Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: THERMOSTAT

Trade Mark: HYSEN

Test Model: HY02B05WE-WIFI

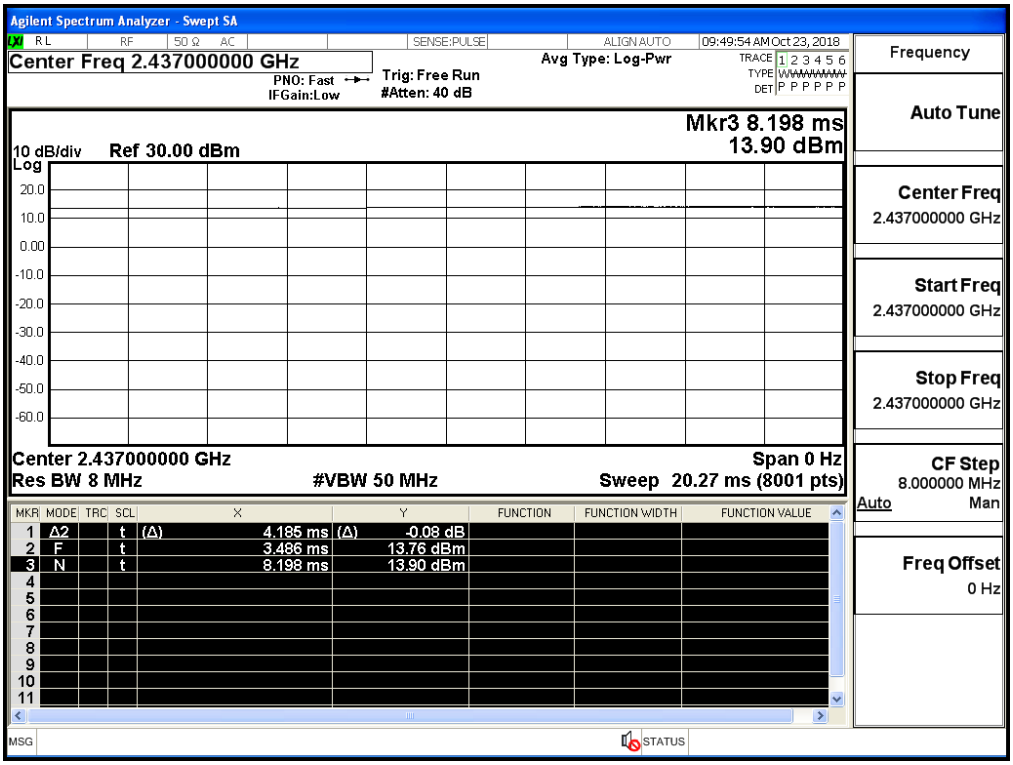
Environmental Conditions

Temperature:	23.4 ° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Jayden.Zhuo

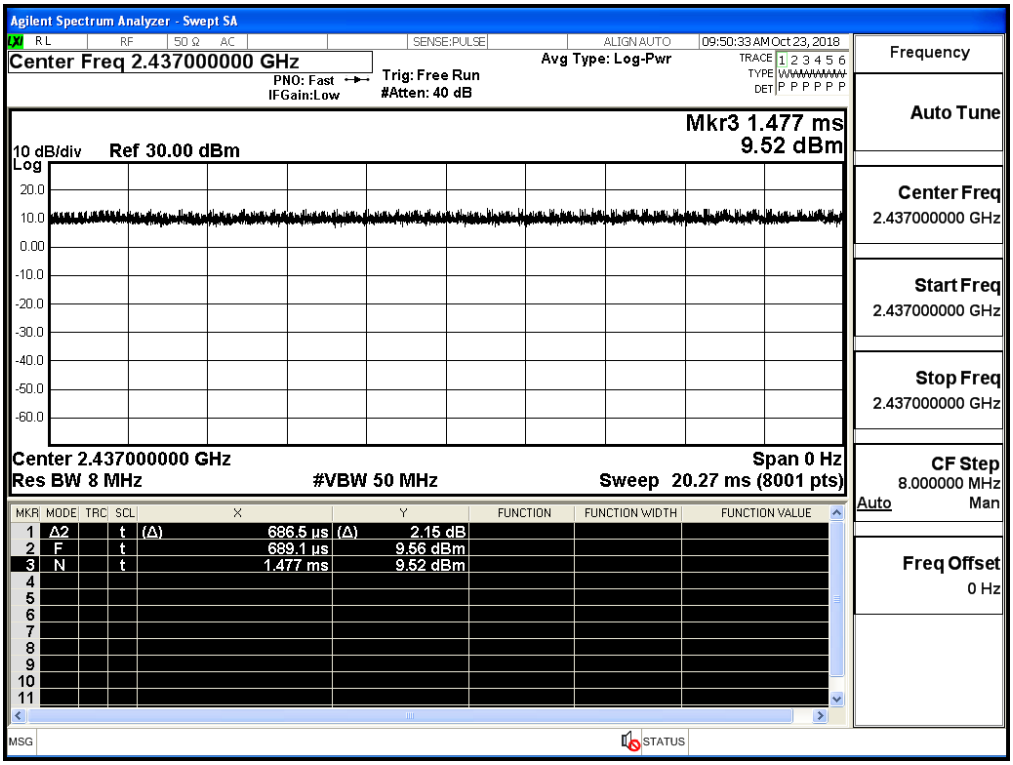
A.1 Duty Cycle

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

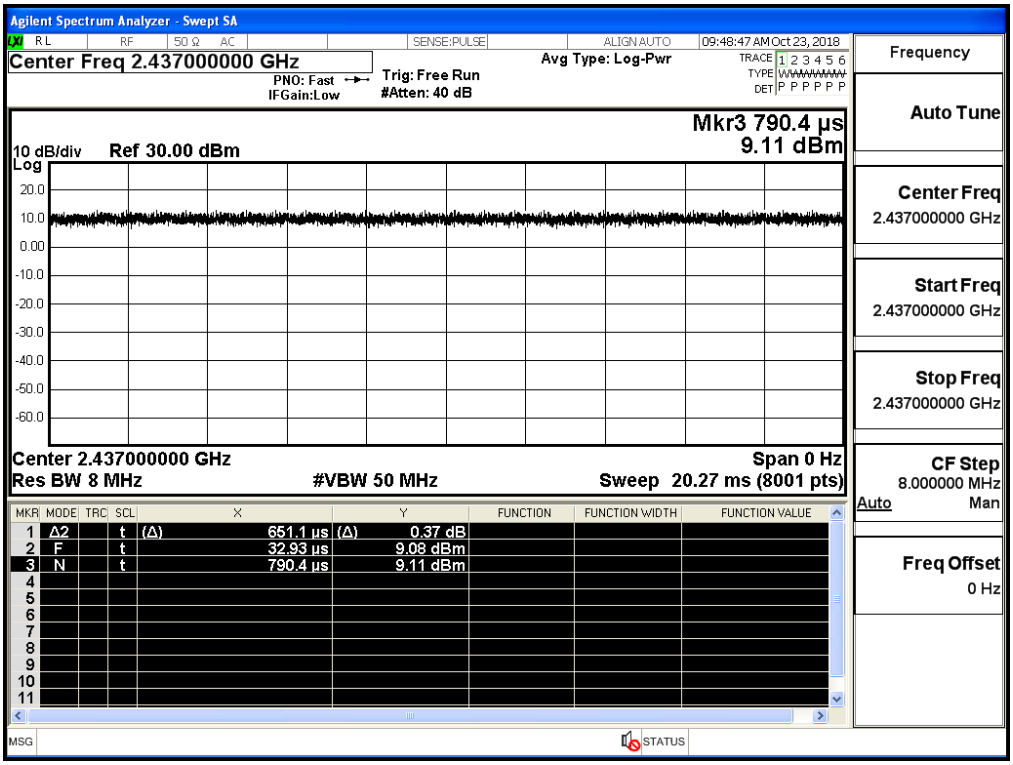
Duty Cycle_11B_2437_Ant1



Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1

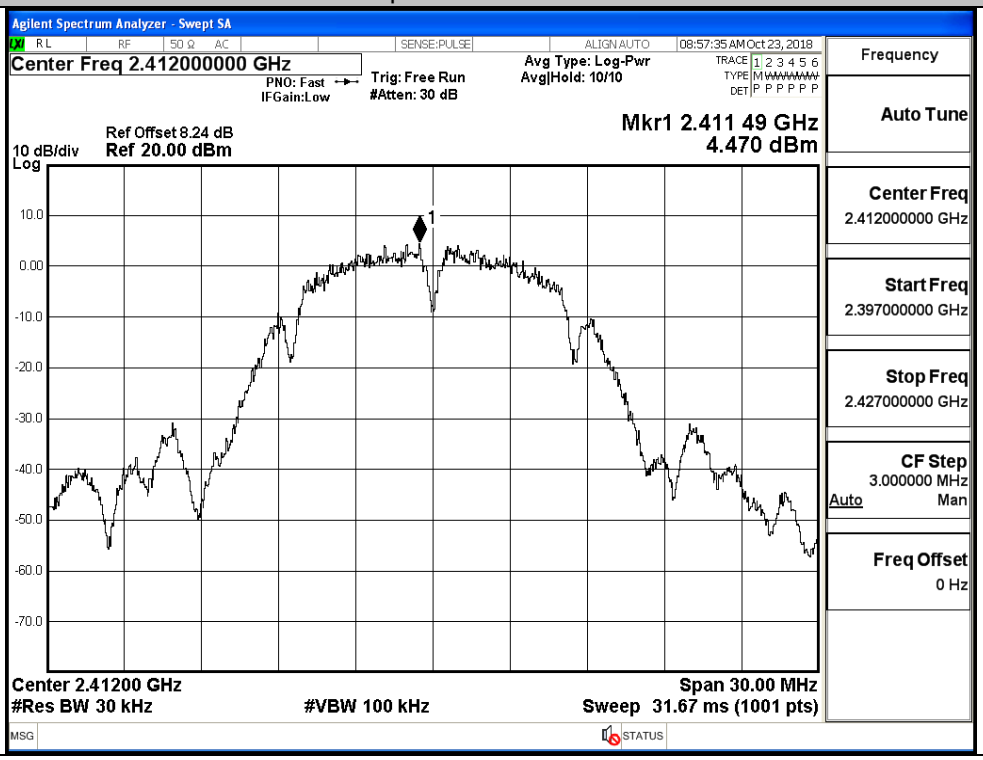


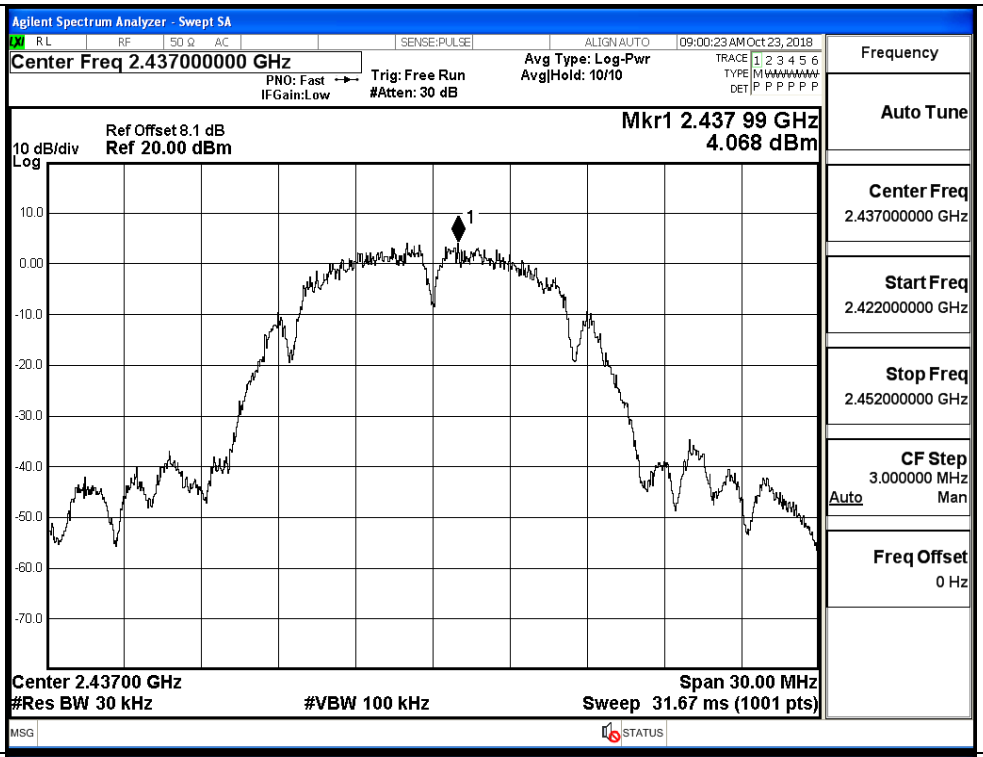
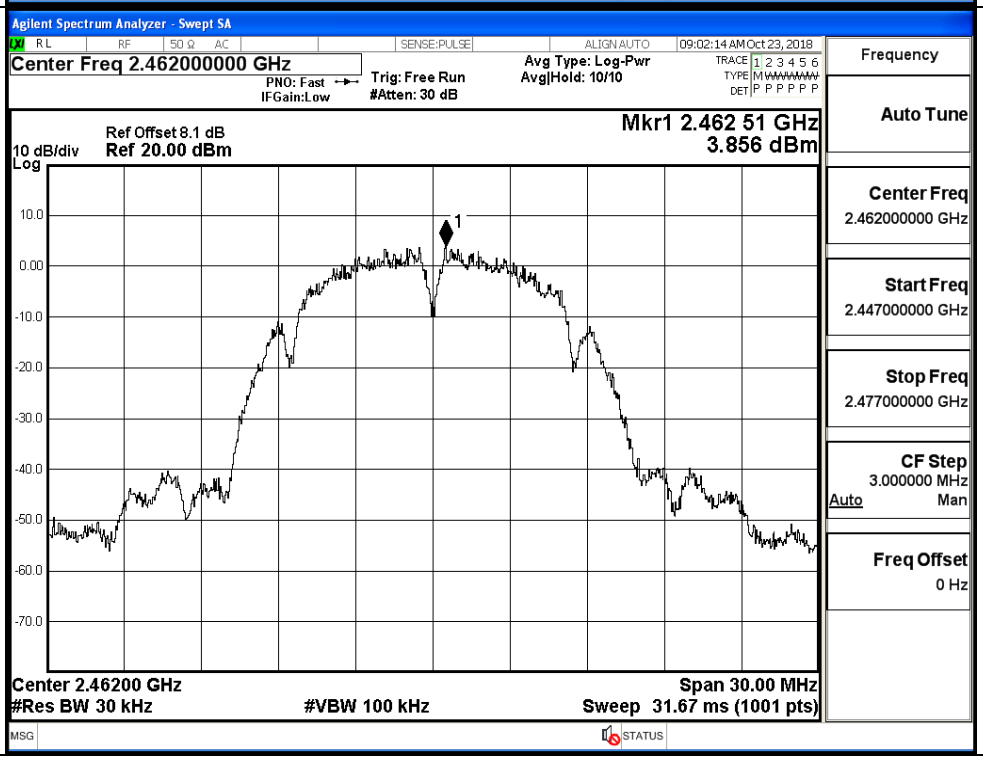
A.2 Maximum Conducted Output Power

