

## Appendix C

### RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Formuler CC

Trade Mark: FORMULER

Test Model: CC (US)

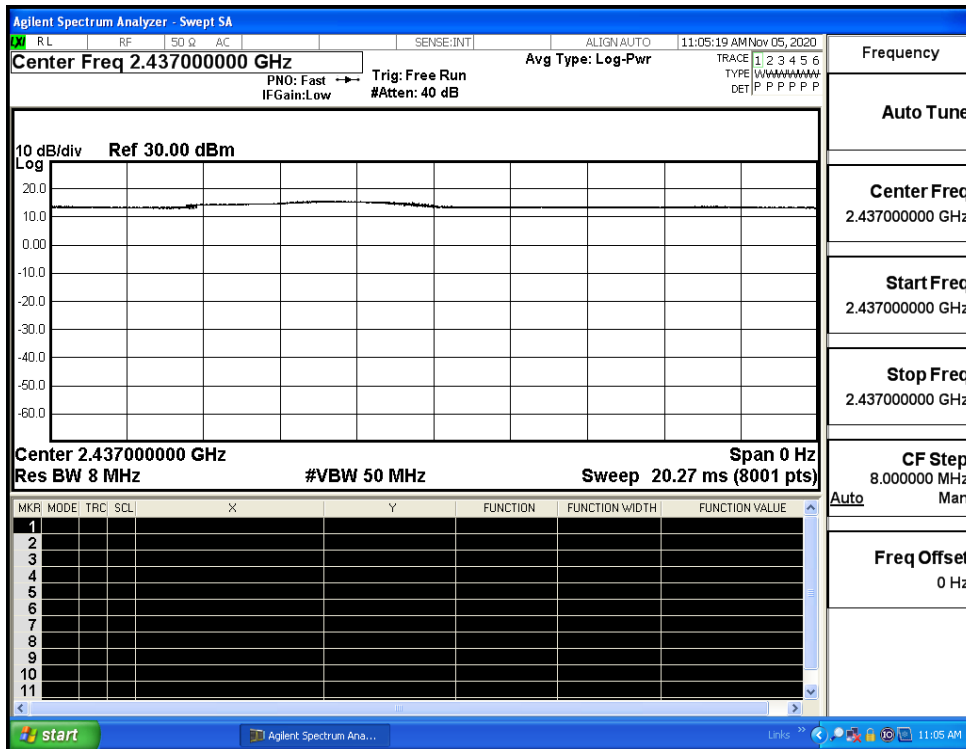
#### Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Ken Hu
Supervised by:	Tom.Liu

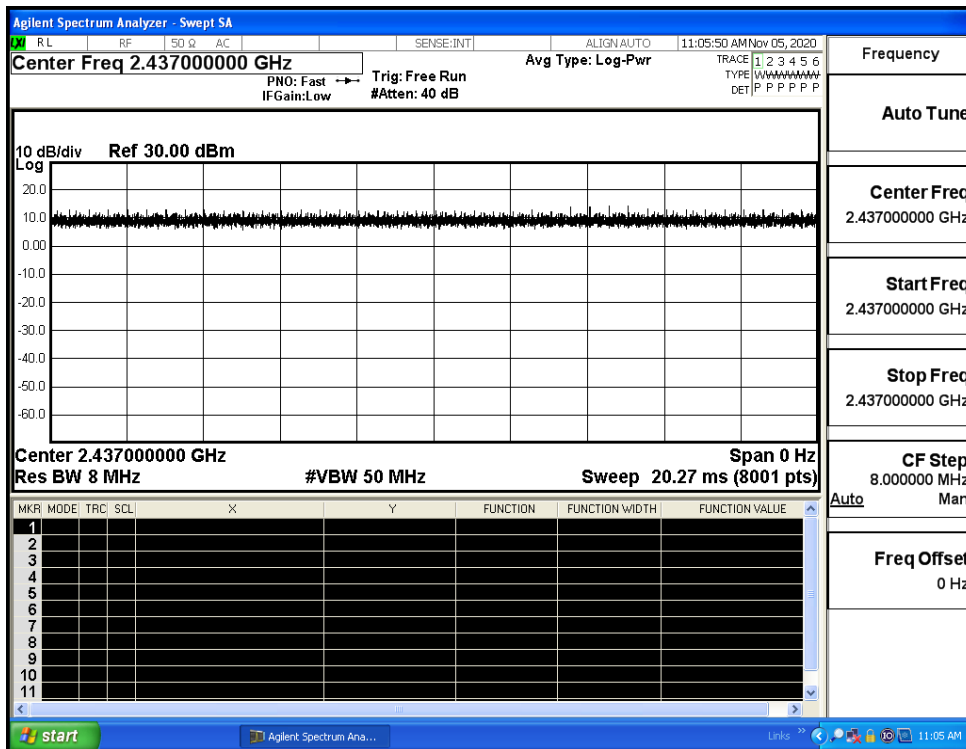
#### A.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	100	PASS
11G	2437	Ant1	100	PASS
11N20SISO	2437	Ant1	100	PASS
11N40SISO	2437	Ant1	100	PASS

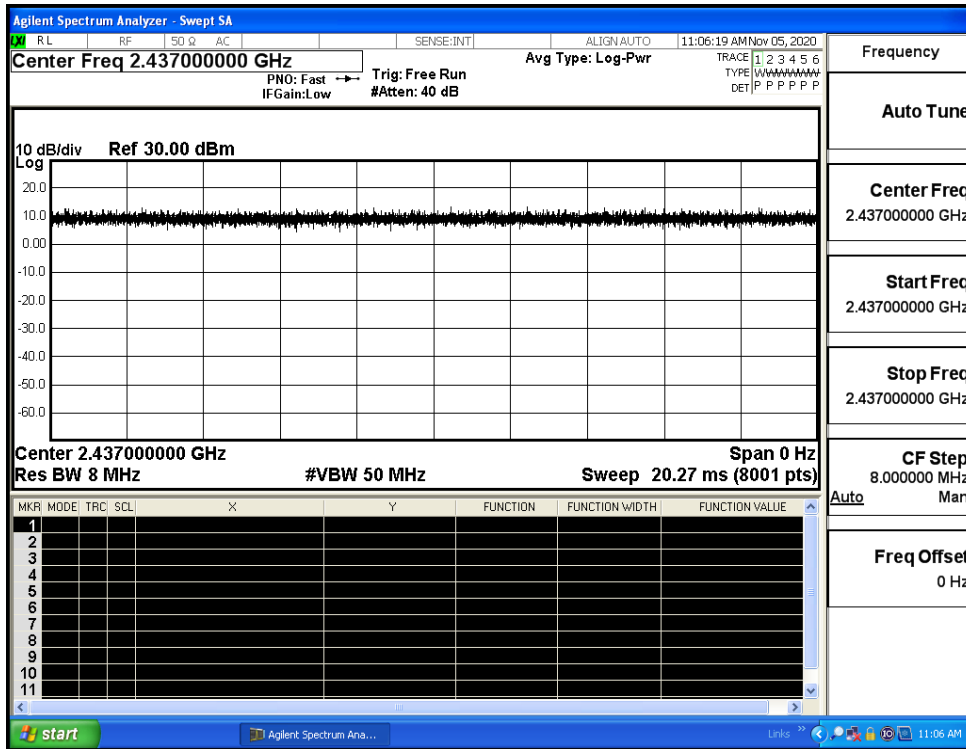
Duty Cycle\_11B\_2437\_Ant1



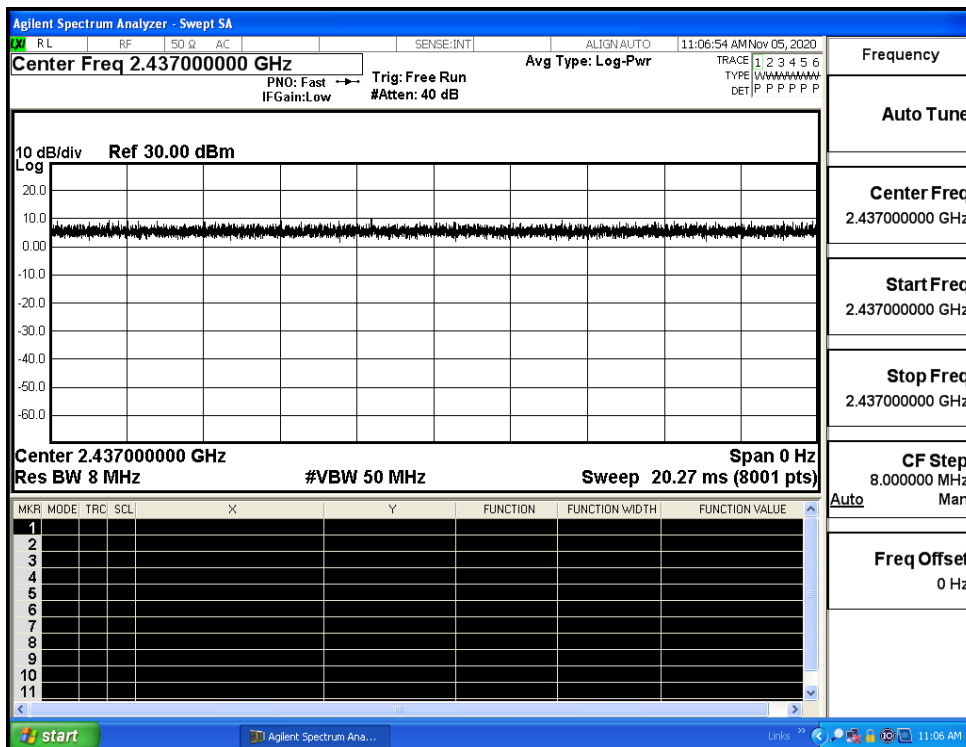
Duty Cycle\_11G\_2437\_Ant1



Duty Cycle\_11N20SISO\_2437\_Ant1



Duty Cycle\_11N40SISO\_2437\_Ant1

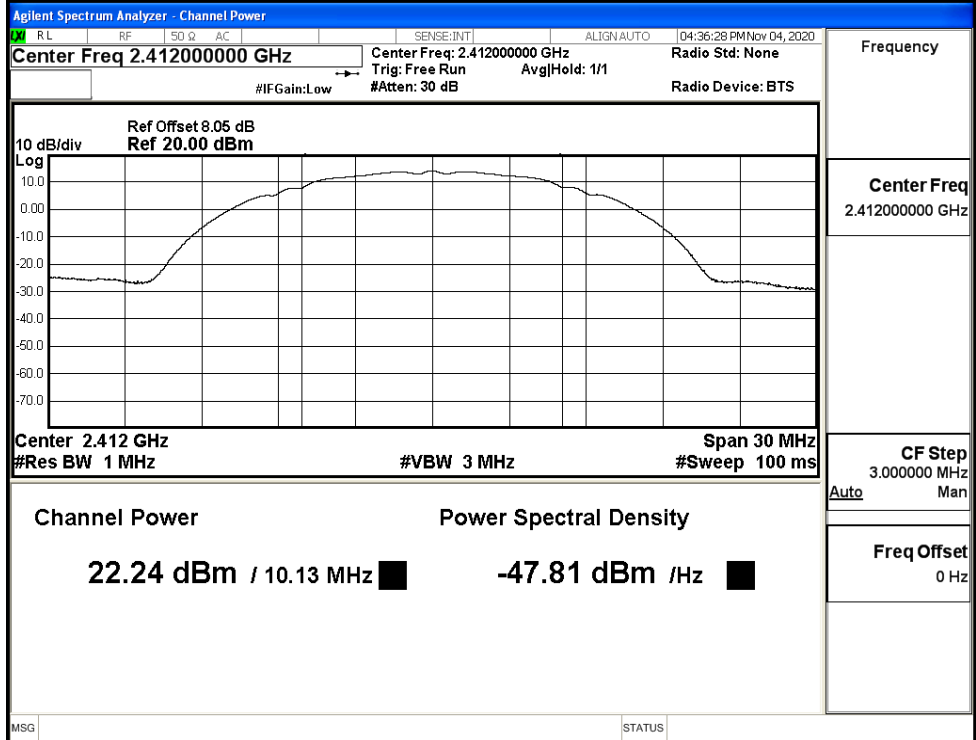


**A.2 Maximum Conducted Output Power**

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	22.24	30	PASS
	MCH	22.5	30	PASS
	HCH	22.18	30	PASS
11G	LCH	21.86	30	PASS
	MCH	22.11	30	PASS
	HCH	21.8	30	PASS
11N20SISO	LCH	22.11	30	PASS
	MCH	22.41	30	PASS
	HCH	22.26	30	PASS
11N40SISO	LCH	21.61	30	PASS
	MCH	21.71	30	PASS
	HCH	21.67	30	PASS

