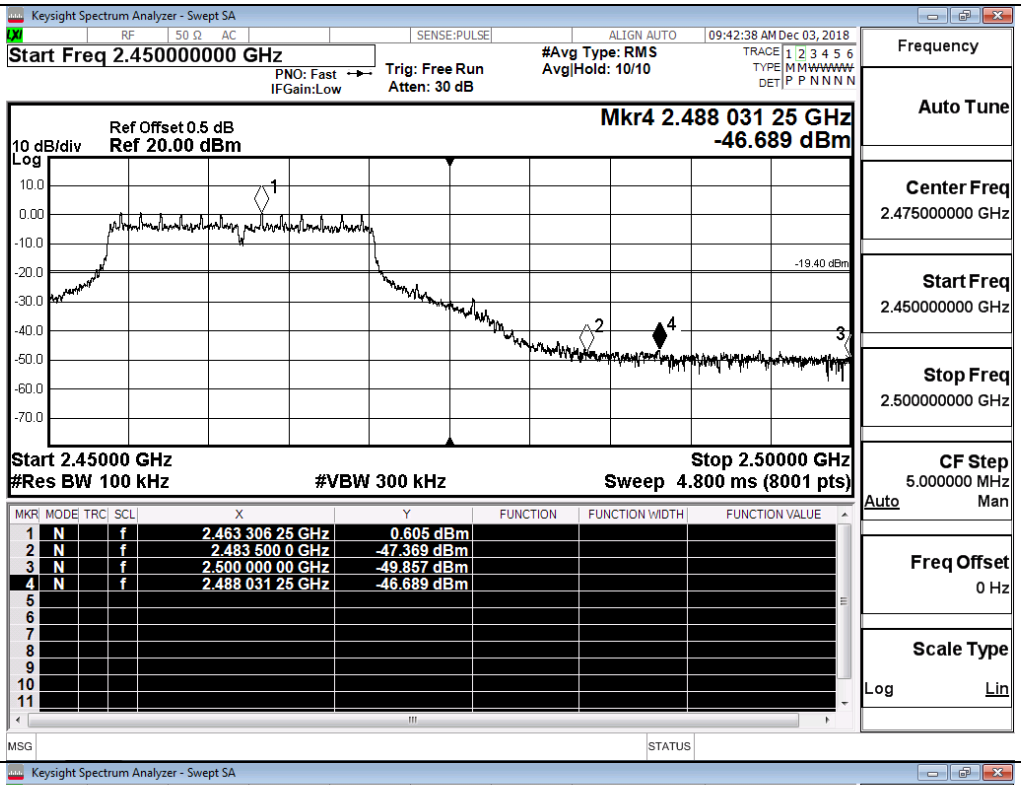
11B/HCH



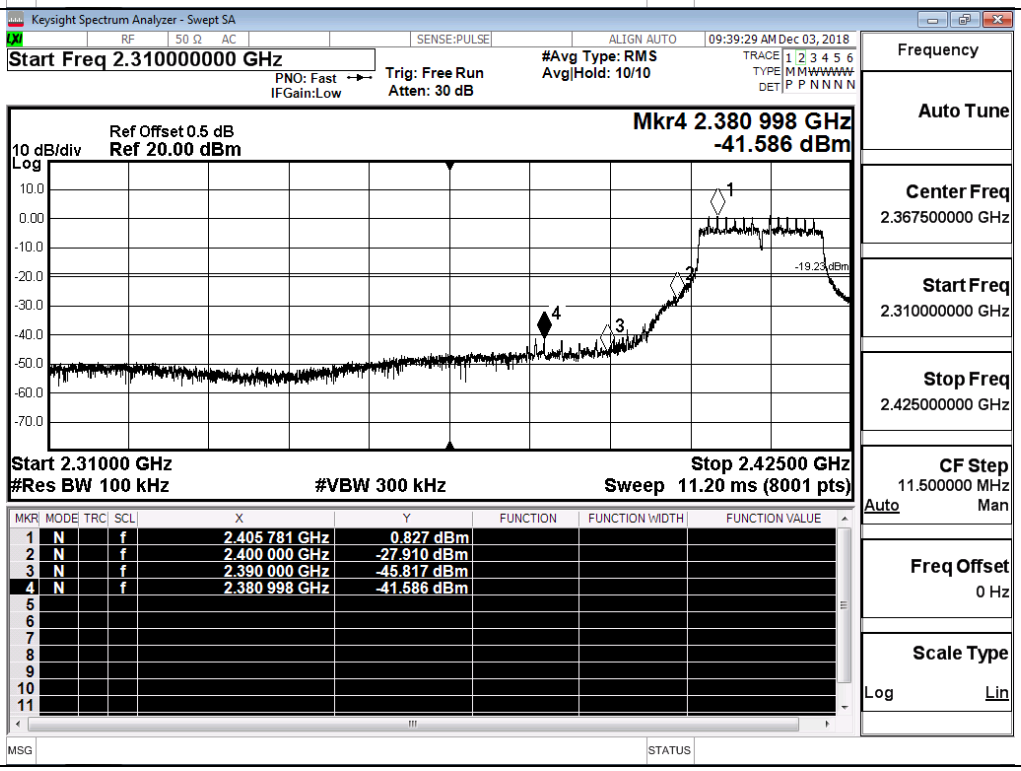
11G/LCH



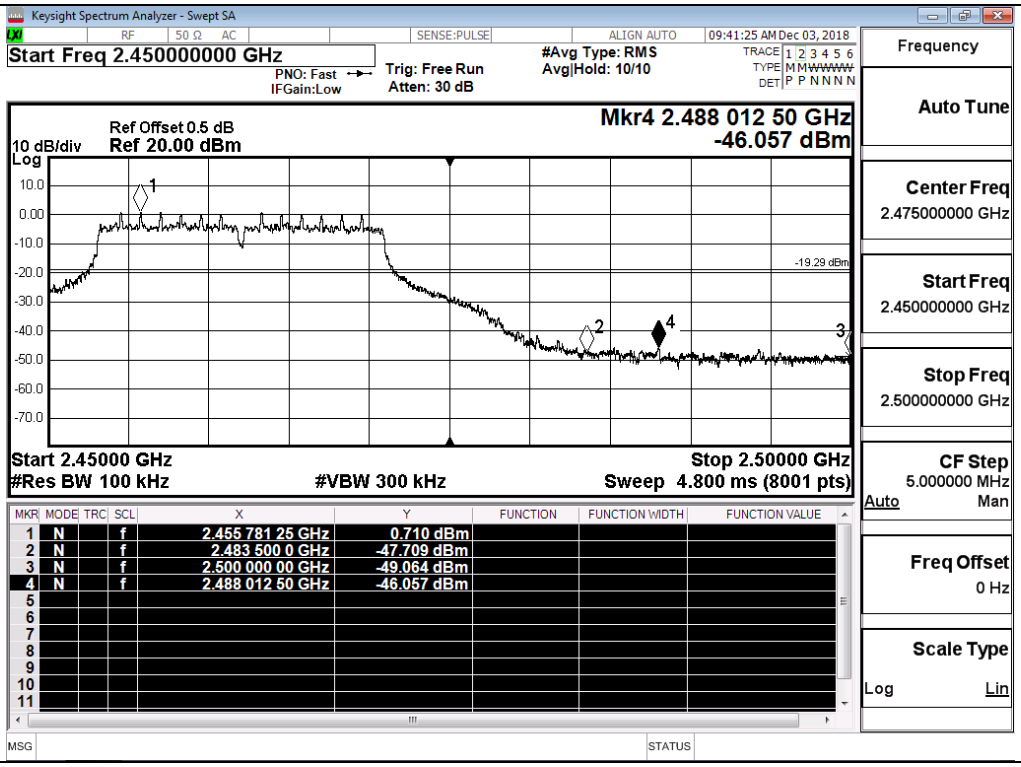
11G/HCH



11N20SISO/LCH



11N20SISO/HCH

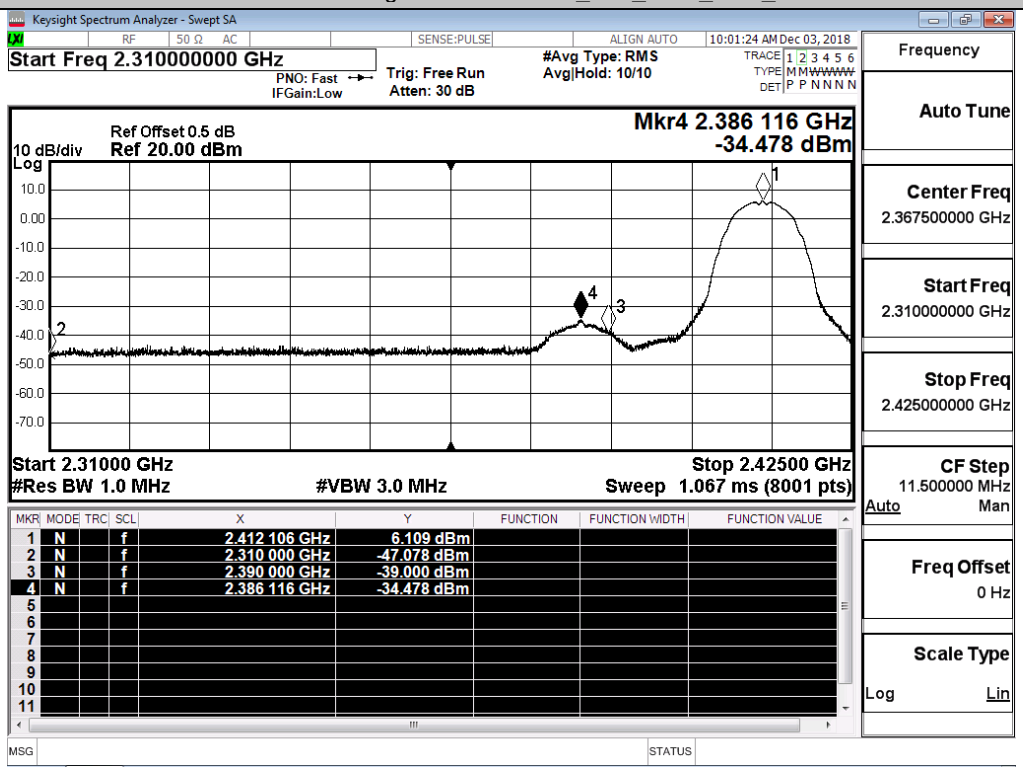


A.7 Restrict-band band-edge measurements

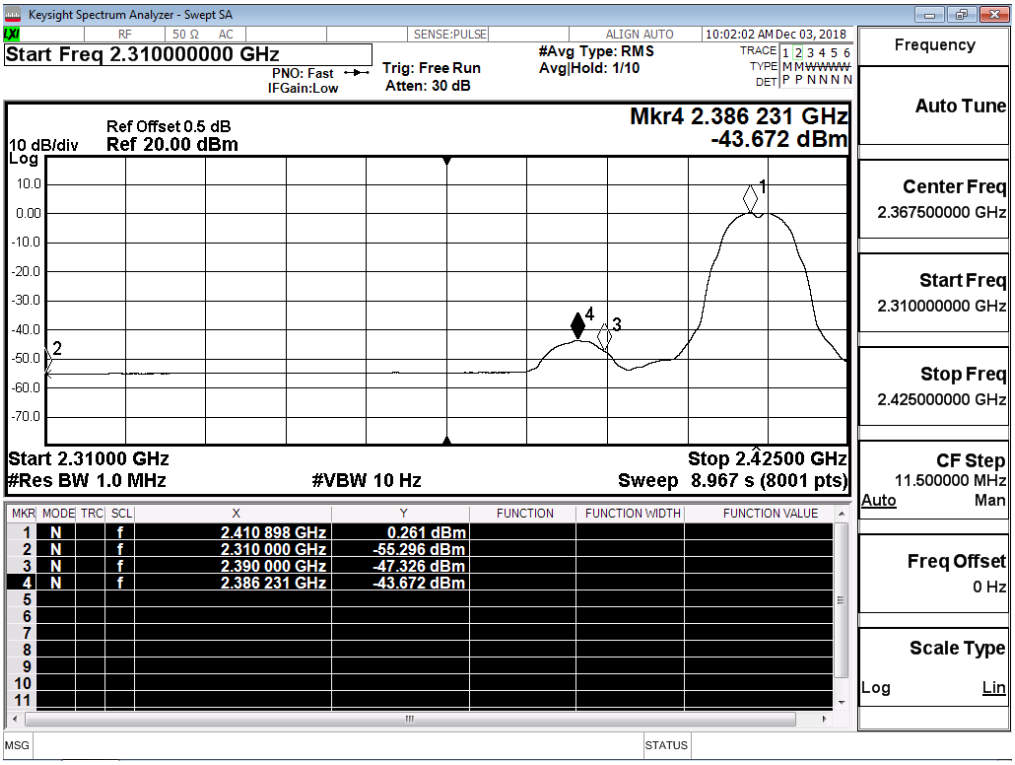
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.000	-47.078	2.0	0	50.150	PEAK	74	PASS
	2412	Ant1	2310.000	-55.296	2.0	0	41.932	AV	54	PASS
	2412	Ant1	2386.116	-34.478	2.0	0	62.750	PEAK	74	PASS
	2412	Ant1	2386.231	-43.672	2.0	0	53.556	AV	54	PASS