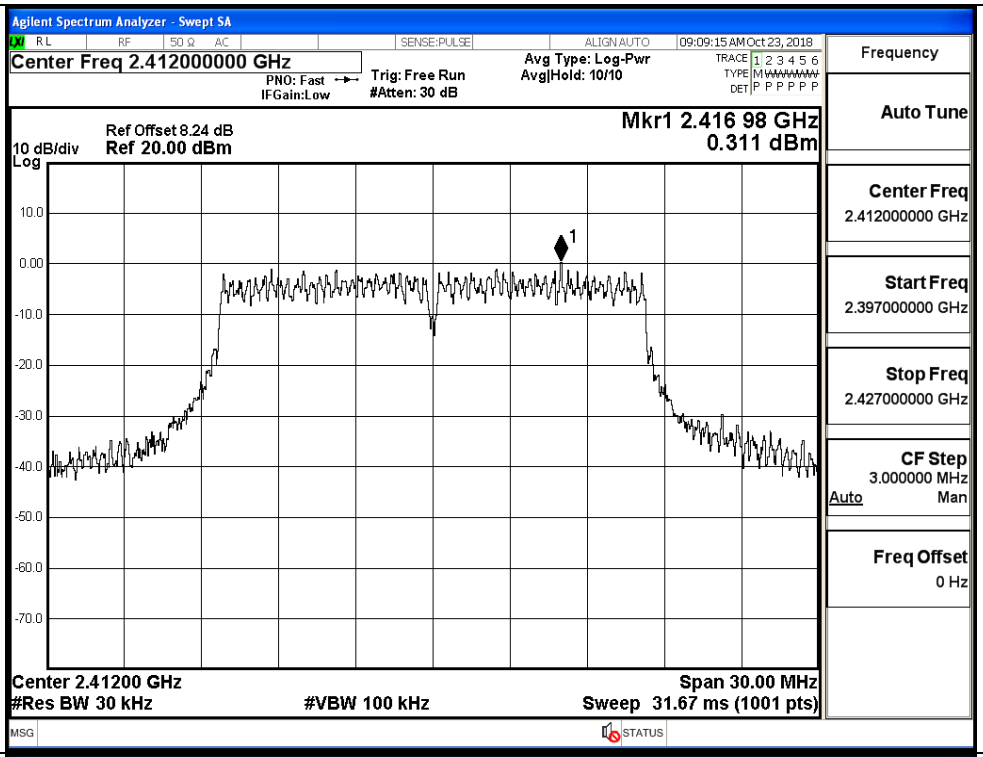
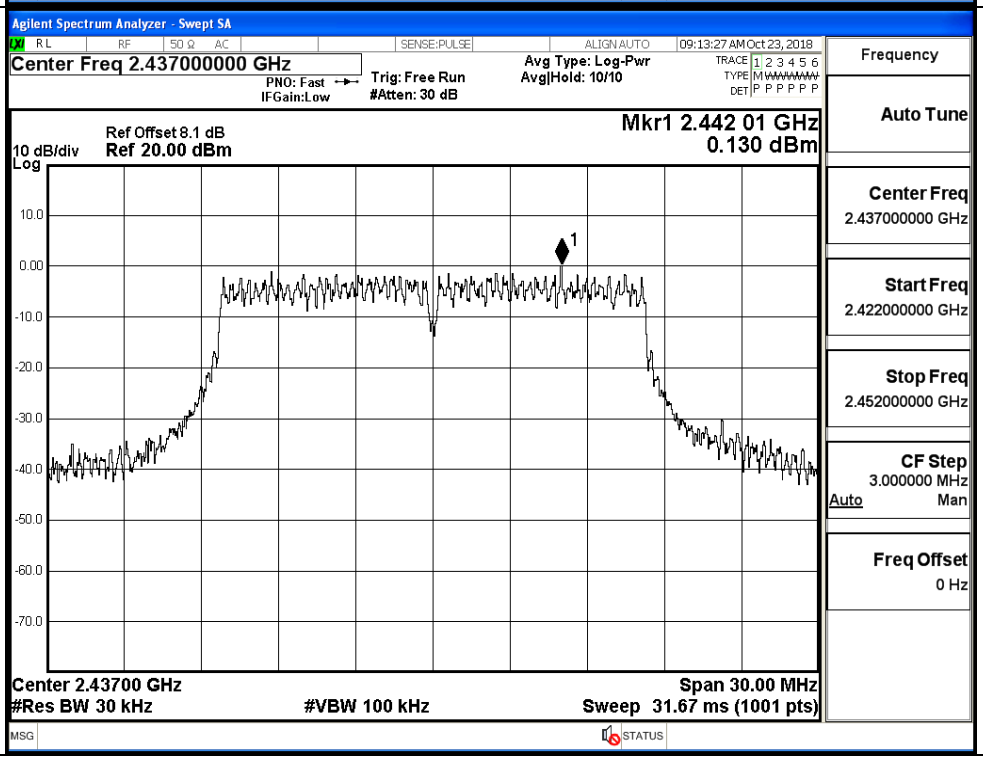
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	18.24	30	PASS
	MCH	18.79	30	PASS
	HCH	19.01	30	PASS
11G	LCH	18.49	30	PASS
	MCH	17.98	30	PASS
	HCH	18.34	30	PASS
11N20SISO	LCH	17.59	30	PASS
	MCH	17.64	30	PASS
	HCH	17.46	30	PASS

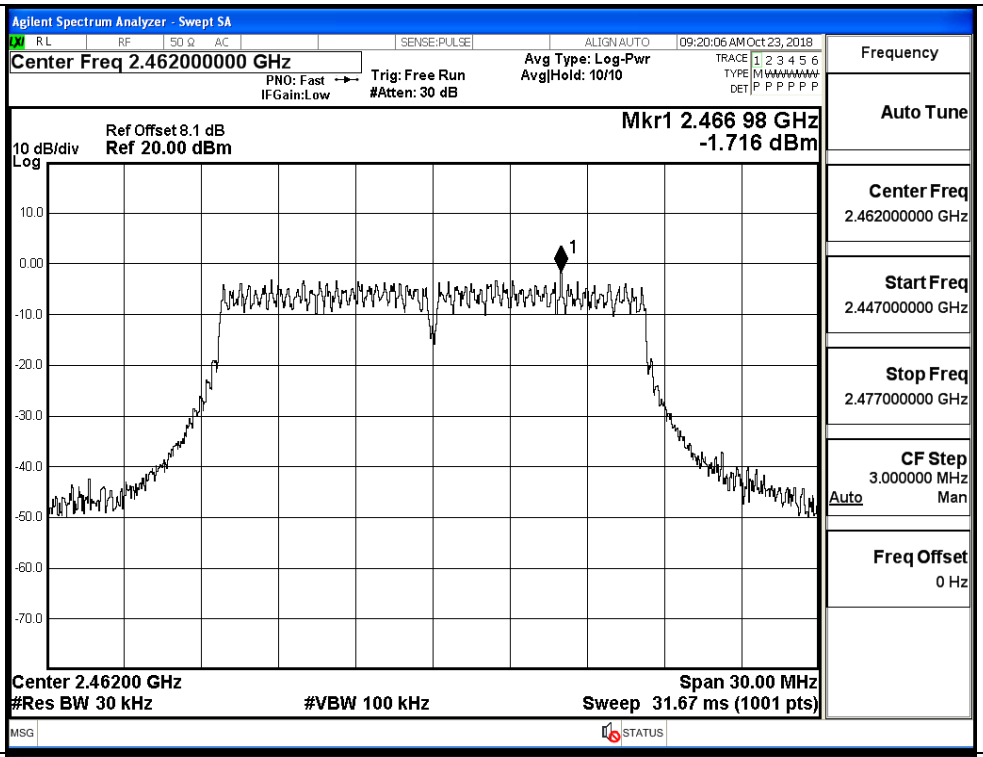
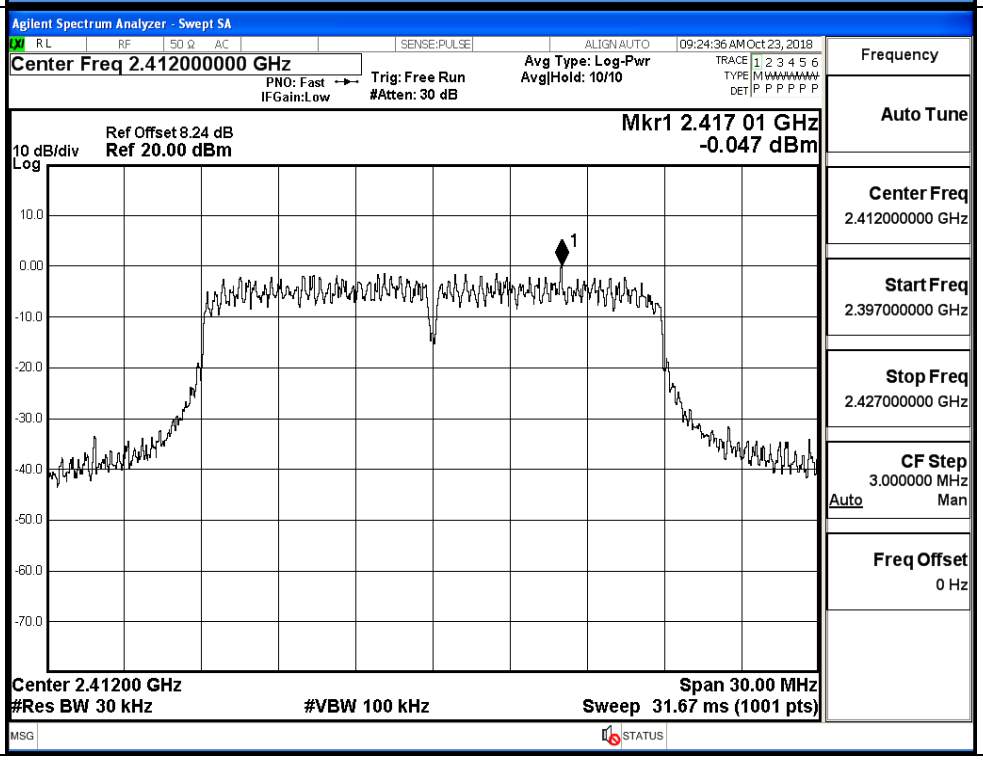
A.3 Maximum Power Spectral Density

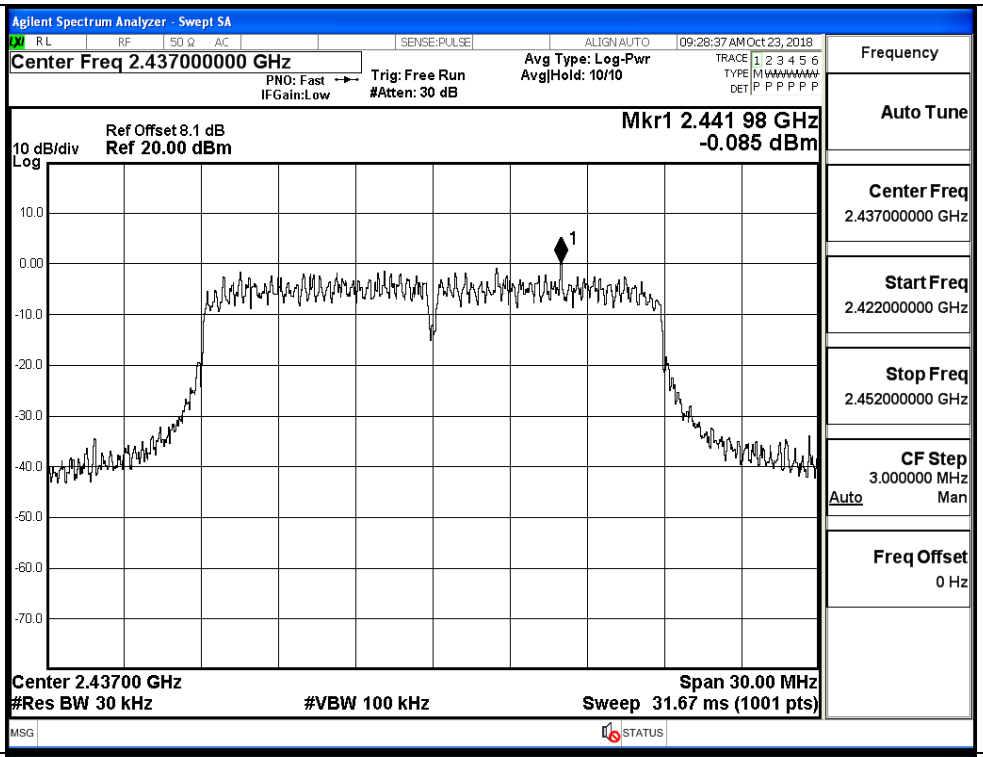
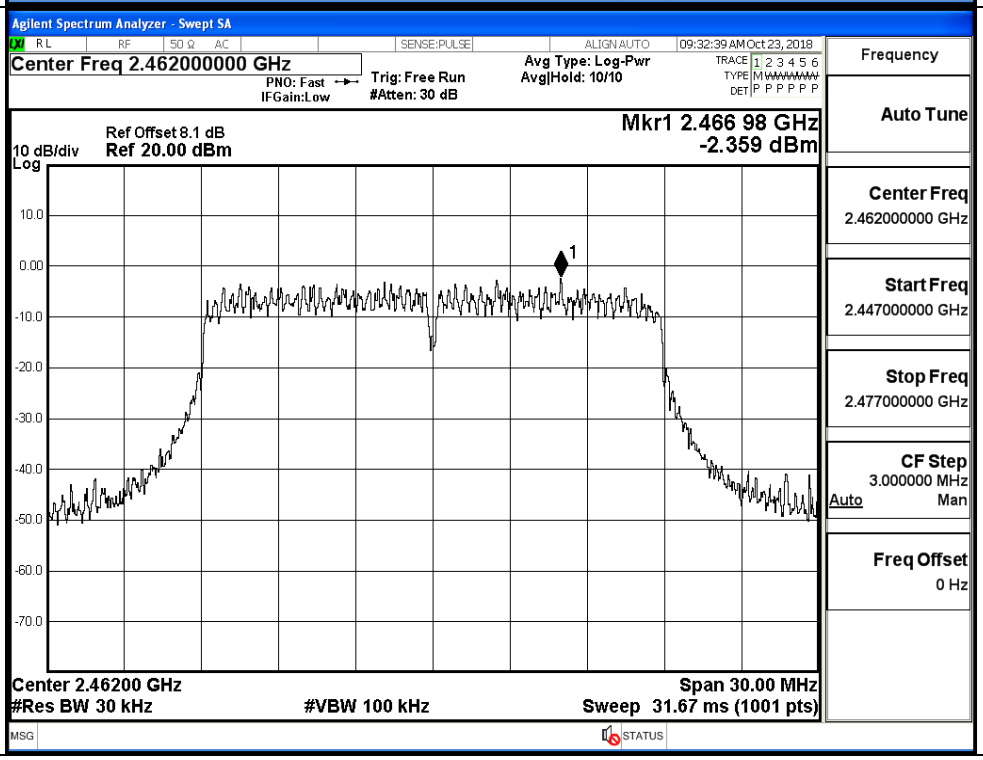
Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	4.470	8	PASS
	MCH	4.068	8	PASS
	HCH	3.856	8	PASS
11G	LCH	0.311	8	PASS
	MCH	0.130	8	PASS
	HCH	-1.716	8	PASS
11N20SISO	LCH	-0.047	8	PASS
	MCH	-0.085	8	PASS
	HCH	-2.359	8	PASS

