

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Portable 4G LTE Router

Test Model: GL-E750C4

Environmental Conditions

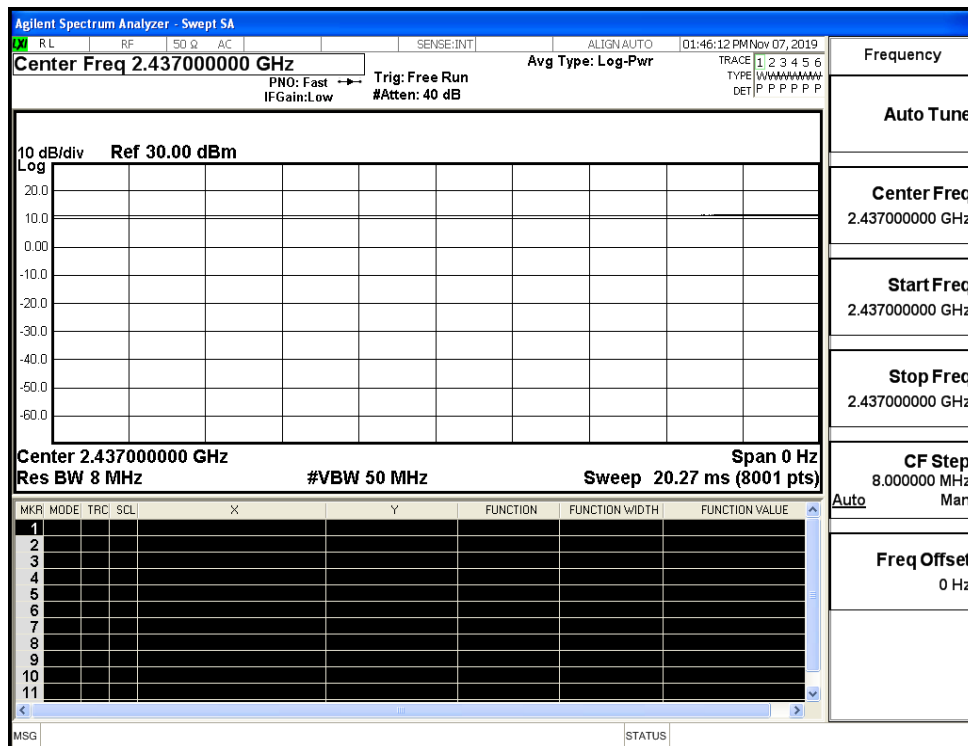
Temperature:	22.6°C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Wang Chuang

A.1 Duty Cycle

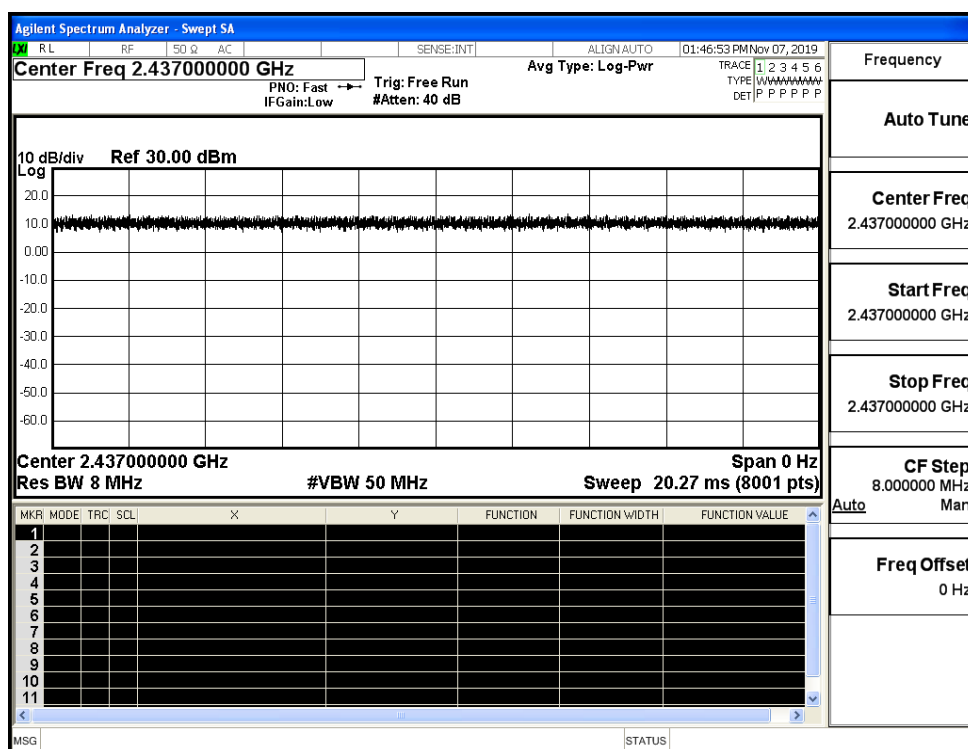
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant_1	100	PASS
11G	2437	Ant_1	100	PASS
11N20	2437	Ant_1	100	PASS
11N40	2437	Ant_1	100	PASS

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant_2	100	PASS
11G	2437	Ant_2	100	PASS
11N20	2437	Ant_2	100	PASS
11N40	2437	Ant_2	100	PASS

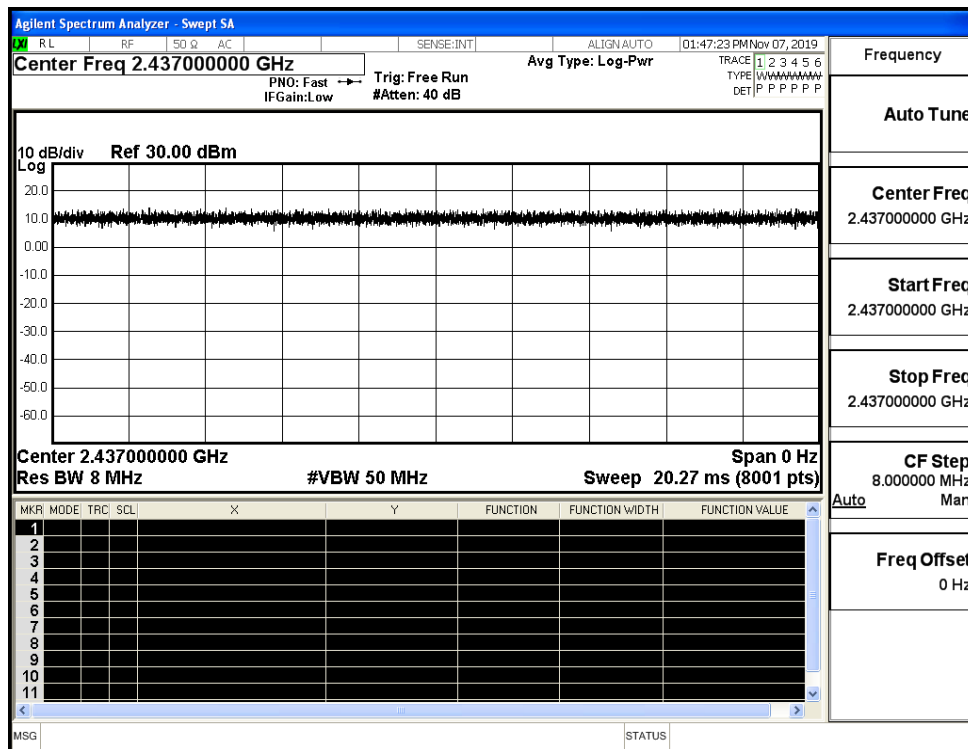
Duty Cycle_11B_2437_Ant_1



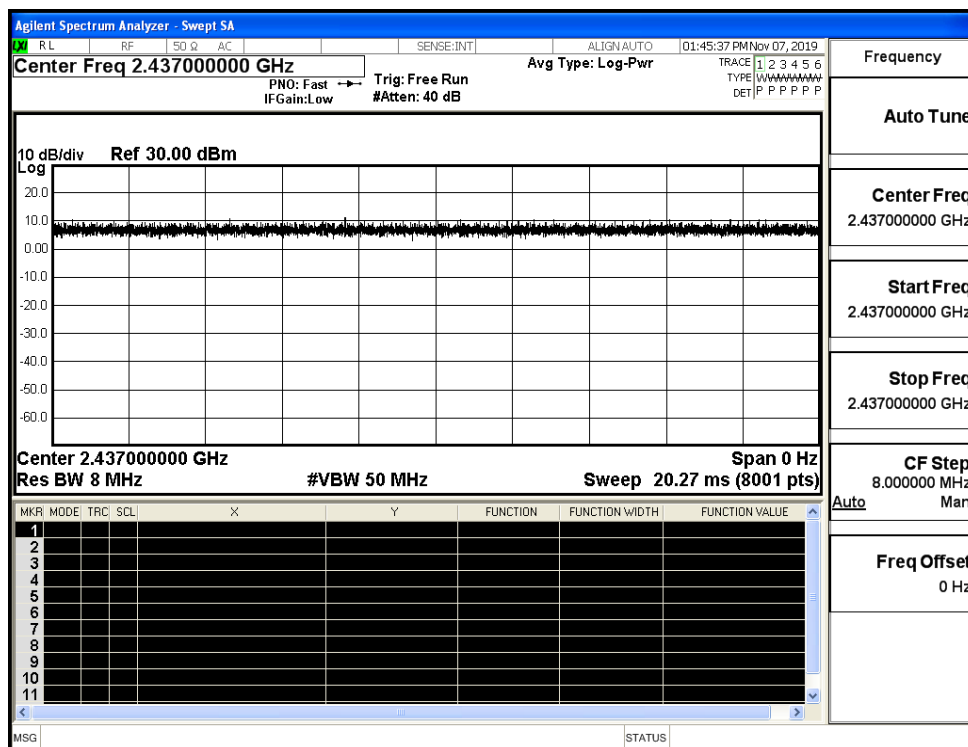
Duty Cycle_11G_2437_Ant_1



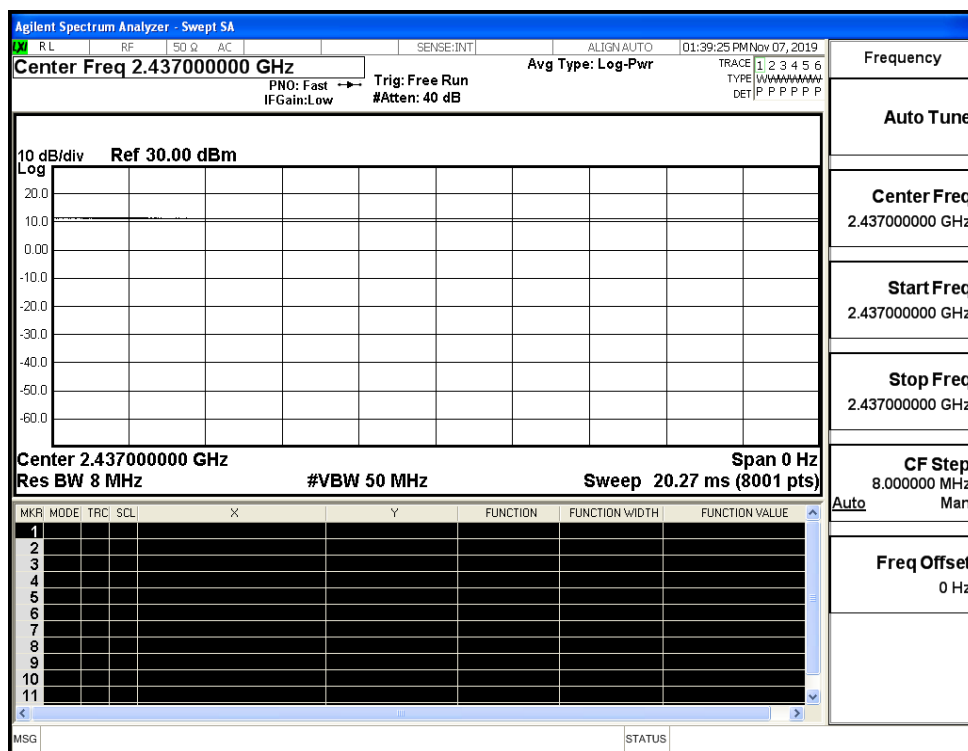
Duty Cycle_11N20_2437_Ant_1



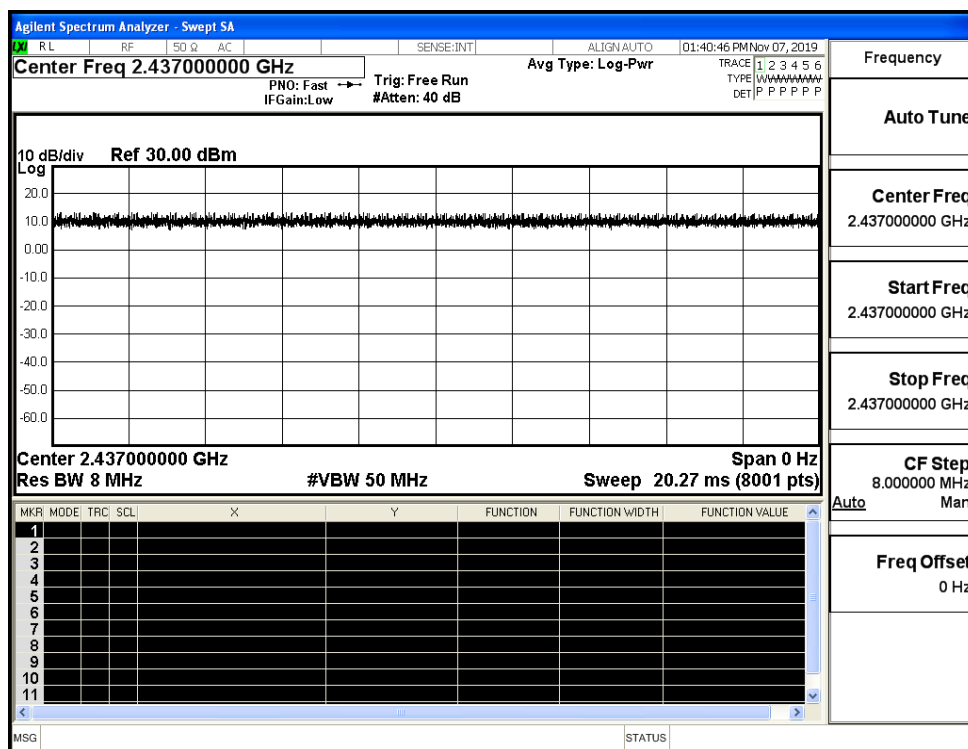
Duty Cycle_11N40_2437_Ant_1



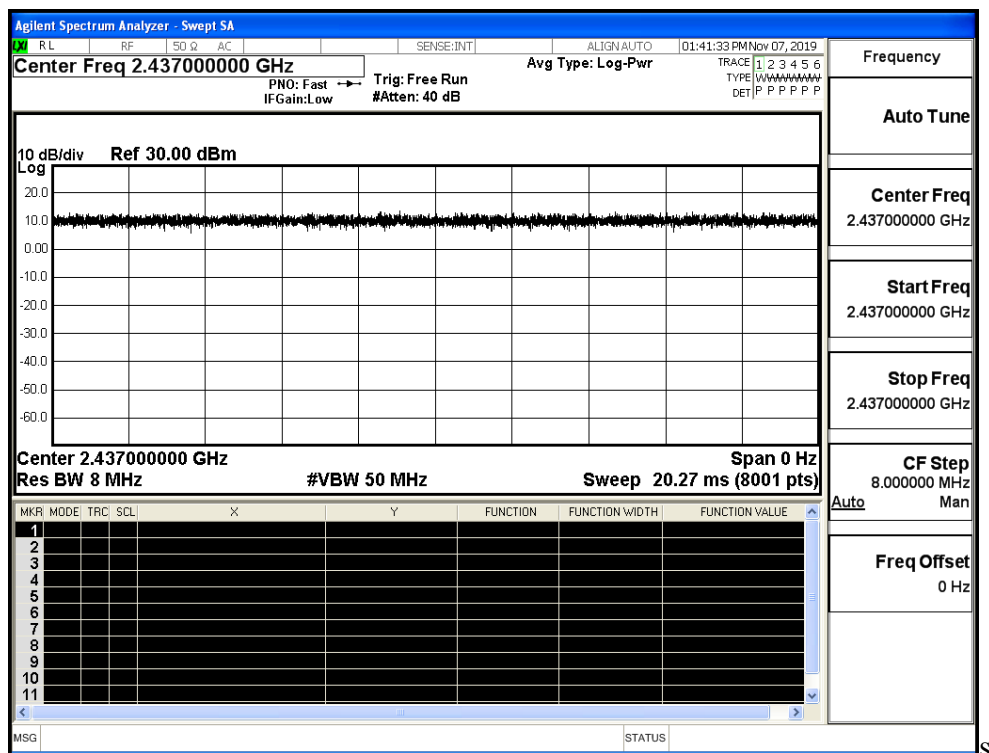
Duty Cycle_11B_2437_Ant_2



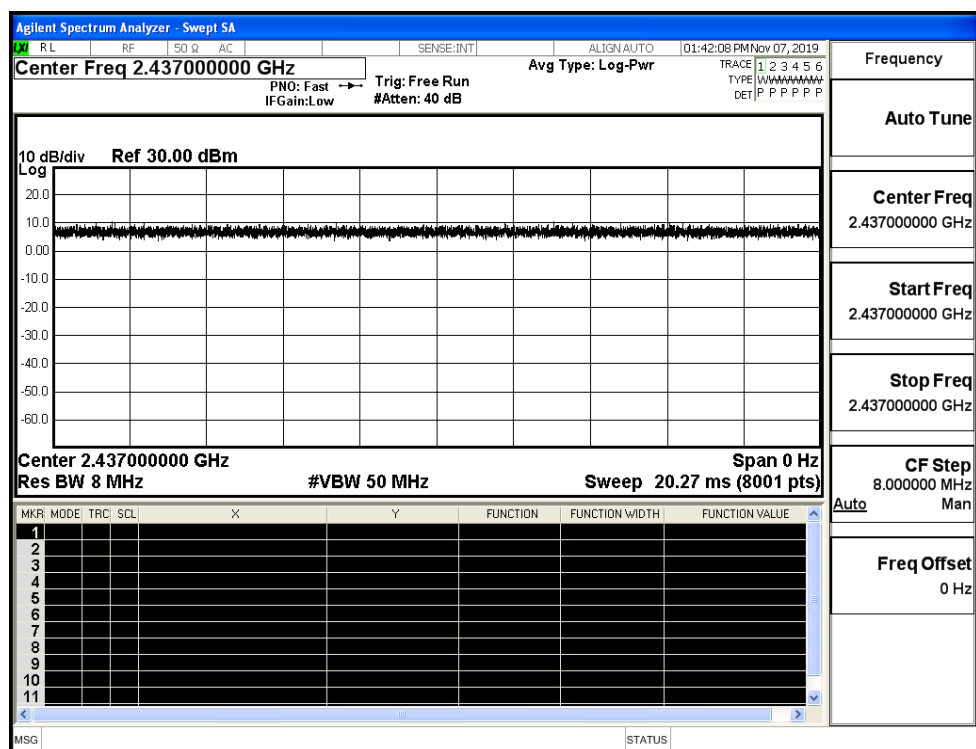
Duty Cycle_11G_2437_Ant_2



Duty Cycle_11N20_2437_Ant_2



Duty Cycle_11N40_2437_Ant_2



A.2 Maximum Conducted Output Power

Mode	Channel	Meas.Level [dBm]			Limit [dBm]	Verdict
		Ant_1	Ant_2	Sum		
11B	LCH	19.65	19.67	/	30	PASS
	MCH	19.62	19.06	/	30	PASS
	HCH	19.4	19.05	/	30	PASS
11G	LCH	15.5	15.98	/	30	PASS
	MCH	15.28	15.78	/	30	PASS
	HCH	15.21	15.34	/	30	PASS
11N20	LCH	17.86	17.82	20.85	30	PASS
	MCH	17.55	17.35	20.46	30	PASS
	HCH	17.05	17.29	20.18	30	PASS
11N40	LCH	15.75	15.9	18.84	30	PASS
	MCH	15.91	16.03	18.98	30	PASS
	HCH	16.23	16.3	19.28	30	PASS

