

Appendix C

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Smart Garage Door Opener

Trade Mark: atomi

Test Model: AT1348

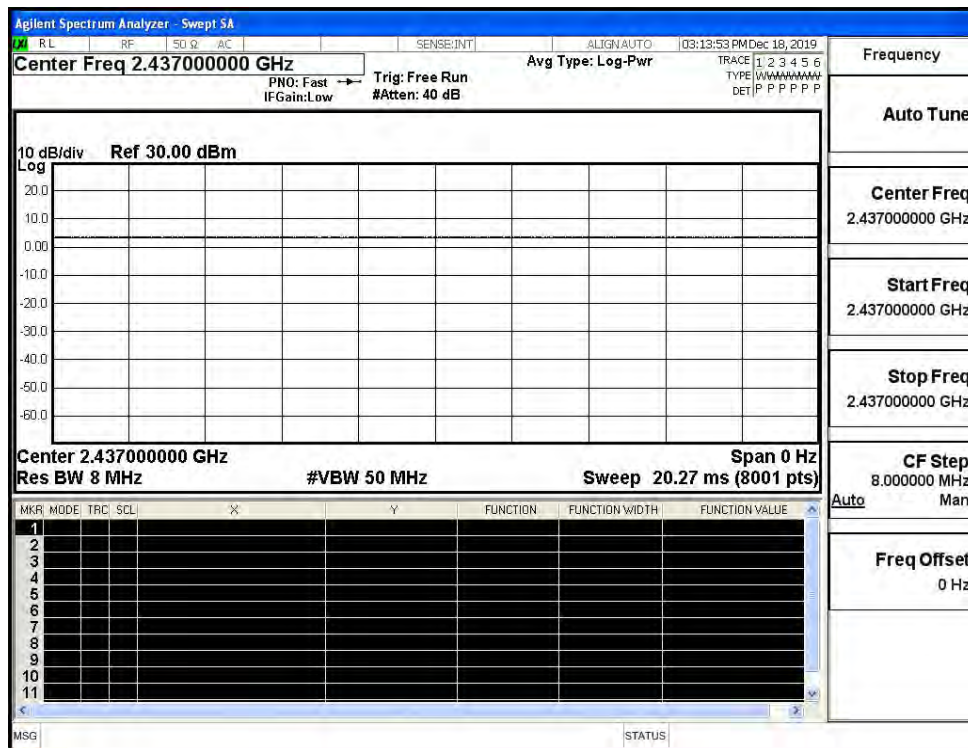
Environmental Conditions

Temperature:	22.6 ° C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhuo Zhuo
Supervised by:	Li Huan

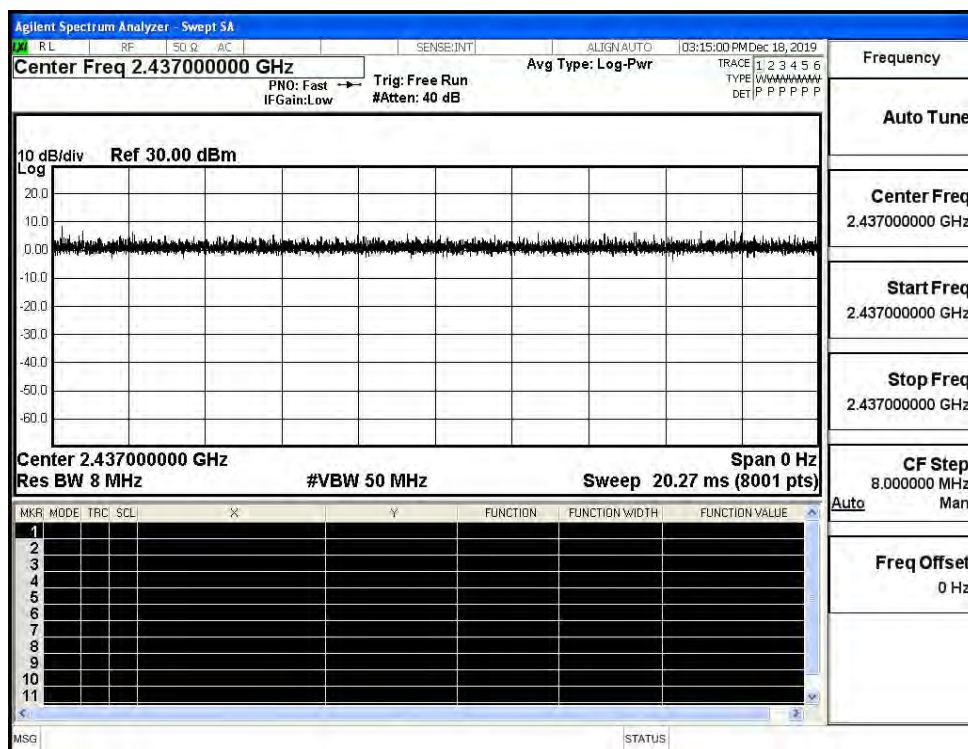
C.1 Duty Cycle

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

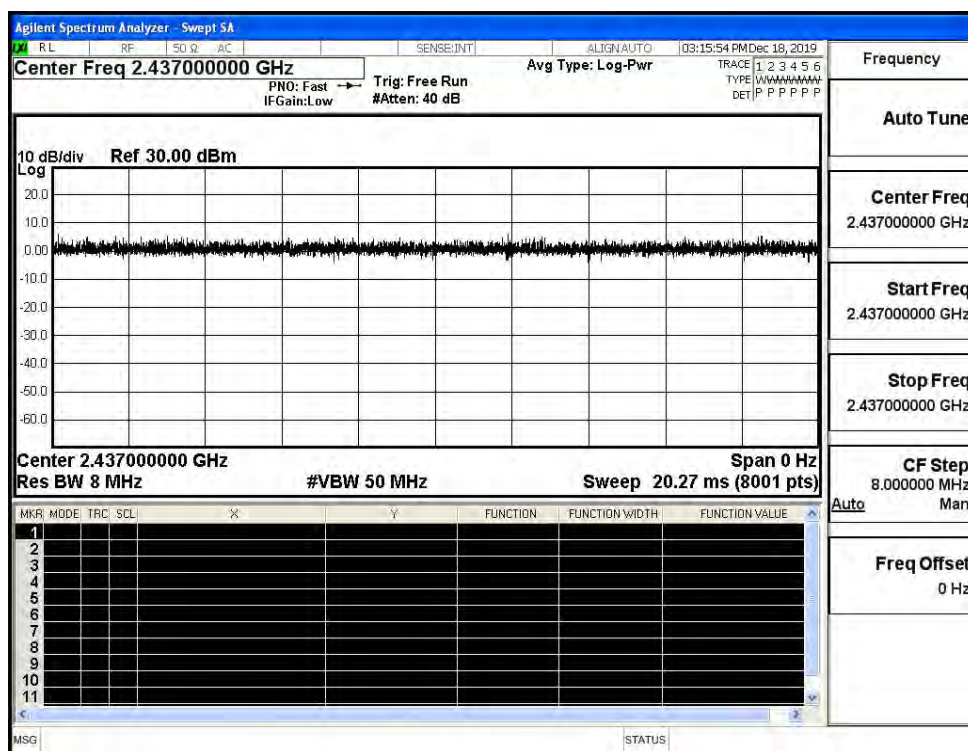
Duty Cycle_11B_2437_Ant1



Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1

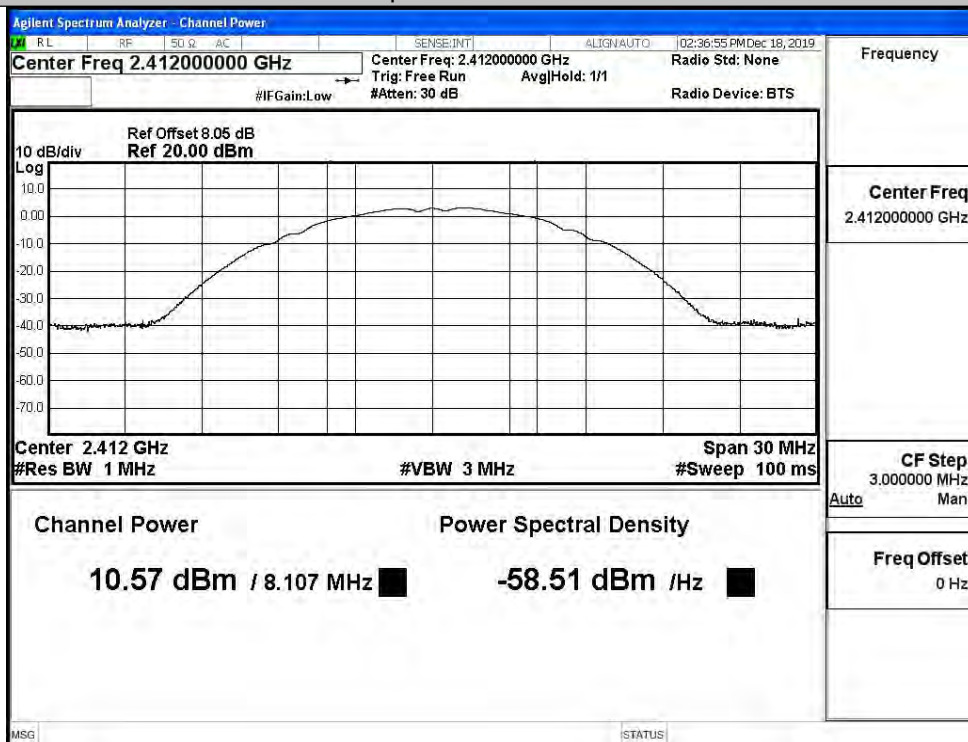


C.2 Maximum Conducted Output Power

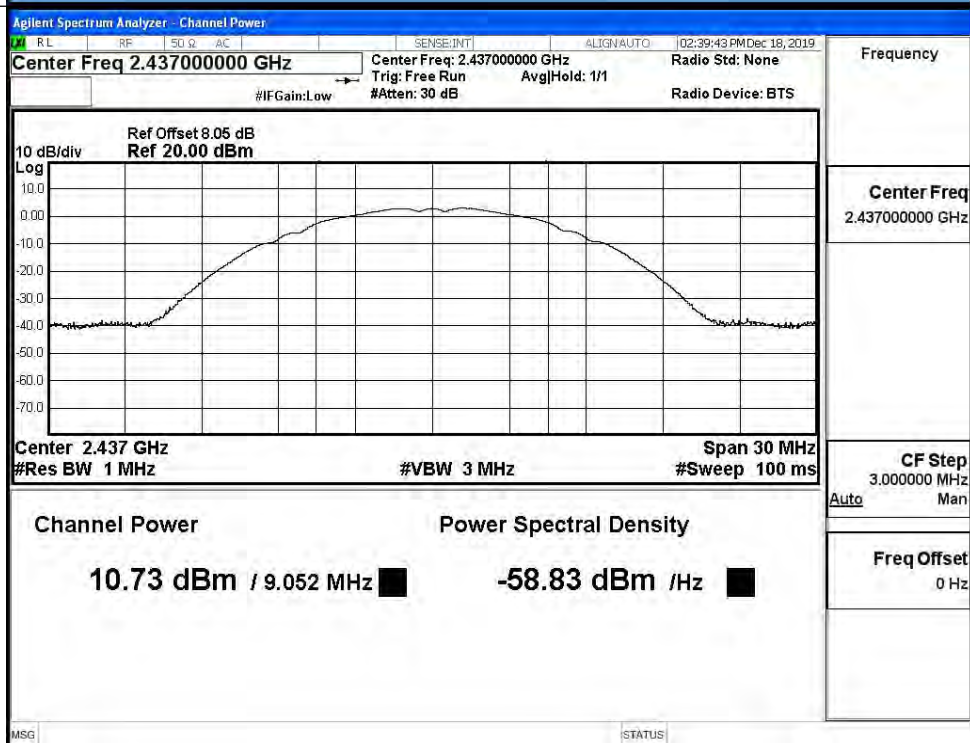
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	10.57	30	PASS
	MCH	10.73	30	PASS
	HCH	11.71	30	PASS
11G	LCH	13.31	30	PASS
	MCH	13.66	30	PASS
	HCH	14.17	30	PASS
11N20SISO	LCH	12.22	30	PASS
	MCH	12.48	30	PASS
	HCH	12.97	30	PASS