Test Graphs	
11B/LCH	

11B/MCH	
11B/HCH	

11G/LCH	
11G/MCH	

11G/HCH	
11N20SISO/LCH	

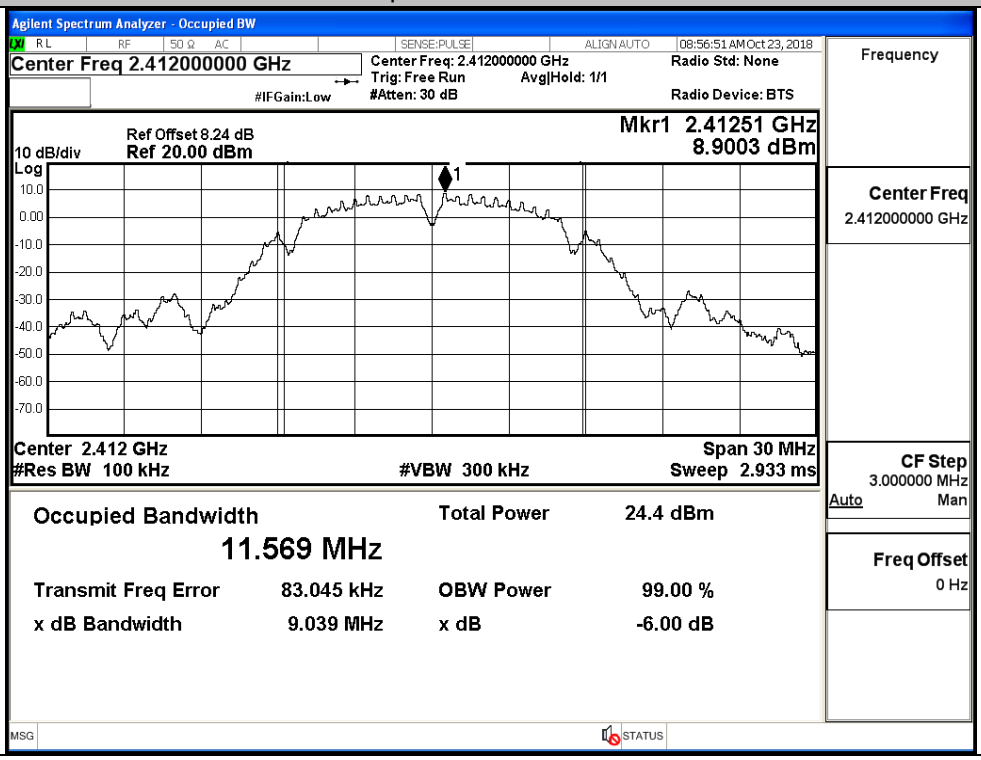
11N20SISO/MCH	
11N20SISO/HCH	

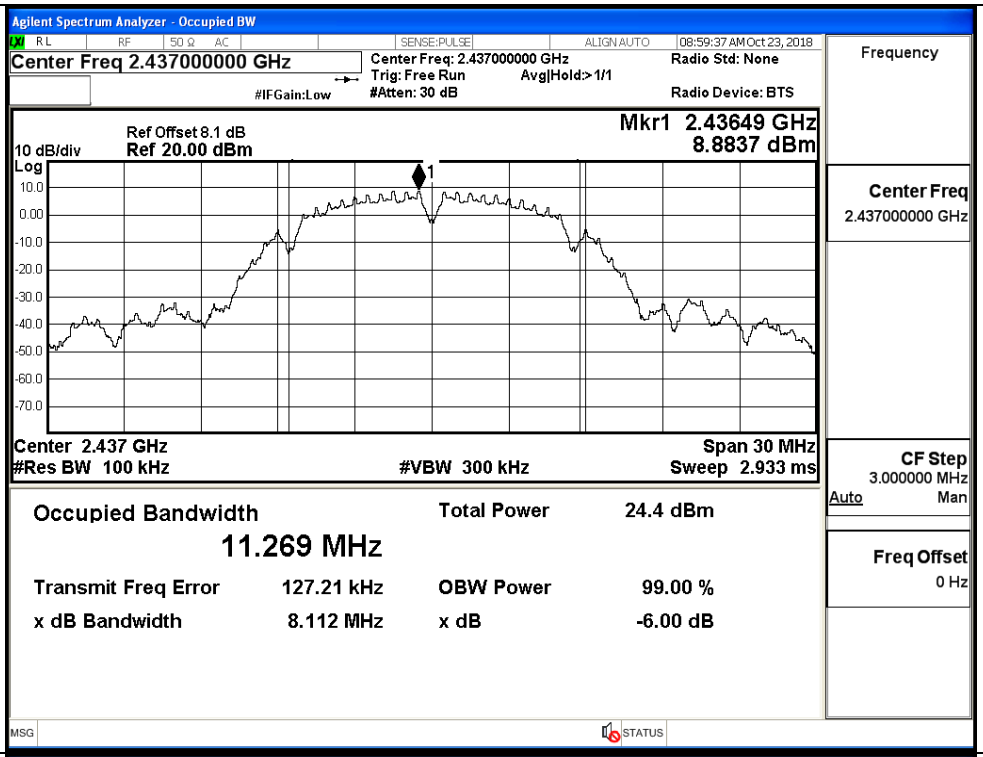
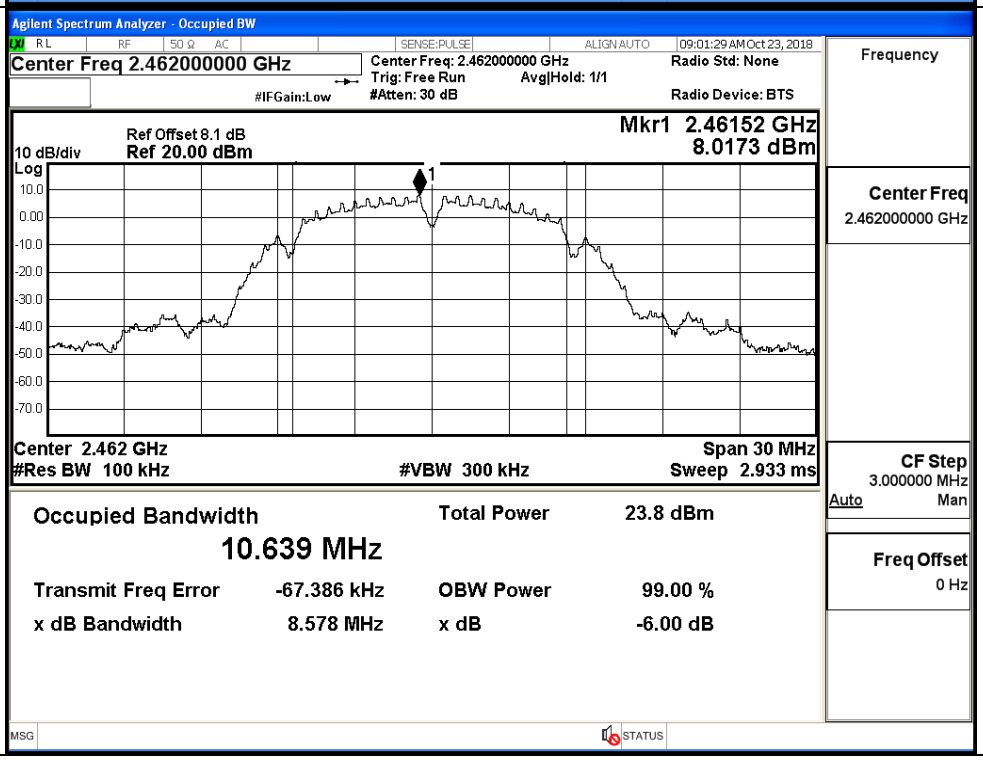
A.4 6dB Bandwidth

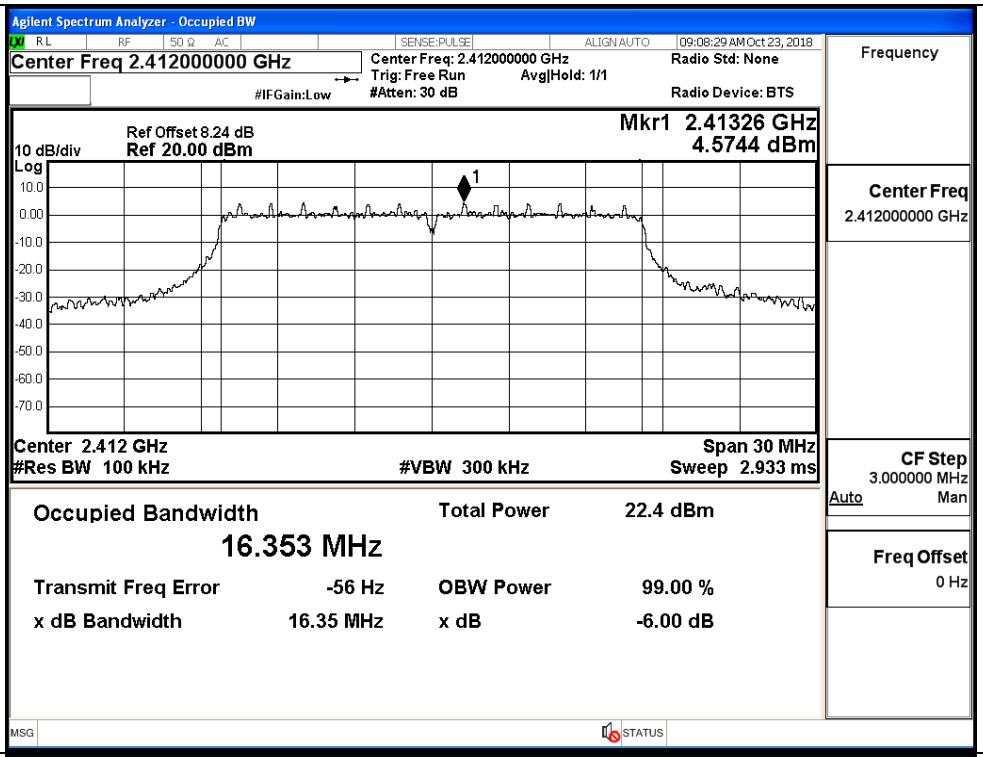
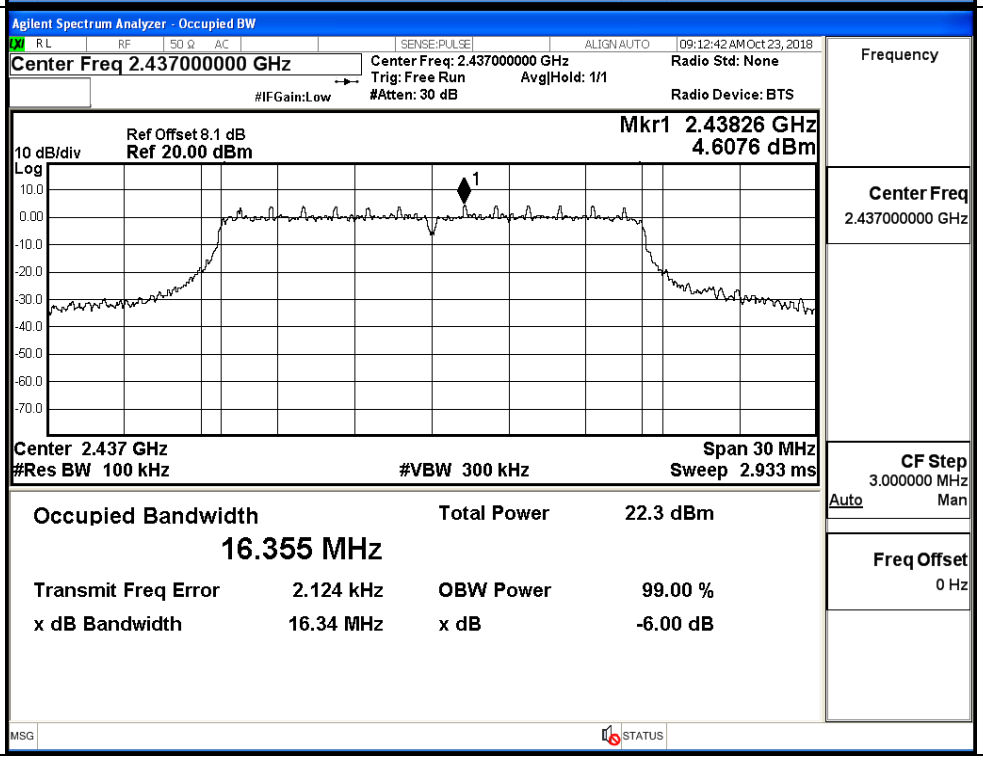
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.039	≥0.5	PASS
	MCH	8.112	≥0.5	PASS
	HCH	8.578	≥0.5	PASS
11G	LCH	16.35	≥0.5	PASS
	MCH	16.34	≥0.5	PASS
	HCH	16.36	≥0.5	PASS
11N20SISO	LCH	16.56	≥0.5	PASS
	MCH	16.57	≥0.5	PASS
	HCH	16.59	≥0.5	PASS

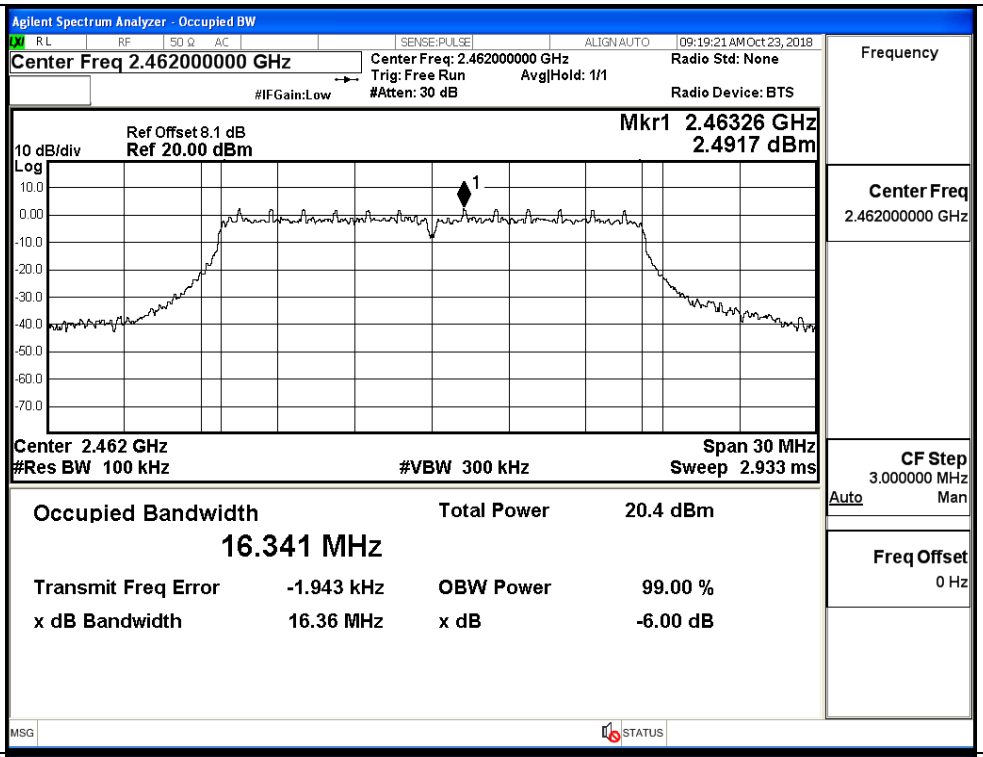
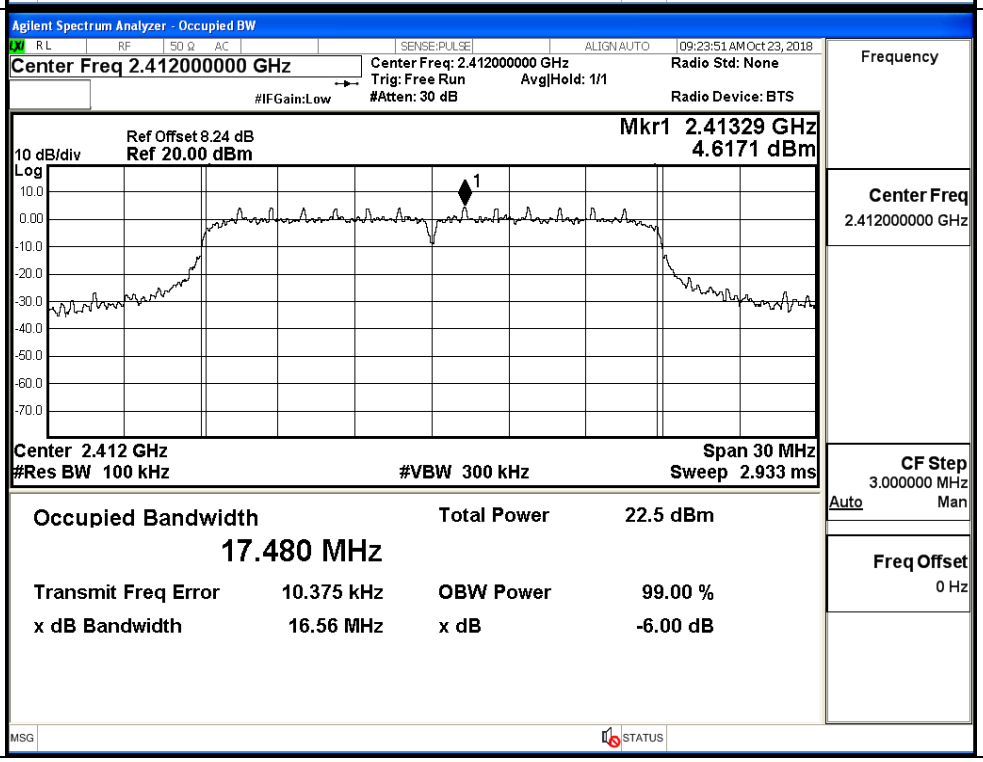
Test Graphs

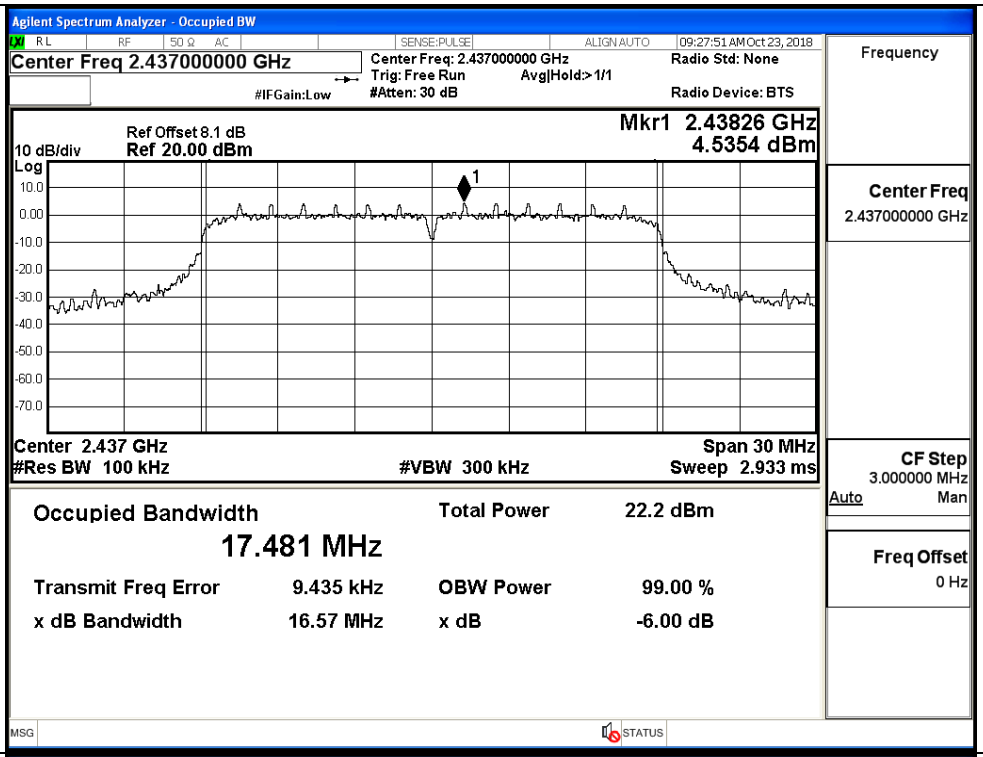
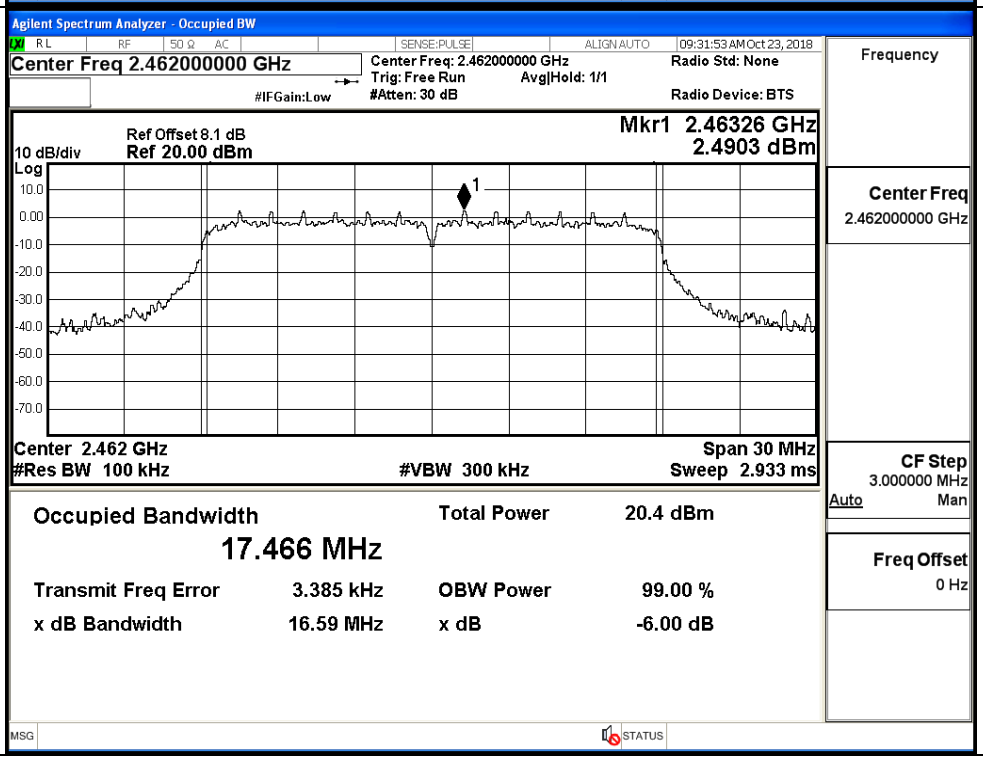
11B/LCH