A.3 Maximum Power Spectral Density

Ant_1

Mode	Channel	Meas.Level [dBm/30KHz]	Convert Factor	Result [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-0.440	-10	-10.440	8	PASS
	MCH	-1.198	-10	-11.198	8	PASS
	HCH	-0.648	-10	-10.648	8	PASS
11G	LCH	-4.473	-10	-14.473	8	PASS
	MCH	-4.947	-10	-14.947	8	PASS
	HCH	-8.776	-10	-18.776	8	PASS
11N20	LCH	-4.484	-10	-14.484	8	PASS
	MCH	-5.536	-10	-15.536	8	PASS
	HCH	-6.609	-10	-16.609	8	PASS
11N40	LCH	-10.292	-10	-20.292	8	PASS
	MCH	-11.072	-10	-21.072	8	PASS
	HCH	-10.622	-10	-20.622	8	PASS

***Note: The Convert Factor = $10 \cdot \log(3\text{KHz}/30\text{KHz}) = -10$

Ant_2

Mode	Channel	Meas.Level [dBm/30KHz]	Convert Factor	Result [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-0.974	-10	-10.974	8	PASS
	MCH	-1.463	-10	-11.463	8	PASS
	HCH	-1.504	-10	-11.504	8	PASS
11G	LCH	-8.149	-10	-18.149	8	PASS
	MCH	-8.457	-10	-18.457	8	PASS
	HCH	-8.447	-10	-18.447	8	PASS
11N20	LCH	-5.899	-10	-15.899	8	PASS
	MCH	-6.043	-10	-16.043	8	PASS
	HCH	-5.275	-10	-15.275	8	PASS
11N40	LCH	-11.226	-10	-21.226	8	PASS
	MCH	-11.320	-10	-21.320	8	PASS
	HCH	-10.563	-10	-20.563	8	PASS

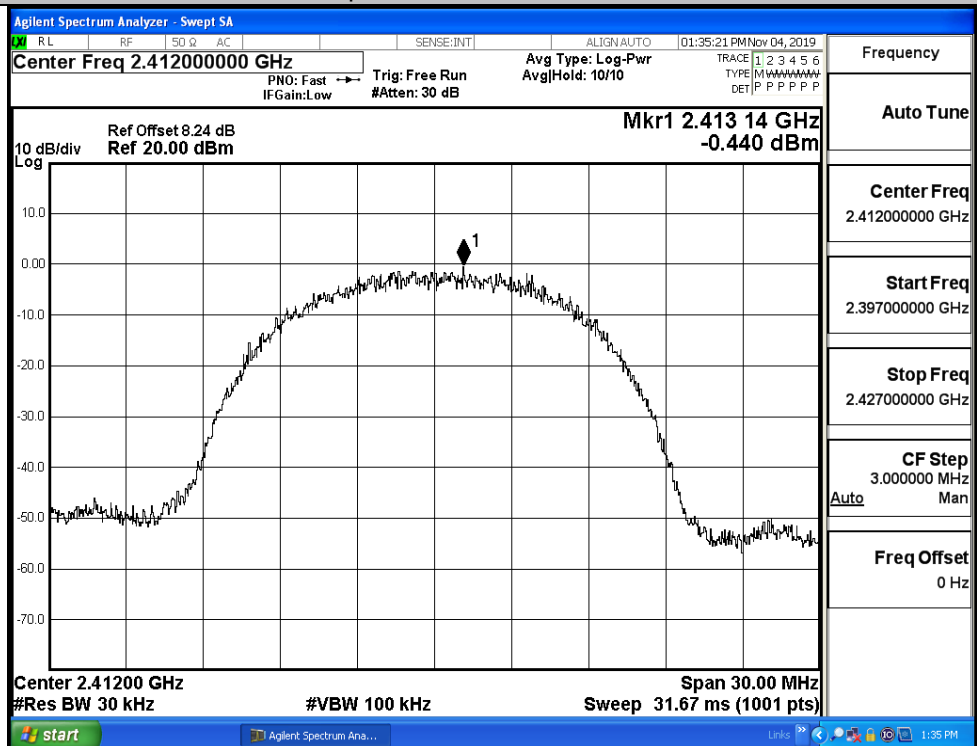
***Note: The Convert Factor = $10 \cdot \log(3\text{KHz}/30\text{KHz}) = -10$

Combined Ant_1 and Ant_2

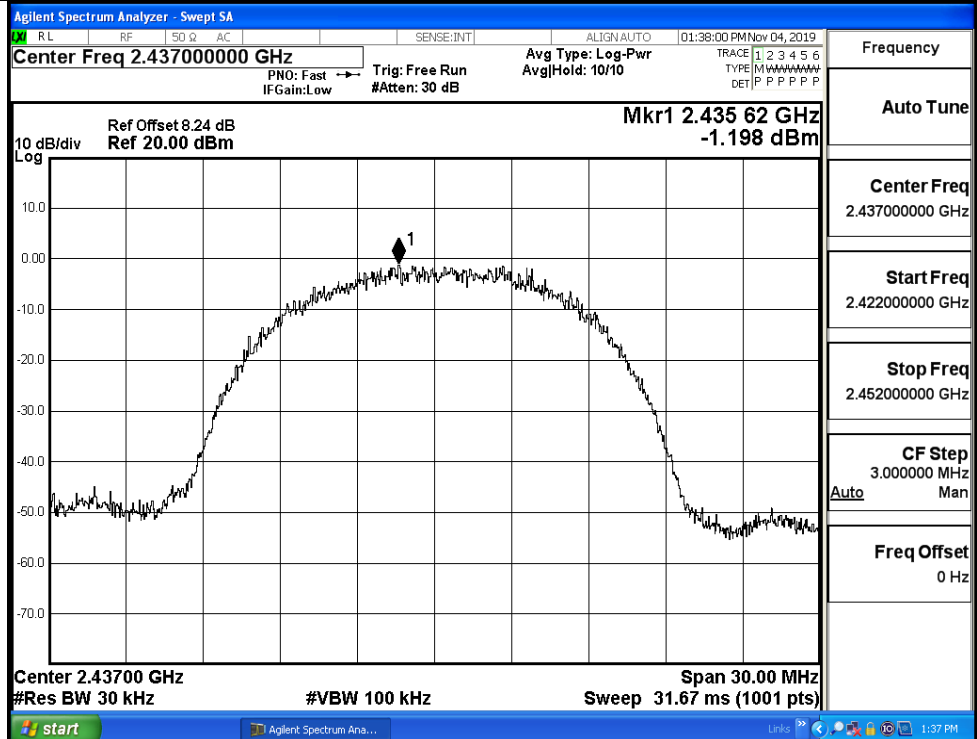
Mode	Channel	Result [dBm/3KHz]			Limit [dBm/3KHz]	Verdict
		Ant_1	Ant_2	Sum		
11N20	LCH	-14.484	-15.899	-12.124	5.99	PASS
	MCH	-15.536	-16.043	-12.772	5.99	PASS
	HCH	-16.609	-15.275	-12.881	5.99	PASS
11N40	LCH	-20.292	-21.226	-17.724	5.99	PASS
	MCH	-21.072	-21.320	-18.184	5.99	PASS
	HCH	-20.622	-20.563	-17.582	5.99	PASS