	2412	Ant1	2390.000	-39.000	2.0	0	58.228	PEAK	74	PASS
	2412	Ant1	2390.000	-47.326	2.0	0	49.902	AV	54	PASS
	2462	Ant1	2483.500	-45.814	2.0	0	51.414	PEAK	74	PASS
	2462	Ant1	2483.500	-53.347	2.0	0	43.881	AV	54	PASS
	2462	Ant1	2486.194	-42.667	2.0	0	54.561	PEAK	74	PASS
	2462	Ant1	2488.069	-50.597	2.0	0	46.631	AV	54	PASS
	2462	Ant1	2500.000	-50.189	2.0	0	47.039	PEAK	74	PASS
	2462	Ant1	2500.000	-56.584	2.0	0	40.644	AV	54	PASS
11G	2412	Ant1	2310.000	-33.204	2.0	0	64.024	PEAK	74	PASS
	2412	Ant1	2310.000	-56.288	2.0	0	40.940	AV	54	PASS
	2412	Ant1	2379.891	-27.589	2.0	0	69.639	PEAK	74	PASS
	2412	Ant1	2386.101	-45.578	2.0	0	51.650	AV	54	PASS
	2412	Ant1	2390.000	-29.350	2.0	0	67.878	PEAK	74	PASS
	2412	Ant1	2390.000	-47.218	2.0	0	50.010	AV	54	PASS
	2462	Ant1	2483.500	-28.814	2.0	0	68.414	PEAK	74	PASS
	2462	Ant1	2483.500	-51.001	2.0	0	46.227	AV	54	PASS
	2462	Ant1	2484.681	-28.807	2.0	0	68.421	PEAK	74	PASS
	2462	Ant1	2488.175	-51.256	2.0	0	45.972	AV	54	PASS
	2462	Ant1	2500.000	-30.554	2.0	0	66.674	PEAK	74	PASS
	2462	Ant1	2500.000	-52.761	2.0	0	44.467	AV	54	PASS
11N20 SISO	2412	Ant1	2310.000	-33.590	2.0	0	63.638	PEAK	74	PASS
	2412	Ant1	2310.000	-56.273	2.0	0	40.955	AV	54	PASS

