

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Industrial 4G LTE Gateway

Trade Mark: GL.iNET

Test Model: GL-X300BC4

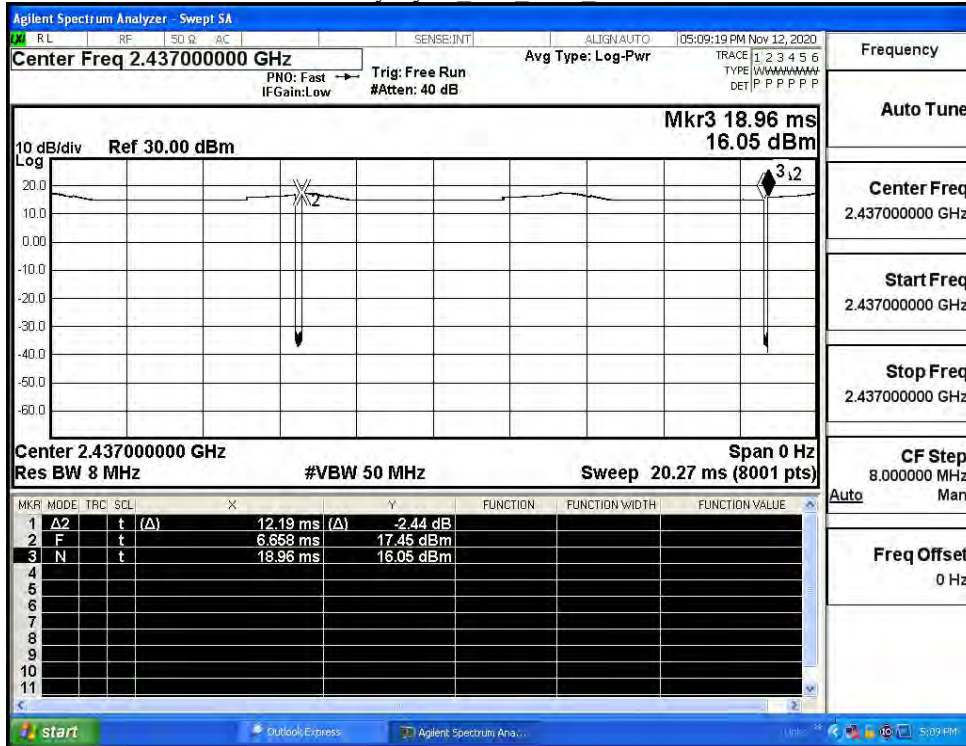
Environmental Conditions

Temperature:	23.7 ° C
Relative Humidity:	54.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

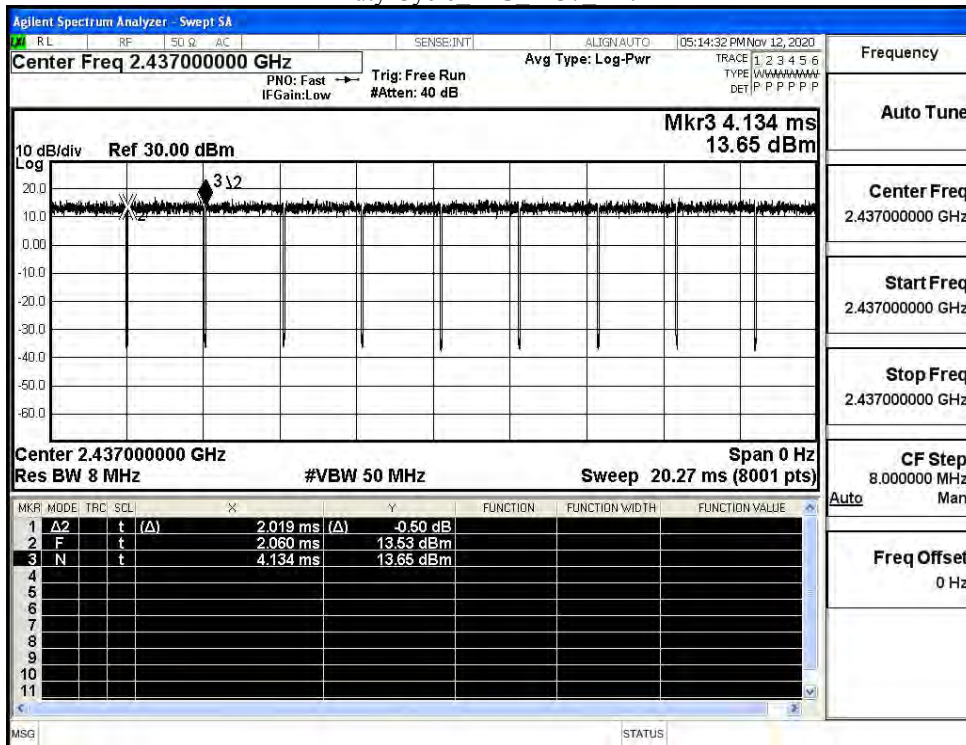
A.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	1/T Minimum VBW(KHz)	Verdict
11B	2437	Ant1	99.03	10Hz (Note: duty cycle ≥98%)	PASS
11G	2437	Ant1	97.31	0.495	PASS
11N20SISO	2437	Ant1	97.25	0.531	PASS
11N40SISO	2437	Ant1	95.55	1.081	PASS

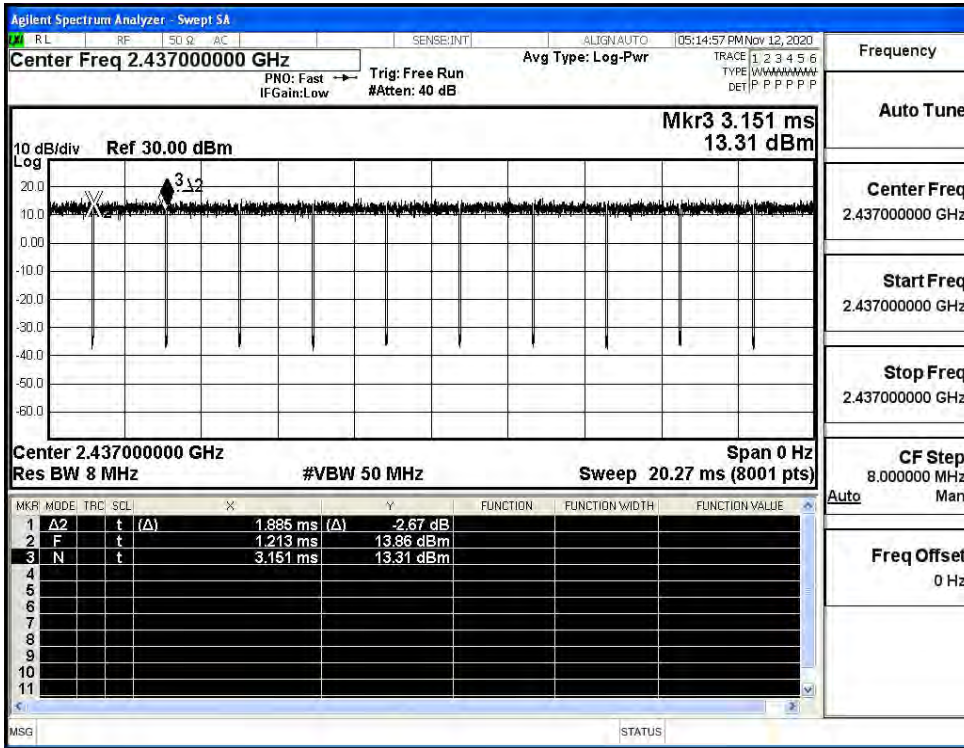
Duty Cycle 11B 2437 Ant1



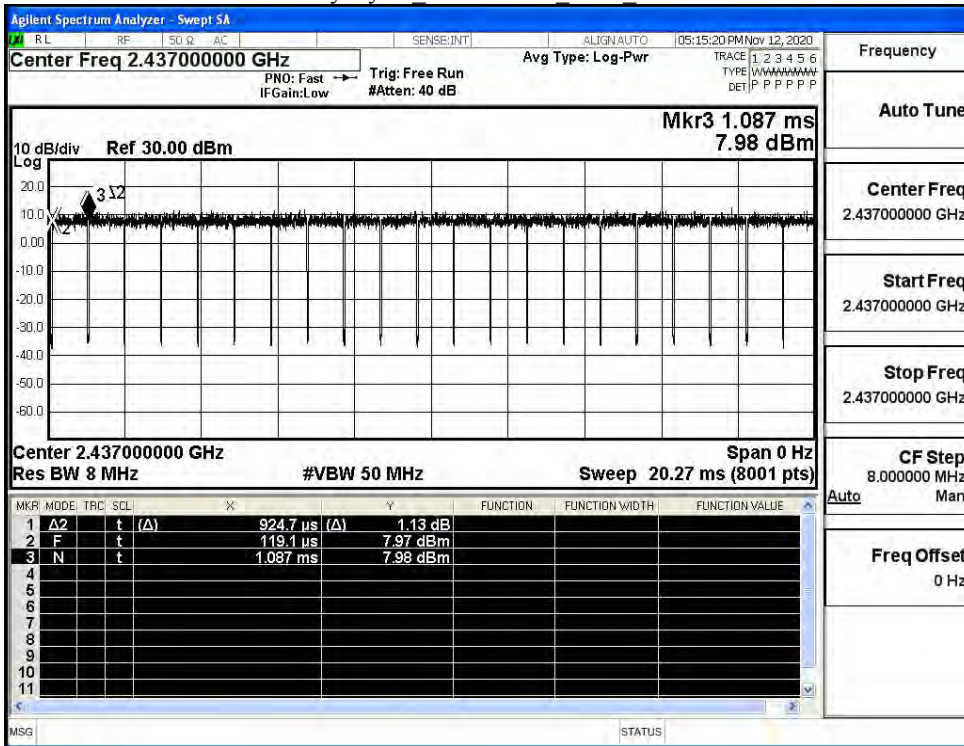
Duty Cycle 11G 2437 Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle 11N40SISO 2437 Ant1



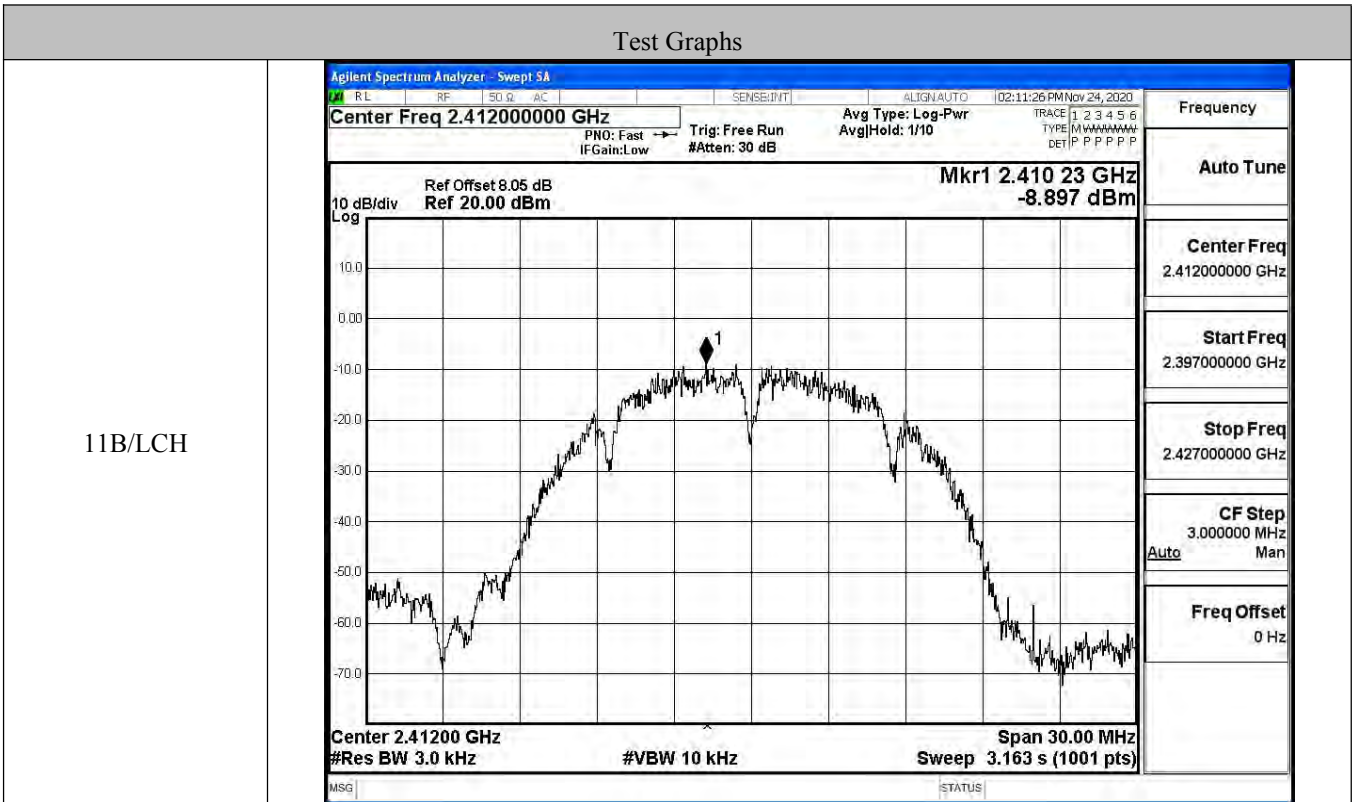
A.2 Maximum Conducted Output Power

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	17.73	30	PASS
	MCH	18.29	30	PASS
	HCH	18.28	30	PASS
11G	LCH	22.04	30	PASS
	MCH	22.19	30	PASS
	HCH	22.32	30	PASS
11N20SISO	LCH	21.23	30	PASS
	MCH	21.60	30	PASS
	HCH	21.64	30	PASS
11N40SISO	LCH	22.10	30	PASS
	MCH	21.44	30	PASS
	HCH	22.12	30	PASS

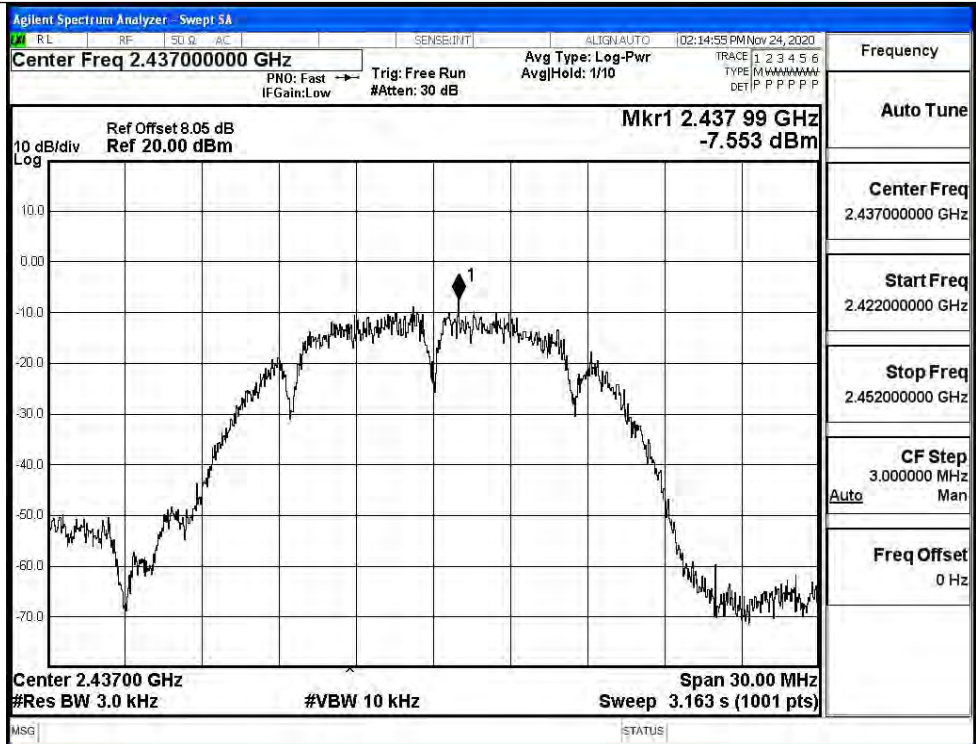
A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-8.897	8	PASS
	MCH	-7.553	8	PASS
	HCH	-8.400	8	PASS
11G	LCH	-9.742	8	PASS
	MCH	-11.291	8	PASS
	HCH	-10.996	8	PASS
11N20SISO	LCH	-11.090	8	PASS
	MCH	-13.144	8	PASS
	HCH	-11.748	8	PASS
11N40SISO	LCH	-14.994	8	PASS
	MCH	-14.460	8	PASS
	HCH	-12.808	8	PASS