Test Graphs_Ant_1

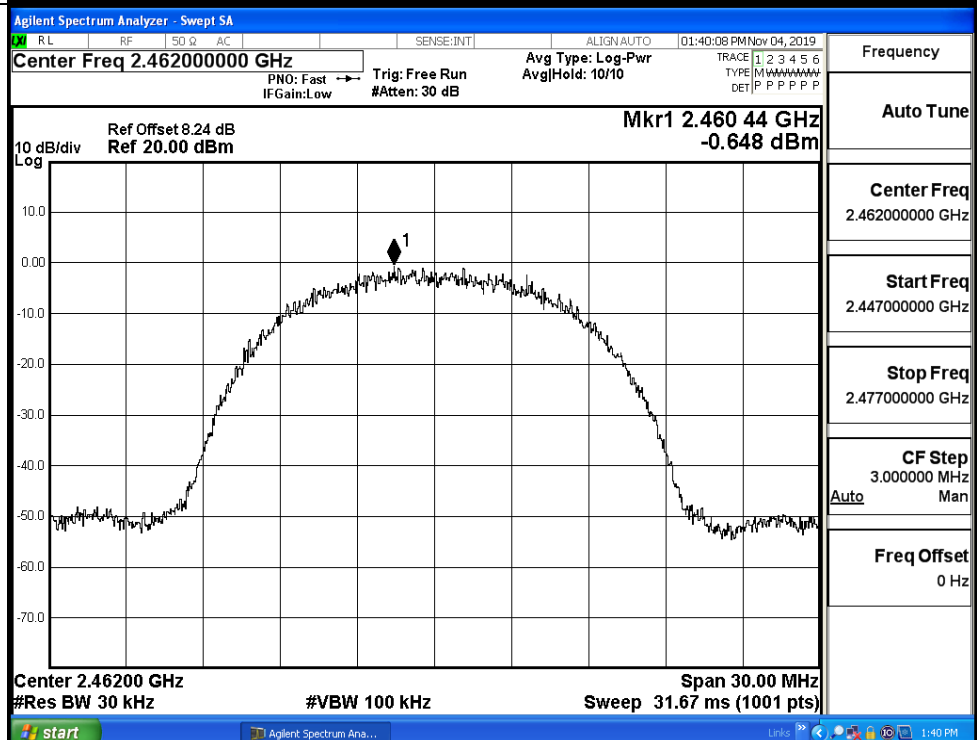
11B/LCH



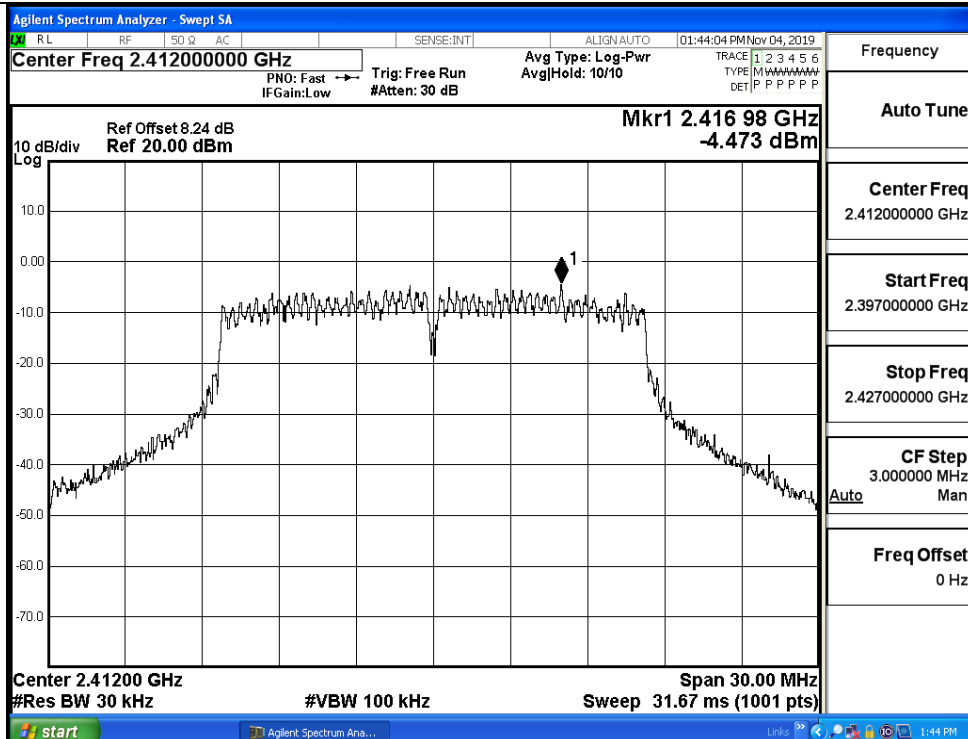
11B/MCH



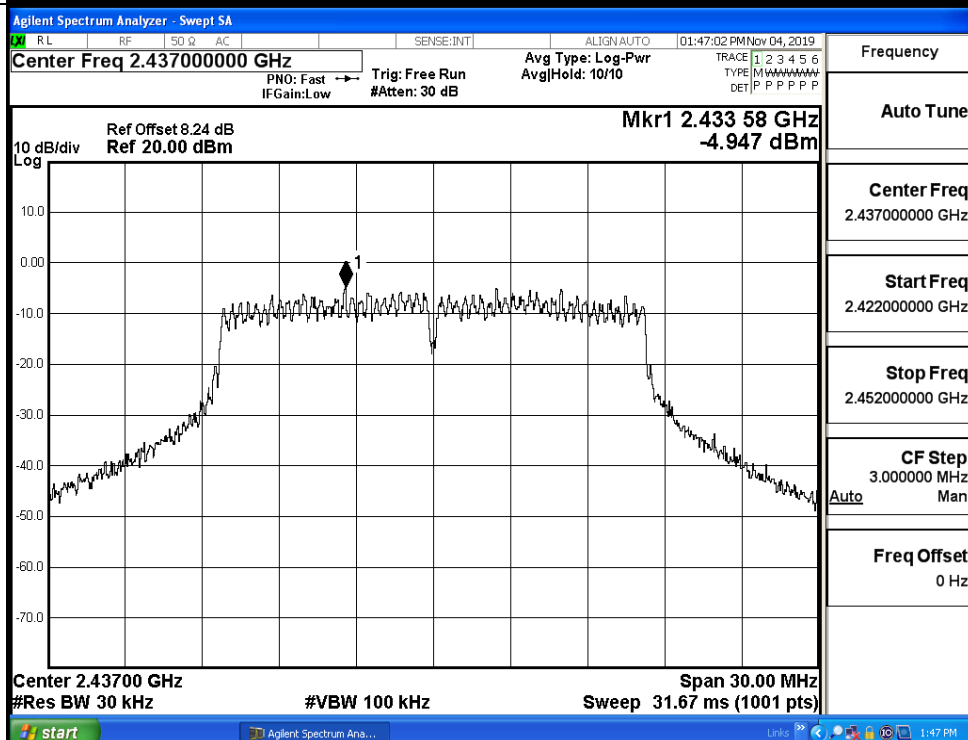
11B/HCH



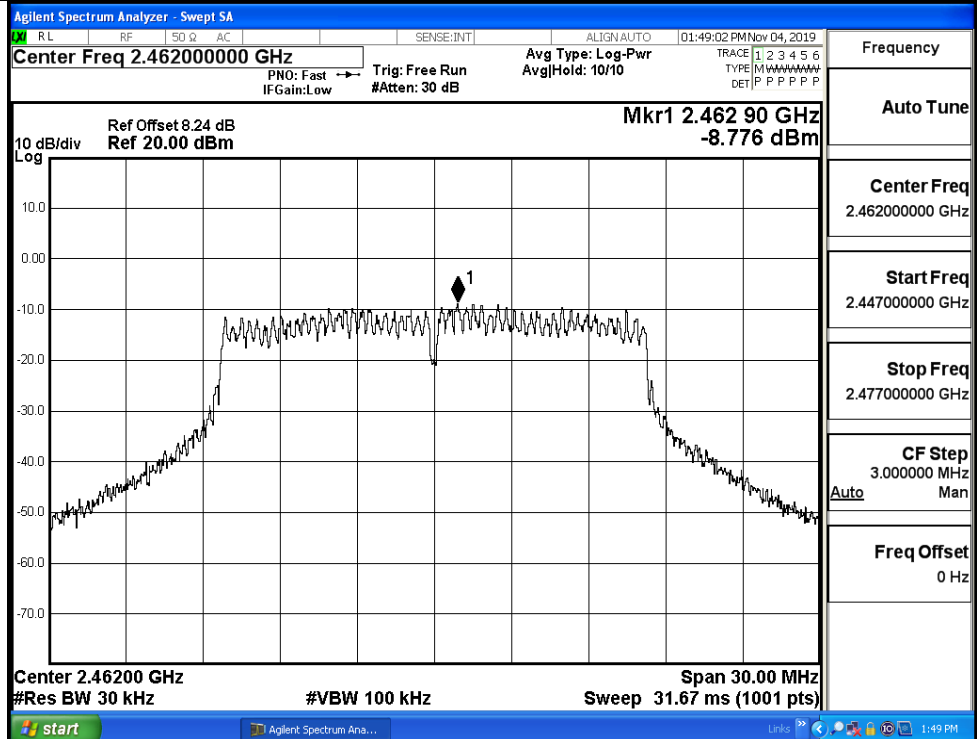
11G/LCH



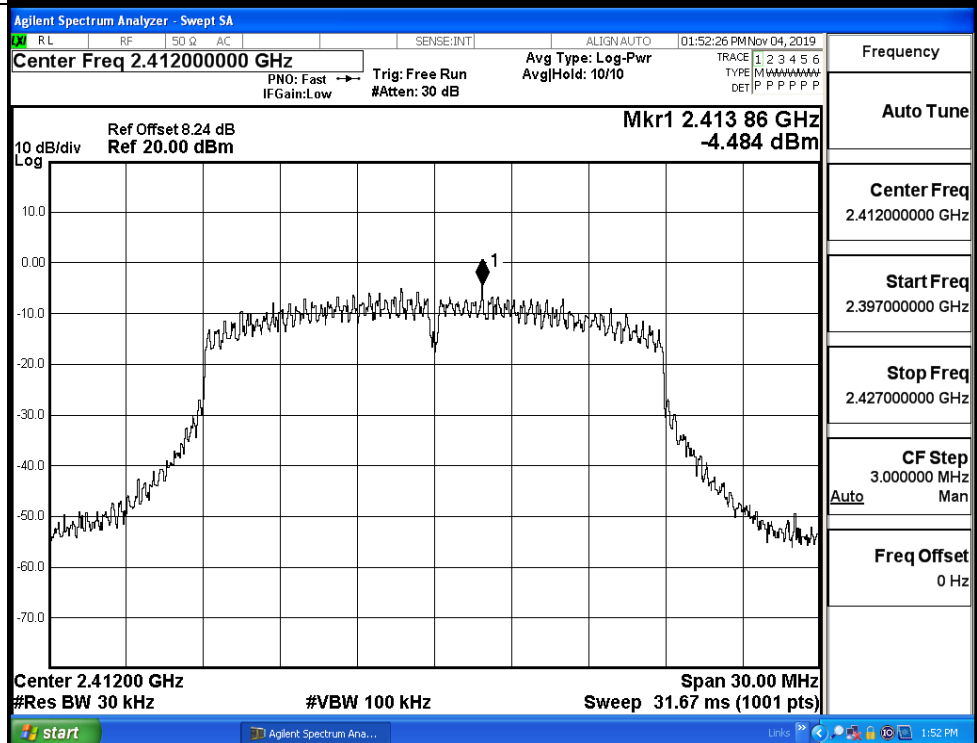
11G/MCH



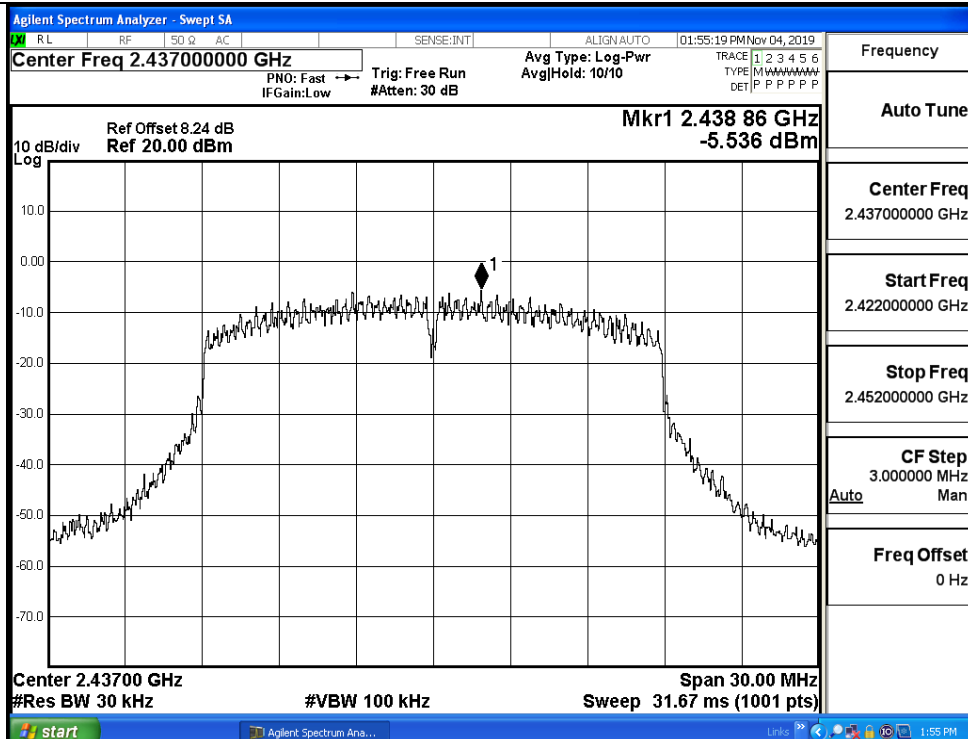
11G/HCH



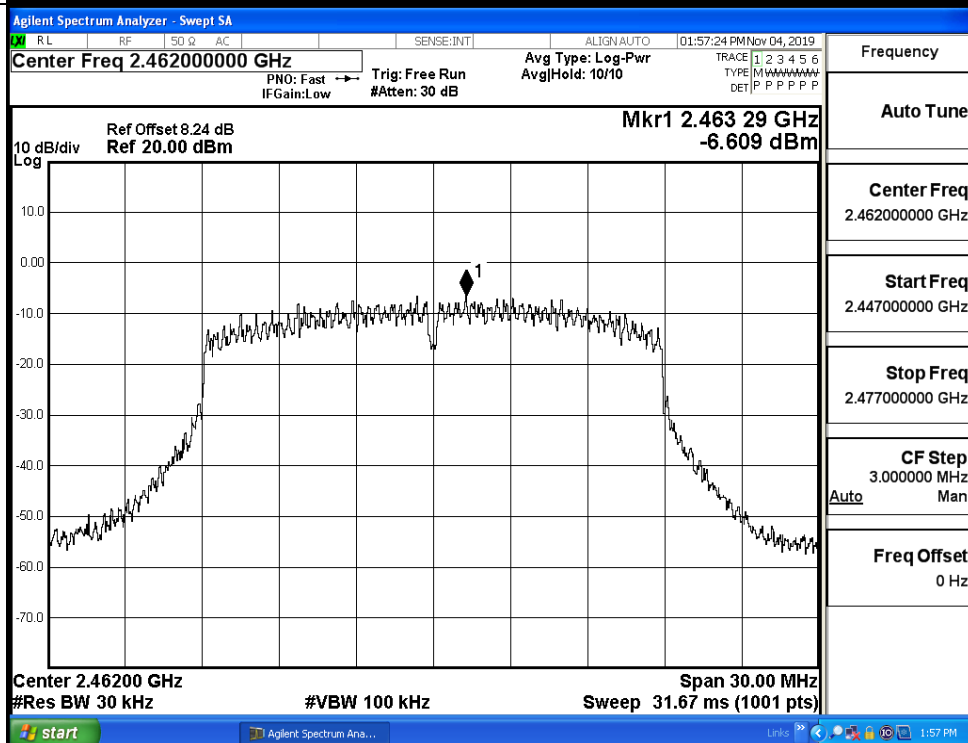
11N20/LCH



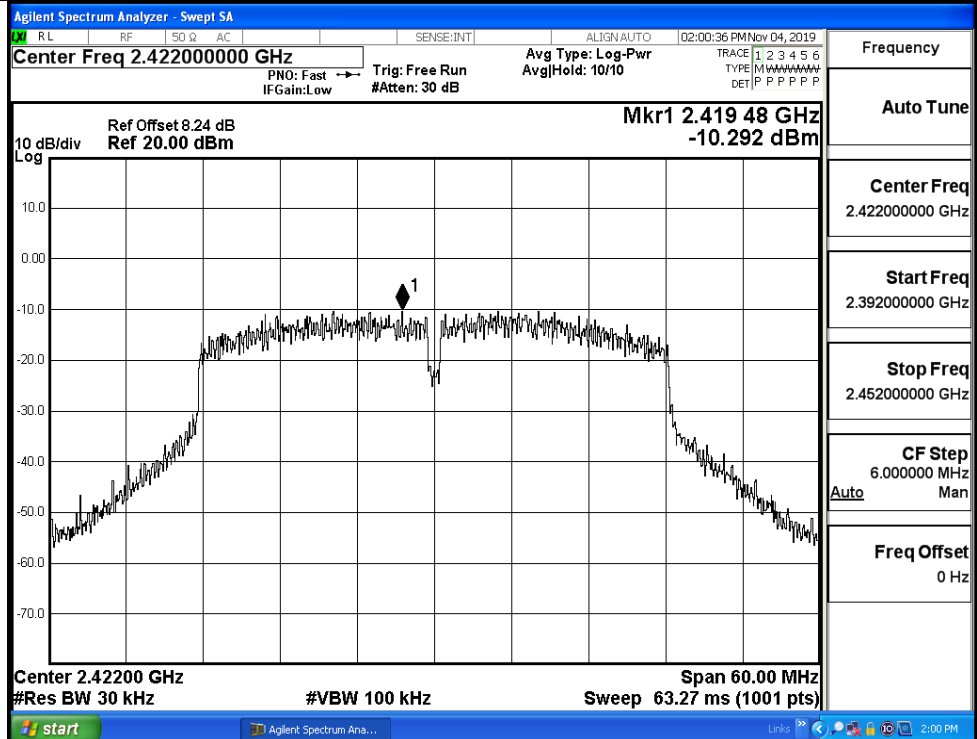
11N20/MCH



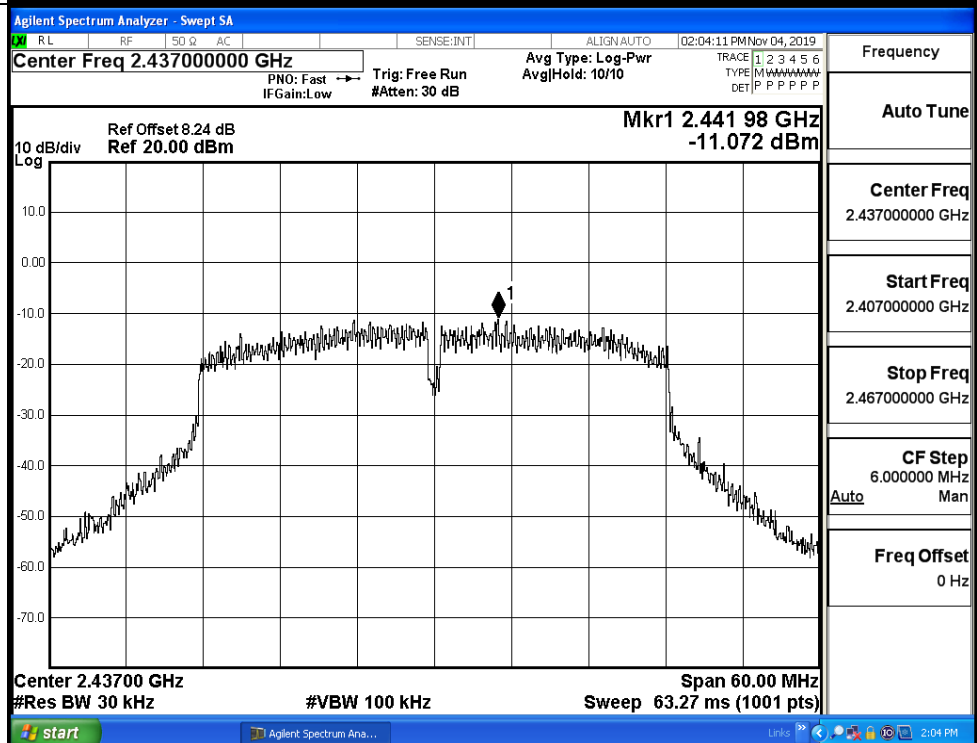
11N20/HCH



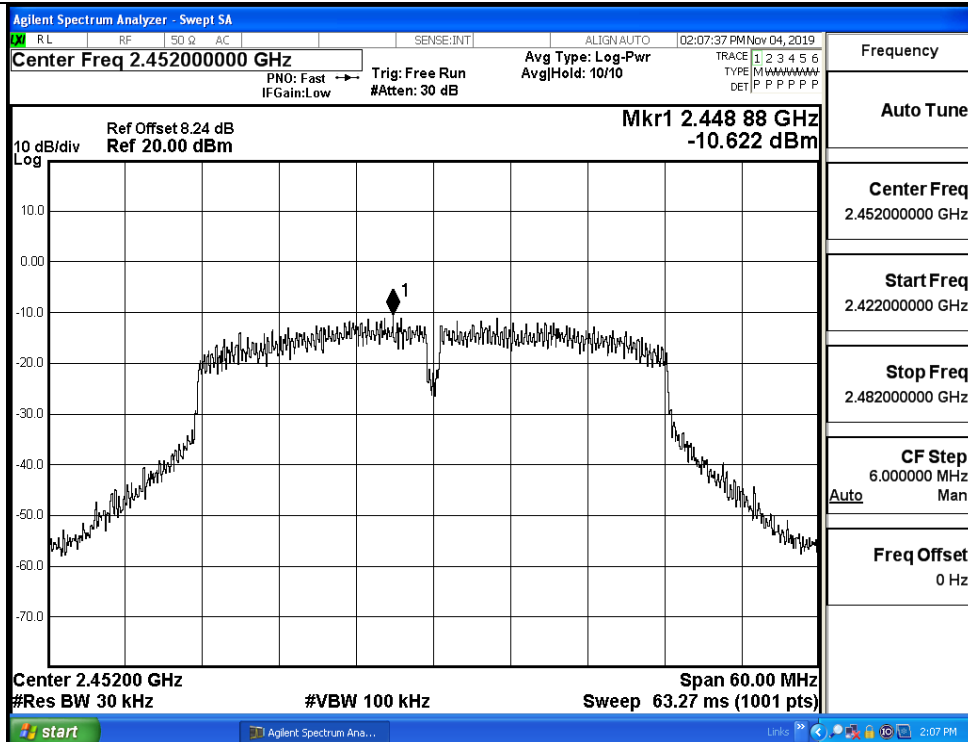
11N40/LCH



11N40/MCH

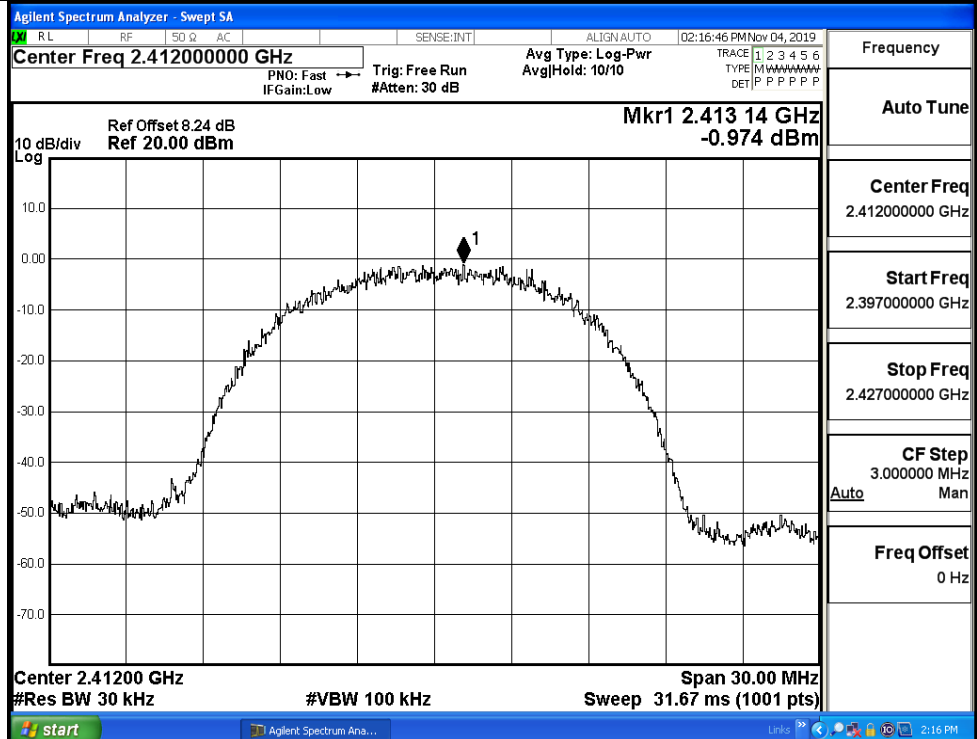