	2412	Ant1	2380.394	-27.681	2.0	0	69.547	PEAK	74	PASS
	2412	Ant1	2385.929	-45.691	2.0	0	51.537	AV	54	PASS
	2412	Ant1	2390.000	-29.955	2.0	0	67.273	PEAK	74	PASS
	2412	Ant1	2390.000	-47.271	2.0	0	49.957	AV	54	PASS
	2462	Ant1	2483.500	-30.394	2.0	0	66.834	PEAK	74	PASS
	2462	Ant1	2483.500	-51.953	2.0	0	45.275	AV	54	PASS
	2462	Ant1	2485.025	-29.525	2.0	0	67.703	PEAK	74	PASS
	2462	Ant1	2487.994	-51.411	2.0	0	45.817	AV	54	PASS
	2462	Ant1	2500.000	-32.633	2.0	0	64.595	PEAK	74	PASS
	2462	Ant1	2500.000	-56.240	2.0	0	40.988	AV	54	PASS

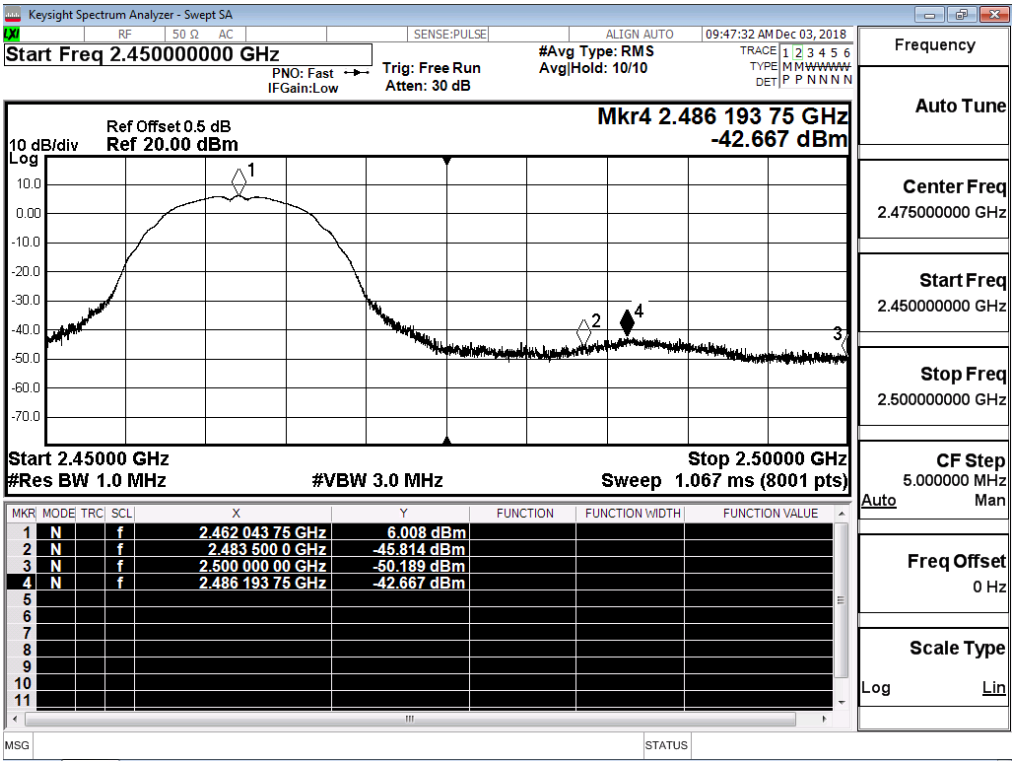
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



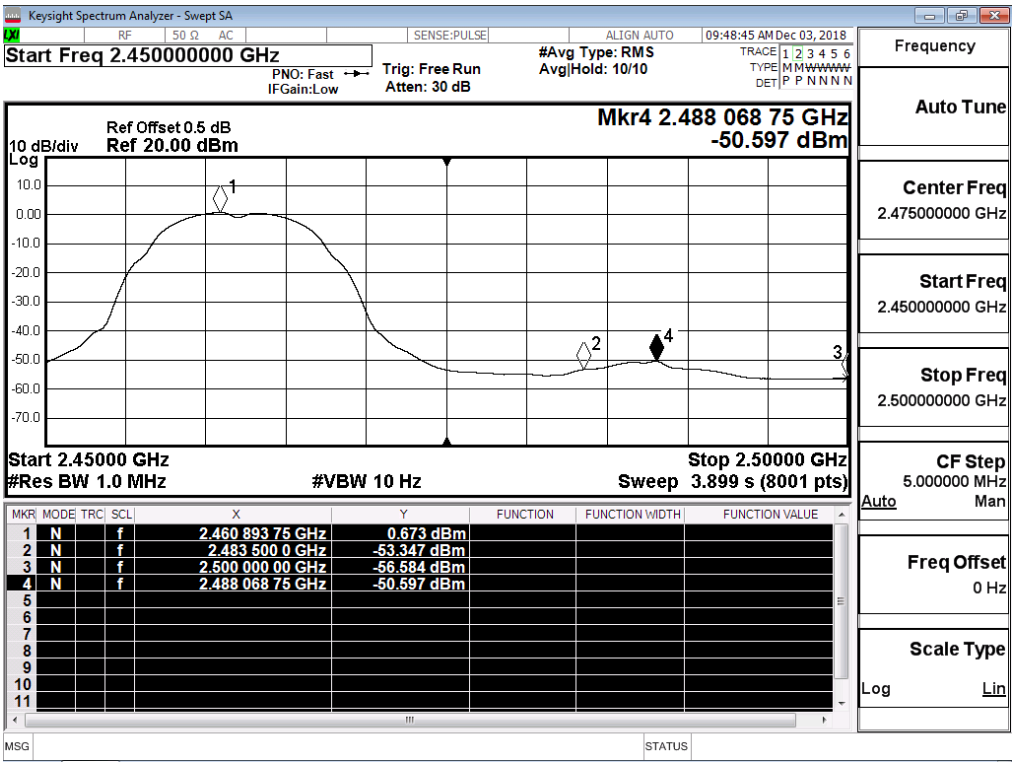
Restrict-band band-edge measurements_11B_2412_Ant1_AV



