

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Smart Plug

Trade Mark: Atomi, KINI, BEKEY

Test Model: 702881/AT1505

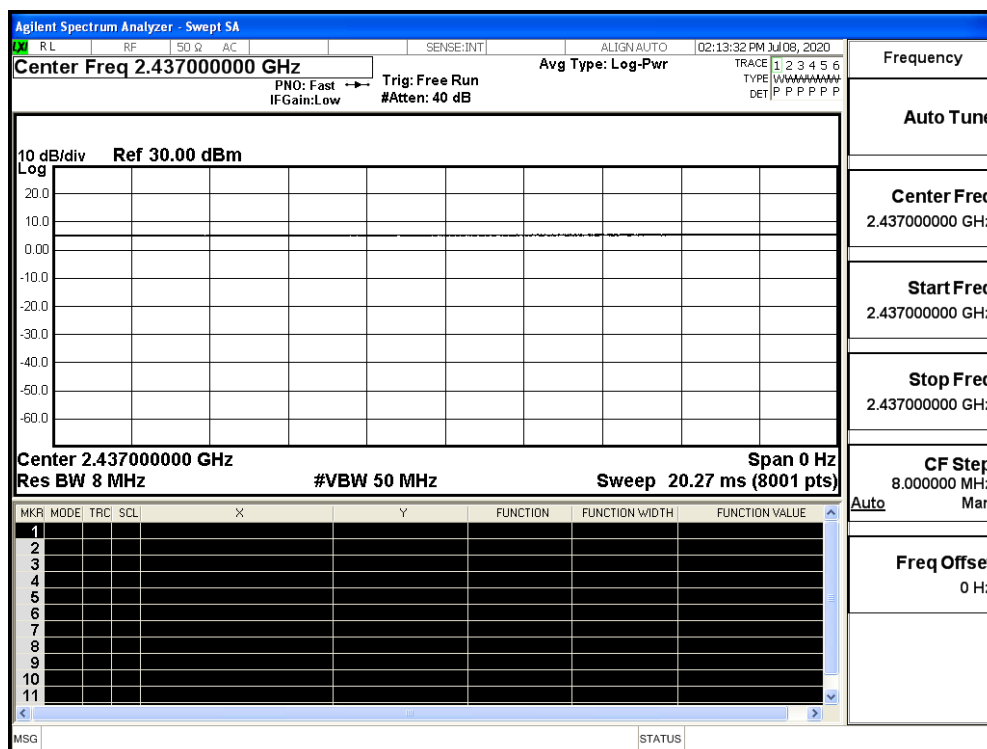
Environmental Conditions

Temperature:	25.3° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

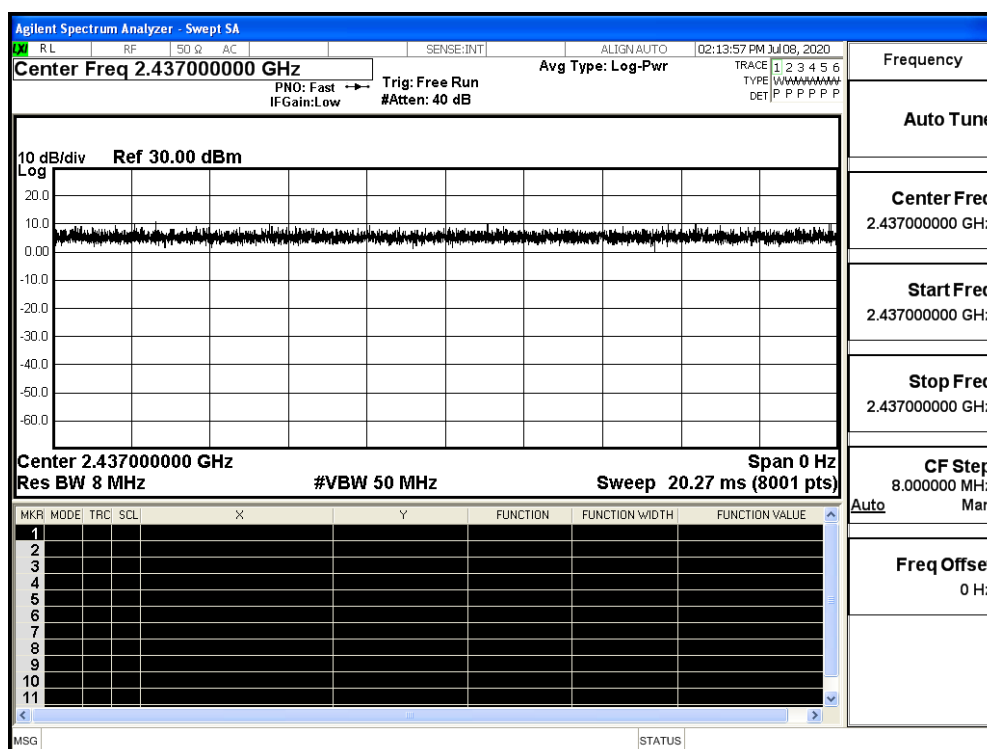
A.1 Duty Cycle

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

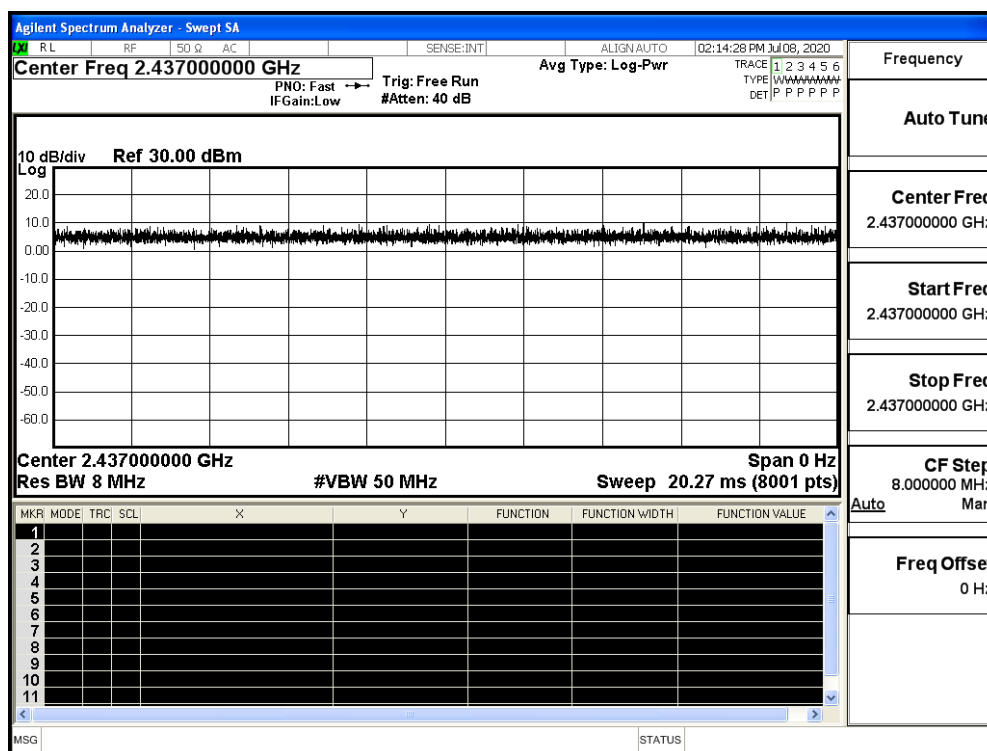
Duty Cycle_11B_2437_Ant1



Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



A.2 Maximum Conducted Output Power

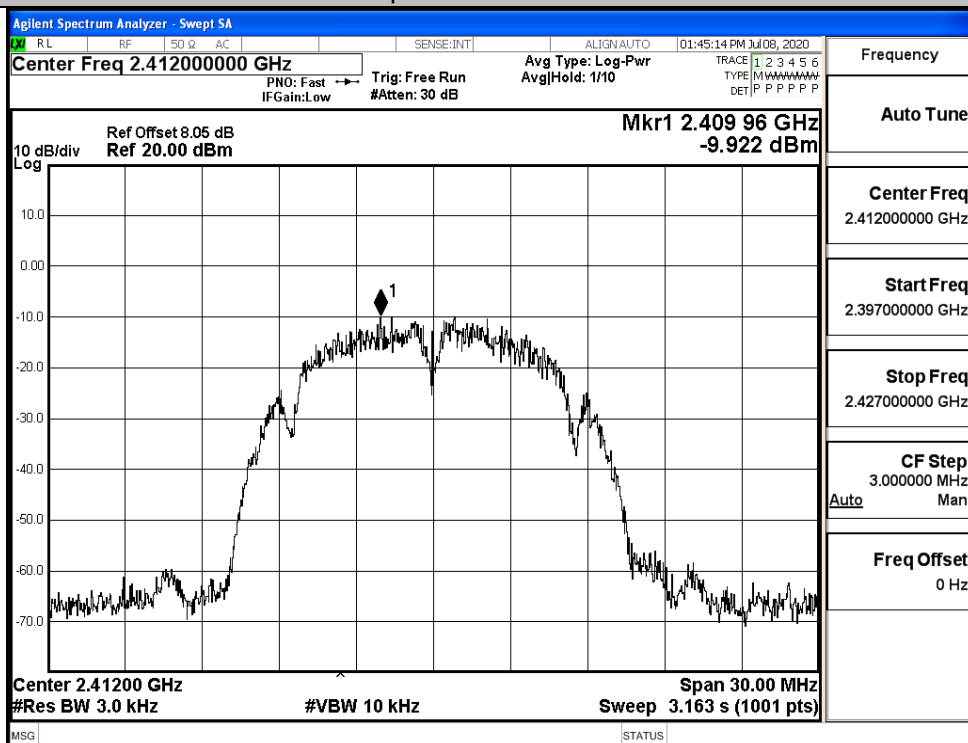
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	16.42	30	PASS
	MCH	17.01	30	PASS
	HCH	18.01	30	PASS
11G	LCH	20.95	30	PASS
	MCH	21.4	30	PASS
	HCH	22.32	30	PASS
11N20SISO	LCH	20.96	30	PASS
	MCH	21.3	30	PASS
	HCH	22.24	30	PASS

A.3 Maximum Power Spectral Density

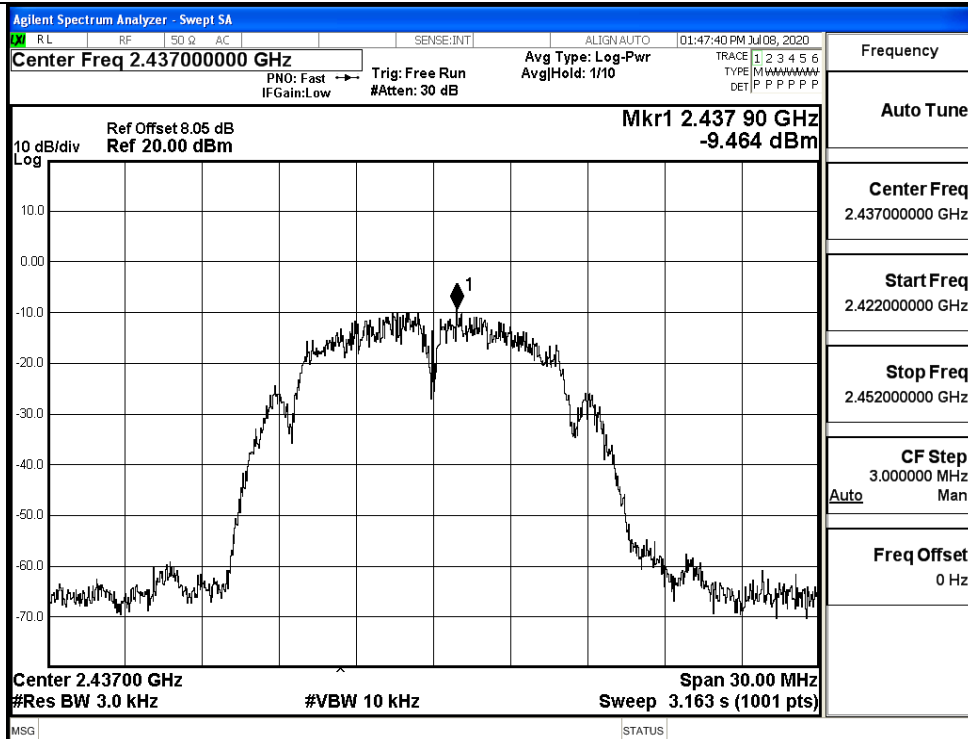
Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-9.922	8	PASS
	MCH	-9.464	8	PASS
	HCH	-8.186	8	PASS
11G	LCH	-11.091	8	PASS
	MCH	-10.540	8	PASS
	HCH	-10.728	8	PASS
11N20SISO	LCH	-11.318	8	PASS
	MCH	-11.951	8	PASS
	HCH	-11.871	8	PASS