11N40/HCH

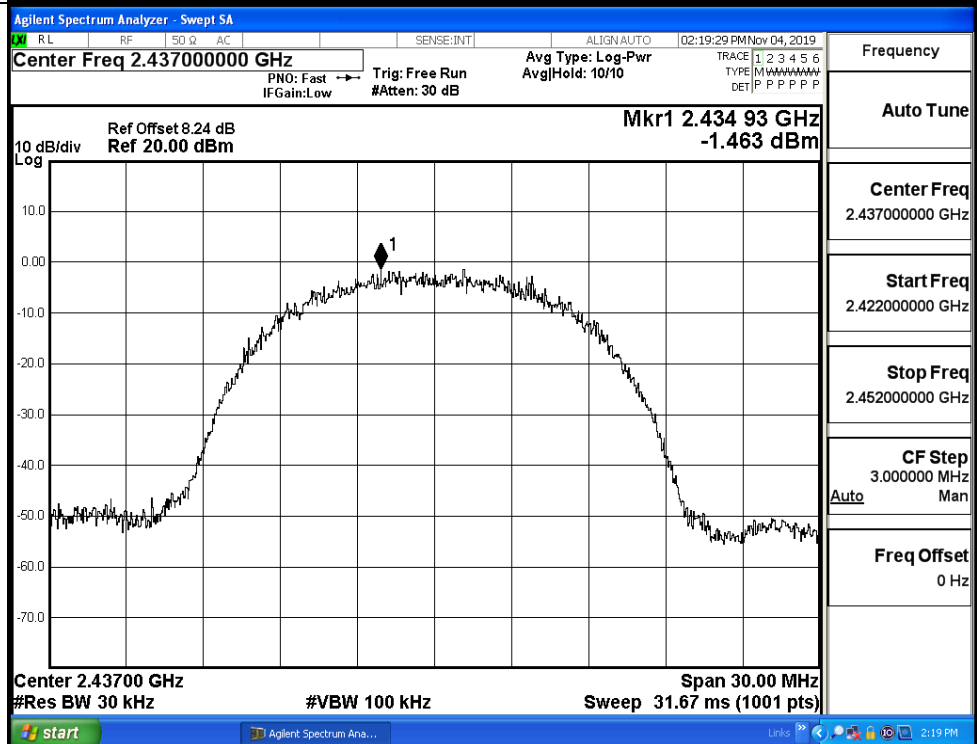


Test Graphs_Ant_2

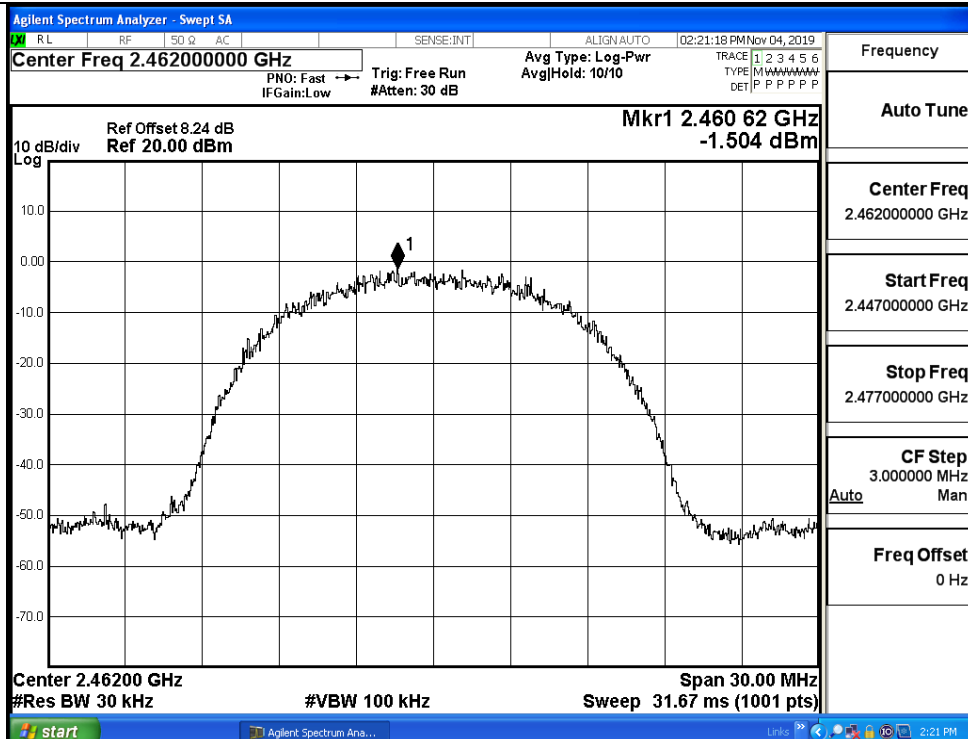
11B/LCH



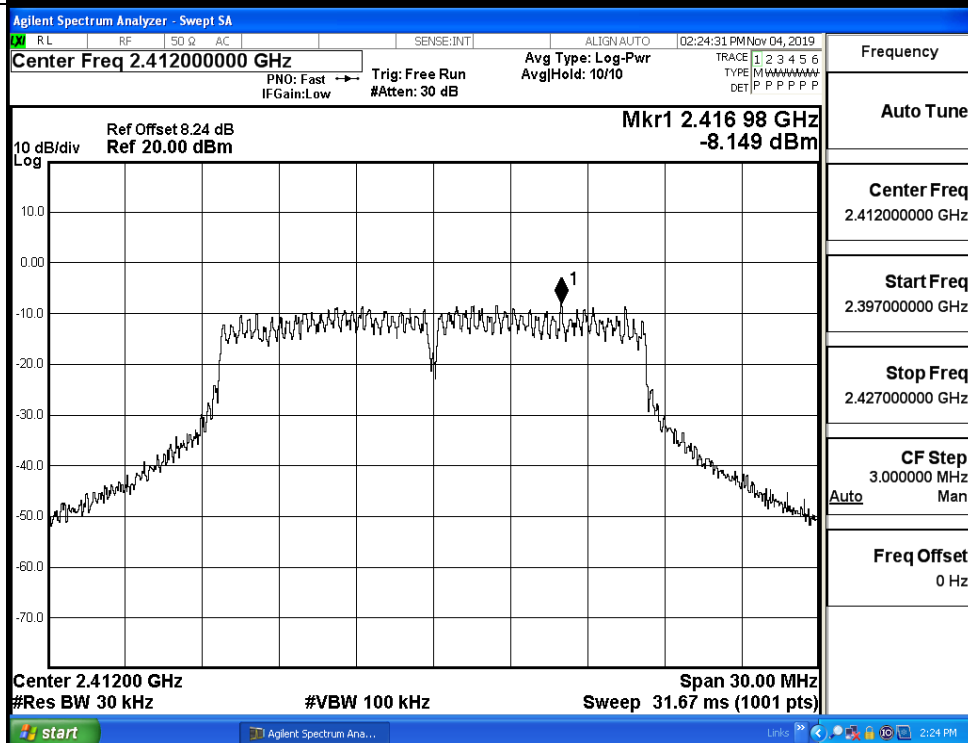
11B/MCH



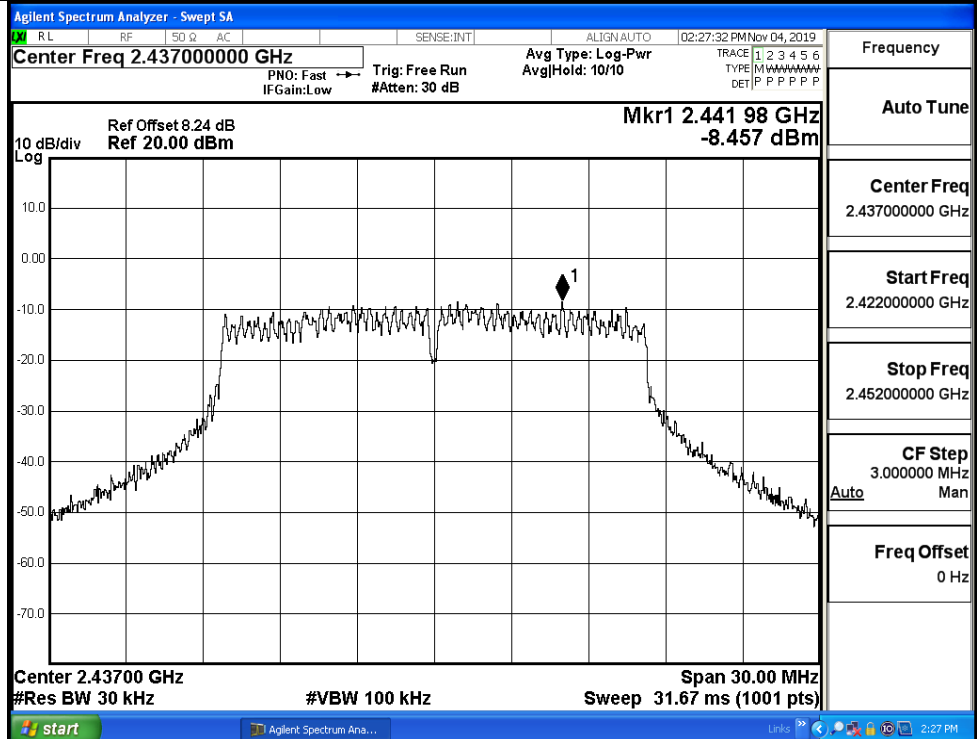
11B/HCH



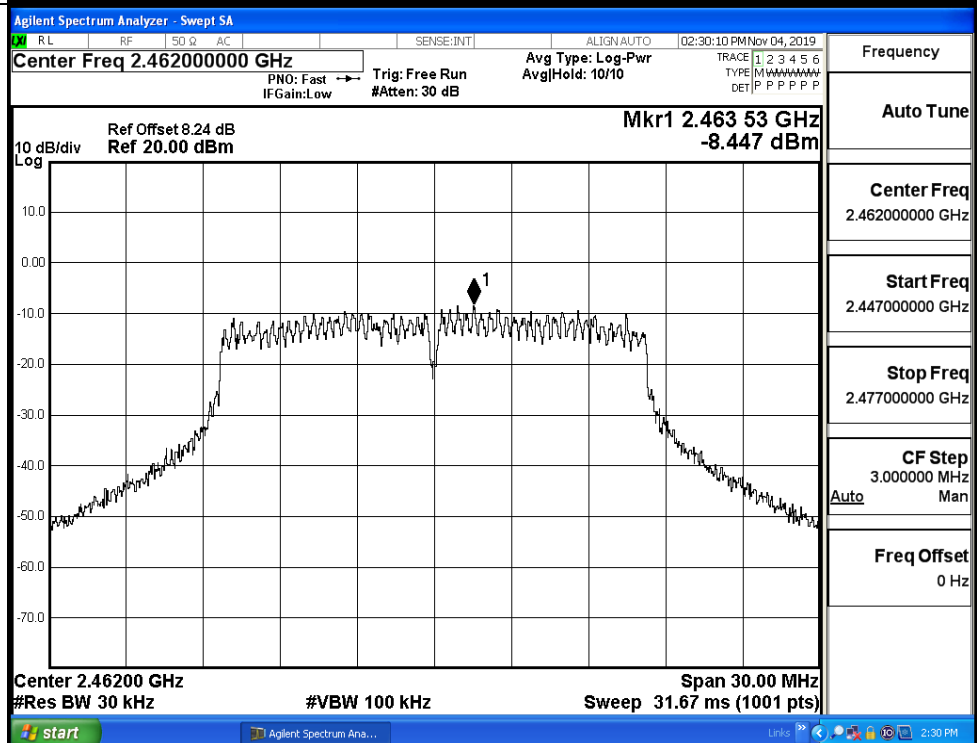
11G/LCH



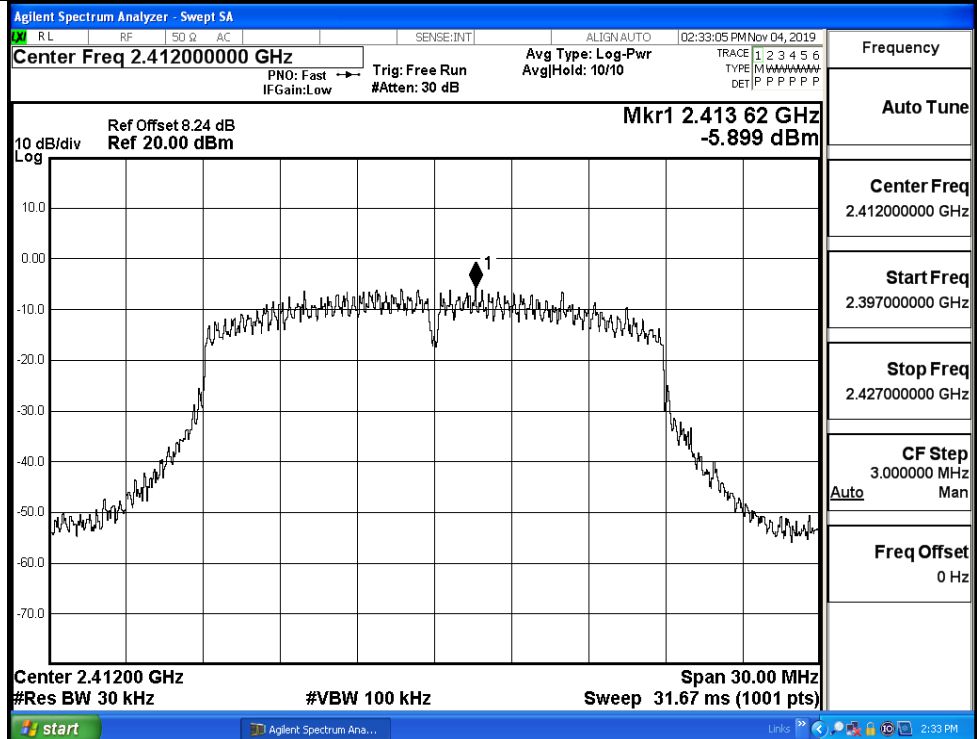
11G/MCH



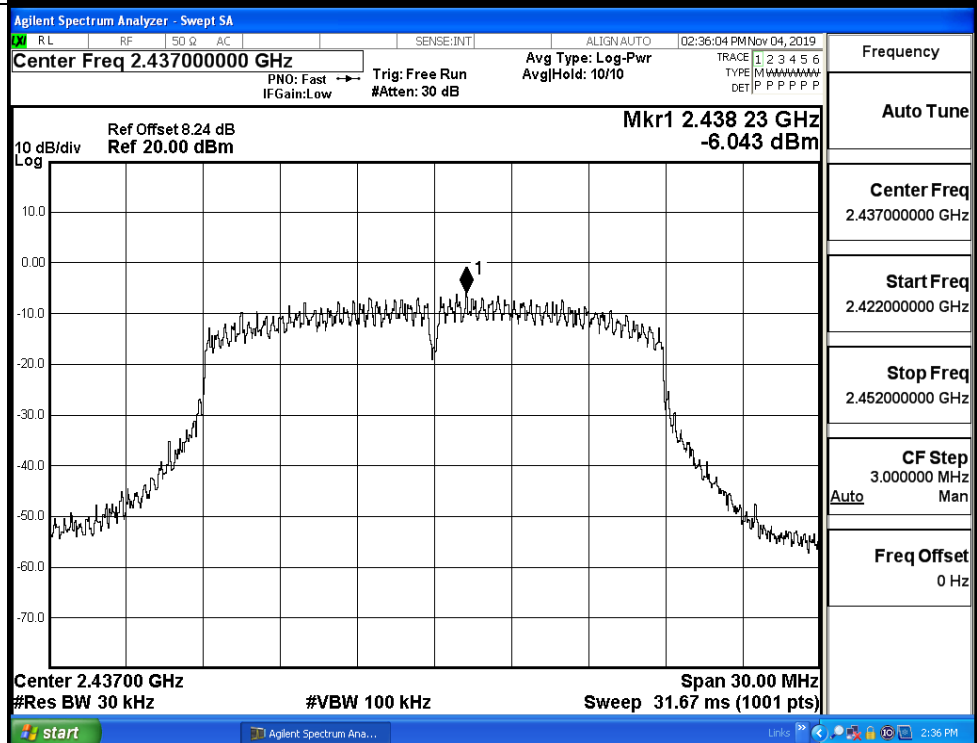
11G/HCH



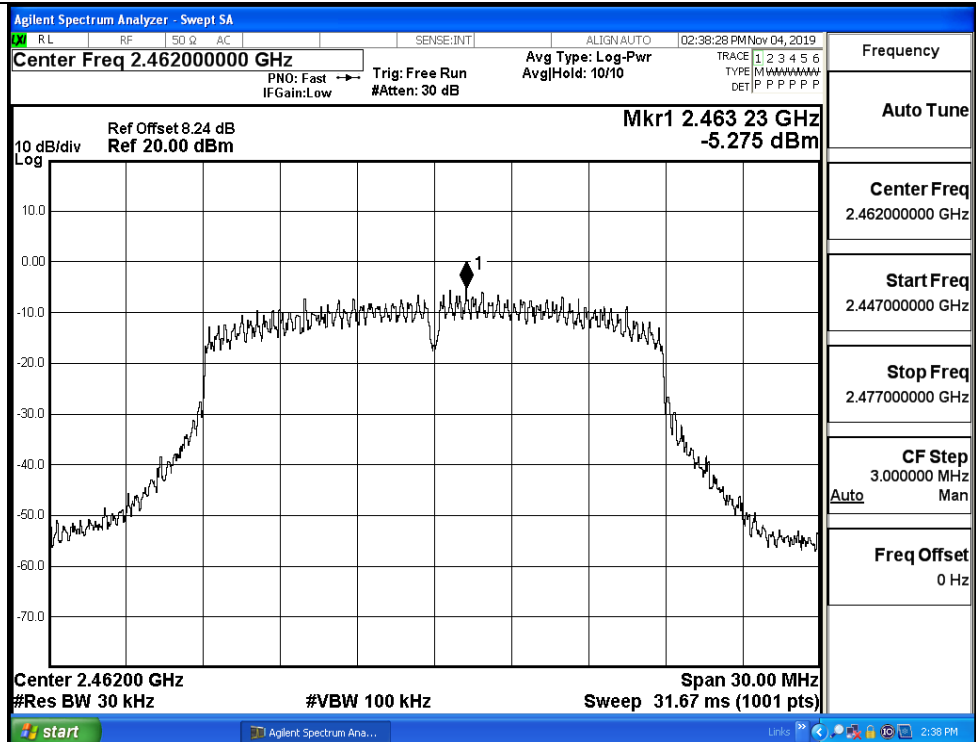
11N20/LCH



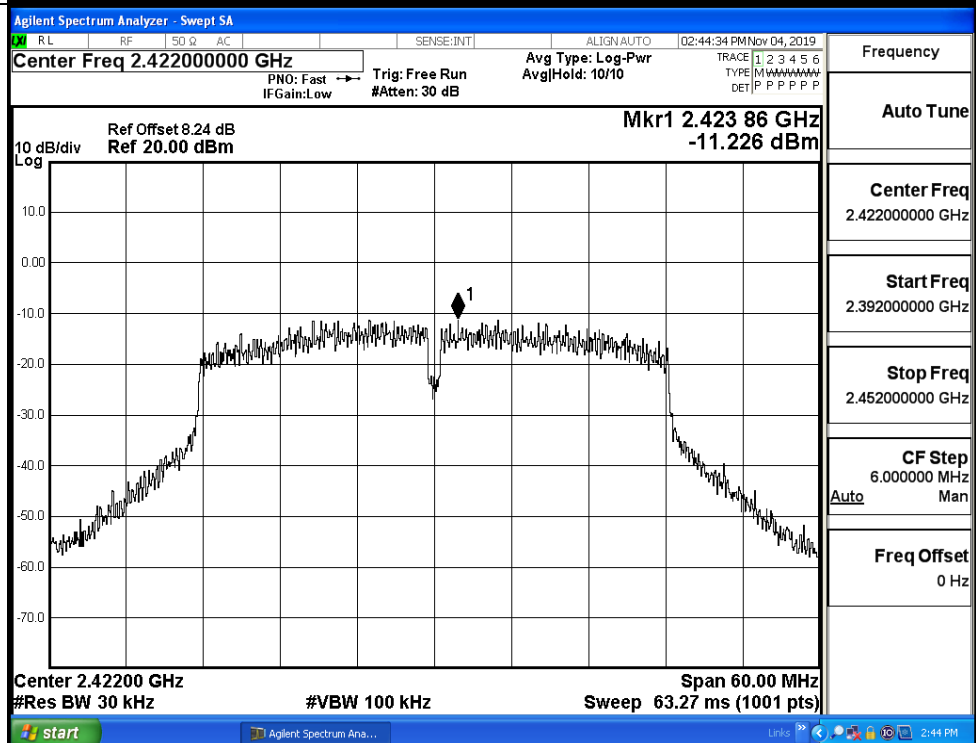
11N20/MCH



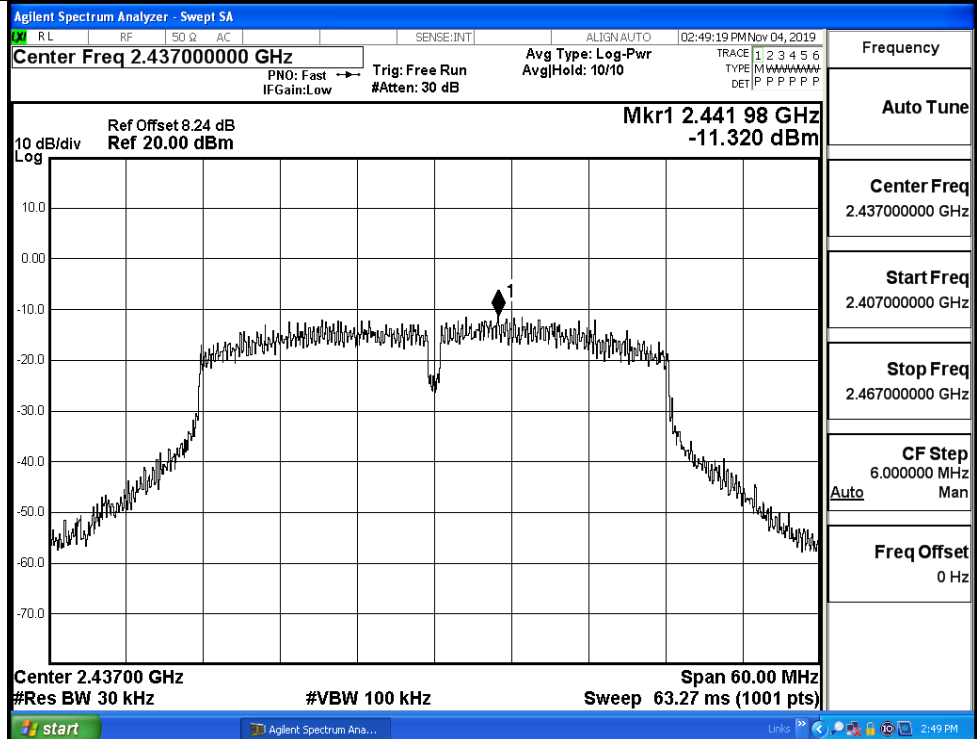
11N20/HCH



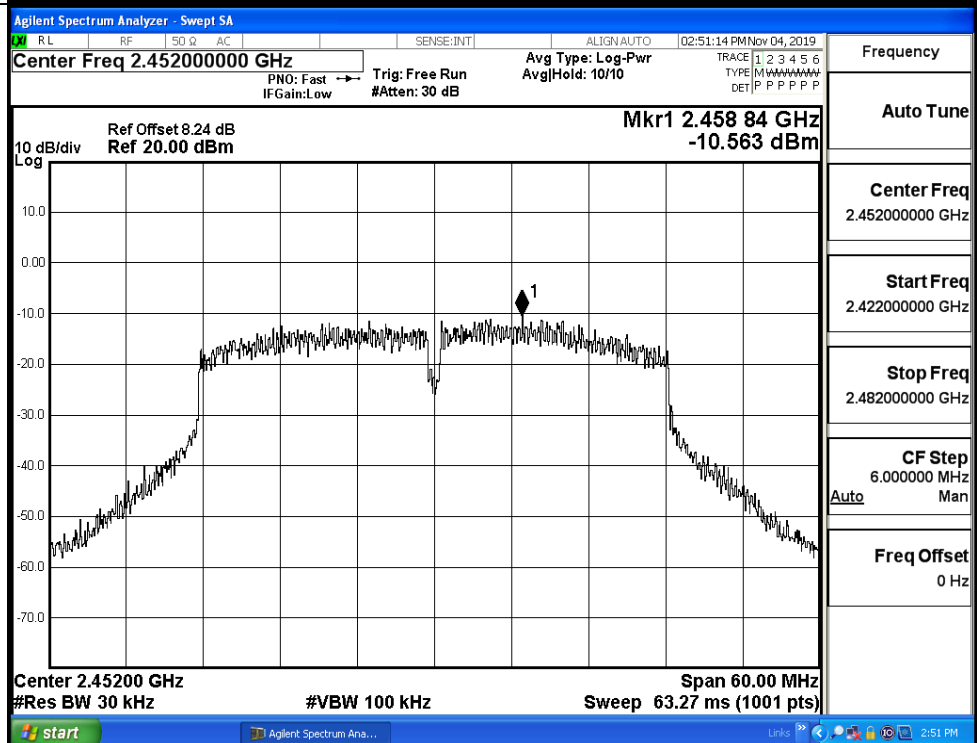