Test Graphs

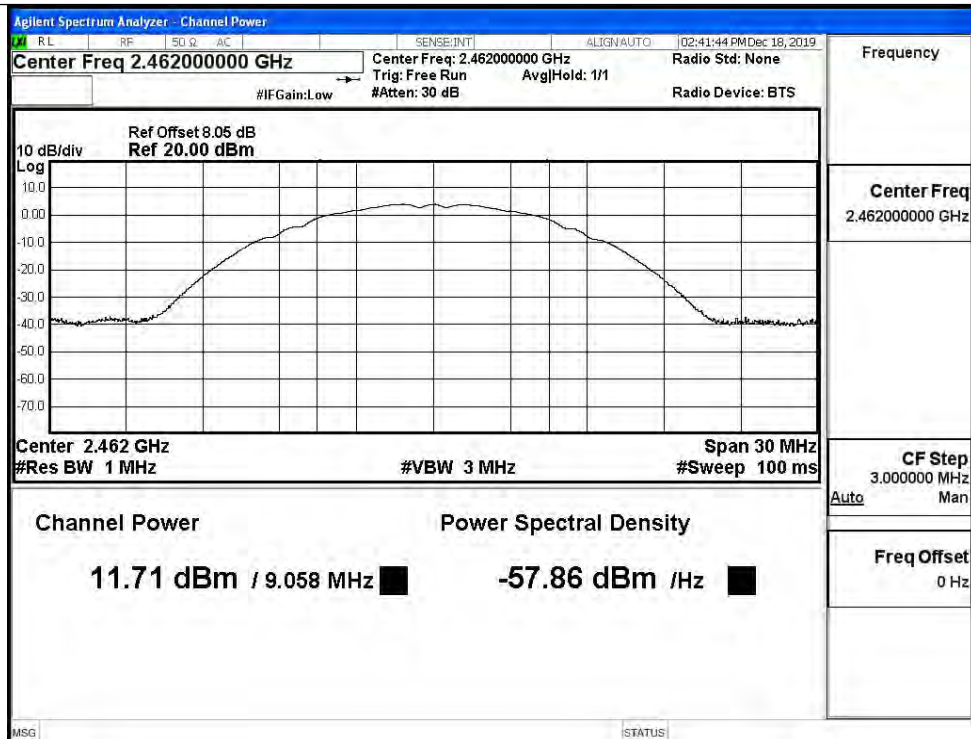
11B/LCH



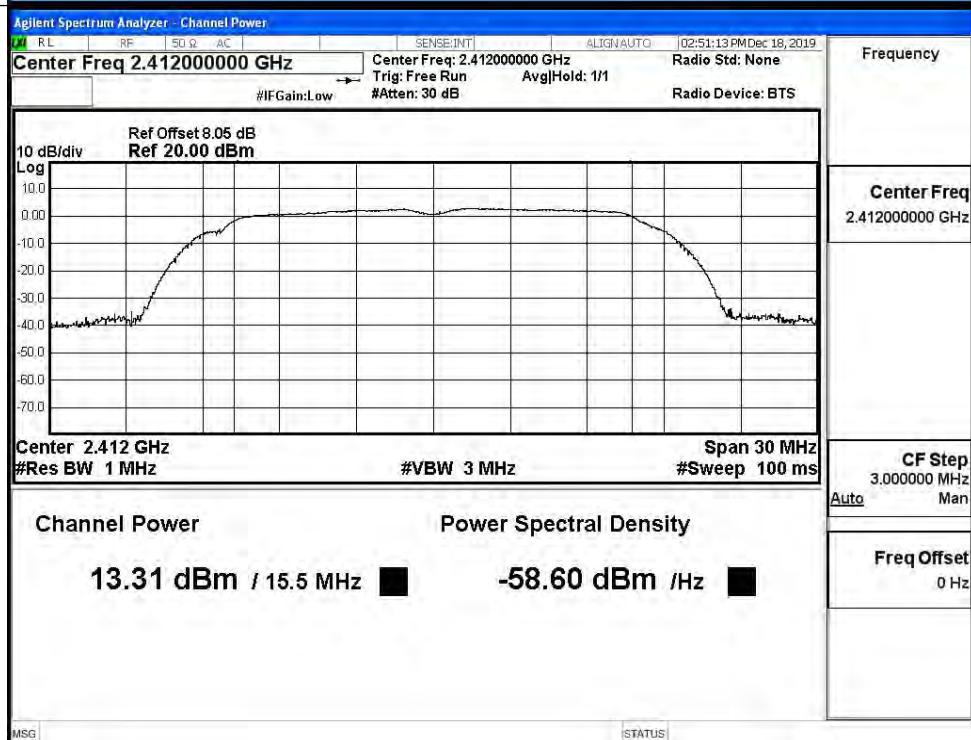
11B/MCH



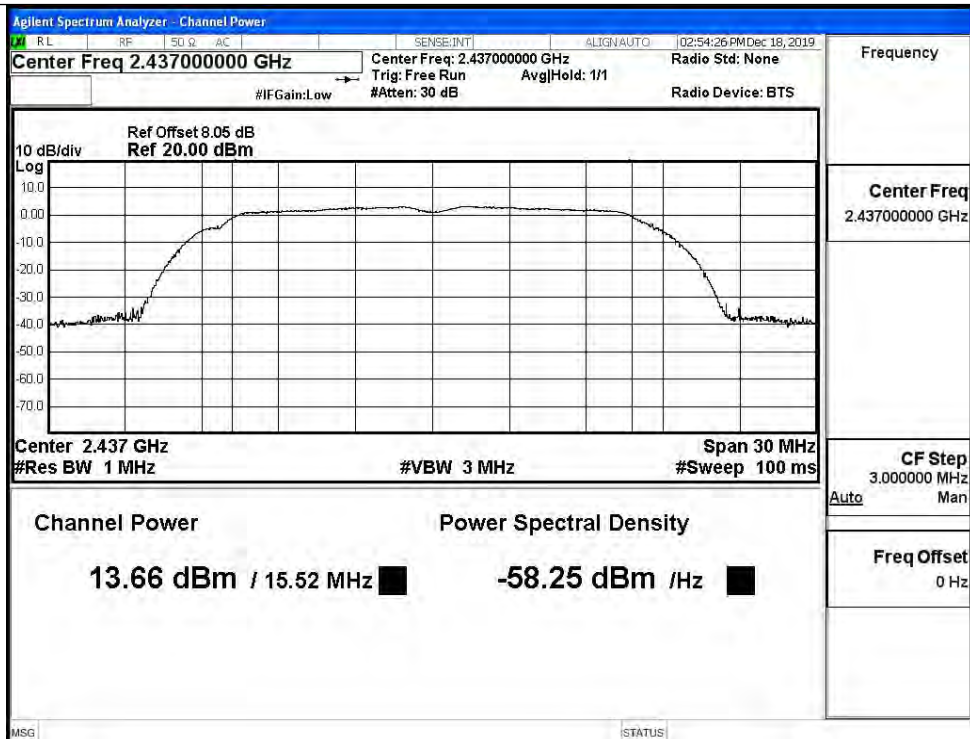
11B/HCH



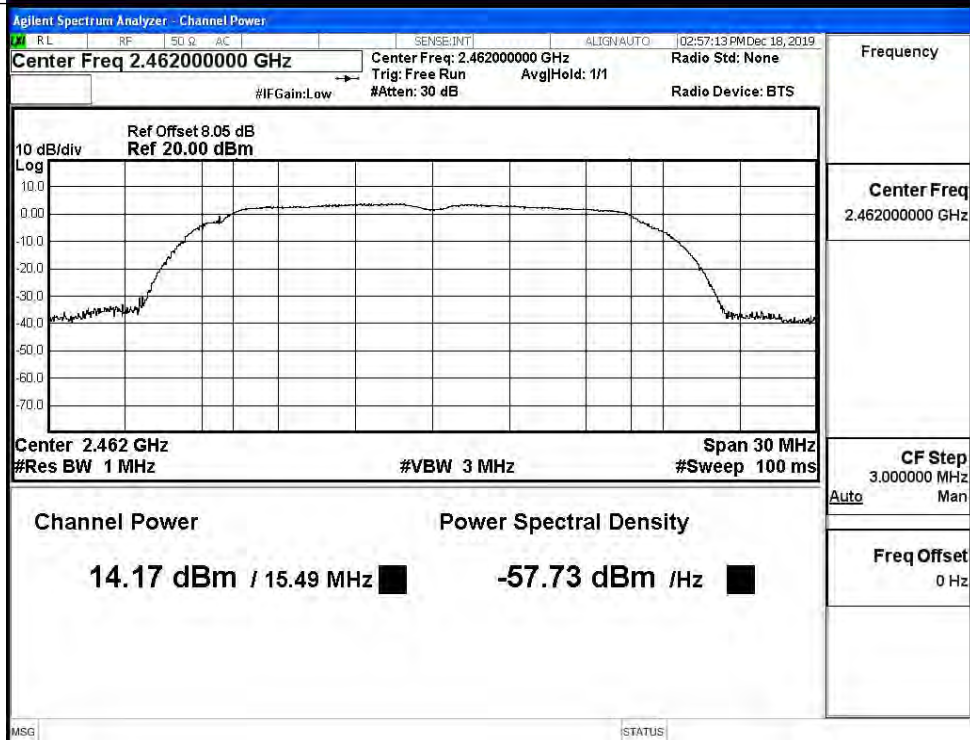
11G/LCH



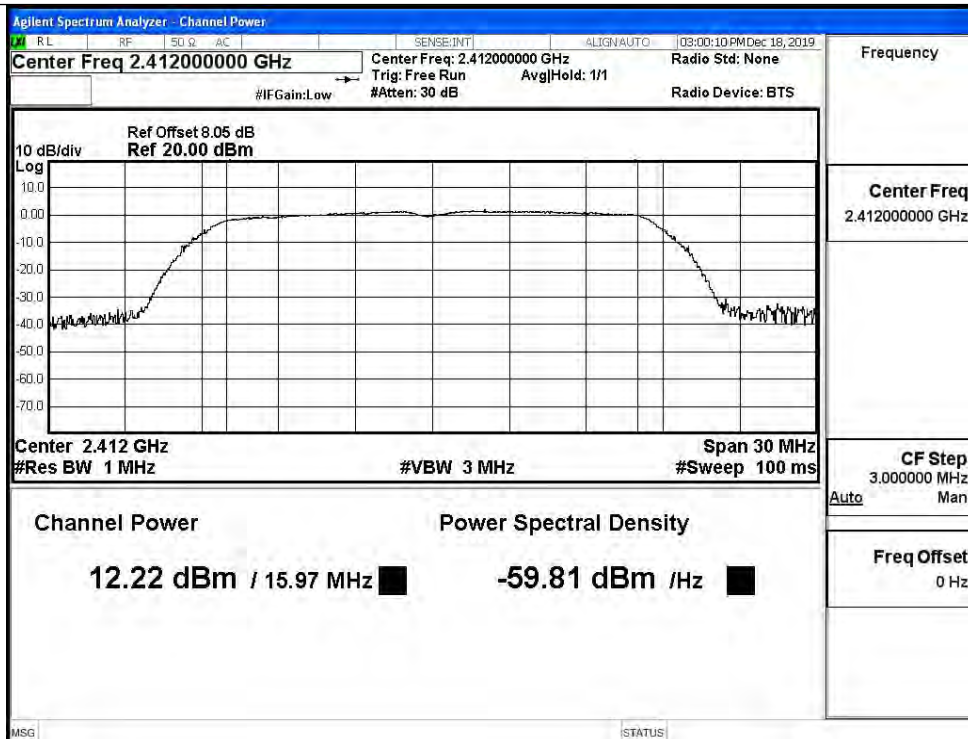
11G/MCH



11G/HCH



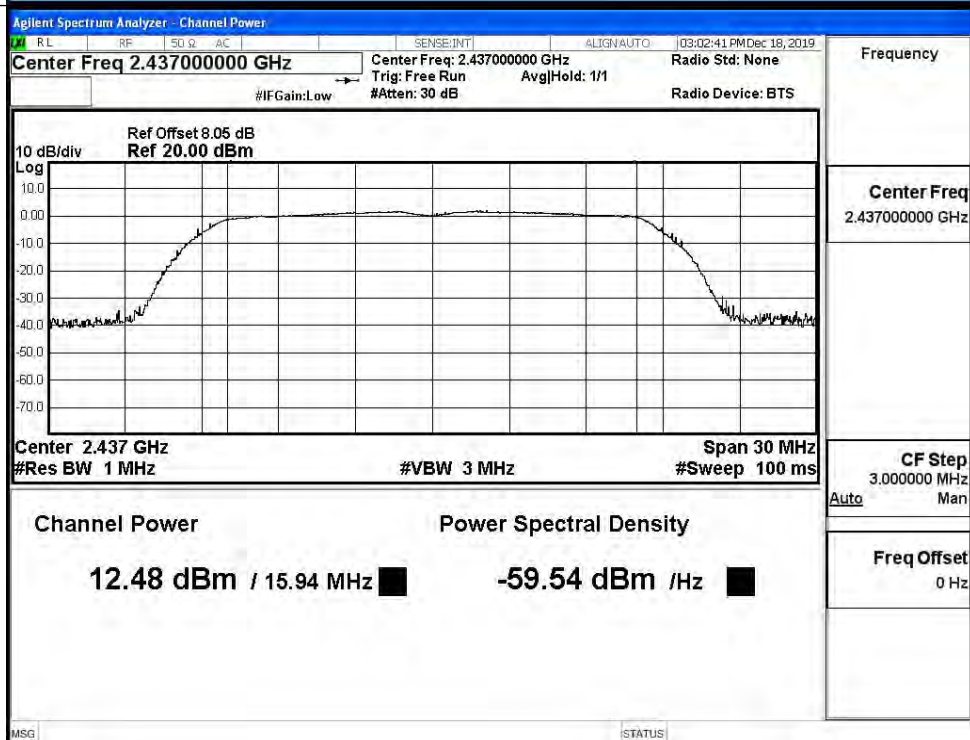
11N20SISO/LCH



Frequency

Center Freq
2.412000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

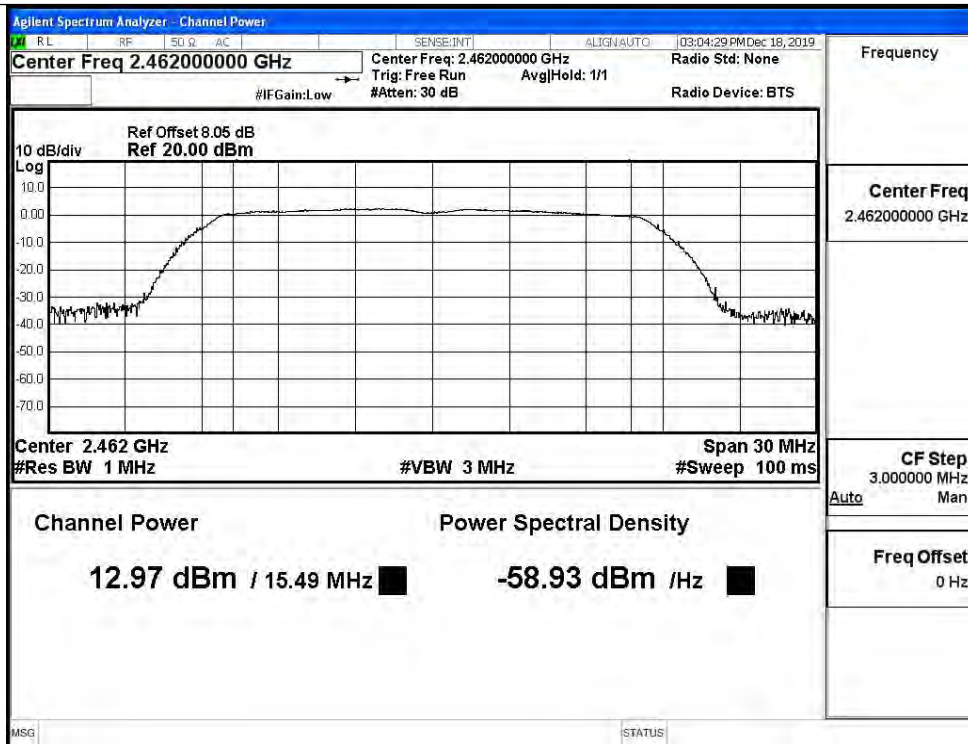
11N20SISO/MCH



Frequency

Center Freq
2.437000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

11N20SISO/HCH

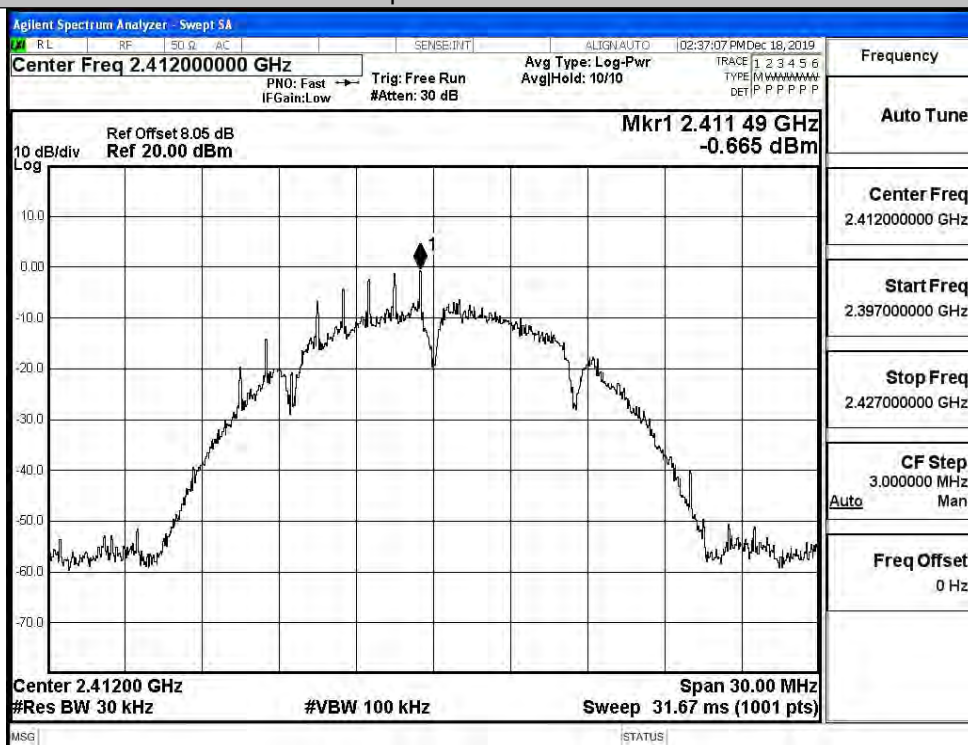


C.3 Maximum Power Spectral Density

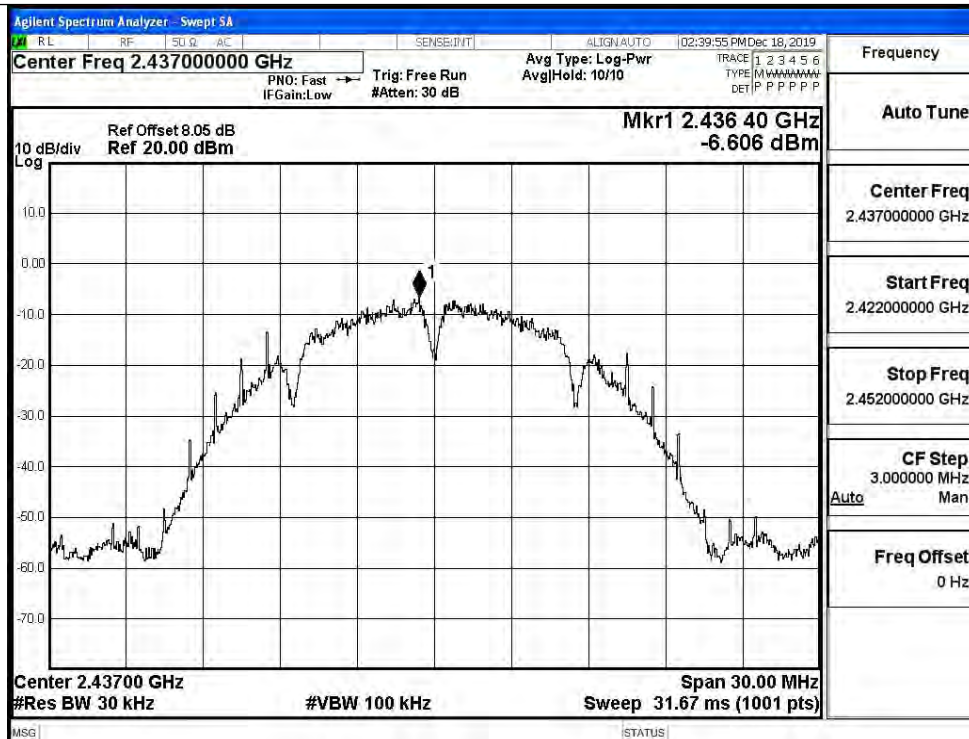
Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-0.665	8	PASS
	MCH	-6.606	8	PASS
	HCH	-0.217	8	PASS
11G	LCH	-10.212	8	PASS
	MCH	-9.302	8	PASS
	HCH	-9.756	8	PASS
11N20SISO	LCH	-10.750	8	PASS
	MCH	-10.535	8	PASS
	HCH	-9.568	8	PASS