Test Graphs

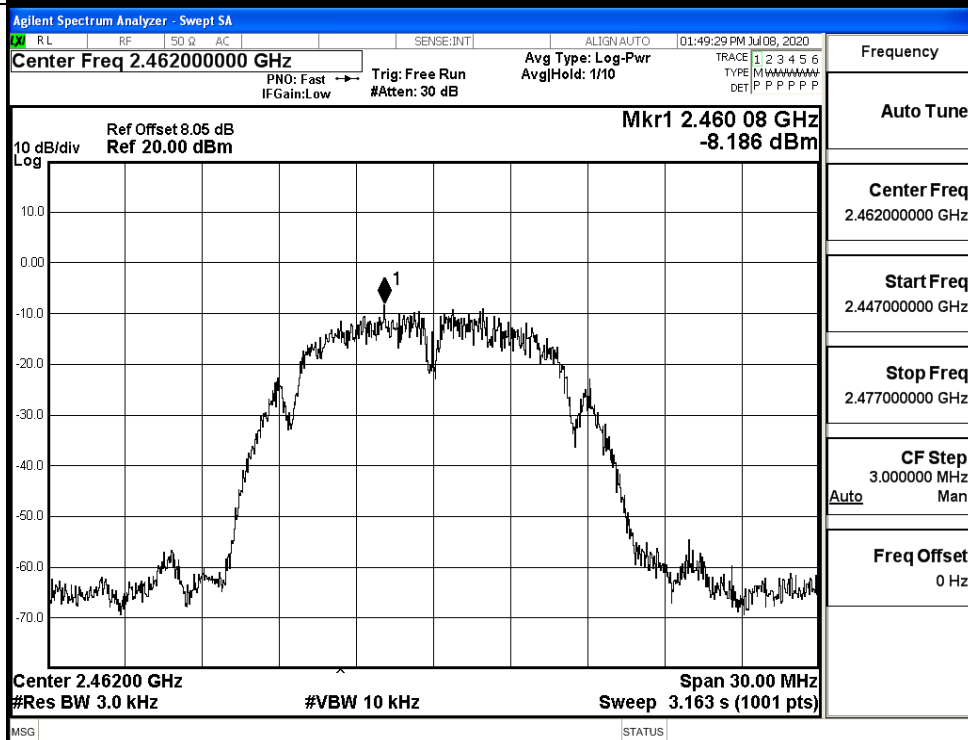
11B/LCH



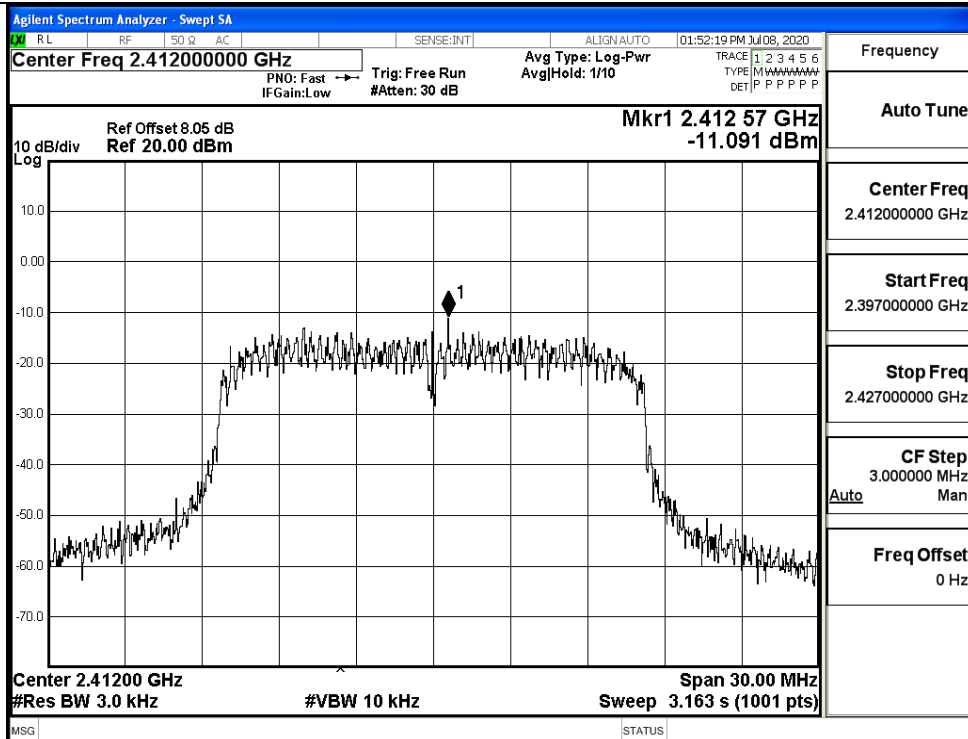
11B/MCH



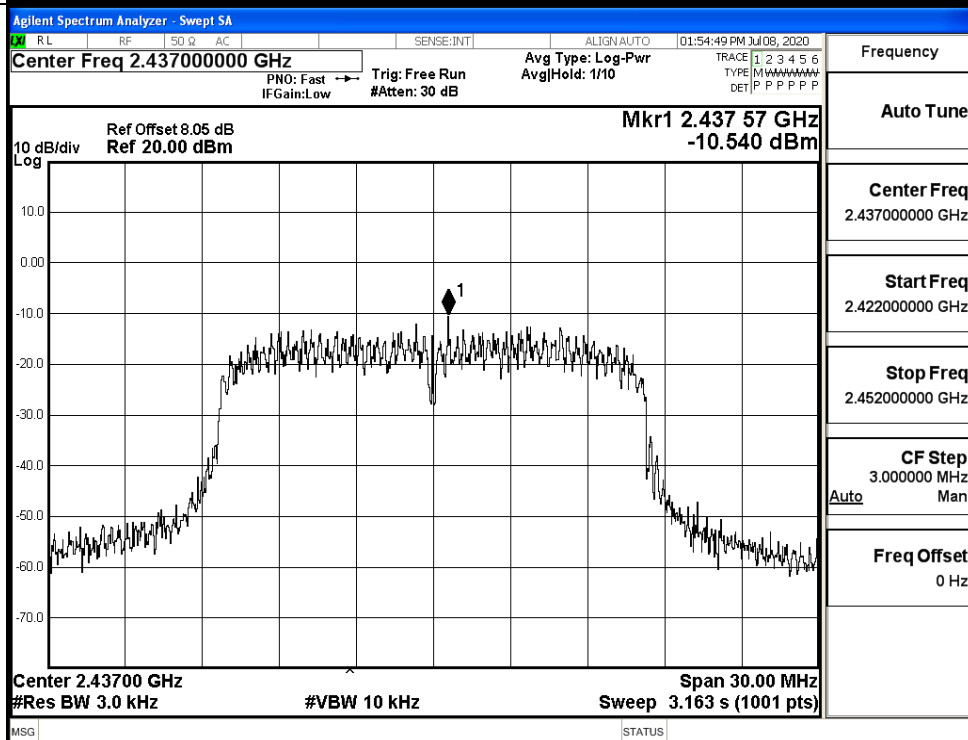
11B/HCH



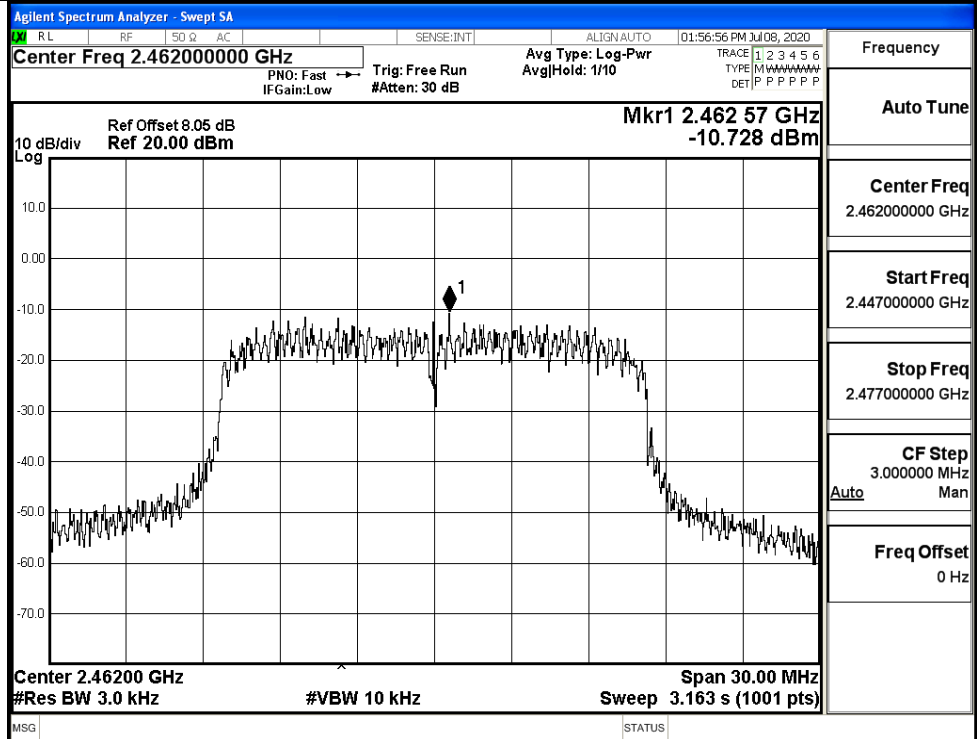
11G/LCH



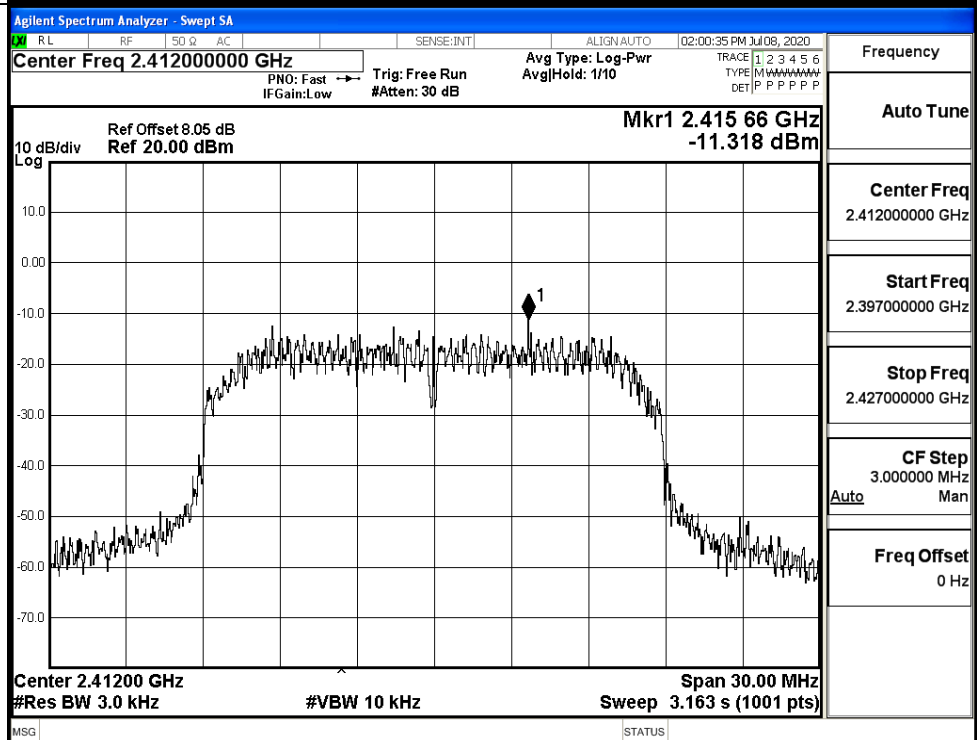
11G/MCH



11G/HCH



11N20SISO/LCH

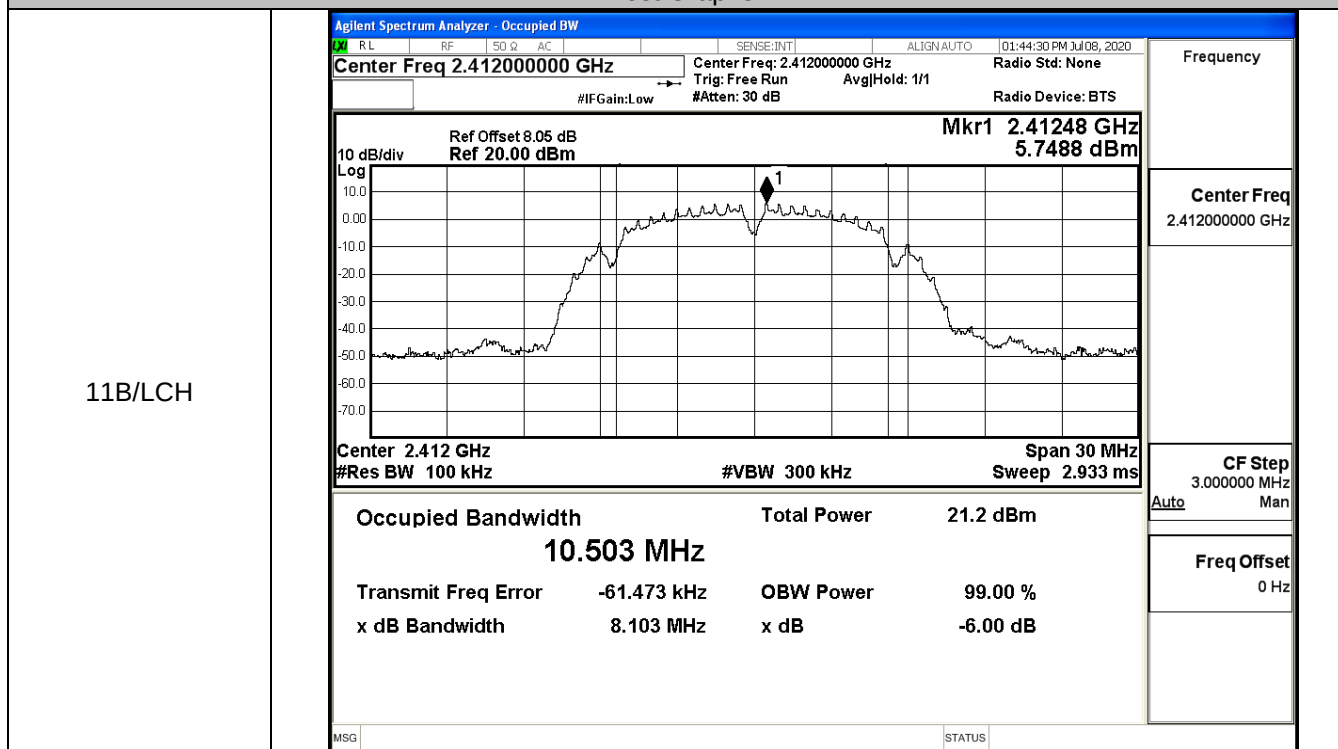


Page 9 of 35

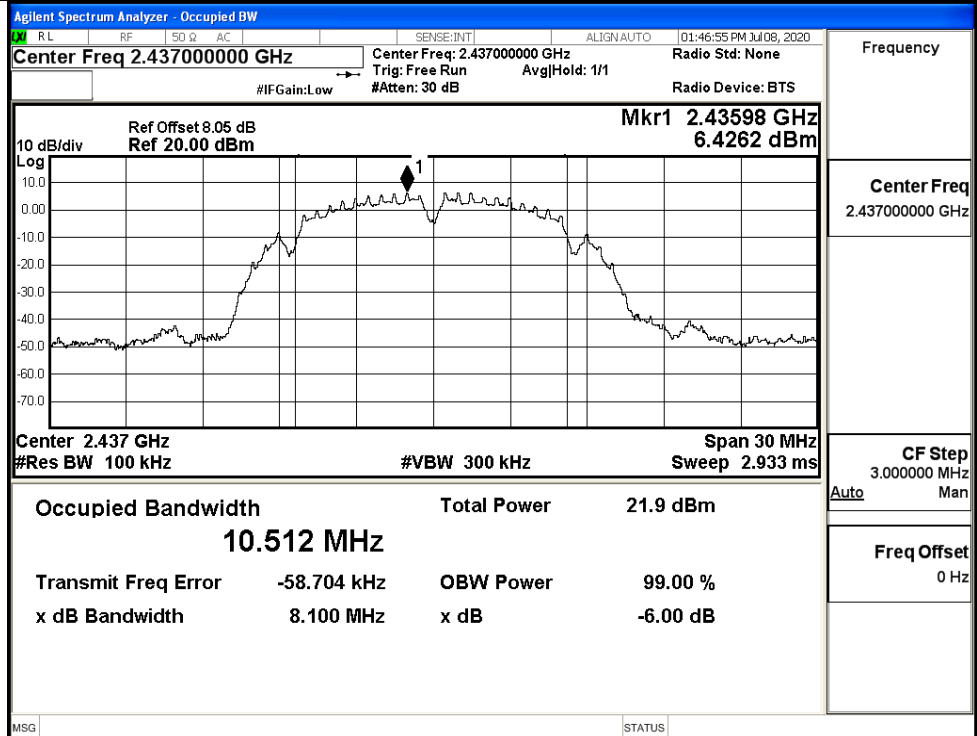
A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.103	≥ 0.5	PASS
	MCH	8.100	≥ 0.5	PASS
	HCH	8.566	≥ 0.5	PASS
11G	LCH	15.13	≥ 0.5	PASS
	MCH	15.13	≥ 0.5	PASS
	HCH	15.14	≥ 0.5	PASS
11N20SISO	LCH	15.12	≥ 0.5	PASS
	MCH	15.13	≥ 0.5	PASS
	HCH	15.14	≥ 0.5	PASS