11N40/LCH



11N40/MCH



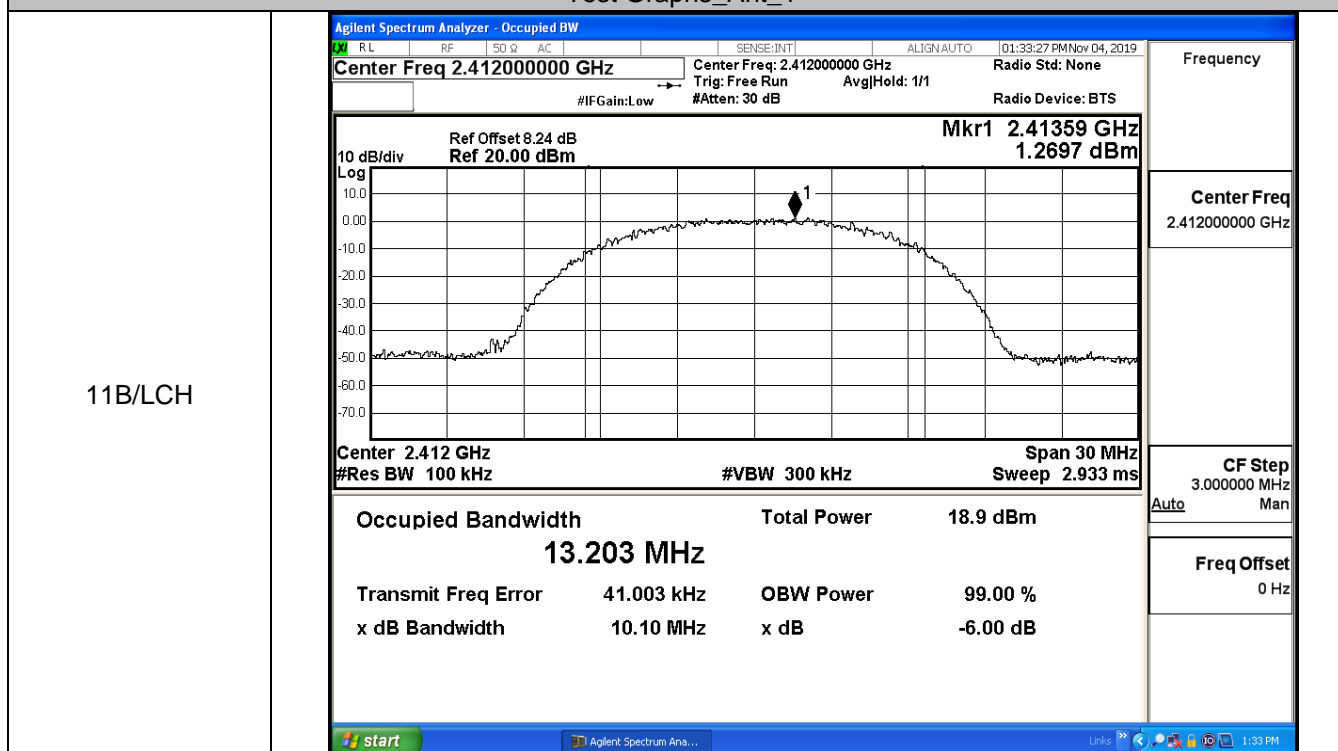
11N40/HCH



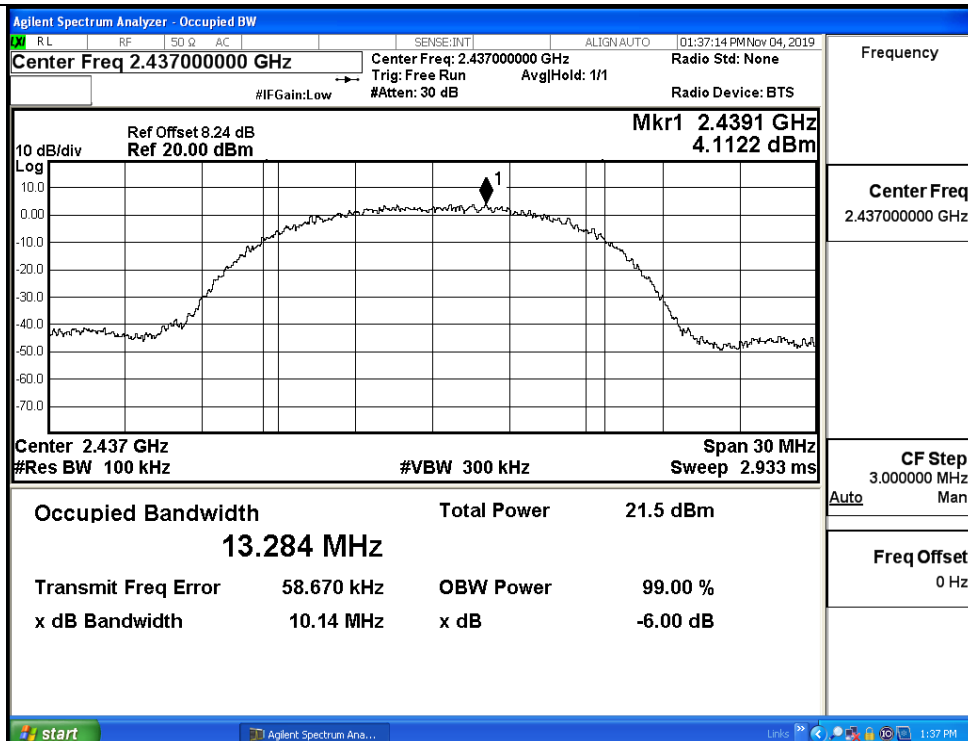
A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]		Limit [MHz]	Verdict
		Ant_1	Ant_2		
11B	LCH	10.10	9.785	≥ 0.5	PASS
	MCH	10.14	10.32	≥ 0.5	PASS
	HCH	9.516	10.30	≥ 0.5	PASS
11G	LCH	16.42	16.35	≥ 0.5	PASS
	MCH	16.45	16.40	≥ 0.5	PASS
	HCH	16.28	16.33	≥ 0.5	PASS
11N20	LCH	15.12	15.13	≥ 0.5	PASS
	MCH	15.09	15.08	≥ 0.5	PASS
	HCH	15.09	15.04	≥ 0.5	PASS
11N40	LCH	35.05	31.39	≥ 0.5	PASS
	MCH	33.84	35.07	≥ 0.5	PASS
	HCH	33.87	35.07	≥ 0.5	PASS