Test Graphs

11B/LCH



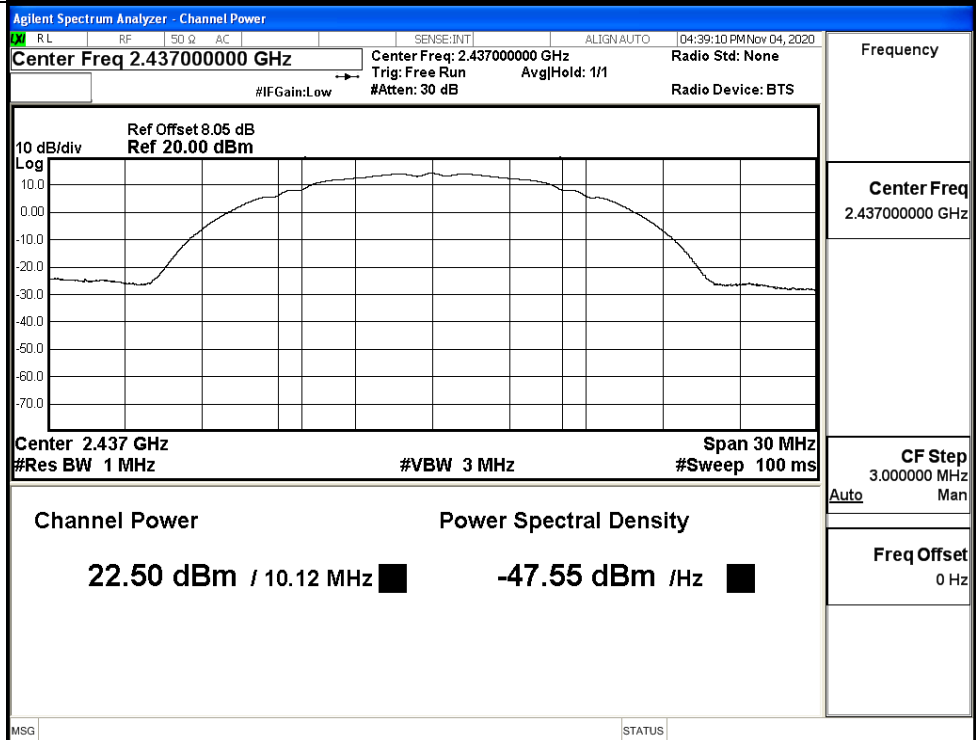
Frequency

Center Freq  
2.41200000 GHz

CF Step  
3.000000 MHz

Freq Offset  
0 Hz

11B/MCH



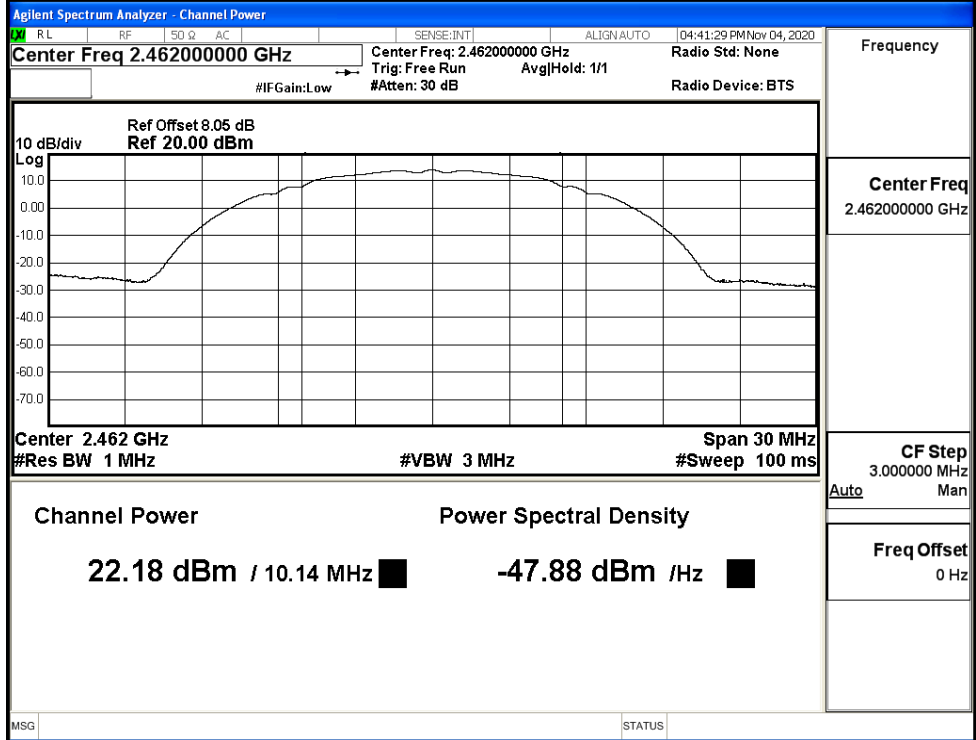
Frequency

Center Freq  
2.43700000 GHz

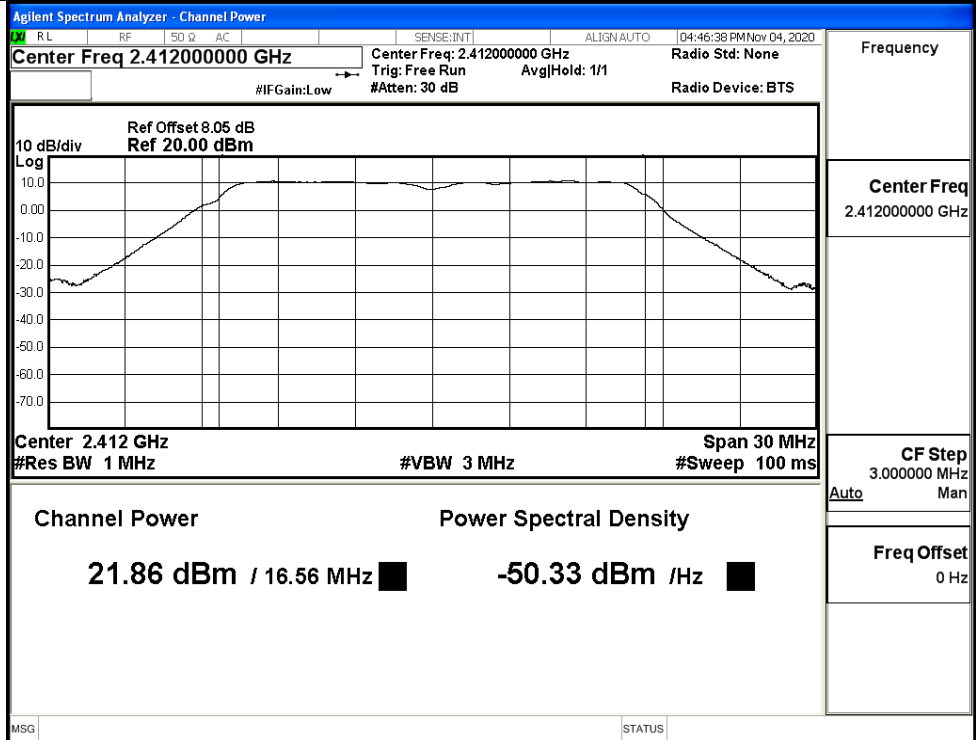
CF Step  
3.000000 MHz

Freq Offset  
0 Hz

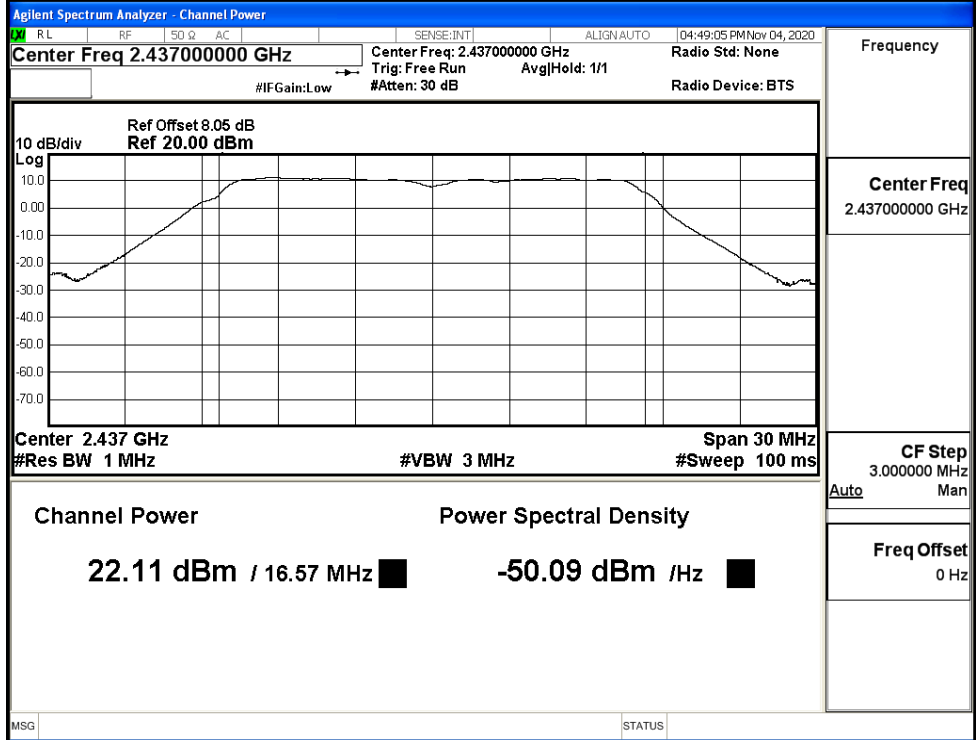
11B/HCH



11G/LCH

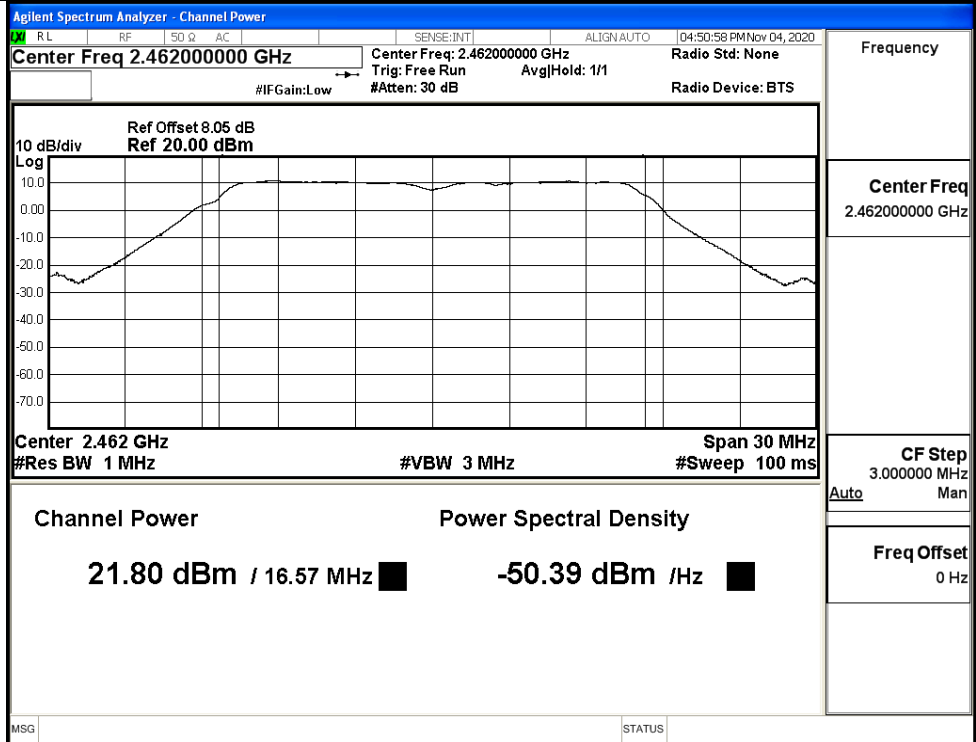


11G/MCH



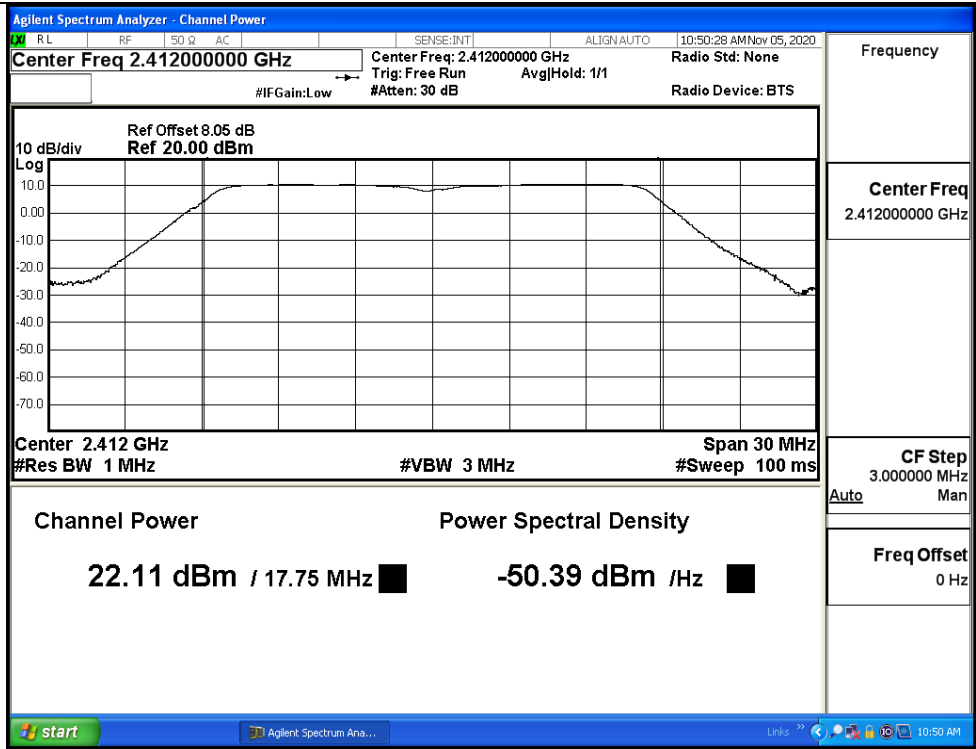
Frequency	Center Freq 2.43700000 GHz
CF Step	3.000000 MHz Auto Man
Freq Offset	0 Hz