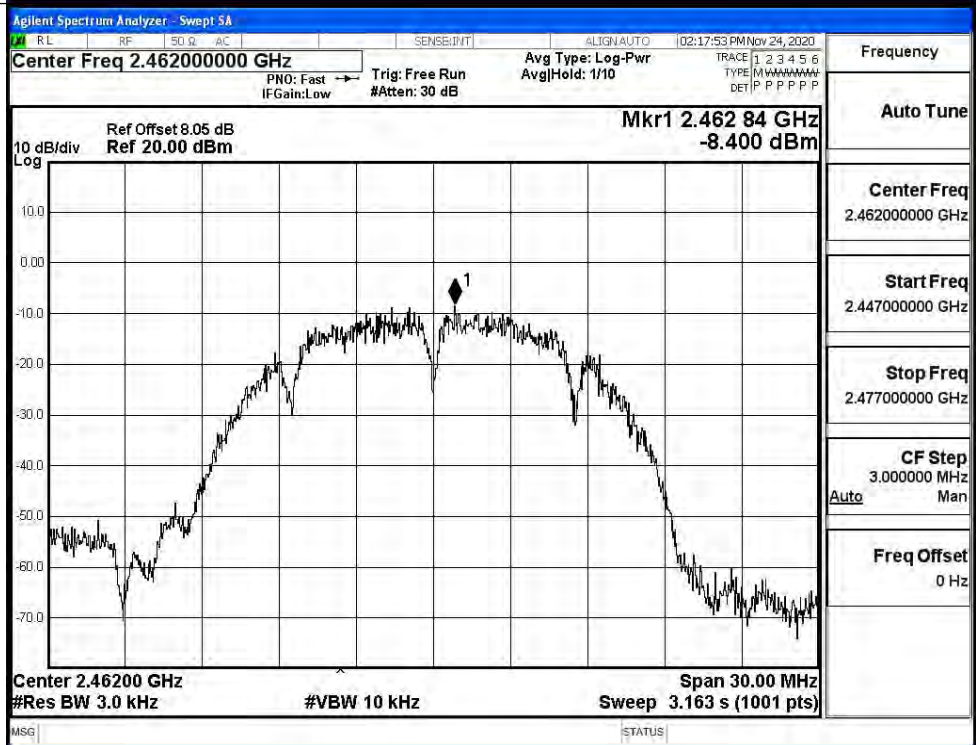
Test Graphs



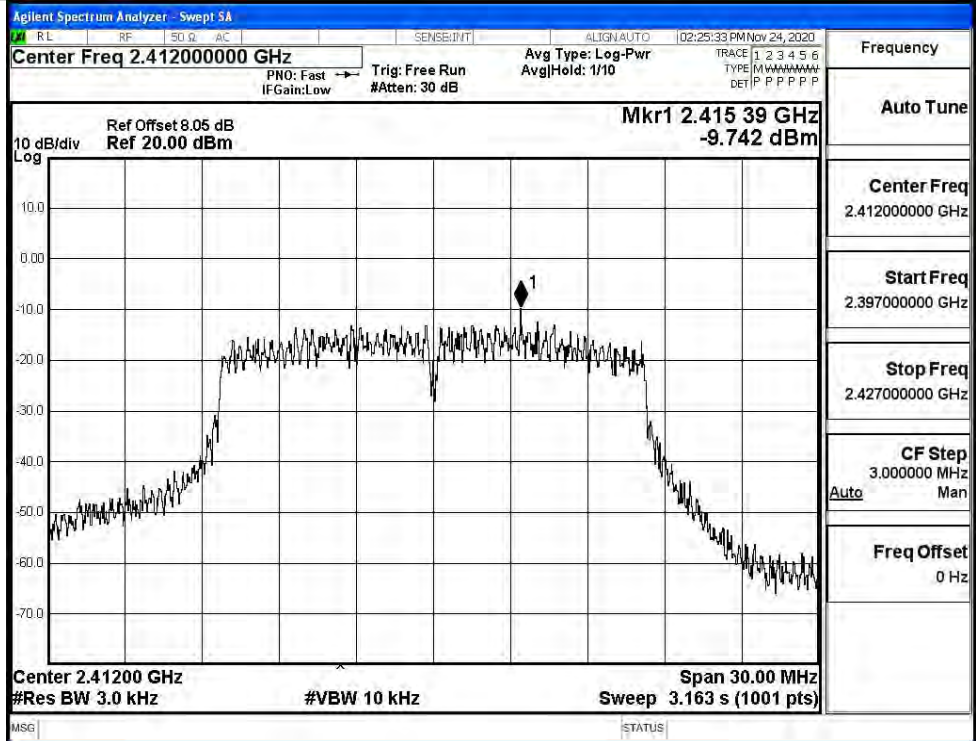
11B/MCH



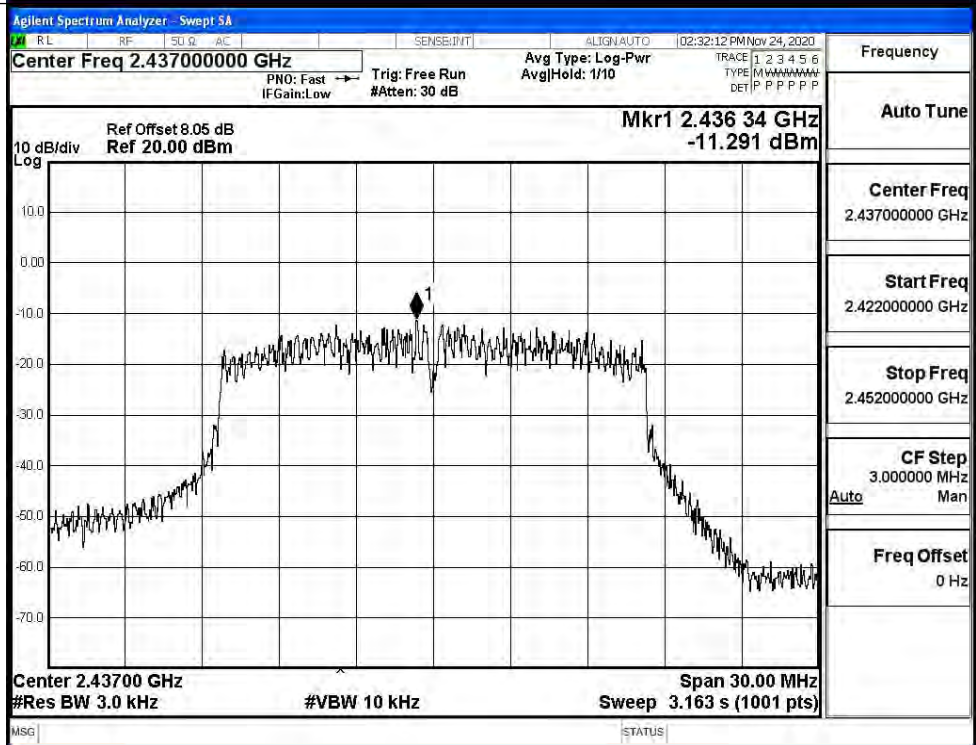
11B/HCH



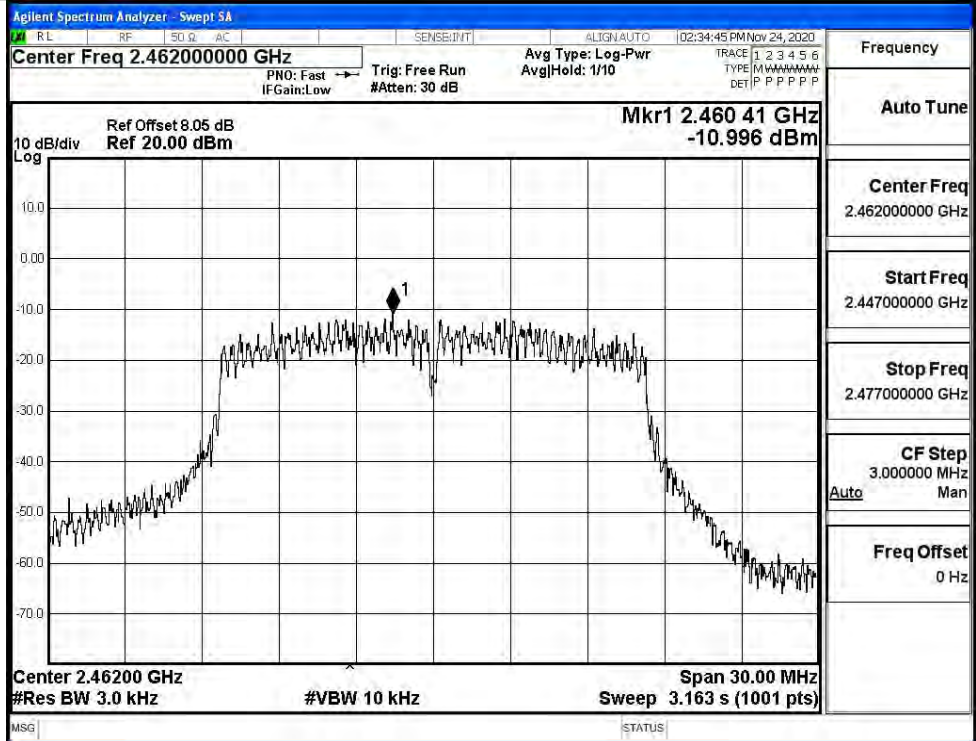
11G/LCH



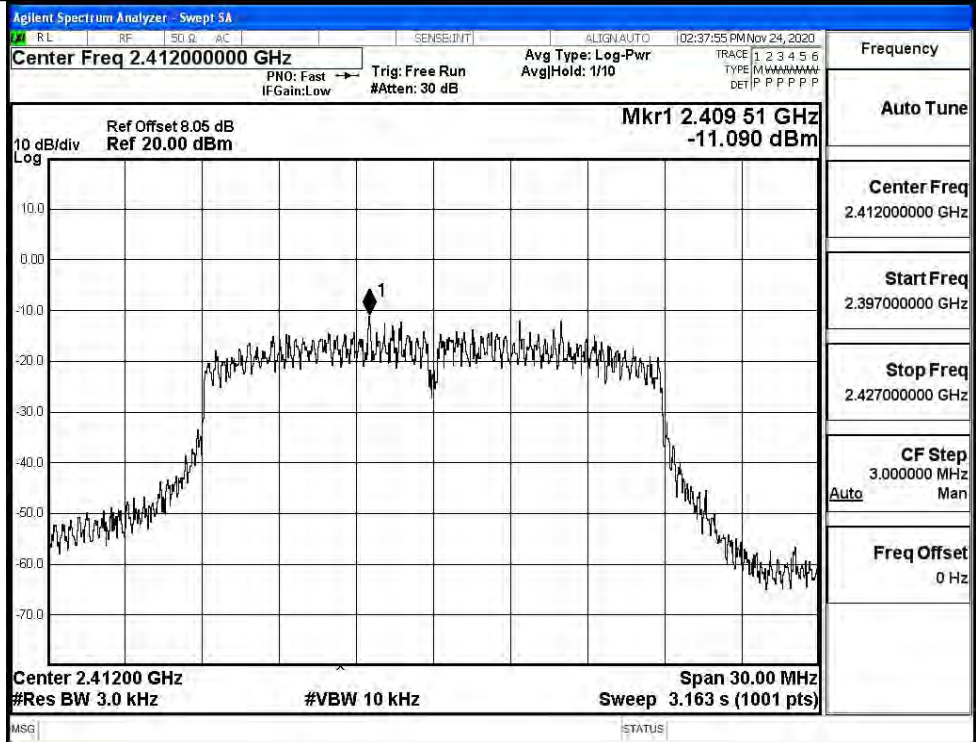
11G/MCH



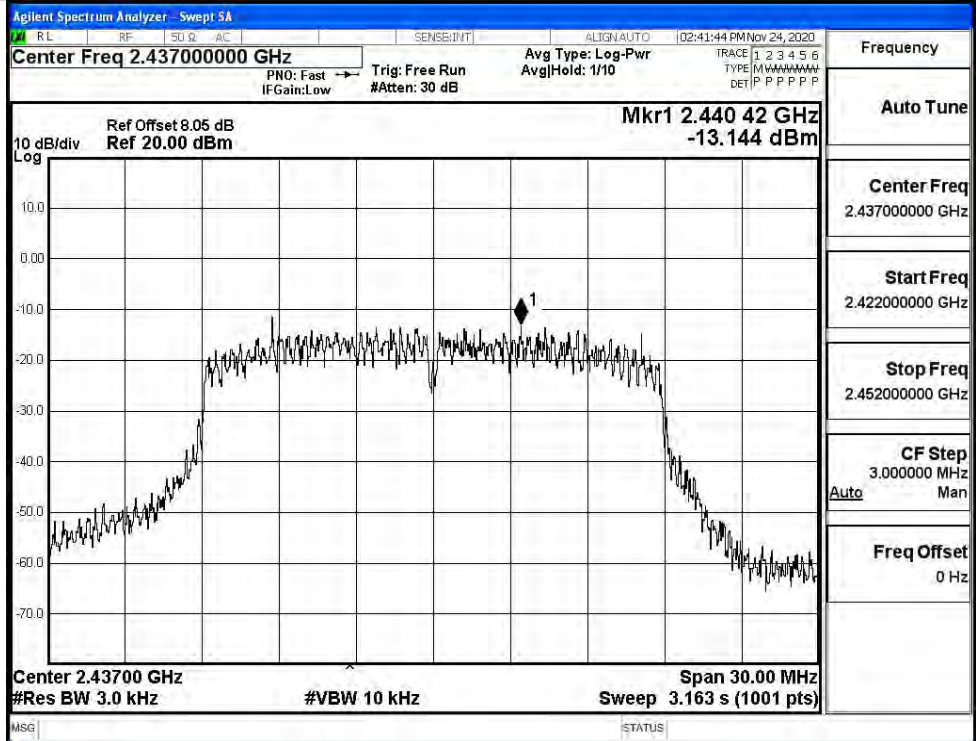
11G/HCH



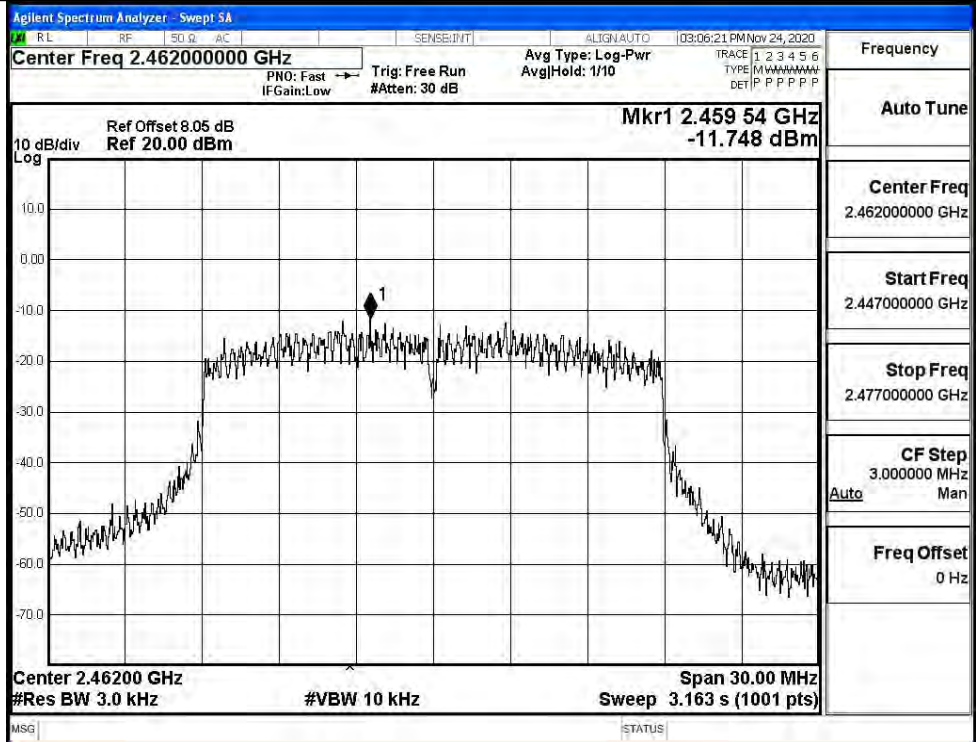
11N20SISO/LCH



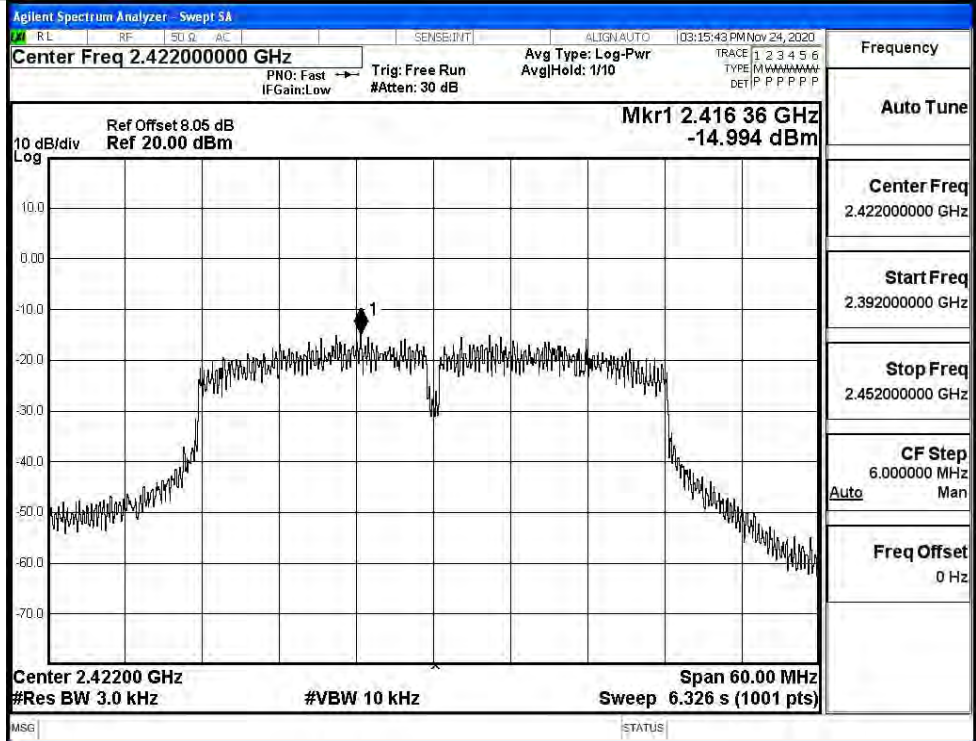
11N20SISO/MCH



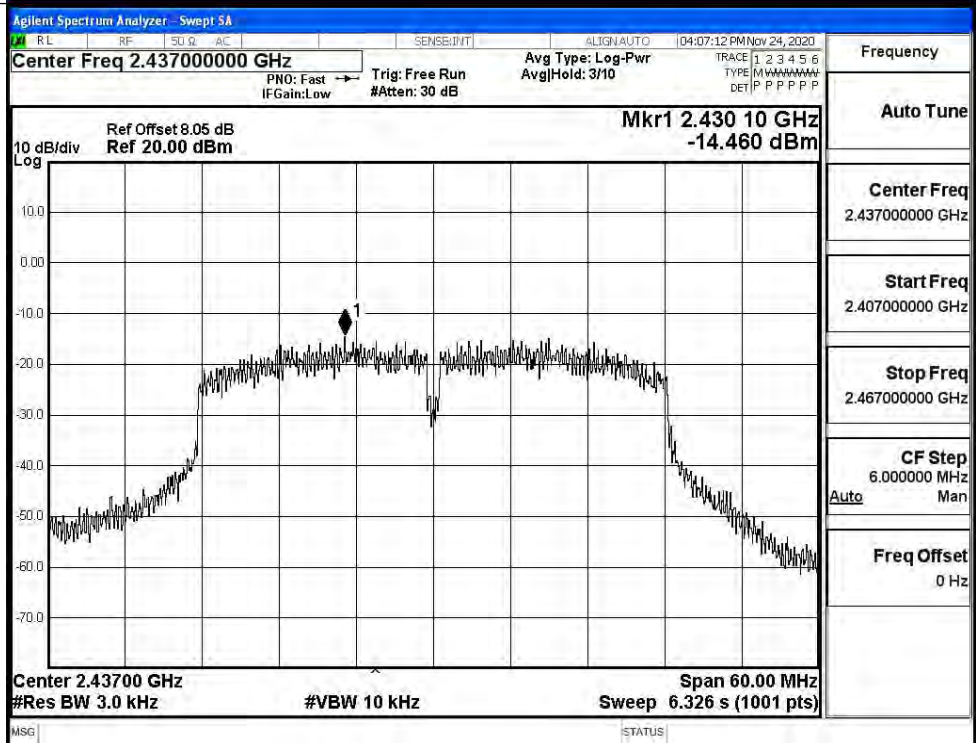
11N20SISO/HCH



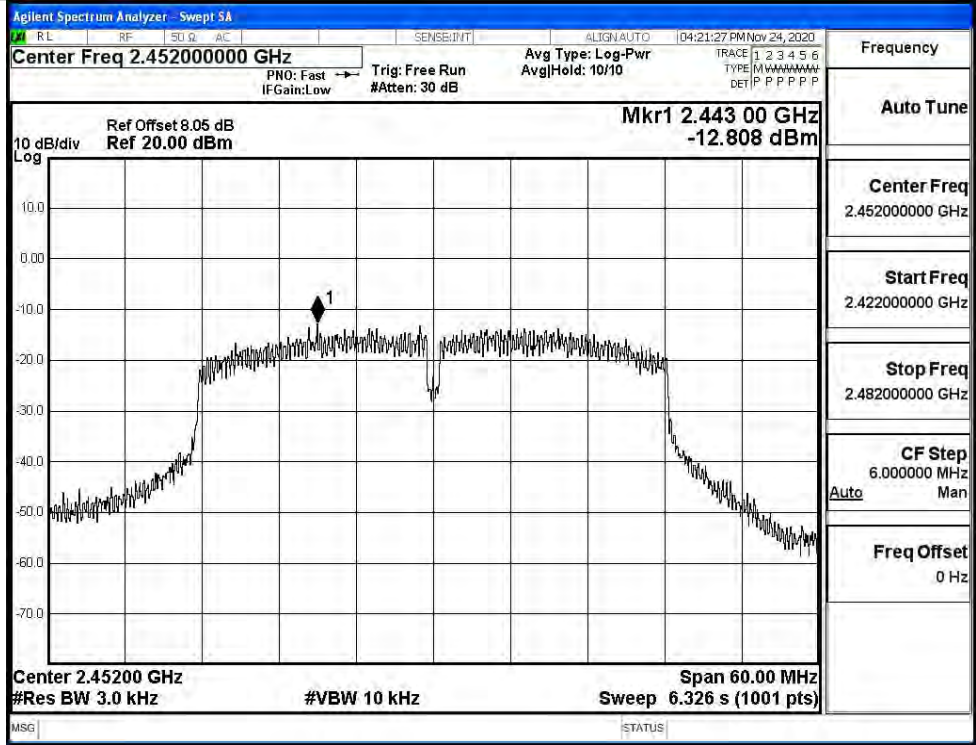
11N40SISO/LCH



11N40SISO/MCH



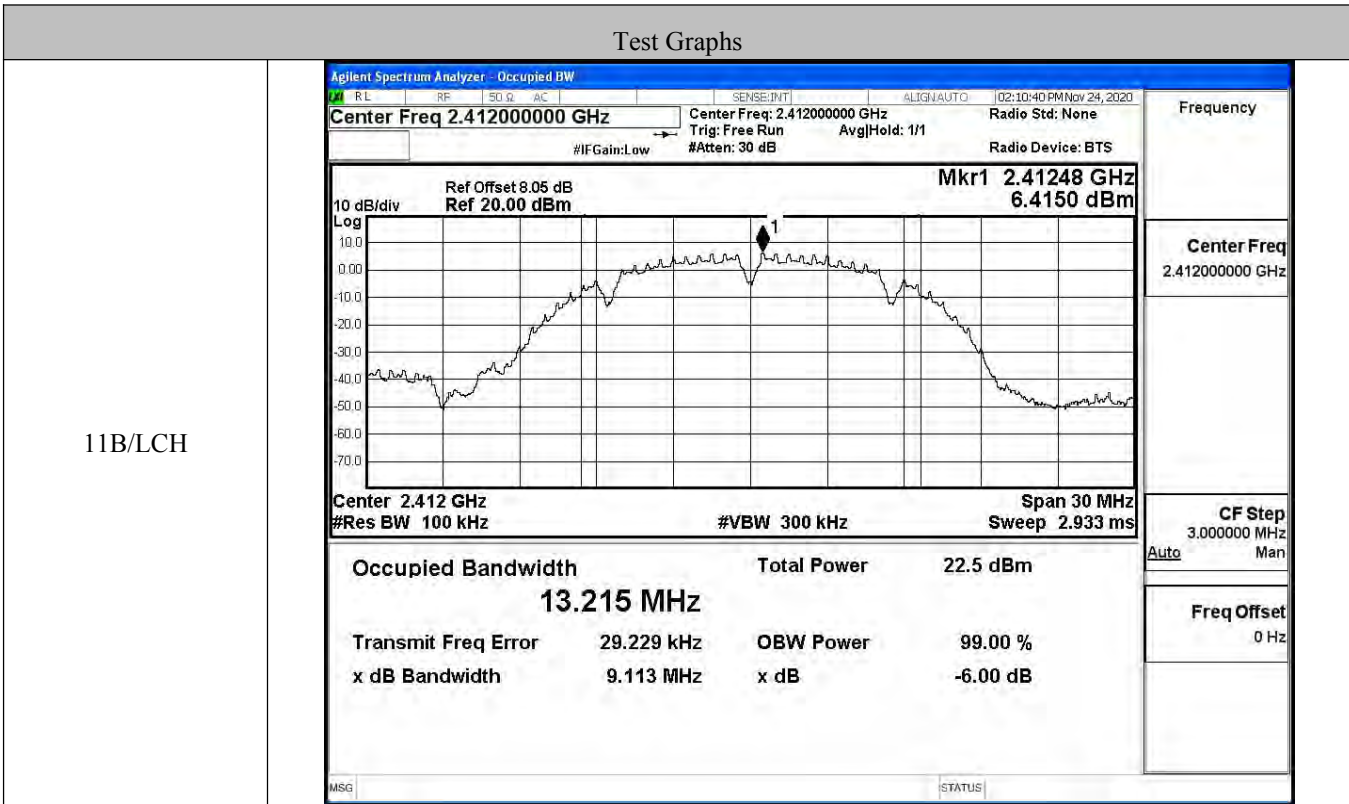
11N40SISO/HCH



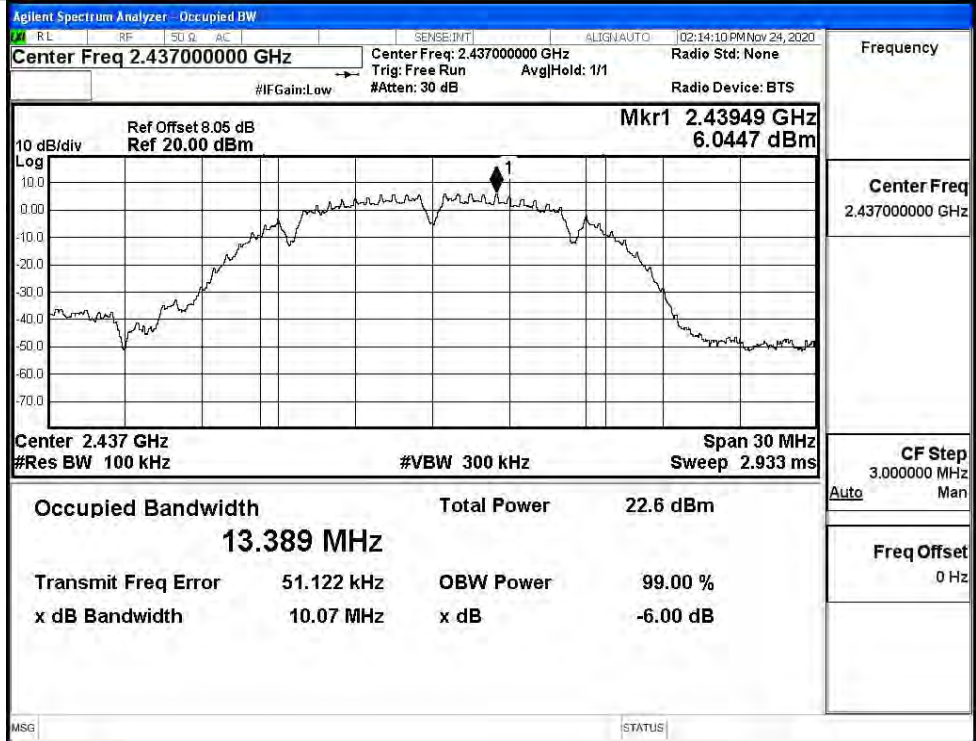
A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.113	≥0.5	PASS
	MCH	10.07	≥0.5	PASS
	HCH	9.603	≥0.5	PASS
11G	LCH	15.12	≥0.5	PASS
	MCH	15.04	≥0.5	PASS
	HCH	15.14	≥0.5	PASS
11N20SISO	LCH	15.11	≥0.5	PASS
	MCH	15.09	≥0.5	PASS
	HCH	15.10	≥0.5	PASS
11N40SISO	LCH	35.05	≥0.5	PASS
	MCH	32.68	≥0.5	PASS
	HCH	33.85	≥0.5	PASS