Test Graphs

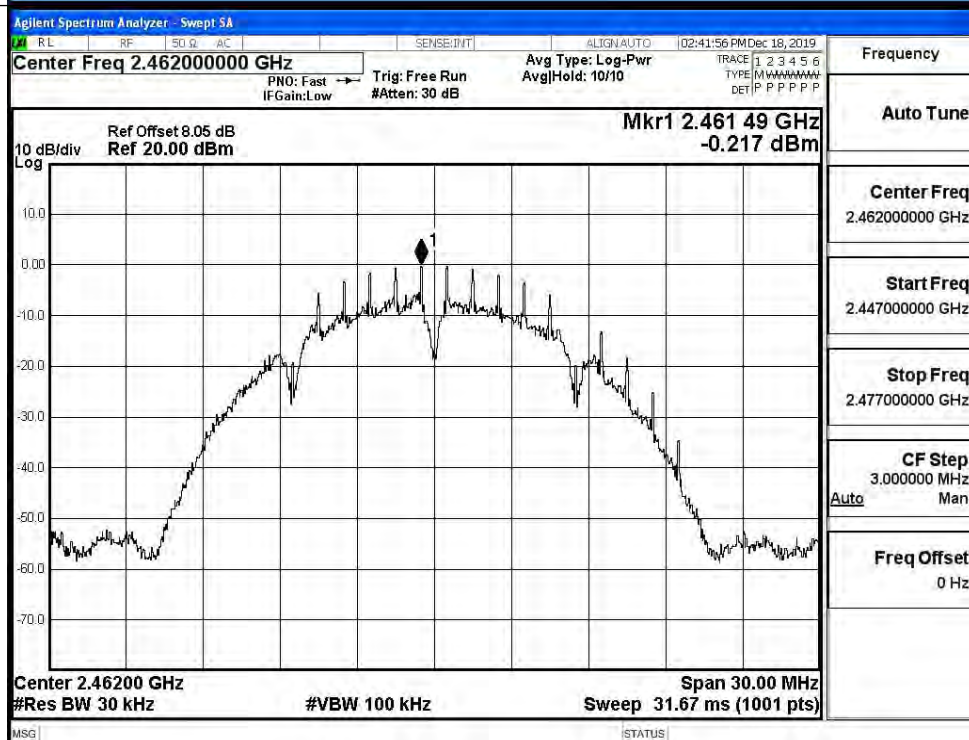
11B/LCH



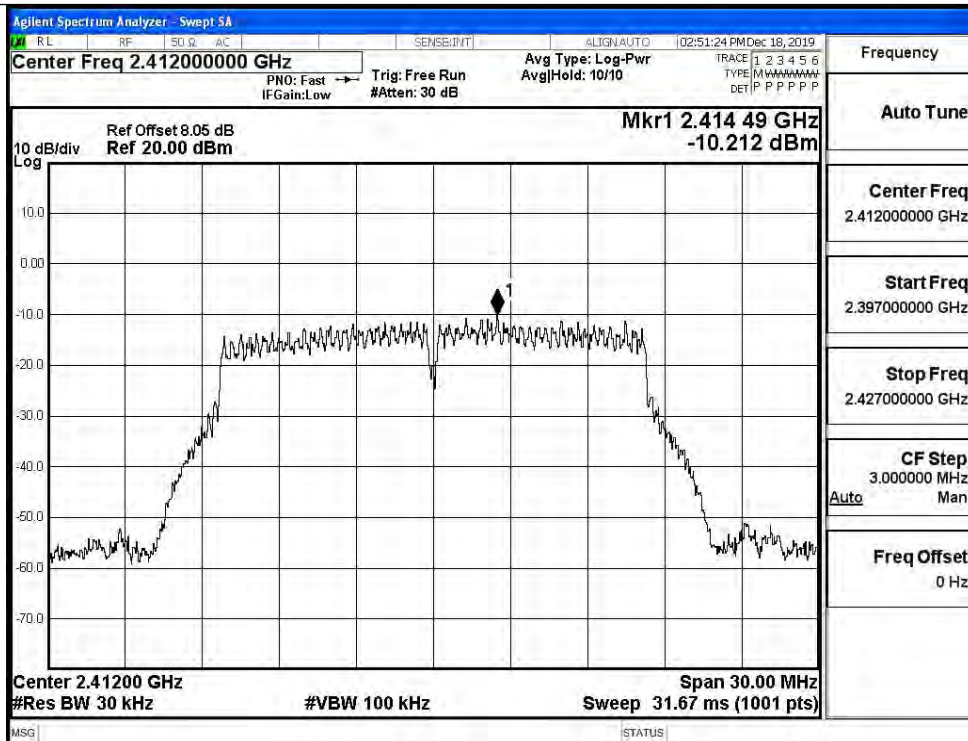
11B/MCH



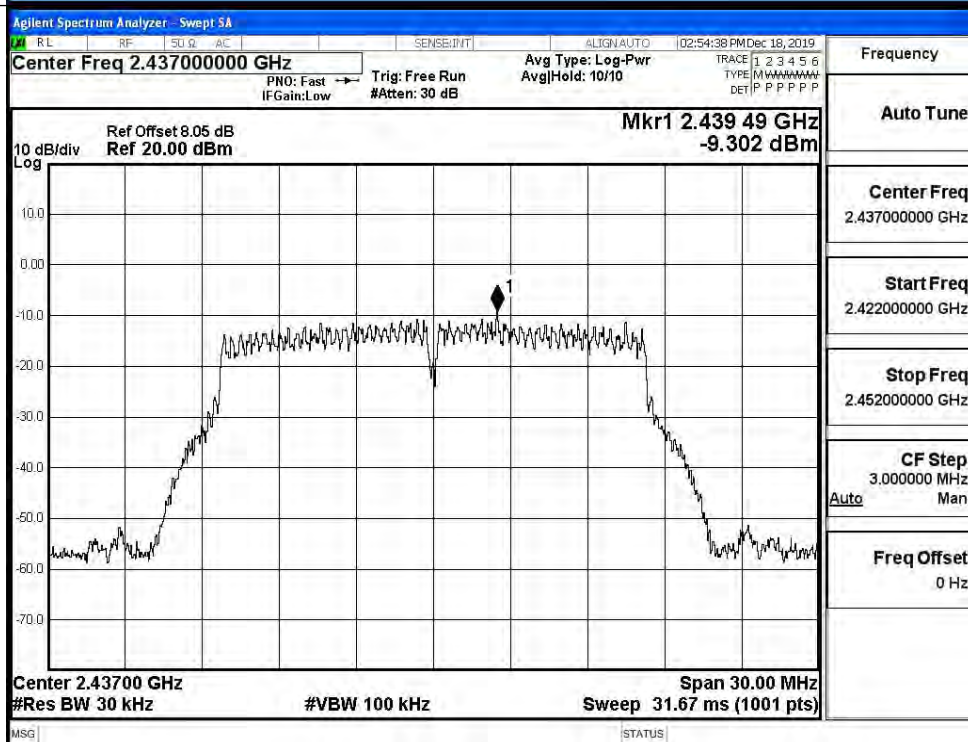
11B/HCH



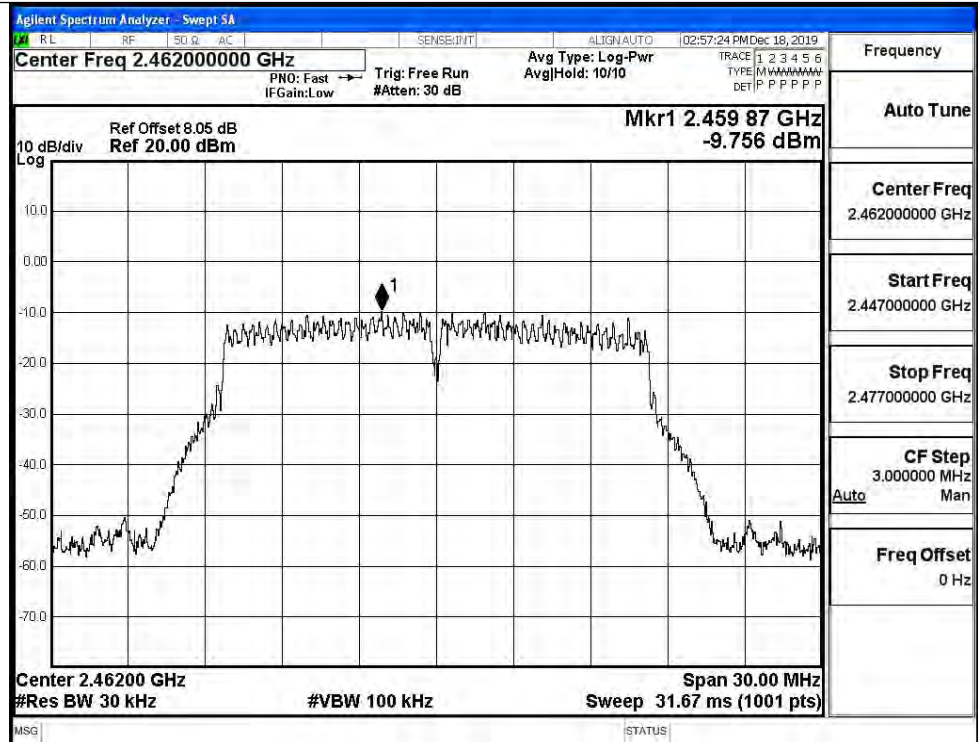
11G/LCH



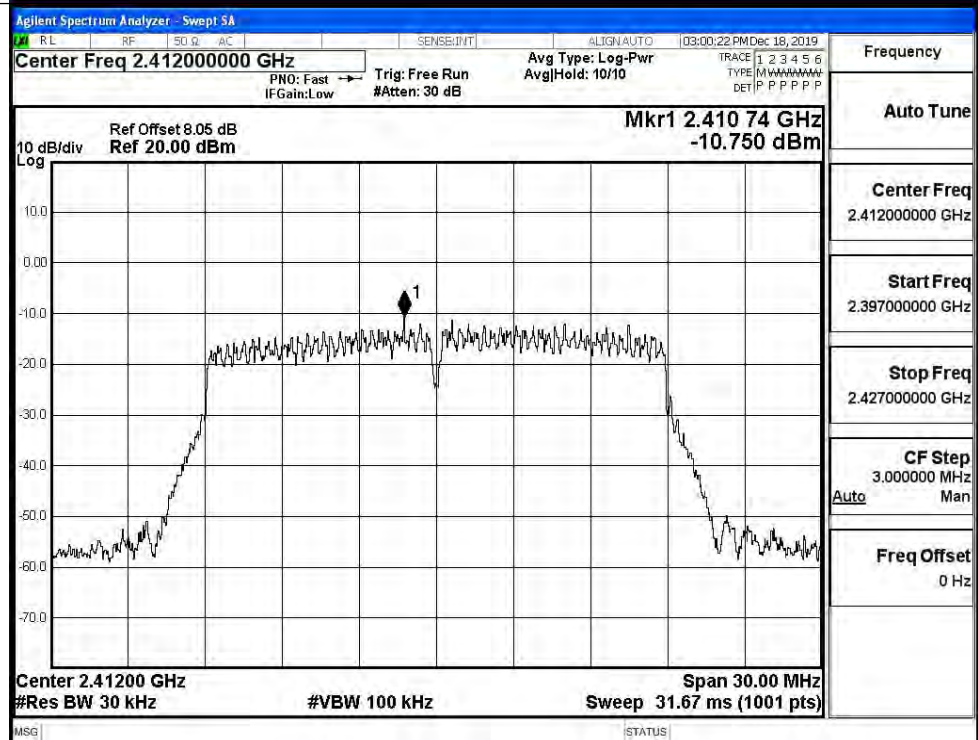
11G/MCH



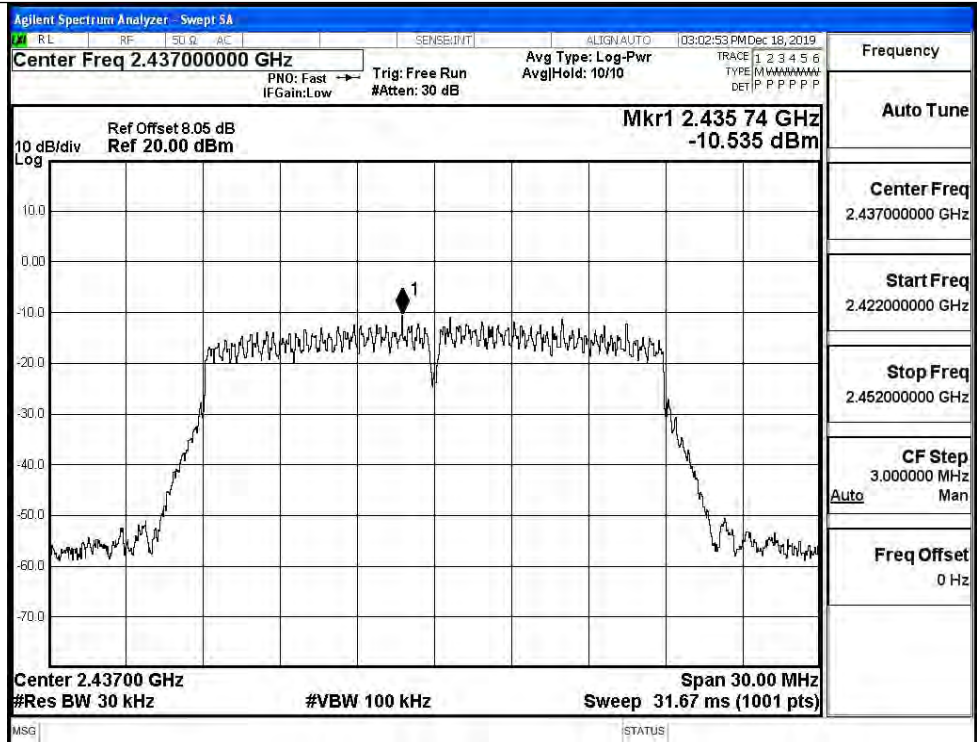
11G/HCH



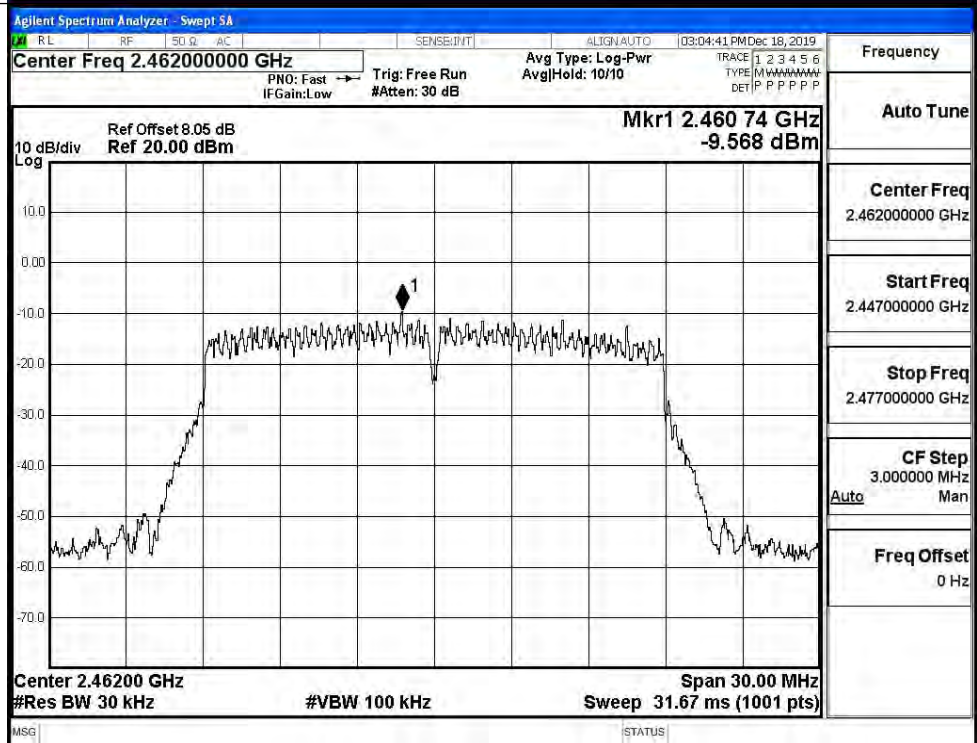
11N20SISO/LCH



11N20SISO/MCH



11N20SISO/HCH

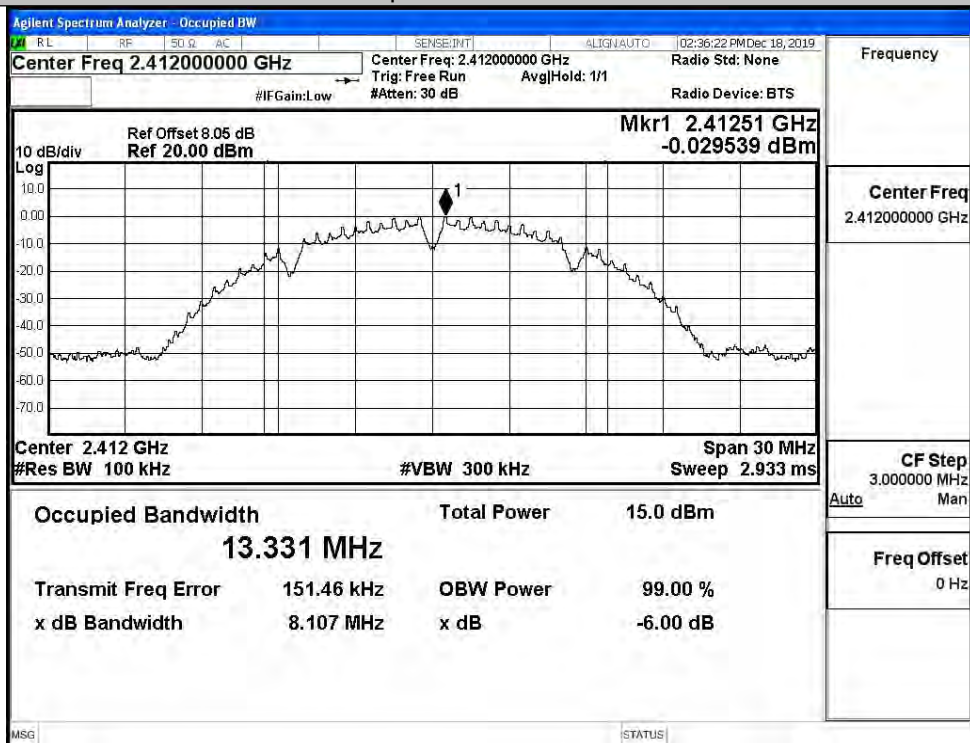


C.4 6dB Bandwidth

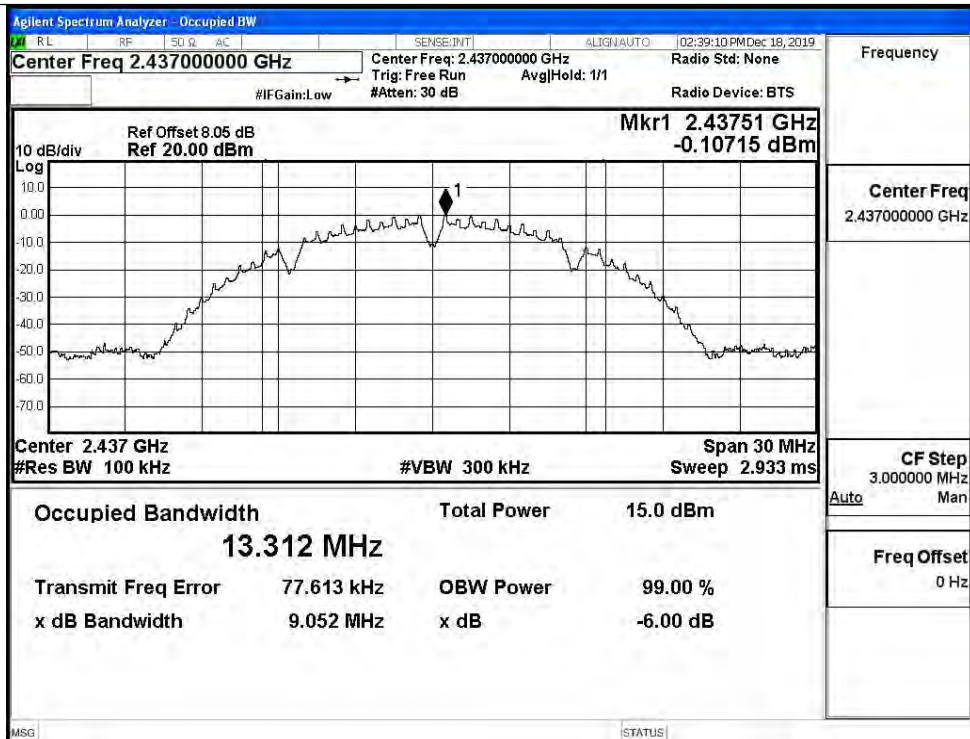
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.107	≥ 0.5	PASS
	MCH	9.052	≥ 0.5	PASS
	HCH	9.058	≥ 0.5	PASS
11G	LCH	15.50	≥ 0.5	PASS
	MCH	15.52	≥ 0.5	PASS
	HCH	15.49	≥ 0.5	PASS
11N20SISO	LCH	15.97	≥ 0.5	PASS
	MCH	15.94	≥ 0.5	PASS
	HCH	15.49	≥ 0.5	PASS