11G/HCH

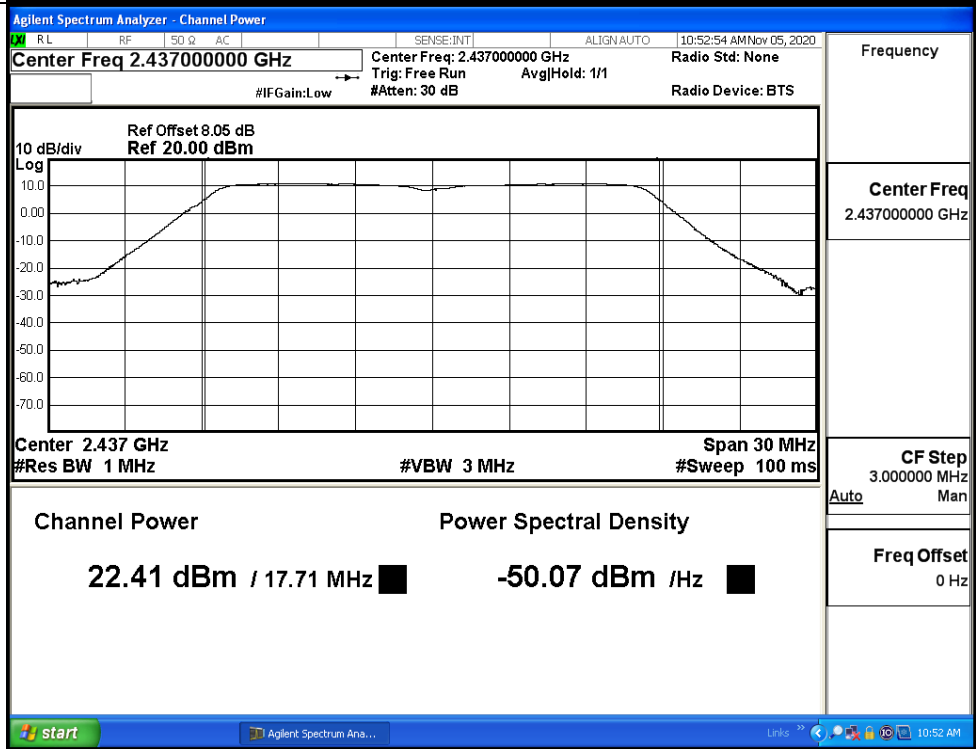


Frequency	Center Freq 2.46200000 GHz
CF Step	3.000000 MHz Auto Man
Freq Offset	0 Hz