Test Graphs

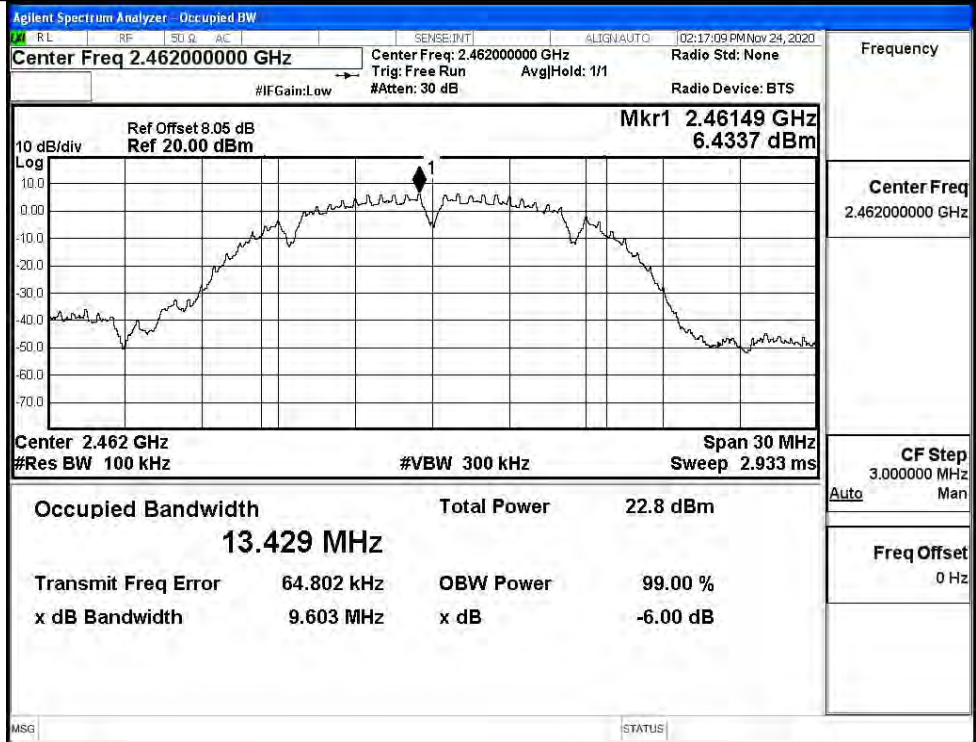


11B/MCH



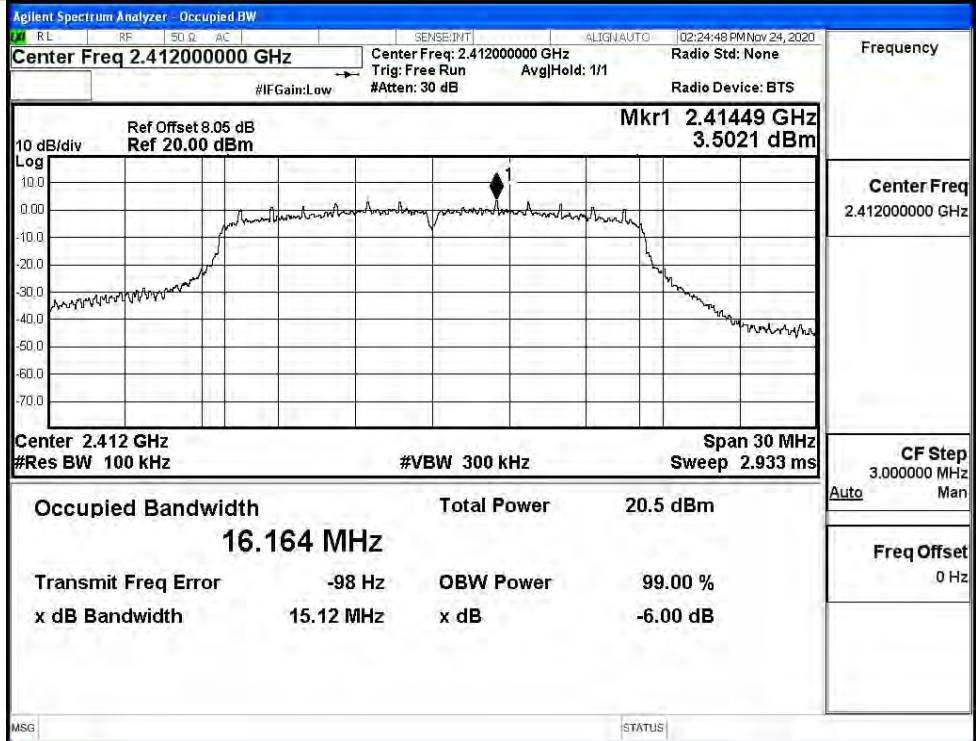
Frequency	2.43700000 GHz
Center Freq	2.43700000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11B/HCH

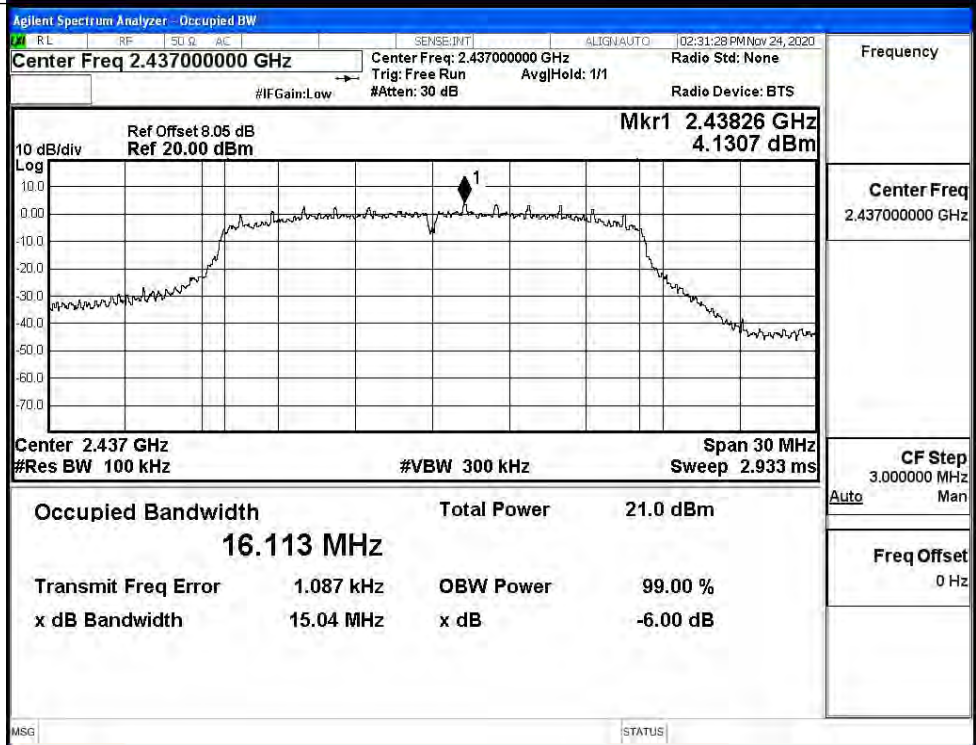


Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

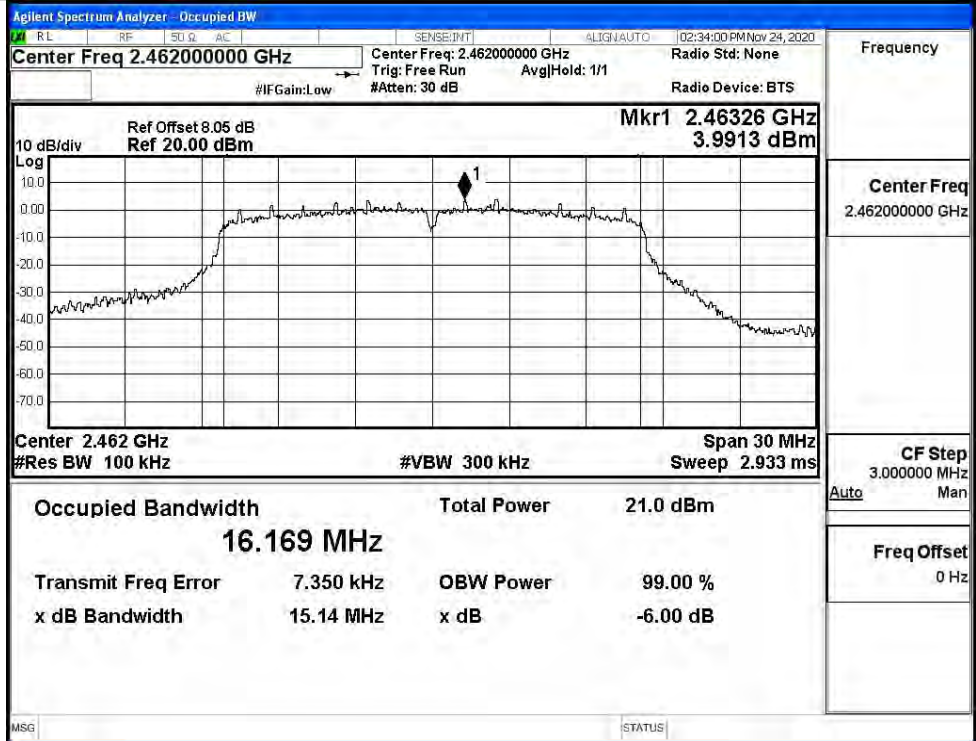
11G/LCH



11G/MCH

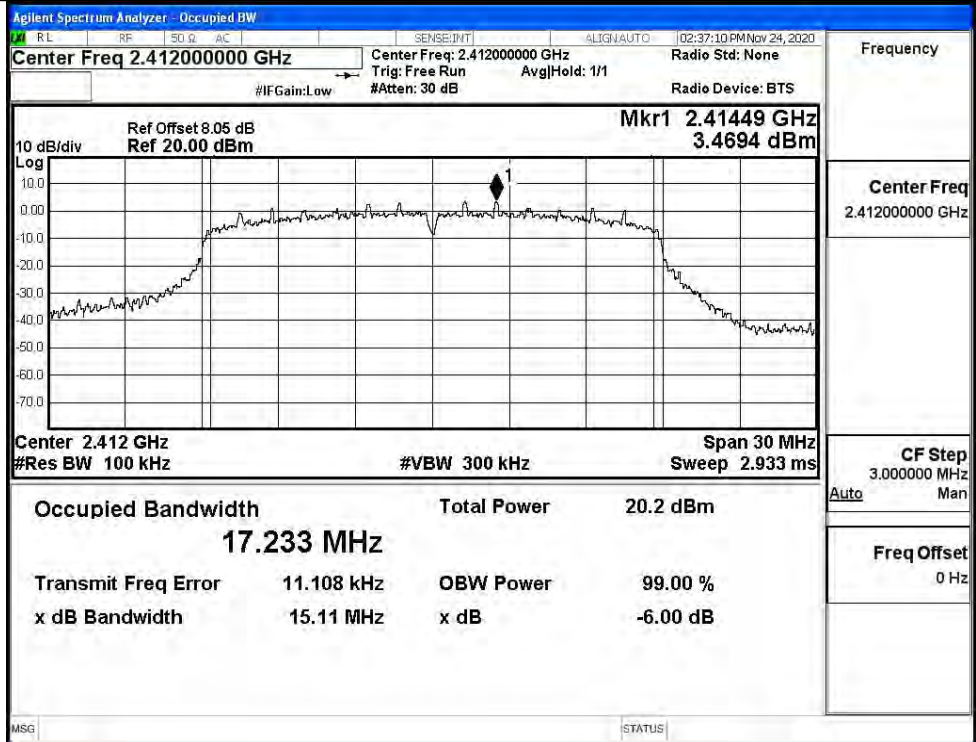


11G/HCH



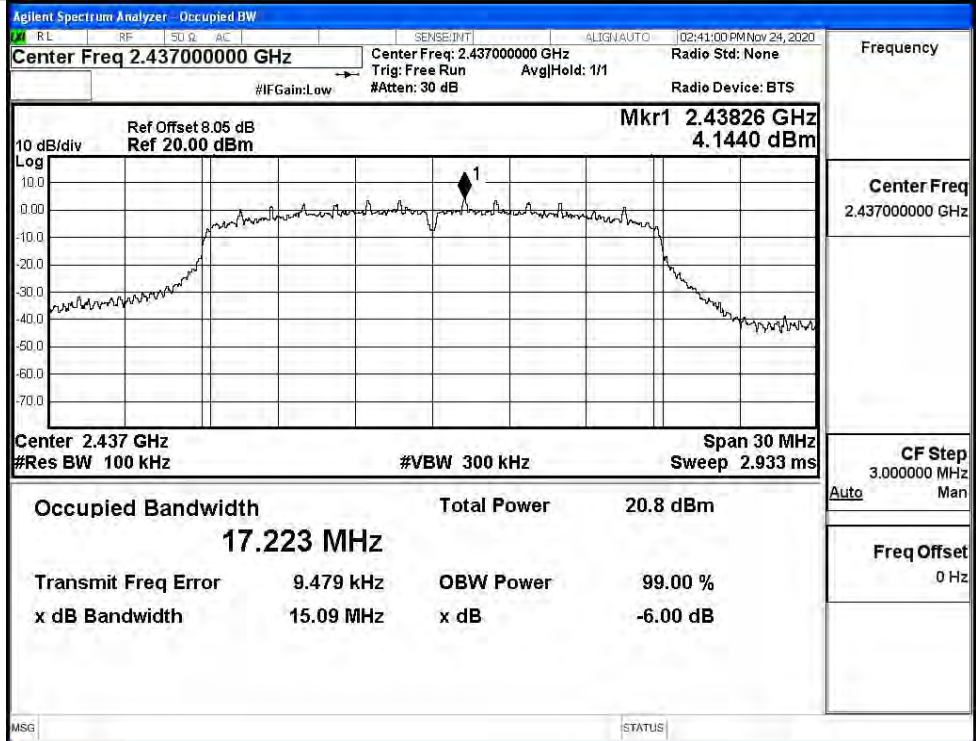
Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11N20SISO/LCH

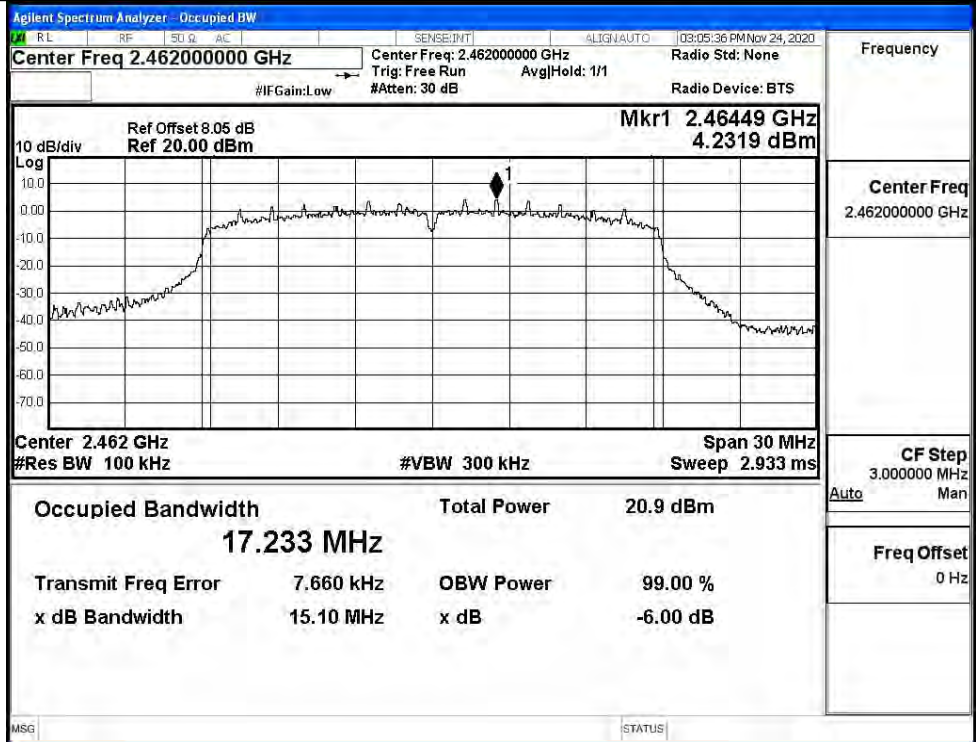


Frequency	2.41200000 GHz
Center Freq	2.41200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

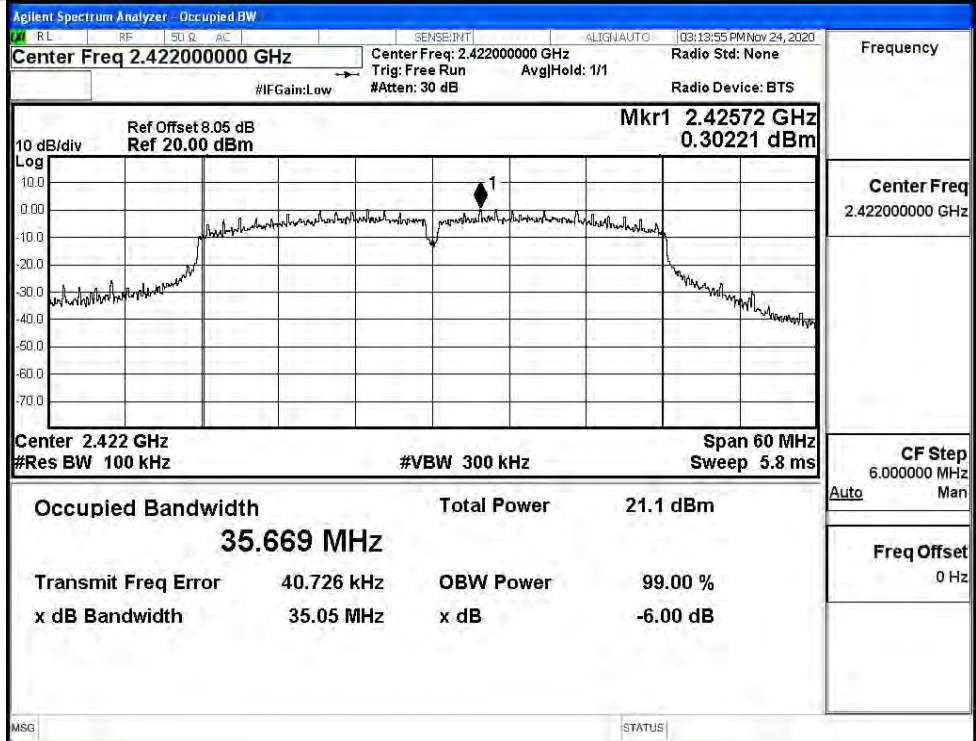
11N20SISO/MCH



11N20SISO/HCH

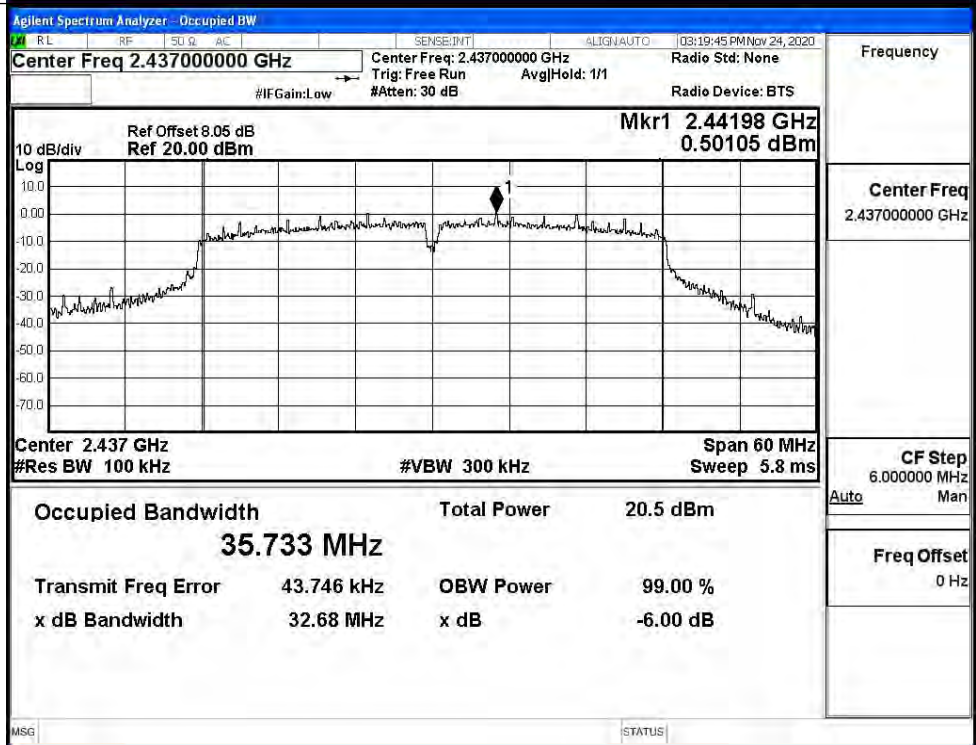


11N40SISO/LCH



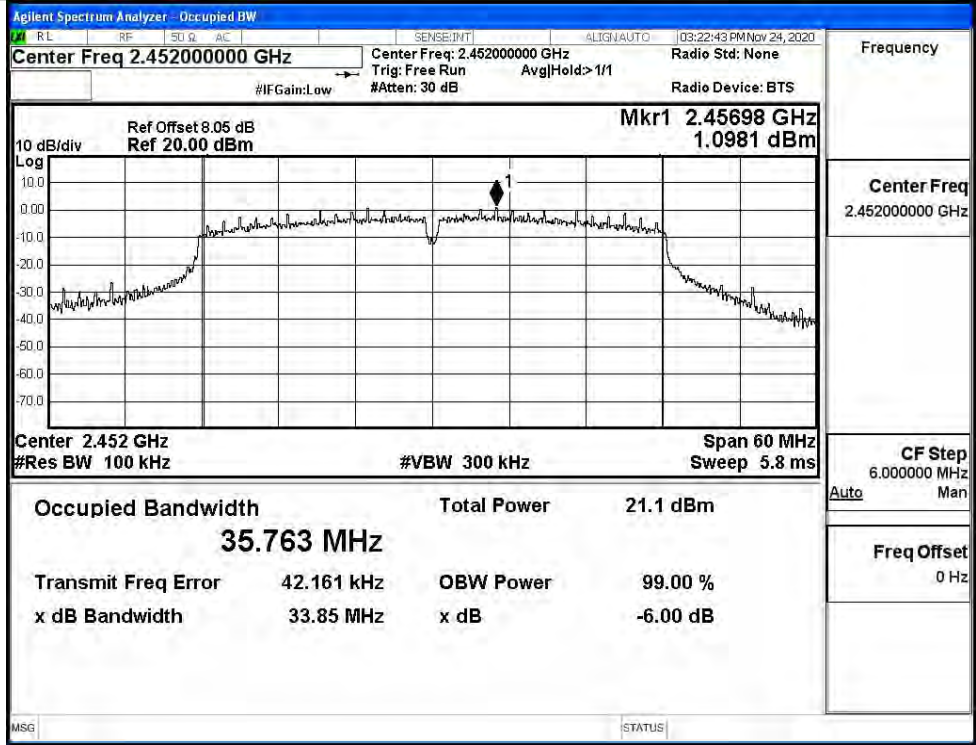
Frequency	2.42200000 GHz
Center Freq	2.42200000 GHz
CF Step	6.000000 MHz Auto Man
Freq Offset	0 Hz