Test Graphs_Ant_1



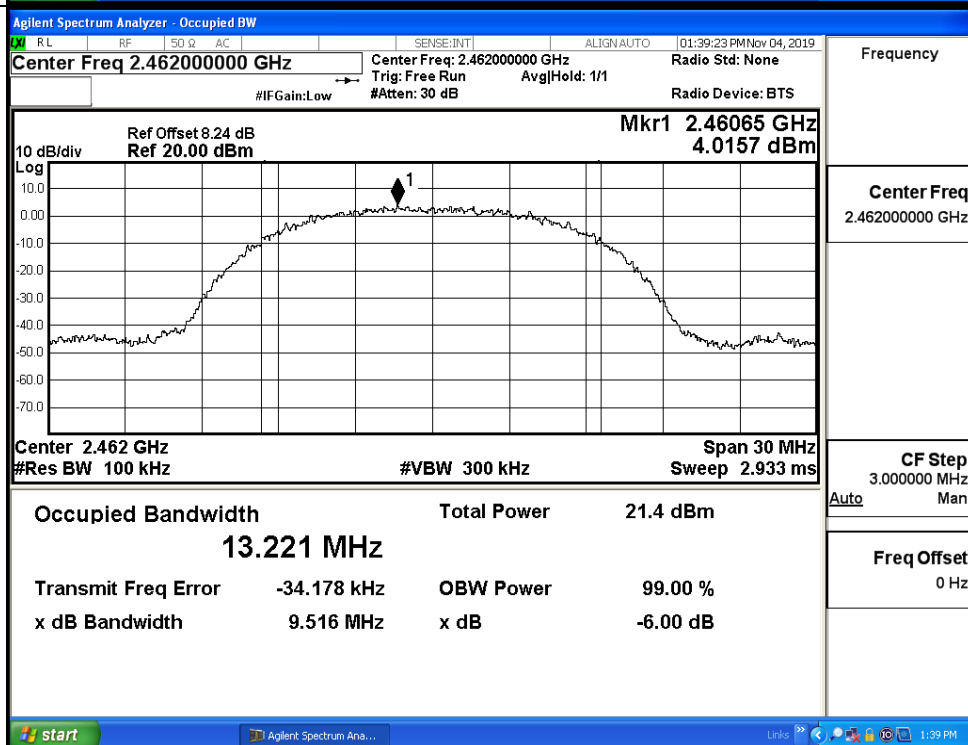
11B/MCH



Frequency

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

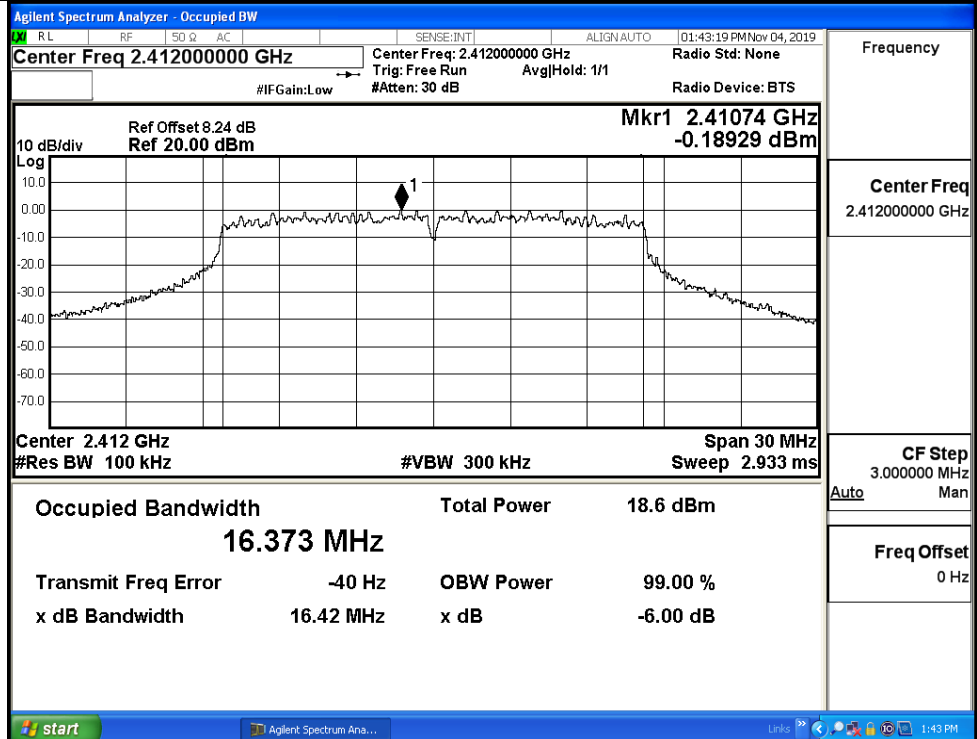
11B/HCH



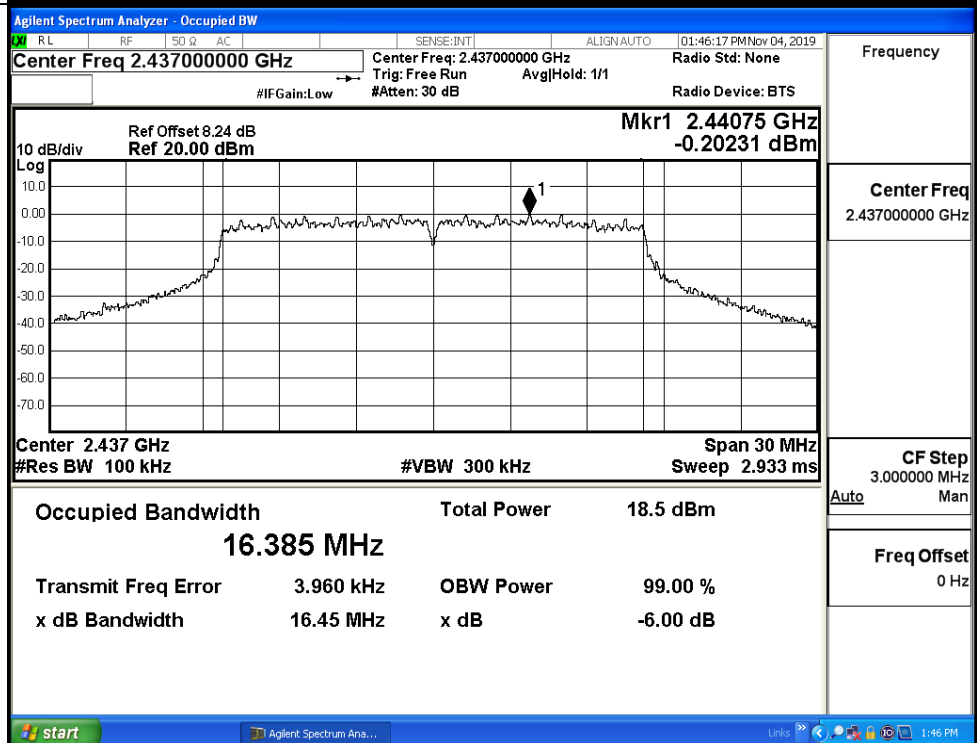
Frequency

Center Freq
2.462000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

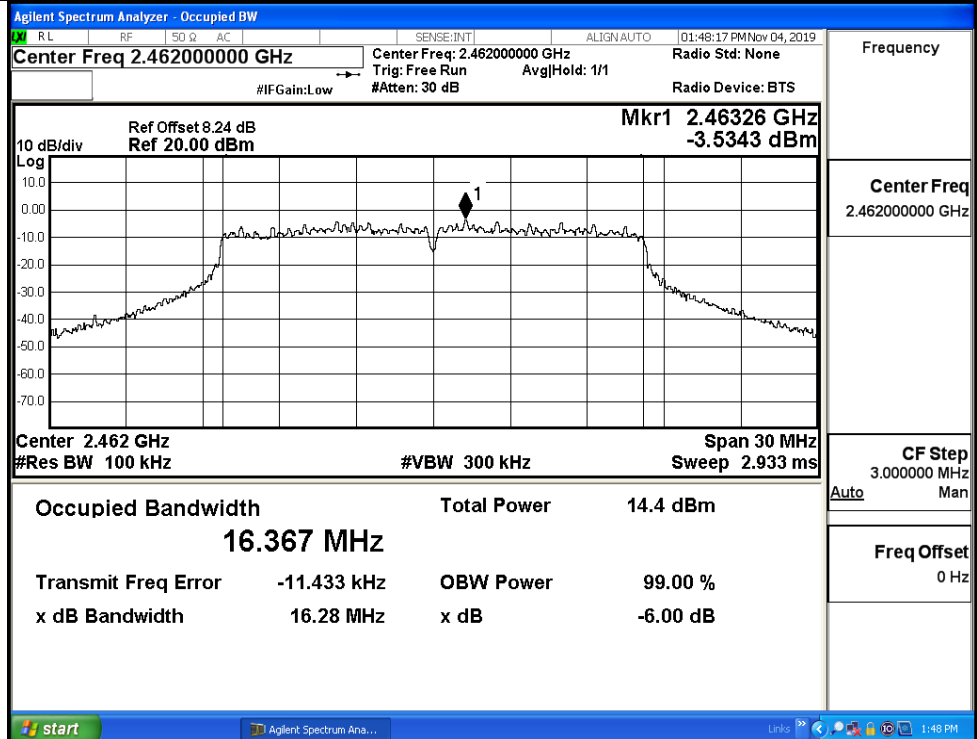
11G/LCH



11G/MCH



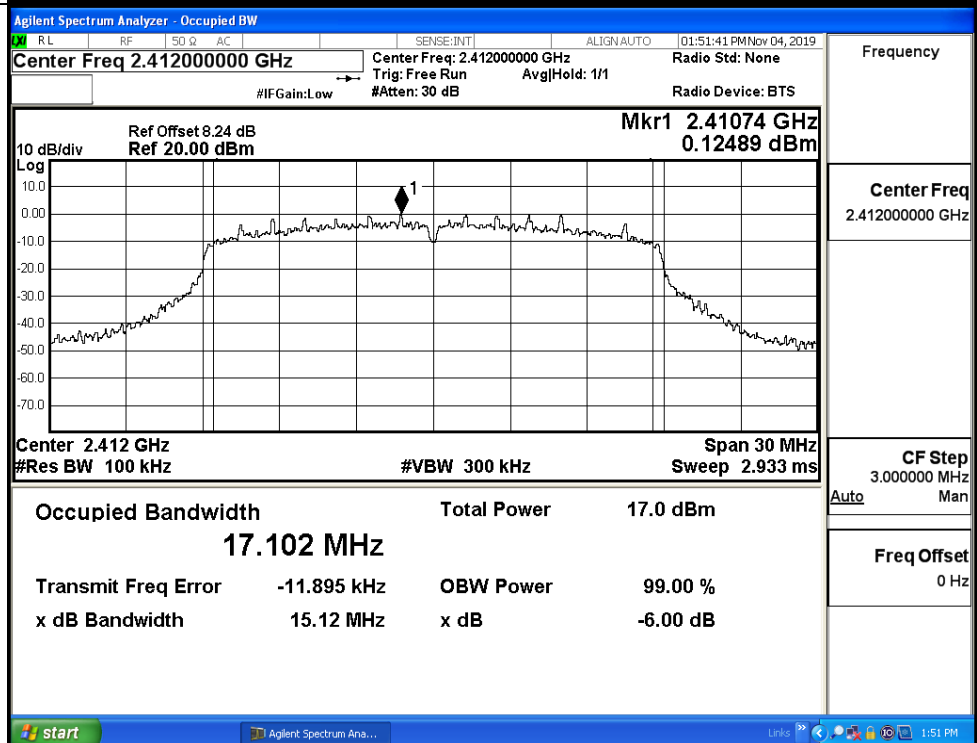
11G/HCH



Frequency

Center Freq
2.462000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

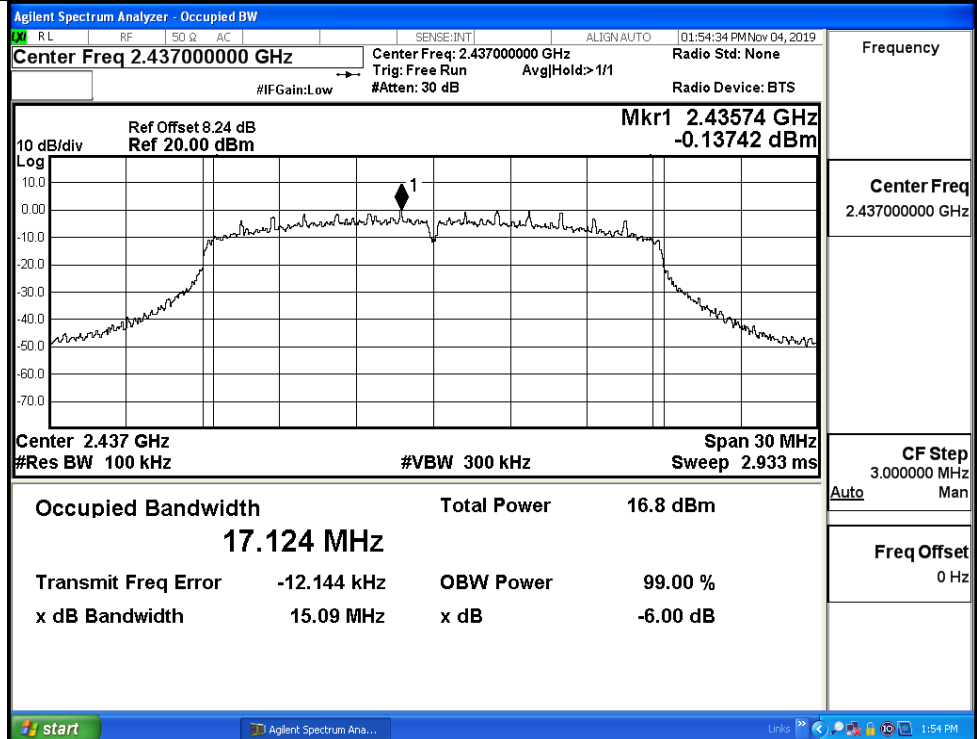
11N20/LCH



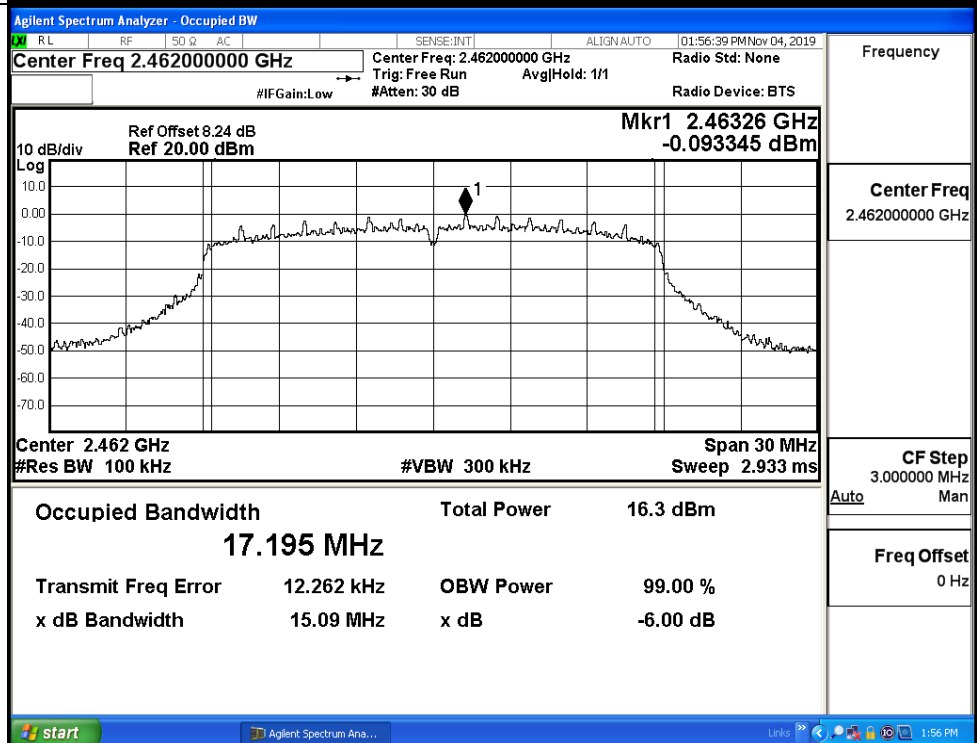
Frequency

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

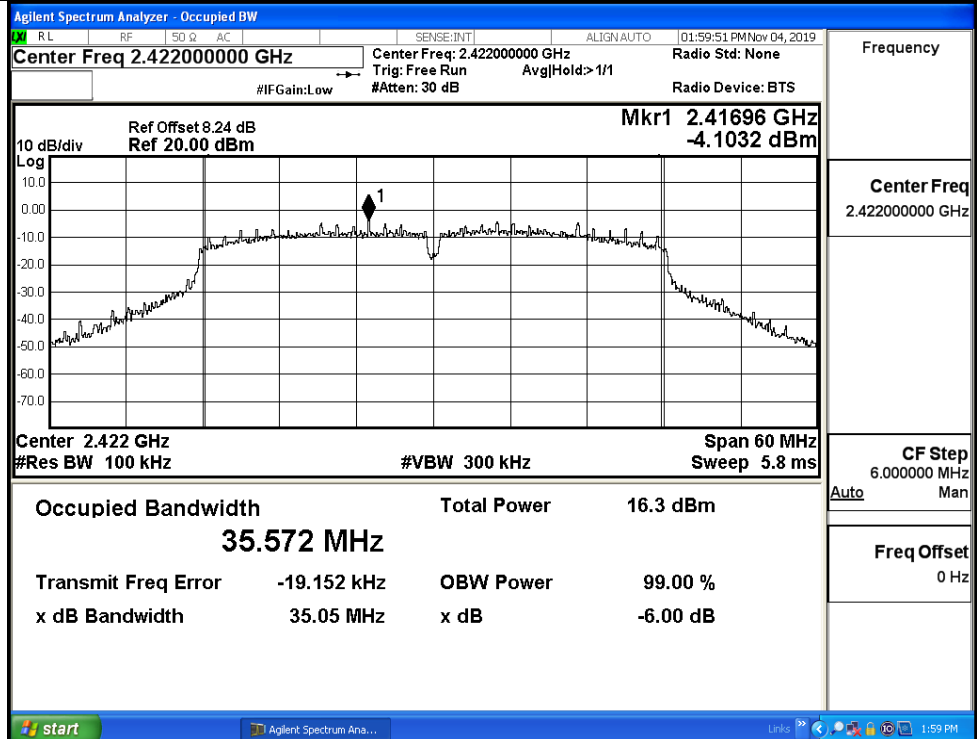
11N20/MCH