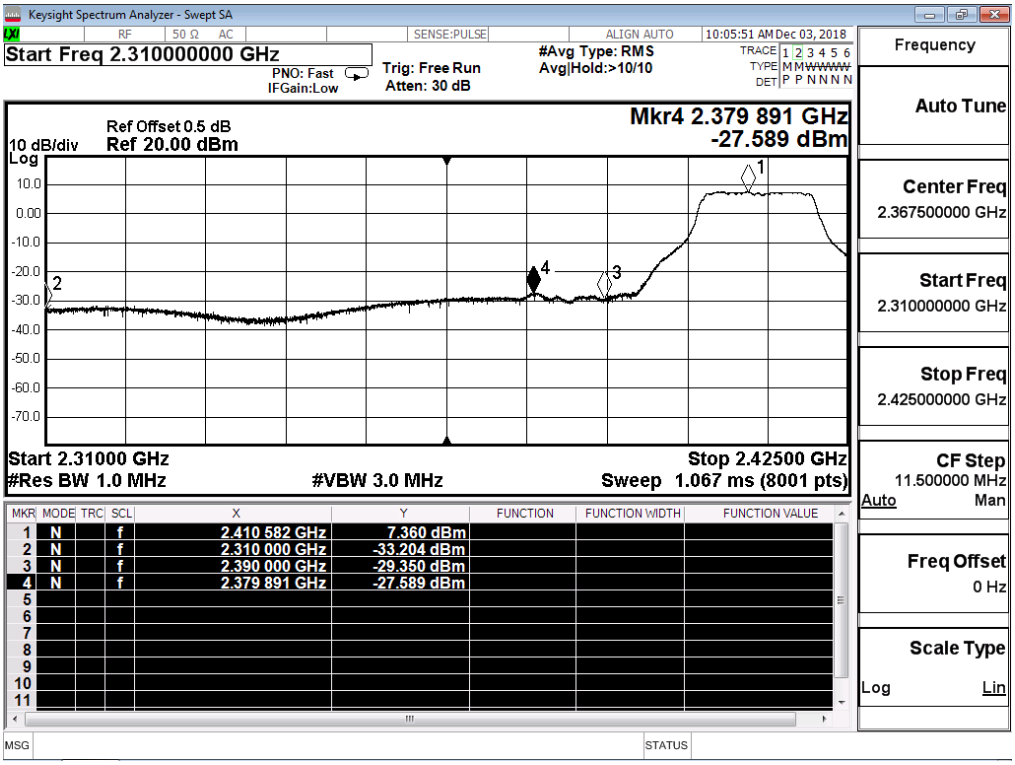
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



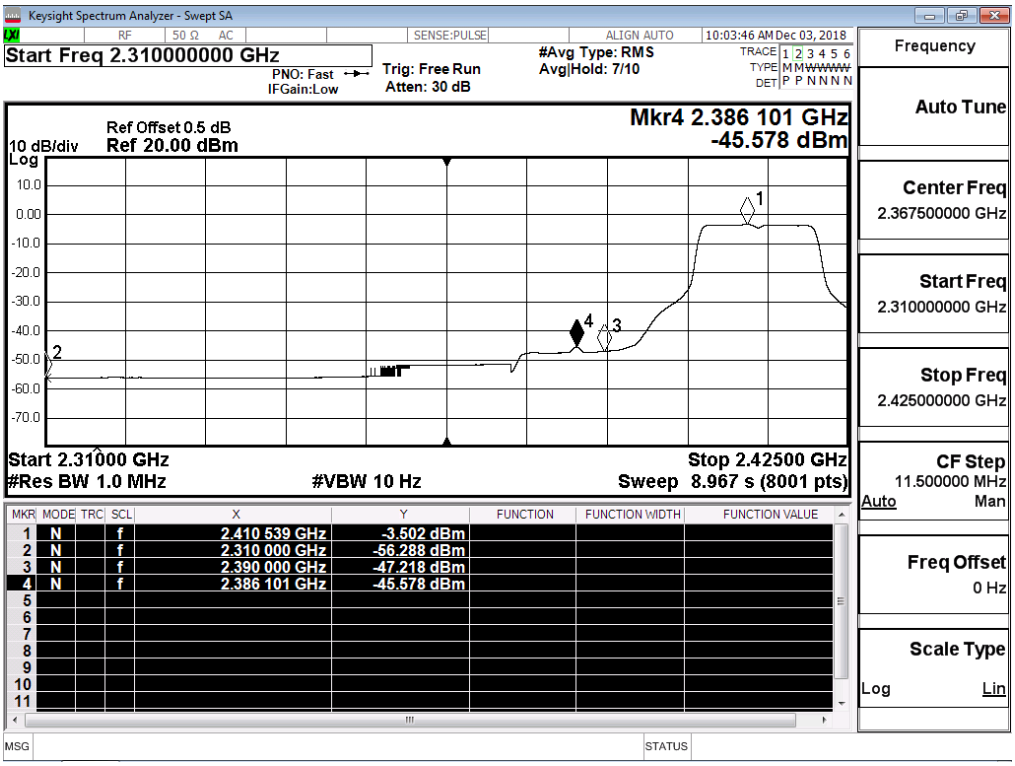
Restrict-band band-edge measurements_11B_2462_Ant1_AV