11N40SISO/MCH



Frequency	2.43700000 GHz
Center Freq	2.43700000 GHz
CF Step	6.000000 MHz Auto Man
Freq Offset	0 Hz

11N40SISO/HCH

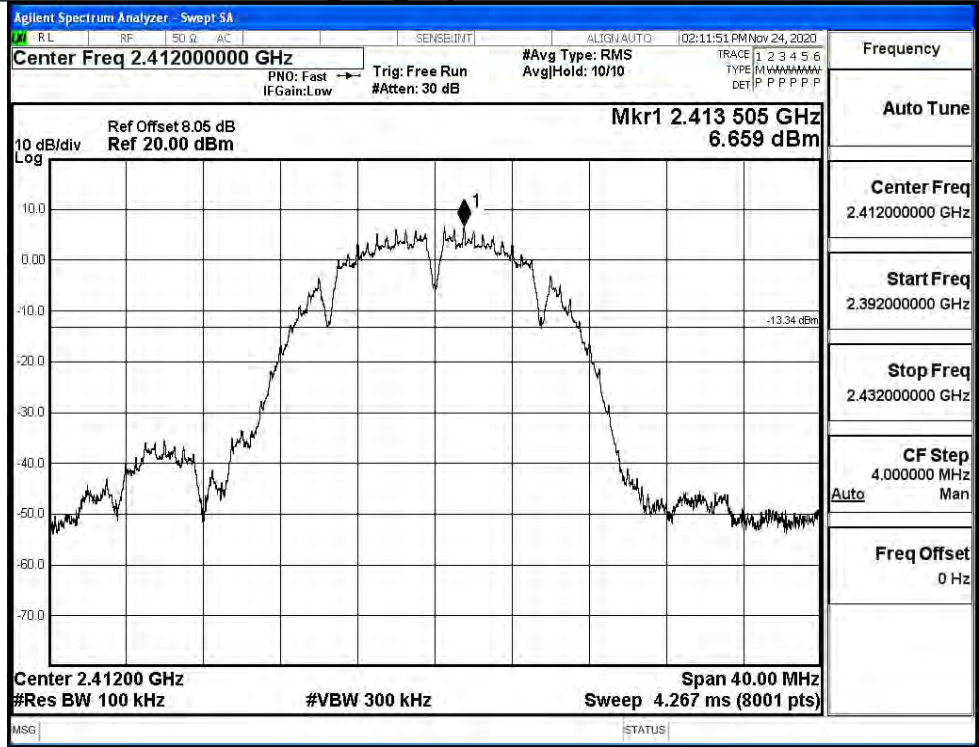


A.5 RF Conducted Spurious Emissions

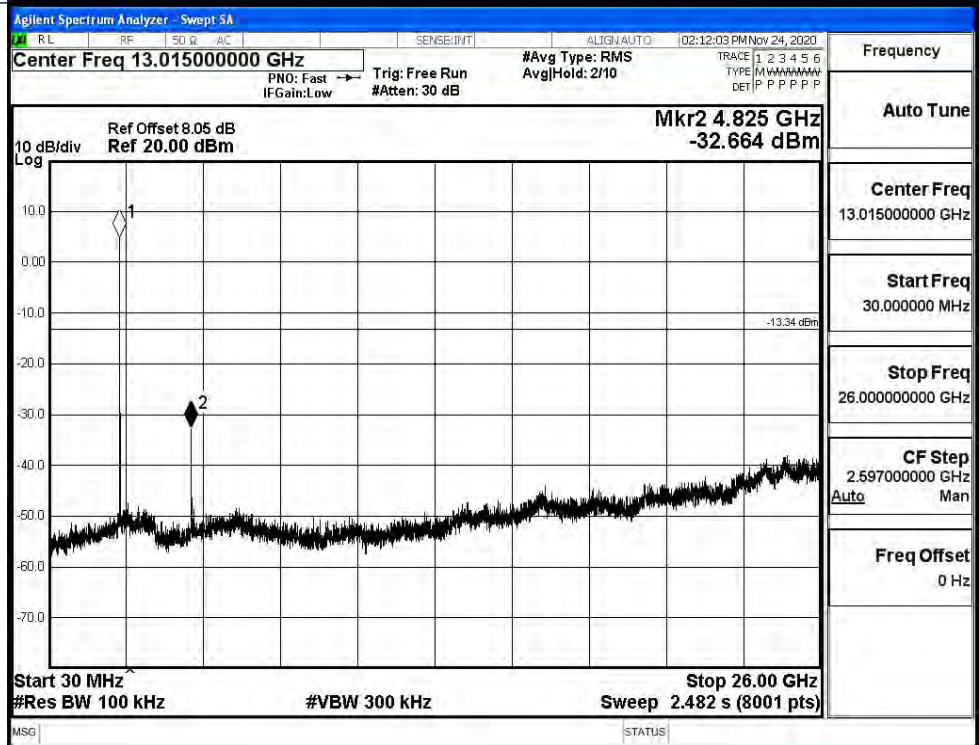
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	6.659	-32.664	-13.341	PASS
	MCH	6.131	-30.721	-13.869	PASS
	HCH	6.021	-33.665	-13.979	PASS
11G	LCH	3.383	-37.468	-16.617	PASS
	MCH	4.434	-38.679	-15.566	PASS
	HCH	4.42	-37.939	-15.580	PASS
11N20S ISO	LCH	3.754	-38.336	-16.246	PASS
	MCH	3.372	-38.182	-16.628	PASS
	HCH	4.052	-38.326	-15.948	PASS
11N40S ISO	LCH	-0.126	-38.165	-20.126	PASS
	MCH	0.135	-37.989	-19.865	PASS
	HCH	0.635	-38.650	-19.365	PASS