11N20SISO/LCH

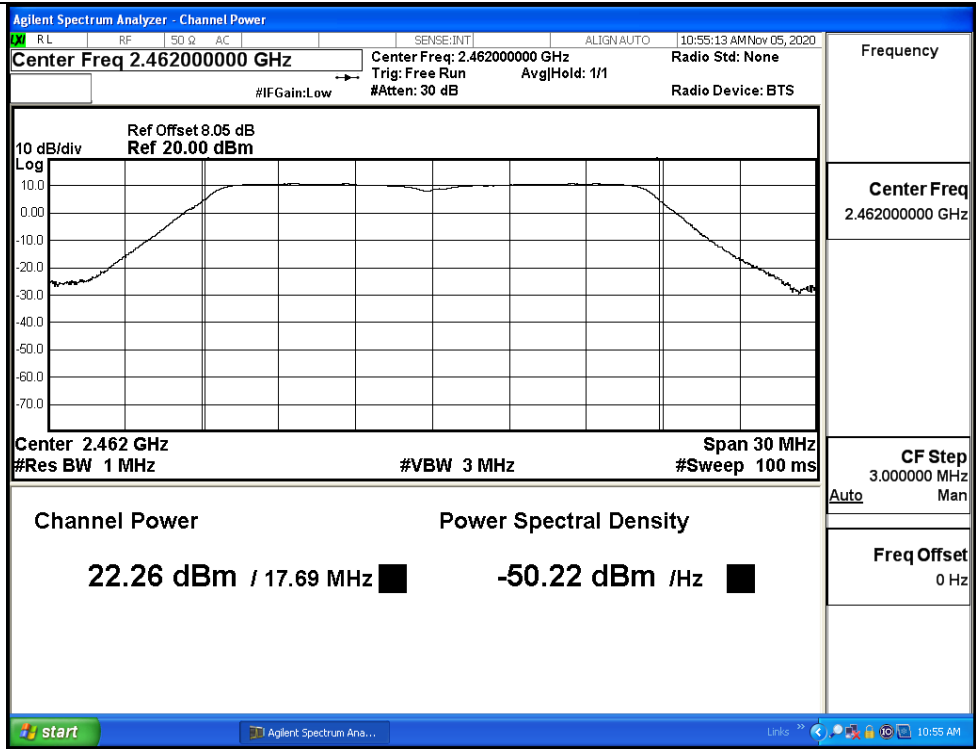


11N20SISO/MCH

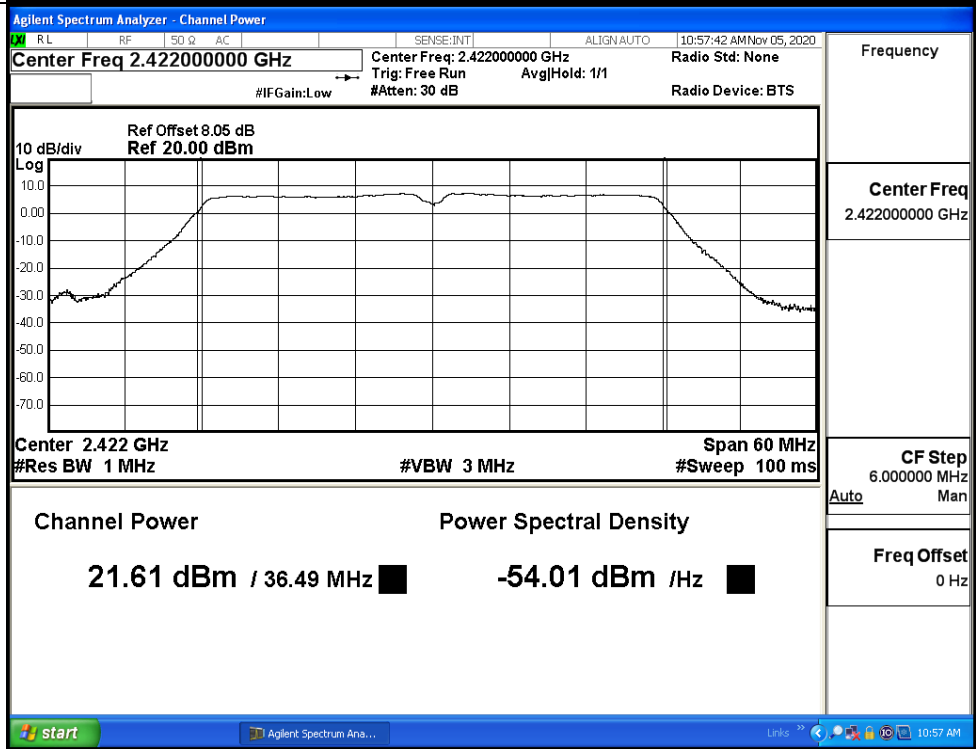




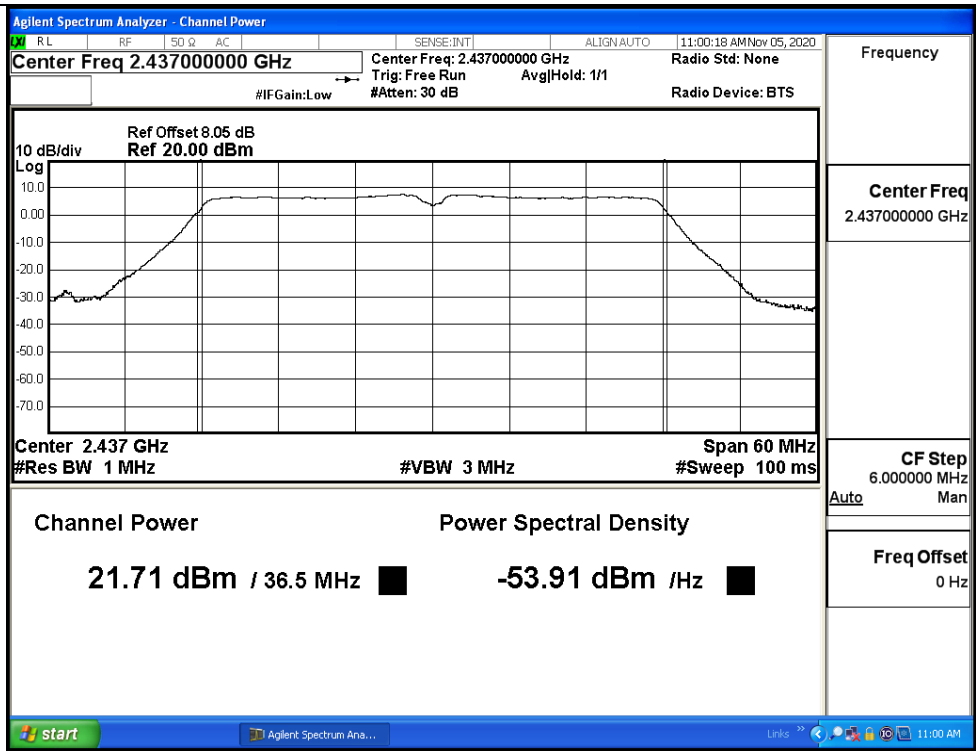
11N20SISO/HCH



11N40SISO/LCH



11N40SISO/MCH



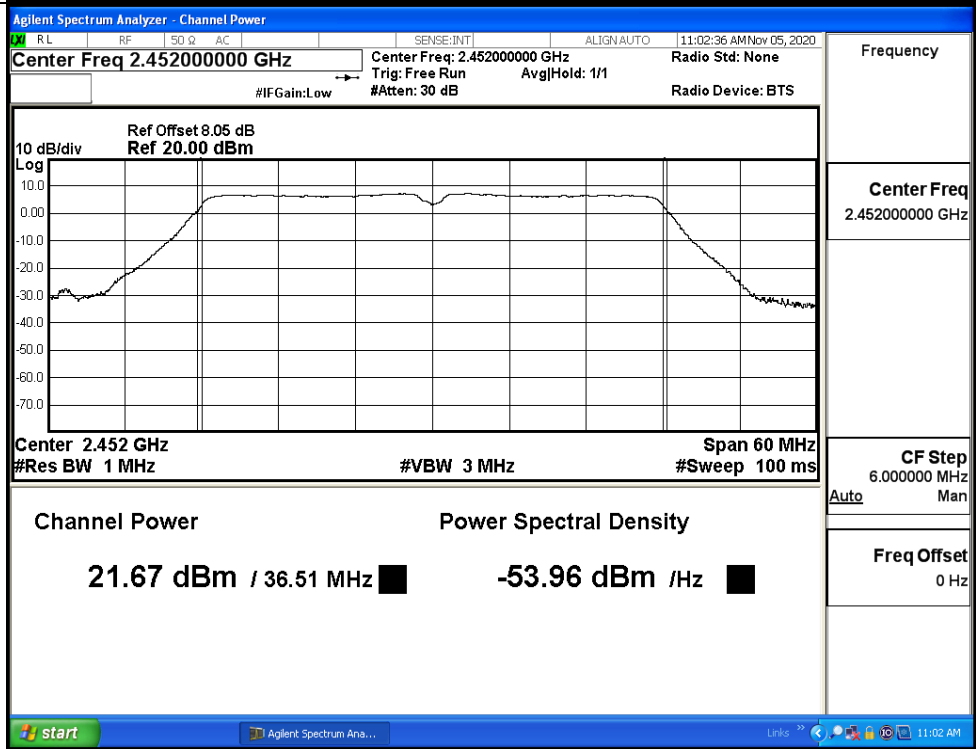
Frequency

Center Freq  
2.43700000 GHz

CF Step  
6.000000 MHz  
Auto Man

Freq Offset  
0 Hz

11N40SISO/HCH



Frequency

Center Freq  
2.45200000 GHz

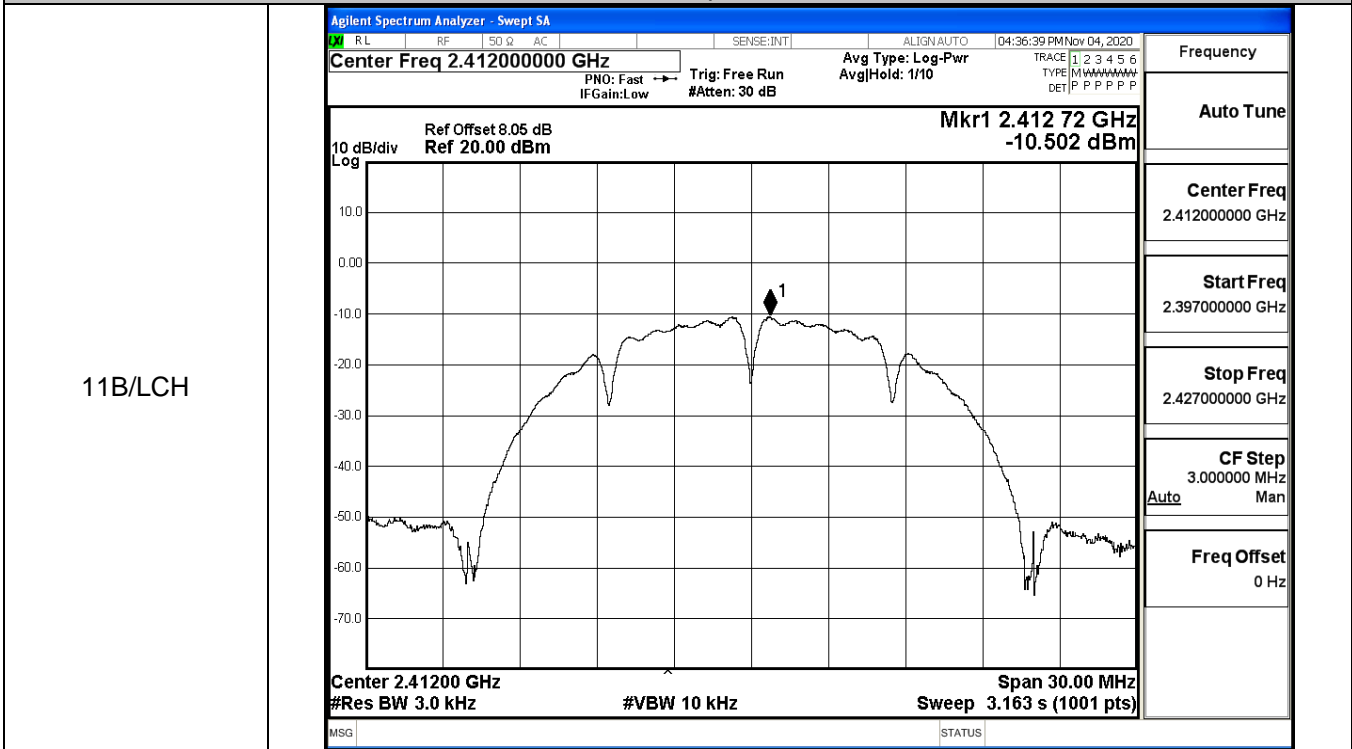
CF Step  
6.000000 MHz  
Auto Man

Freq Offset  
0 Hz

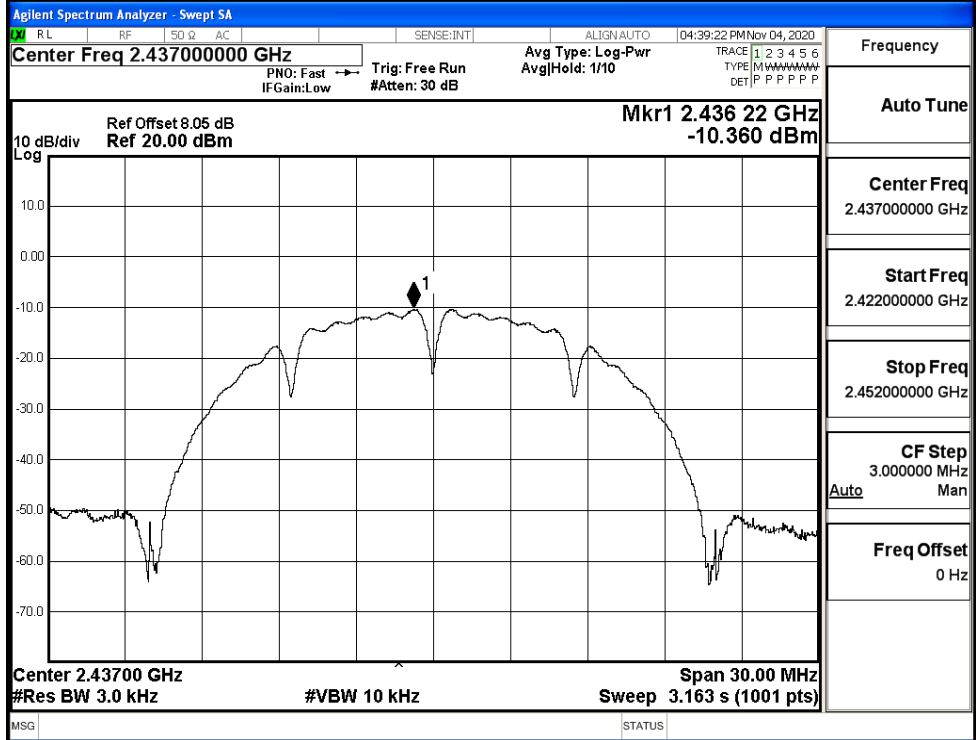
### A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-10.502	8	PASS
	MCH	-10.360	8	PASS
	HCH	-10.805	8	PASS
11G	LCH	-14.242	8	PASS
	MCH	-14.148	8	PASS
	HCH	-14.488	8	PASS
11N20SISO	LCH	-14.086	8	PASS
	MCH	-12.468	8	PASS
	HCH	-14.184	8	PASS
11N40SISO	LCH	-16.748	8	PASS
	MCH	-14.175	8	PASS
	HCH	-15.474	8	PASS

#### Test Graphs

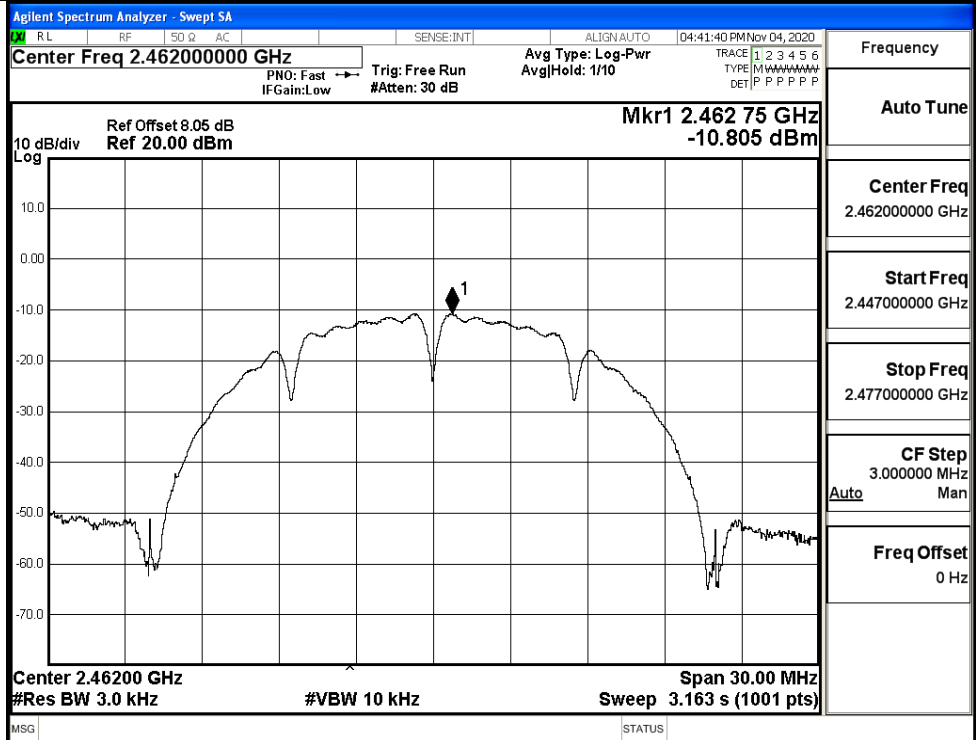


11B/MCH



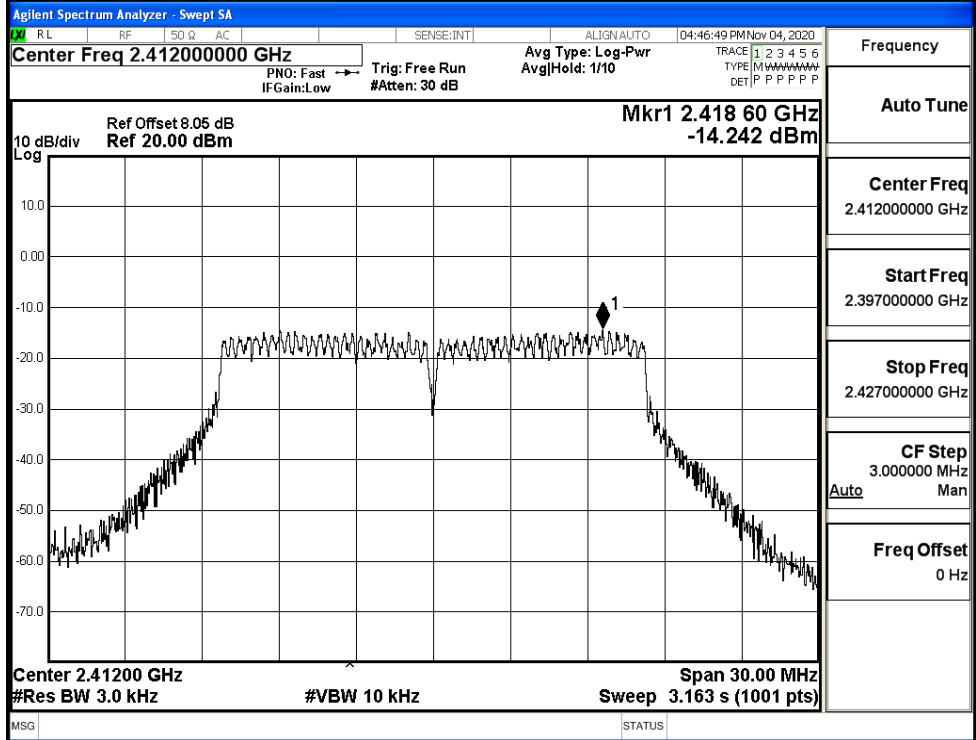
Frequency	2.437000000 GHz
Auto Tune	
Center Freq	2.437000000 GHz
Start Freq	2.422000000 GHz
Stop Freq	2.452000000 GHz
CF Step	3.000000 MHz Auto Man
Freq Offset	0 Hz

11B/HCH

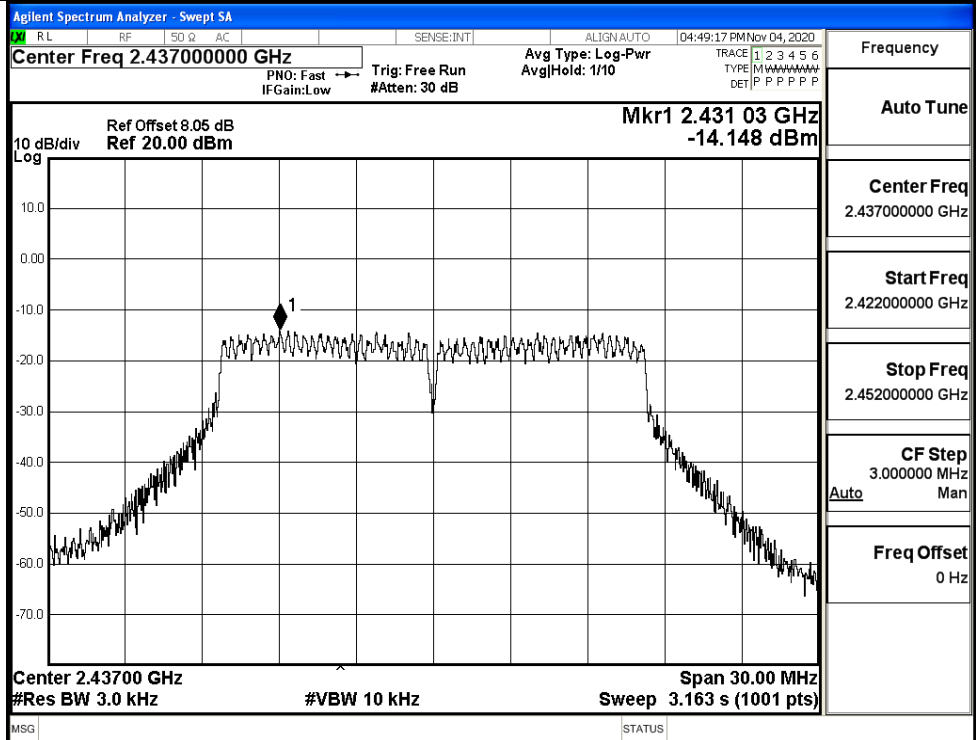


Frequency	2.462000000 GHz
Auto Tune	
Center Freq	2.462000000 GHz
Start Freq	2.447000000 GHz
Stop Freq	2.477000000 GHz
CF Step	3.000000 MHz Auto Man
Freq Offset	0 Hz