Test Graphs

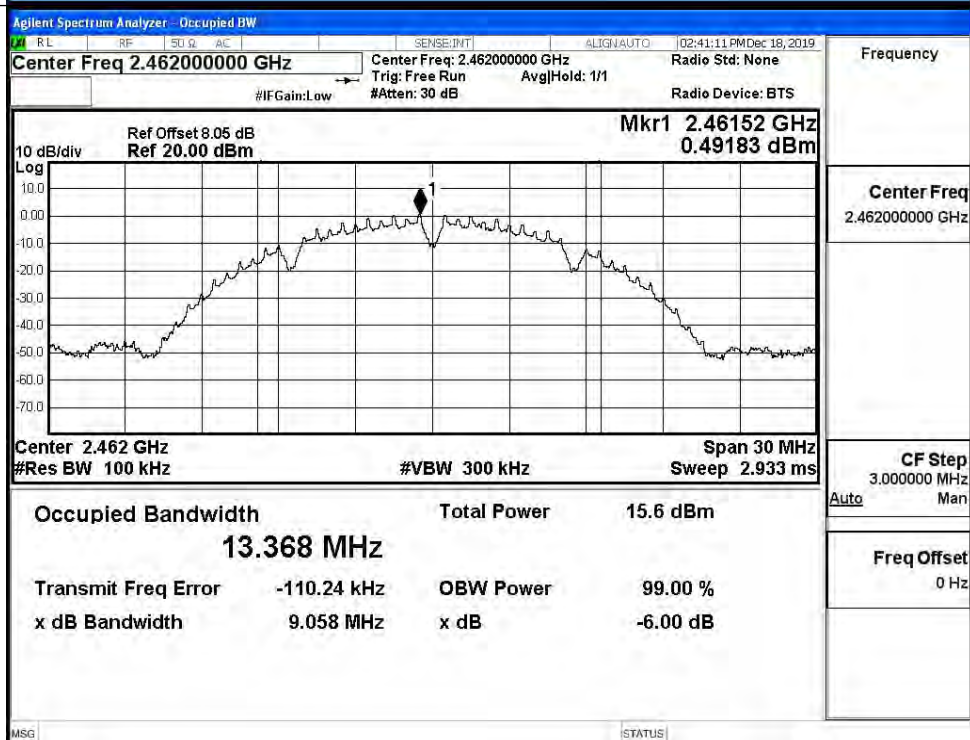
11B/LCH



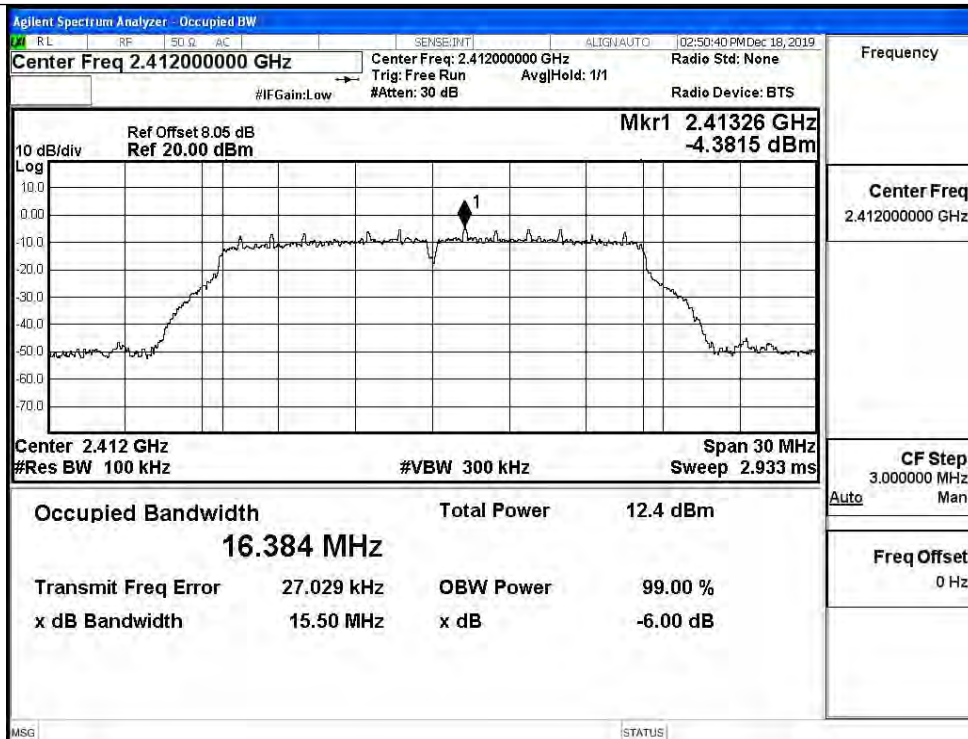
11B/MCH



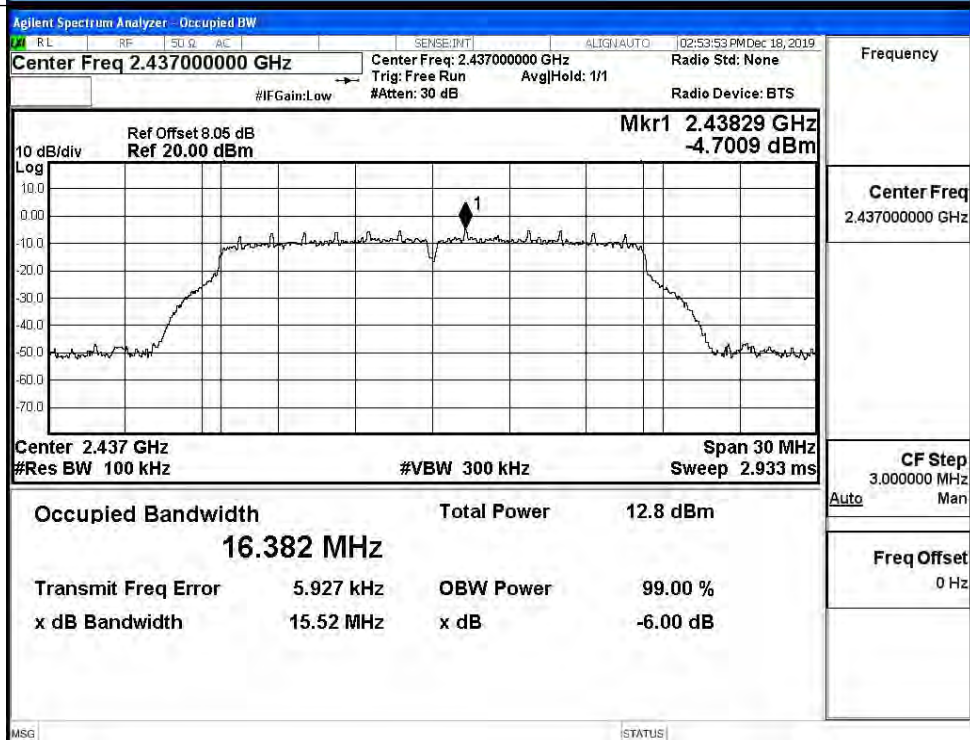
11B/HCH



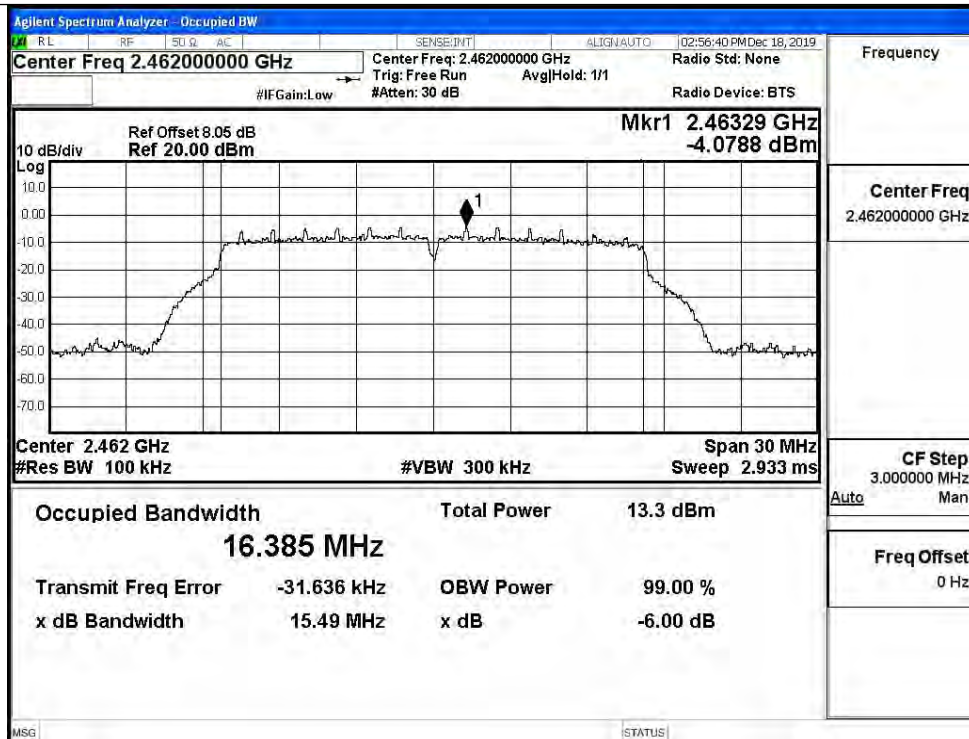
11G/LCH



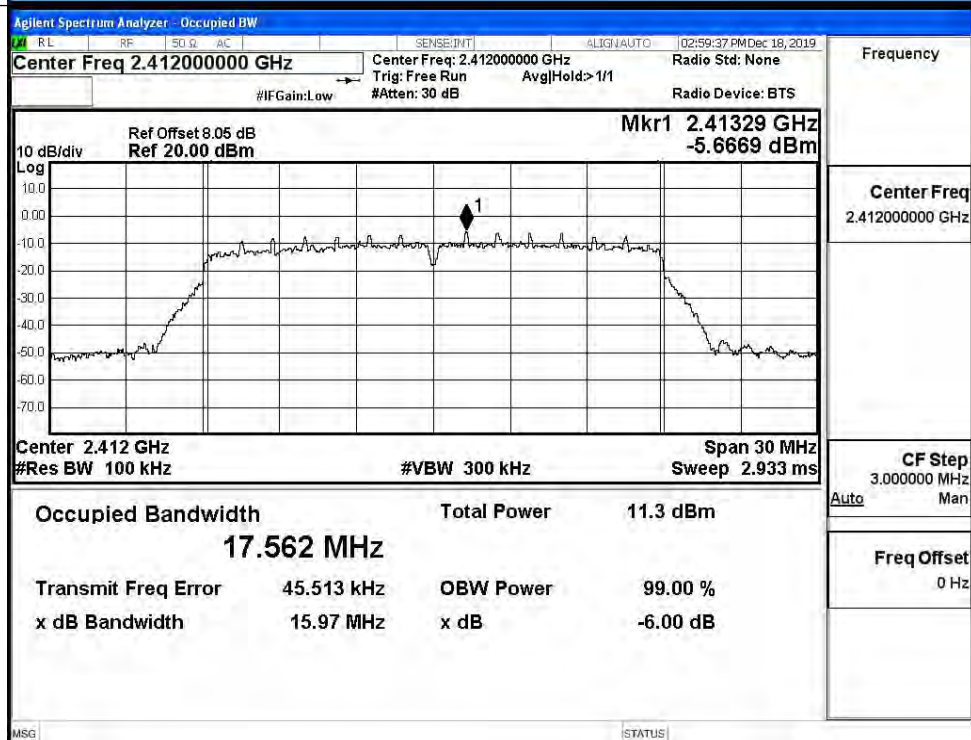
11G/MCH



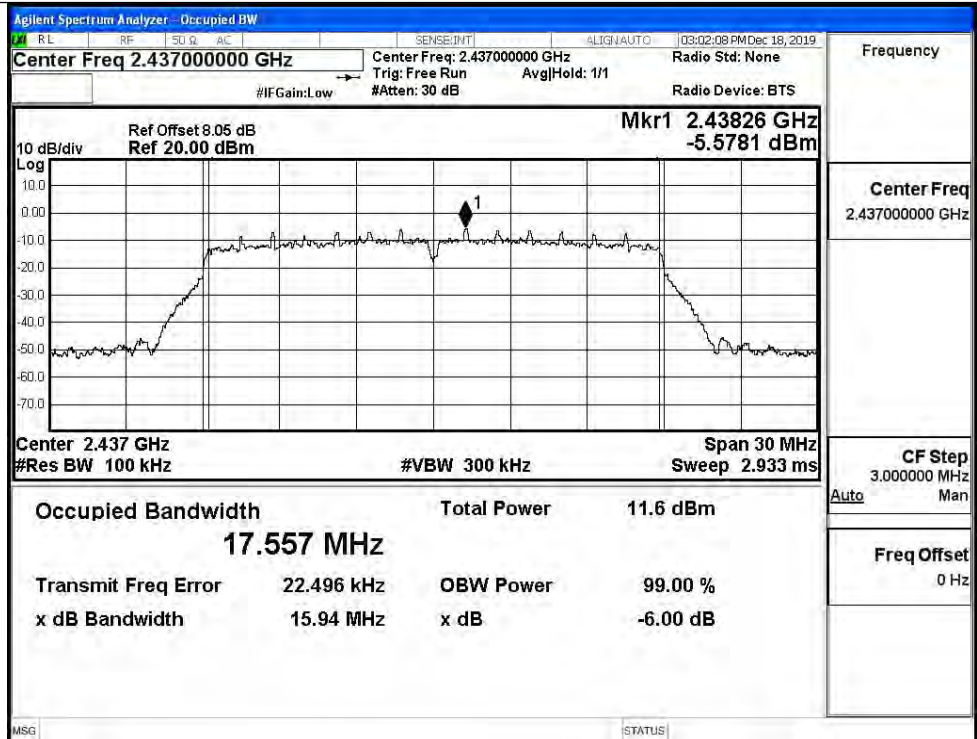
11G/HCH



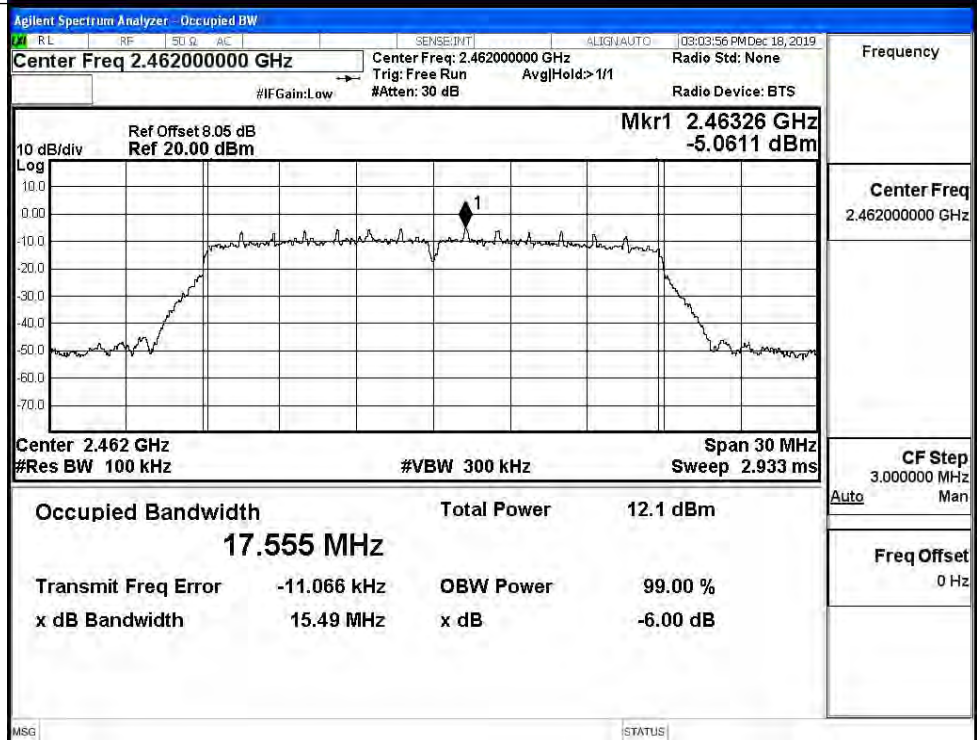
11N20SISO/LCH



11N20SISO/MCH



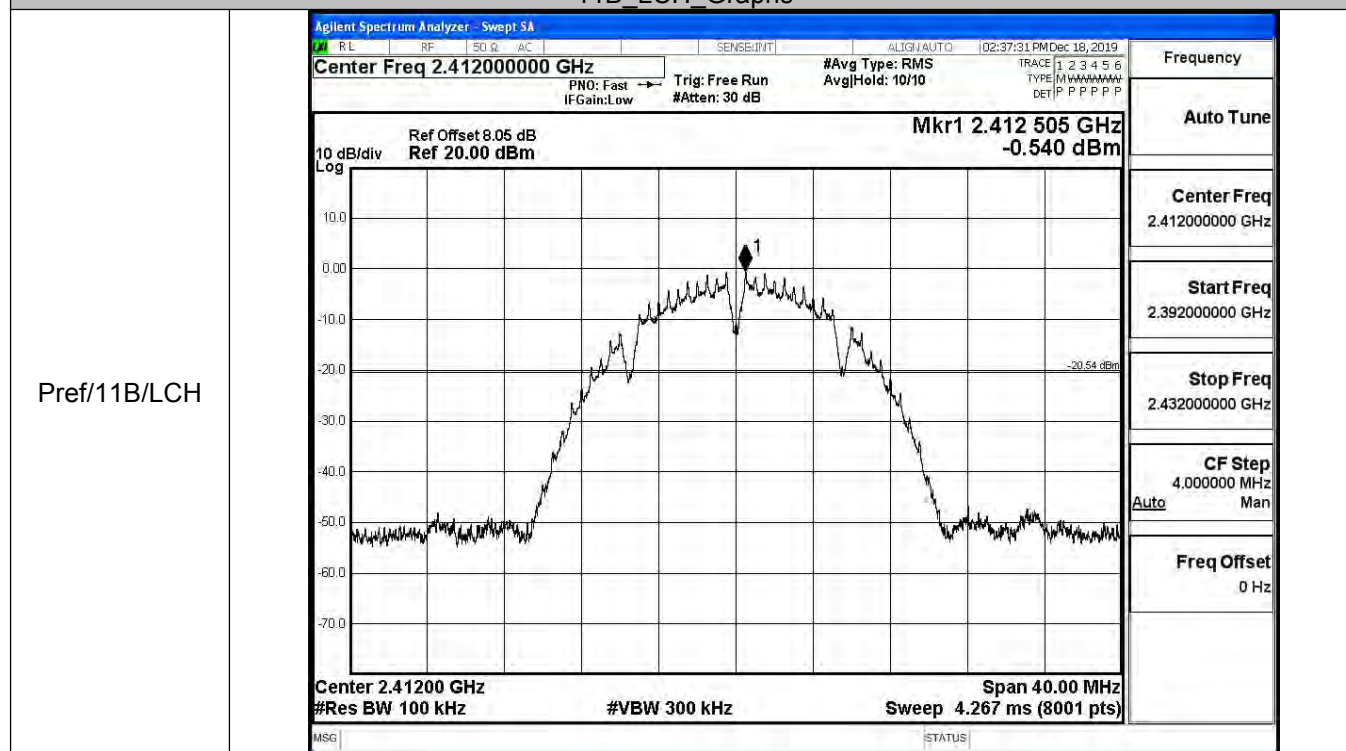
11N20SISO/HCH



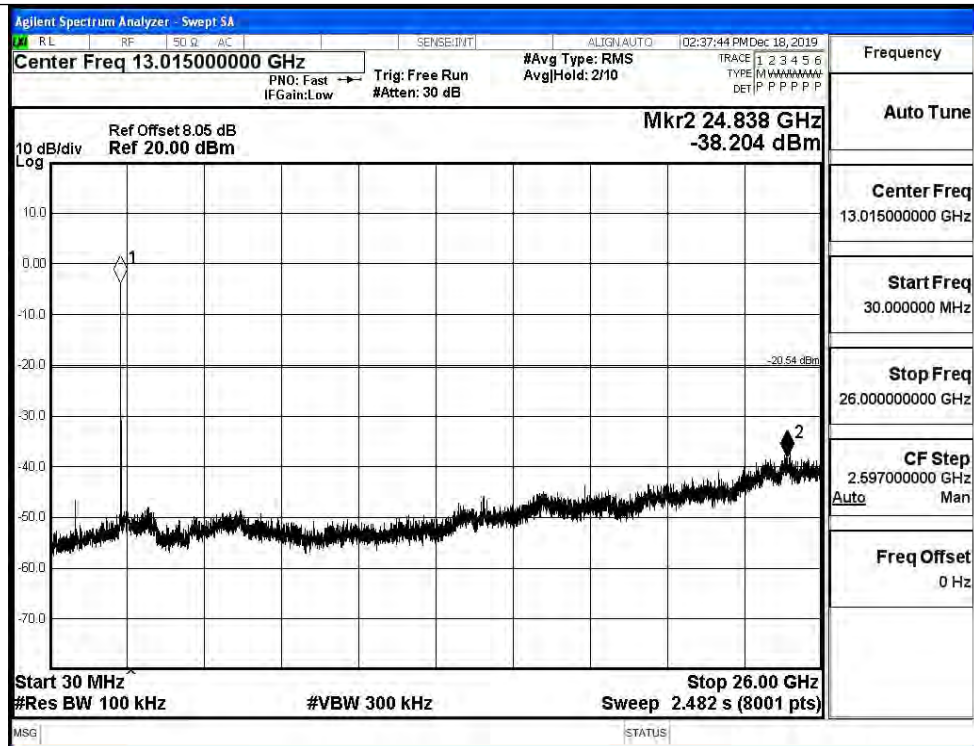
C.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-0.54	-38.204	-20.540	PASS
	MCH	0.022	-37.981	-19.978	PASS
	HCH	0.166	-37.318	-19.834	PASS
11G	LCH	-5.366	-36.814	-25.366	PASS
	MCH	-4.147	-37.313	-24.147	PASS
	HCH	-4.168	-37.174	-24.168	PASS
11N20 SISO	LCH	-5.545	-35.923	-25.545	PASS
	MCH	-5.536	-37.830	-25.536	PASS
	HCH	-5.016	-37.570	-25.016	PASS