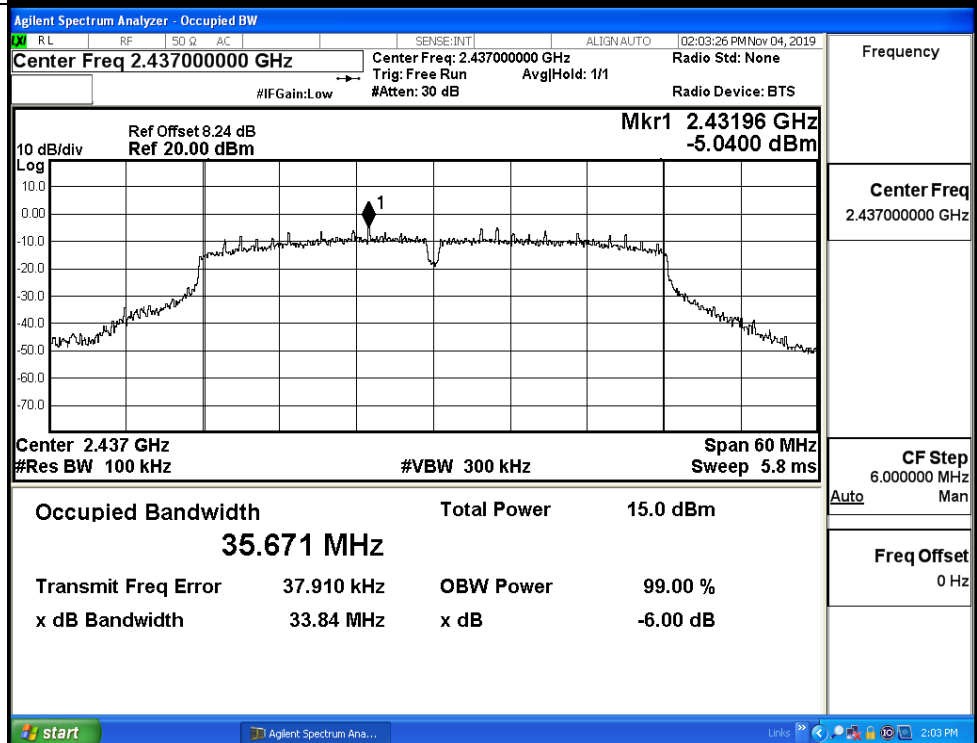
11N20/HCH



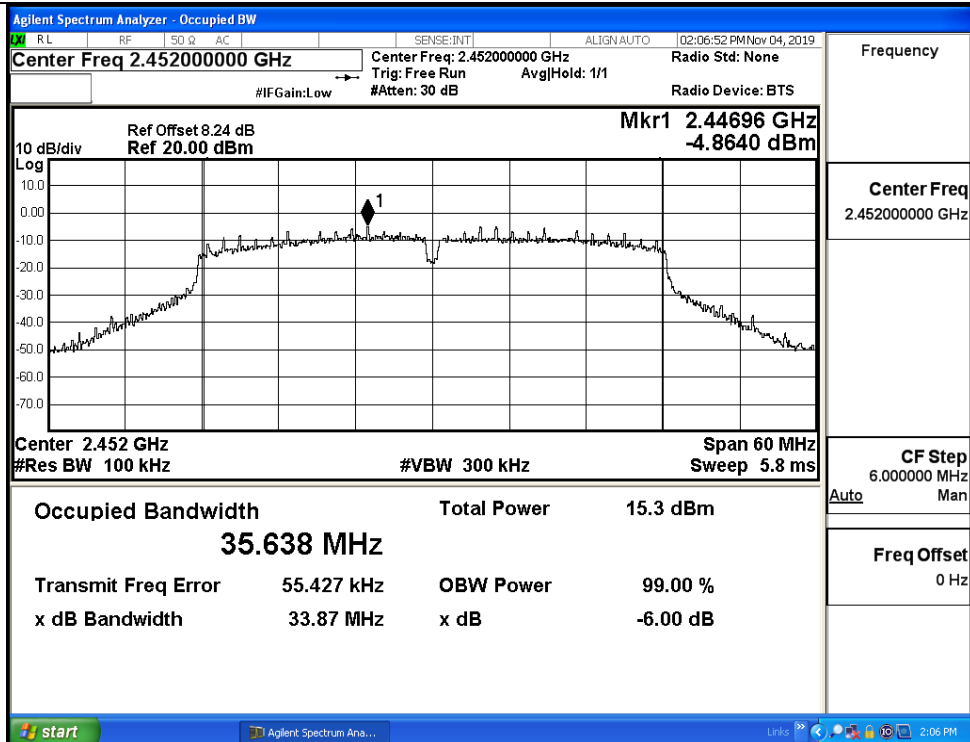
11N40/LCH



11N40/MCH

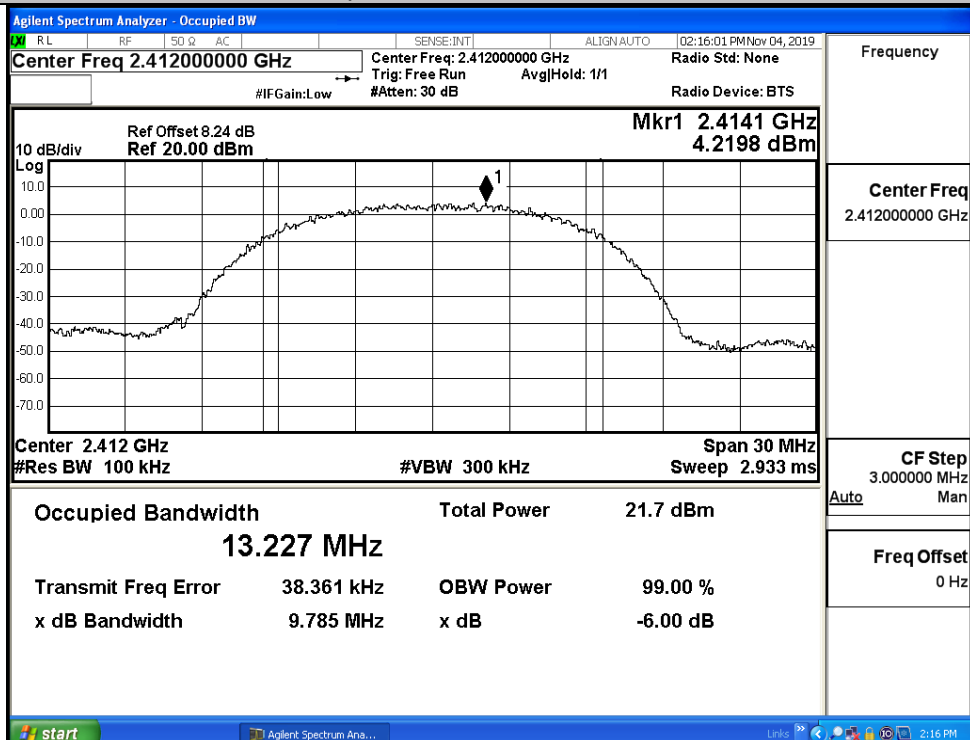


11N40/HCH

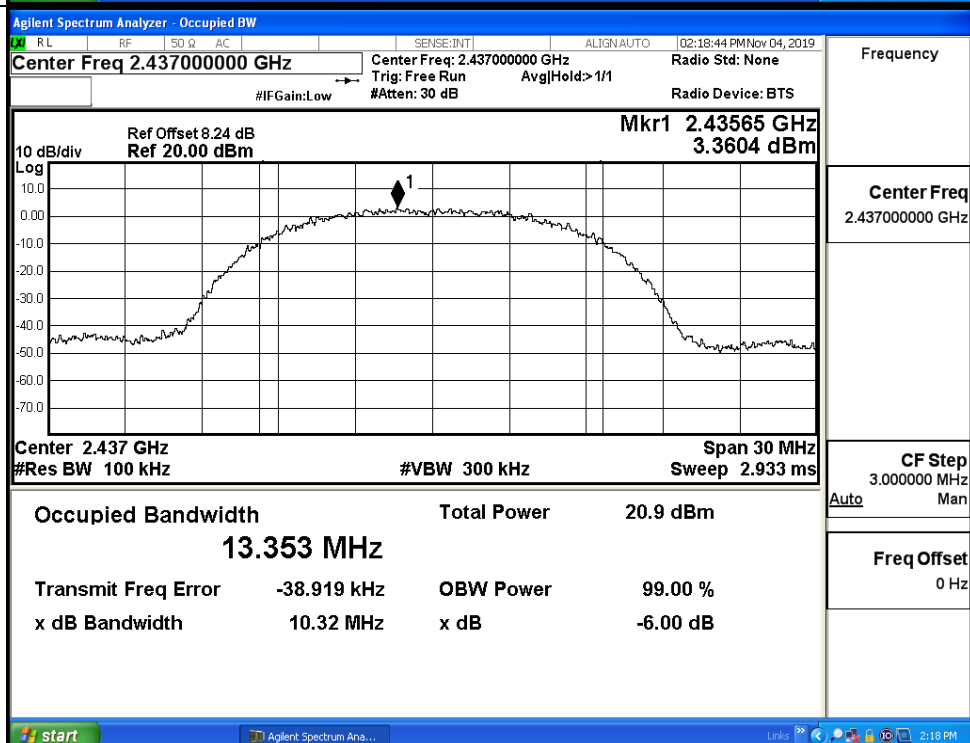


Test Graphs_Ant_2

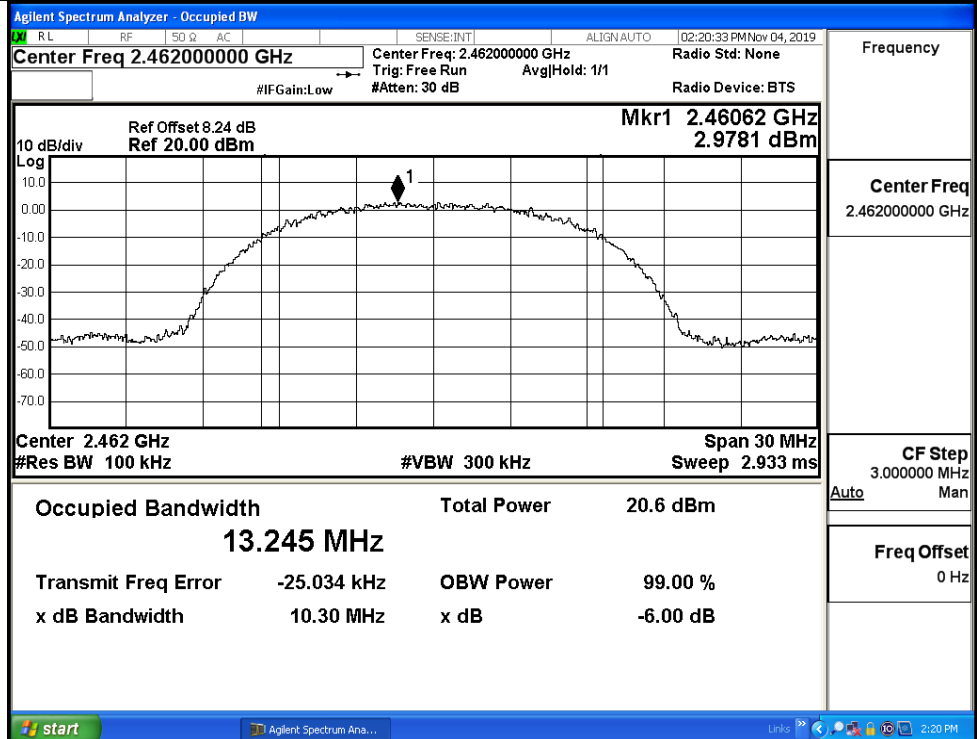
11B/LCH



11B/MCH



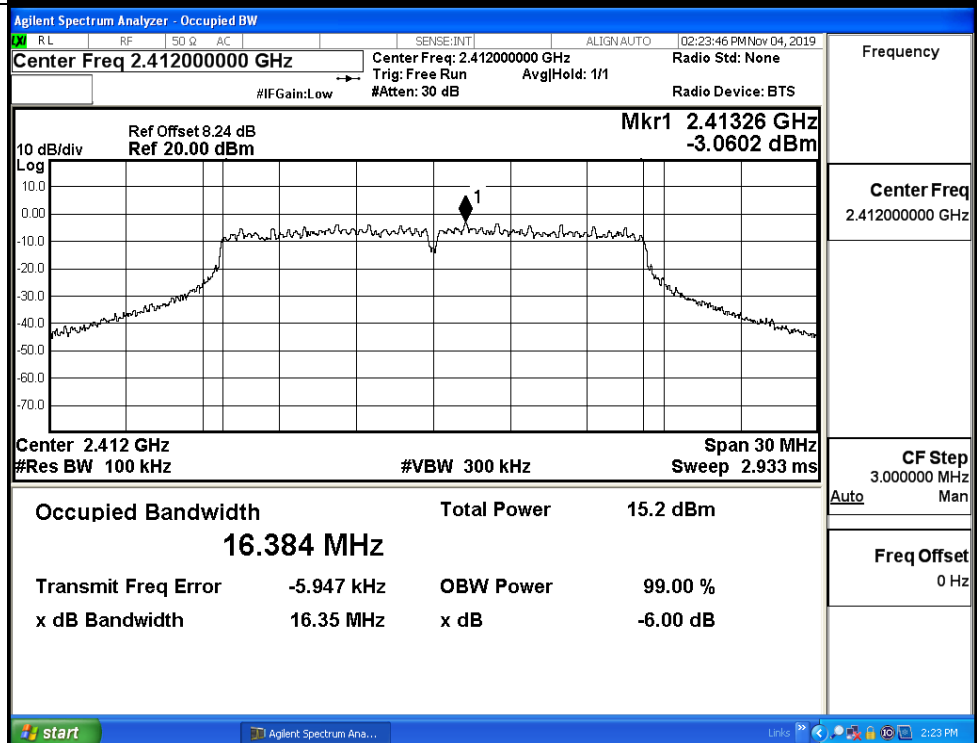
11B/HCH



Frequency

Center Freq
2.462000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

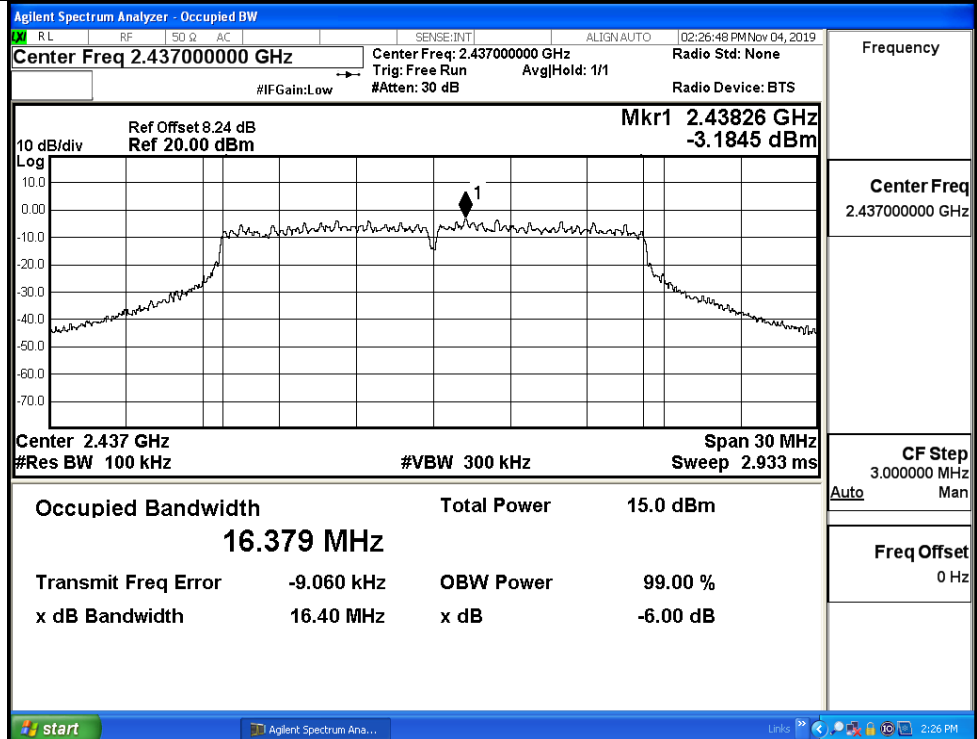
11G/LCH



Frequency

Center Freq
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3.000000 MHz
Auto ManFreq Offset
0 Hz

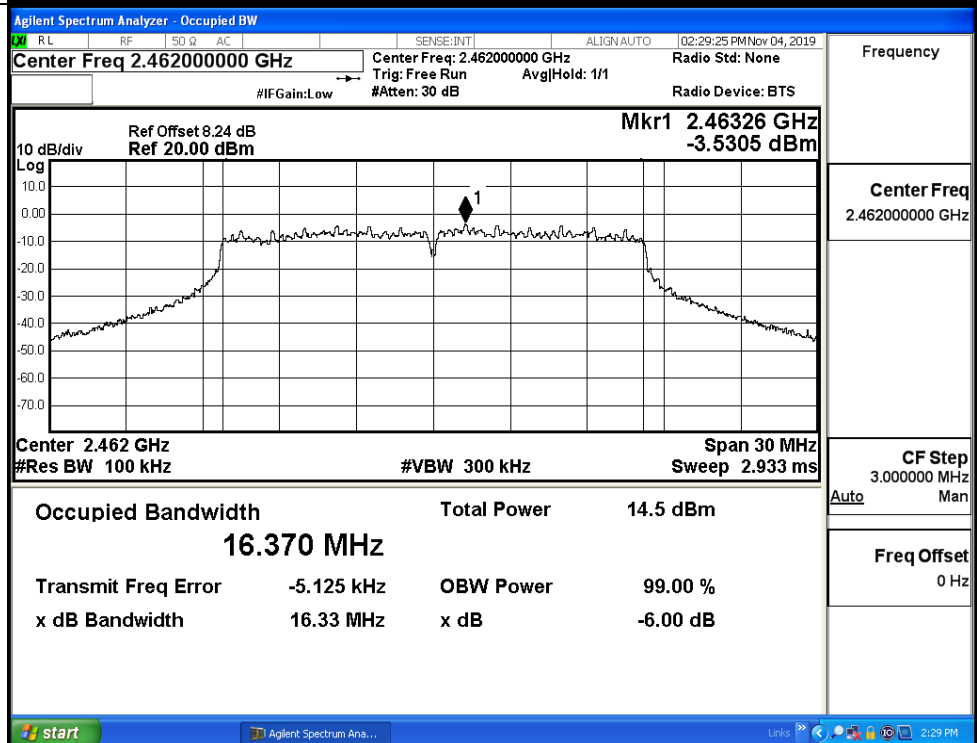
11G/MCH



Frequency

Center Freq
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3.000000 MHz
Auto ManFreq Offset
0 Hz