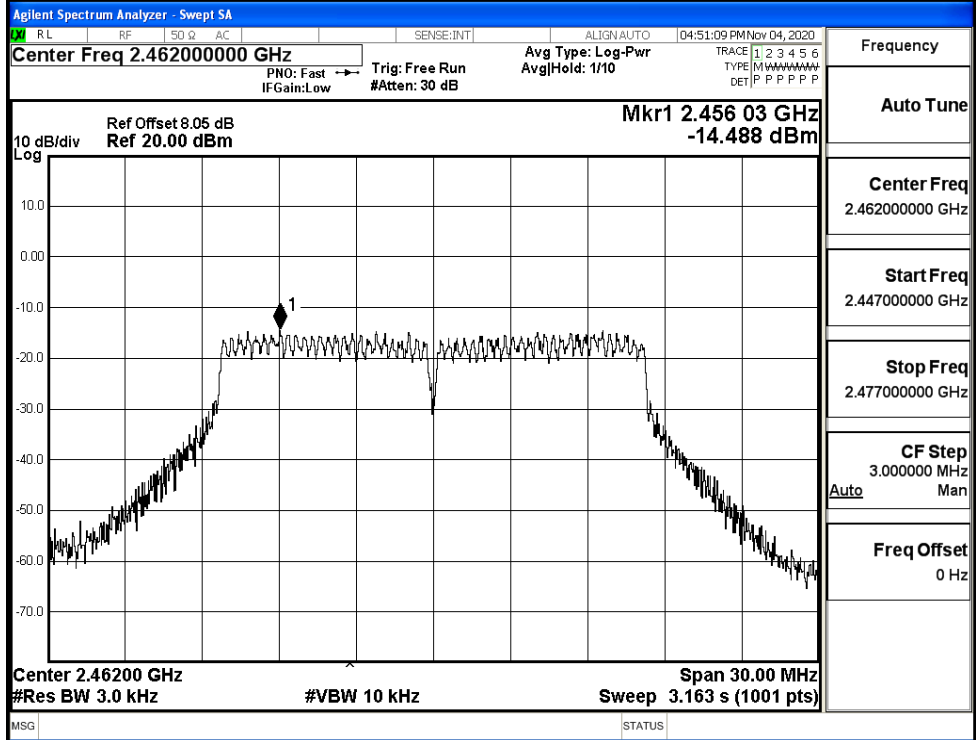
11G/LCH



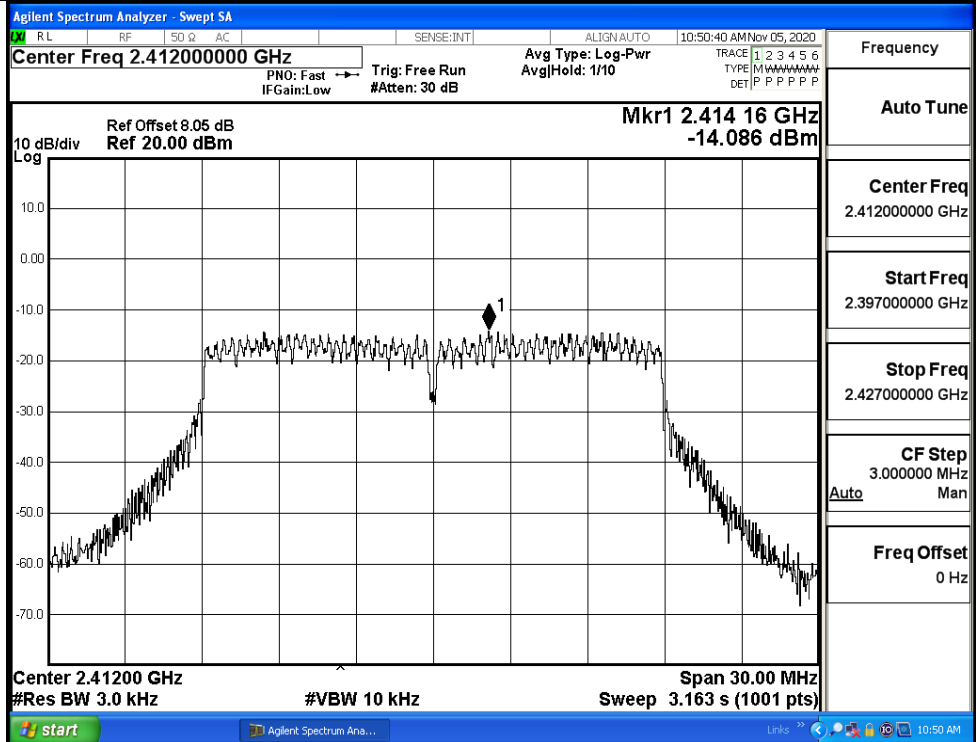
11G/MCH



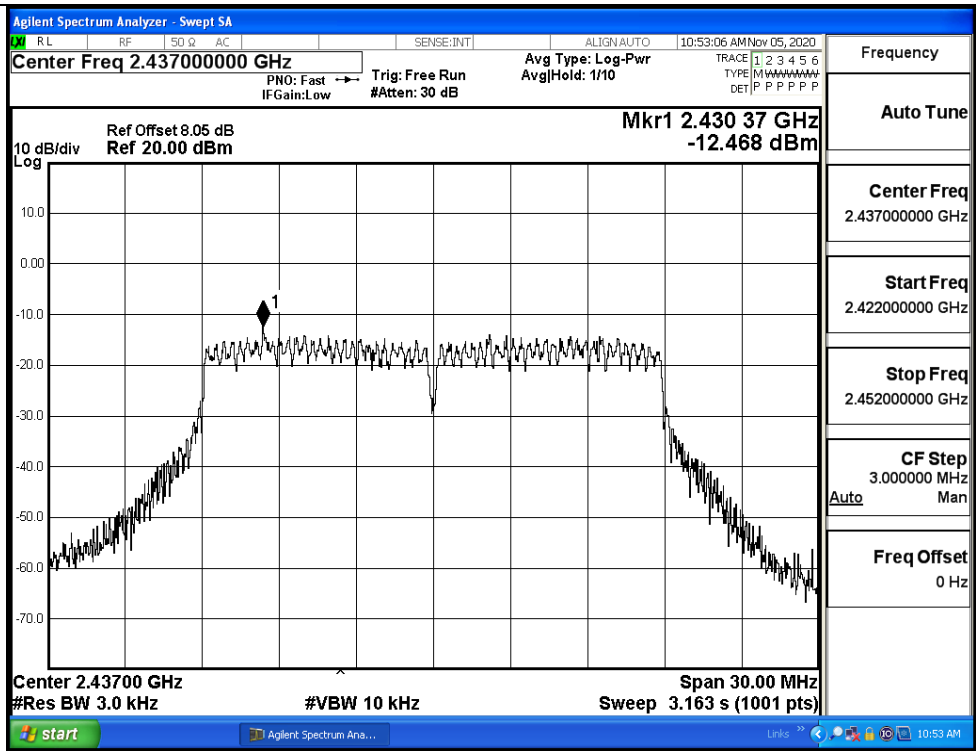
11G/HCH



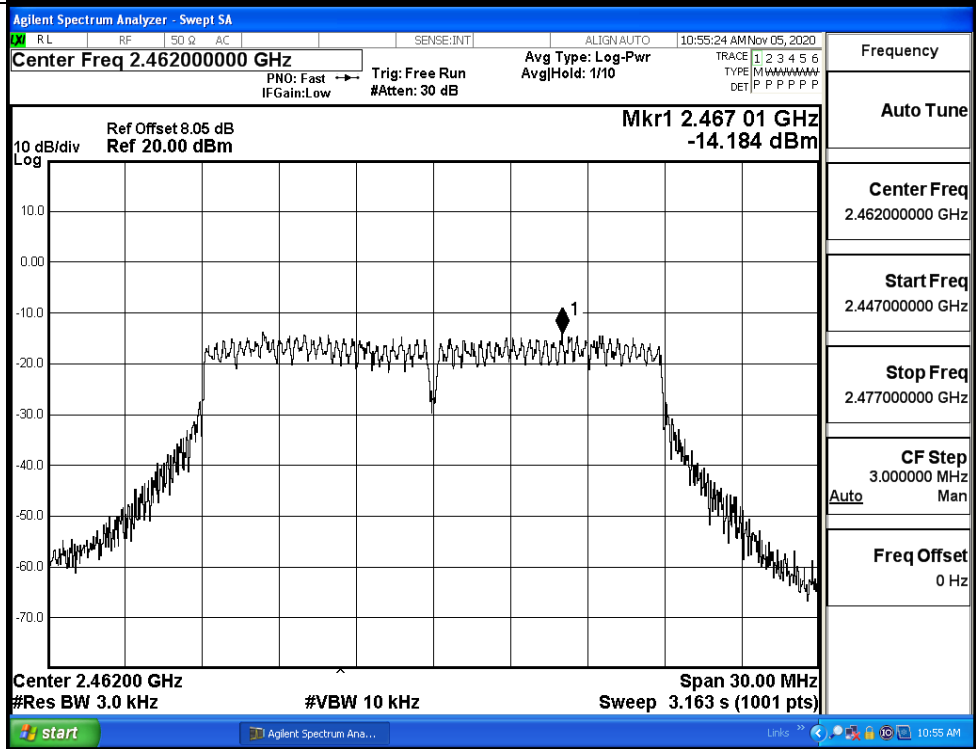
11N20SISO/LCH



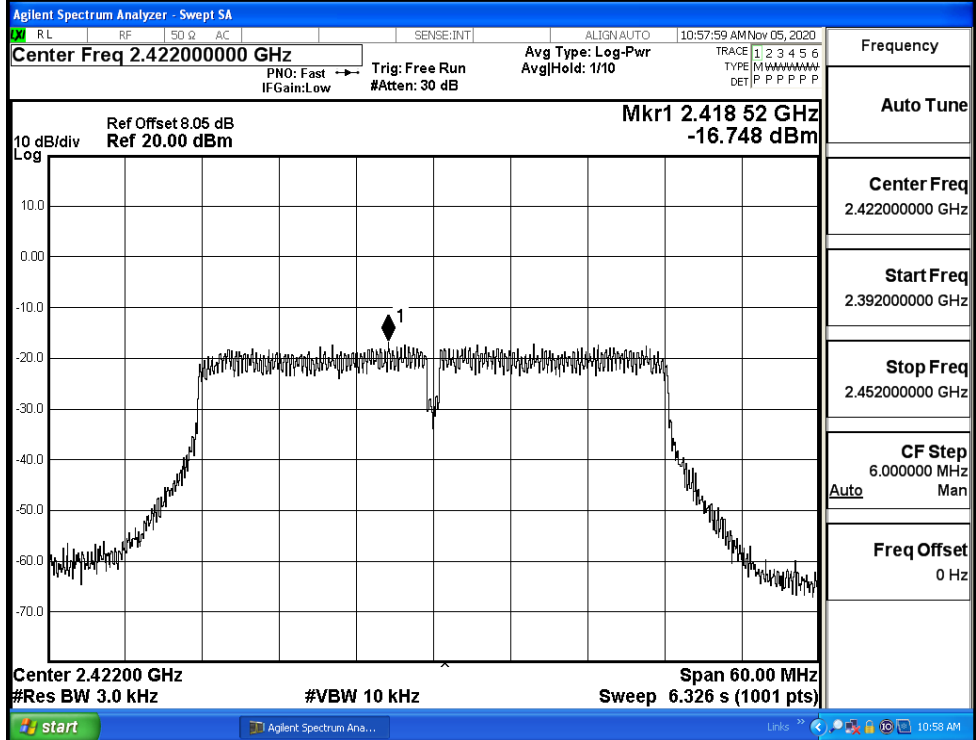
11N20SISO/MCH



11N20SISO/HCH

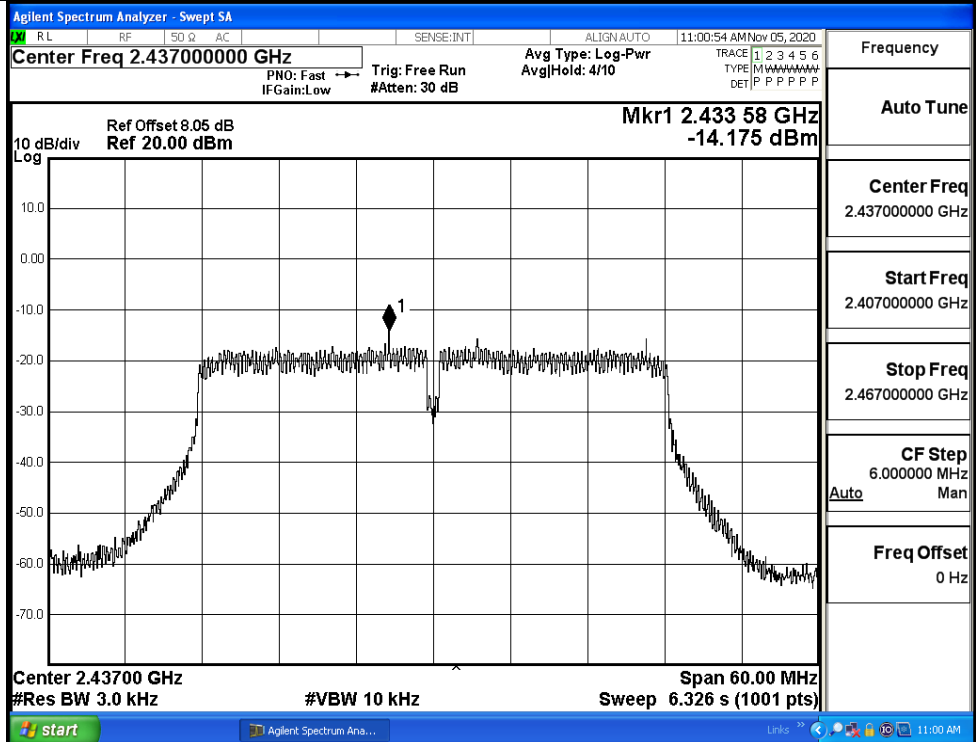


11N40SISO/LCH



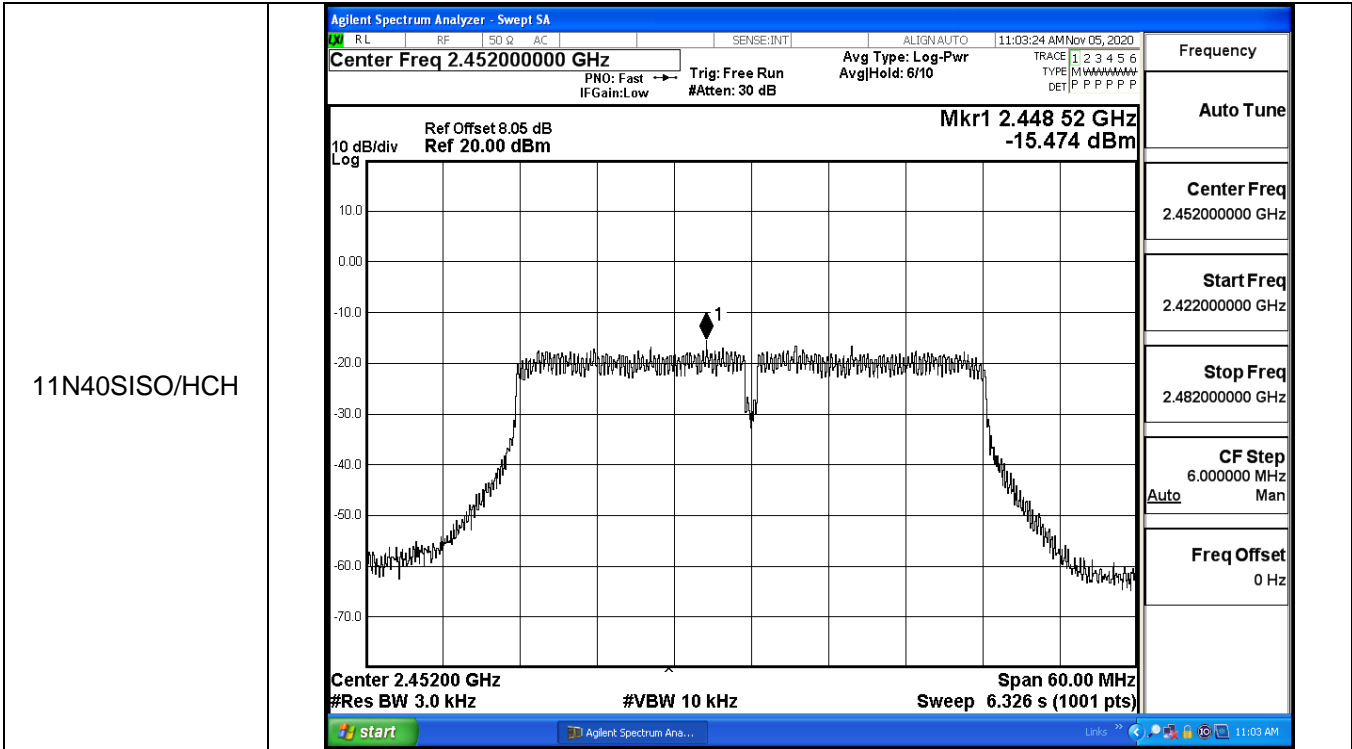
Frequency
Auto Tune
Center Freq 2.42200000 GHz
Start Freq 2.39200000 GHz
Stop Freq 2.45200000 GHz
CF Step 6.00000 MHz Auto Man
Freq Offset 0 Hz

11N40SISO/MCH



Frequency