11B_LCH_Graphs

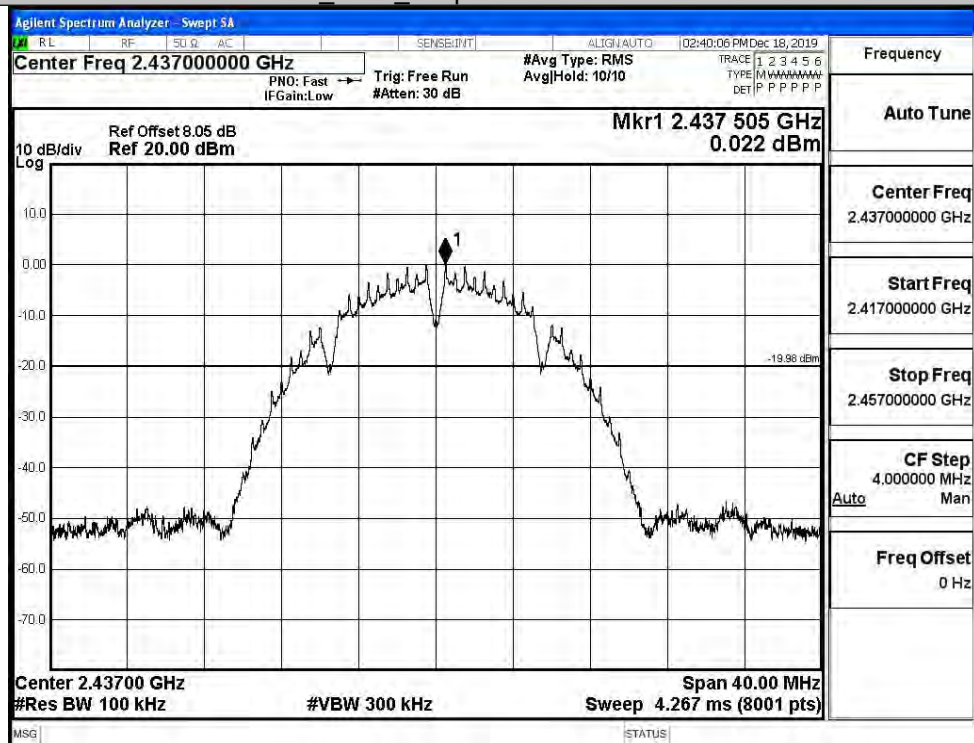


Puw/11B/LCH

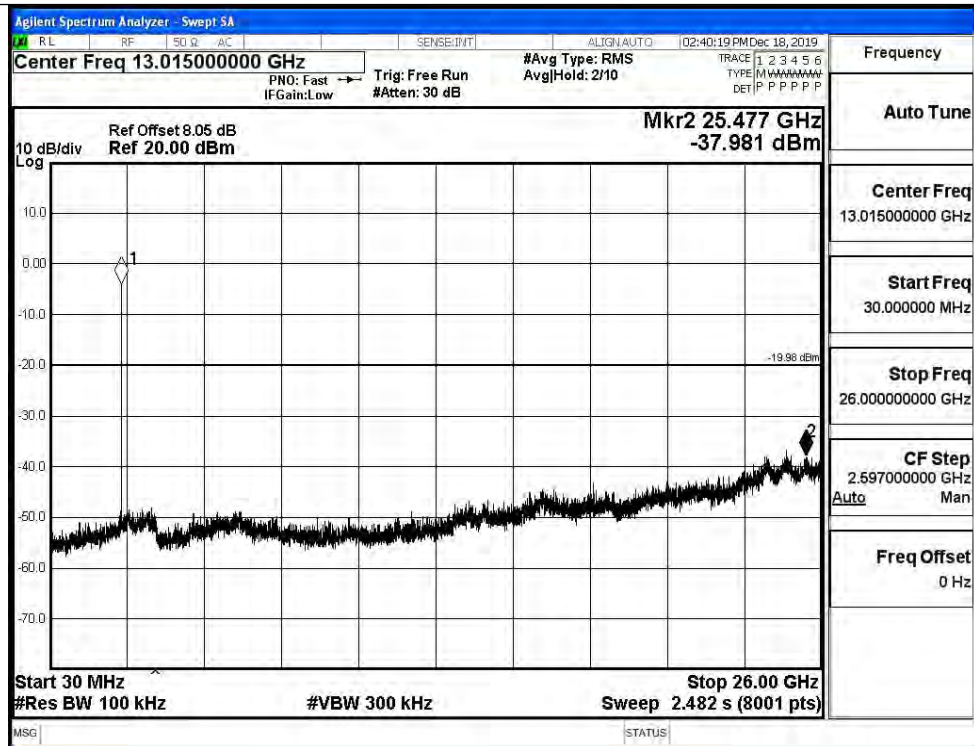


11B_MCH_Graphs

Pref/11B/MCH

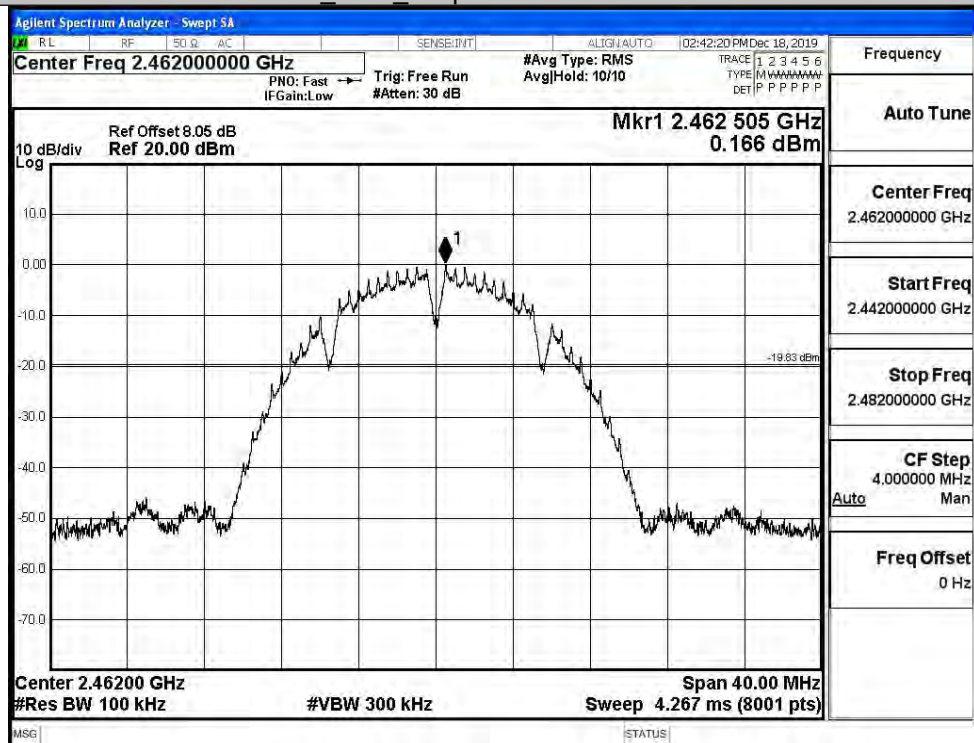


Puw/11B/MCH

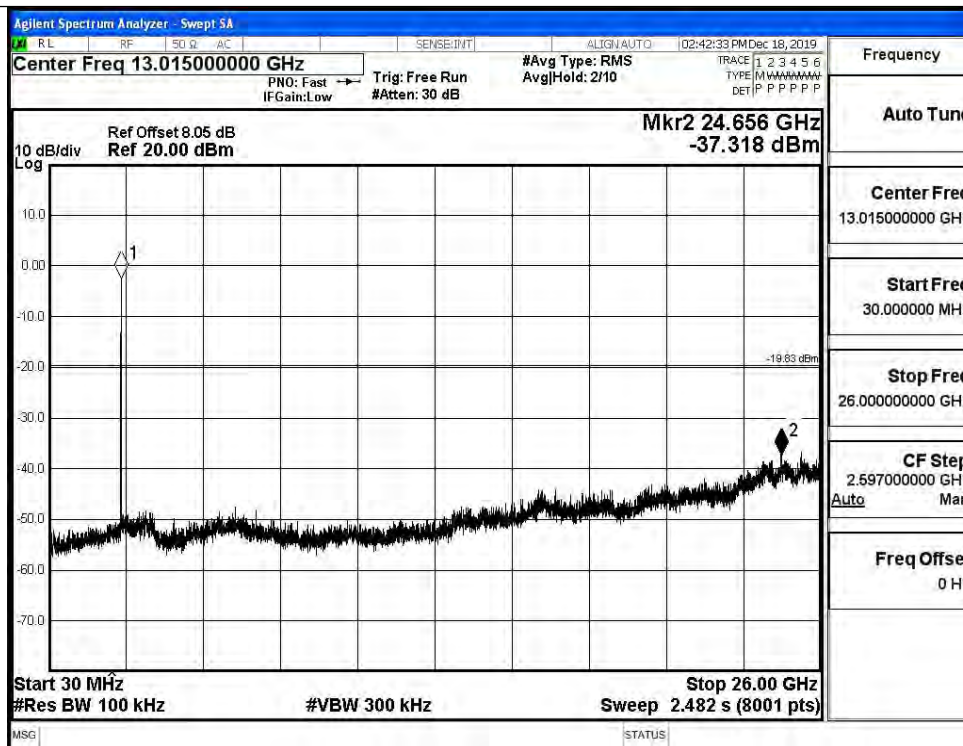


11B_HCH_Graphs

Pref/11B/HCH

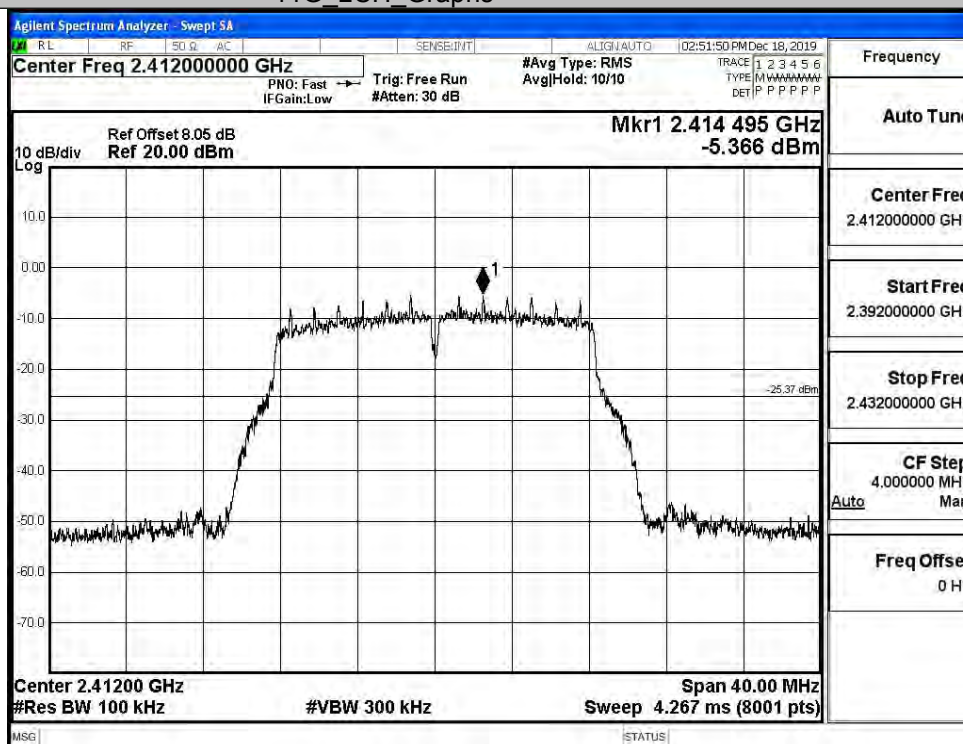


Puw/11B/HCH

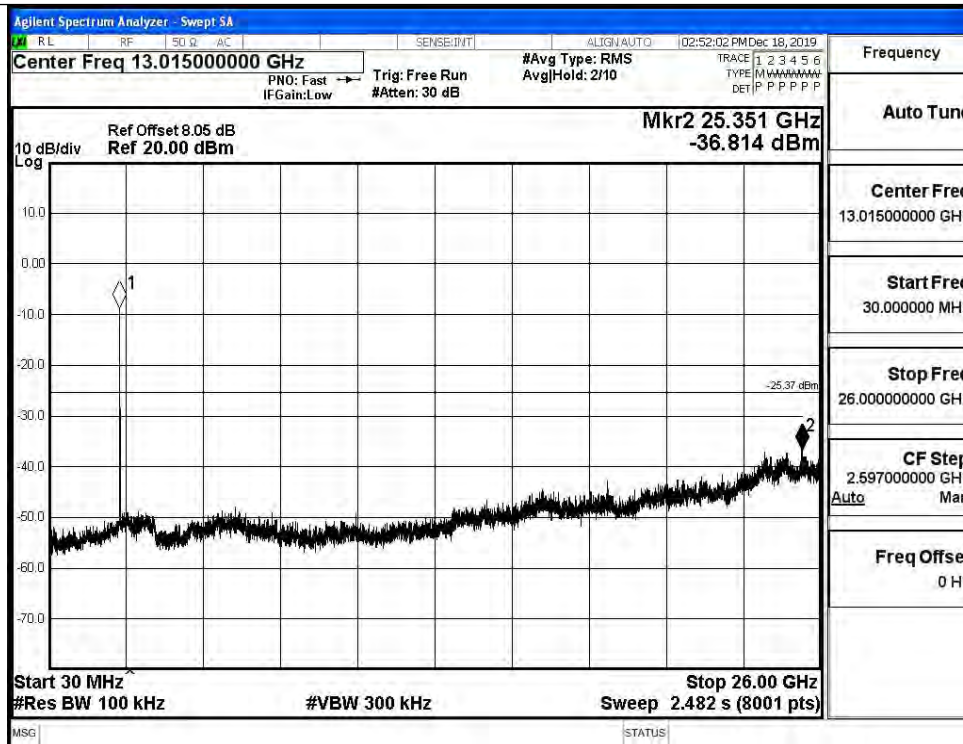


11G_LCH_Graphs

Pref/11G/LCH

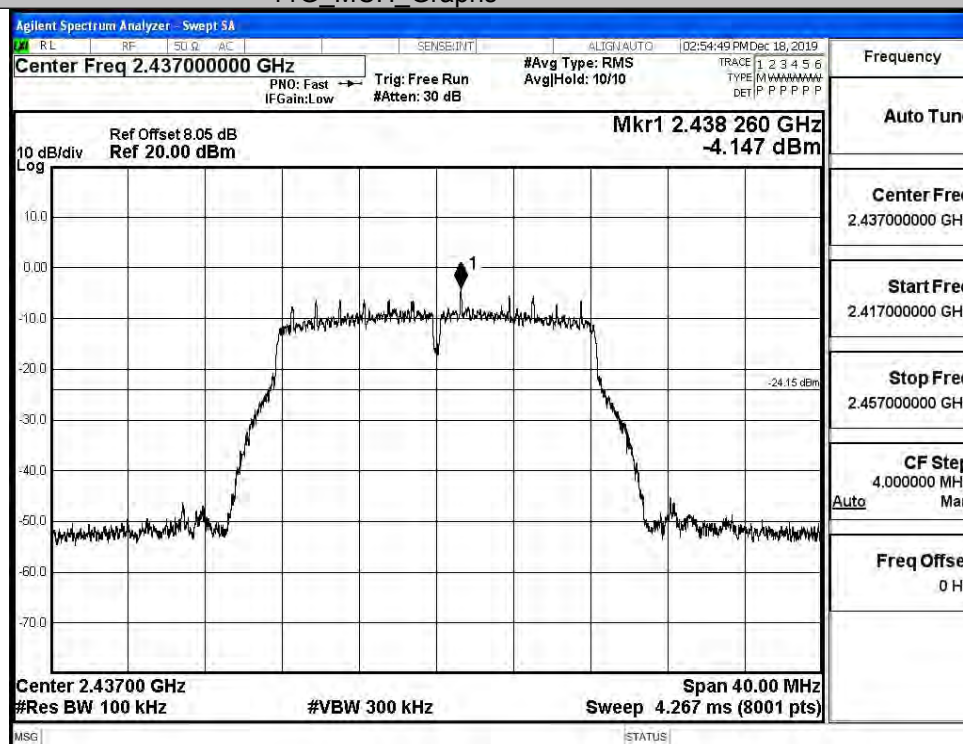


Puw/11G/LCH

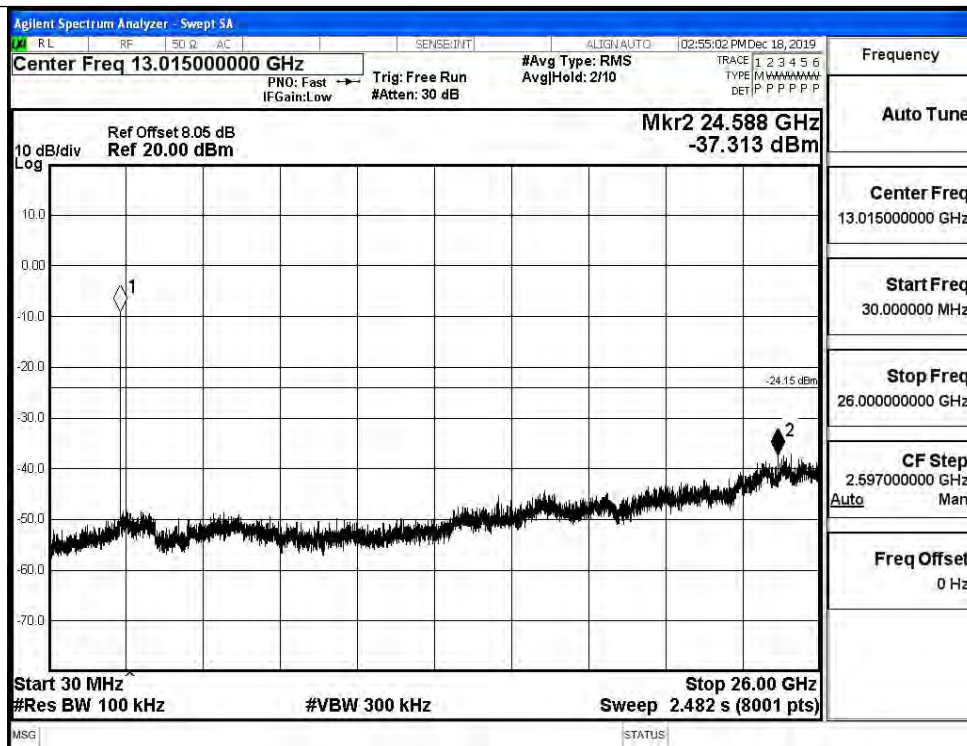


11G_MCH_Graphs

Pref/11G/MCH

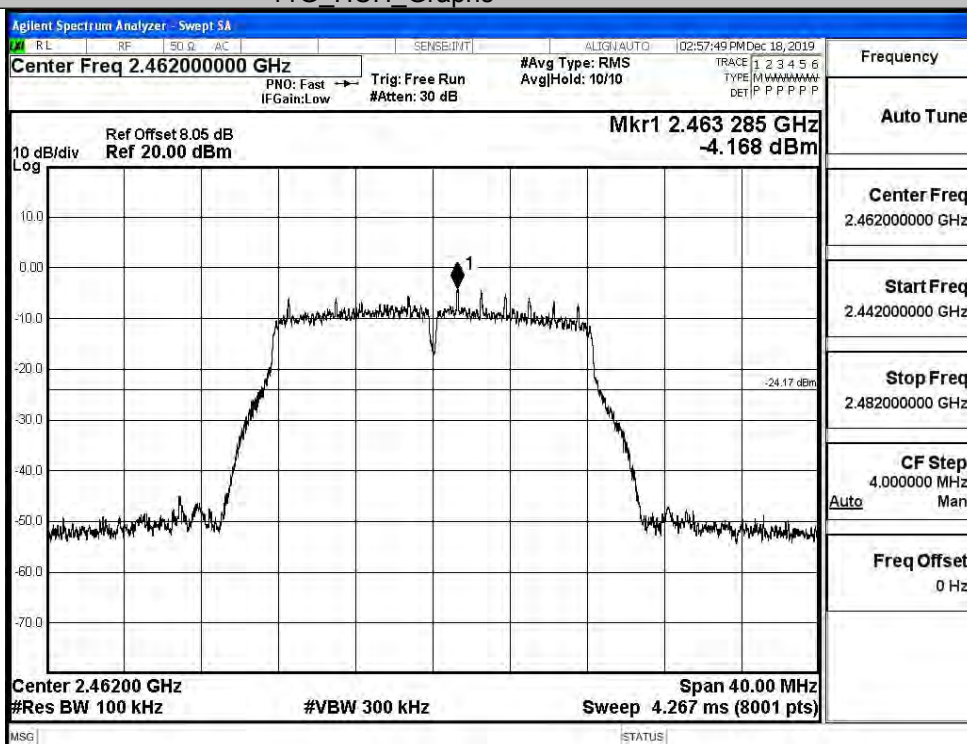


Puw/11G/MCH

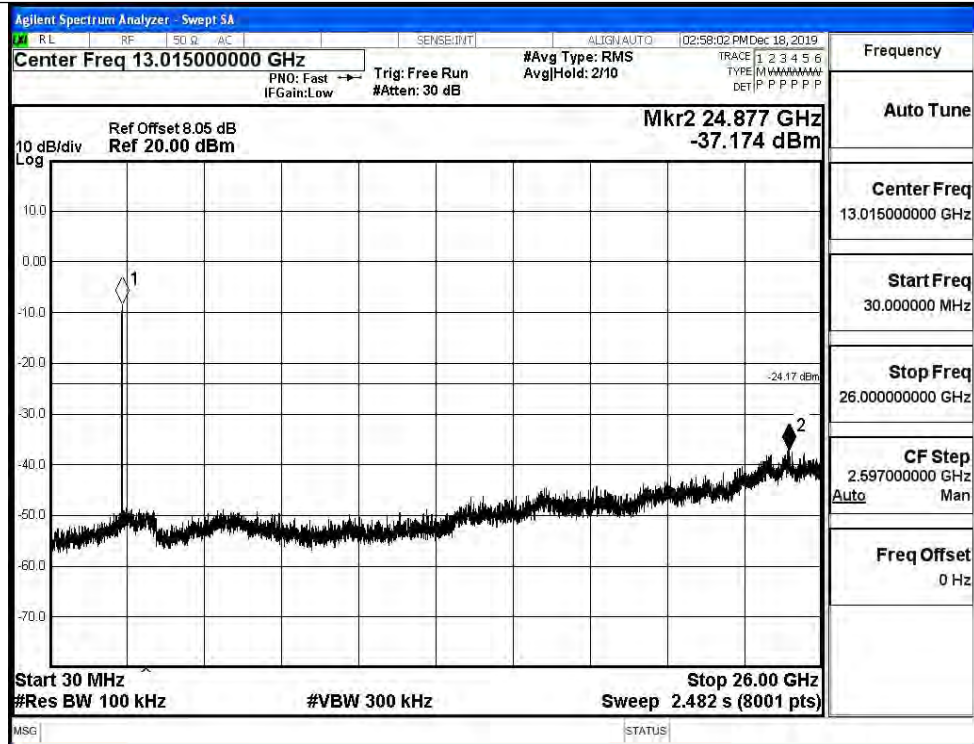


11G_HCH_Graphs

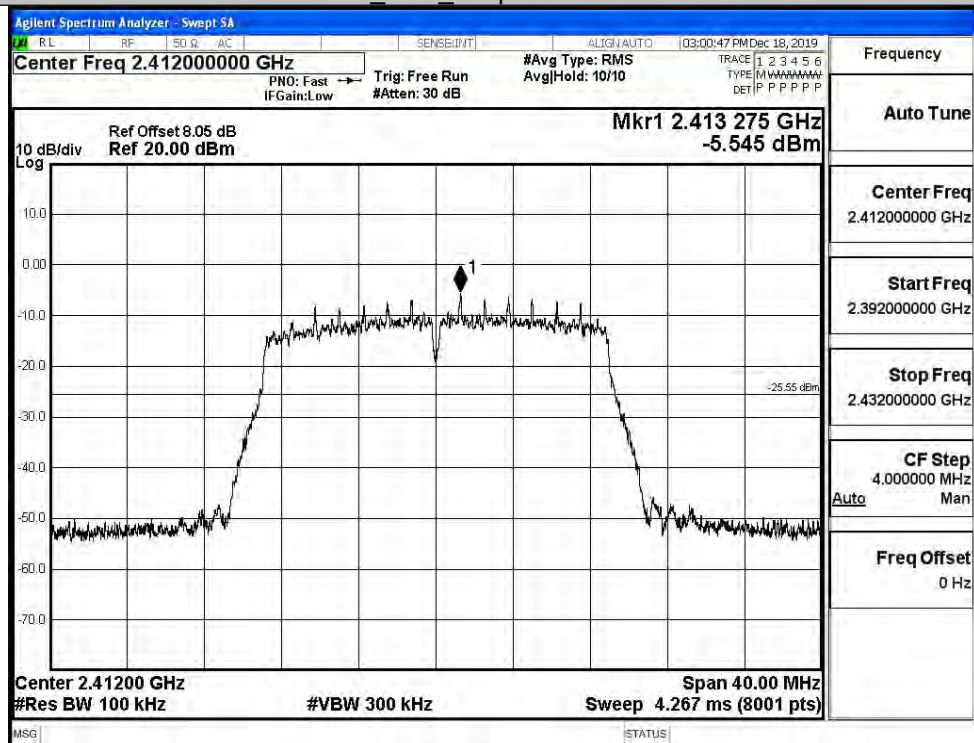
Pref/11G/HCH



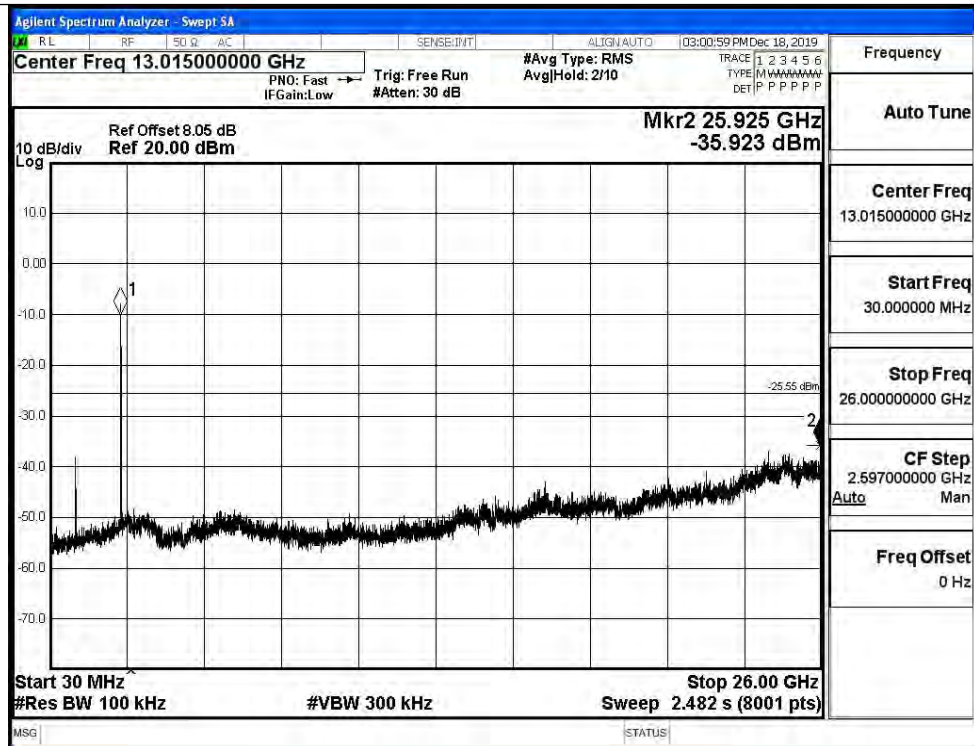
Puw/11G/HCH