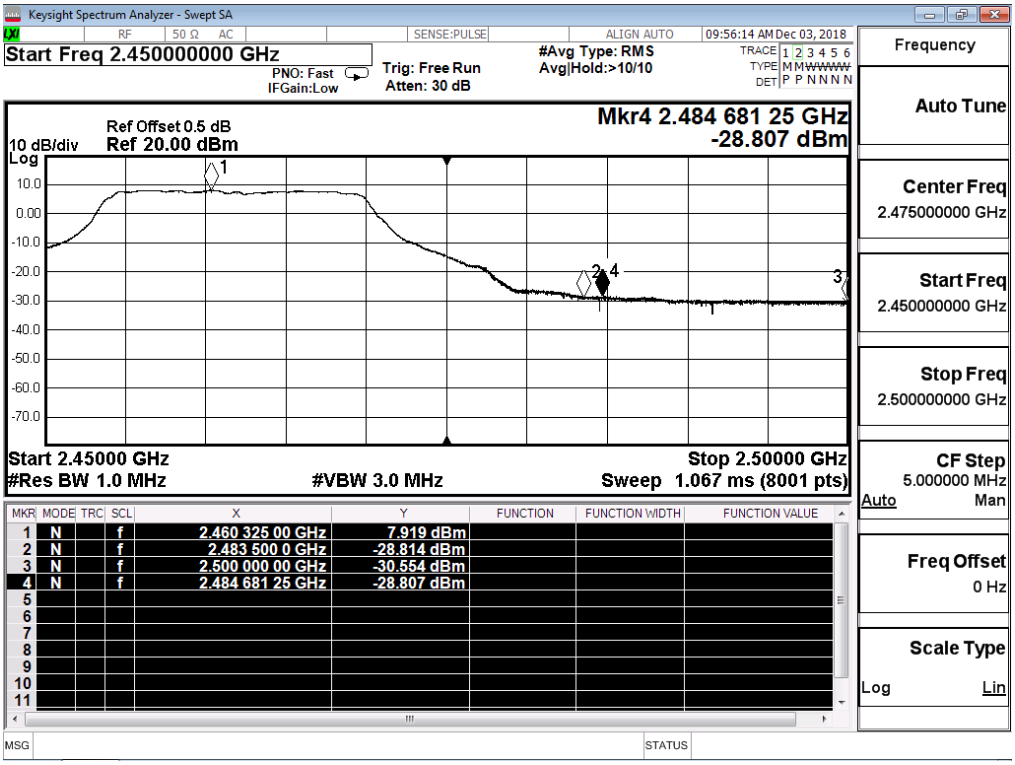
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



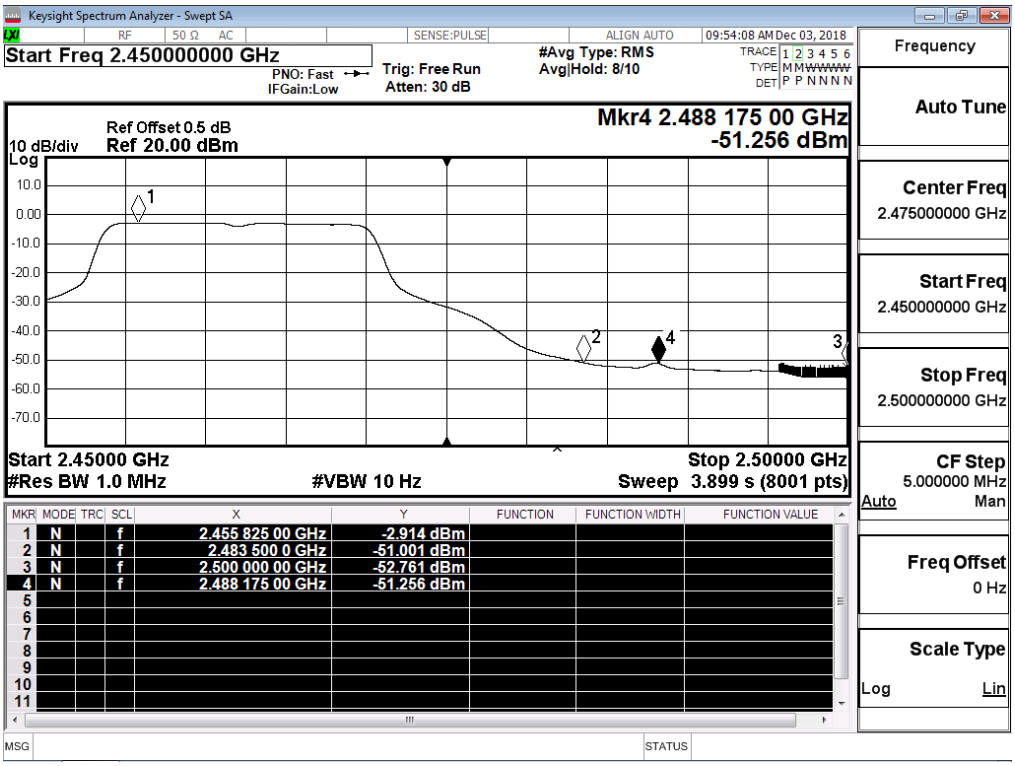
Restrict-band band-edge measurements_11G_2412_Ant1_AV