11B/MCH	
11B/HCH	

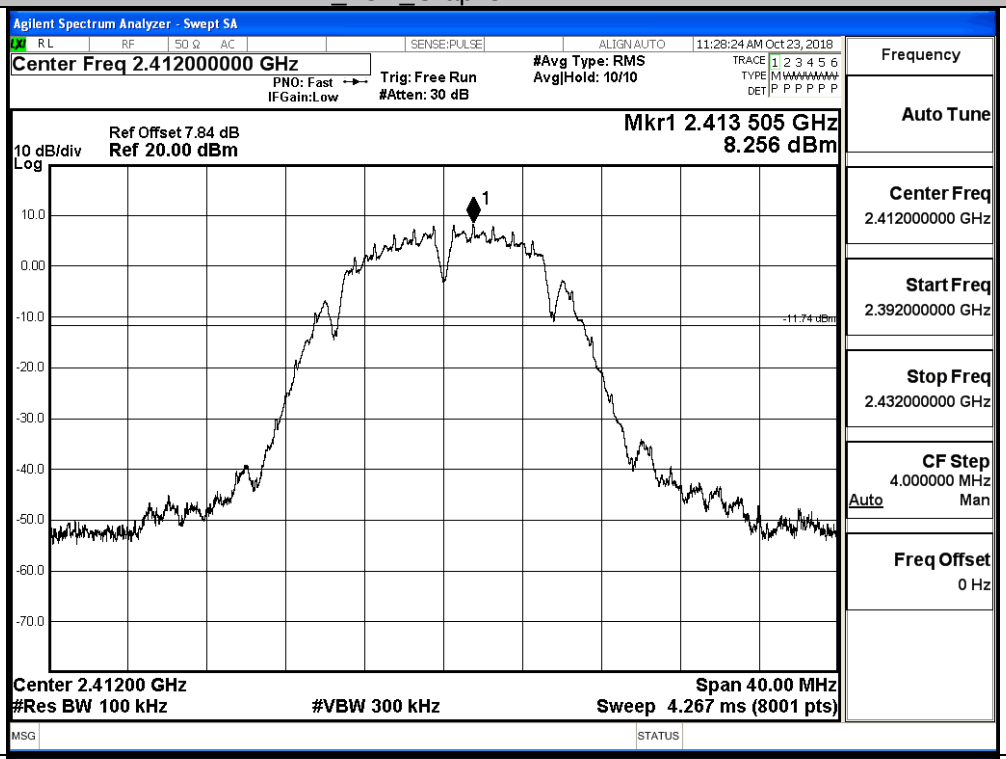
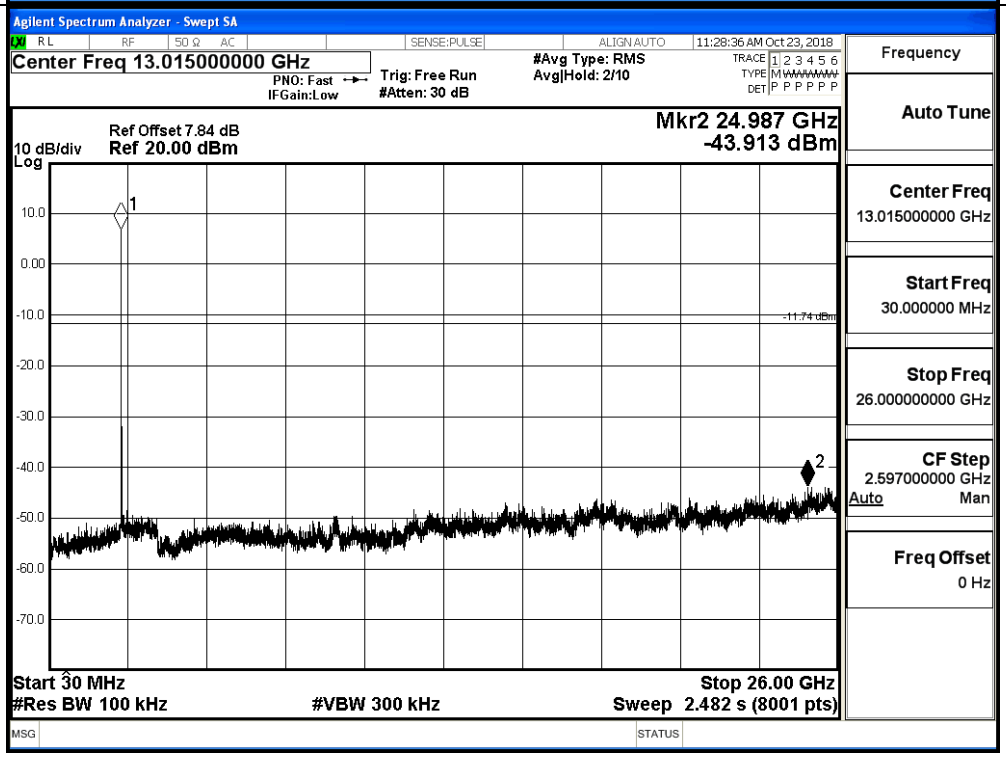
11G/LCH	
11G/MCH	

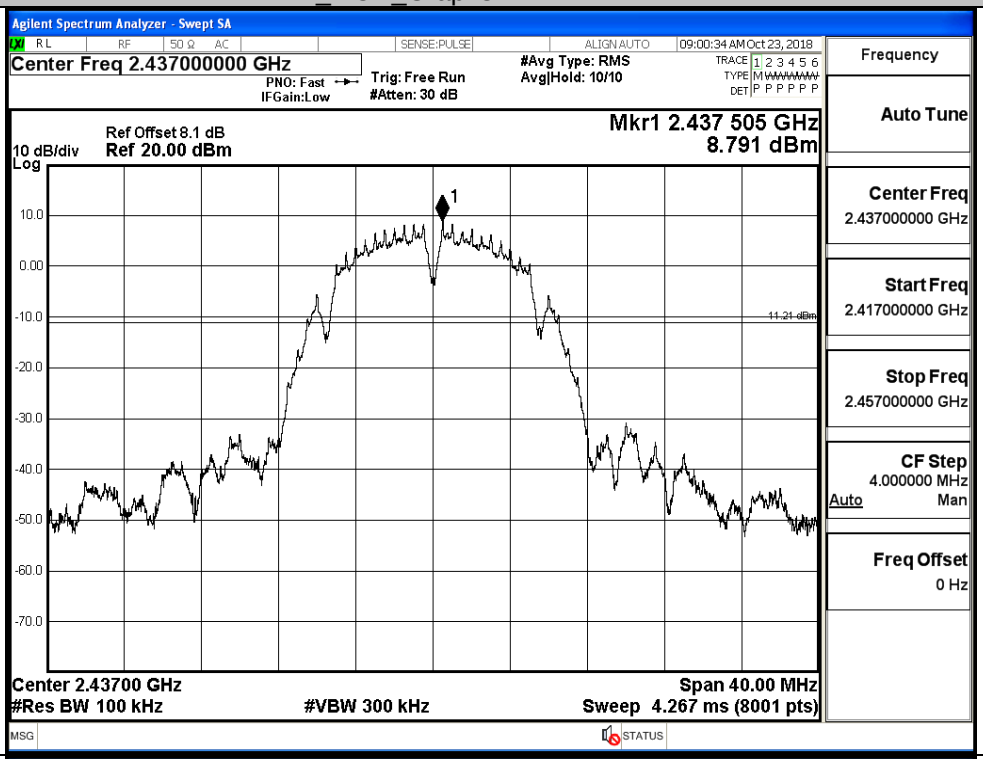
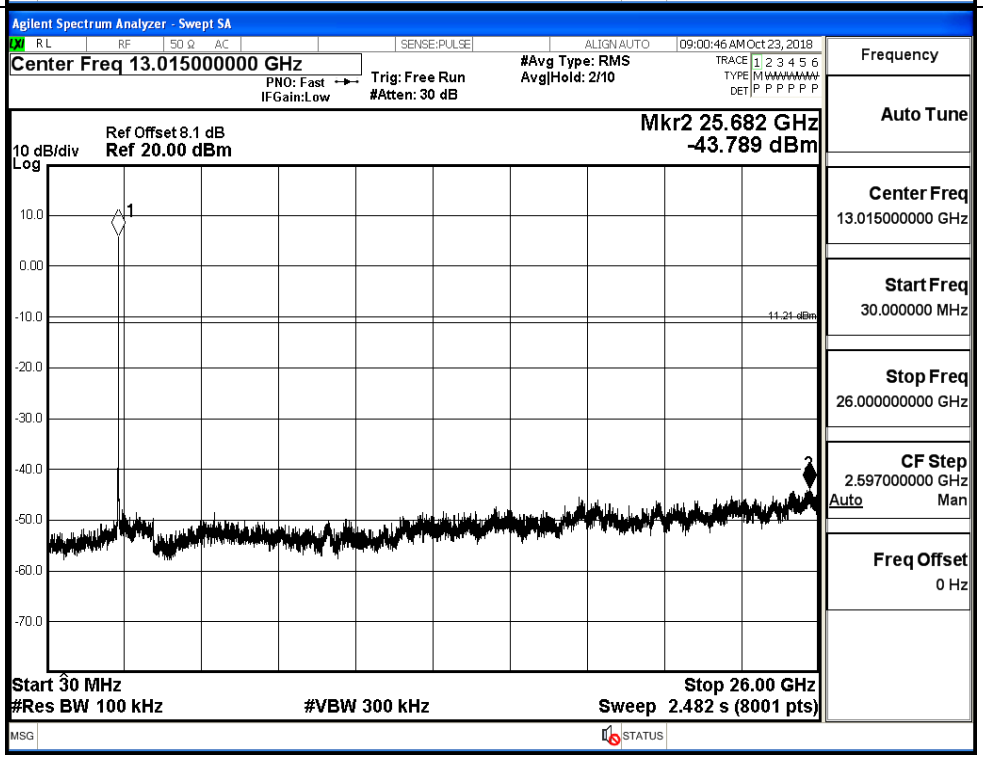
11G/HCH	
11N20SISO/LCH	

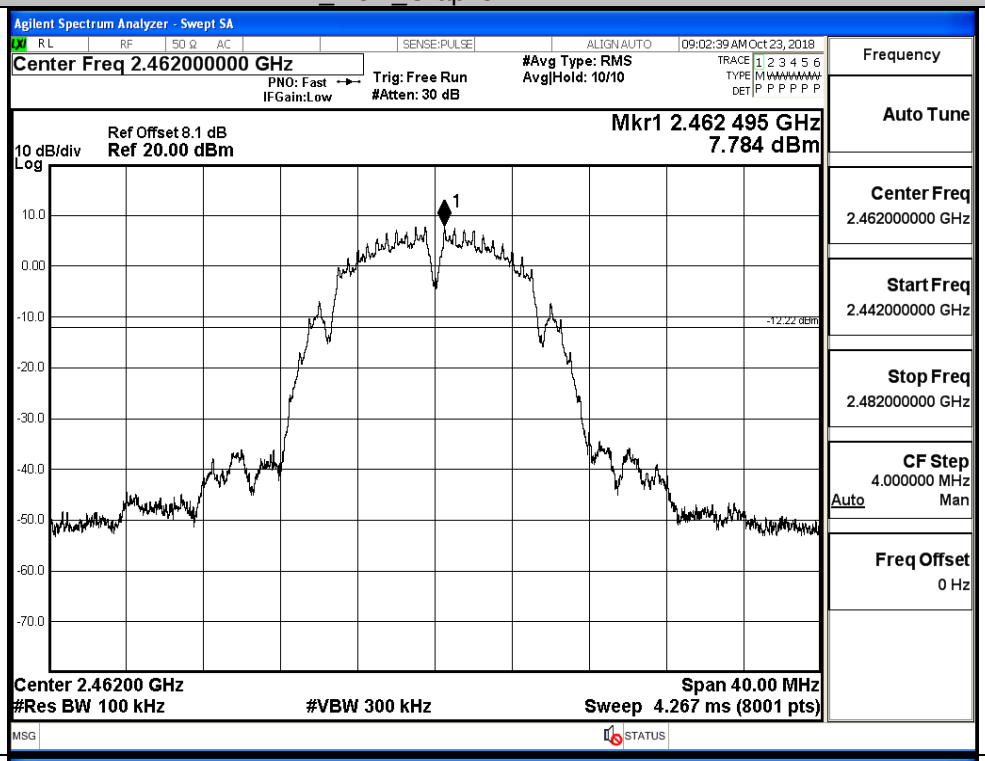
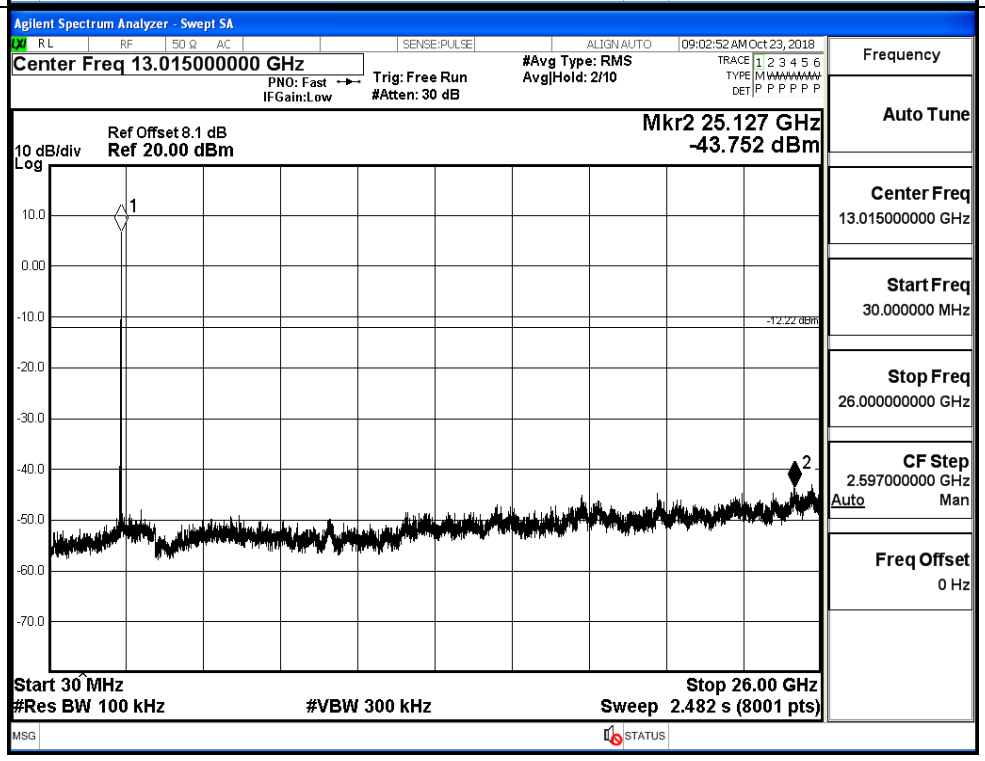
11N20SISO/MCH	
11N20SISO/HCH	

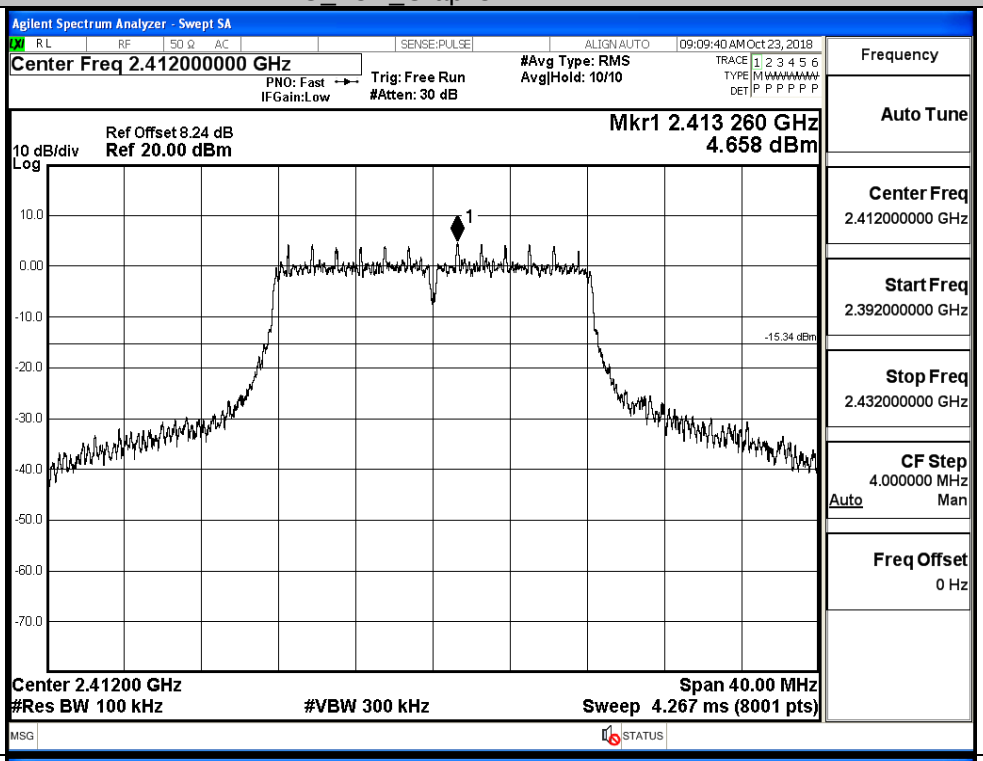
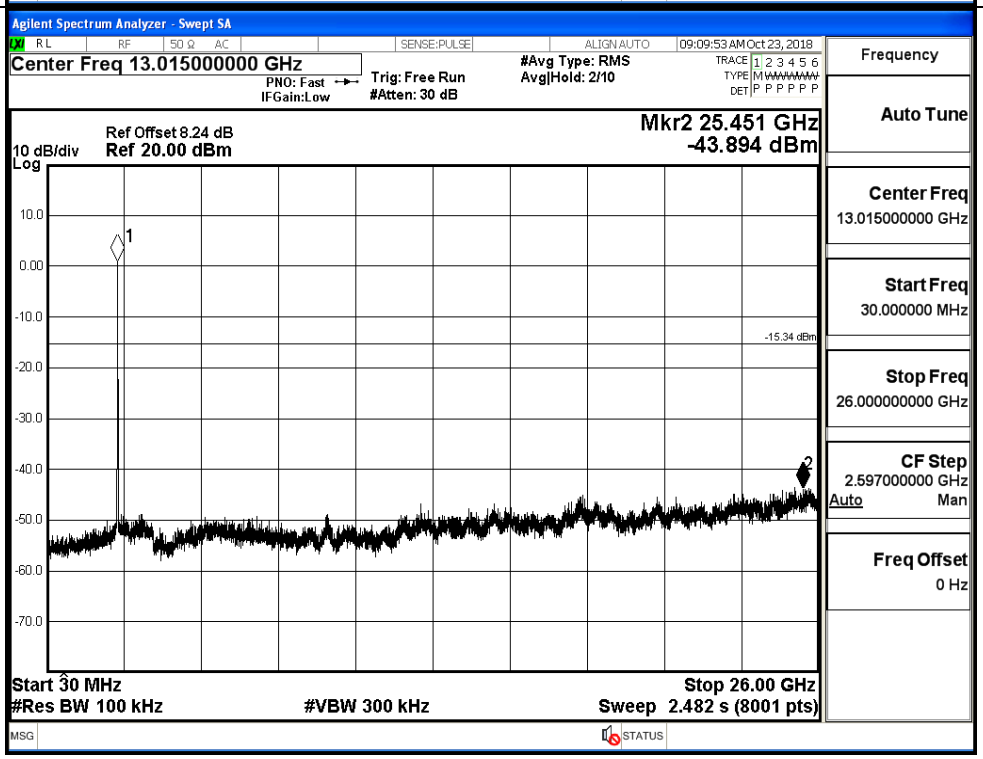
A.5 RF Conducted Spurious Emissions