11N20SISO_LCH_Graphs

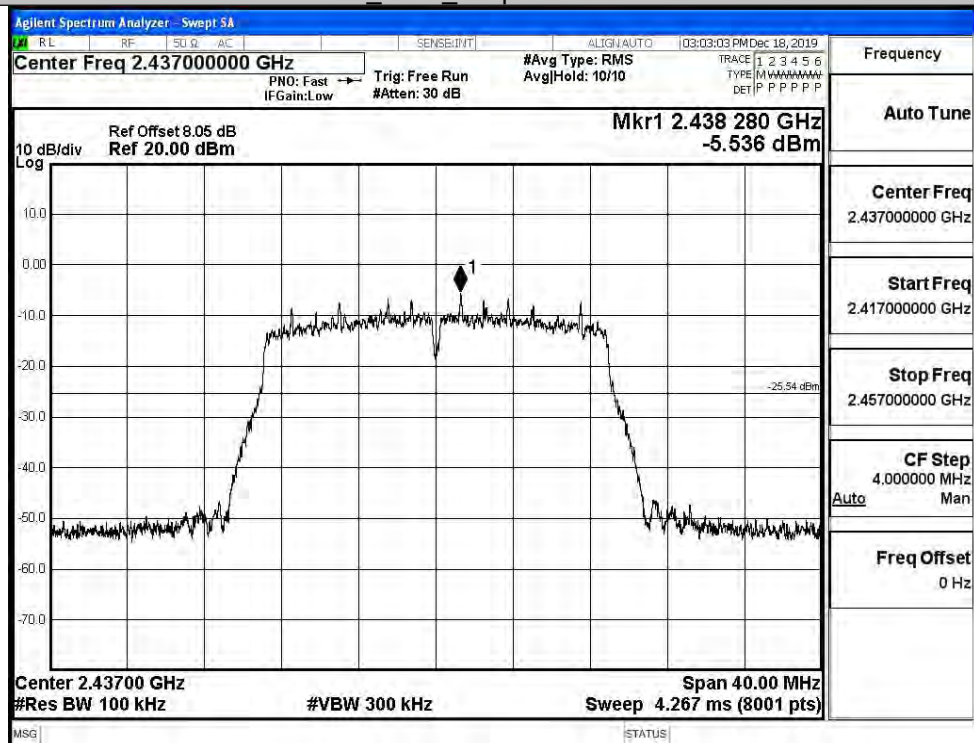
Pref/11N20SIS
O/LCH

Puw/11N20
SISO/LCH

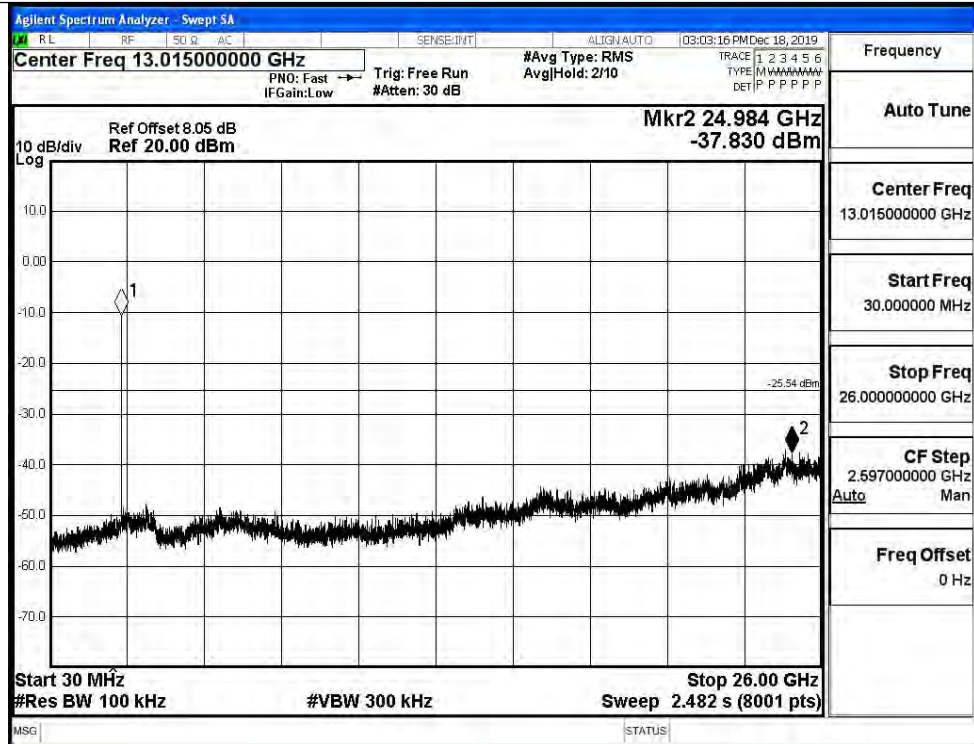


11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCH

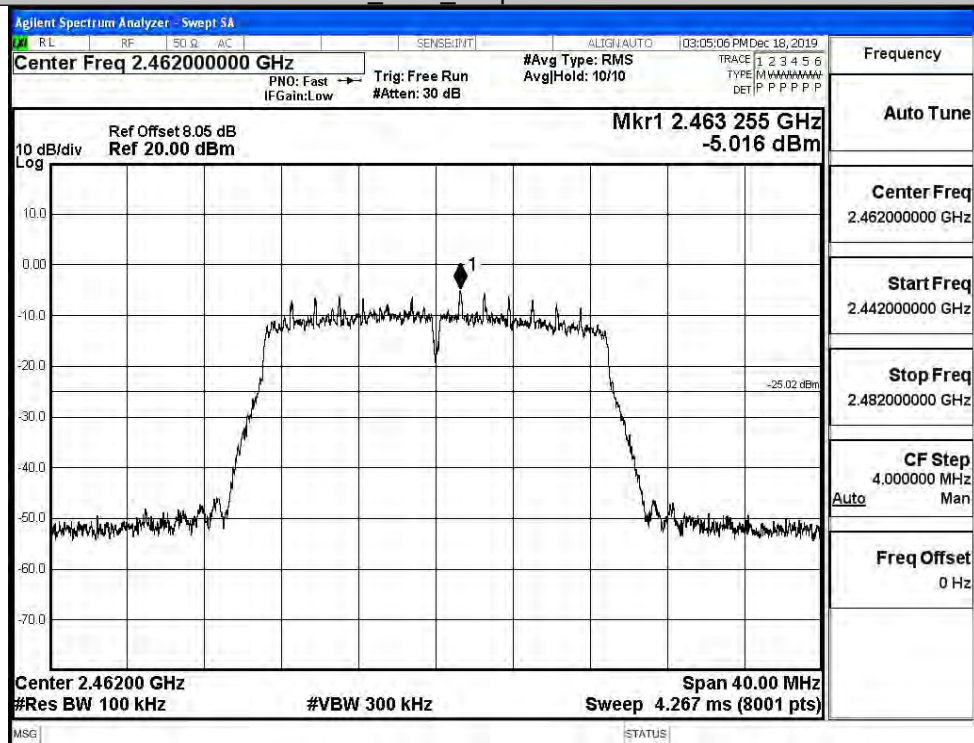


Puw/11N20
SISO/MCH

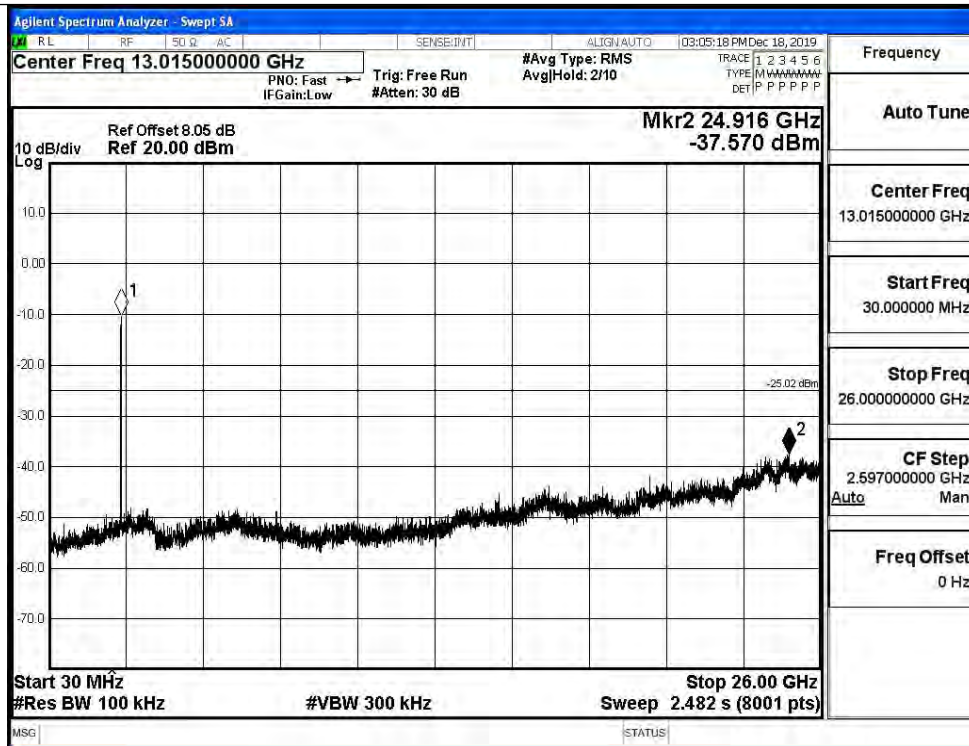


11N20SISO_HCH_Graphs

Pref/11N20
SISO/HCH



Puw/11N20
SISO/HCH

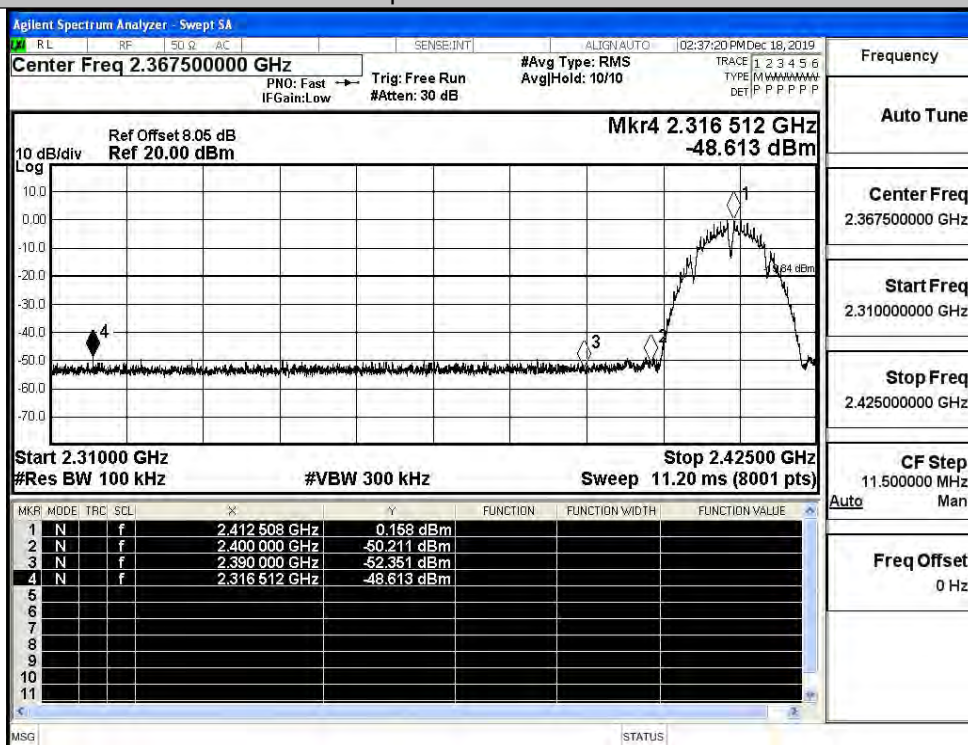


C.6 Band-edge for RF Conducted Emissions

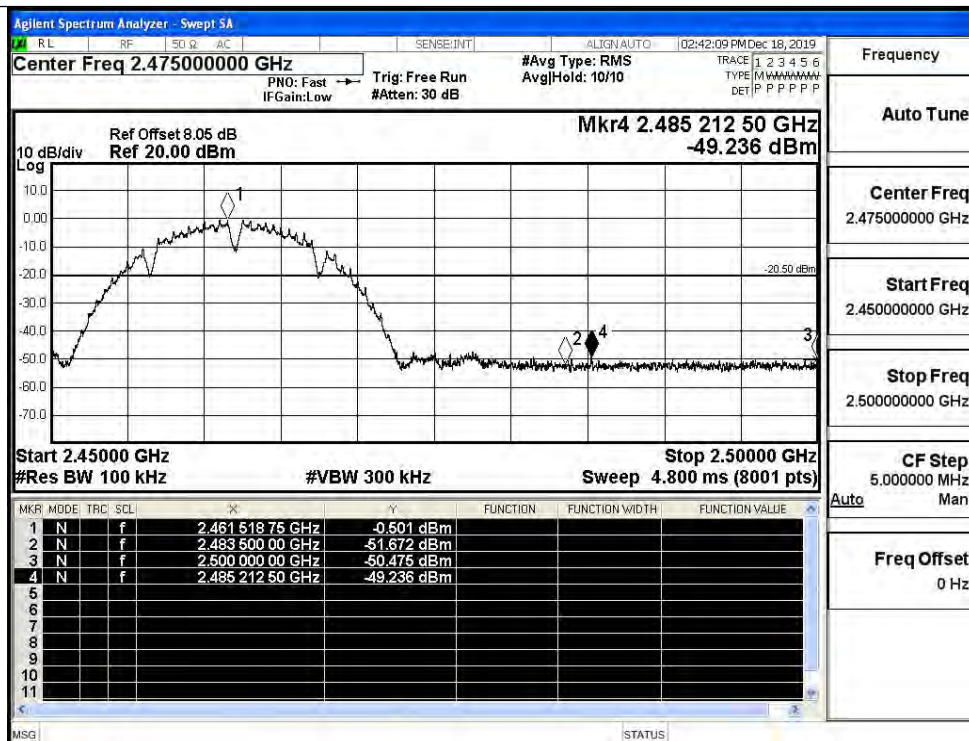
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	0.158	-48.613	-19.84	PASS
	HCH	-0.501	-49.236	-20.5	PASS
11G	LCH	-5.479	-50.028	-25.48	PASS
	HCH	-4.394	-49.676	-24.39	PASS
11N20SISO	LCH	-6.882	-49.359	-26.88	PASS
	HCH	-4.935	-49.635	-24.94	PASS