11B LCH Graphs

Pref/11B/LCH

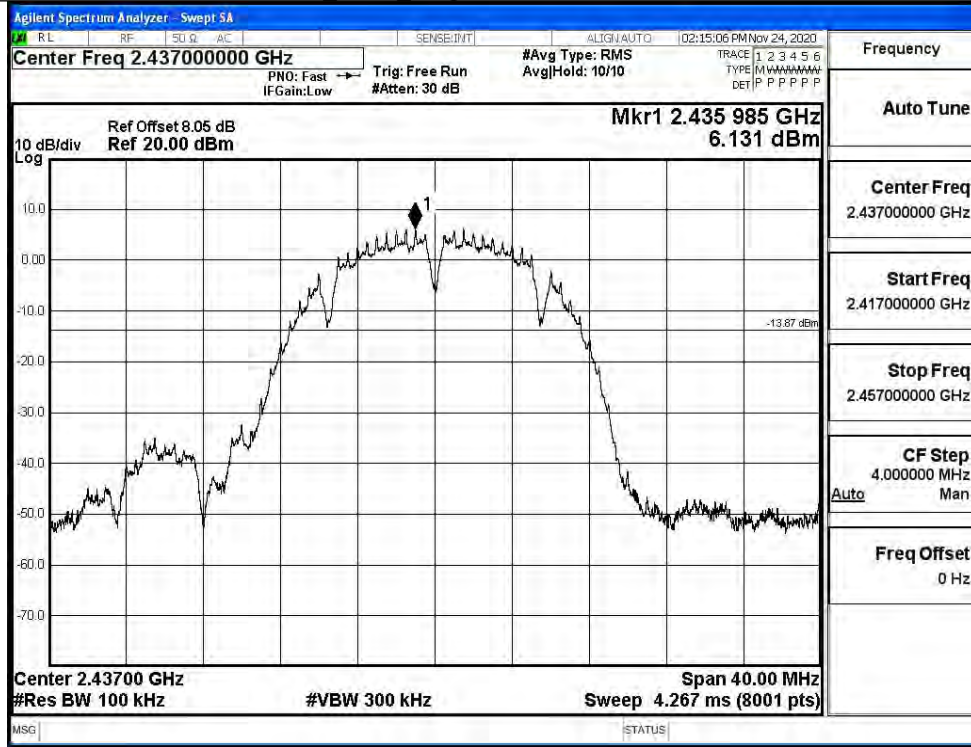


Puw/11B/LCH

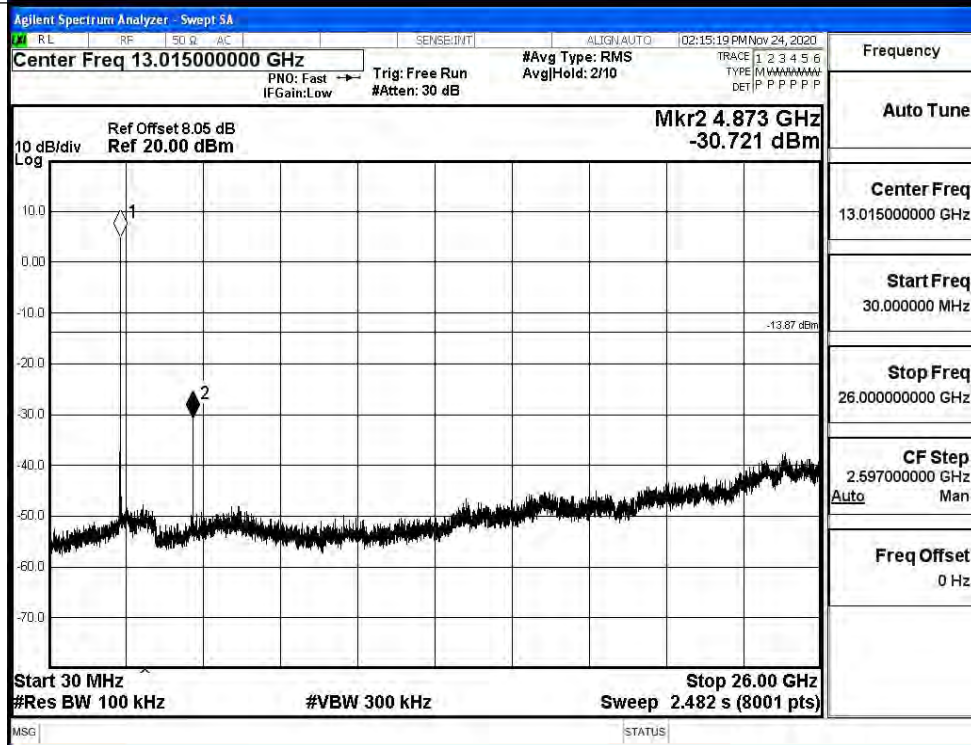


11B MCH Graphs

Pref/11B/MCH

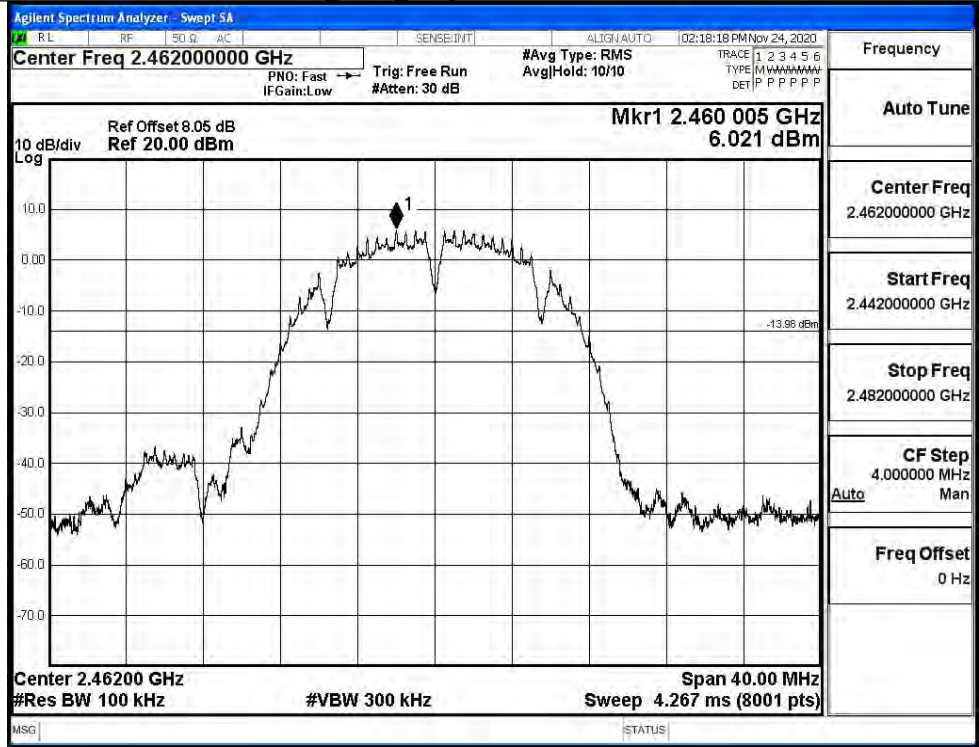


Puw/11B/MCH

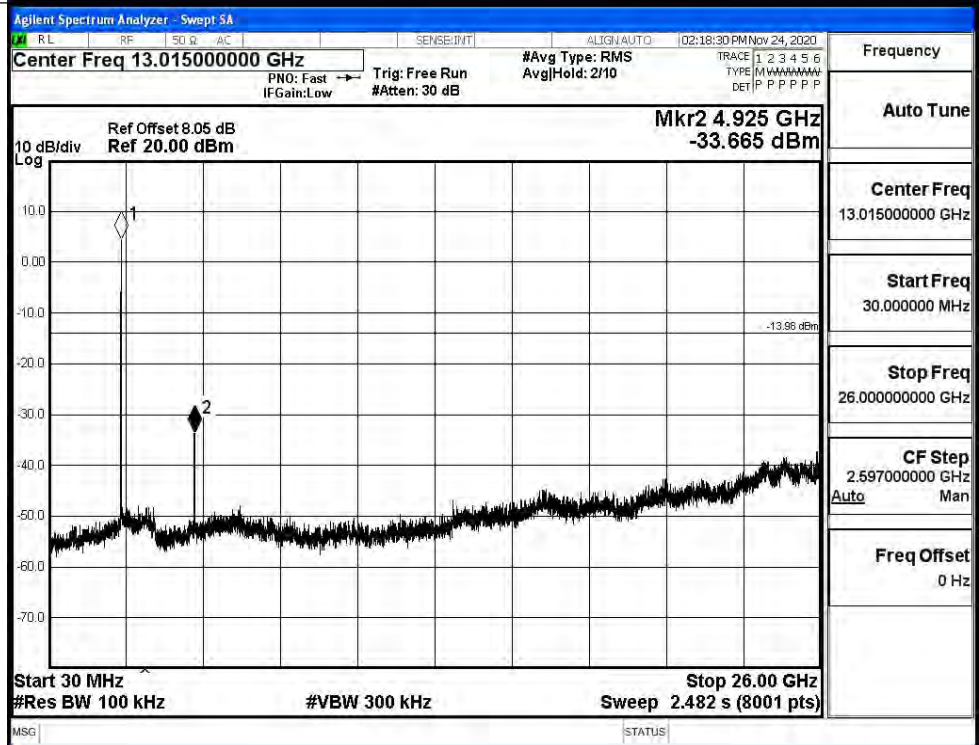


11B HCH Graphs

Pref/11B/HCH

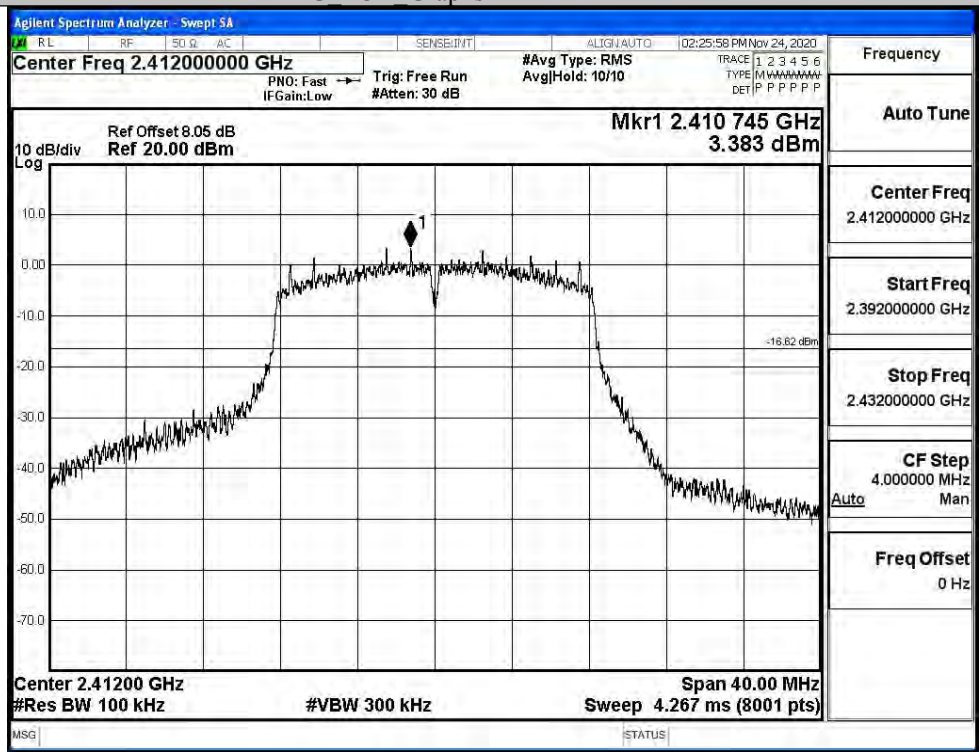


Puw/11B/HCH

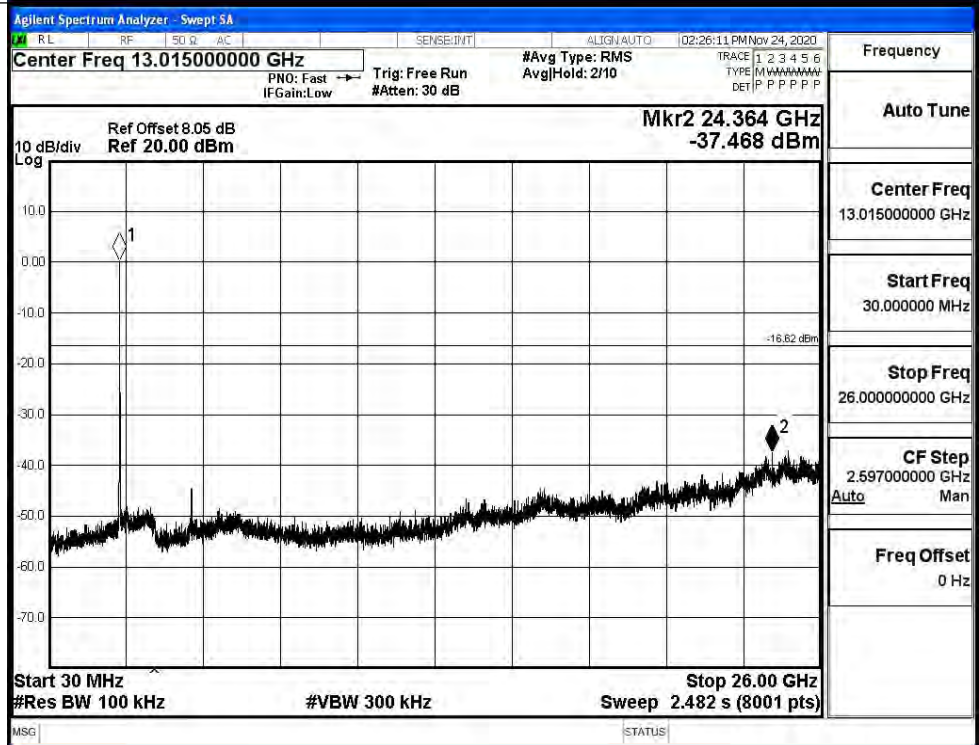


11G LCH Graphs

Pref/11G/LCH

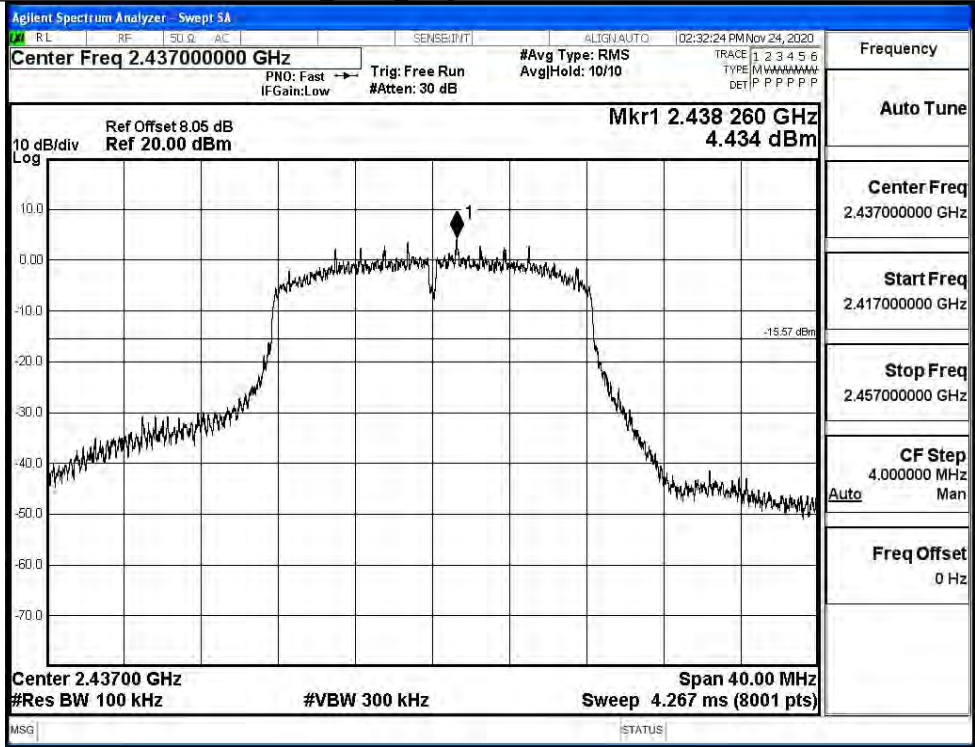


Puw/11G/LCH

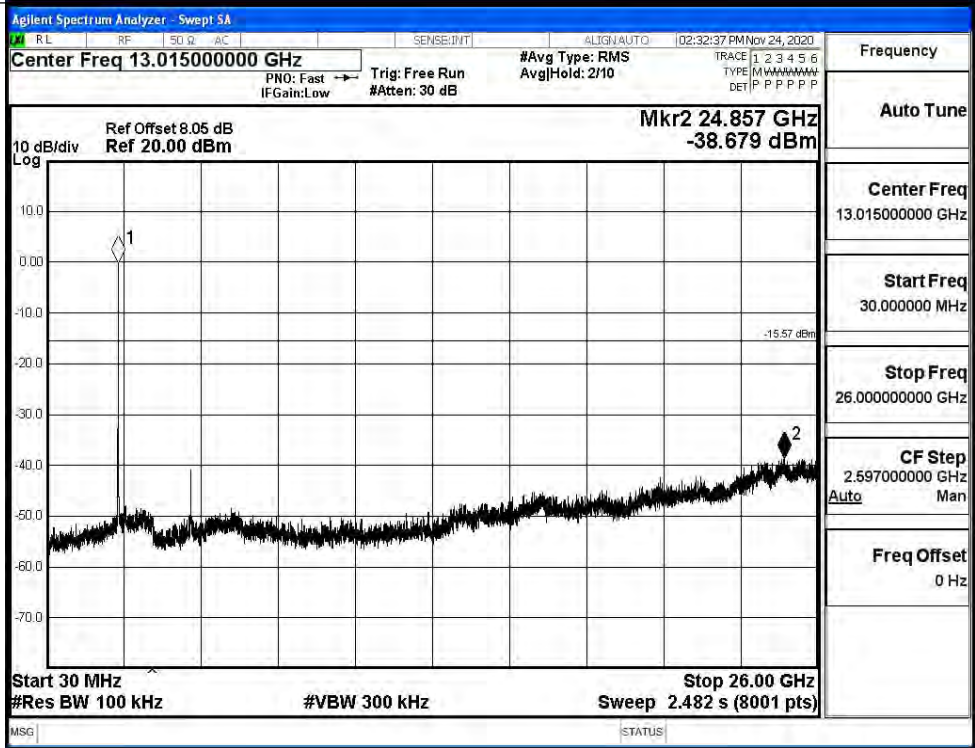


11G MCH Graphs

Pref/11G/MCH

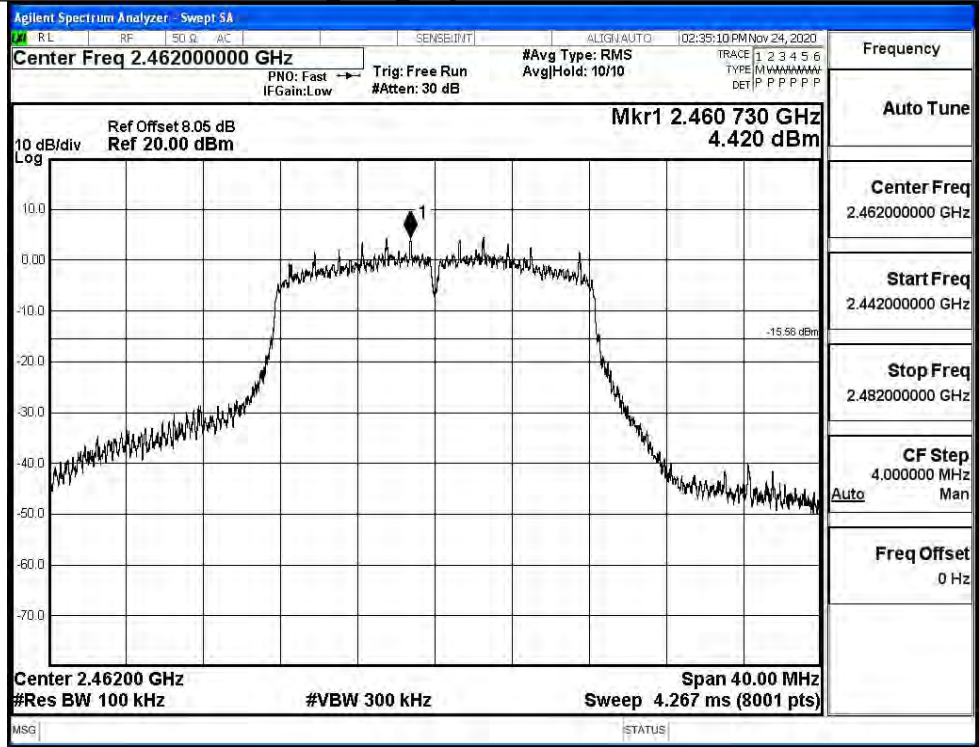


Puw/11G/MCH



11G HCH Graphs

Pref/11G/HCH

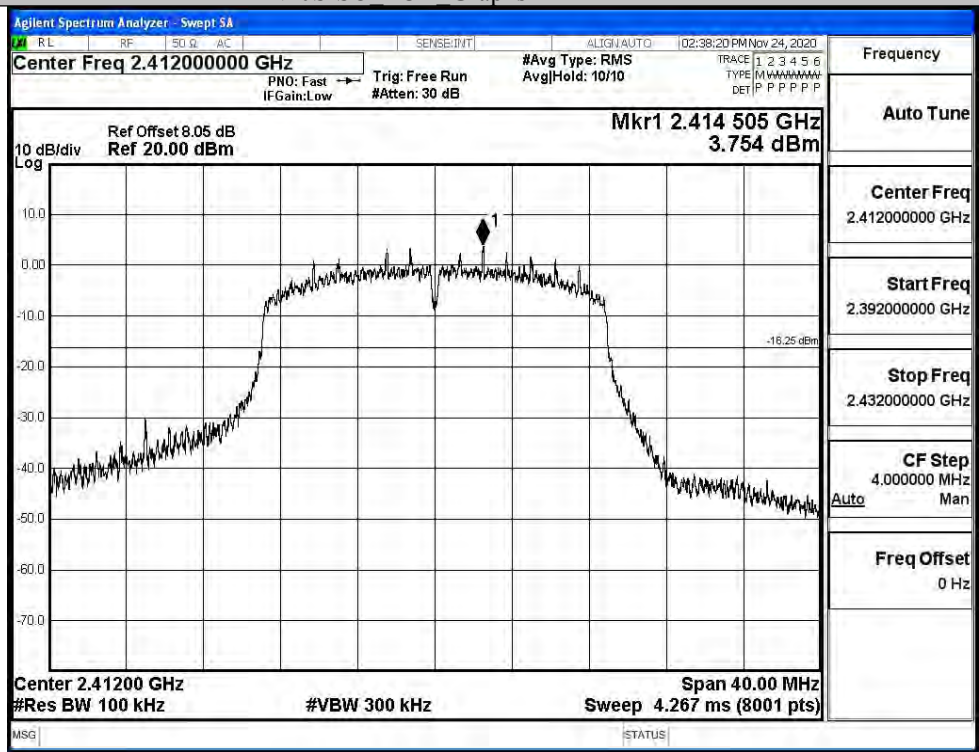


Puw/11G/HCH

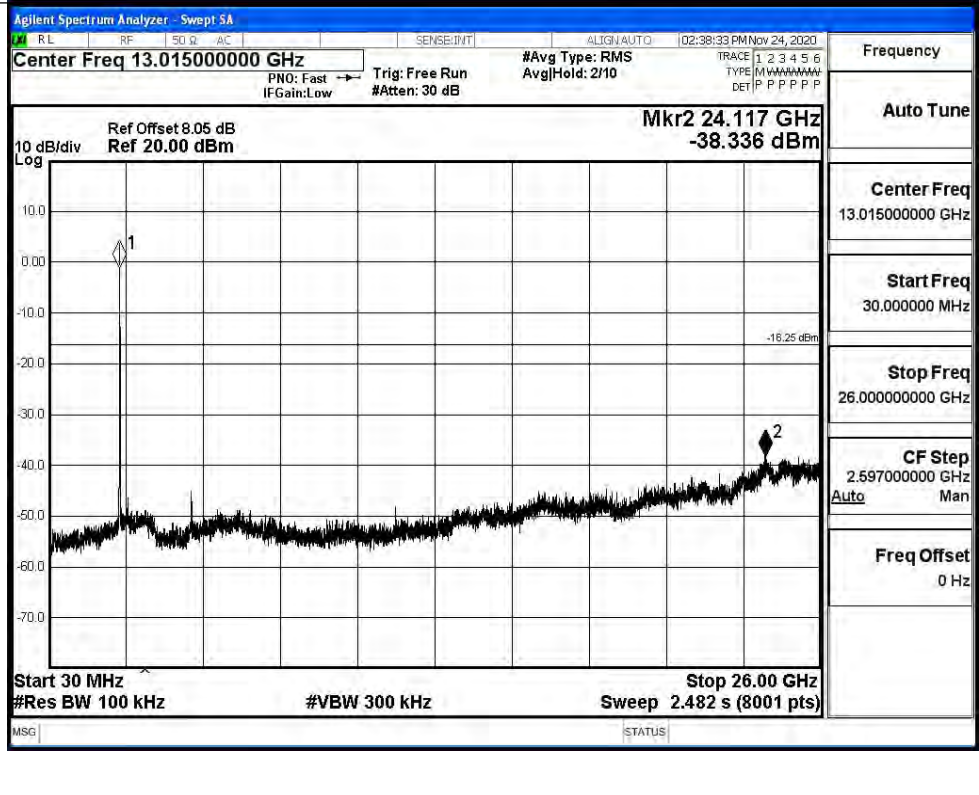


11N20SISO LCH Graphs

Pref/11N20SISO/
LCH

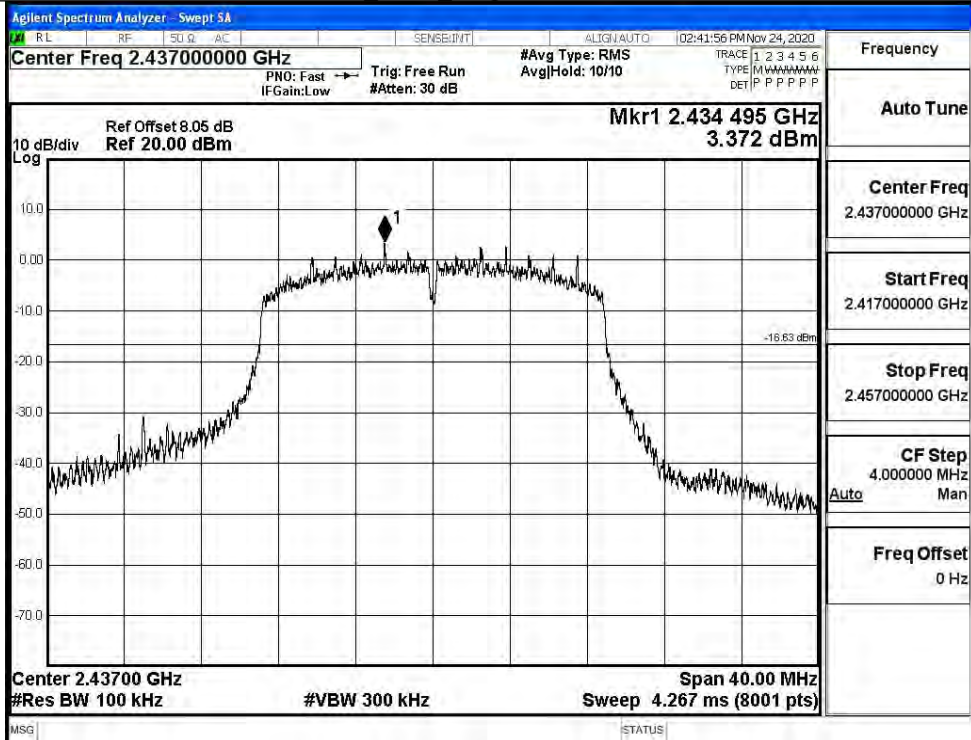


Puw/11N20
SISO/LCH

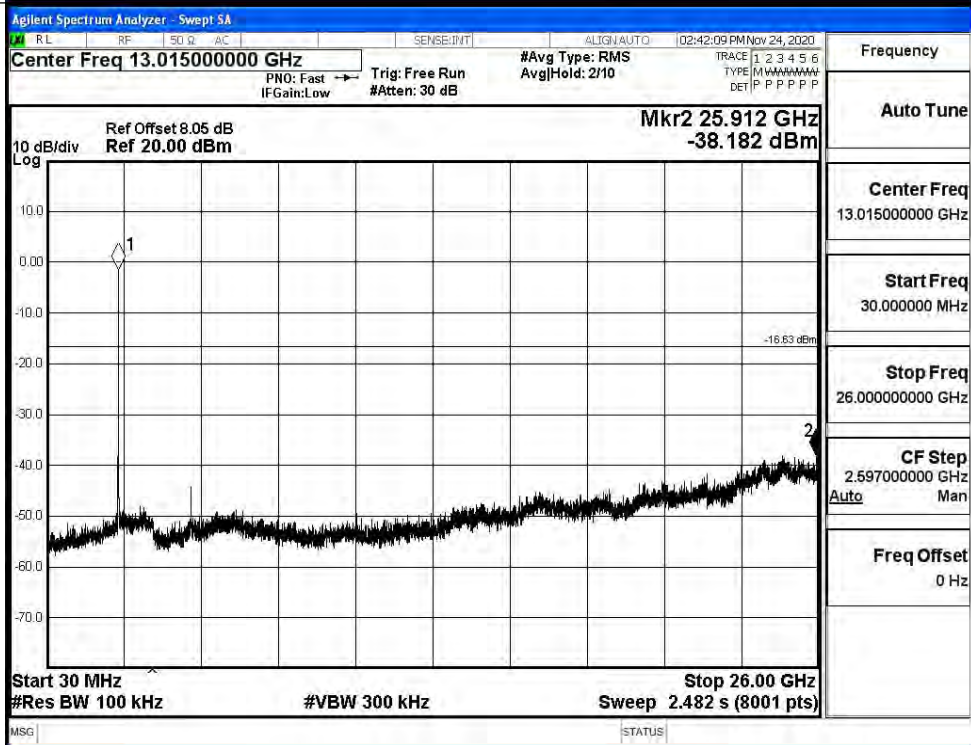


11N20SISO MCH Graphs

Pref/11N20
SISO/MCH

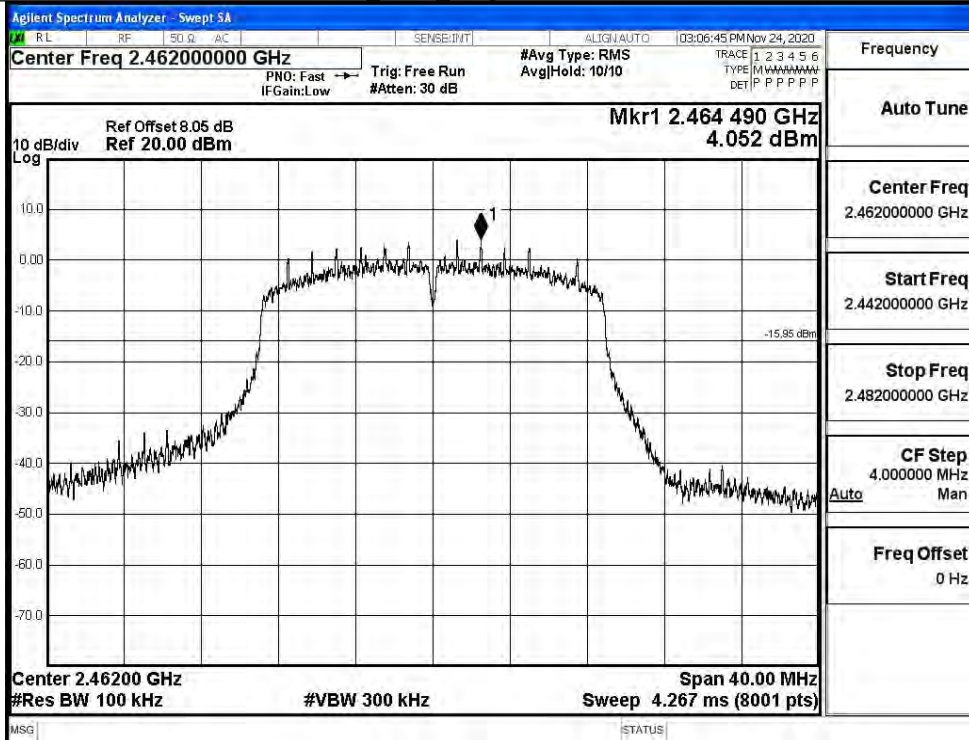


Puw/11N20
SISO/MCH

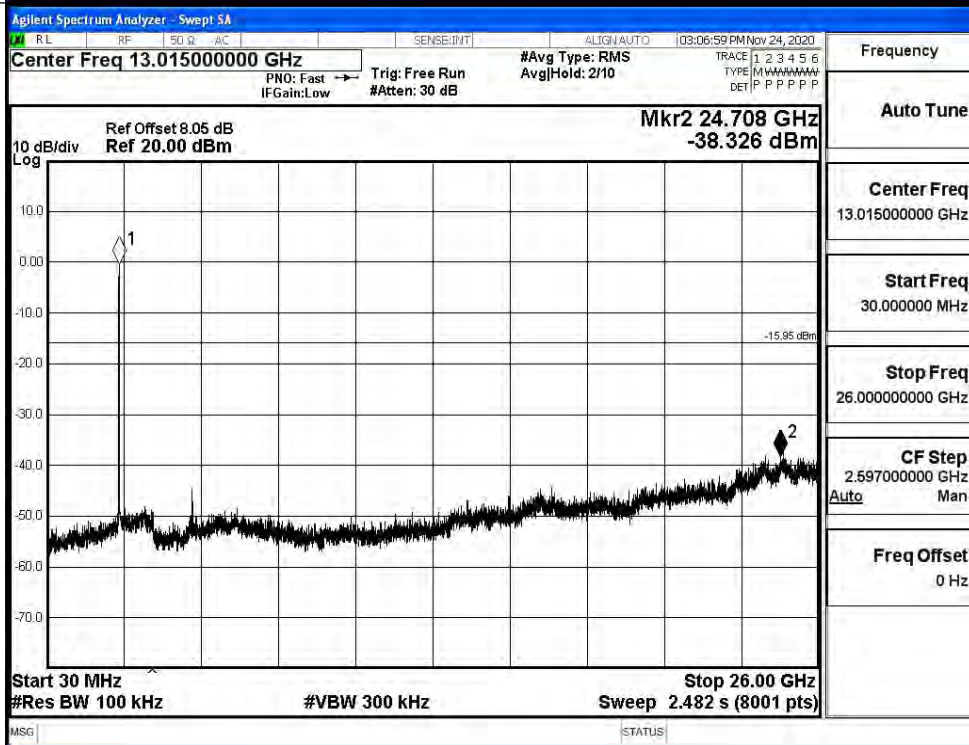


11N20SISO HCH Graphs

Pref/11N20
SISO/HCH

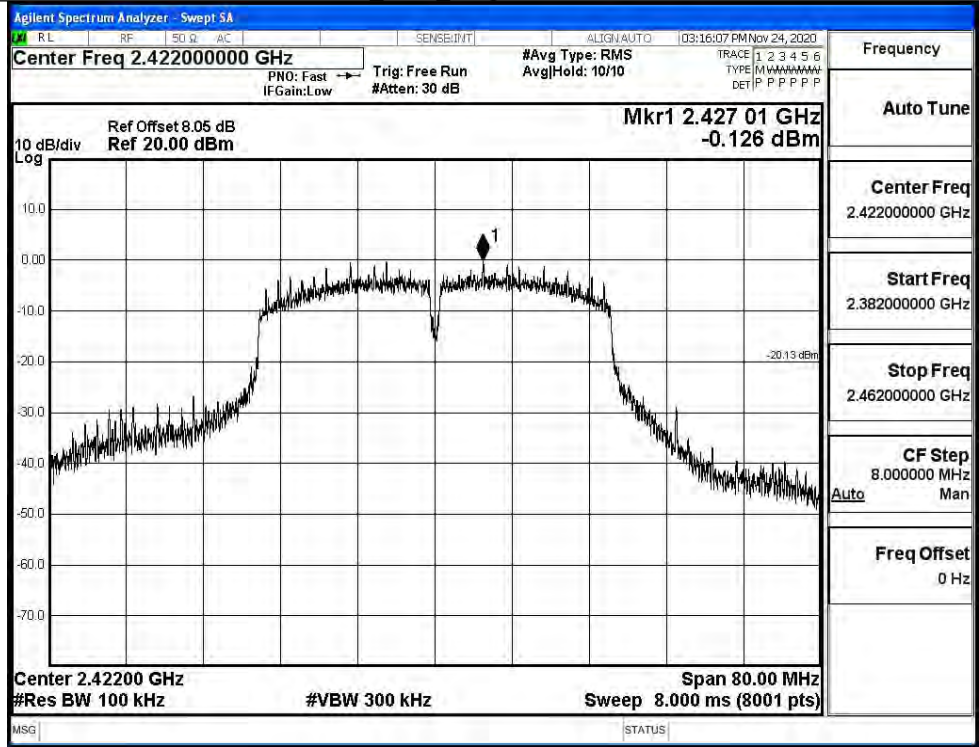


Puw/11N20
SISO/HCH

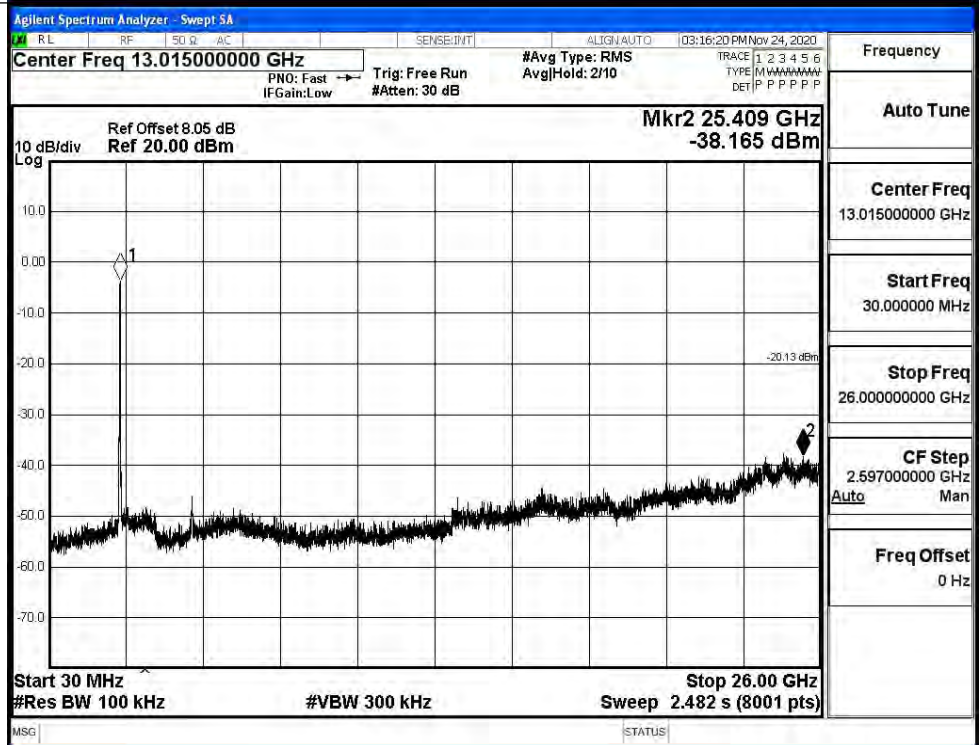


11N40SISO LCH Graphs

Pref/11N40
SISO/LCH

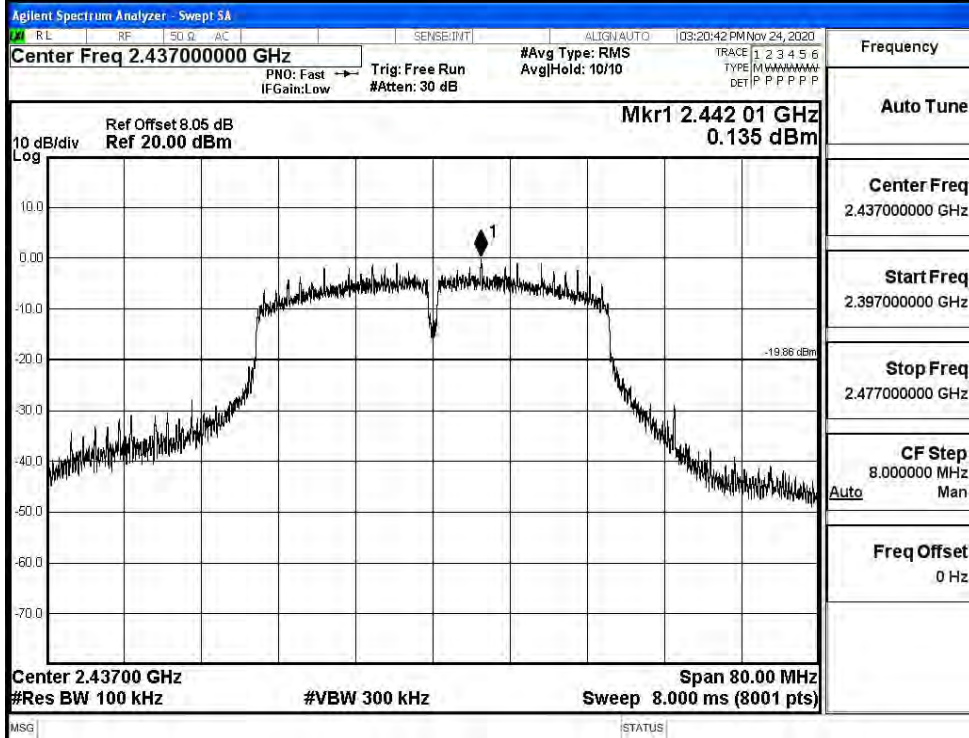


Puw/11N40
SISO/LCH



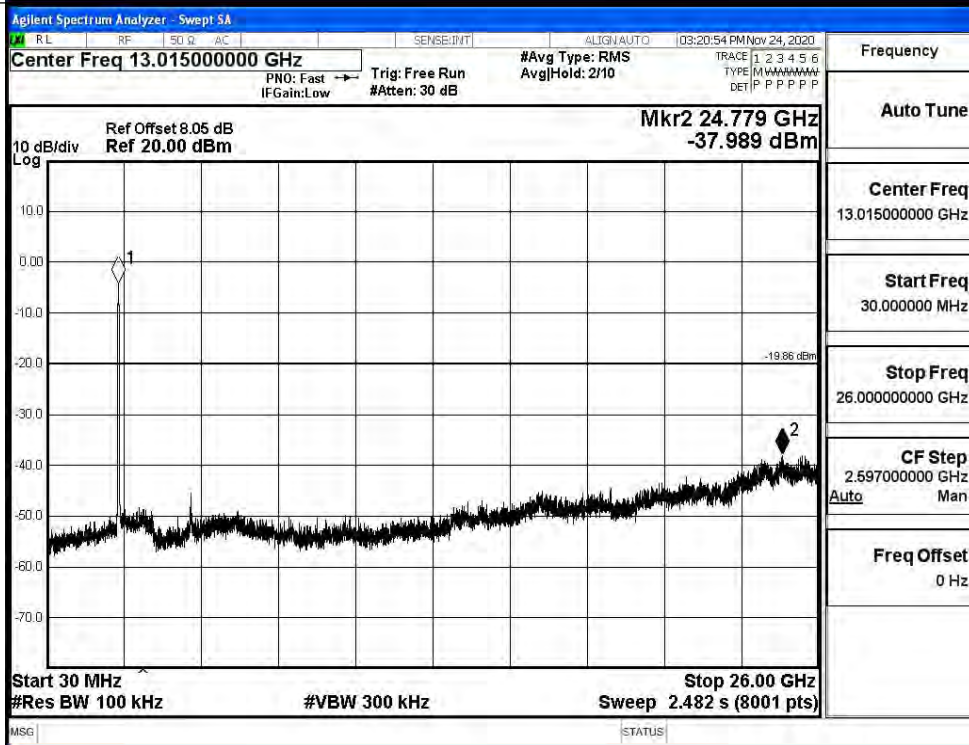
11N40SISO MCH Graphs