Auto Tune
Center Freq 2.43700000 GHz
Start Freq 2.40700000 GHz
Stop Freq 2.46700000 GHz
CF Step 6.00000 MHz Auto Man
Freq Offset 0 Hz

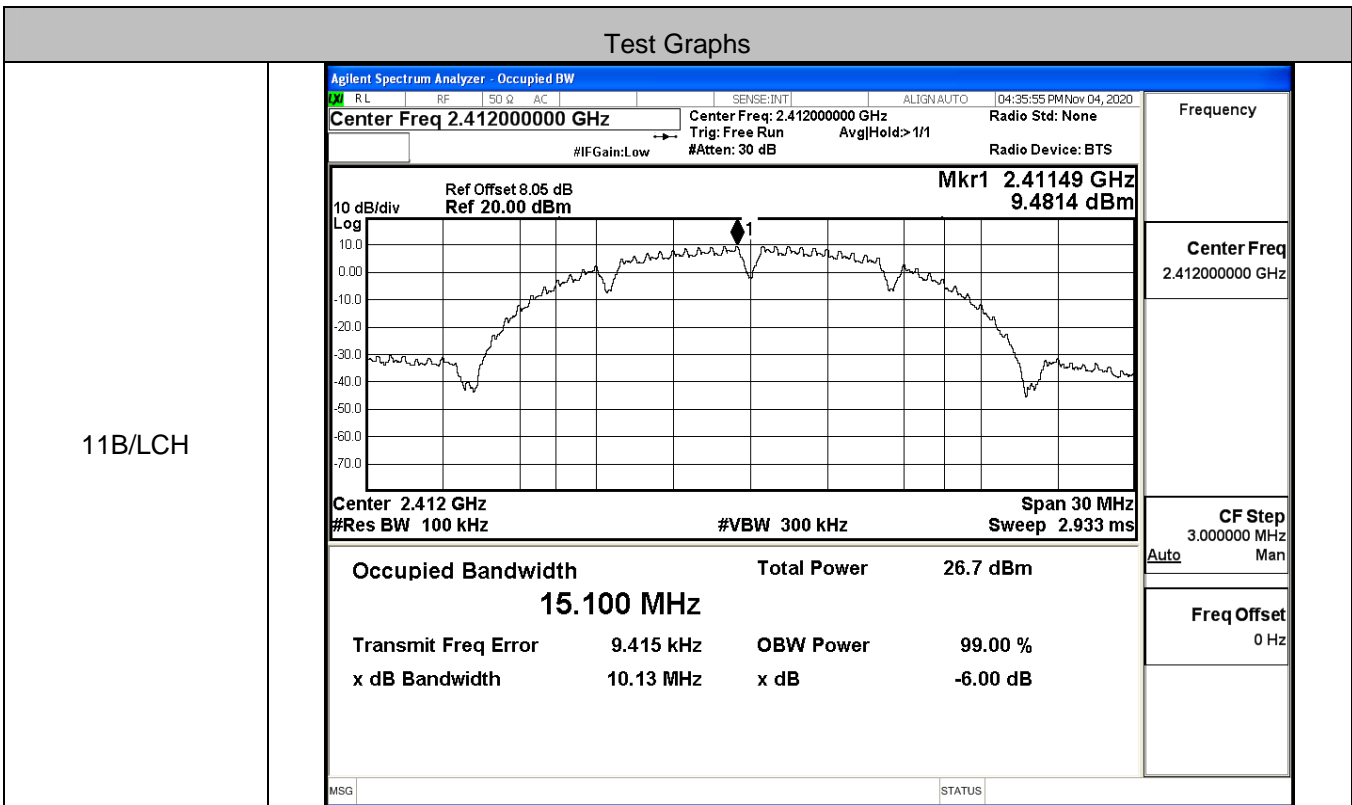




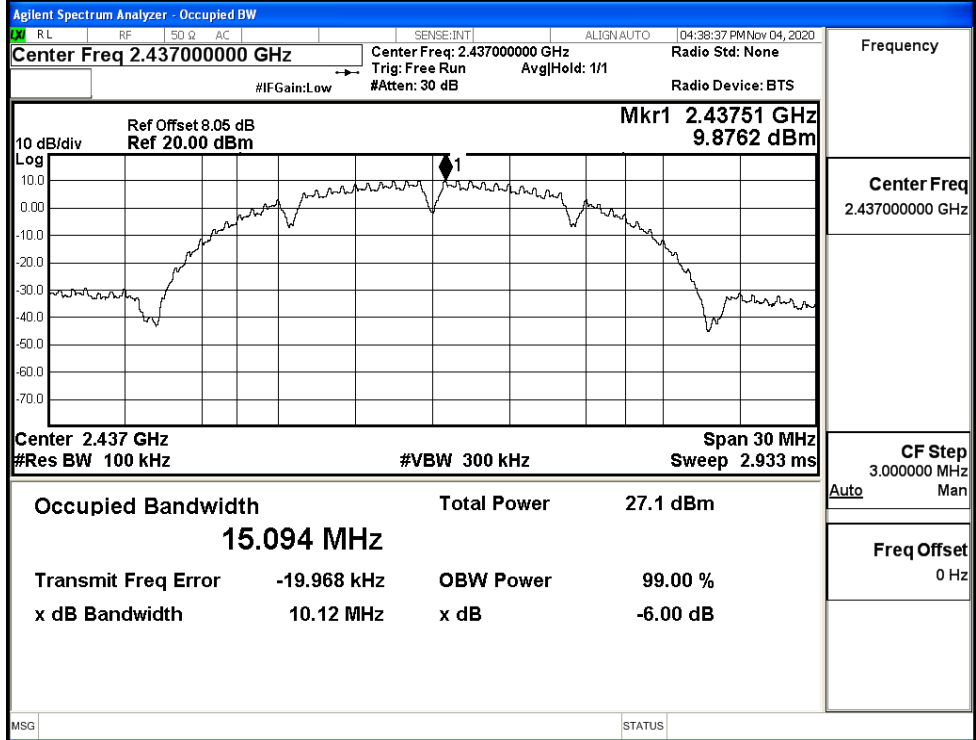
**A.4 6dB Bandwidth**

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	10.13	≥0.5	PASS
	MCH	10.12	≥0.5	PASS
	HCH	10.14	≥0.5	PASS
11G	LCH	16.56	≥0.5	PASS
	MCH	16.57	≥0.5	PASS
	HCH	16.57	≥0.5	PASS
11N20SISO	LCH	17.75	≥0.5	PASS
	MCH	17.71	≥0.5	PASS
	HCH	17.69	≥0.5	PASS
11N40SISO	LCH	36.49	≥0.5	PASS
	MCH	36.50	≥0.5	PASS
	HCH	36.51	≥0.5	PASS