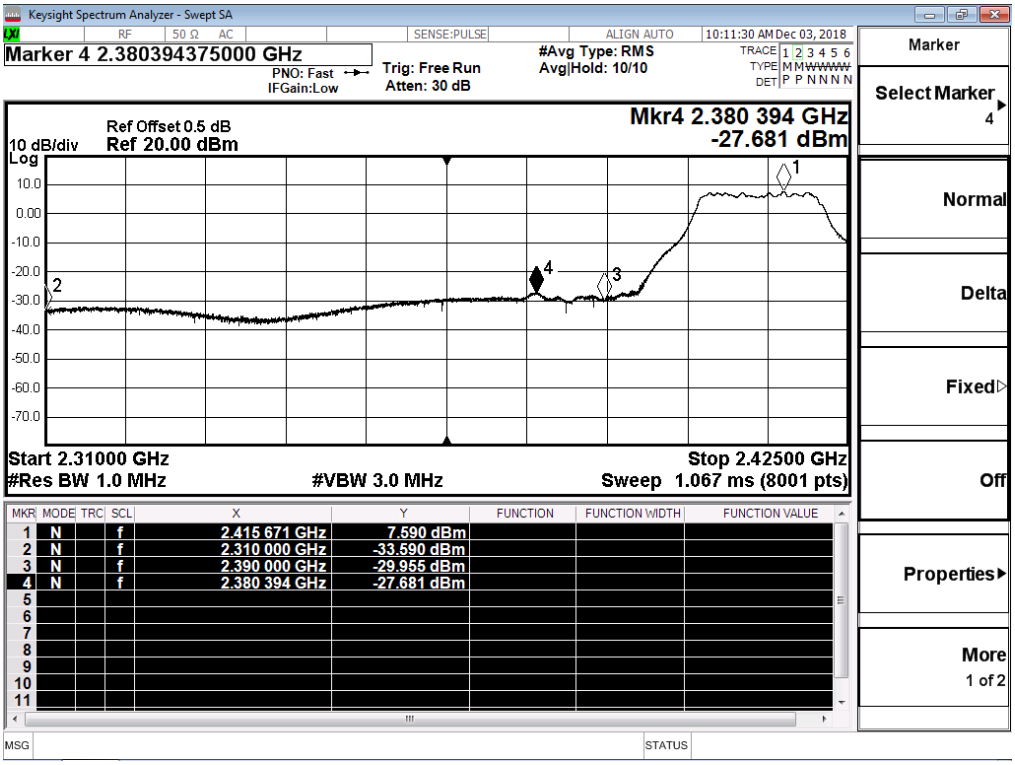
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



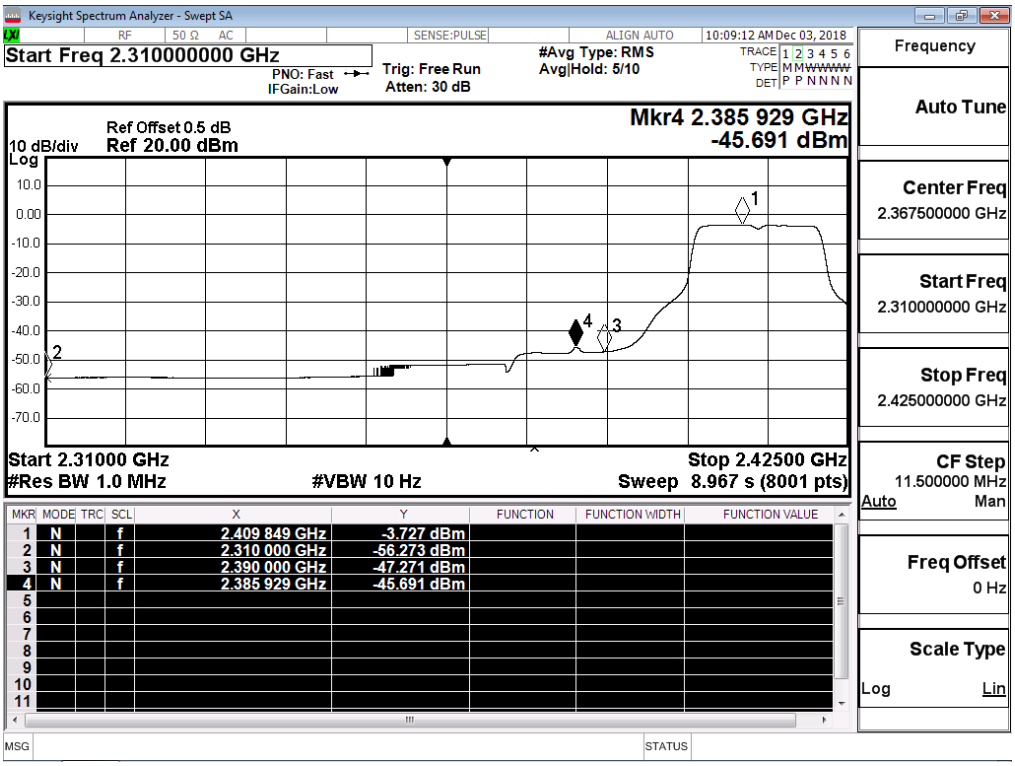
Restrict-band band-edge measurements_11G_2462_Ant1_AV