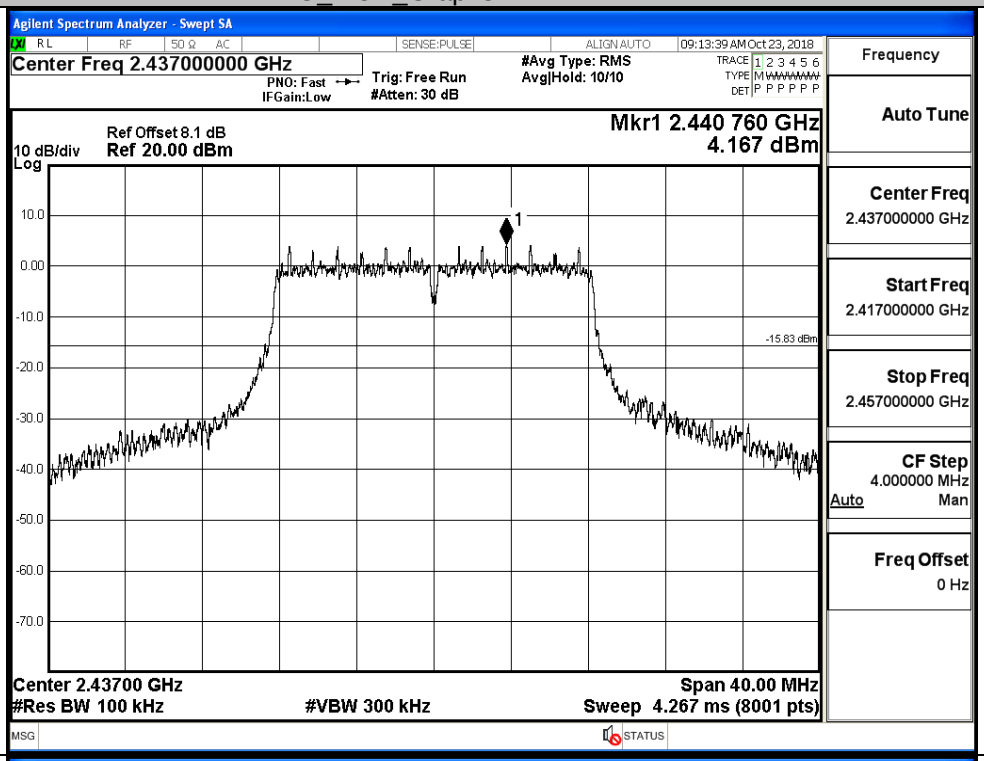
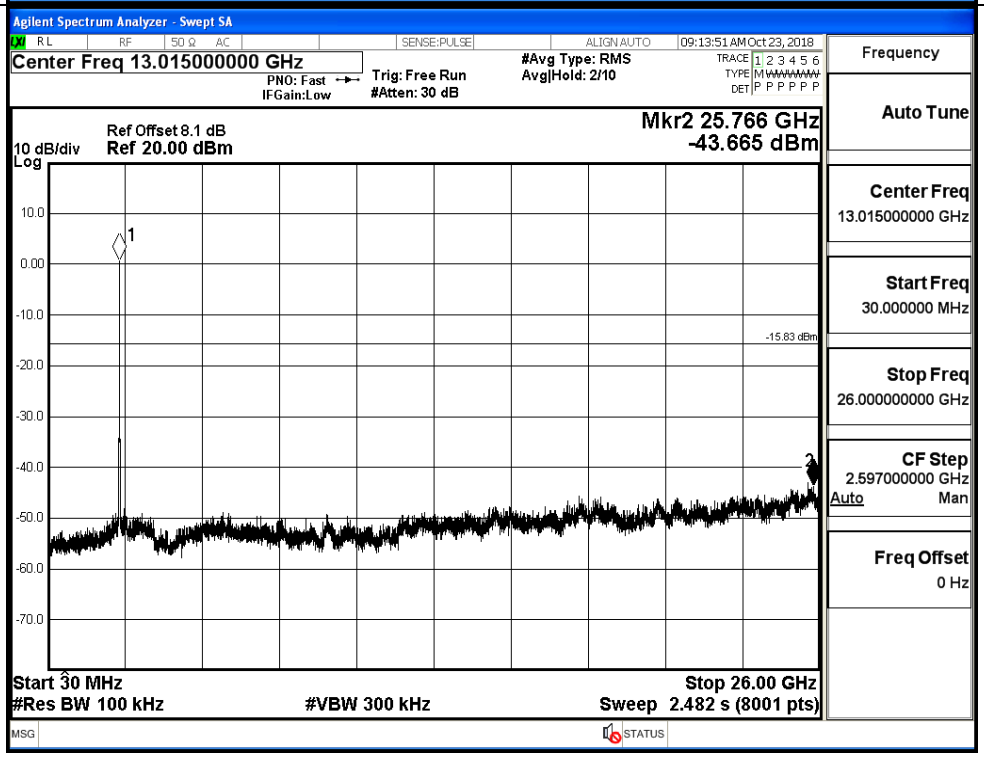
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	8.256	-43.913	-11.744	PASS
	MCH	8.791	-43.789	-11.209	PASS
	HCH	7.784	-43.752	-12.216	PASS
11G	LCH	4.658	-43.894	-15.342	PASS
	MCH	4.167	-43.665	-15.833	PASS
	HCH	2.581	-44.406	-17.419	PASS
11N20SISO	LCH	4.259	-44.012	-15.741	PASS
	MCH	4.159	-43.576	-15.841	PASS
	HCH	2.465	-44.213	-17.535	PASS

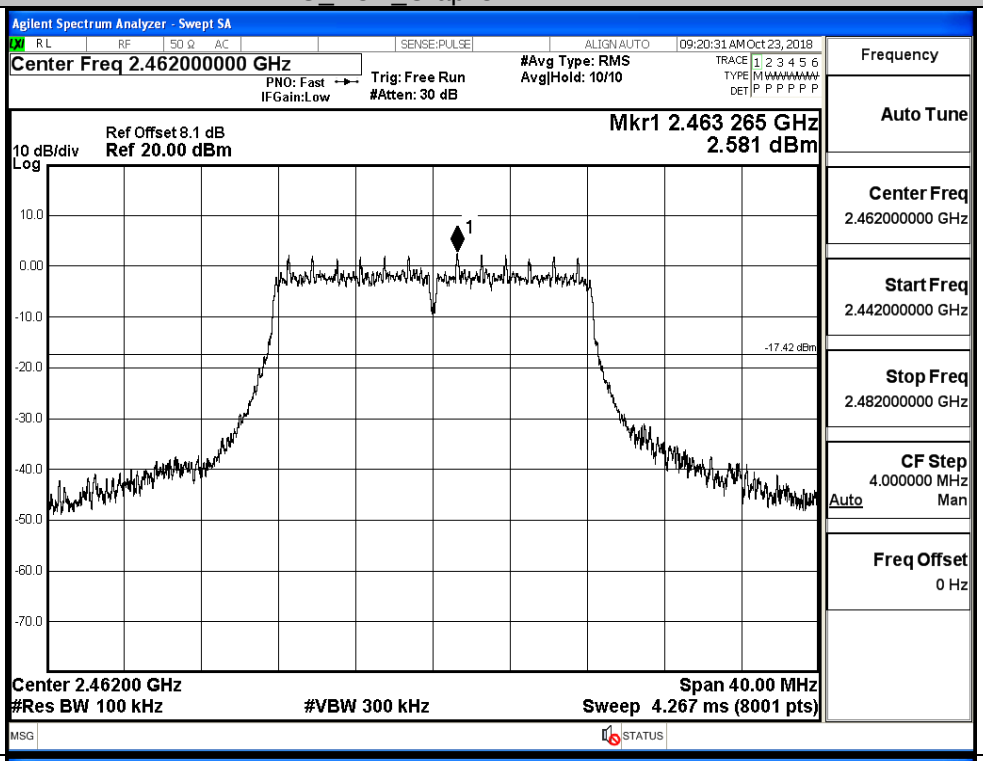
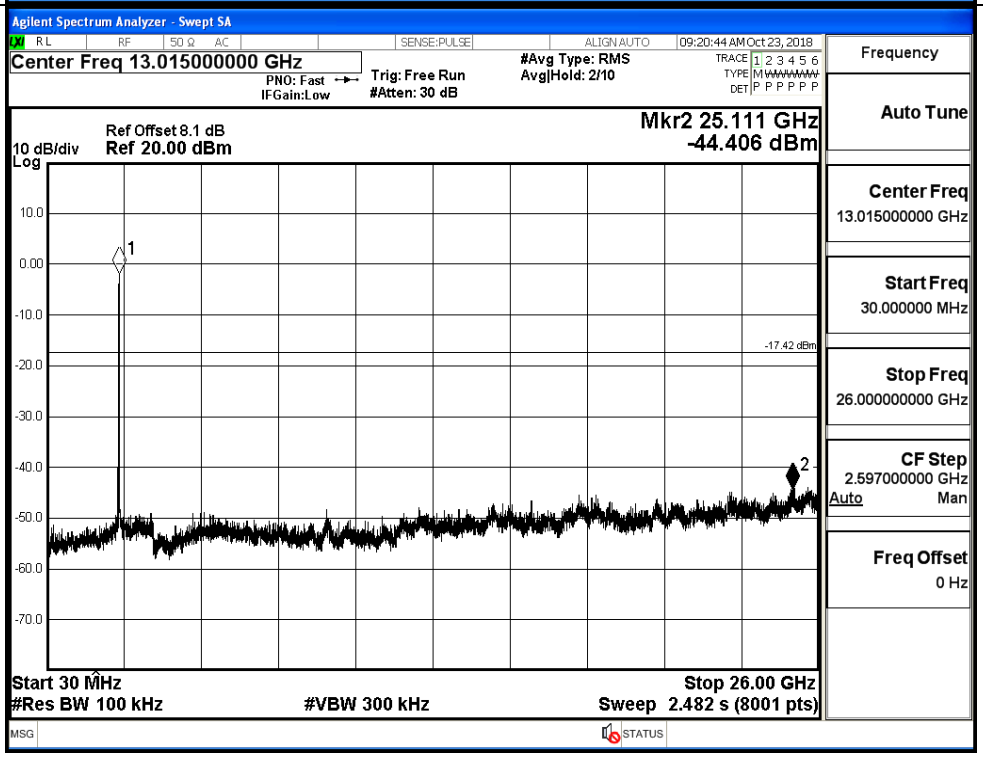
11B_LCH_Graphs	
Pref/11B/LCH	
Puw/11B/LCH	

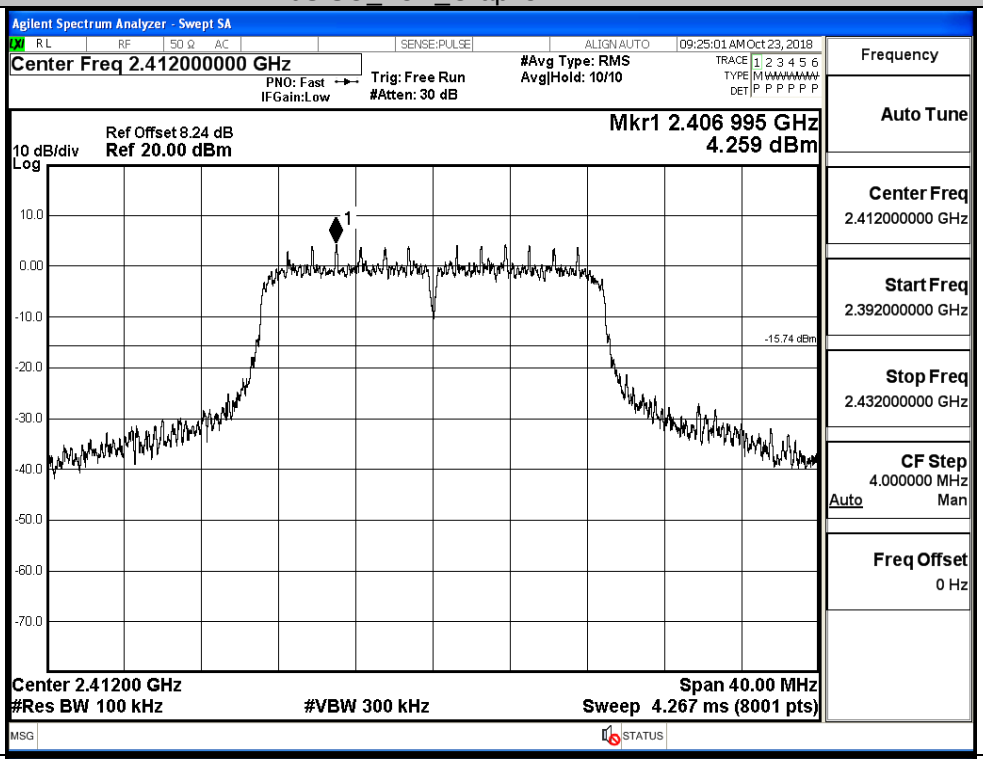
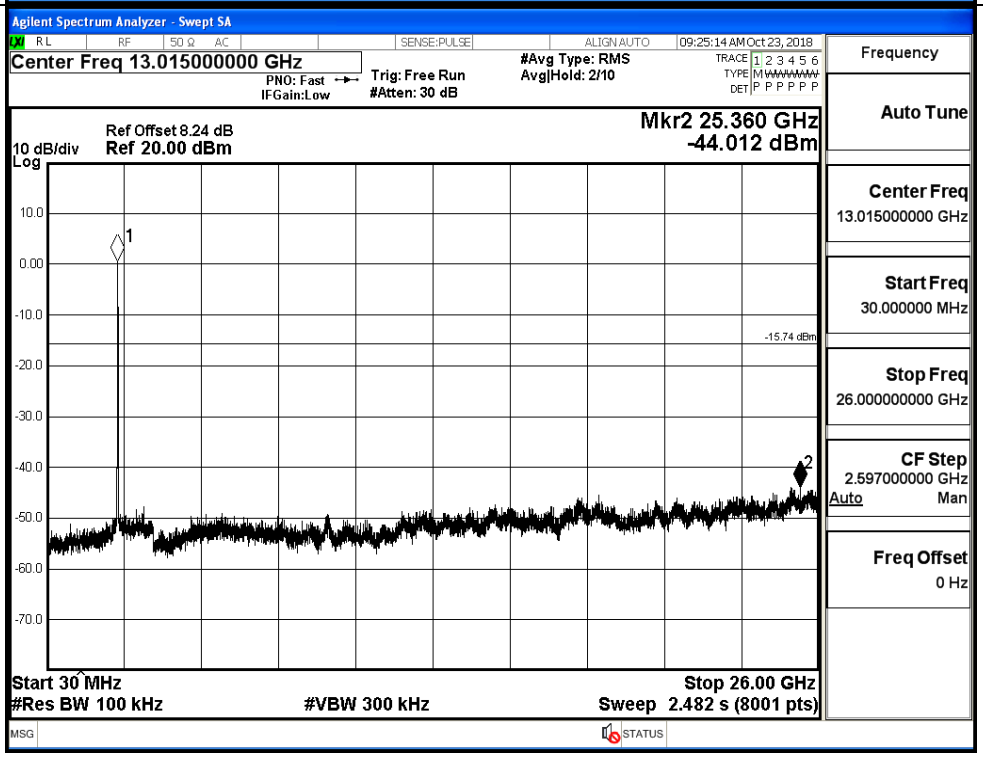
11B_MCH_Graphs	
Pref/11B/MCH	
Puw/11B/MCH	