Test Graphs

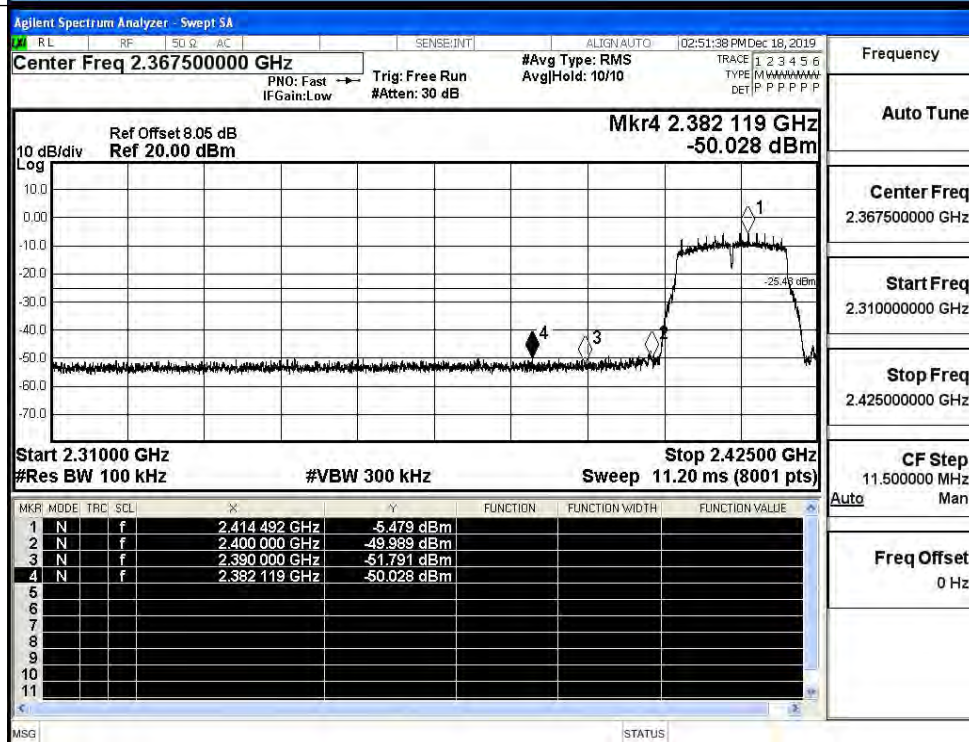
11B/LCH



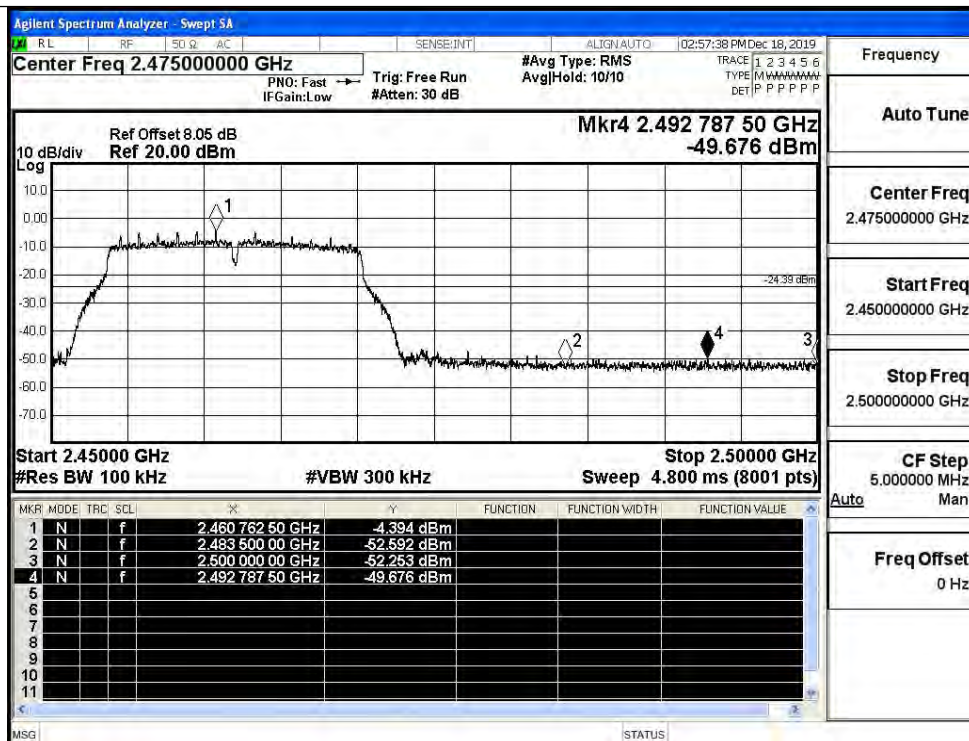
11B/HCH



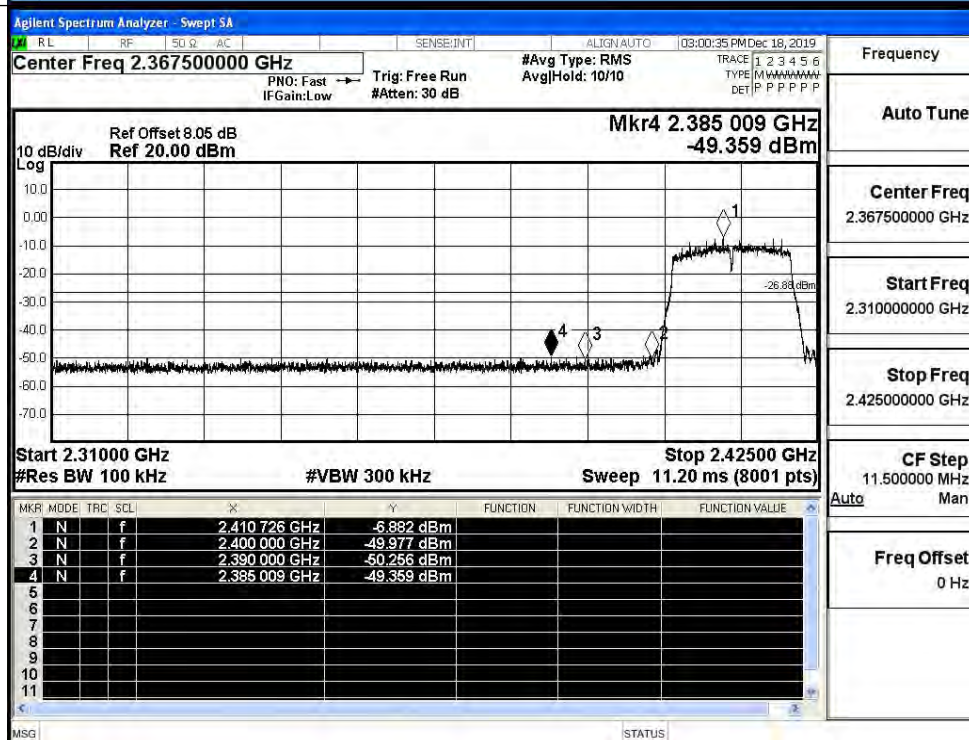
11G/LCH



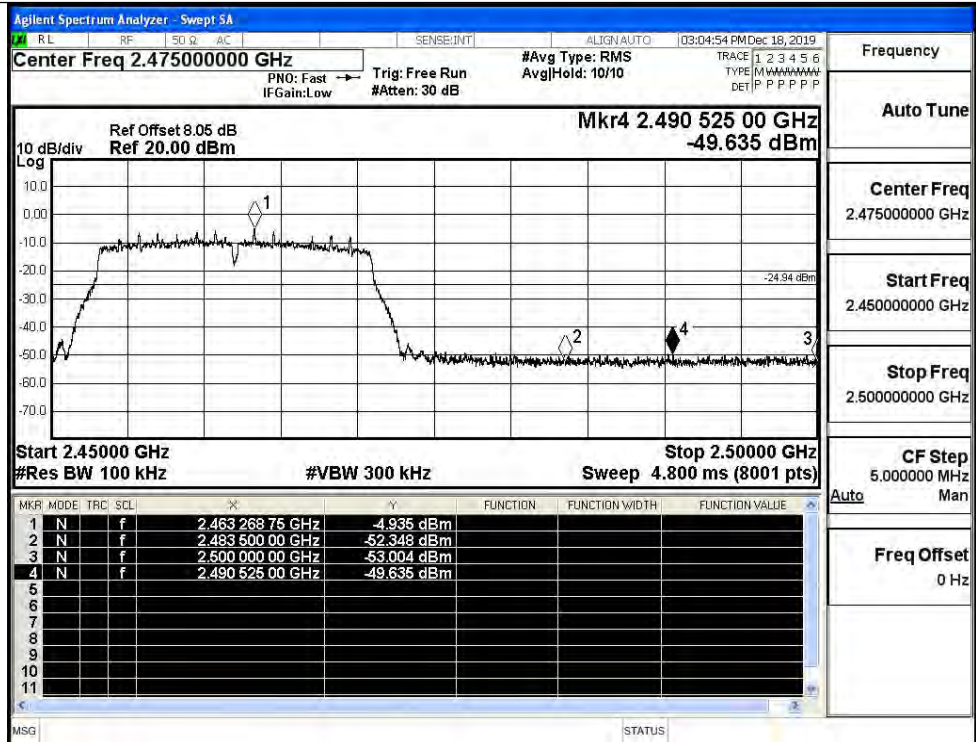
11G/HCH



11N20SISO/LCH



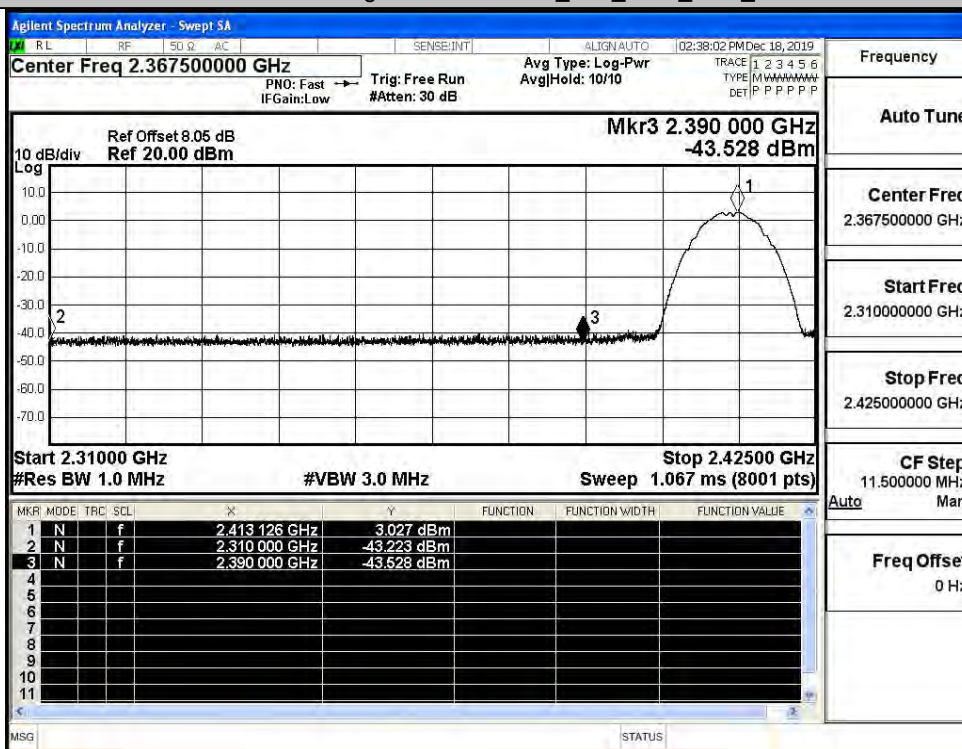
11N20SISO/HCH



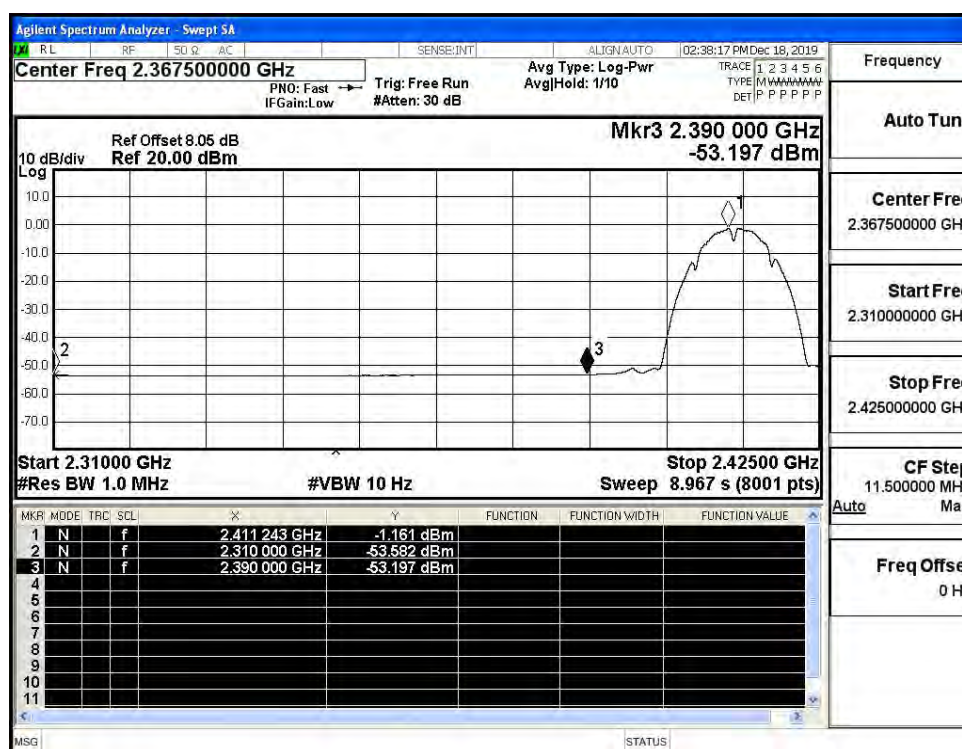
C.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-43.22	2.5	0	49.51	PEAK	74	PASS
	2412	Ant1	2310.0	-53.58	2.5	0	39.15	AV	54	PASS
	2412	Ant1	2390.0	-43.53	2.5	0	49.2	PEAK	74	PASS
	2412	Ant1	2390.0	-53.20	2.5	0	39.53	AV	54	PASS
	2462	Ant1	2483.5	-42.29	2.5	0	50.44	PEAK	74	PASS
	2462	Ant1	2483.5	-52.82	2.5	0	39.91	AV	54	PASS
	2462	Ant1	2500.0	-41.35	2.5	0	51.38	PEAK	74	PASS
	2462	Ant1	2500.0	-52.56	2.5	0	40.17	AV	54	PASS
11G	2412	Ant1	2310.0	-42.57	2.5	0	50.16	PEAK	74	PASS
	2412	Ant1	2310.0	-53.58	2.5	0	39.15	AV	54	PASS
	2412	Ant1	2390.0	-43.31	2.5	0	49.42	PEAK	74	PASS
	2412	Ant1	2390.0	-53.11	2.5	0	39.62	AV	54	PASS
	2462	Ant1	2483.5	-41.93	2.5	0	50.8	PEAK	74	PASS
	2462	Ant1	2483.5	-52.60	2.5	0	40.13	AV	54	PASS
	2462	Ant1	2500.0	-42.53	2.5	0	50.2	PEAK	74	PASS
	2462	Ant1	2500.0	-52.54	2.5	0	40.19	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.77	2.5	0	48.96	PEAK	74	PASS
	2412	Ant1	2310.0	-53.64	2.5	0	39.09	AV	54	PASS
	2412	Ant1	2390.0	-40.65	2.5	0	52.08	PEAK	74	PASS
	2412	Ant1	2390.0	-53.11	2.5	0	39.62	AV	54	PASS
	2462	Ant1	2483.5	-42.26	2.5	0	50.47	PEAK	74	PASS
	2462	Ant1	2483.5	-52.67	2.5	0	40.06	AV	54	PASS
	2462	Ant1	2500.0	-42.68	2.5	0	50.05	PEAK	74	PASS
	2462	Ant1	2500.0	-52.53	2.5	0	40.20	AV	54	PASS

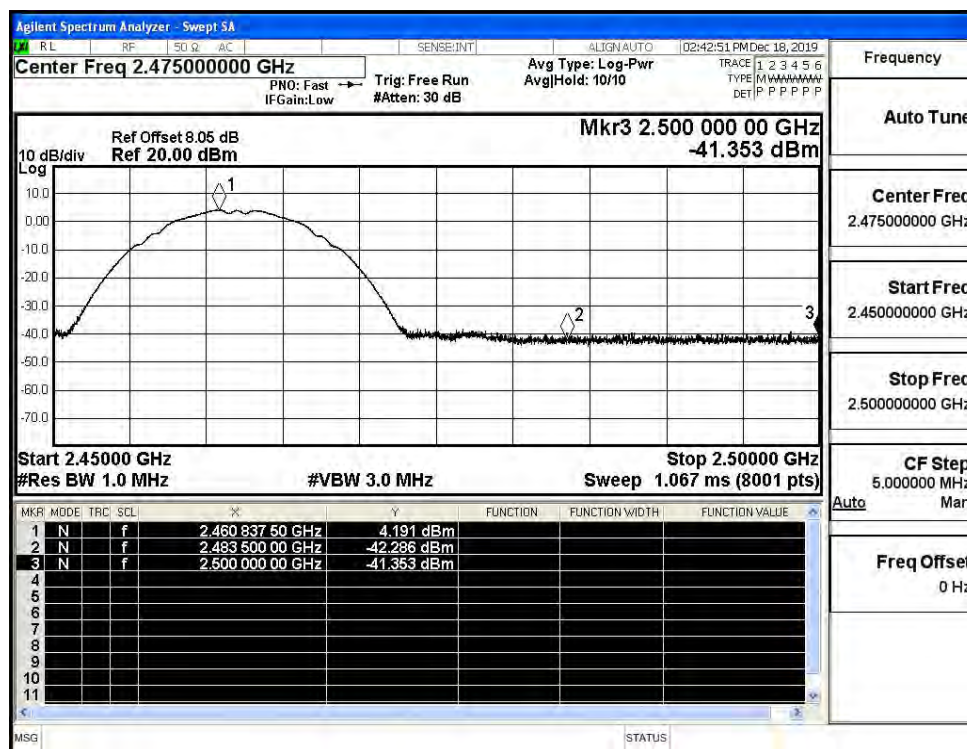
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