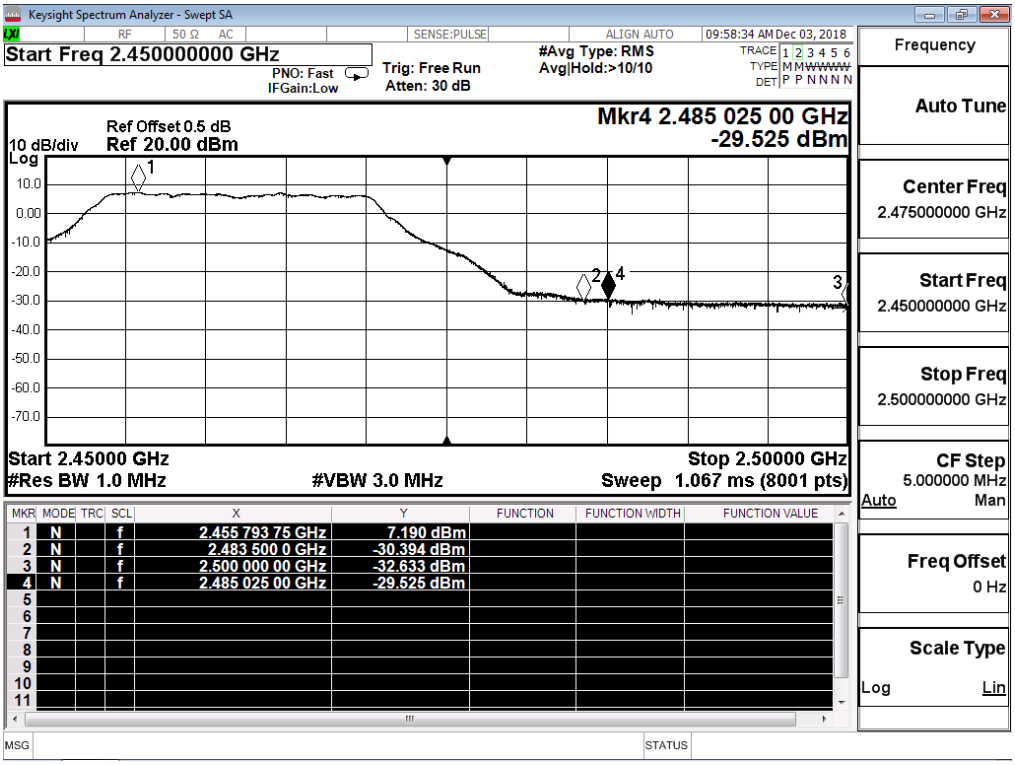
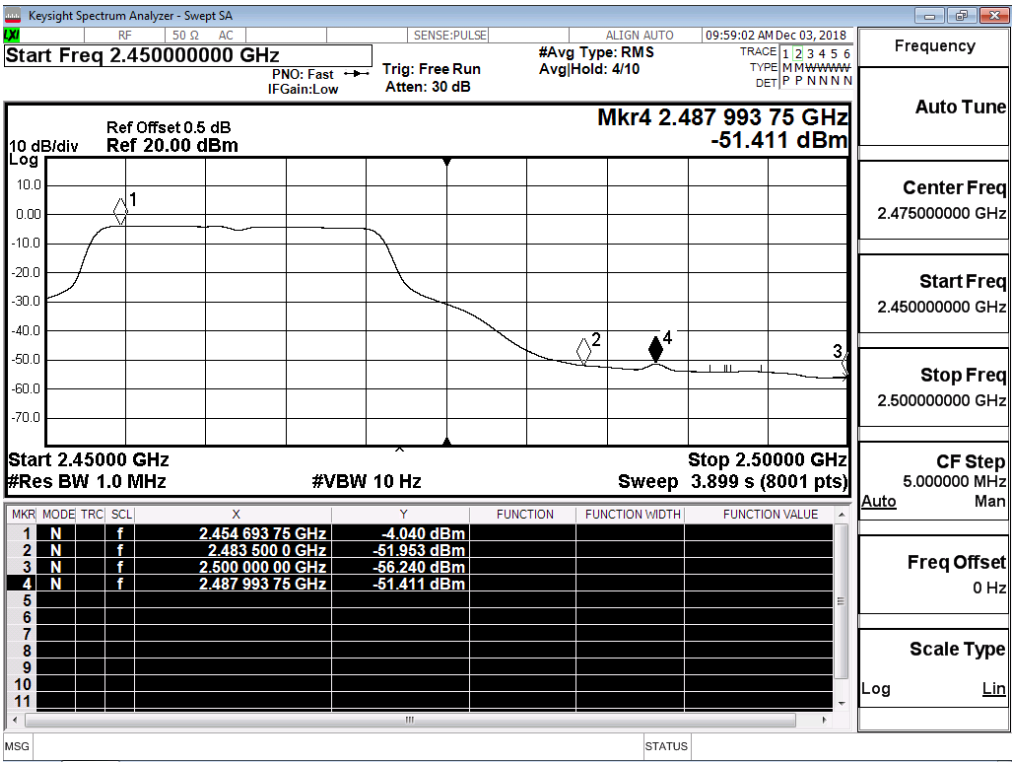
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



Restrict-band band-edge measurements_11N20SISO_2462_Ant1_AV