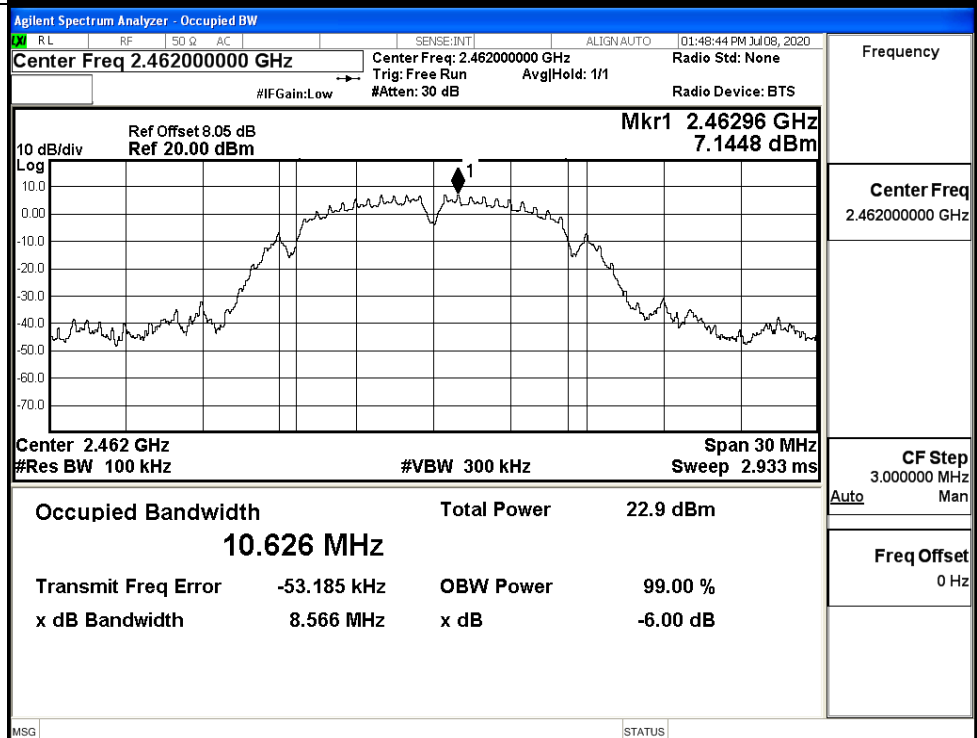
Test Graphs



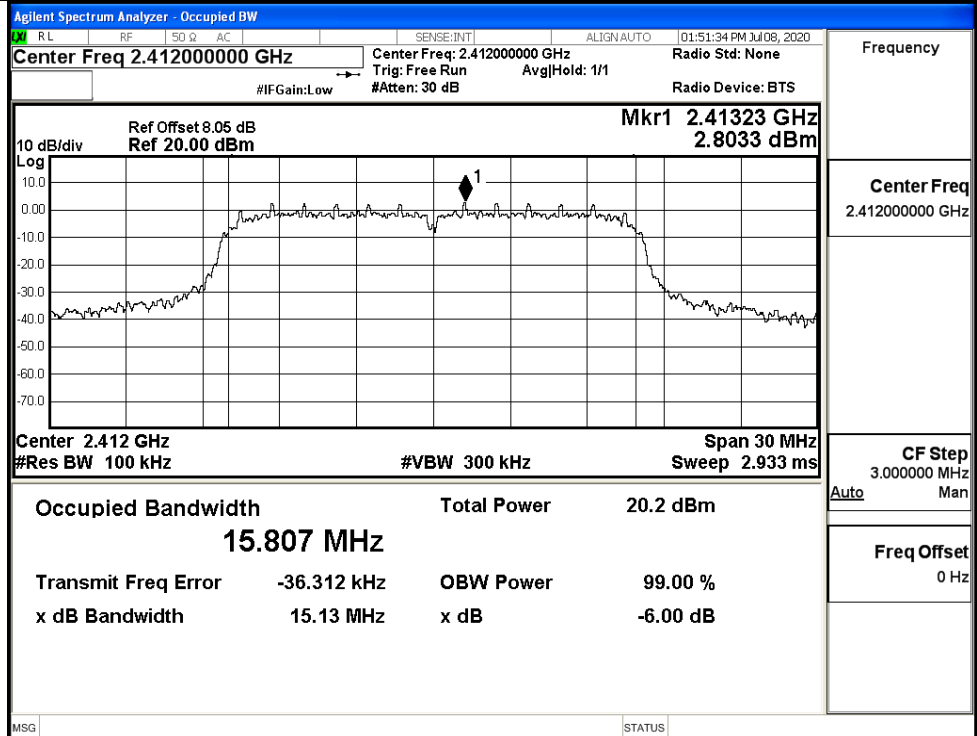
11B/MCH



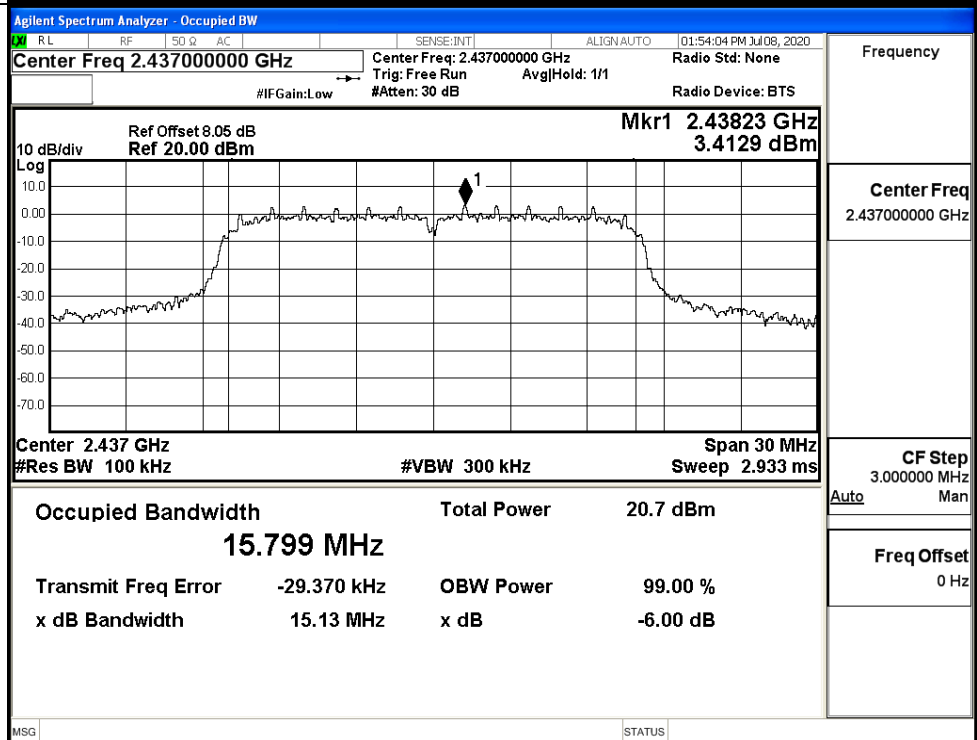
11B/HCH



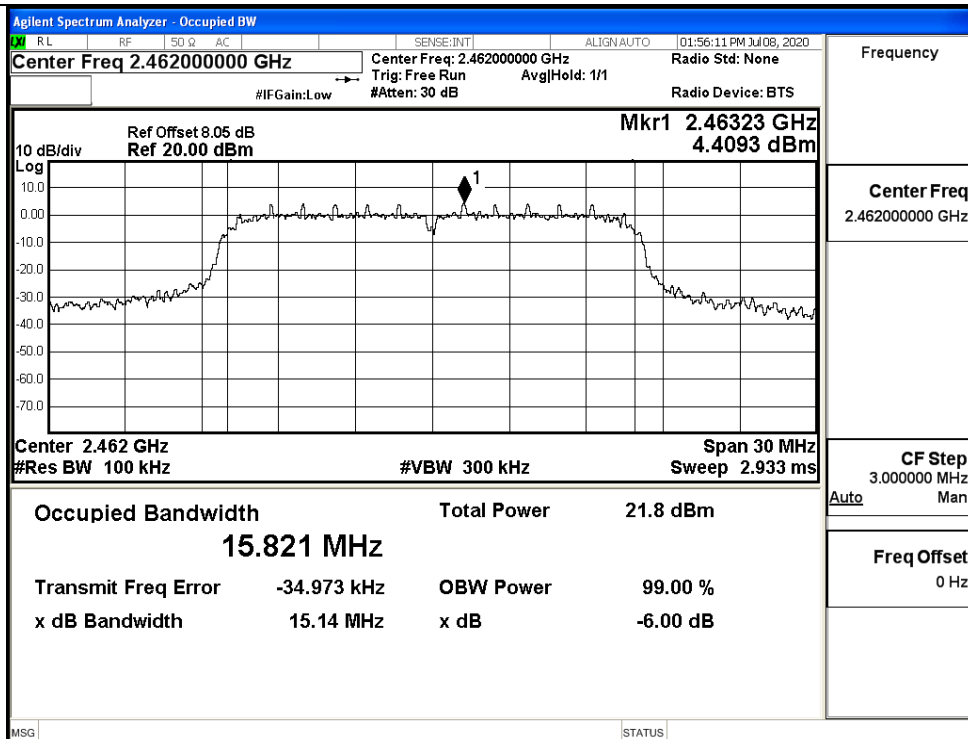
11G/LCH



11G/MCH



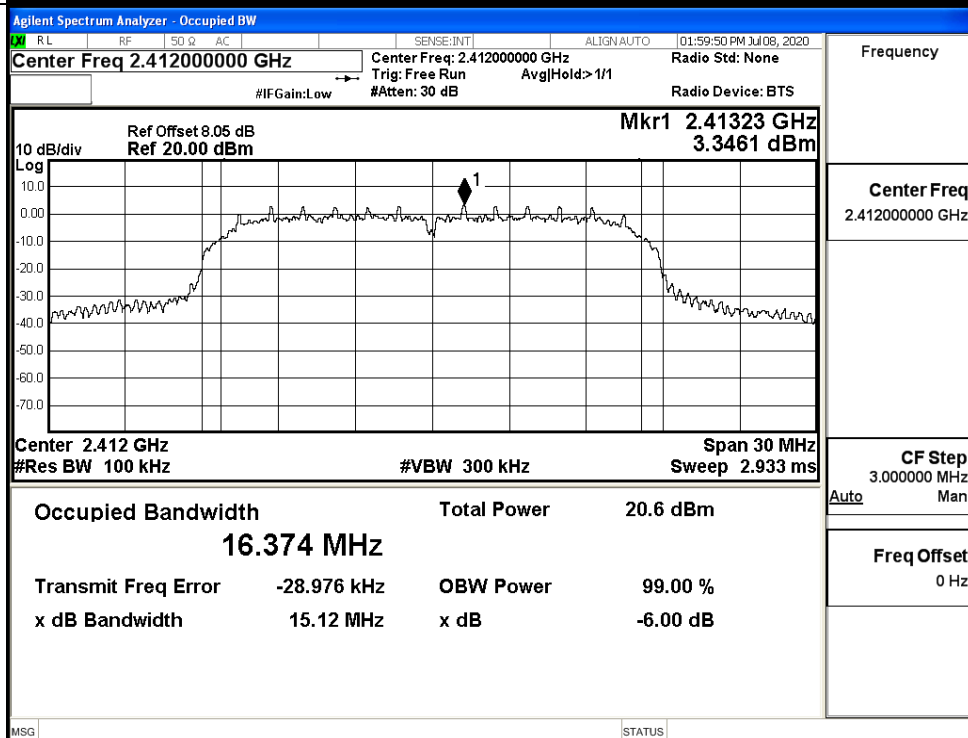
11G/HCH



Frequency

Center Freq
2.46200000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

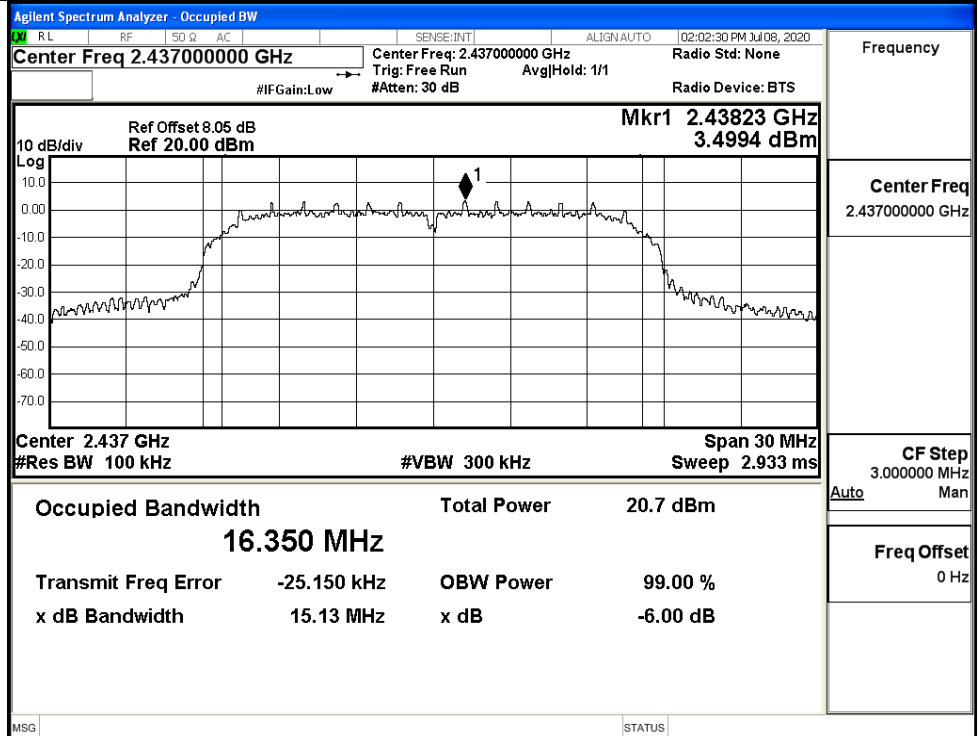
11N20SISO/LCH



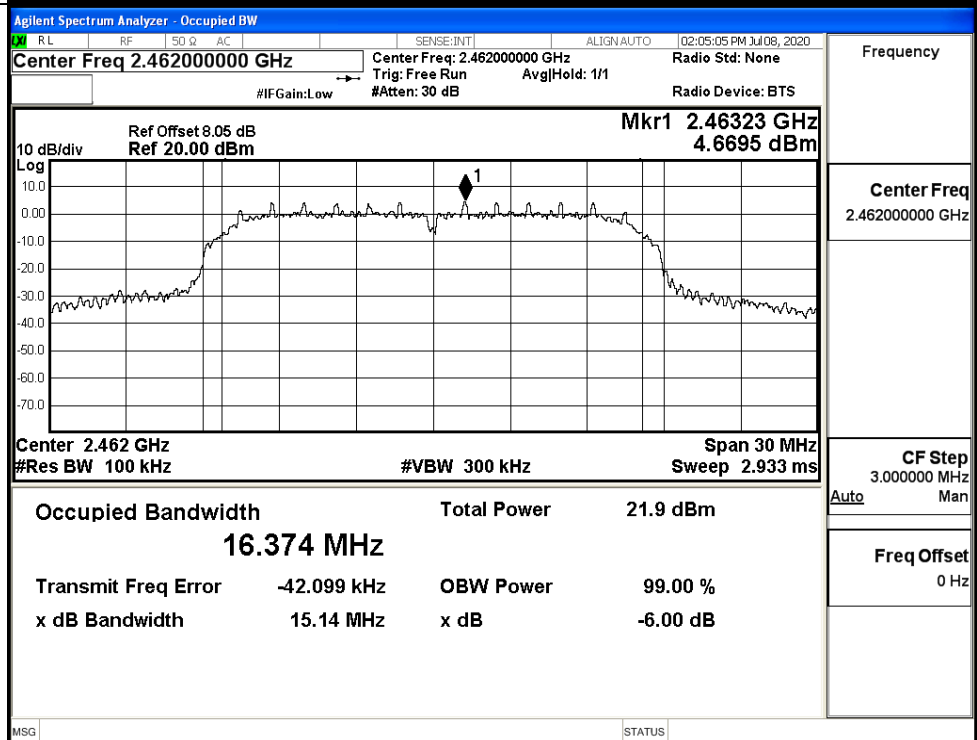
Frequency

Center Freq
2.41200000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

11N20SISO/MCH



11N20SISO/HCH

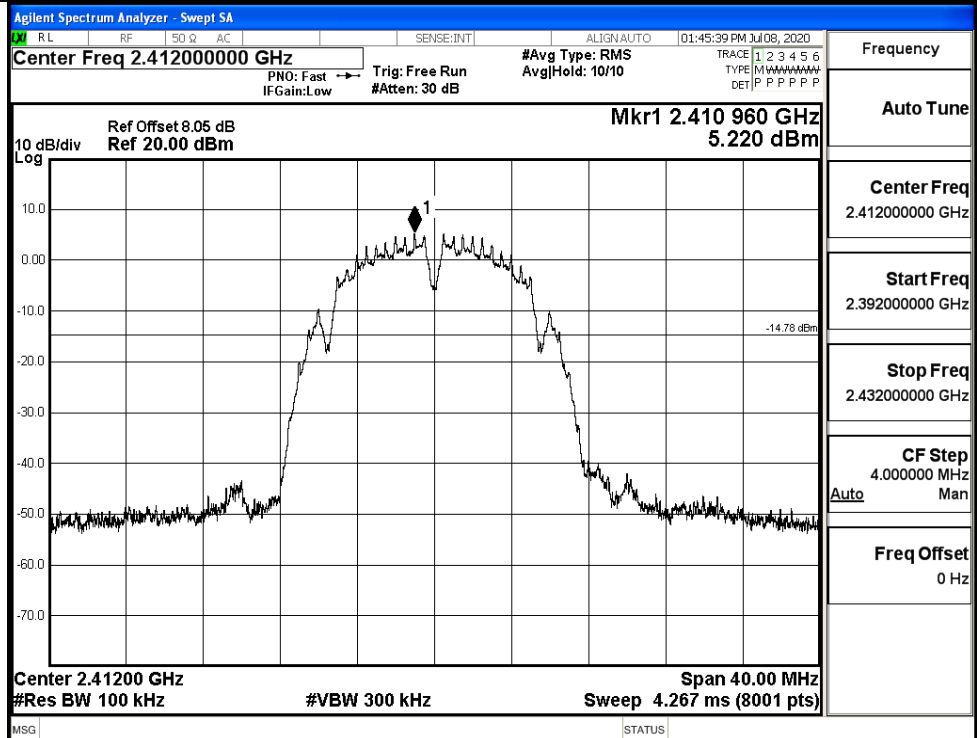


A.5 RF Conducted Spurious Emissions

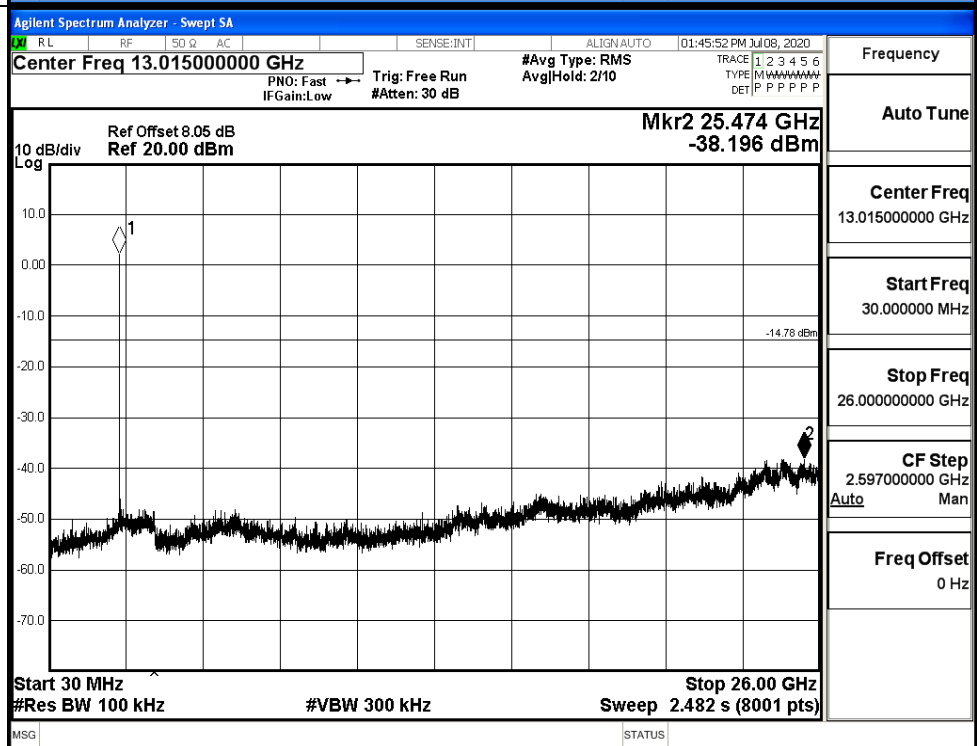
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	5.22	-38.196	-14.780	PASS
	MCH	6.072	-38.113	-13.928	PASS
	HCH	6.807	-37.785	-13.193	PASS
11G	LCH	2.464	-37.937	-17.536	PASS
	MCH	3.083	-38.243	-16.917	PASS
	HCH	3.826	-38.137	-16.174	PASS
11N20 SISO	LCH	2.56	-38.171	-17.440	PASS
	MCH	3.023	-37.386	-16.977	PASS
	HCH	4.17	-37.723	-15.830	PASS