Pref/11N40
SISO/MCH



Frequency	
Auto Tune	
Center Freq	2.437000000 GHz
Start Freq	2.397000000 GHz
Stop Freq	2.477000000 GHz
CF Step	8.000000 MHz Auto Man
Freq Offset	0 Hz

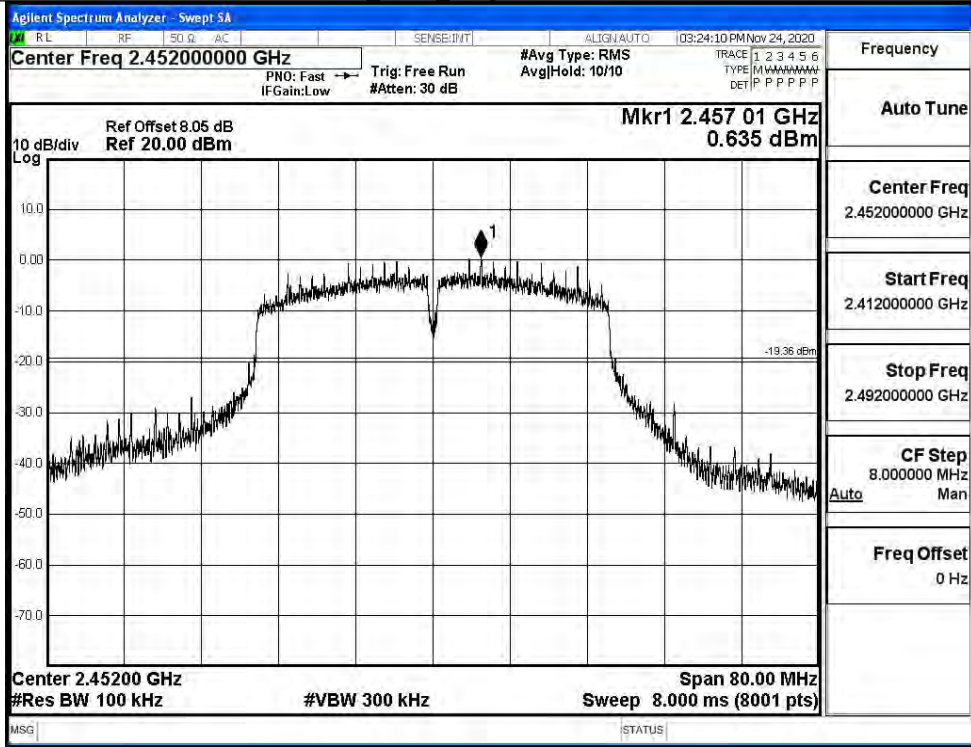
Puw/11N40
SISO/MCH



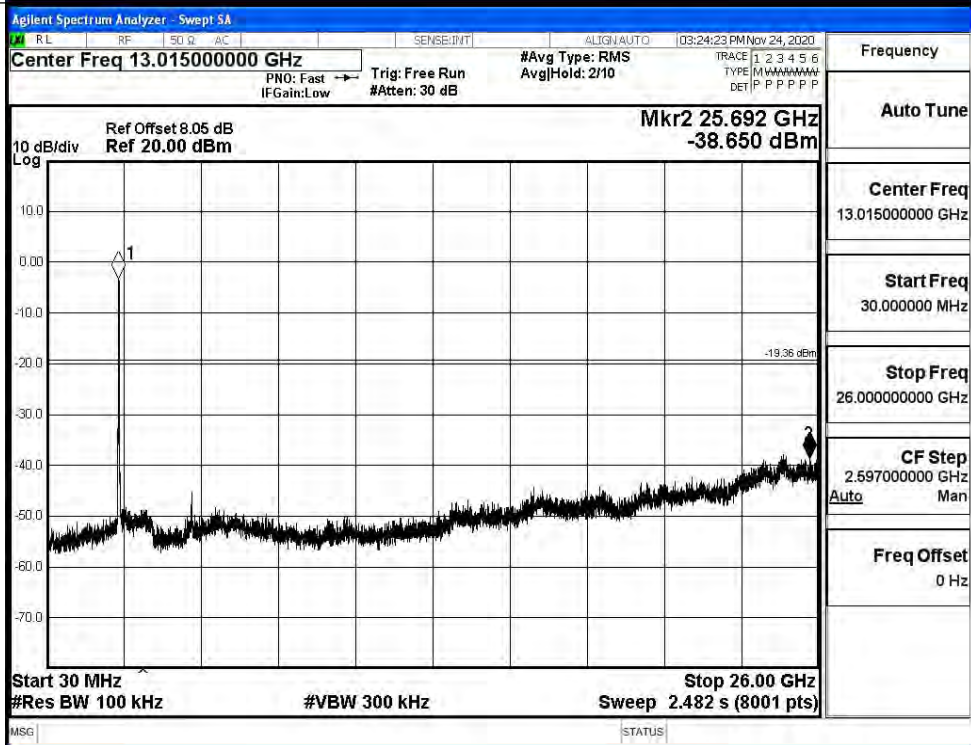
Frequency	
Auto Tune	
Center Freq	13.015000000 GHz
Start Freq	30.000000 MHz
Stop Freq	26.000000000 GHz
CF Step	2.597000000 GHz Auto Man
Freq Offset	0 Hz

11N40SISO HCH Graphs

Pref/11N40
SISO/HCH

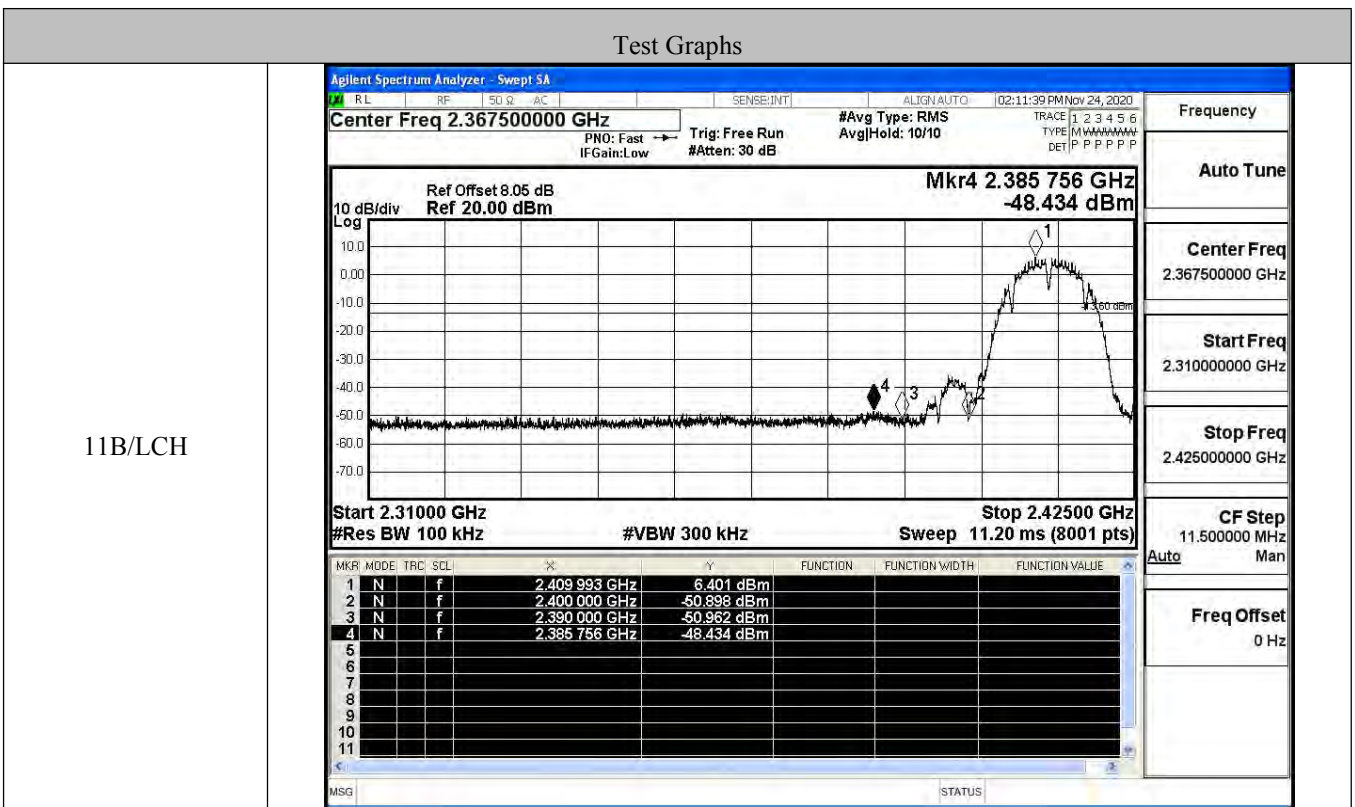


Puw/11N40
SISO/HCH

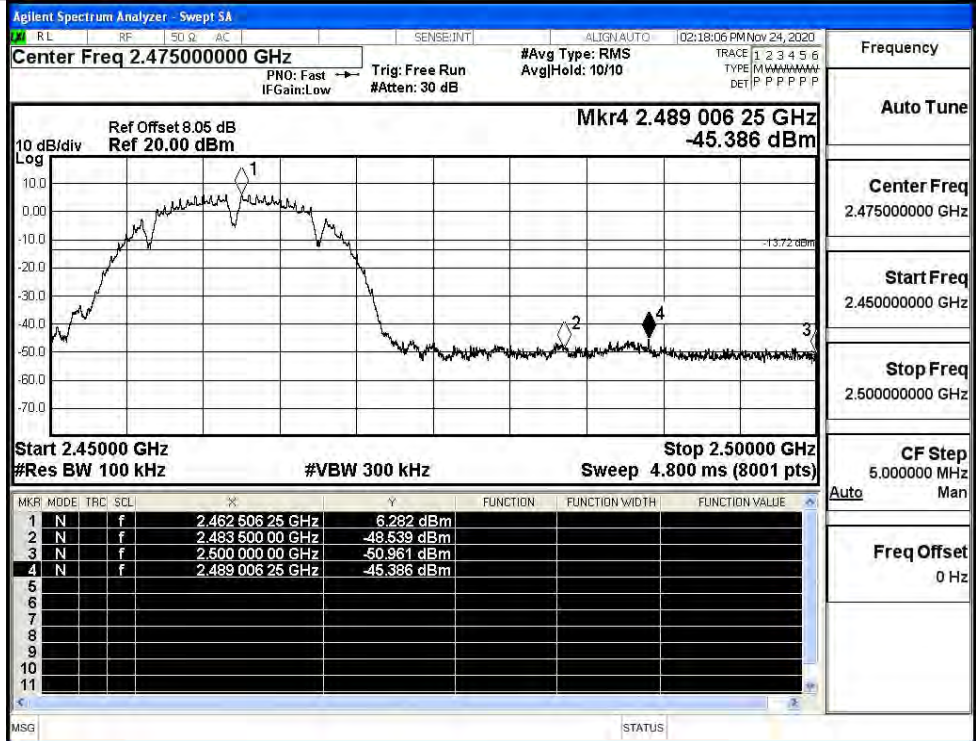


A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	6.401	-48.434	-13.6	PASS
	HCH	6.282	-45.386	-13.72	PASS
11G	LCH	3.450	-43.508	-16.55	PASS
	HCH	4.241	-46.235	-15.76	PASS
11N20SISO	LCH	3.337	-44.182	-16.66	PASS
	HCH	4.098	-45.787	-15.9	PASS
11N40SISO	LCH	0.164	-29.671	-19.84	PASS
	HCH	0.713	-38.686	-19.29	PASS

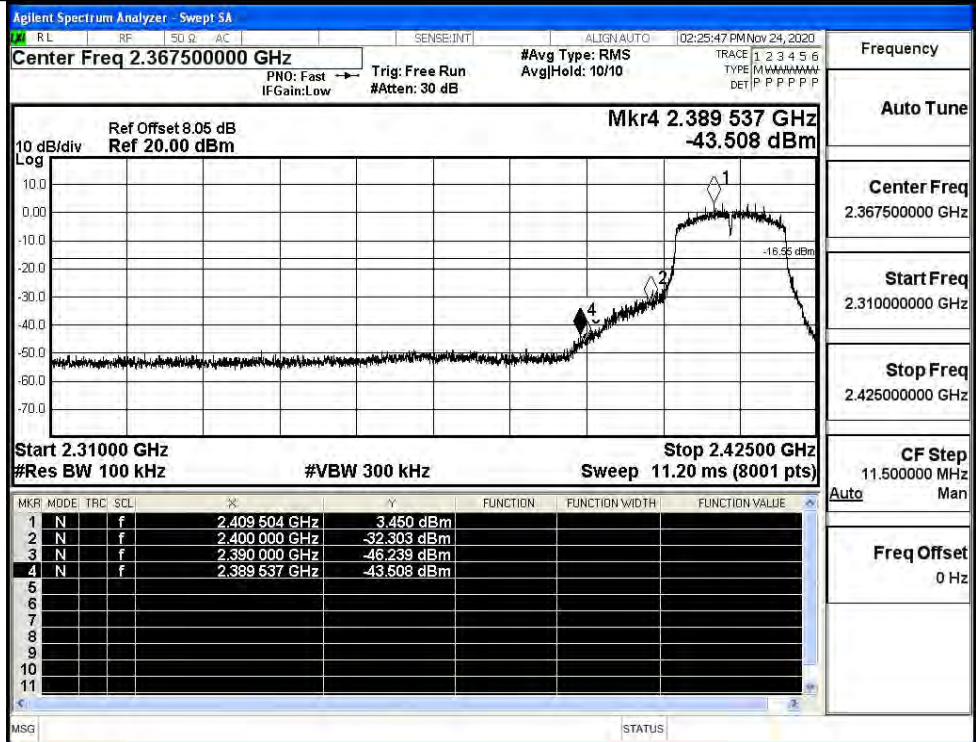


11B/HCH



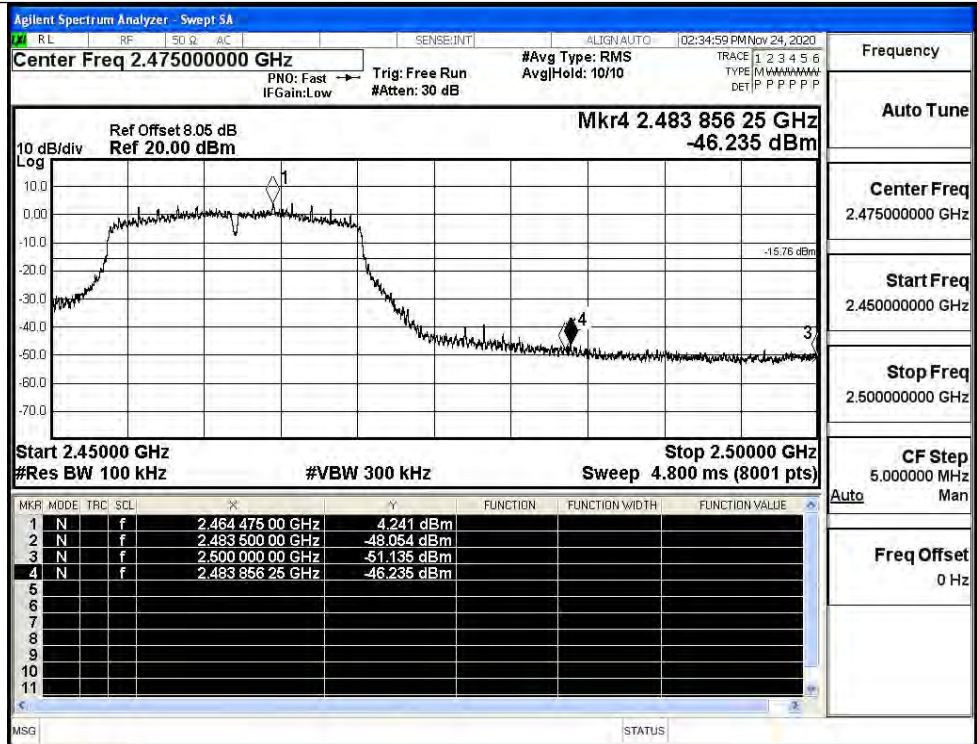
Frequency	2.47500000 GHz
Auto Tune	
Center Freq	2.47500000 GHz
Start Freq	2.45000000 GHz
Stop Freq	2.50000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11G/LCH



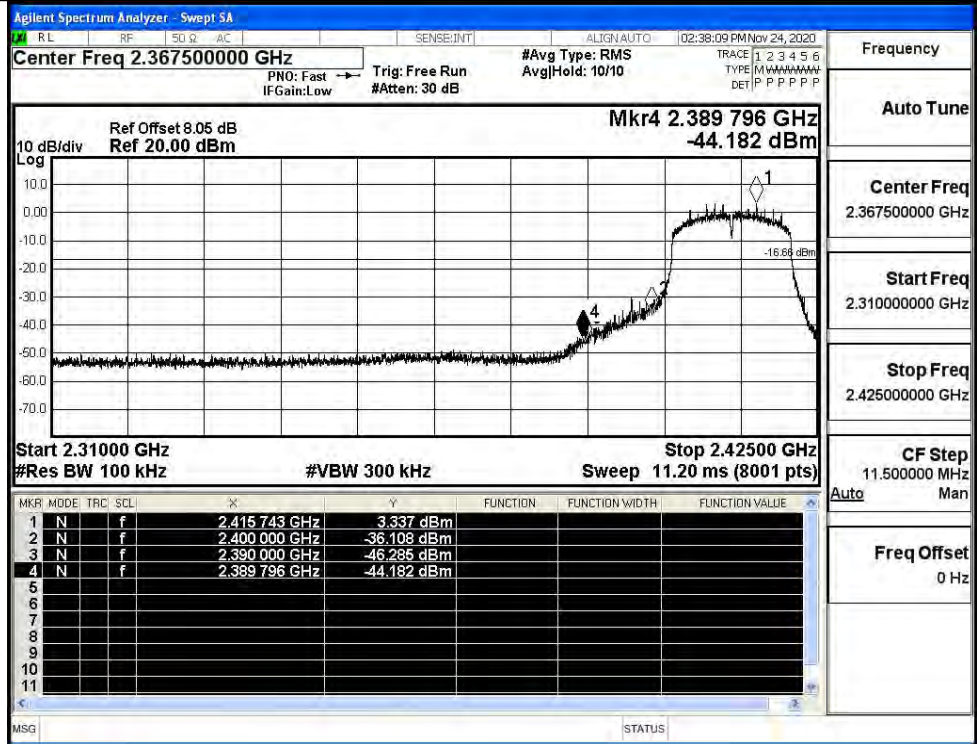
Frequency	2.36750000 GHz
Auto Tune	
Center Freq	2.36750000 GHz
Start Freq	2.31000000 GHz
Stop Freq	2.42500000 GHz
CF Step	11.500000 MHz
Freq Offset	0 Hz