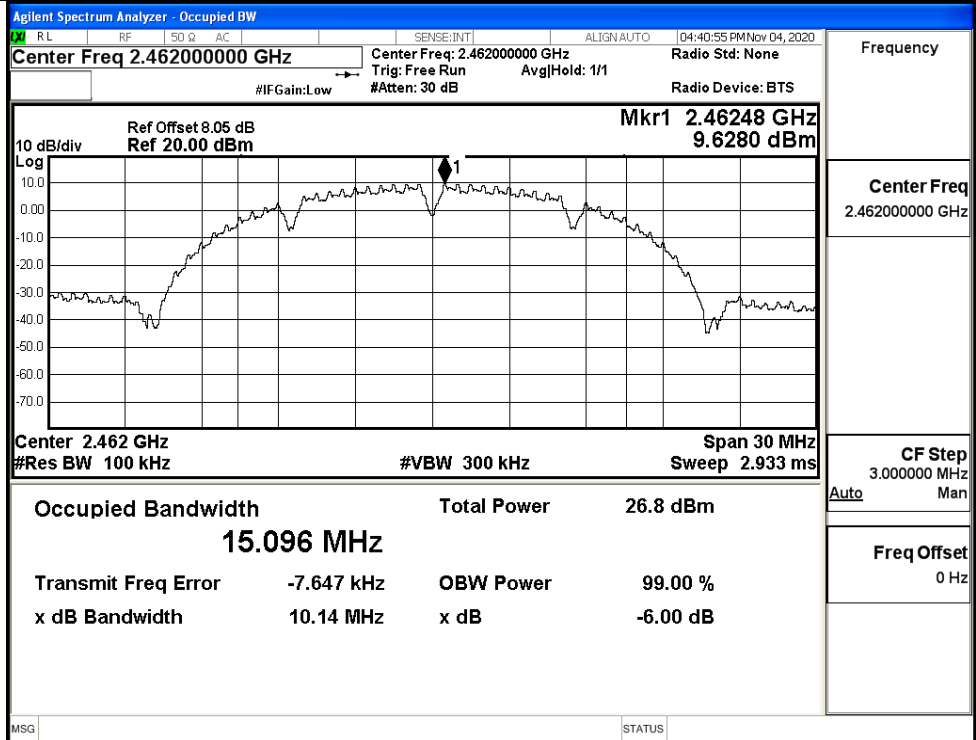
**Test Graphs**



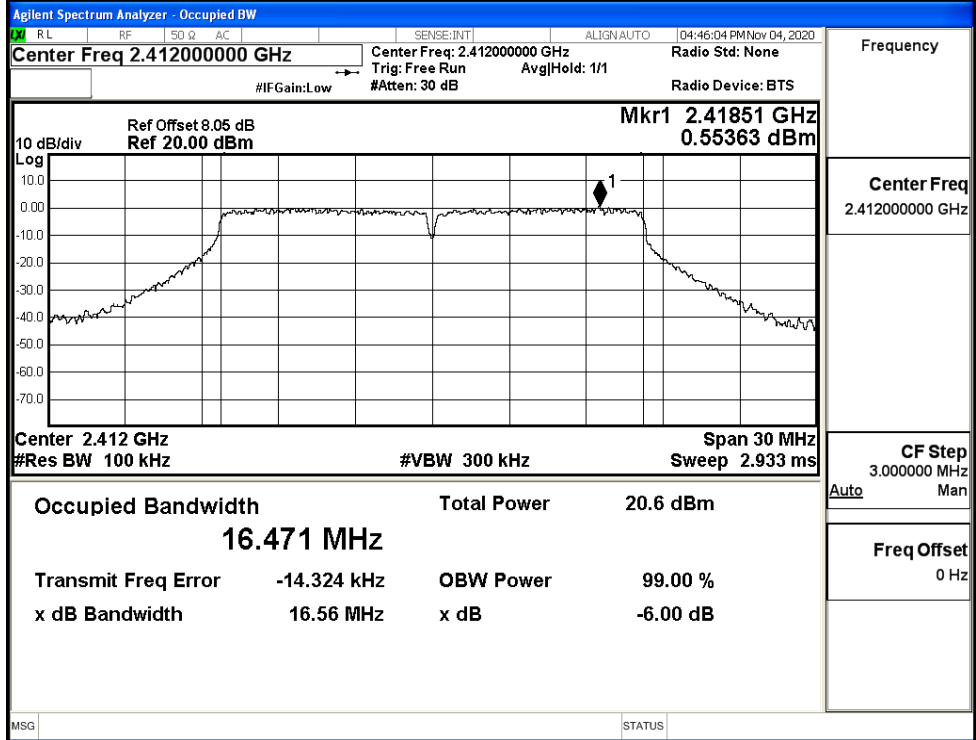
11B/MCH



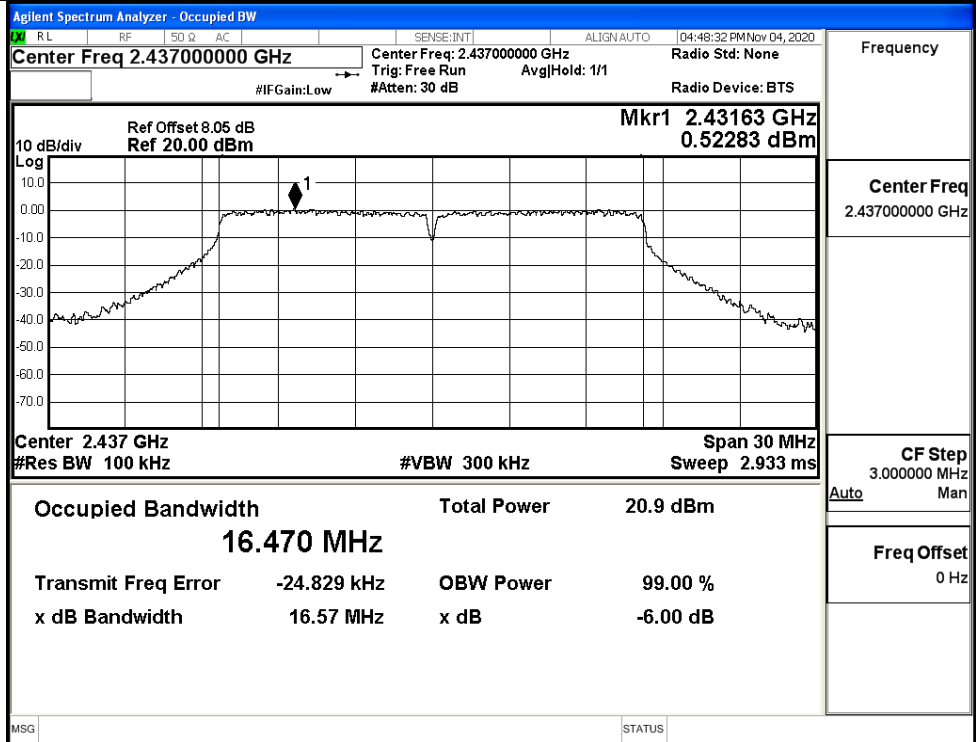
11B/HCH



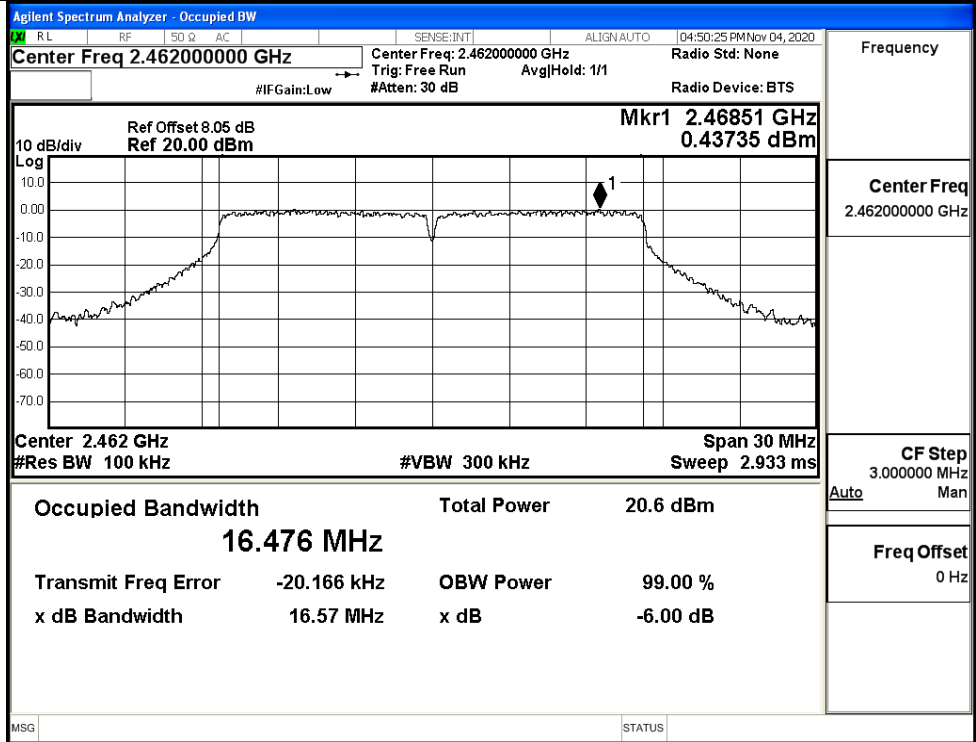
11G/LCH



11G/MCH

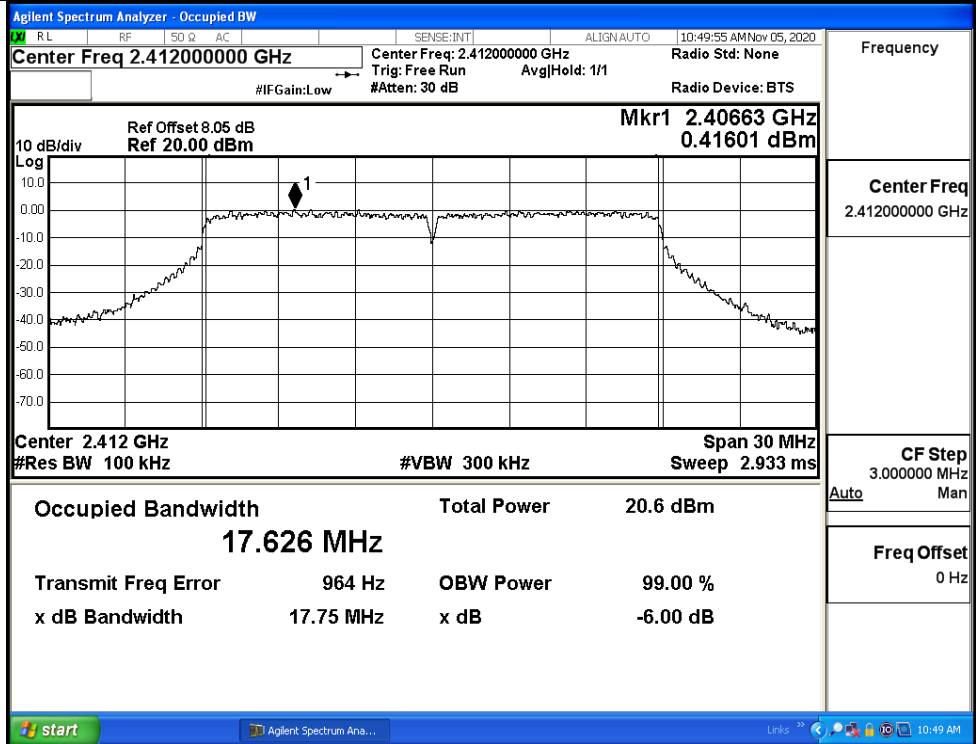


11G/HCH



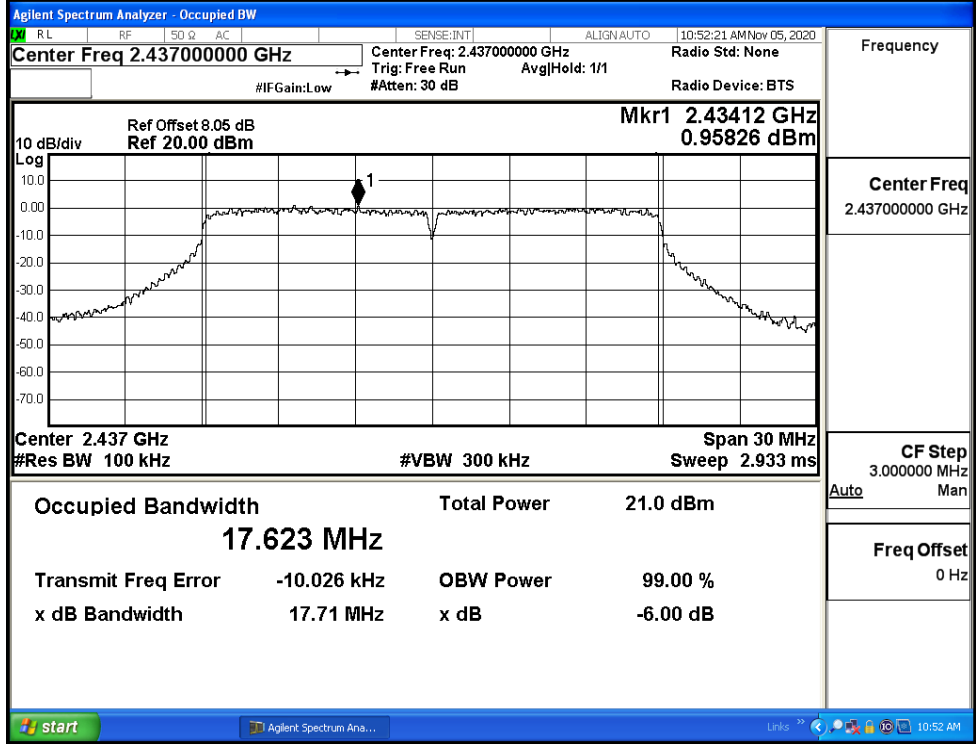
Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11N20SISO/LCH

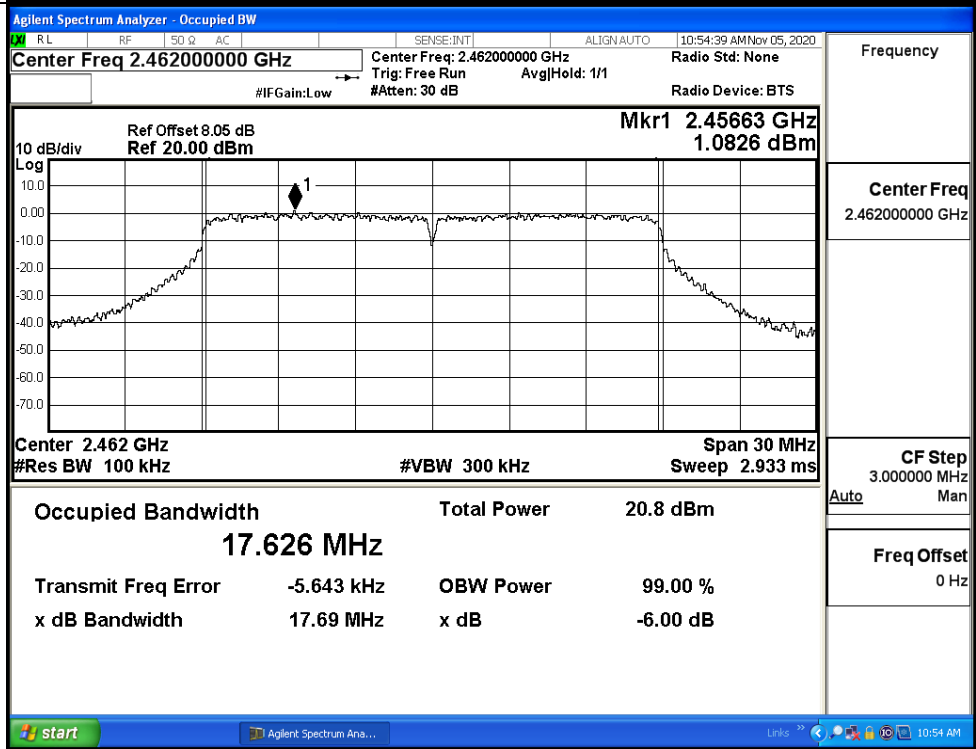


Frequency	2.41200000 GHz
Center Freq	2.41200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