11B LCH Graphs

Pref/11B/LCH

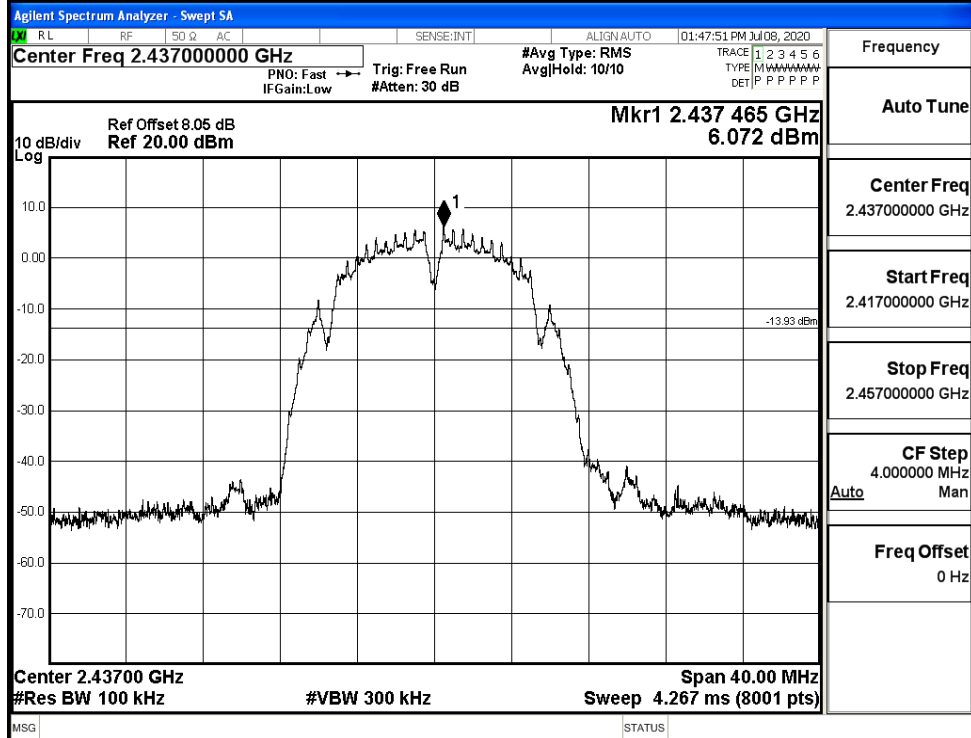


Puw/11B/LCH

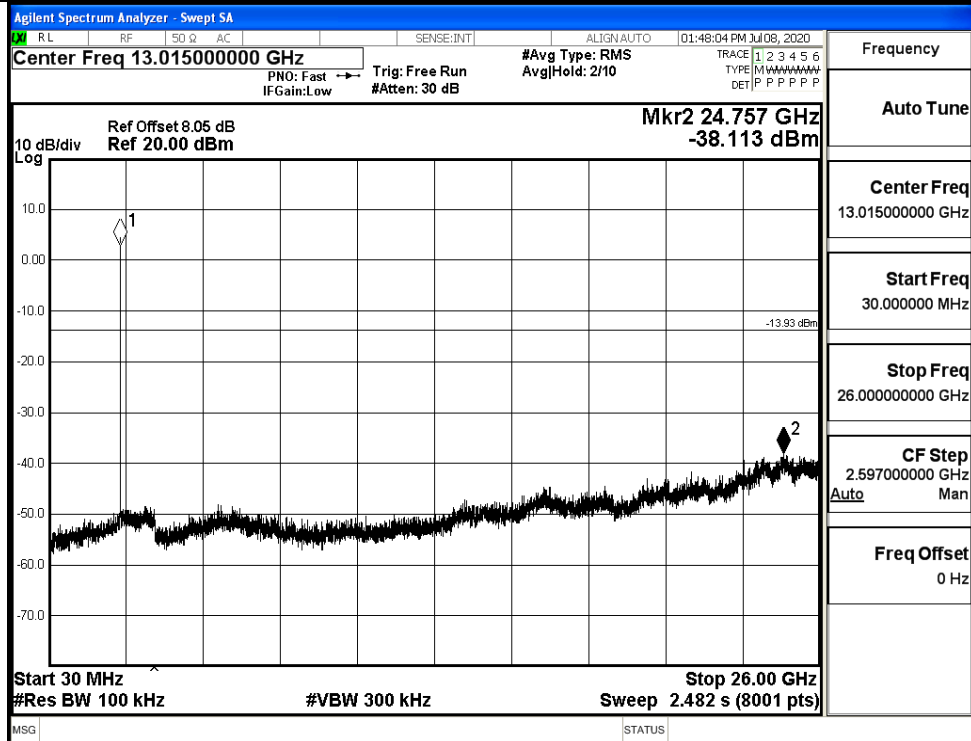


11B MCH Graphs

Pref/11B/MCH

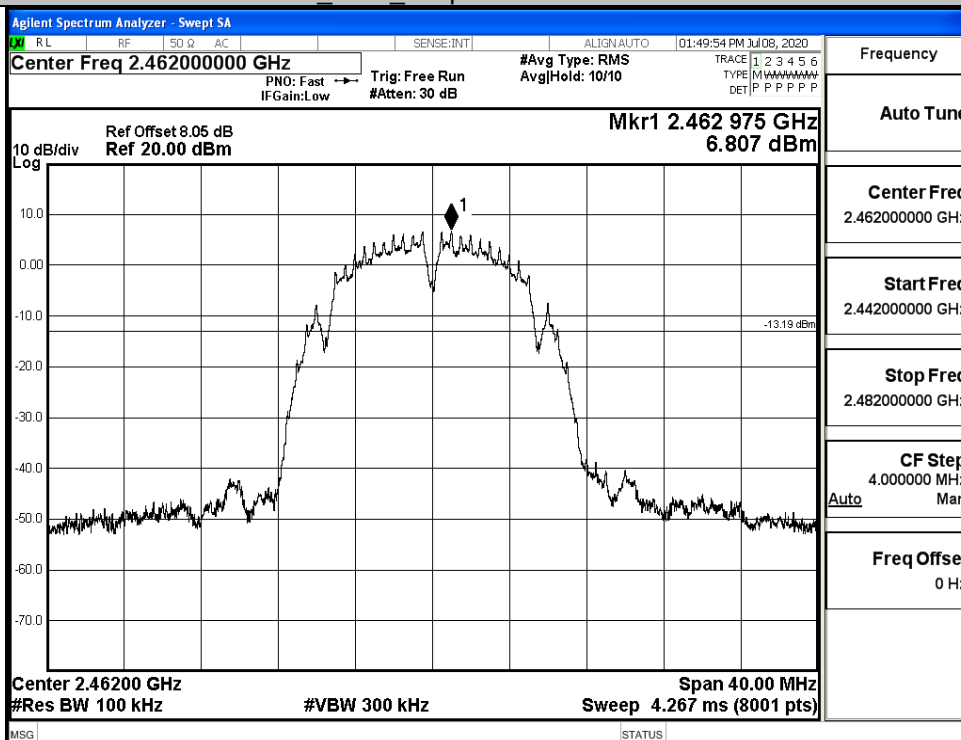


Puw/11B/MCH

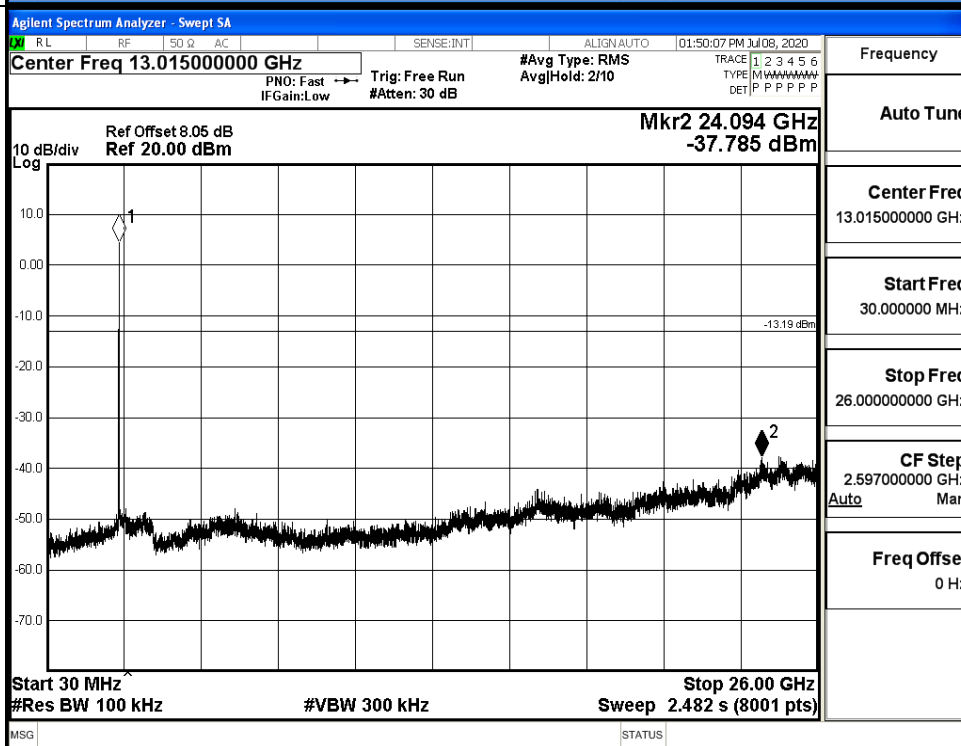


11B HCH Graphs

Pref/11B/HCH

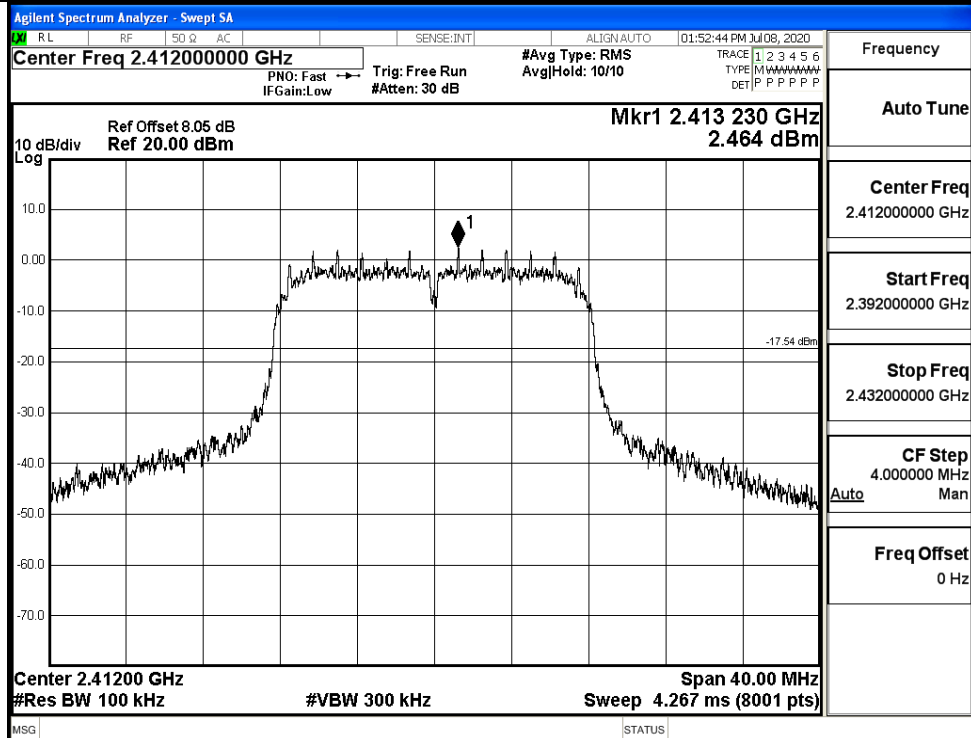


Puw/11B/HCH

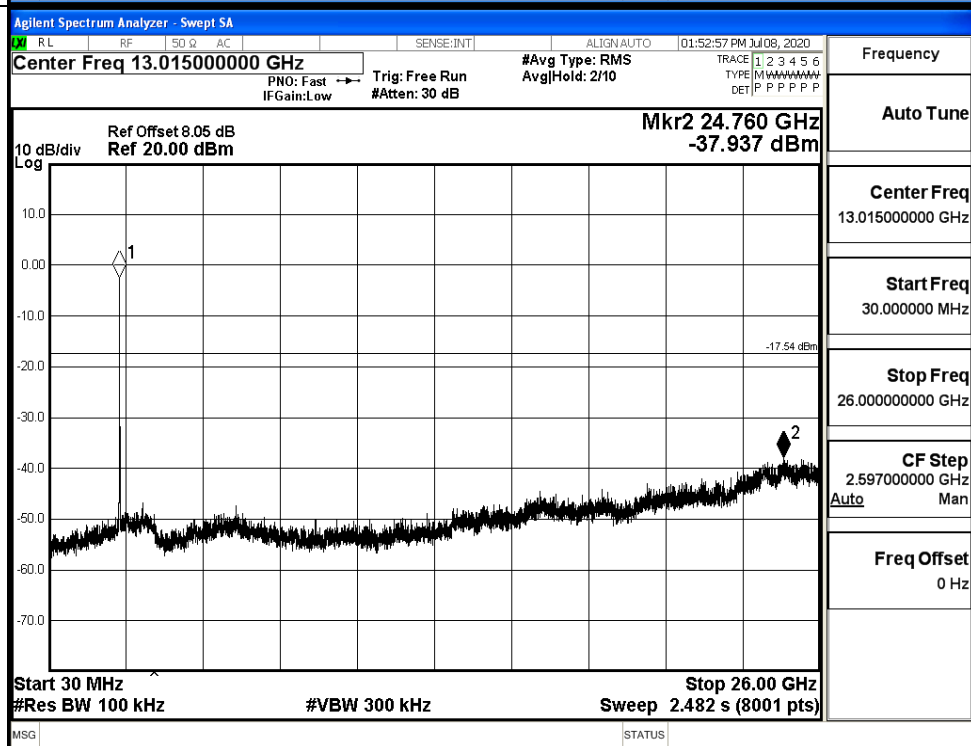


11G_LCH_Graphs

Pref/11G/LCH