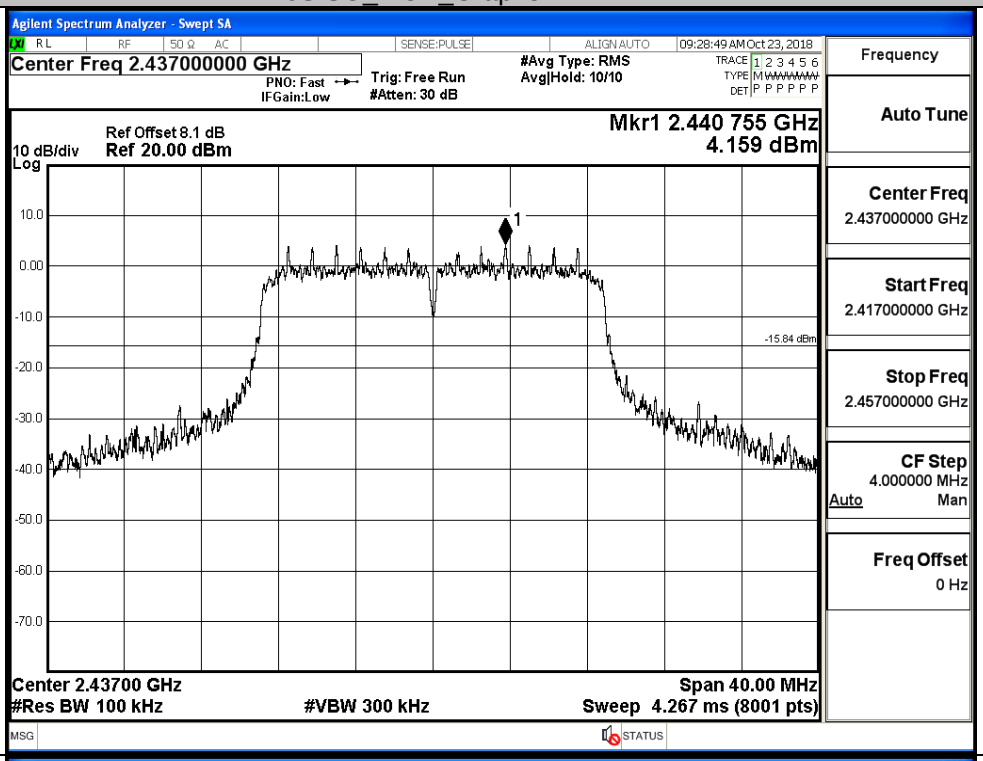
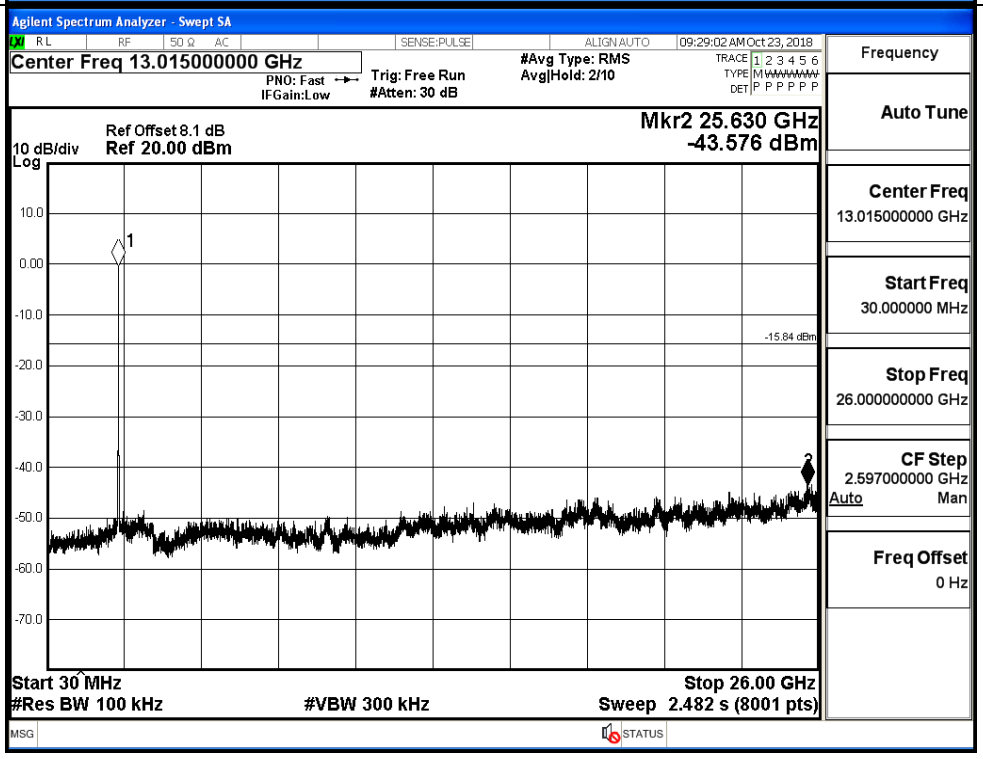
11B_HCH_Graphs	
Pref/11B/HCH	
Puw/11B/HCH	

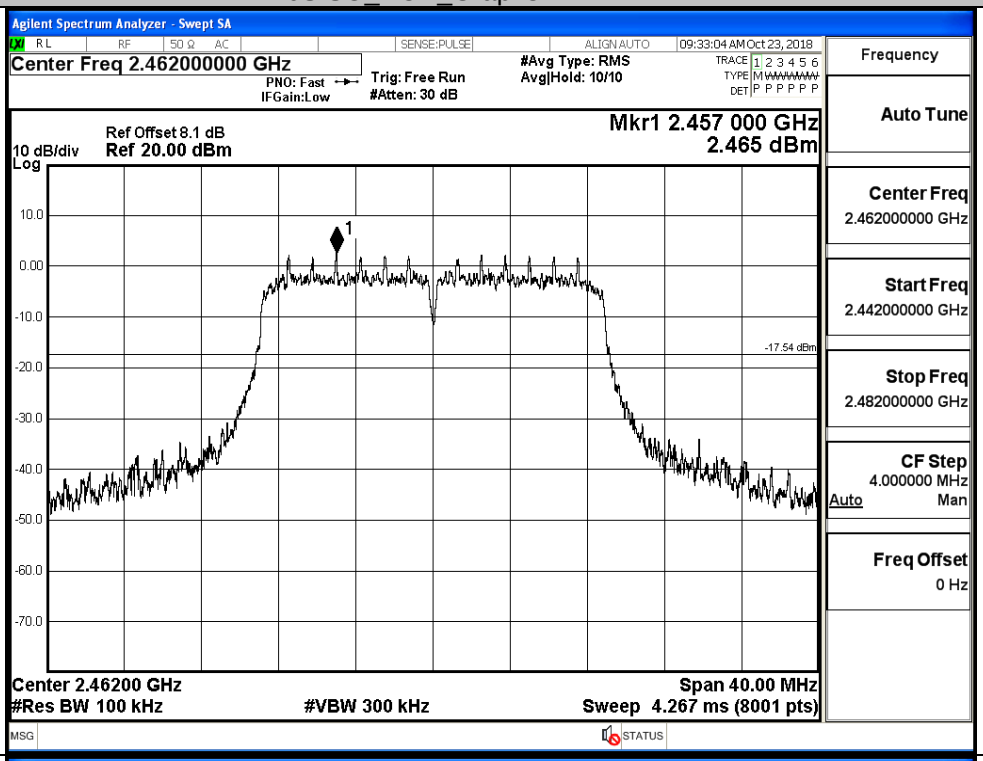
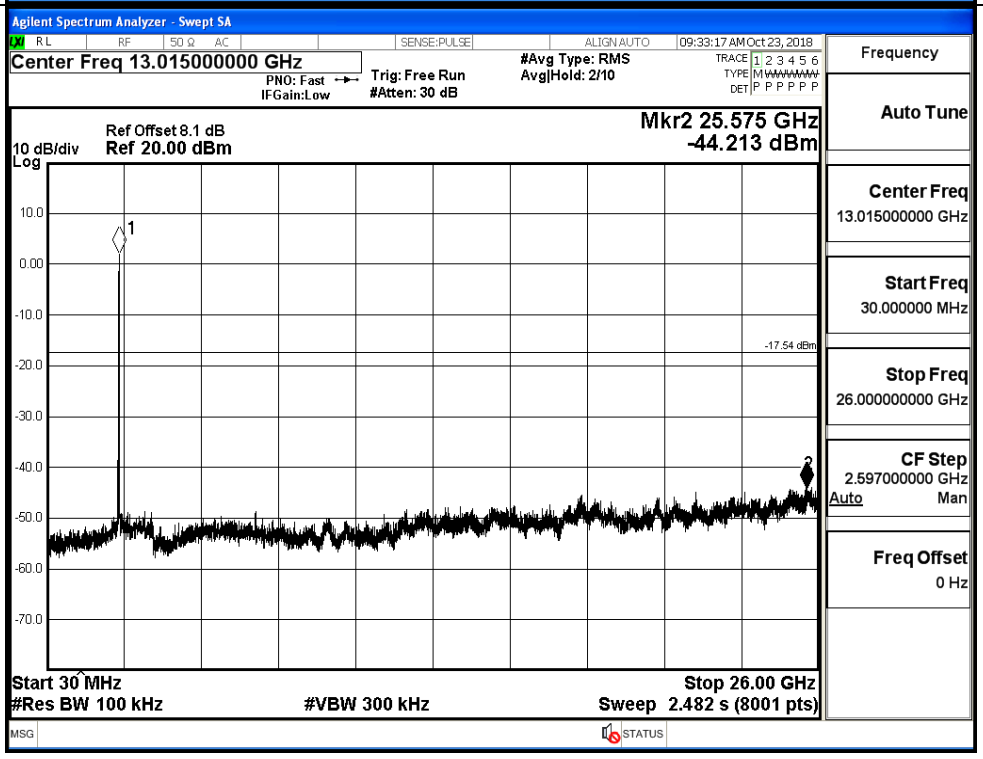
11G_LCH_Graphs	
Pref/11G/LCH	
Puw/11G/LCH	

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

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

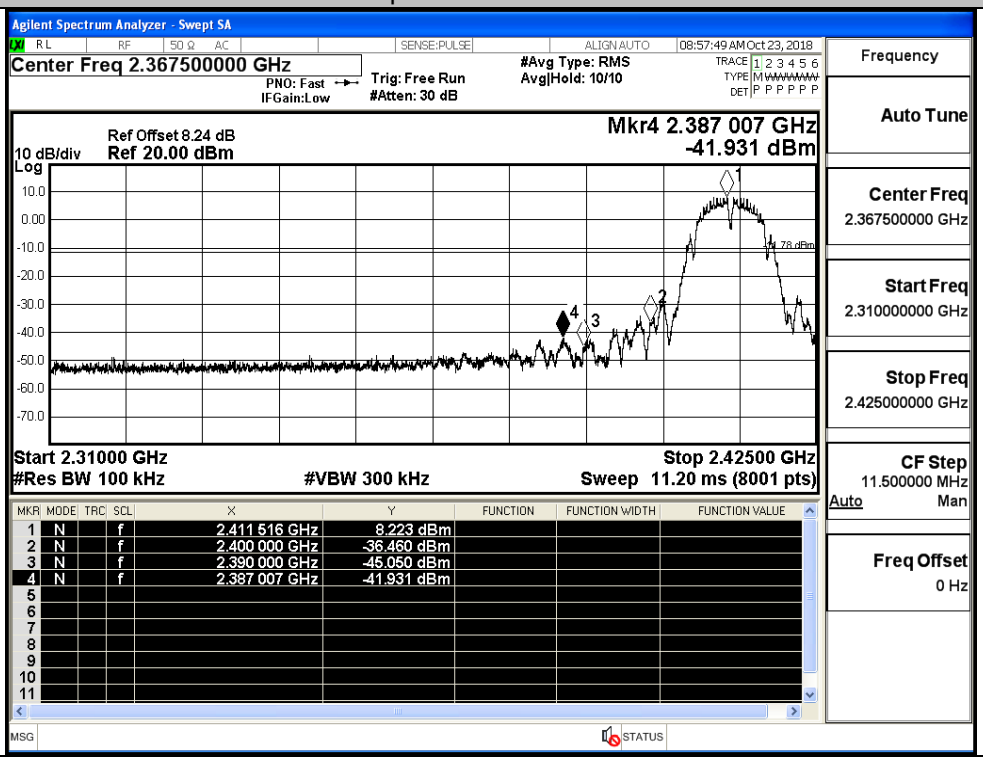
11N20SISO_LCH_Graphs	
Pref/11N20SISO/LCH	
Puw/11N20SISO/LCH	

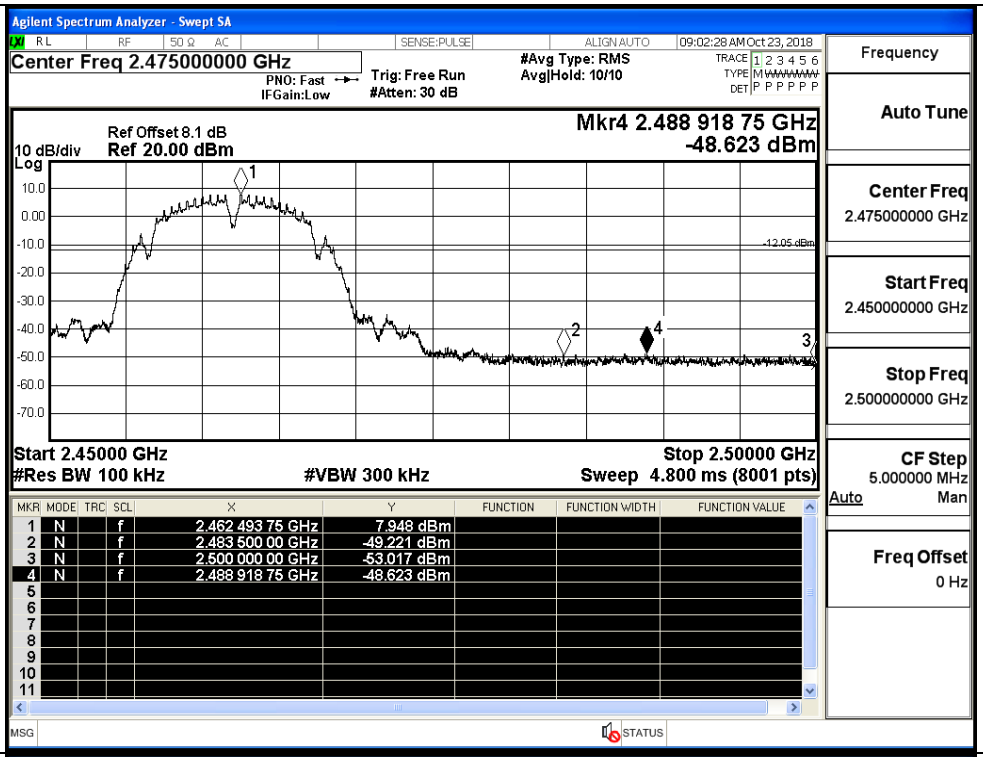
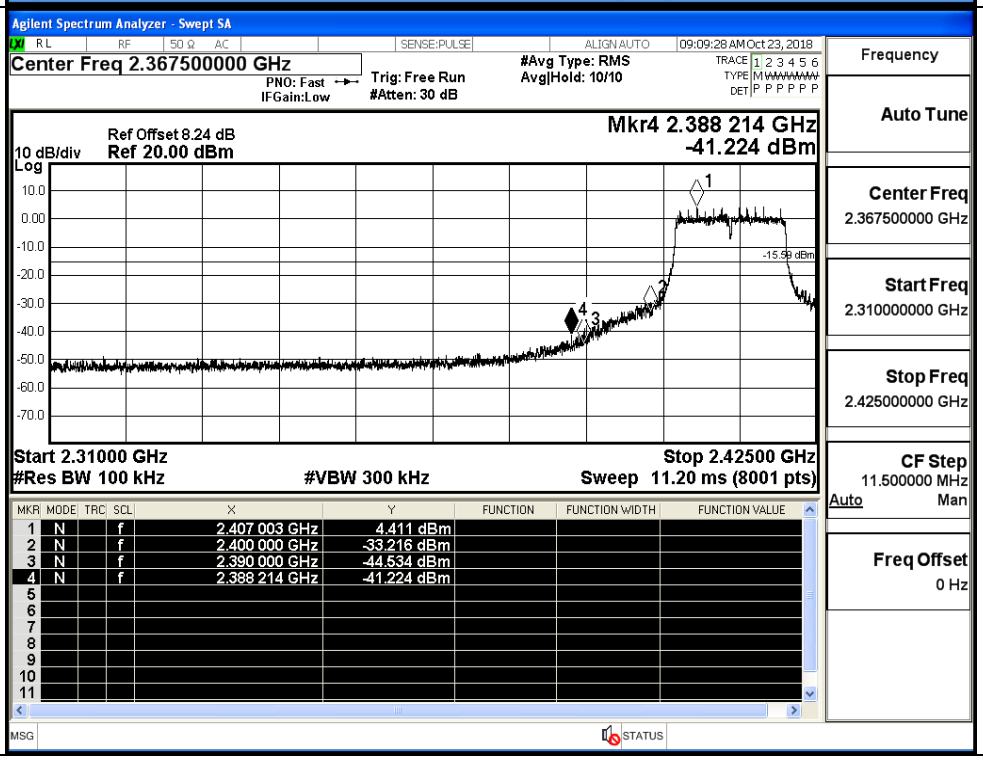
11N20SISO_MCH_Graphs	
Pref/11N20 SISO/MCH	
Puw/11N20 SISO/MCH	