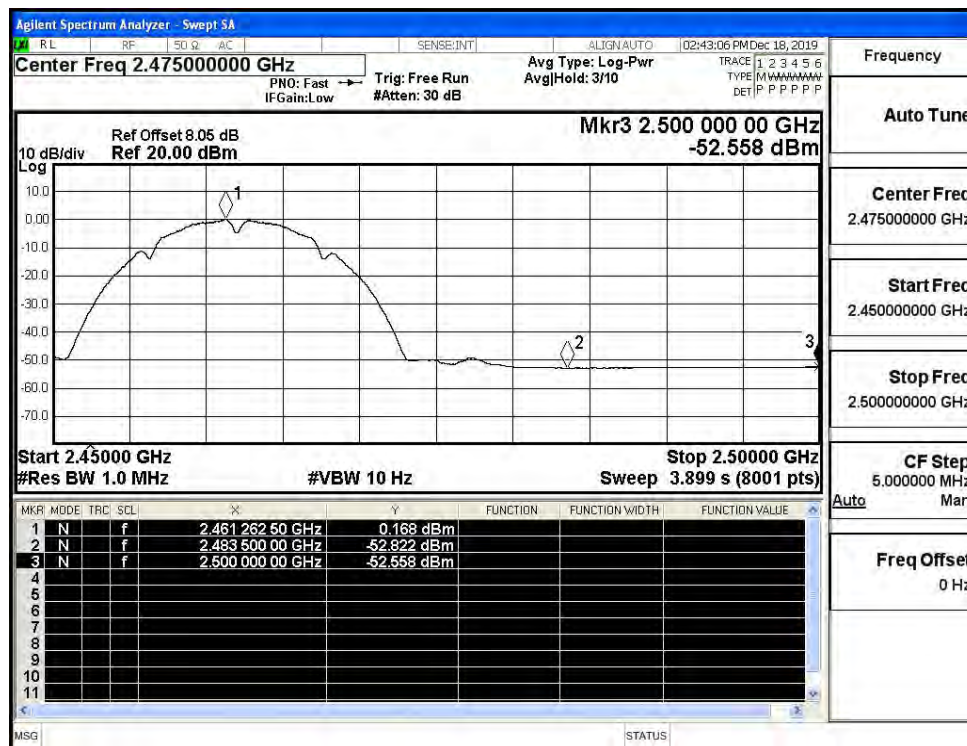
Restrict-band band-edge measurements_11B_2412_Ant1_AV



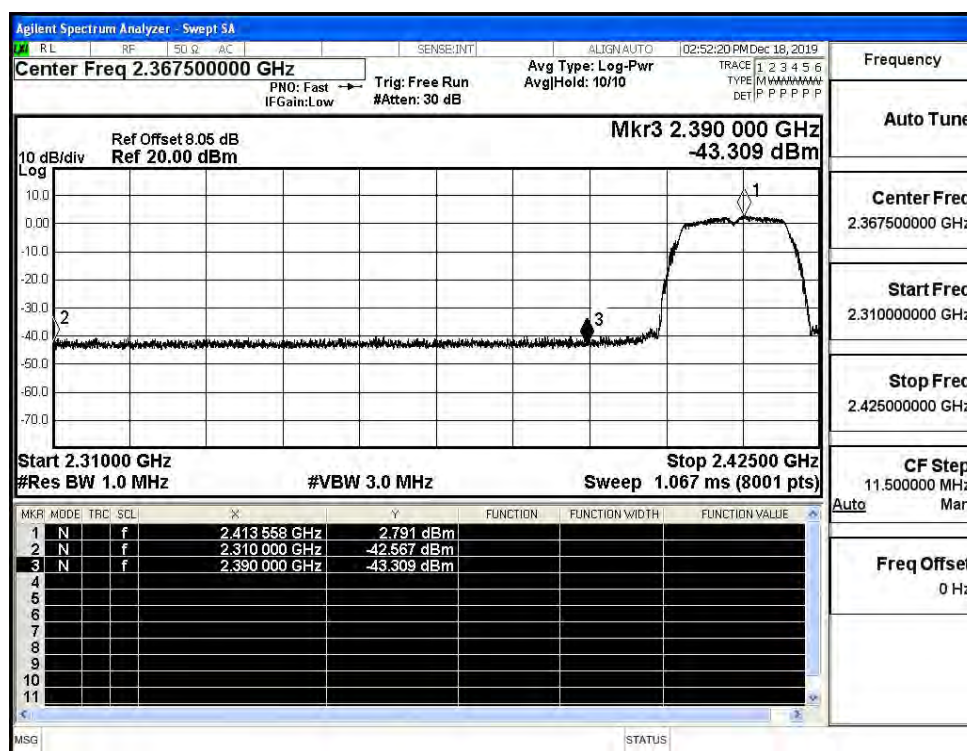
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



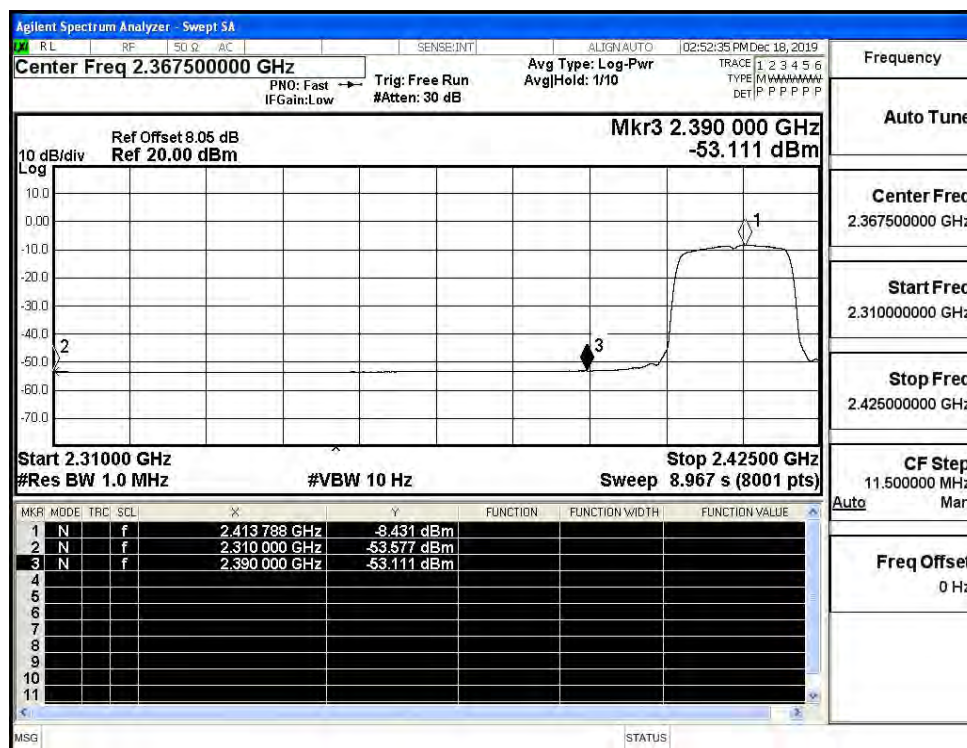
Restrict-band band-edge measurements_11B_2462_Ant1_AV



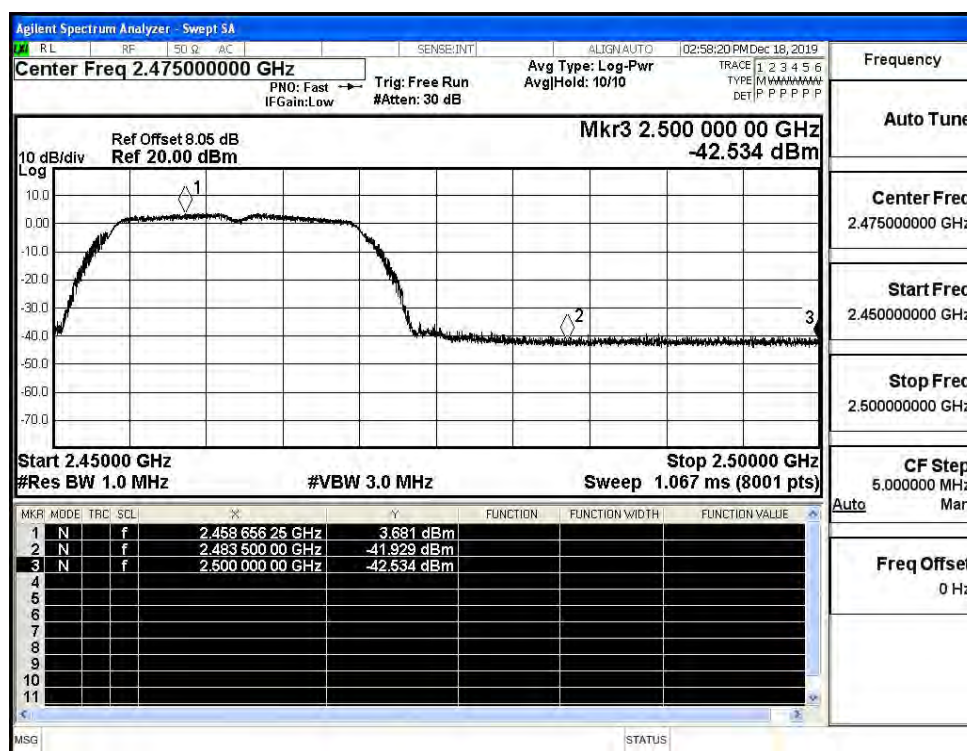
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



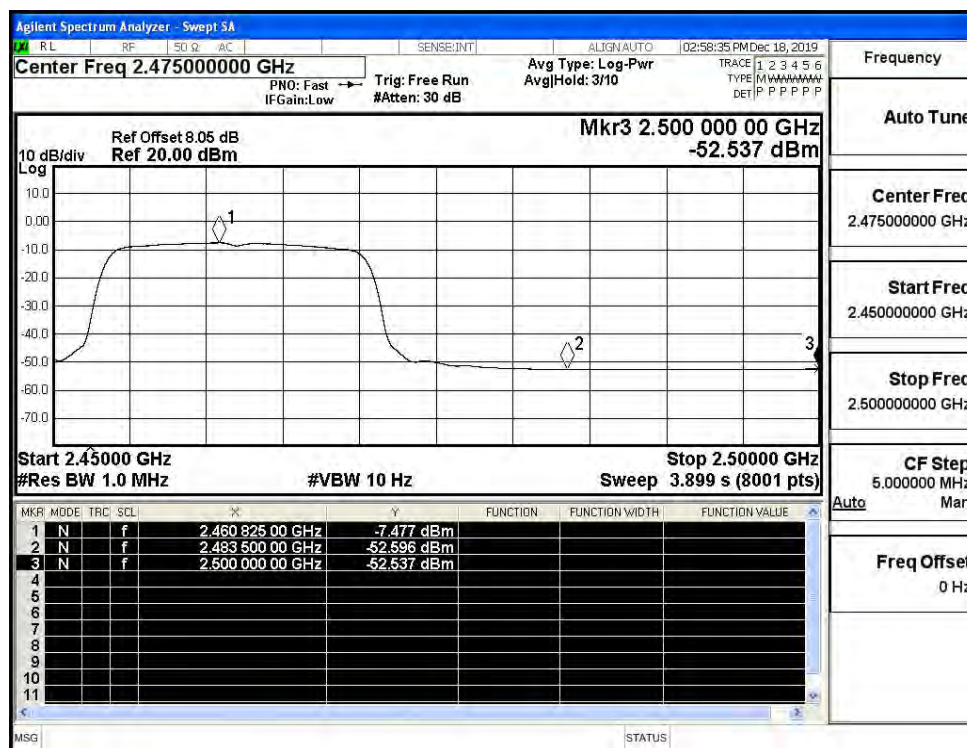
Restrict-band band-edge measurements_11G_2412_Ant1_AV



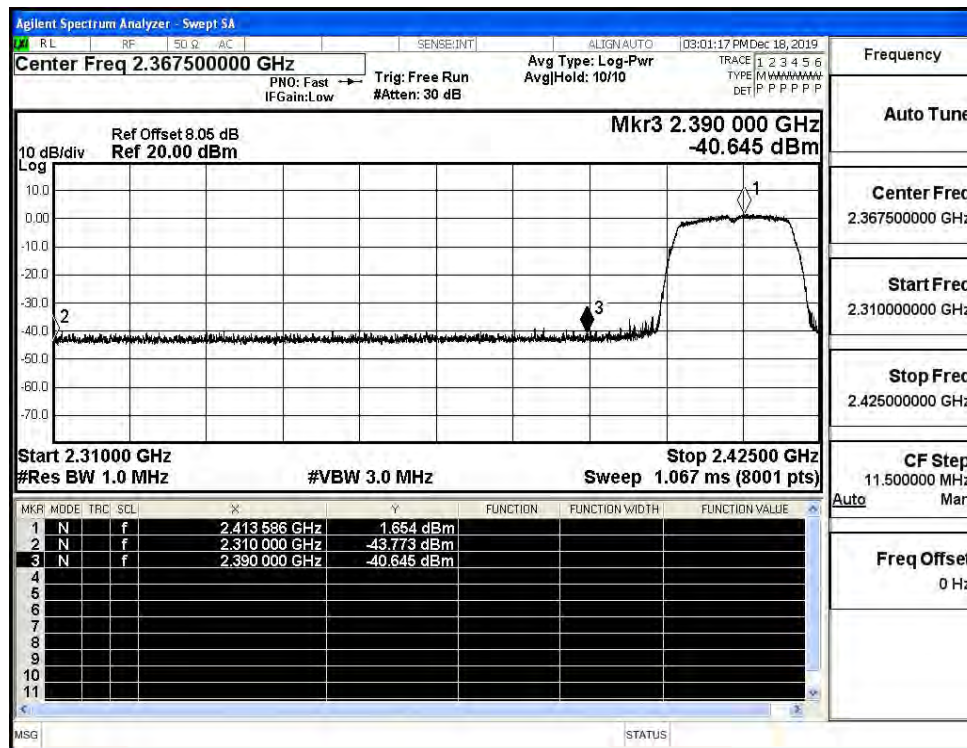
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



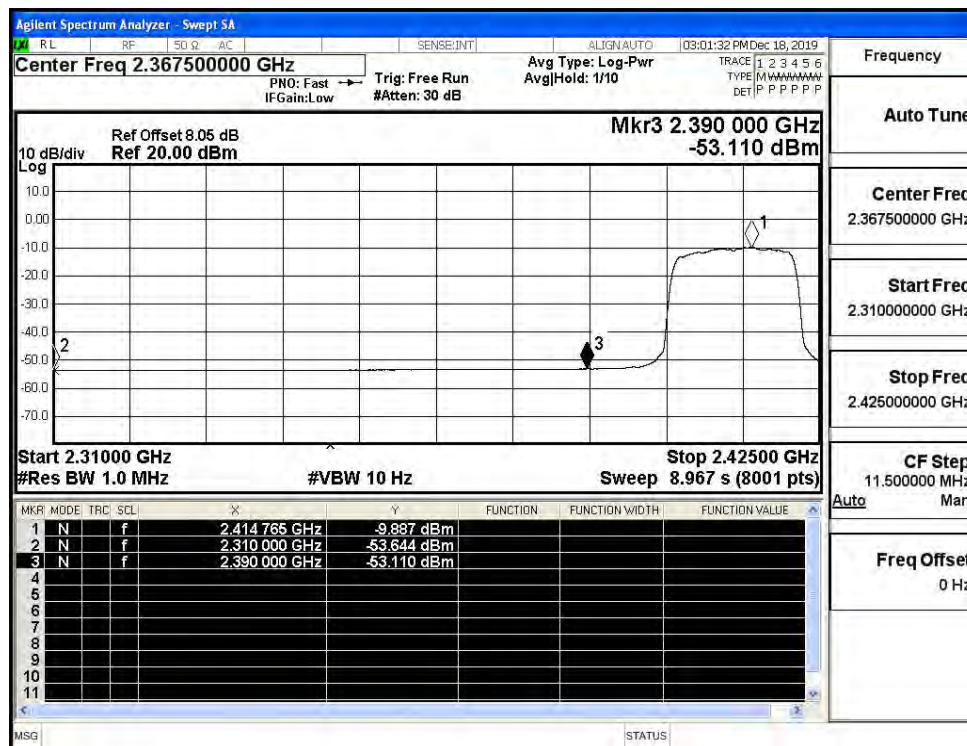
Restrict-band band-edge measurements_11G_2462_Ant1_AV



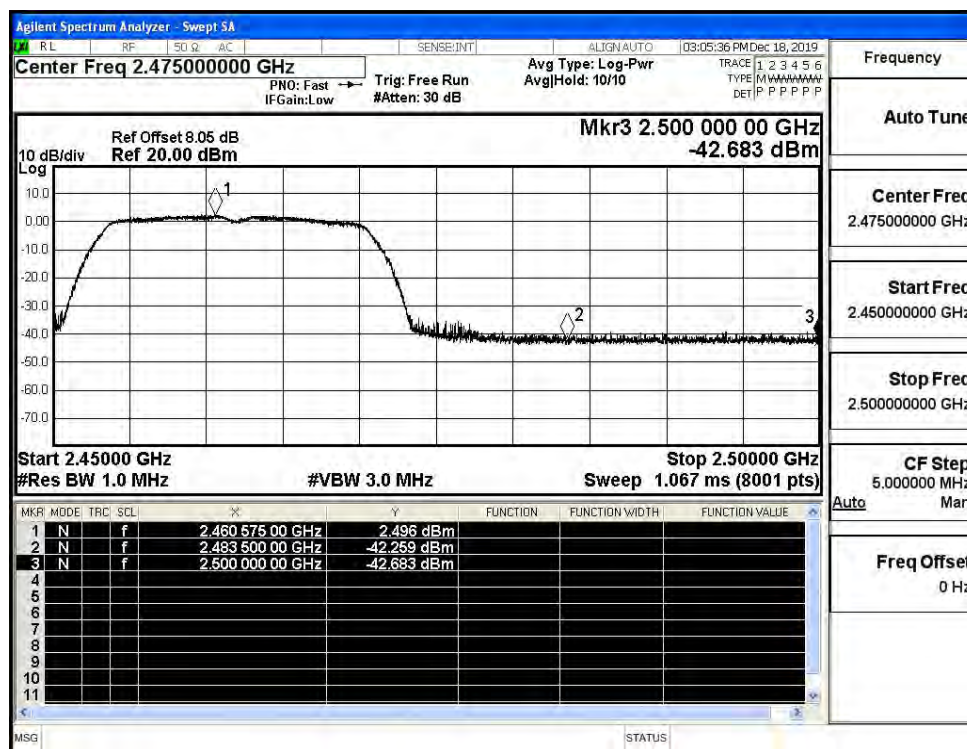
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



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