11G/HCH



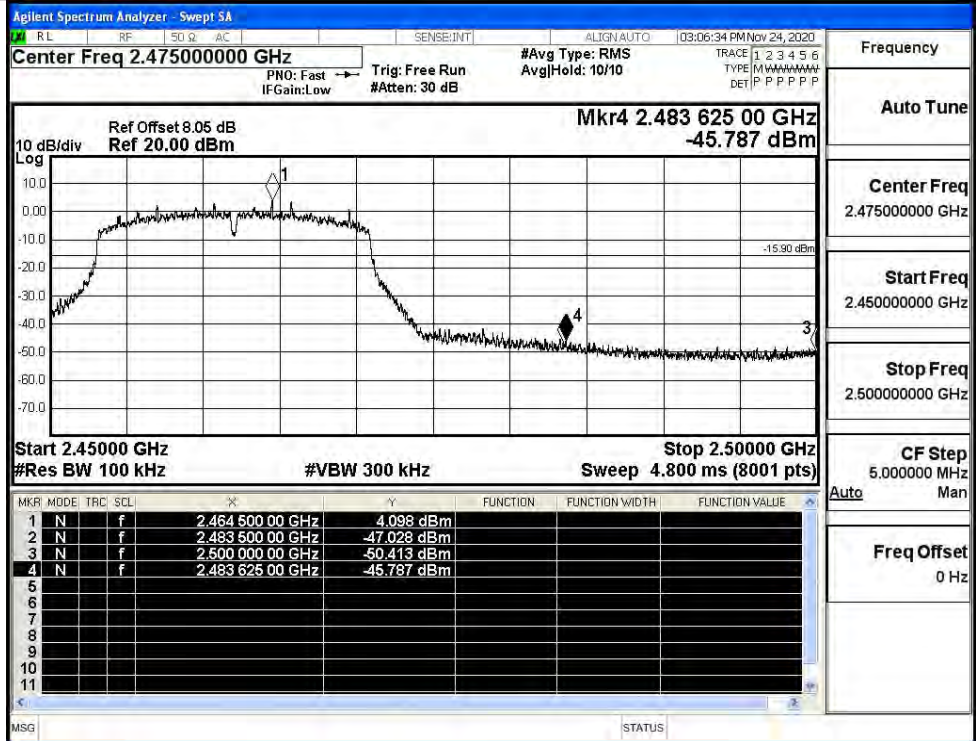
Frequency	
Auto Tune	
Center Freq	2.47500000 GHz
Start Freq	2.45000000 GHz
Stop Freq	2.50000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N20SISO/LCH



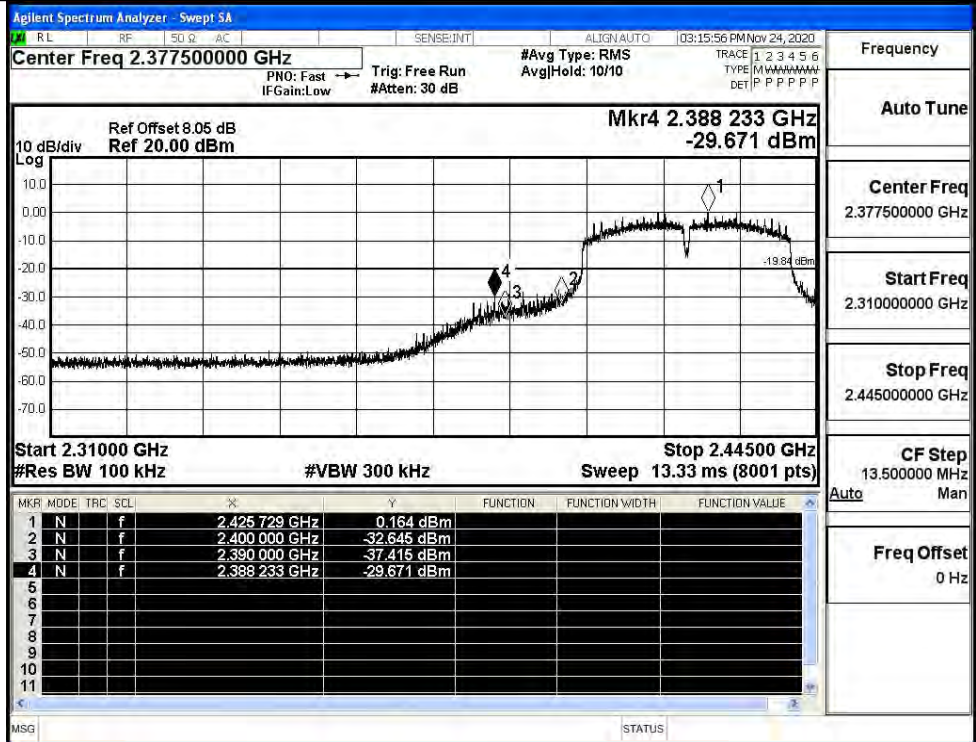
Frequency	
Auto Tune	
Center Freq	2.36750000 GHz
Start Freq	2.31000000 GHz
Stop Freq	2.42500000 GHz
CF Step	11.500000 MHz
Freq Offset	0 Hz

11N20SISO/HCH



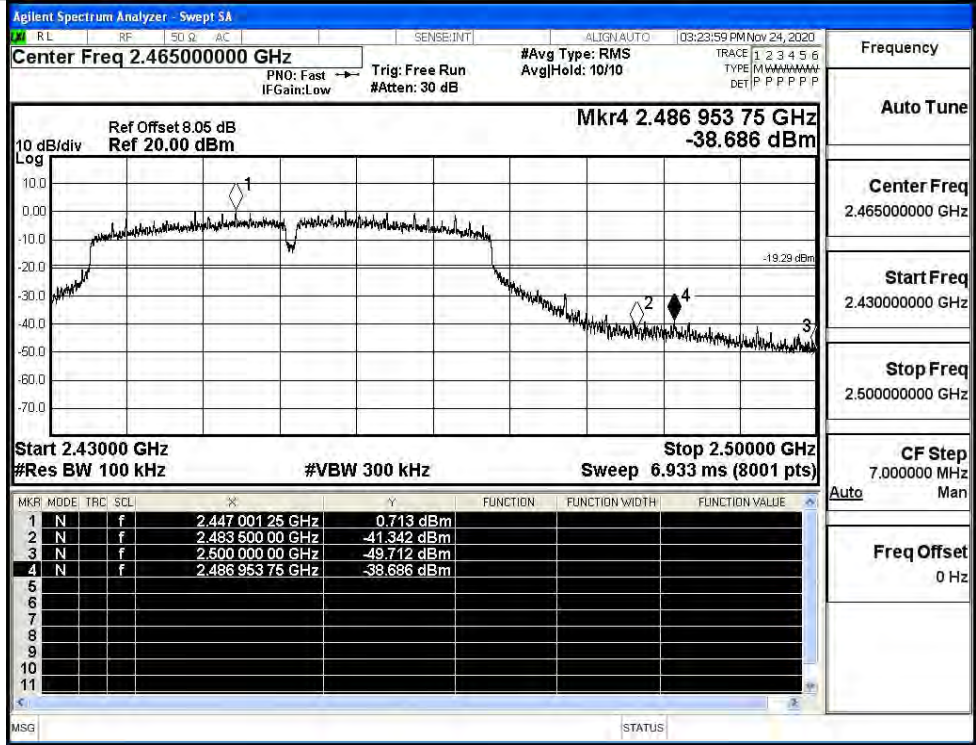
Frequency	2.47500000 GHz
Auto Tune	
Center Freq	2.47500000 GHz
Start Freq	2.45000000 GHz
Stop Freq	2.50000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N40SISO/LCH



Frequency	2.37750000 GHz
Auto Tune	
Center Freq	2.37750000 GHz
Start Freq	2.31000000 GHz
Stop Freq	2.44500000 GHz
CF Step	13.500000 MHz
Freq Offset	0 Hz

11N40SISO/HCH

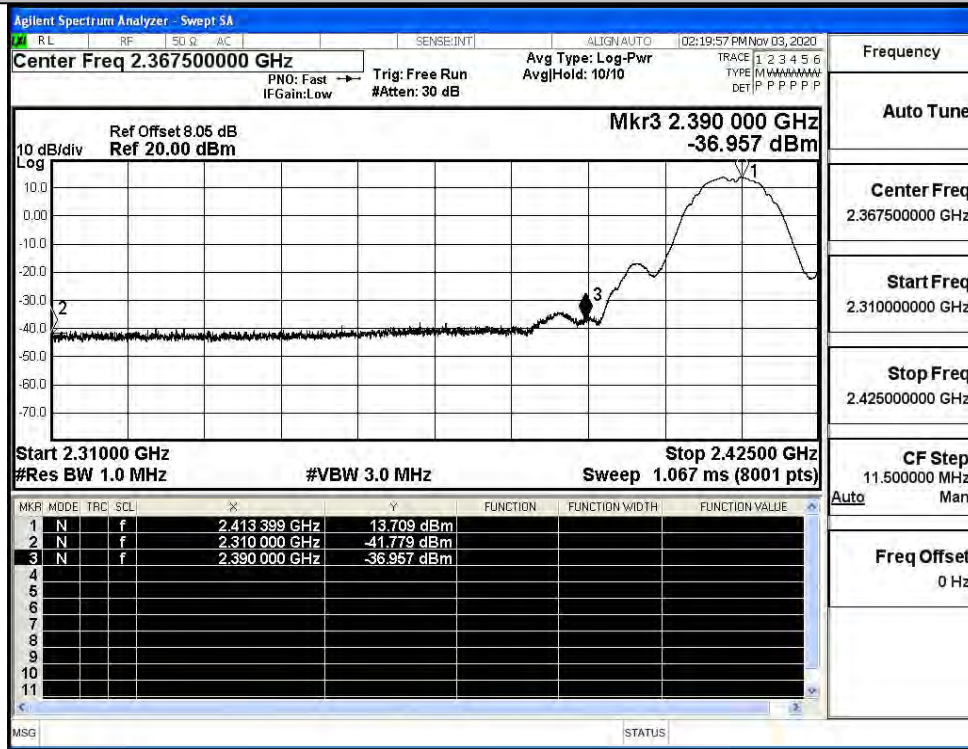


A.7 Restrict-band band-edge measurements

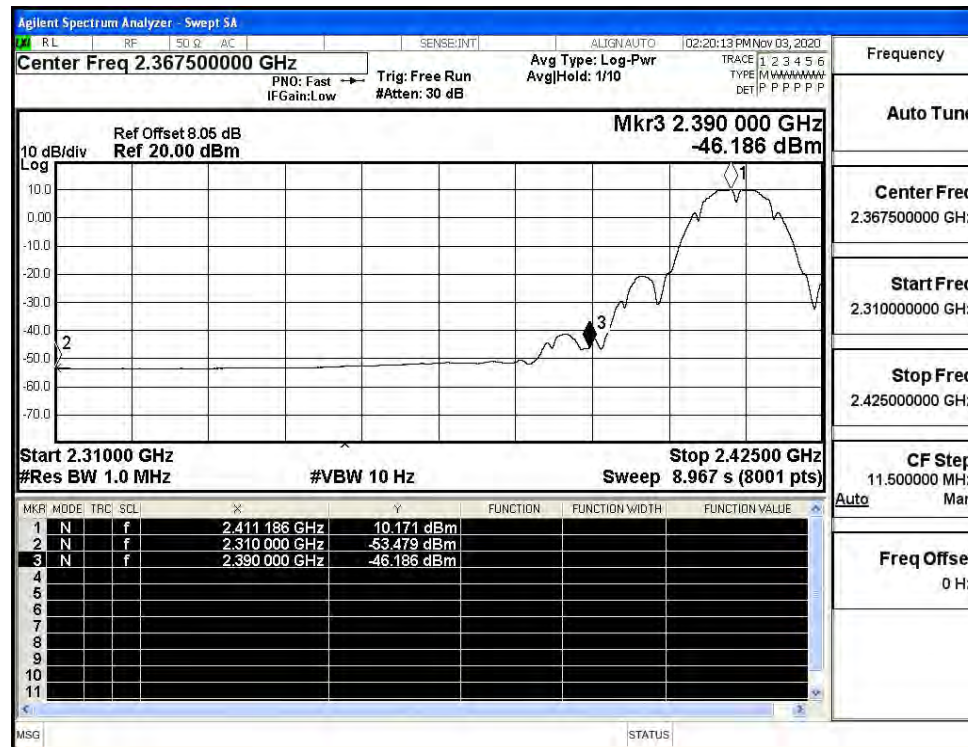
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-41.78	2.0	0	55.45	PEAK	74	PASS
	2412	Ant1	2310.0	-53.48	2.0	0	43.75	AV	54	PASS
	2412	Ant1	2390.0	-36.96	2.0	0	60.27	PEAK	74	PASS
	2412	Ant1	2390.0	-46.19	2.0	0	51.04	AV	54	PASS
	2462	Ant1	2483.5	-41.68	2.0	0	55.55	PEAK	74	PASS
	2462	Ant1	2483.5	-50.83	2.0	0	46.40	AV	54	PASS
	2462	Ant1	2500.0	-40.66	2.0	0	56.57	PEAK	74	PASS
	2462	Ant1	2500.0	-51.54	2.0	0	45.69	AV	54	PASS
11G	2412	Ant1	2310.0	-42.63	2.0	0	54.60	PEAK	74	PASS
	2412	Ant1	2310.0	-53.49	2.0	0	43.74	AV	54	PASS
	2412	Ant1	2390.0	-43.55	2.0	0	53.68	PEAK	74	PASS
	2412	Ant1	2390.0	-52.87	2.0	0	44.36	AV	54	PASS
	2462	Ant1	2483.5	-41.97	2.0	0	55.26	PEAK	74	PASS
	2462	Ant1	2483.5	-52.48	2.0	0	44.75	AV	54	PASS
	2462	Ant1	2500.0	-39.31	2.0	0	57.92	PEAK	74	PASS
	2462	Ant1	2500.0	-51.28	2.0	0	45.95	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-41.69	2.0	0	55.54	PEAK	74	PASS
	2412	Ant1	2310.0	-53.41	2.0	0	43.82	AV	54	PASS
	2412	Ant1	2390.0	-41.78	2.0	0	55.45	PEAK	74	PASS
	2412	Ant1	2390.0	-52.45	2.0	0	44.78	AV	54	PASS
	2462	Ant1	2483.5	-40.79	2.0	0	56.44	PEAK	74	PASS
	2462	Ant1	2483.5	-51.59	2.0	0	45.64	AV	54	PASS
	2462	Ant1	2500.0	-41.40	2.0	0	55.83	PEAK	74	PASS
	2462	Ant1	2500.0	-52.33	2.0	0	44.90	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-42.82	2.0	0	54.41	PEAK	74	PASS
	2422	Ant1	2310.0	-52.95	2.0	0	44.28	AV	54	PASS

2422	Ant1	2390.0	-34.81	2.0	0	62.42	PEAK	74	PASS
2422	Ant1	2390.0	-51.29	2.0	0	45.94	AV	54	PASS
2452	Ant1	2483.5	-32.41	2.0	0	64.82	PEAK	74	PASS
2452	Ant1	2483.5	-50.32	2.0	0	46.91	AV	54	PASS
2452	Ant1	2500.0	-41.37	2.0	0	55.86	PEAK	74	PASS
2452	Ant1	2500.0	-52.16	2.0	0	45.07	AV	54	PASS

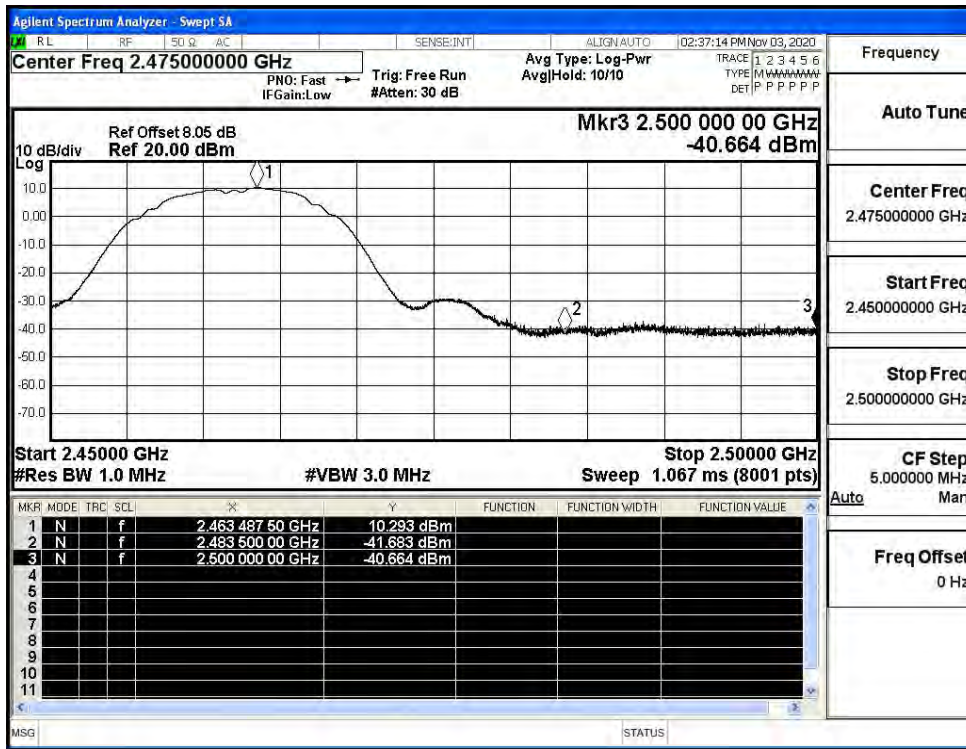
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



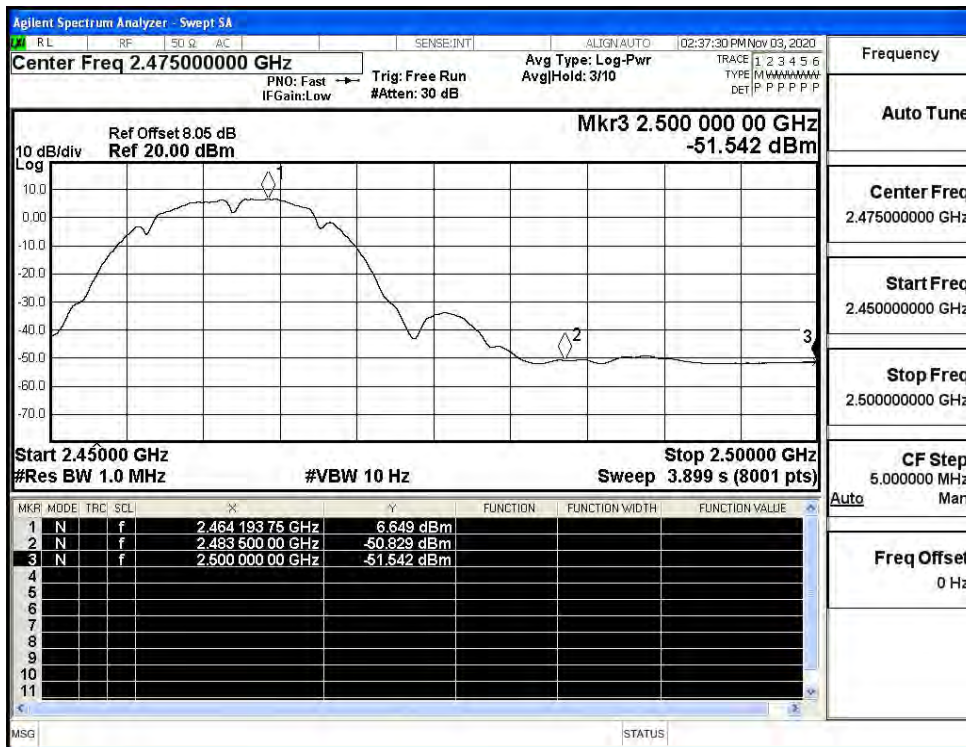
Restrict-band band-edge measurements_11B_2412_Ant1_AV



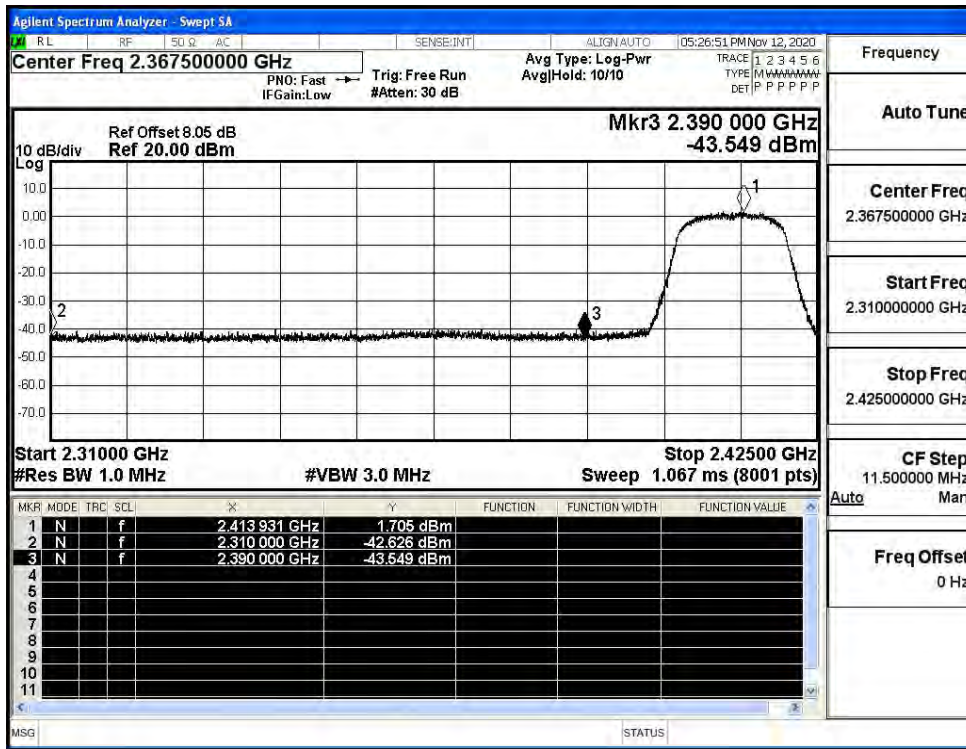
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