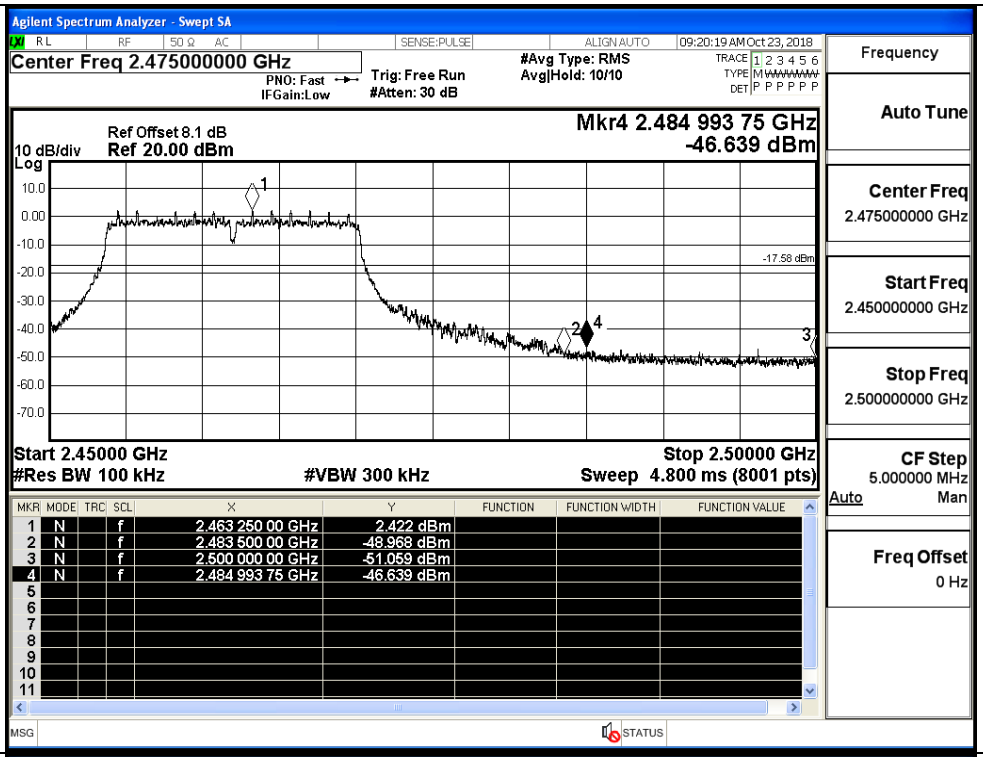
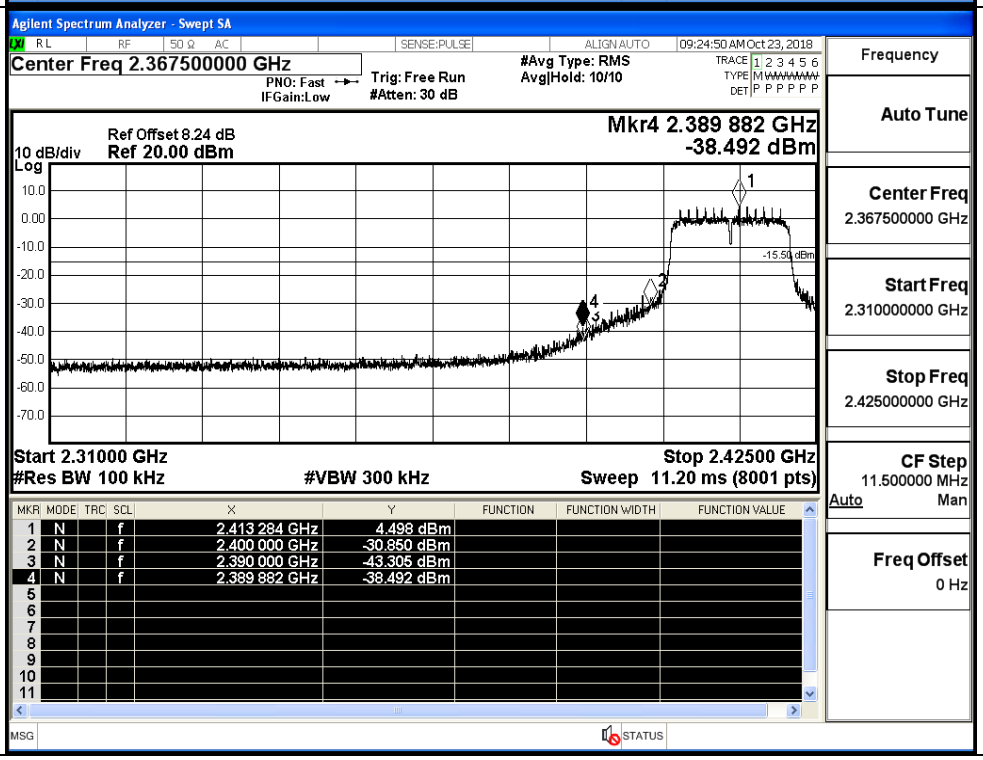
11N20SISO_HCH_Graphs	
Pref/11N20 SISO/HCH	
Puw/11N20 SISO/HCH	

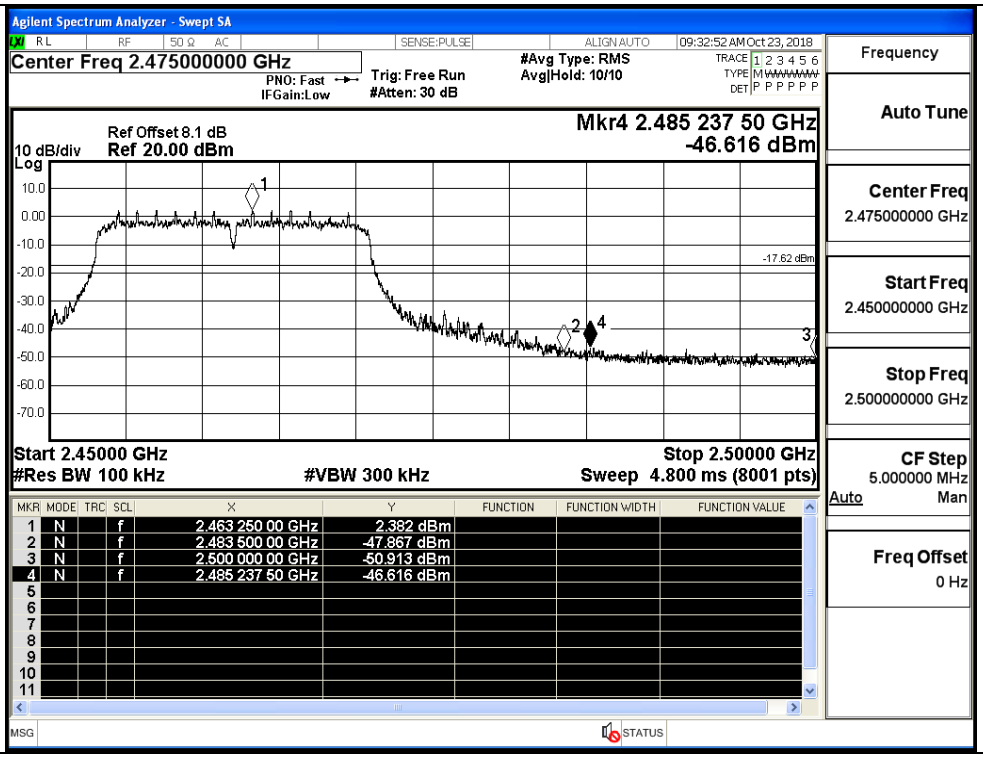
A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	8.223	-41.931	-11.78	PASS
	HCH	7.948	-48.623	-12.05	PASS
11G	LCH	4.411	-41.224	-15.59	PASS
	HCH	2.422	-46.639	-17.58	PASS
11N20SISO	LCH	4.498	-38.492	-15.5	PASS
	HCH	2.382	-46.616	-17.62	PASS

Test Graphs	
11B/LCH	

11B/HCH	
11G/LCH	

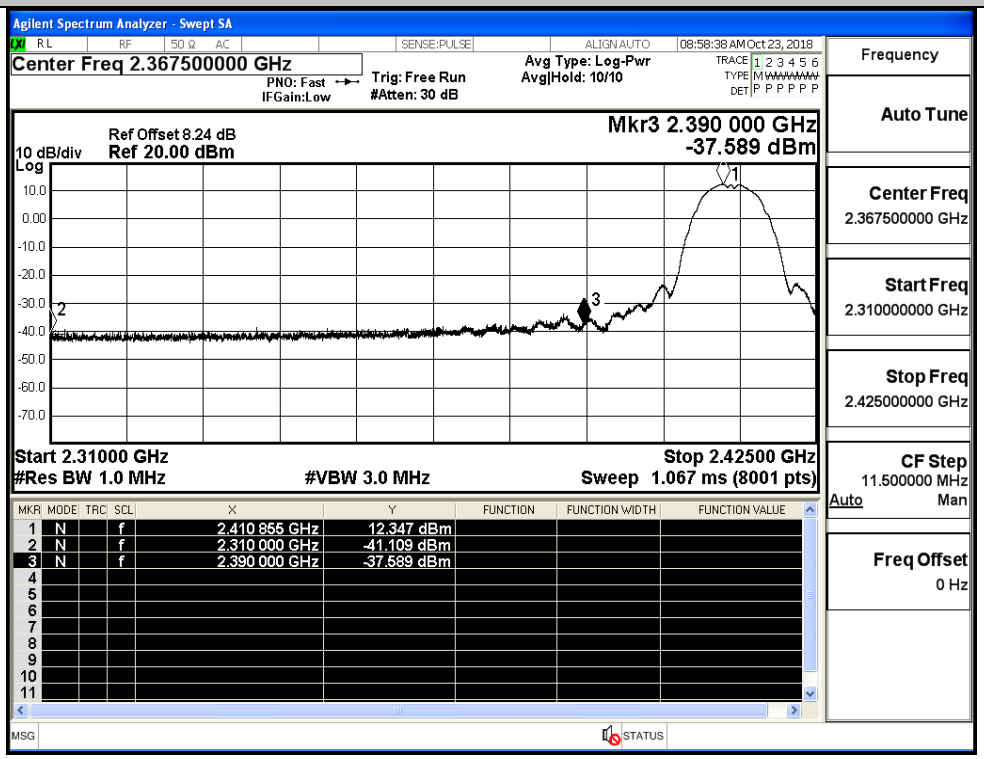
11G/HCH	
11N20SISO/LCH	

11N20SISO/HCH	

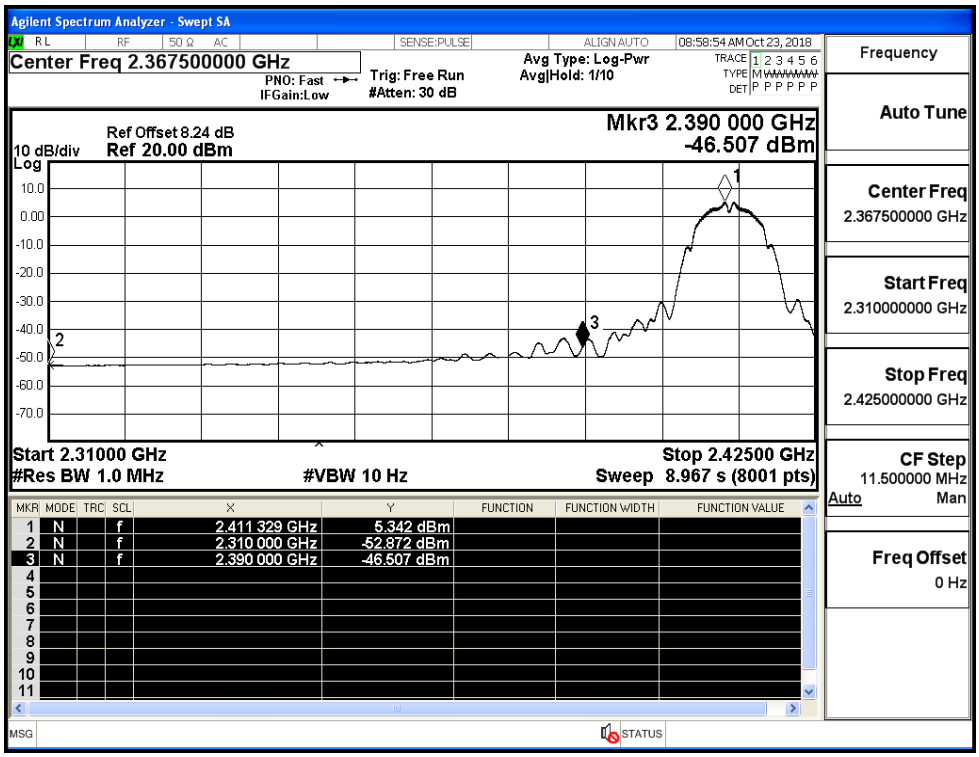
A.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-41.109	2.50	0	56.619	PEAK	74	PASS
	2412	Ant1	2310.0	-52.872	2.50	0	44.856	AV	54	PASS
	2412	Ant1	2390.0	-37.589	2.50	0	60.139	PEAK	74	PASS
	2412	Ant1	2390.0	-46.507	2.50	0	51.221	AV	54	PASS
	2462	Ant1	2483.5	-40.320	2.50	0	57.408	PEAK	74	PASS
	2462	Ant1	2483.5	-51.913	2.50	0	45.815	AV	54	PASS
	2462	Ant1	2500.0	-41.319	2.50	0	56.409	PEAK	74	PASS
	2462	Ant1	2500.0	-51.944	2.50	0	45.784	AV	54	PASS
11G	2412	Ant1	2310.0	-43.210	2.50	0	54.518	PEAK	74	PASS
	2412	Ant1	2310.0	-52.742	2.50	0	44.986	AV	54	PASS
	2412	Ant1	2390.0	-29.139	2.50	0	68.589	PEAK	74	PASS
	2412	Ant1	2390.0	-45.824	2.50	0	51.904	AV	54	PASS
	2462	Ant1	2483.5	-35.167	2.50	0	62.561	PEAK	74	PASS
	2462	Ant1	2483.5	-49.765	2.50	0	47.963	AV	54	PASS
	2462	Ant1	2500.0	-41.921	2.50	0	55.807	PEAK	74	PASS
	2462	Ant1	2500.0	-51.860	2.50	0	45.868	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-42.326	2.50	0	55.402	PEAK	74	PASS
	2412	Ant1	2310.0	-52.718	2.50	0	45.010	AV	54	PASS
	2412	Ant1	2390.0	-26.812	2.50	0	70.916	PEAK	74	PASS
	2412	Ant1	2390.0	-45.810	2.50	0	51.918	AV	54	PASS
	2462	Ant1	2483.5	-34.059	2.50	0	63.669	PEAK	74	PASS
	2462	Ant1	2483.5	-49.034	2.50	0	48.694	AV	54	PASS
	2462	Ant1	2500.0	-39.842	2.50	0	57.886	PEAK	74	PASS
	2462	Ant1	2500.0	-51.727	2.50	0	46.001	AV	54	PASS

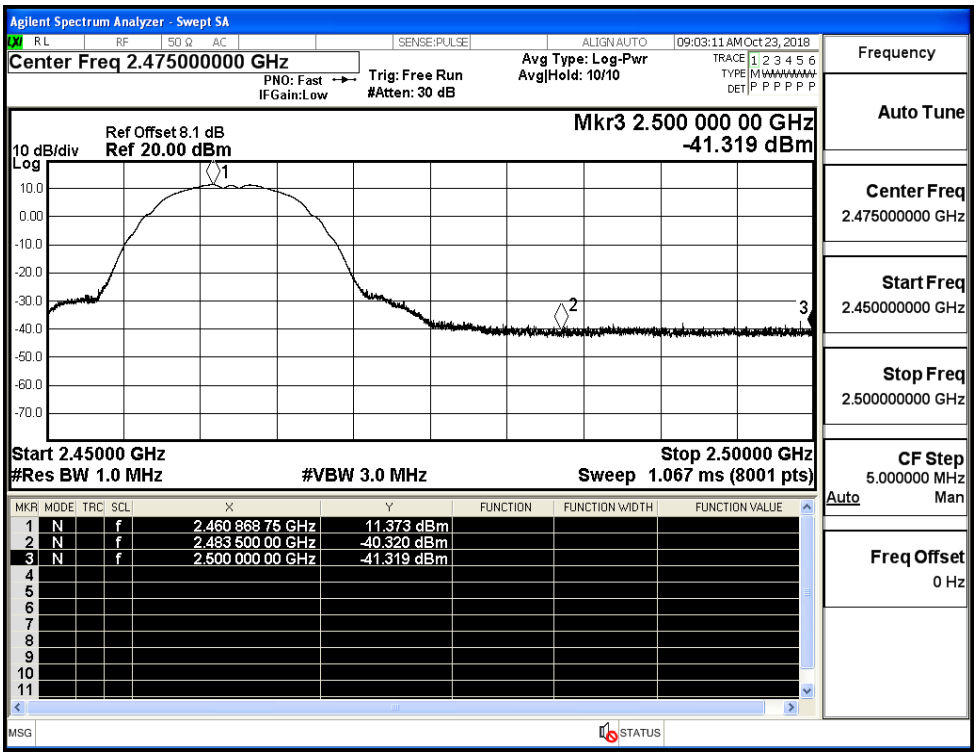
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