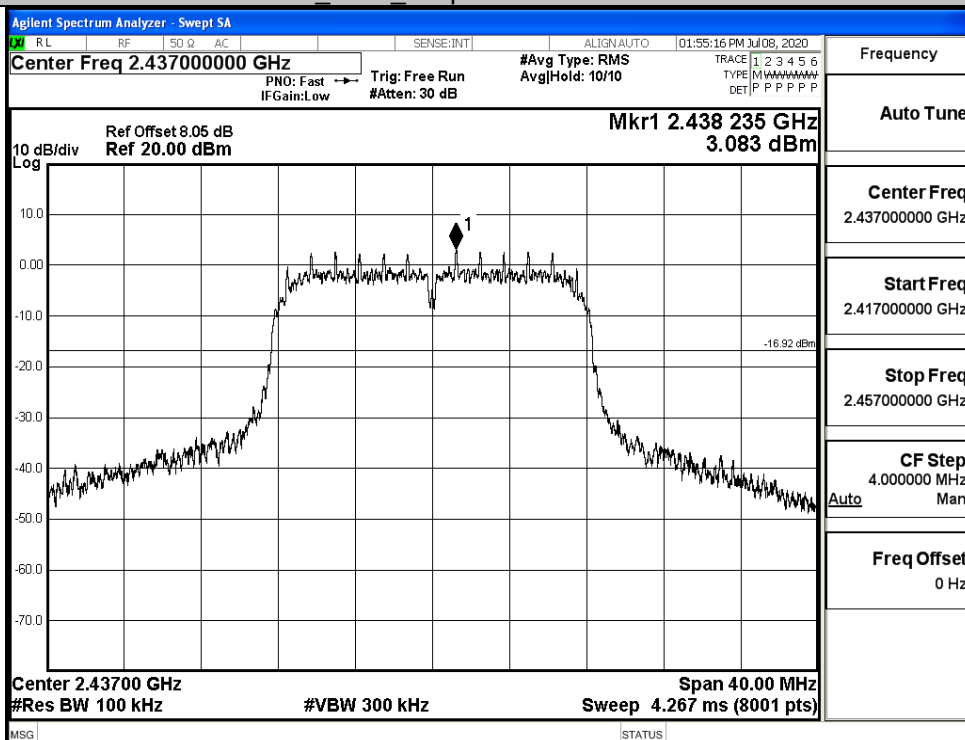


Puw/11G/LCH

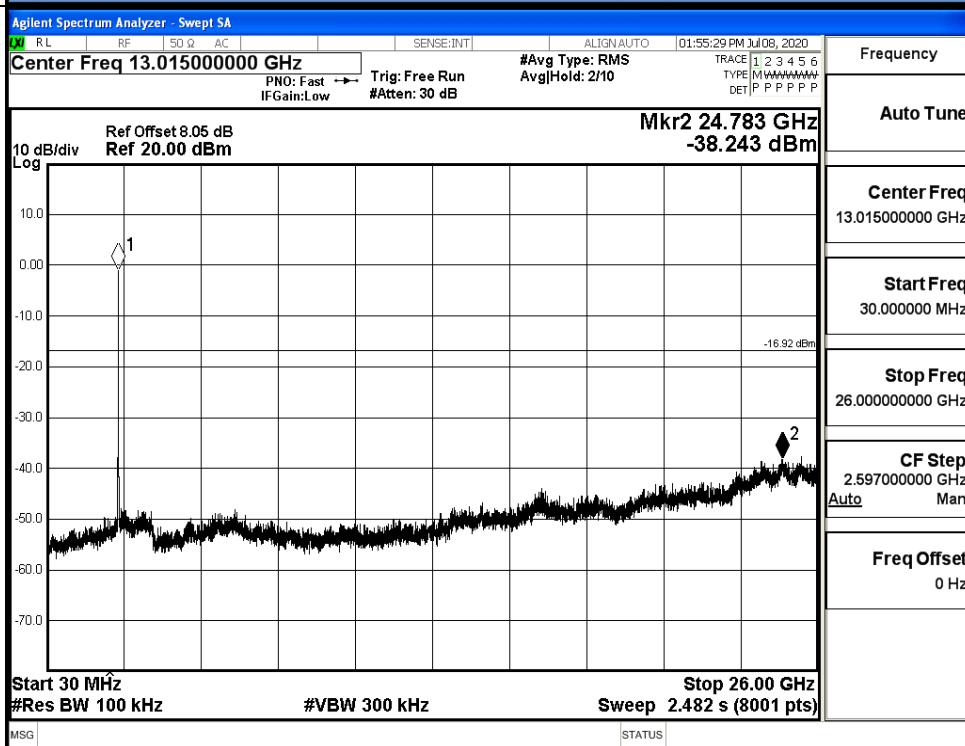


11G MCH Graphs

Pref/11G/MCH

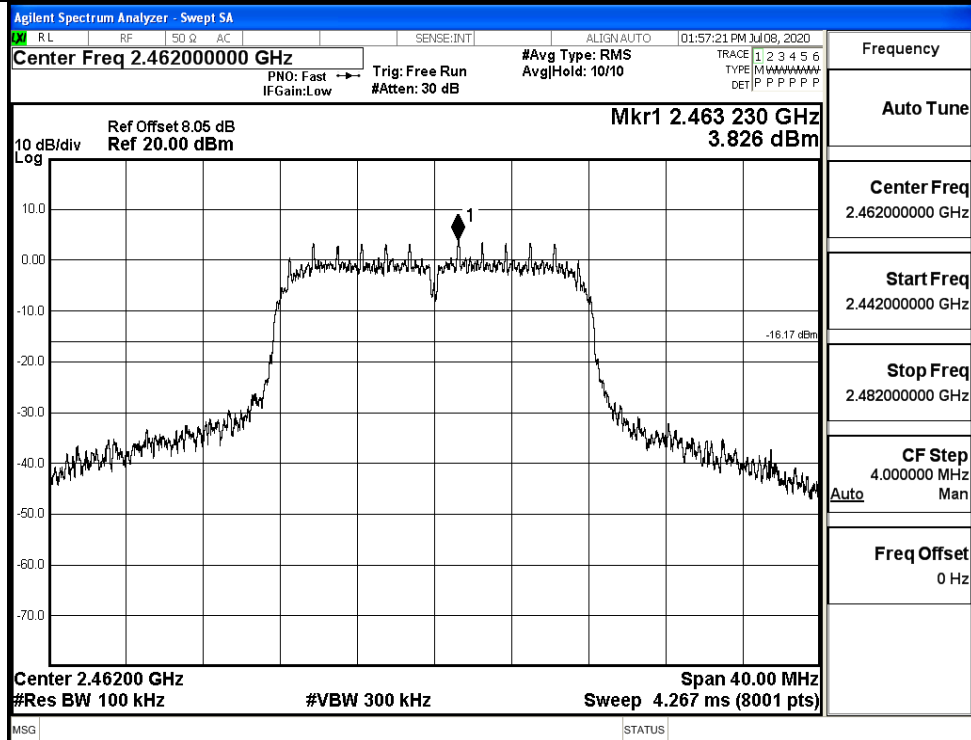


Puw/11G/MCH

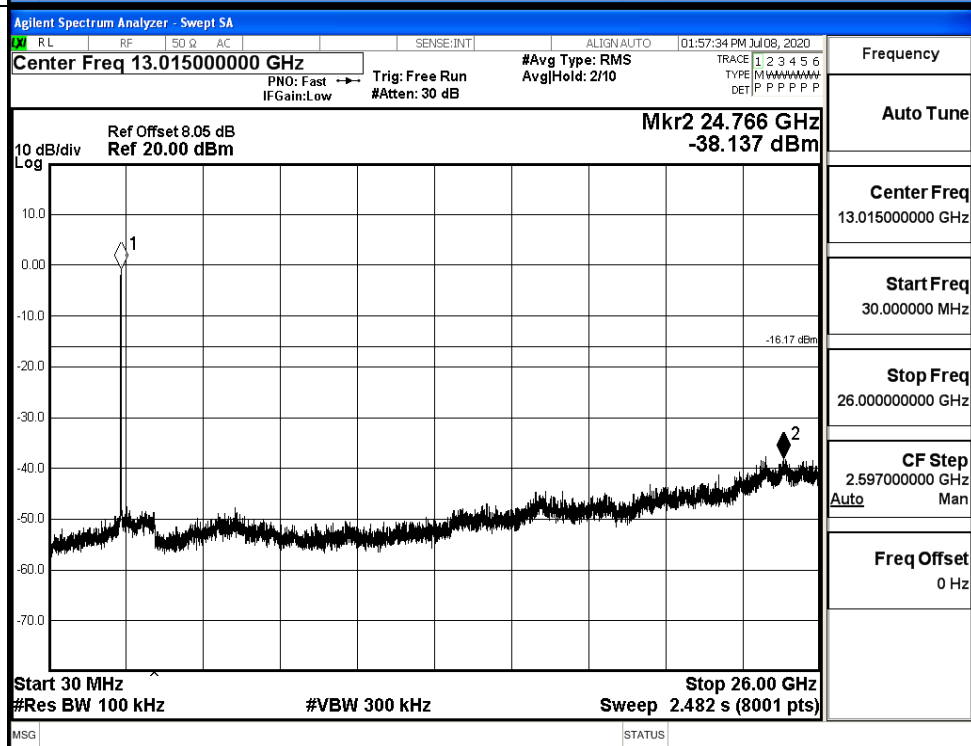


11G HCH Graphs

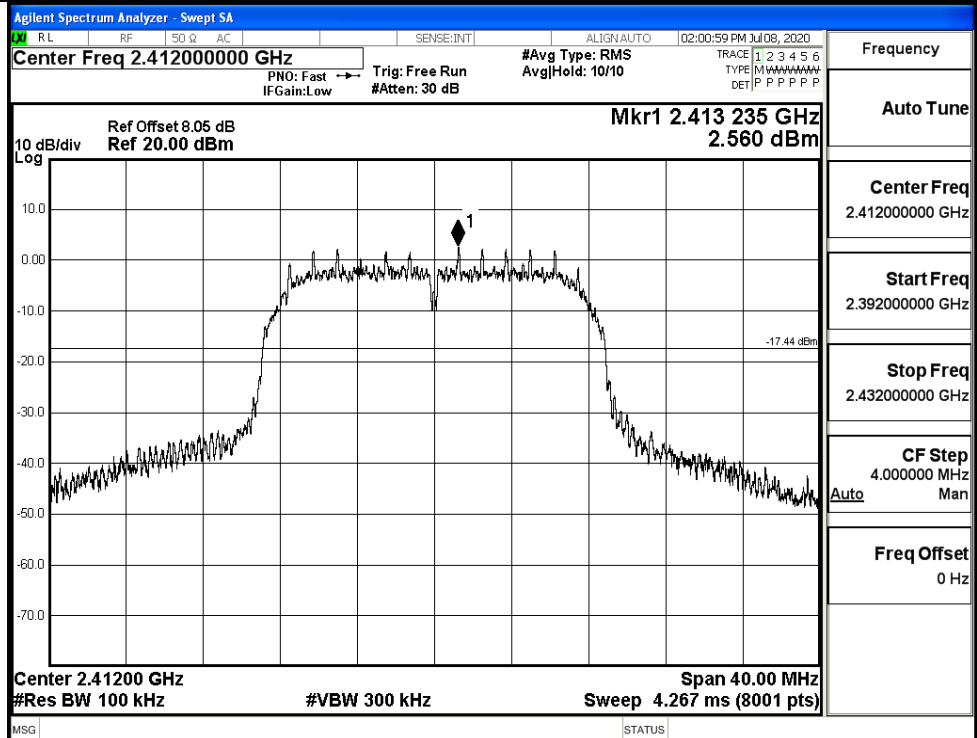
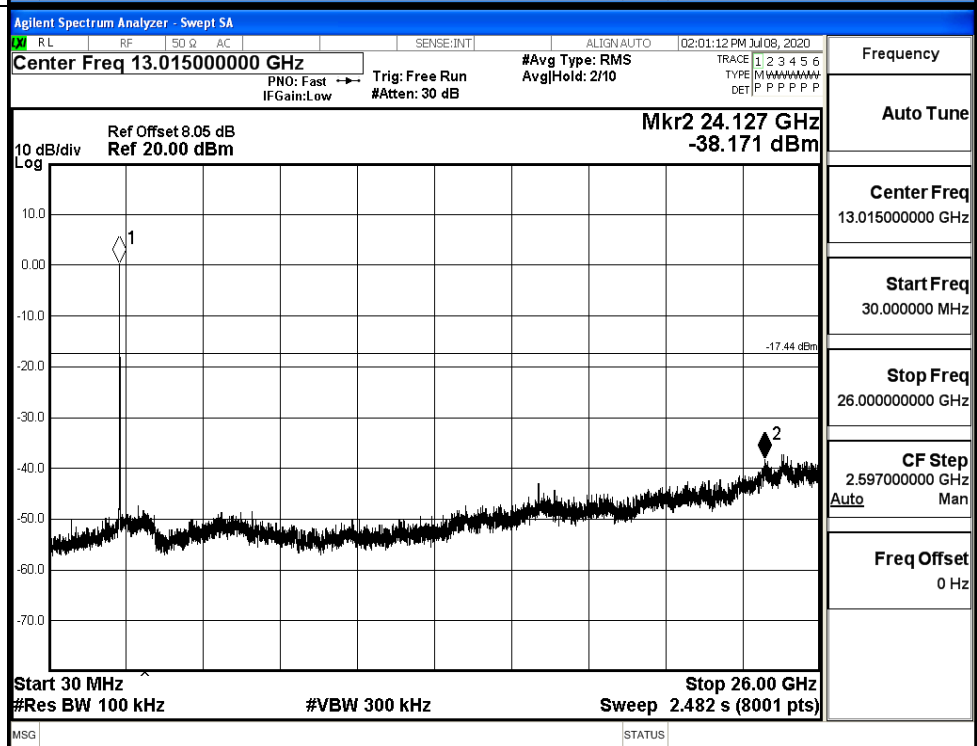
Pref/11G/HCH



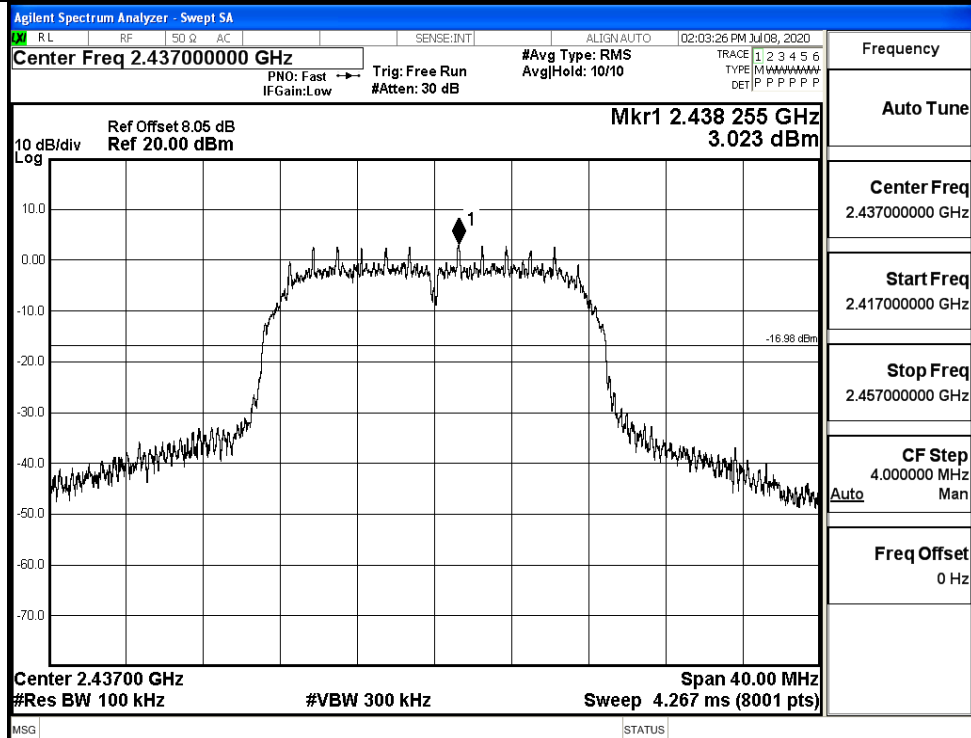
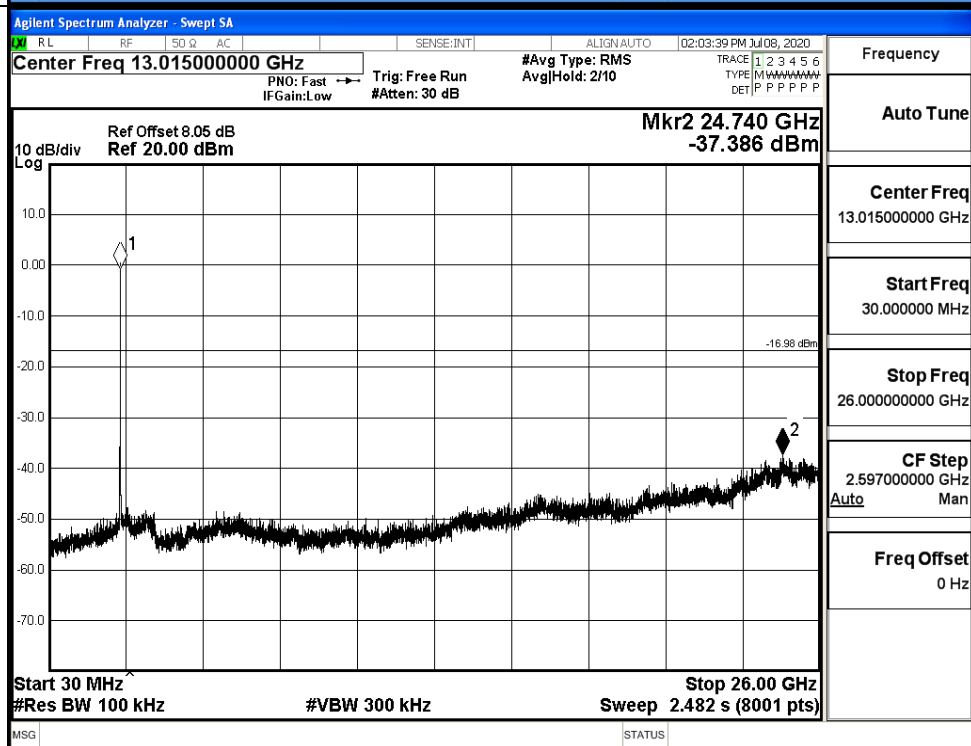
Puw/11G/HCH