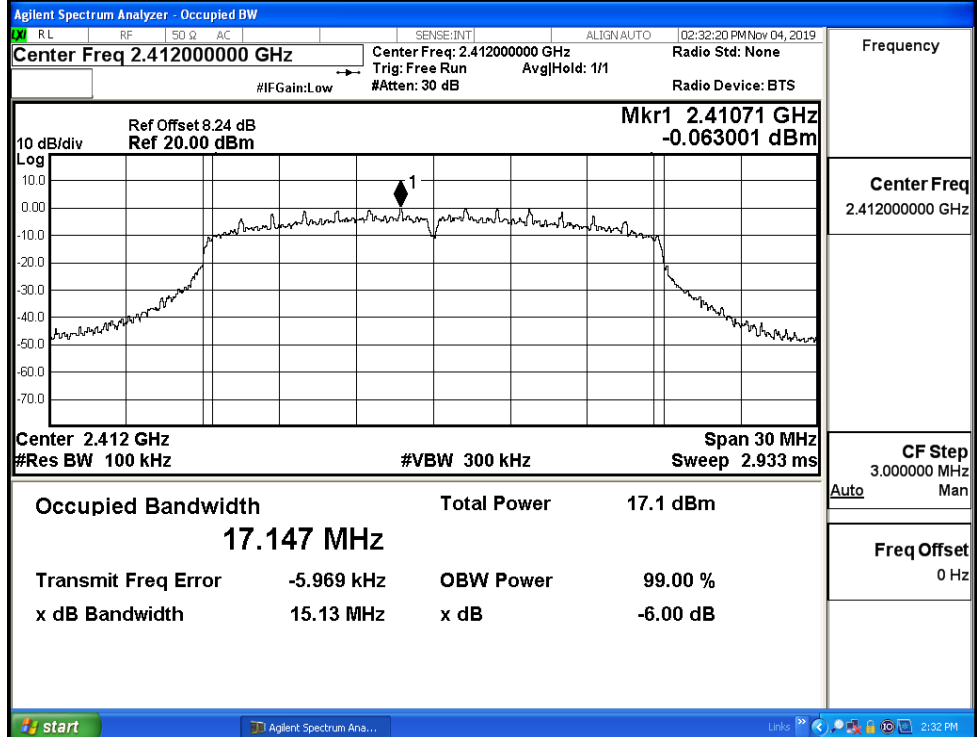
11G/HCH



Frequency

Center Freq
2.462000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

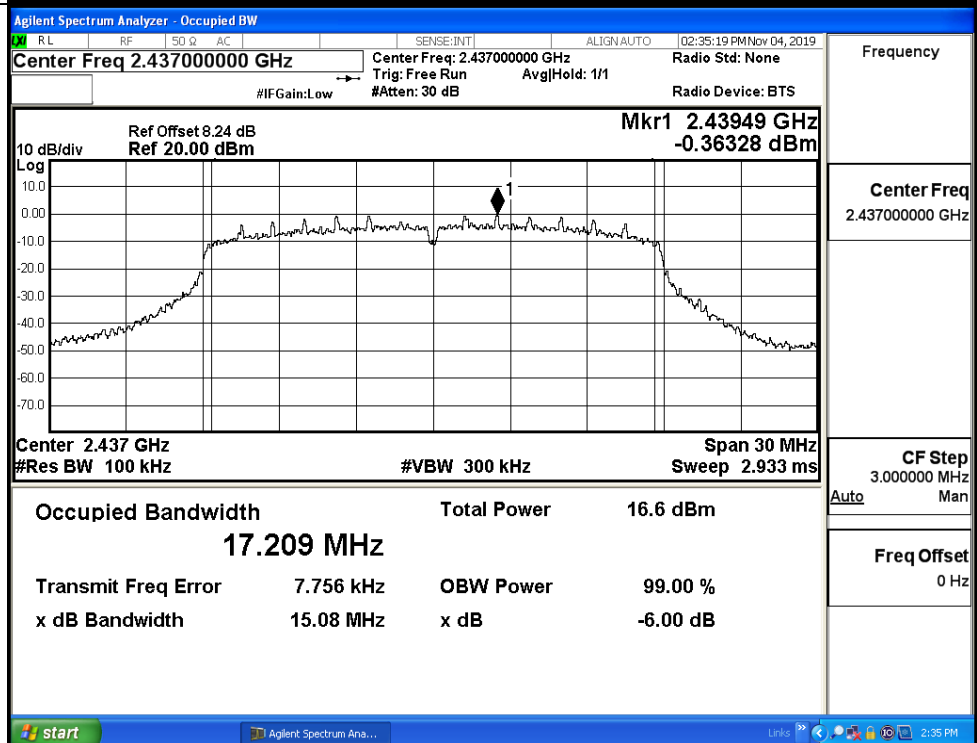
11N20/LCH



Frequency

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

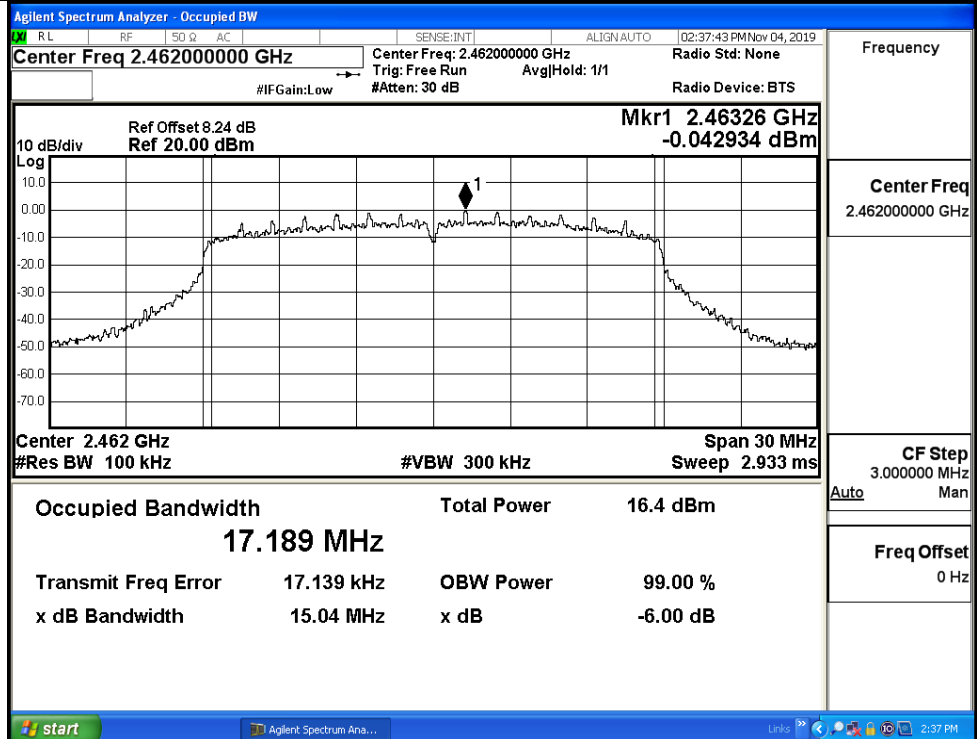
11N20/MCH



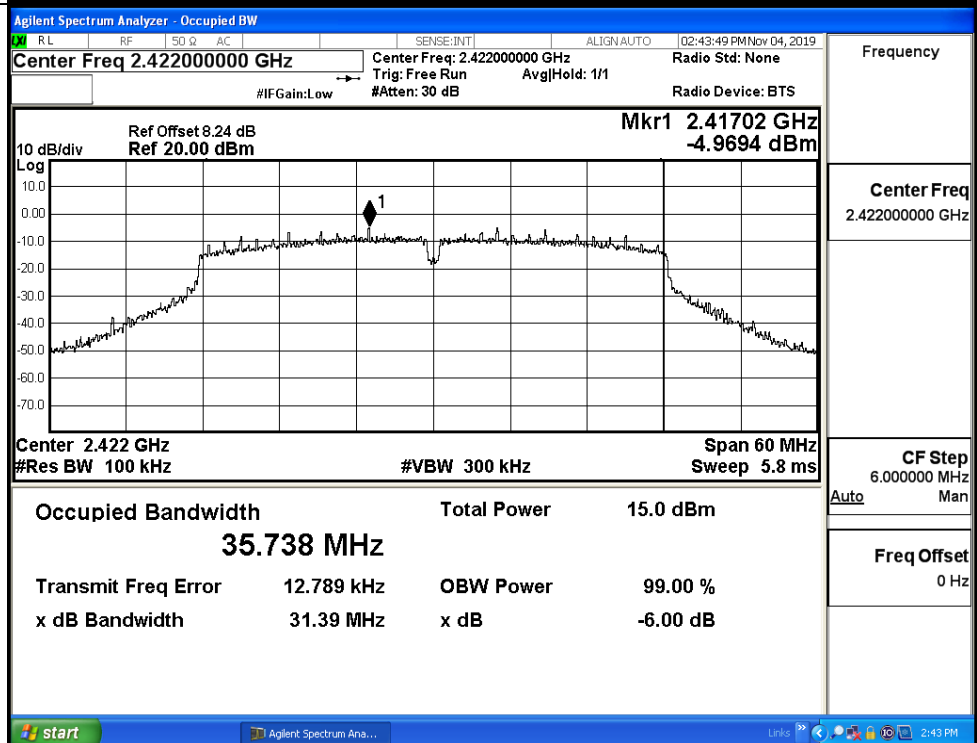
Frequency

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

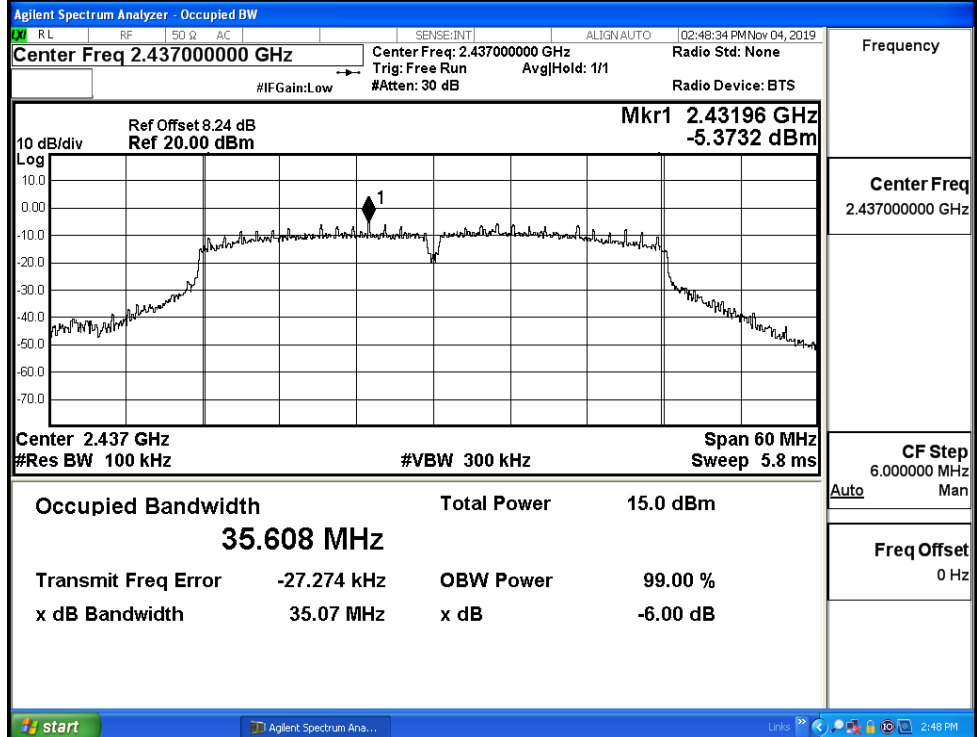
11N20/HCH



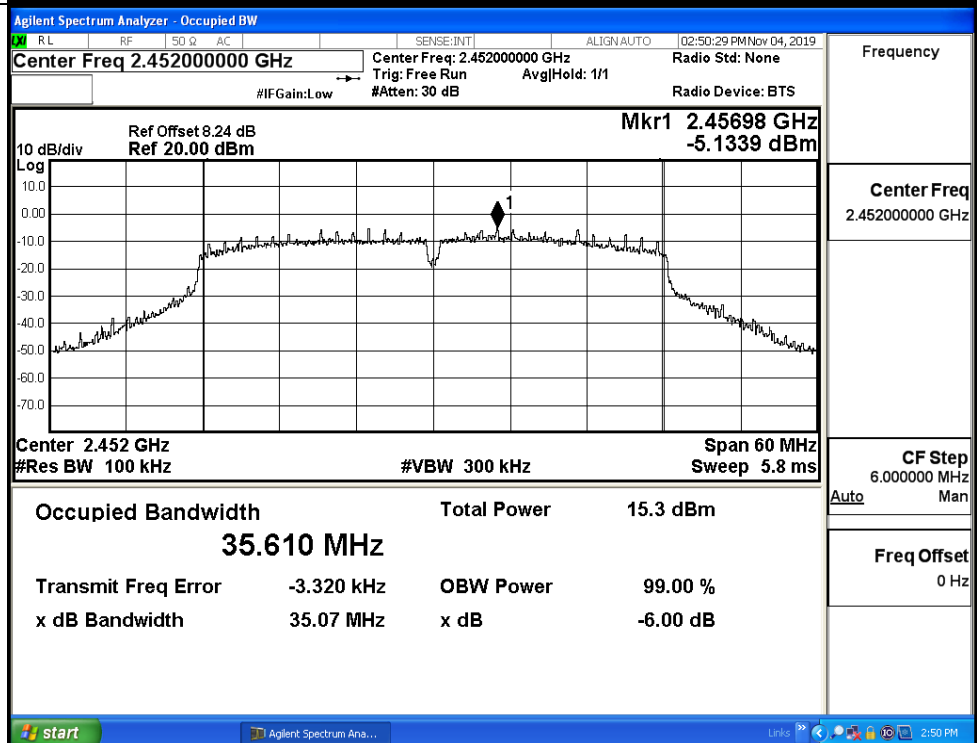
11N40/LCH



11N40/MCH



11N40/HCH



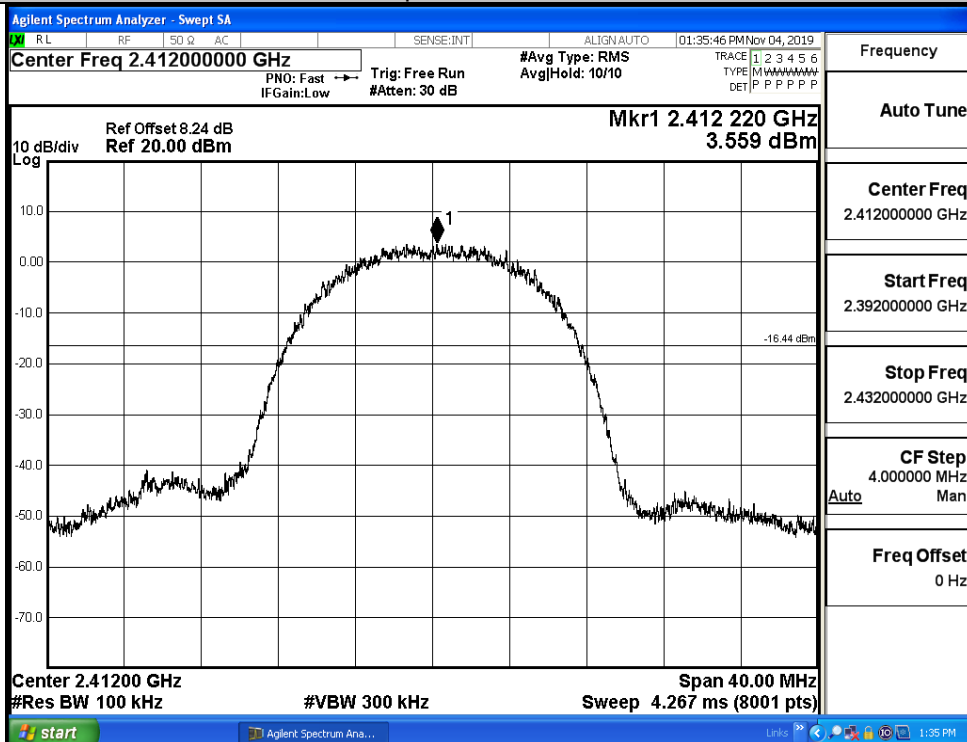
A.5 RF Conducted Spurious Emissions

Ant_1

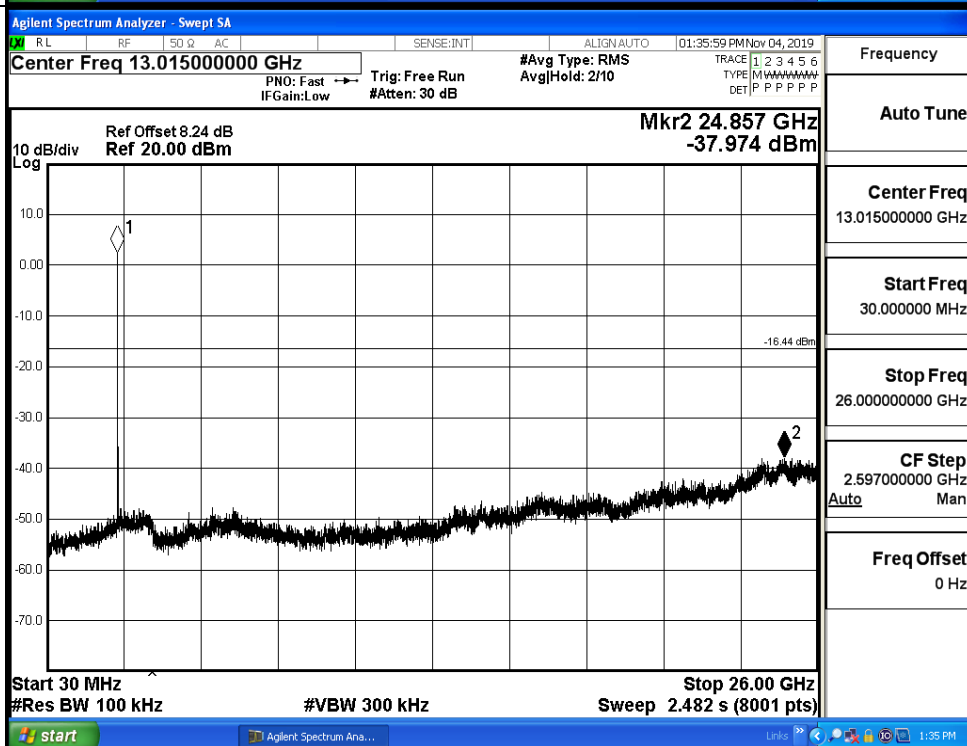
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	3.559	-37.974	-16.441	PASS
	MCH	3.715	-37.179	-16.285	PASS
	HCH	3.917	-19.114	-16.083	PASS
11G	LCH	-0.233	-20.417	-20.233	PASS
	MCH	-0.256	-37.588	-20.256	PASS
	HCH	-3.688	-37.249	-23.688	PASS
11N20	LCH	-0.287	-37.413	-20.287	PASS
	MCH	-0.289	-37.745	-20.289	PASS
	HCH	-0.398	-37.523	-20.398	PASS
11N40	LCH	-4.313	-38.020	-24.313	PASS
	MCH	-5.239	-37.876	-25.239	PASS
	HCH	-5.062	-37.240	-25.062	PASS

11B_LCH_Graphs_Ant_1

Pref/11B/LCH

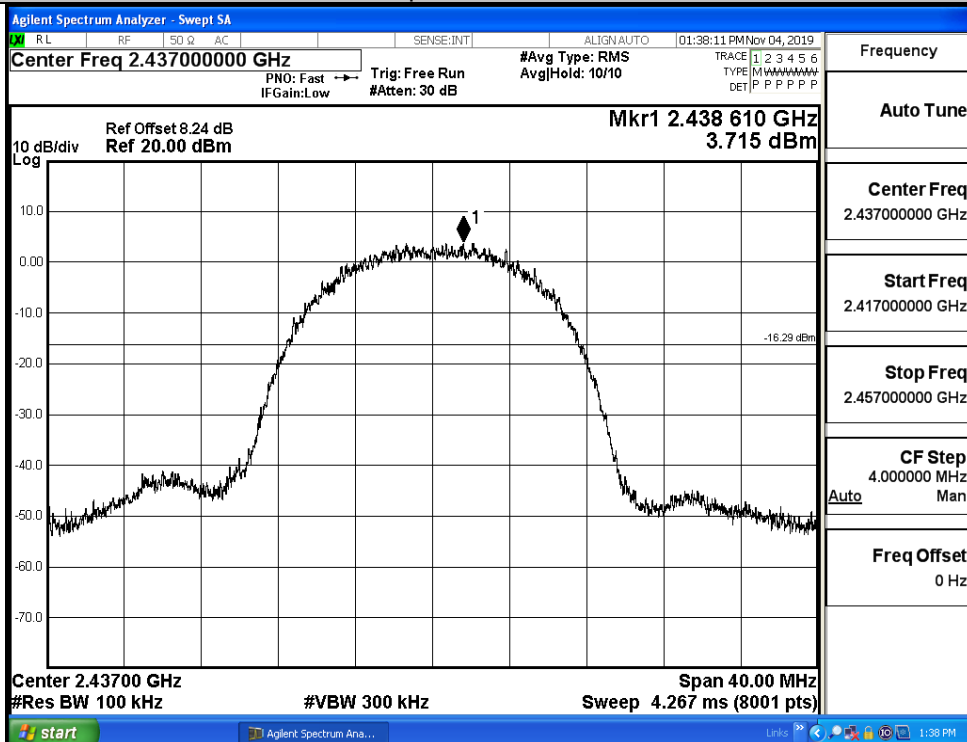


Puw/11B/LCH

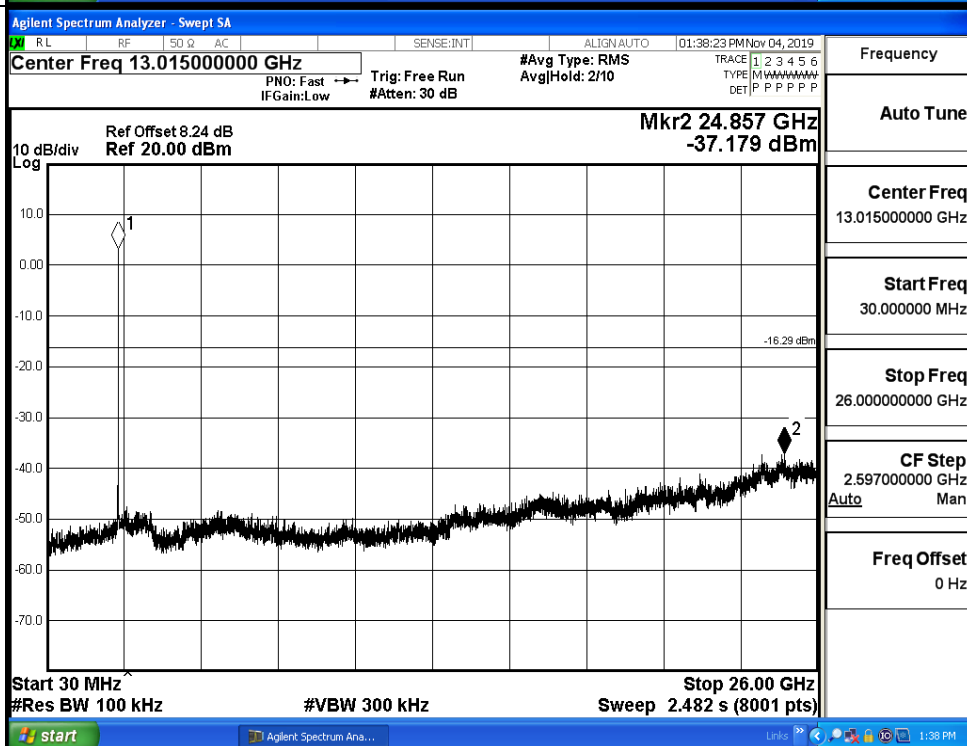


11B_MCH_Graphs_Ant_1

Pref/11B/MCH

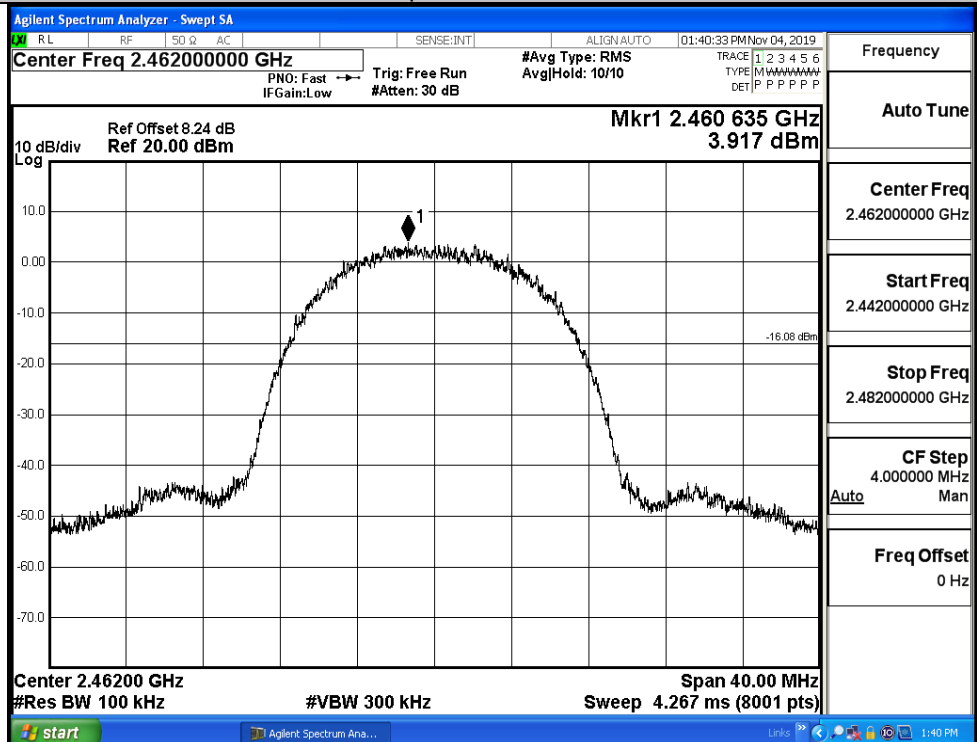


Puw/11B/MCH



11B_HCH_Graphs_Ant_1

Pref/11B/HCH



Puw/11B/HCH