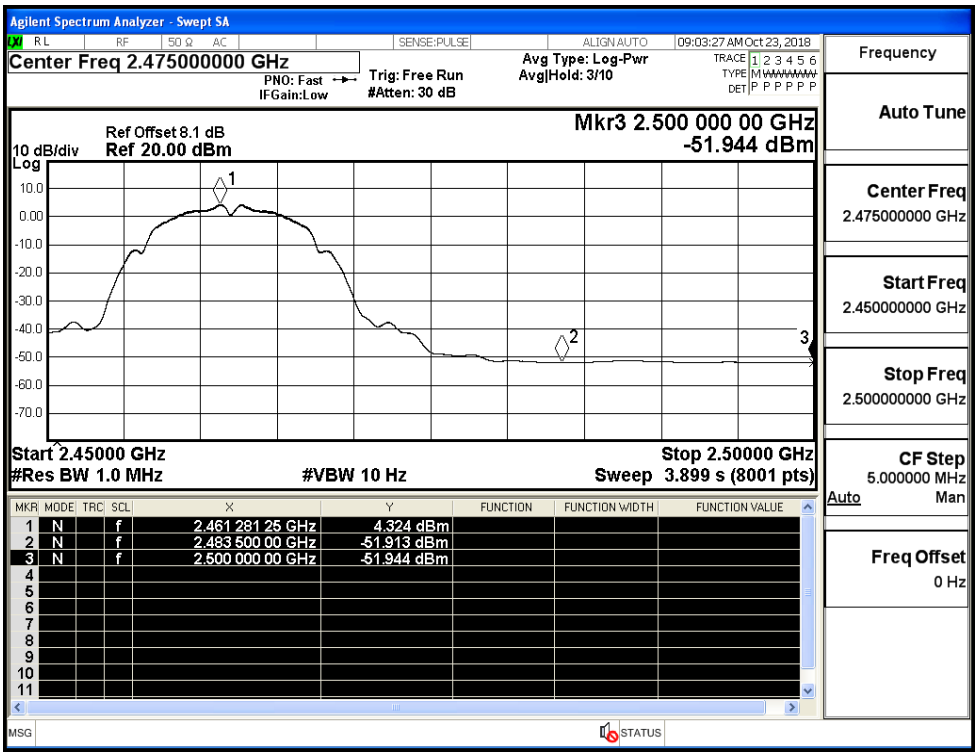
Restrict-band band-edge measurements_11B_2412_Ant1_AV



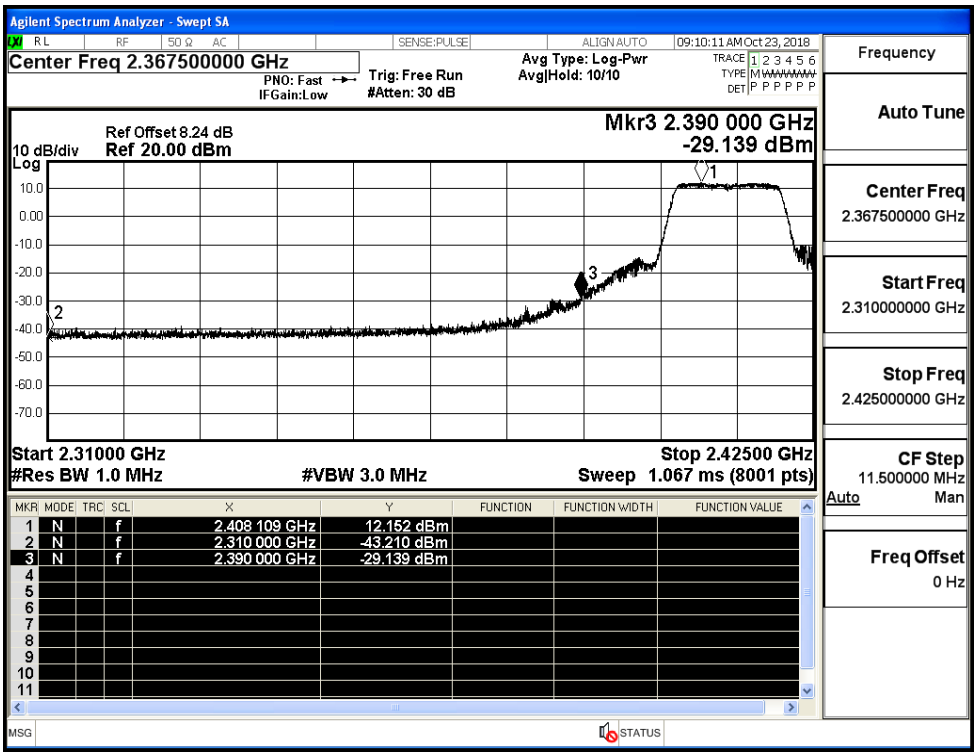
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



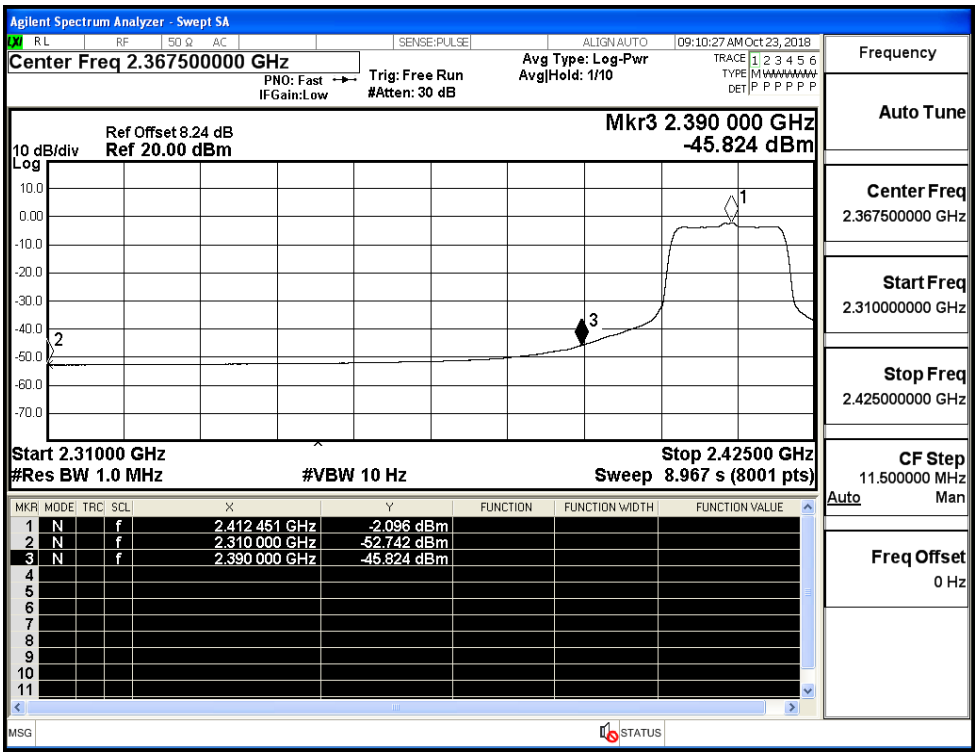
Restrict-band band-edge measurements_11B_2462_Ant1_AV



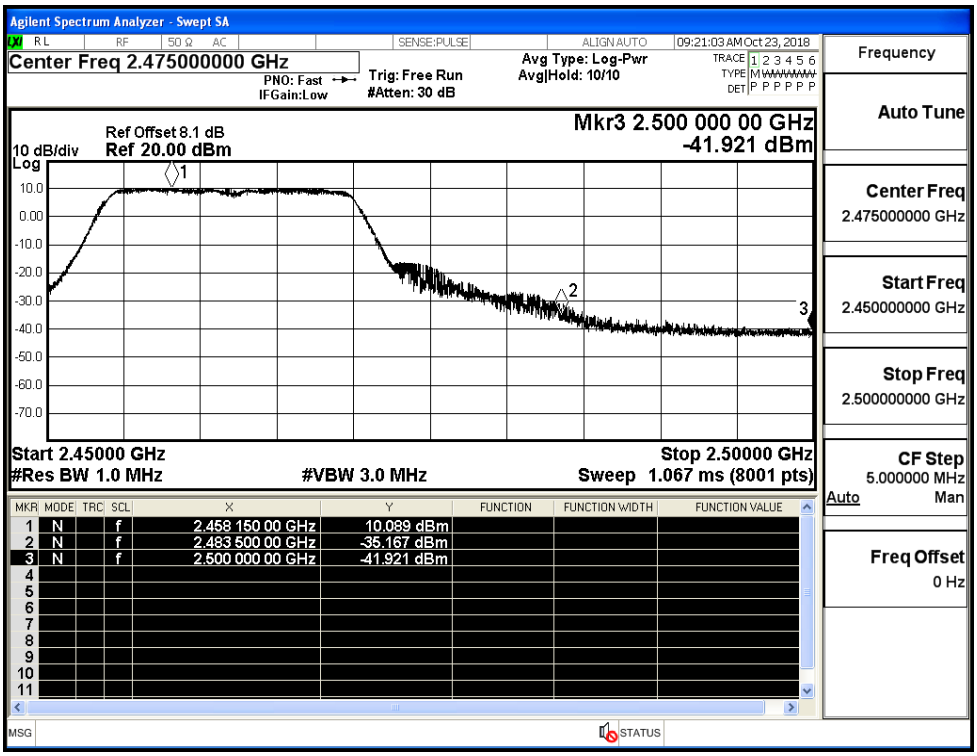
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



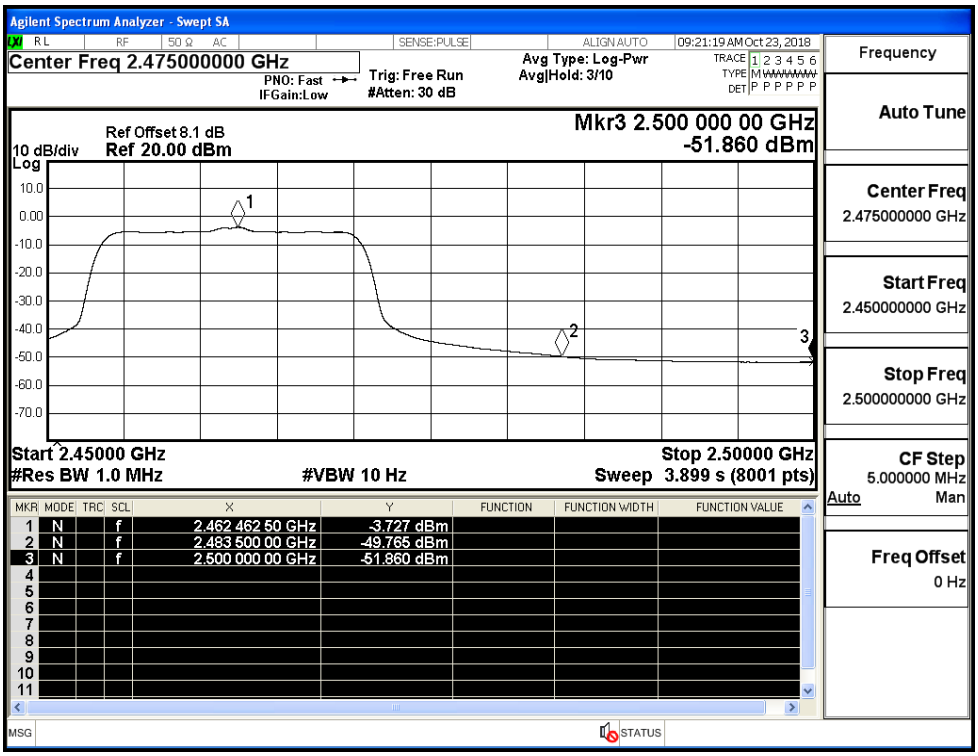
Restrict-band band-edge measurements_11G_2412_Ant1_AV



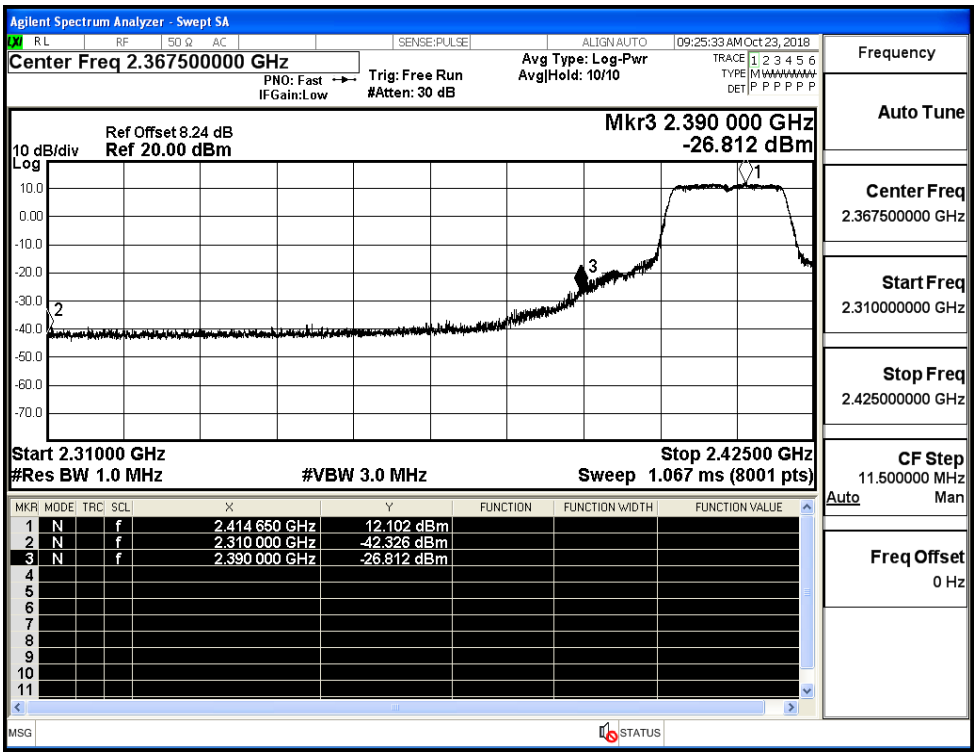
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



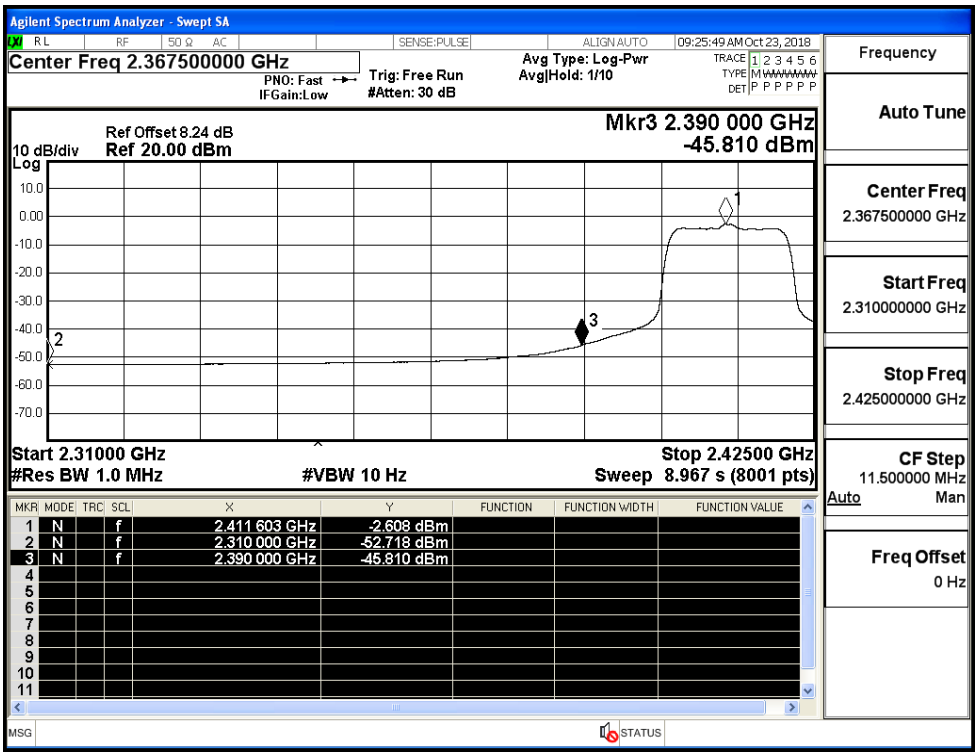
Restrict-band band-edge measurements_11G_2462_Ant1_AV



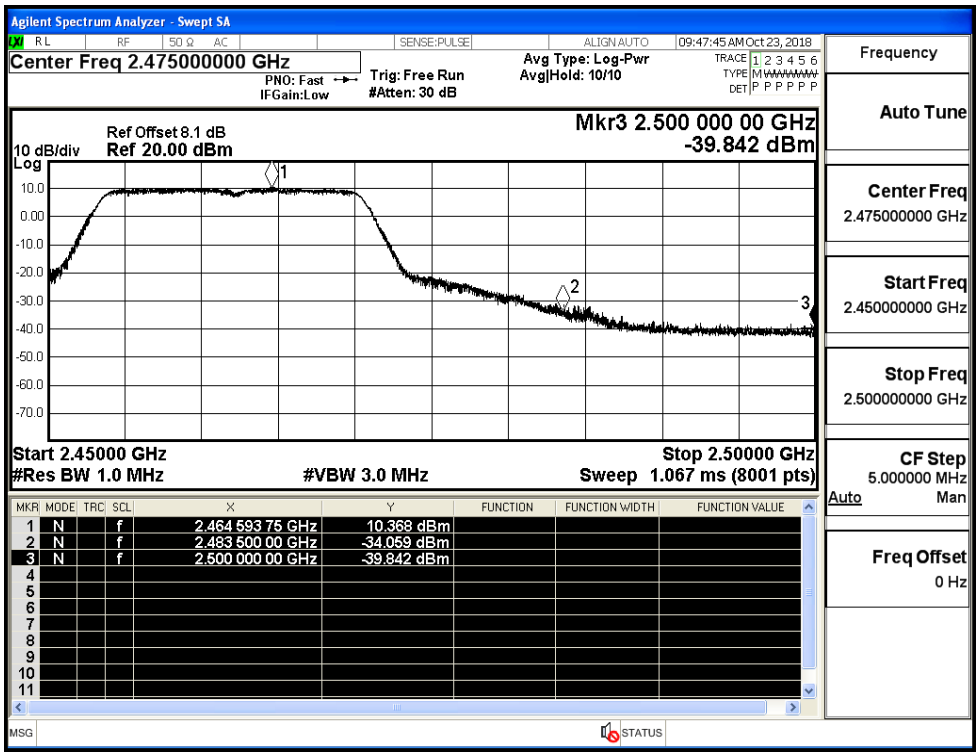
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



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