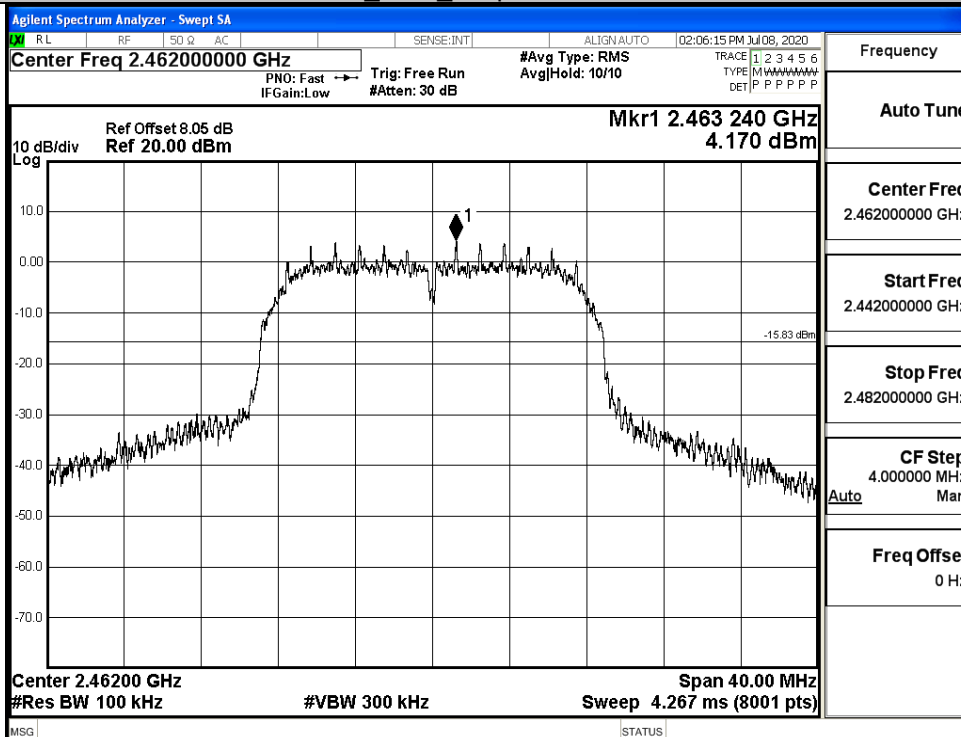
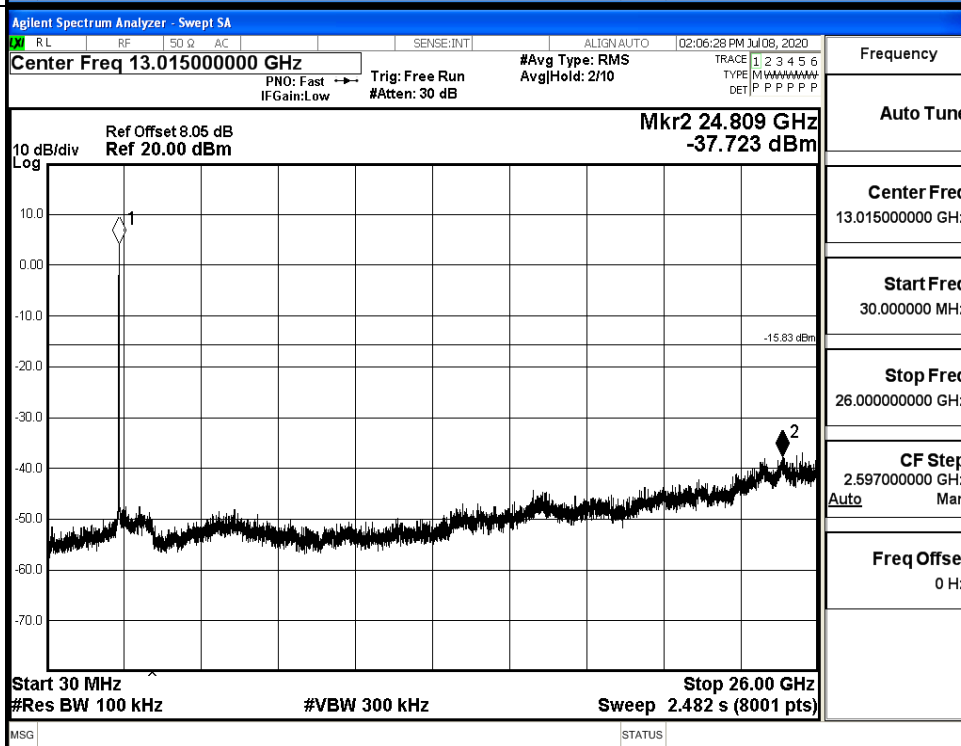
11N20SISO LCH Graphs

Pref/11N20SIS
O/LCHPuw/11N20
SISO/LCH

11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCHPuw/11N20
SISO/MCH

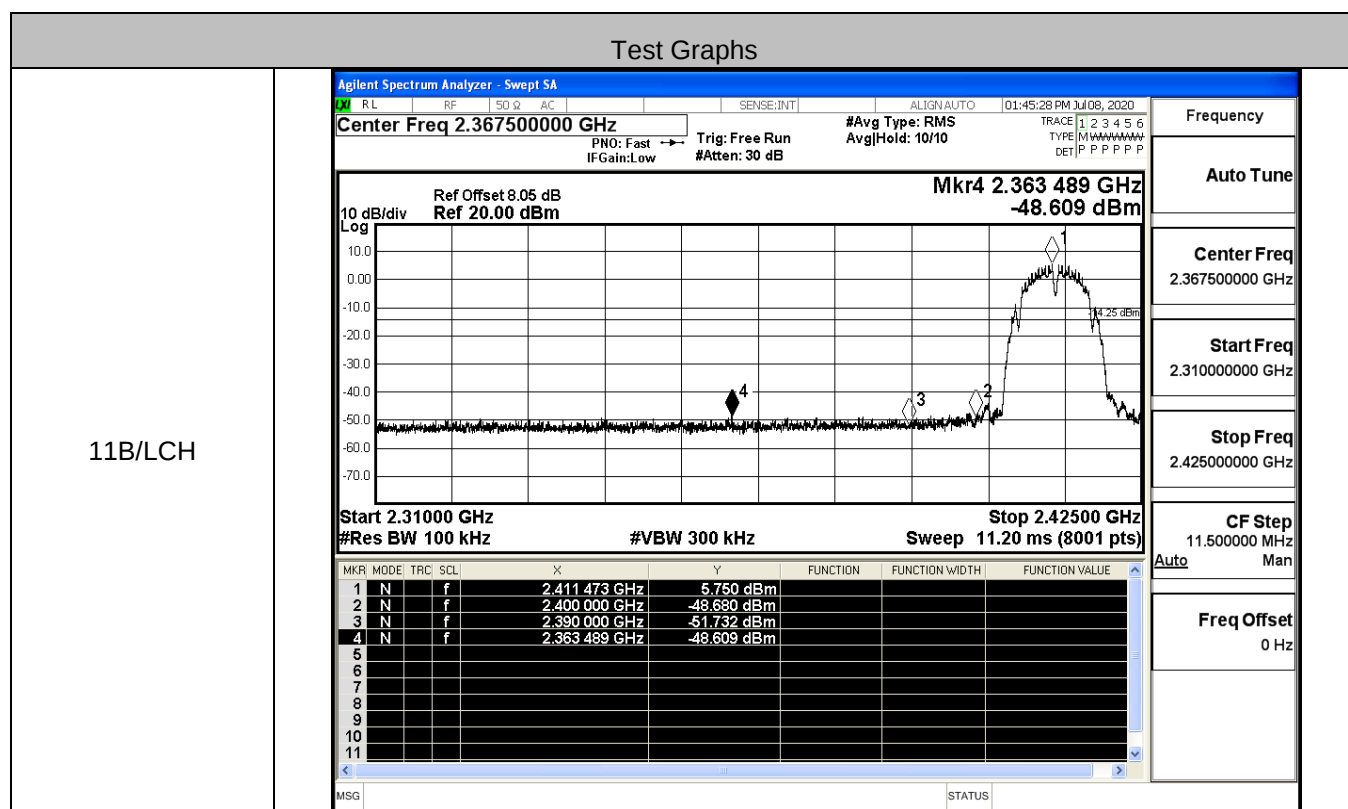
11N20SISO HCH Graphs

Pref/11N20
SISO/HCHPuw/11N20
SISO/HCH

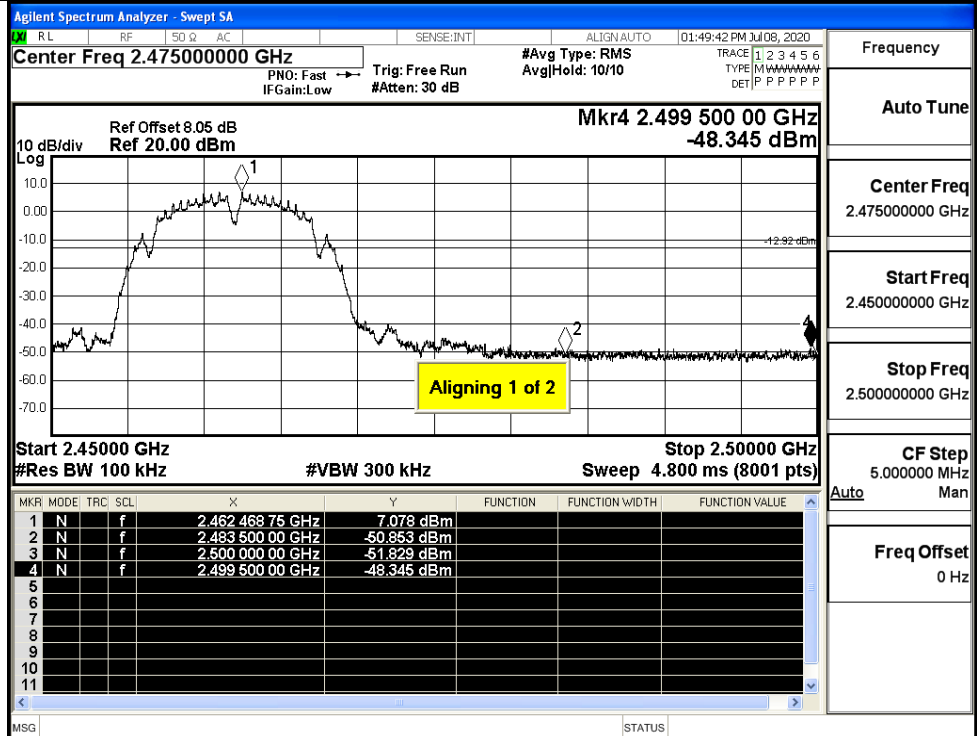
A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	5.750	-48.609	-14.25	PASS
	HCH	7.078	-48.345	-12.92	PASS
11G	LCH	2.438	-44.512	-17.56	PASS
	HCH	3.701	-43.857	-16.3	PASS
11N20SISO	LCH	2.583	-45.500	-17.42	PASS
	HCH	4.082	-43.588	-15.92	PASS