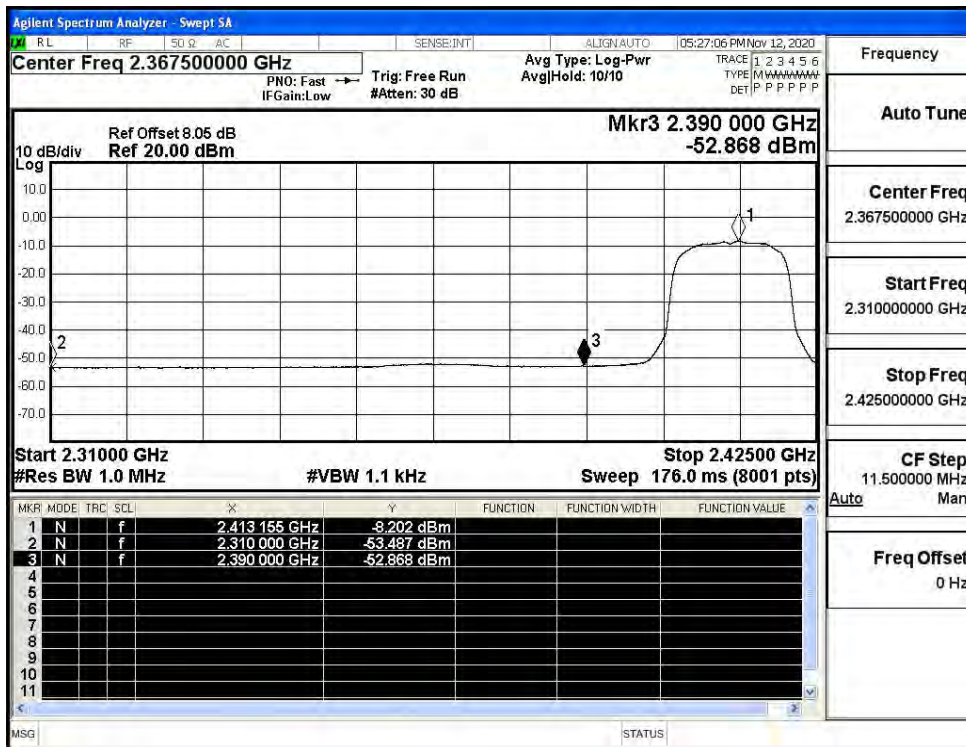
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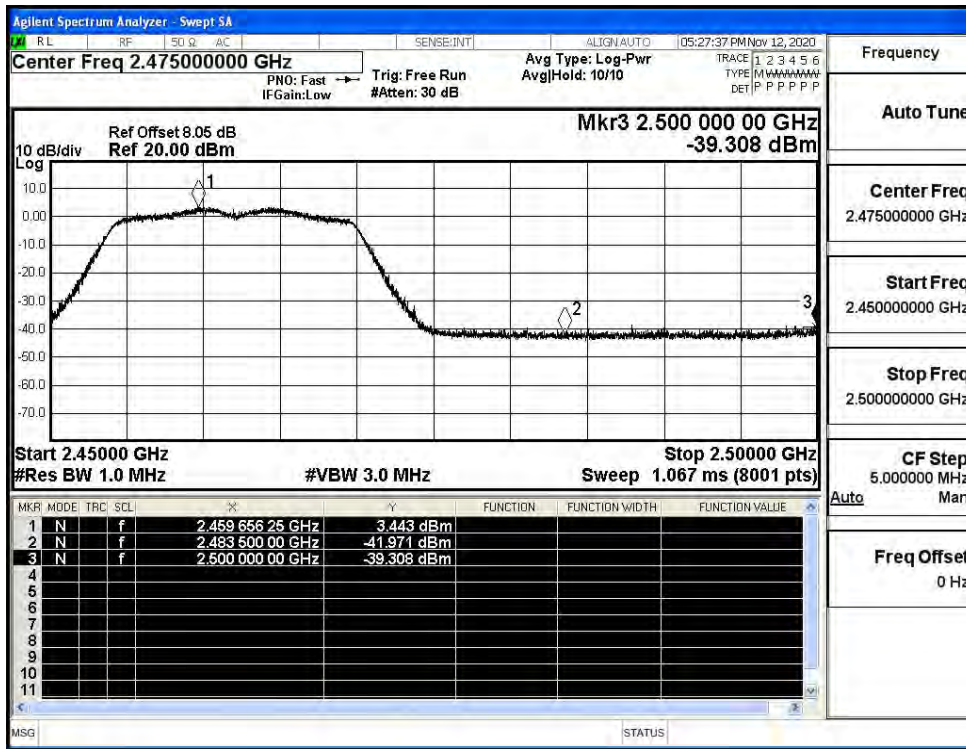
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



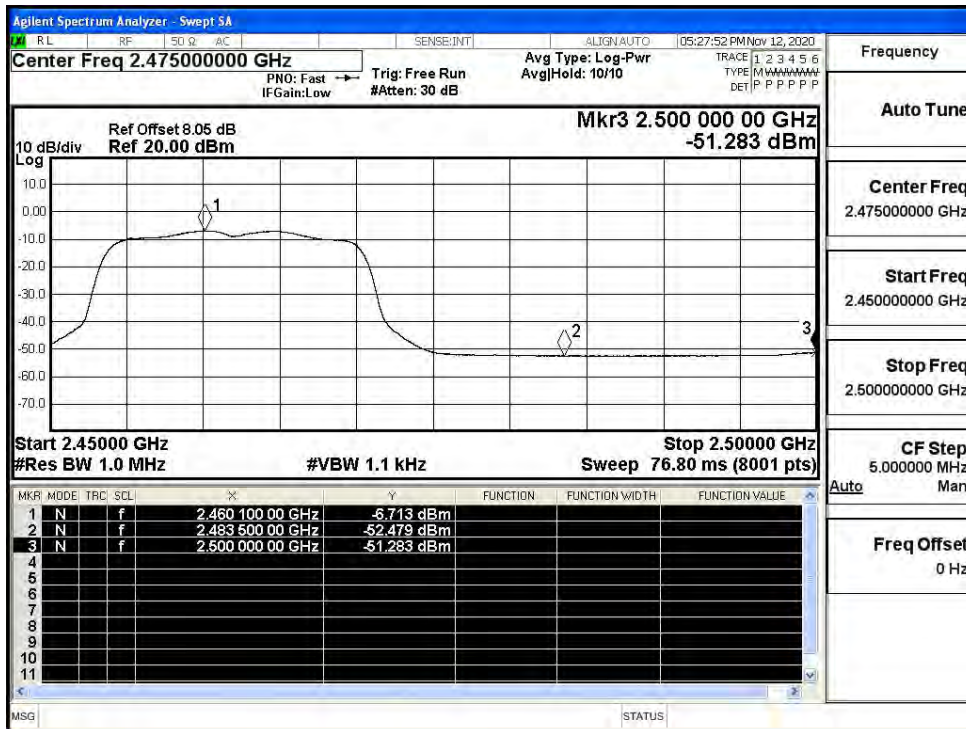
Restrict-band band-edge measurements_11G_2412_Ant1_AV



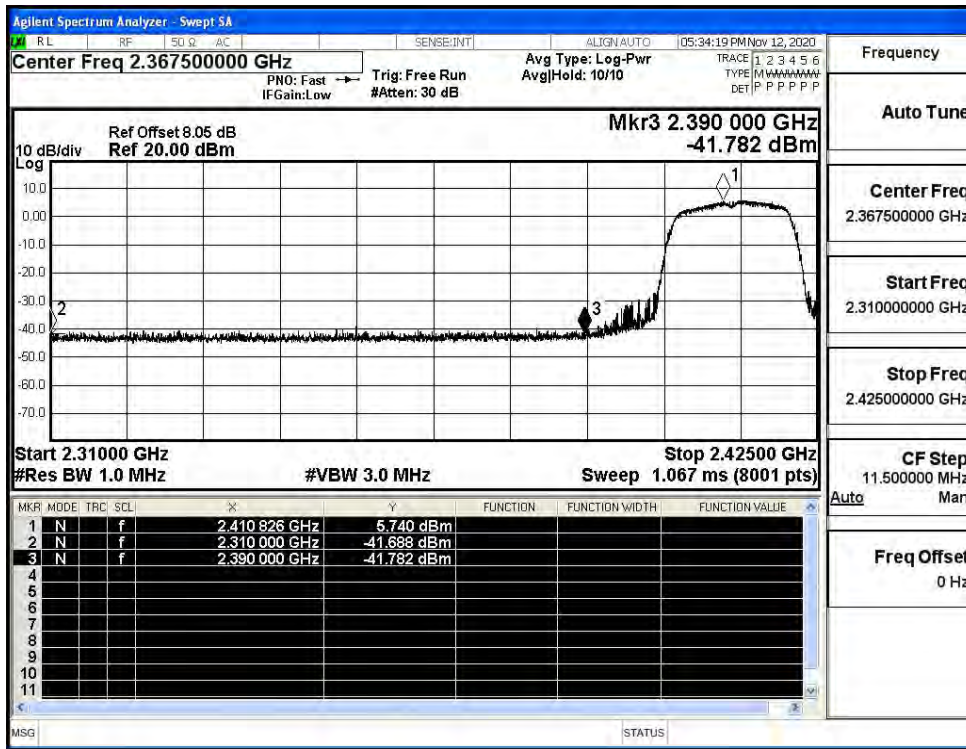
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



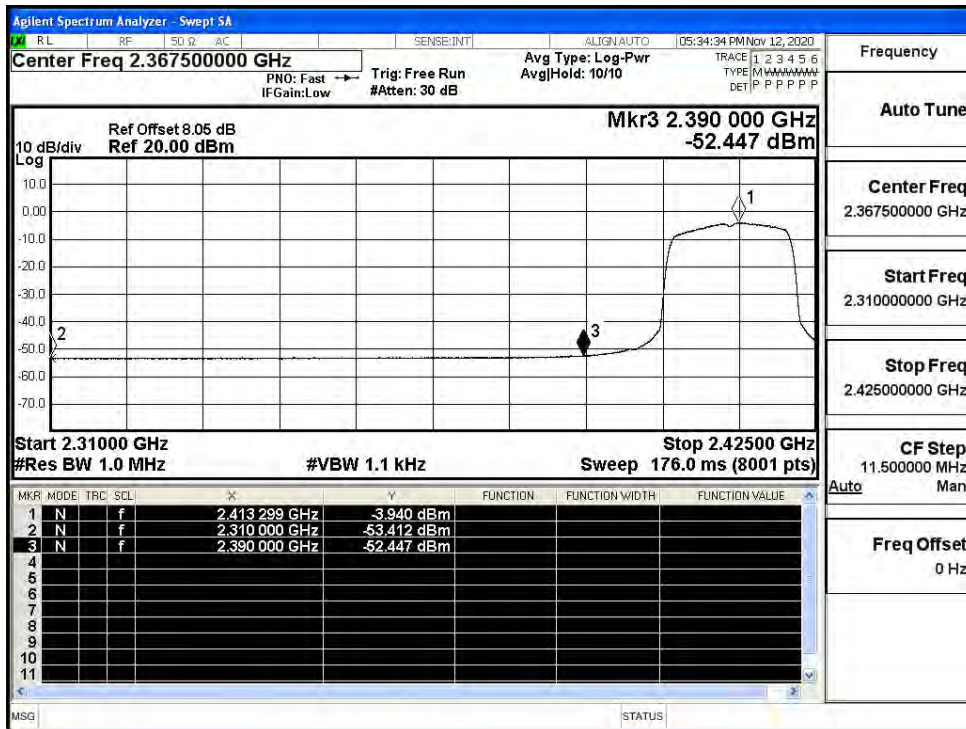
Restrict-band band-edge measurements_11G_2462_Ant1_AV



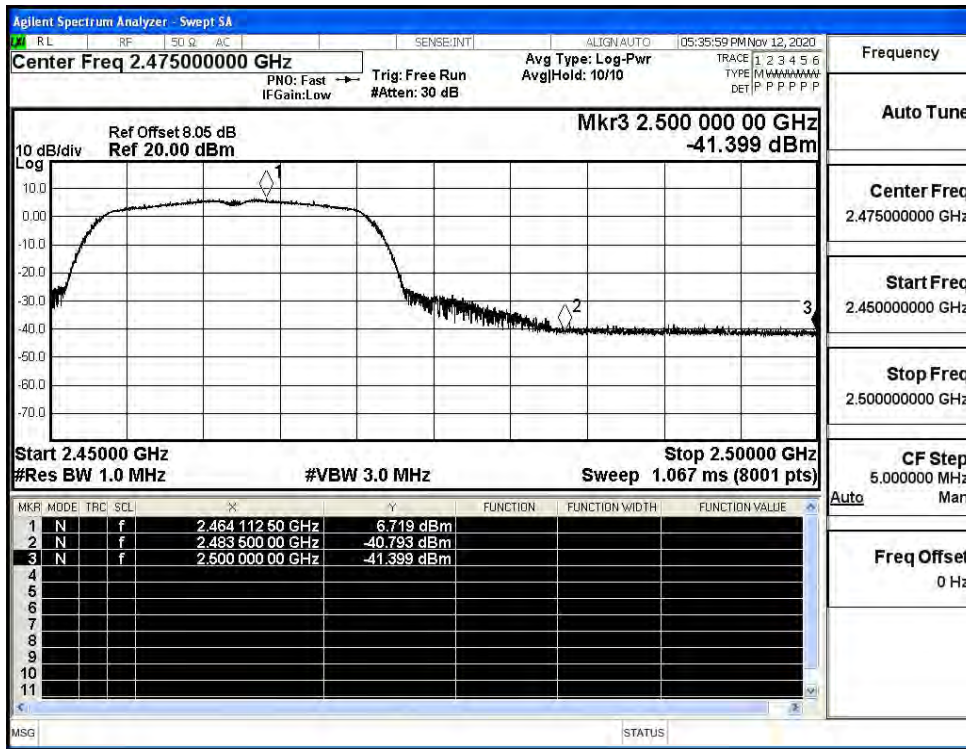
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



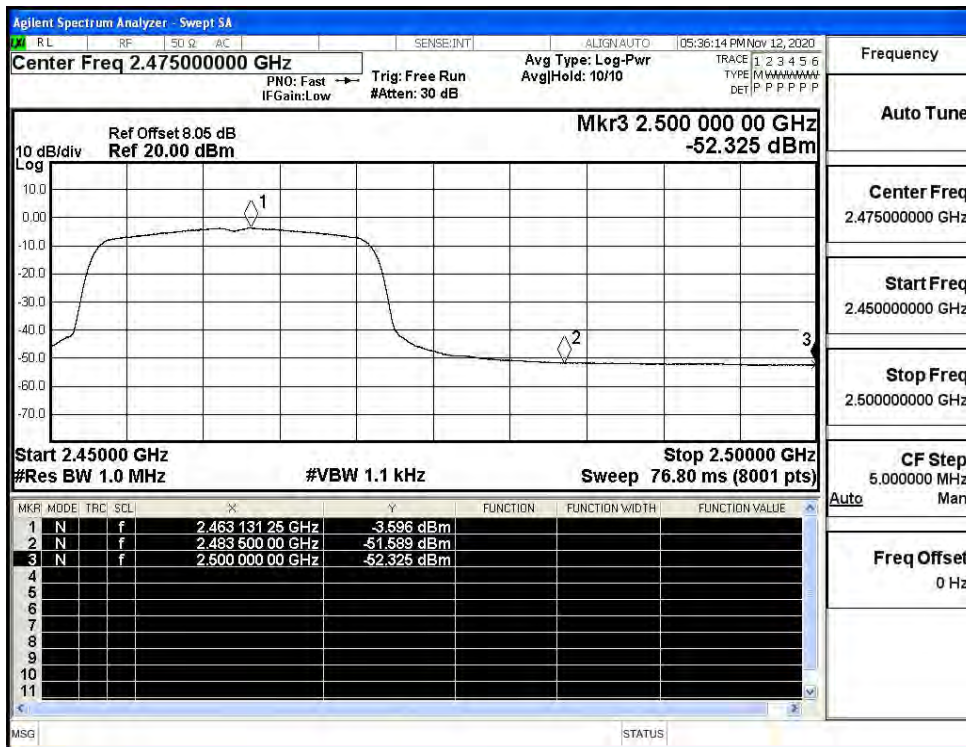
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



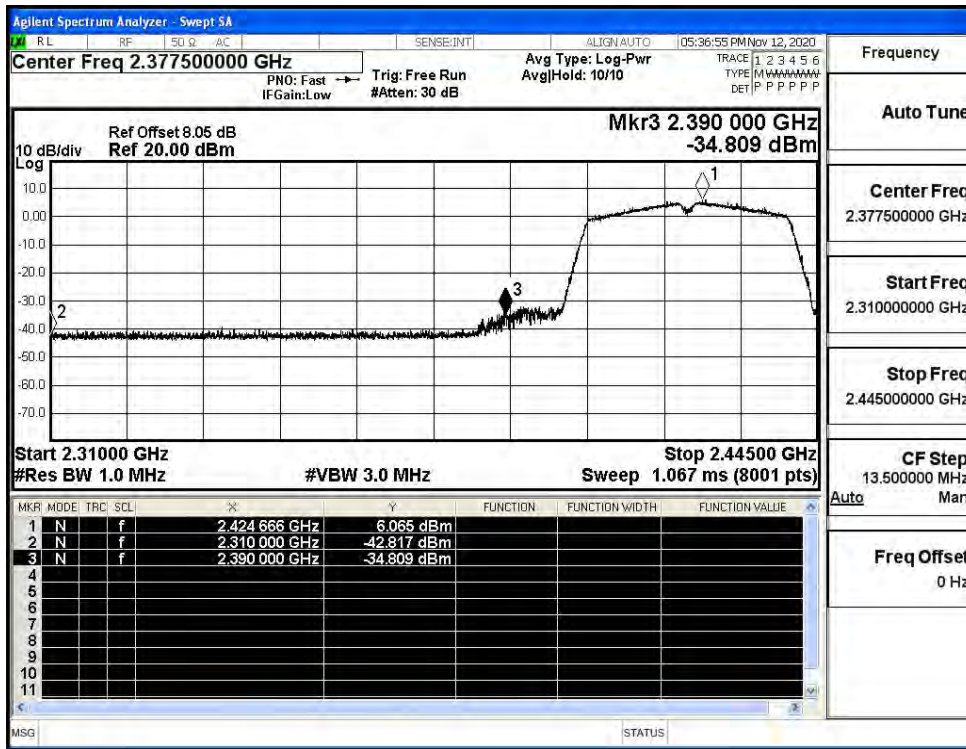
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



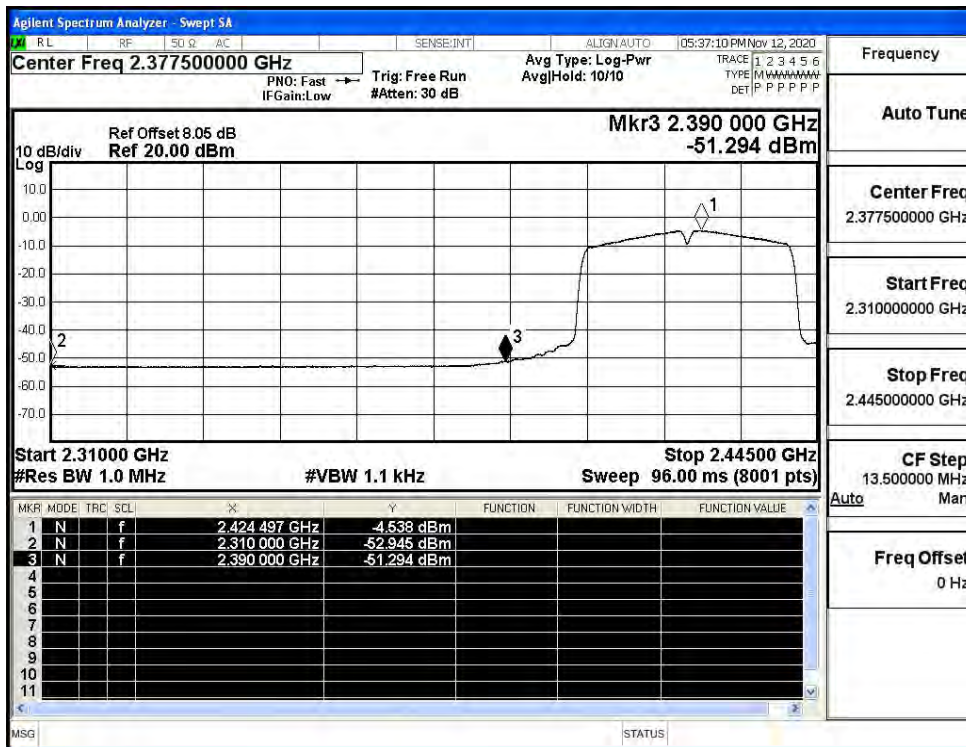
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_AV



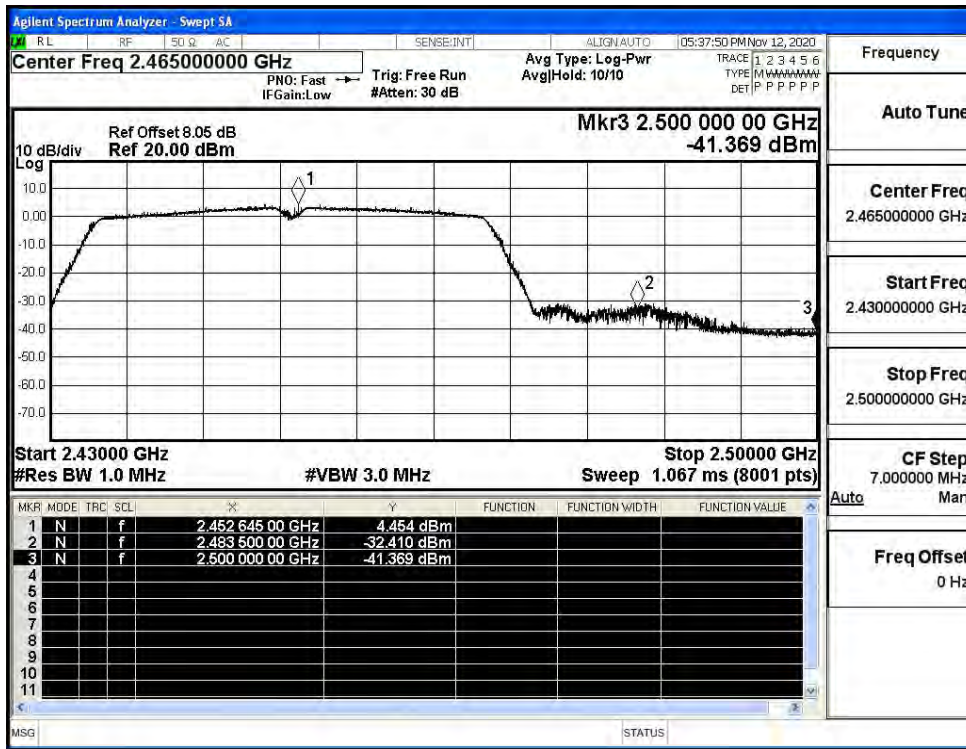
Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



Restrict-band band-edge measurements_11N40SISO_2422_Ant1_AV



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_PEAK



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_AV