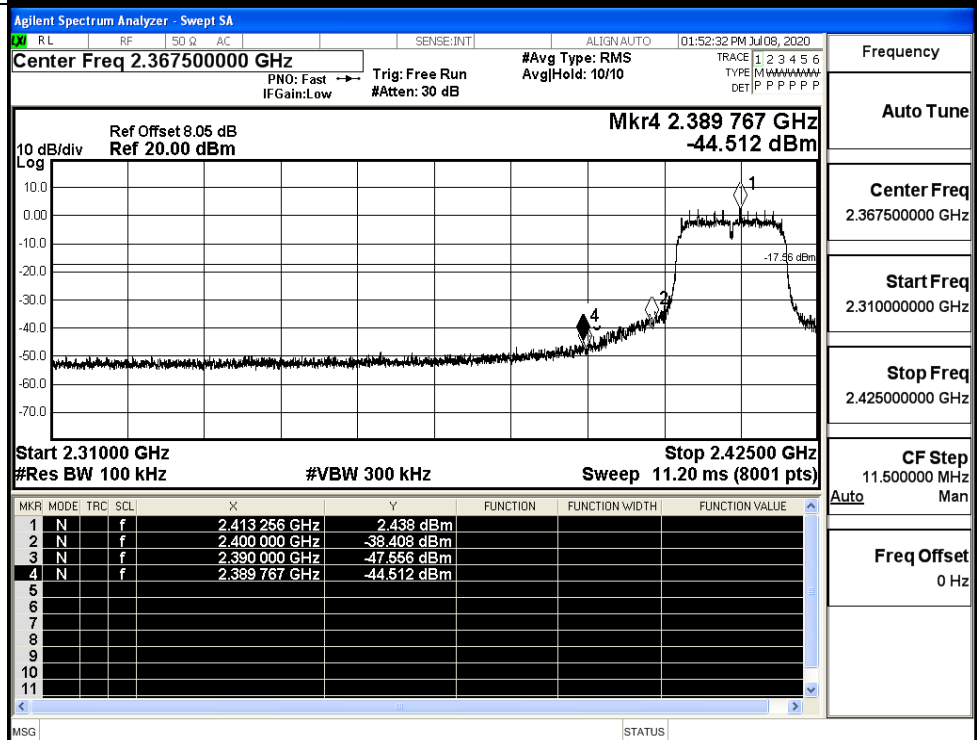
Test Graphs



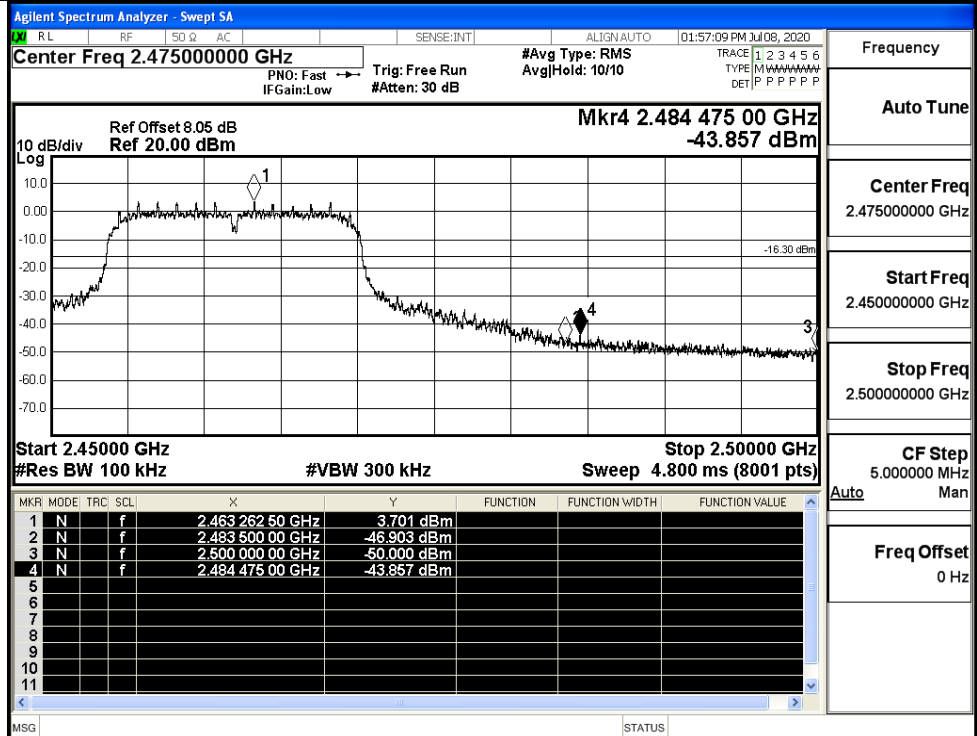
11B/HCH



11G/LCH



11G/HCH



Frequency

Auto Tune

Center Freq

2.475000000 GHz

Start Freq

2.450000000 GHz

Stop Freq

2.500000000 GHz

CF Step

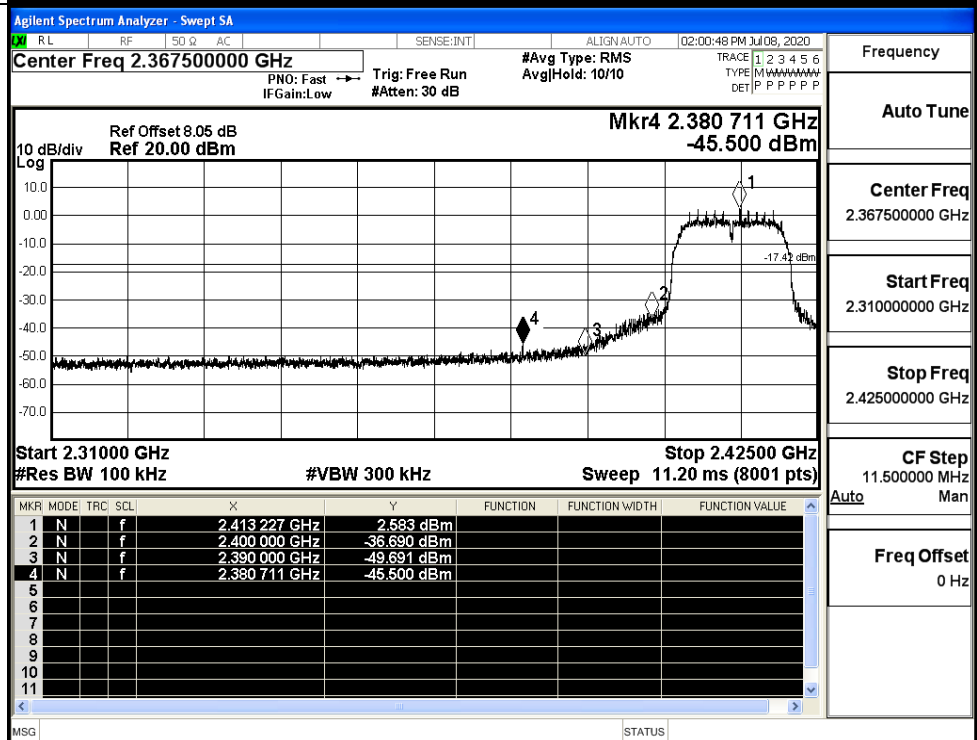
5.000000 MHz

Auto

Freq Offset

0 Hz

11N20SISO/LCH



Frequency

Auto Tune

Center Freq

2.367500000 GHz

Start Freq

2.310000000 GHz

Stop Freq

2.425000000 GHz

CF Step

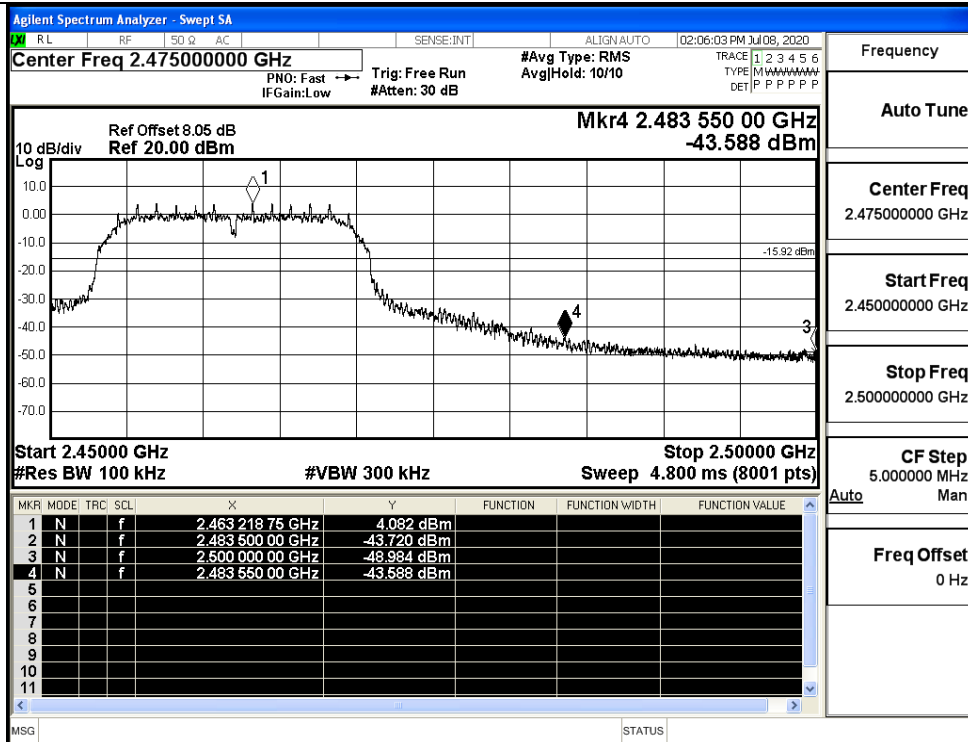
11.500000 MHz

Auto

Freq Offset

0 Hz

11N20SISO/HCH



Frequency

Auto Tune

Center Freq
2.475000000 GHz

Start Freq
2.450000000 GHz

Stop Freq
2.500000000 GHz

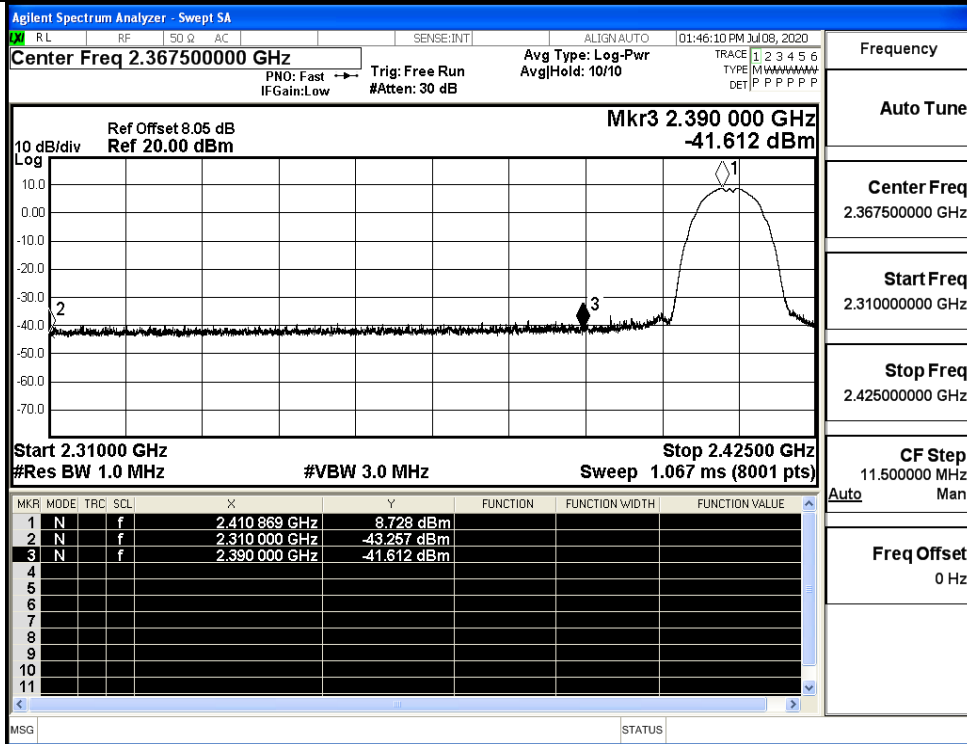
CF Step
5.000000 MHz
Auto Man

Freq Offset
0 Hz

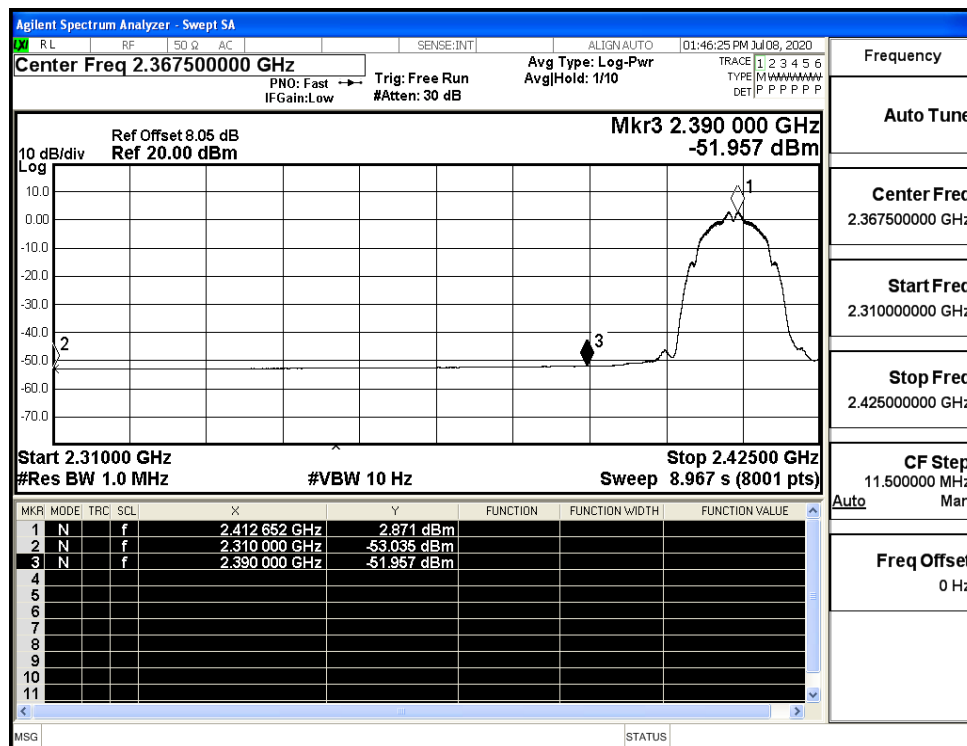
A.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-43.26	3.0	0	55.00	PEAK	74	PASS
	2412	Ant1	2310.0	-53.04	3.0	0	45.22	AV	54	PASS
	2412	Ant1	2390.0	-41.61	3.0	0	56.65	PEAK	74	PASS
	2412	Ant1	2390.0	-51.96	3.0	0	46.30	AV	54	PASS
	2462	Ant1	2483.5	-41.12	3.0	0	57.14	PEAK	74	PASS
	2462	Ant1	2483.5	-51.10	3.0	0	47.16	AV	54	PASS
	2462	Ant1	2500.0	-41.06	3.0	0	57.20	PEAK	74	PASS
	2462	Ant1	2500.0	-51.69	3.0	0	46.57	AV	54	PASS
11G	2412	Ant1	2310.0	-41.87	3.0	0	56.39	PEAK	74	PASS
	2412	Ant1	2310.0	-53.03	3.0	0	45.23	AV	54	PASS
	2412	Ant1	2390.0	-35.98	3.0	0	62.28	PEAK	74	PASS
	2412	Ant1	2390.0	-49.48	3.0	0	48.78	AV	54	PASS
	2462	Ant1	2483.5	-34.00	3.0	0	64.26	PEAK	74	PASS
	2462	Ant1	2483.5	-48.17	3.0	0	50.09	AV	54	PASS
	2462	Ant1	2500.0	-40.89	3.0	0	57.37	PEAK	74	PASS
	2462	Ant1	2500.0	-51.08	3.0	0	47.18	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-42.95	3.0	0	55.31	PEAK	74	PASS
	2412	Ant1	2310.0	-53.00	3.0	0	45.26	AV	54	PASS
	2412	Ant1	2390.0	-36.13	3.0	0	62.13	PEAK	74	PASS
	2412	Ant1	2390.0	-49.81	3.0	0	48.45	AV	54	PASS
	2462	Ant1	2483.5	-33.58	3.0	0	64.68	PEAK	74	PASS
	2462	Ant1	2483.5	-48.10	3.0	0	50.16	AV	54	PASS
	2462	Ant1	2500.0	-40.74	3.0	0	57.52	PEAK	74	PASS
	2462	Ant1	2500.0	-51.08	3.0	0	47.18	AV	54	PASS

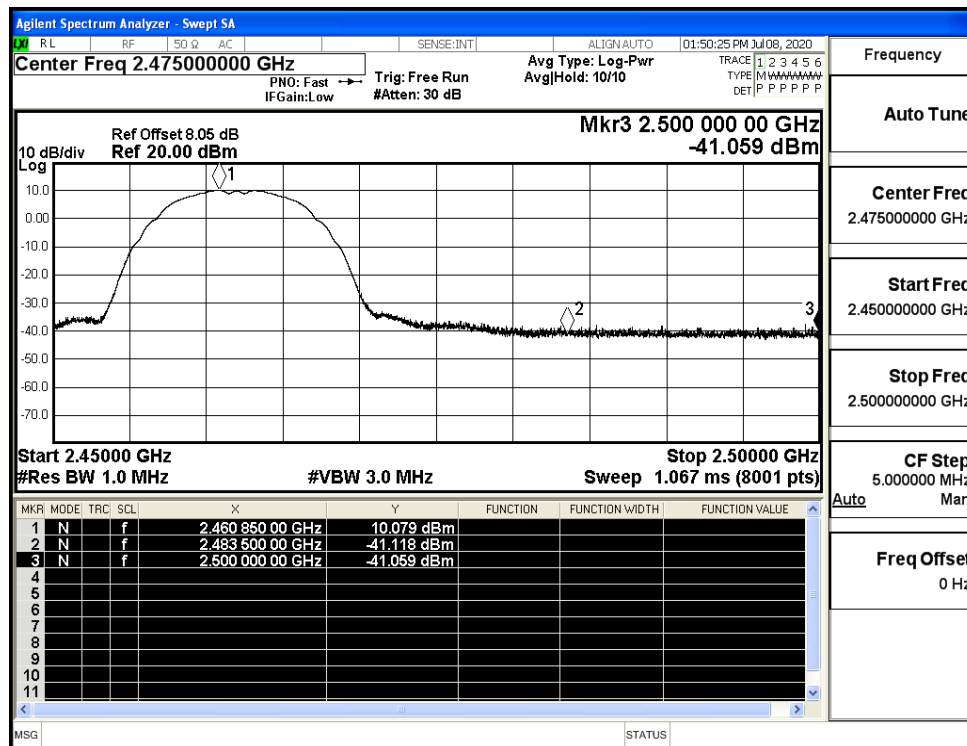
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



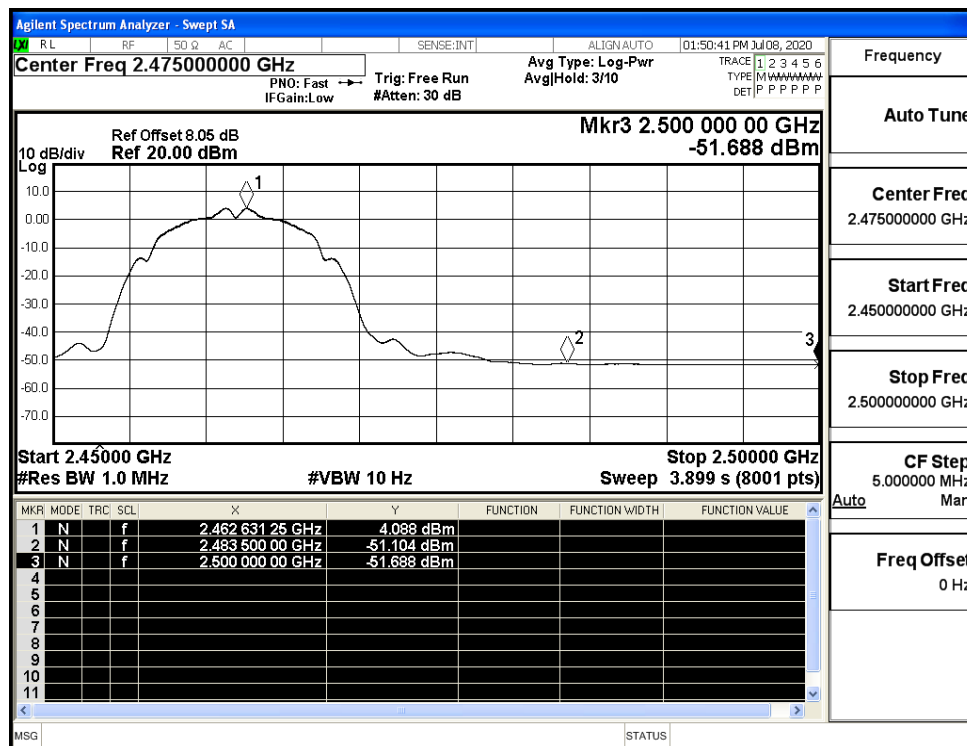
Restrict-band band-edge measurements_11B_2412_Ant1_AV



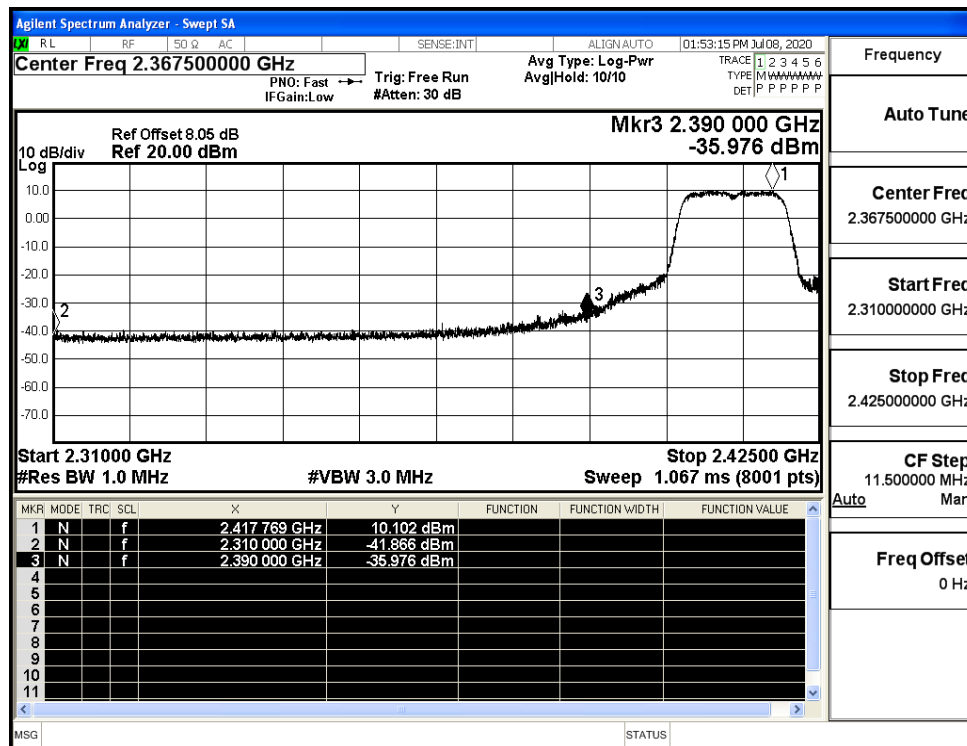
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



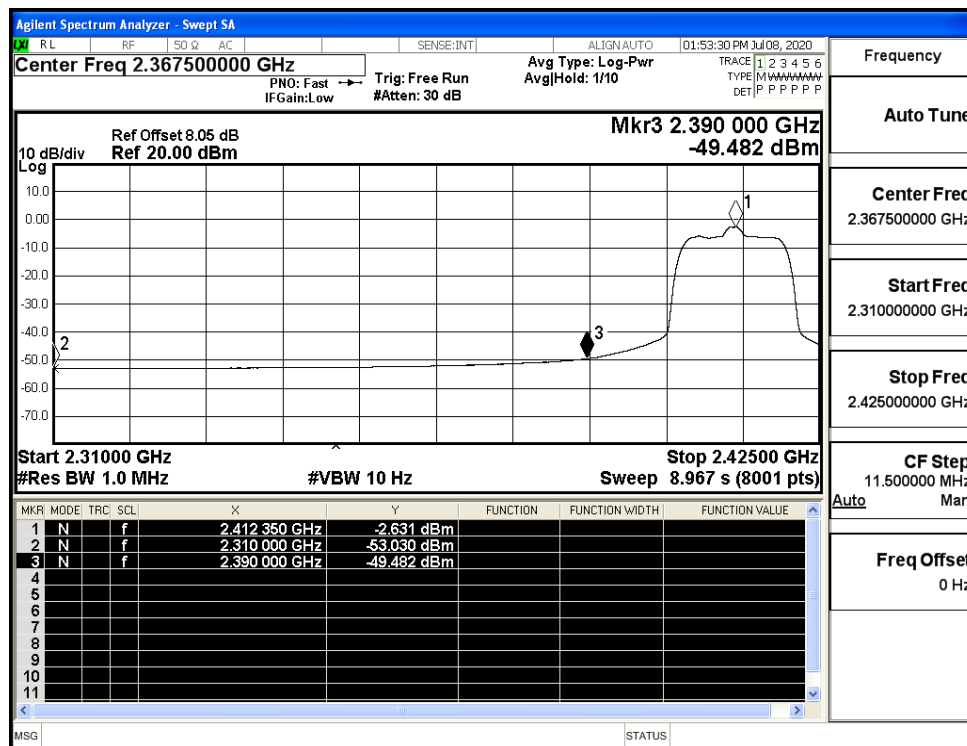
Restrict-band band-edge measurements_11B_2462_Ant1_AV



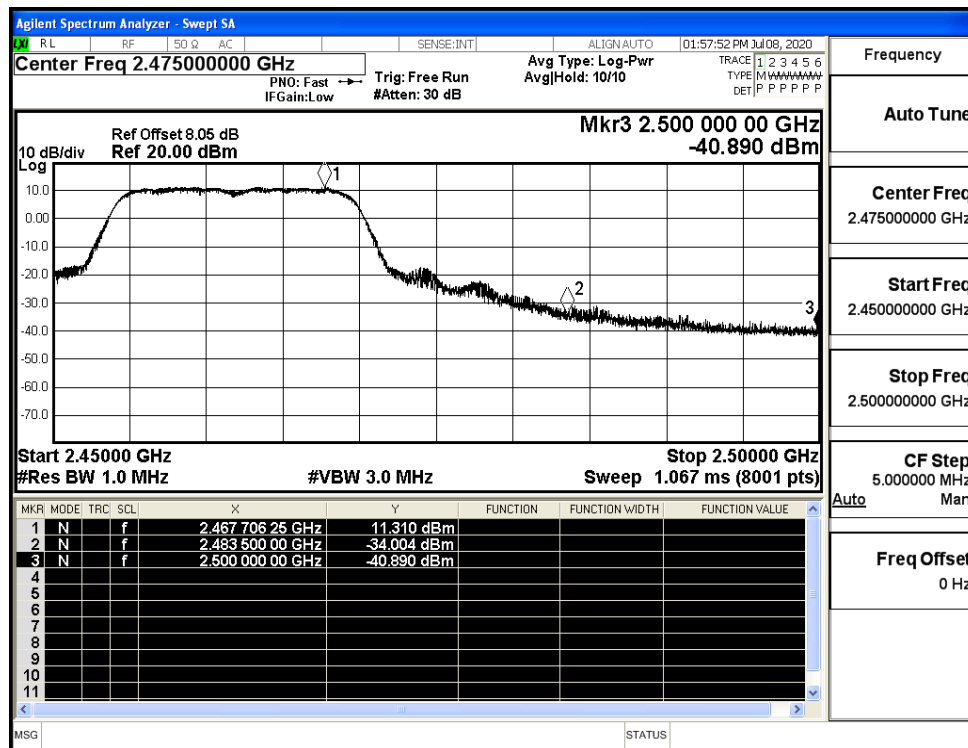
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



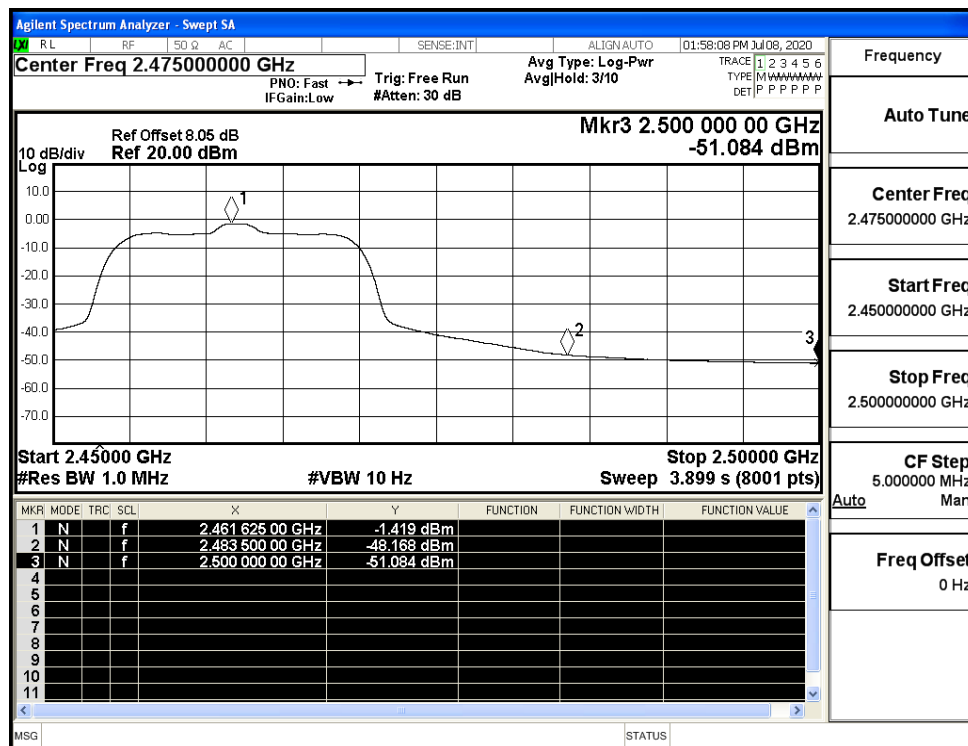
Restrict-band band-edge measurements_11G_2412_Ant1_AV



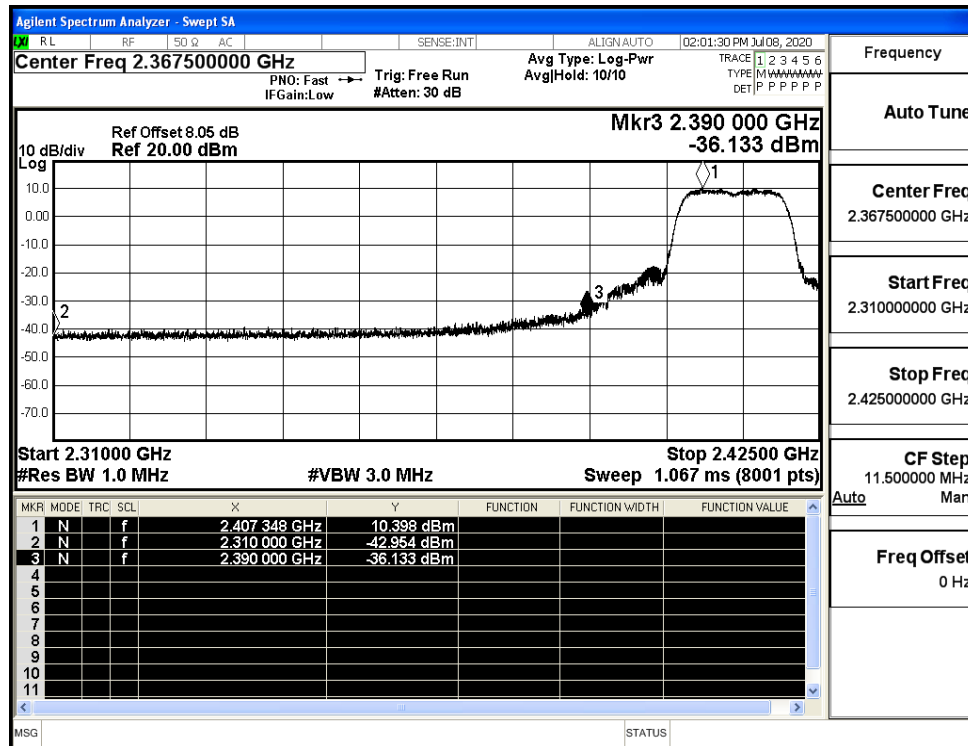
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



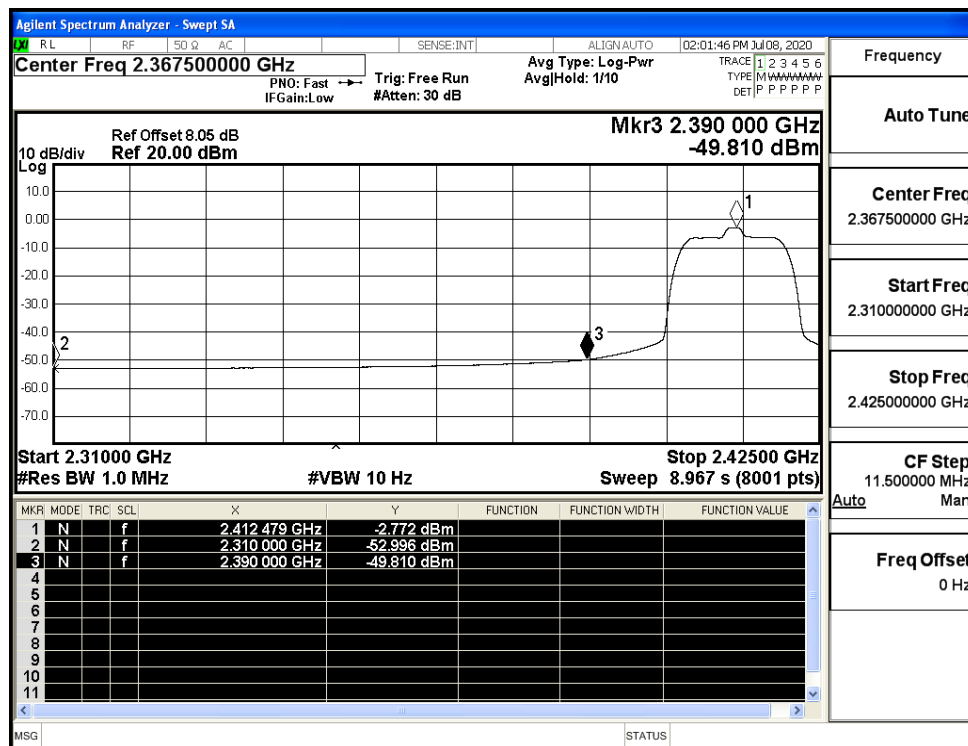
Restrict-band band-edge measurements_11G_2462_Ant1_AV



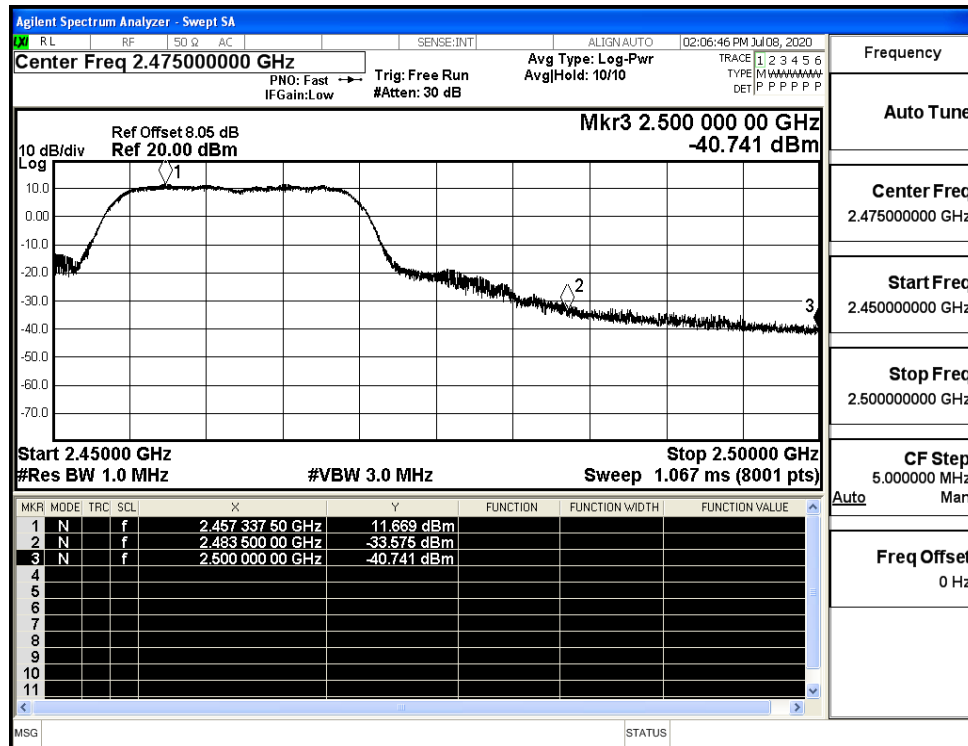
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



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