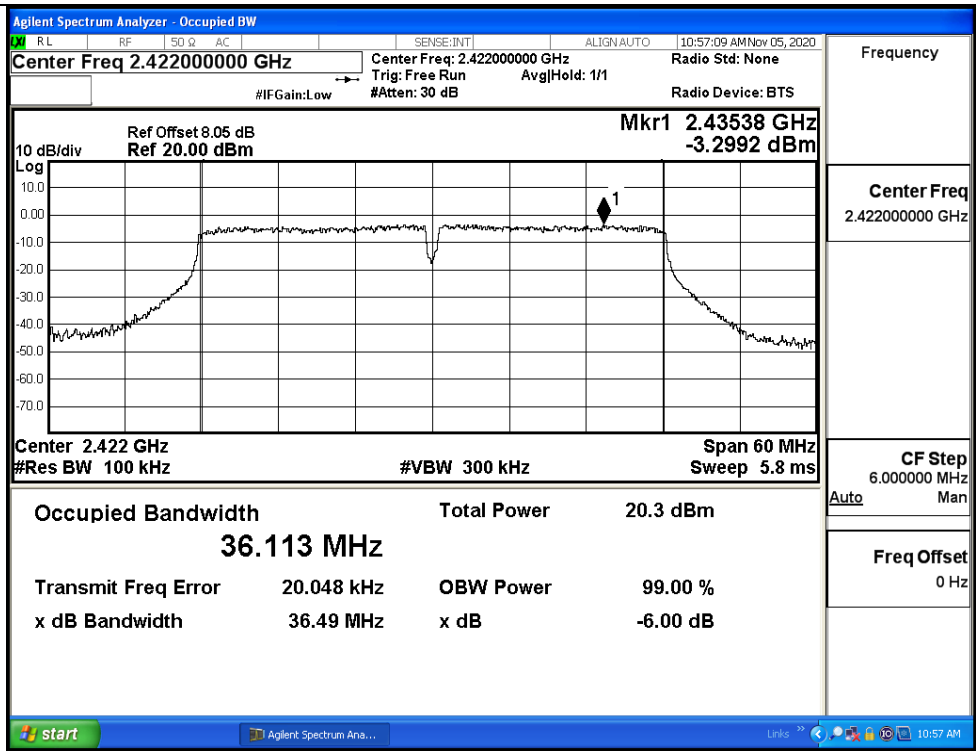
11N20SISO/MCH



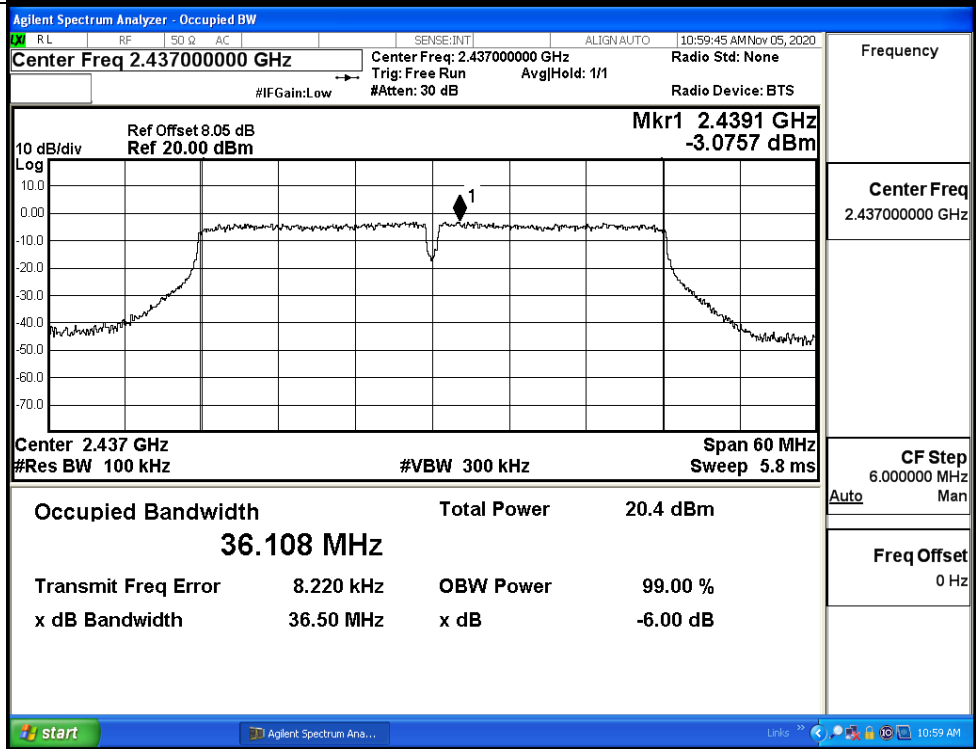
11N20SISO/HCH

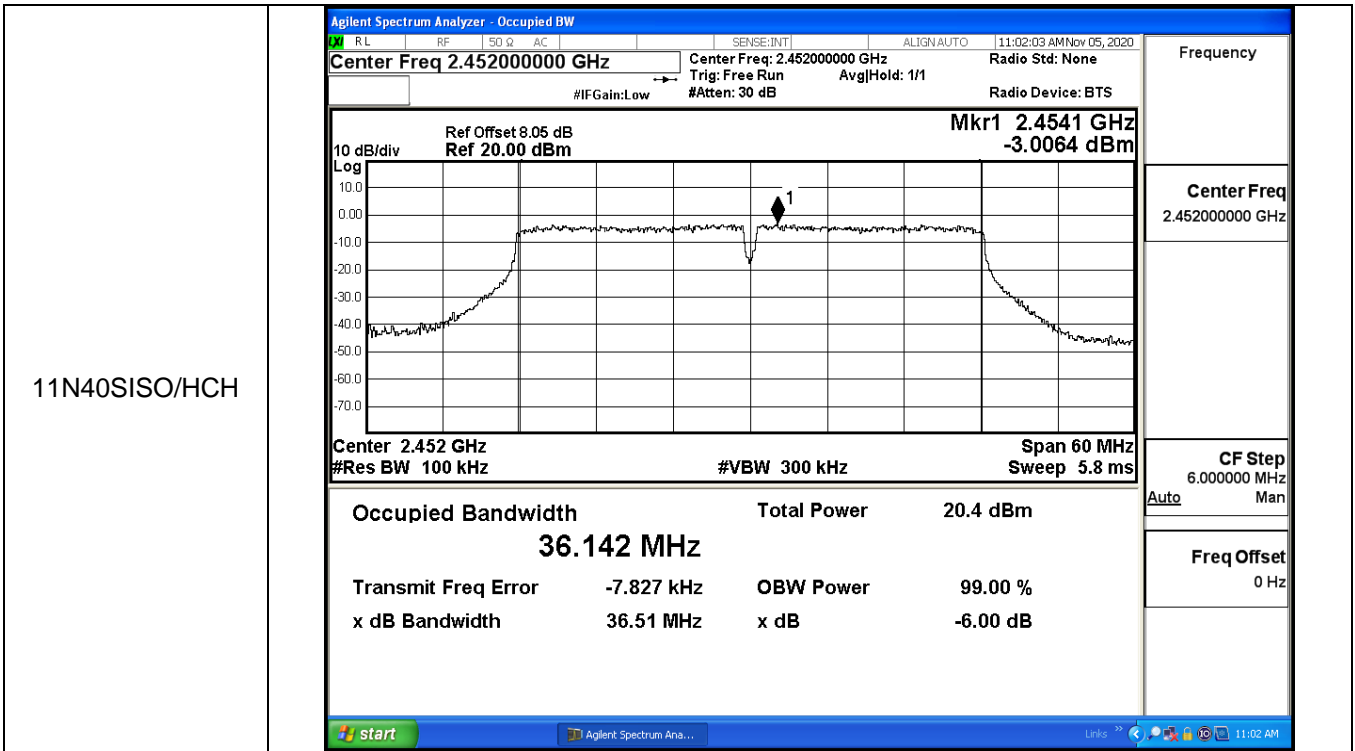


11N40SISO/LCH



11N40SISO/MCH





**A.5 RF Conducted Spurious Emissions**

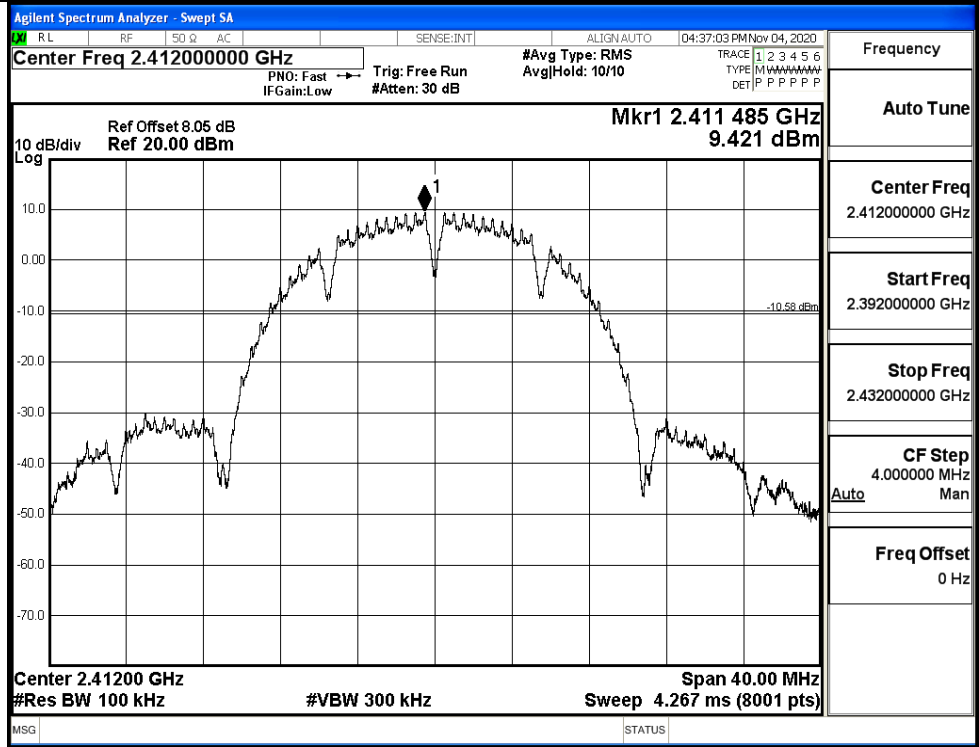
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdic
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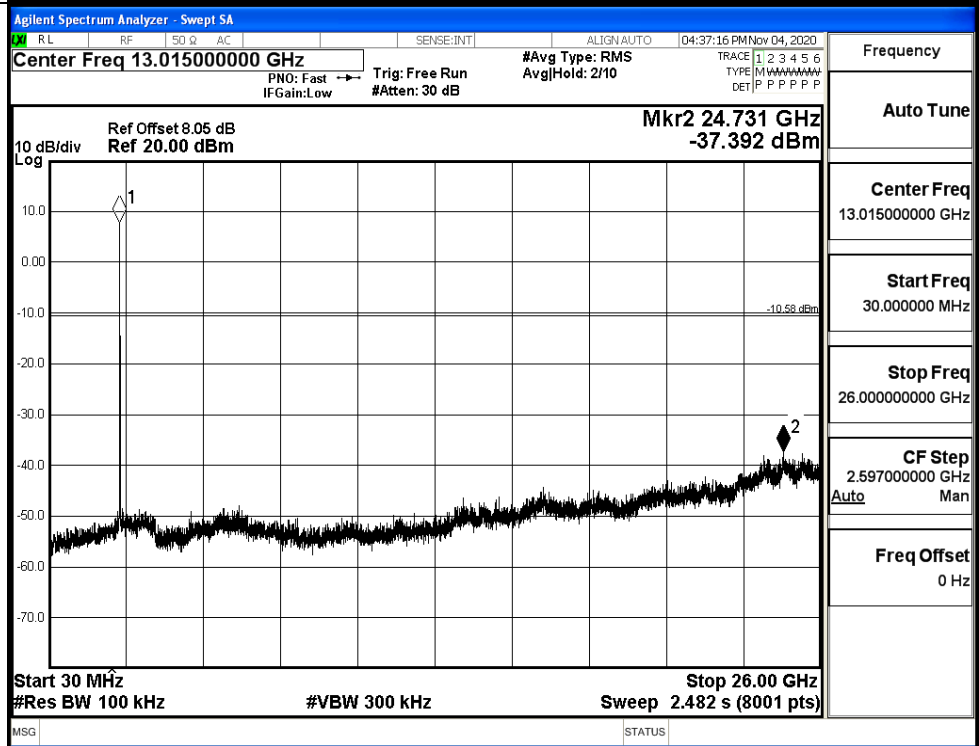
					t
11B	LCH	9.421	-37.392	-10.579	PASS
	MCH	9.669	-37.915	-10.331	PASS
	HCH	9.307	-38.678	-10.693	PASS
11G	LCH	0.474	-38.267	-19.526	PASS
	MCH	0.462	-37.812	-19.538	PASS
	HCH	0.265	-37.206	-19.735	PASS
11N20 SISO	LCH	0.188	-38.770	-19.812	PASS
	MCH	0.74	-39.191	-19.260	PASS
	HCH	0.391	-37.815	-19.609	PASS
11N40 SISO	LCH	-3.592	-37.860	-23.592	PASS
	MCH	-3.112	-37.367	-23.112	PASS
	HCH	-3.575	-37.562	-23.575	PASS

11B\_LCH\_Graphs

Pref/11B/LCH

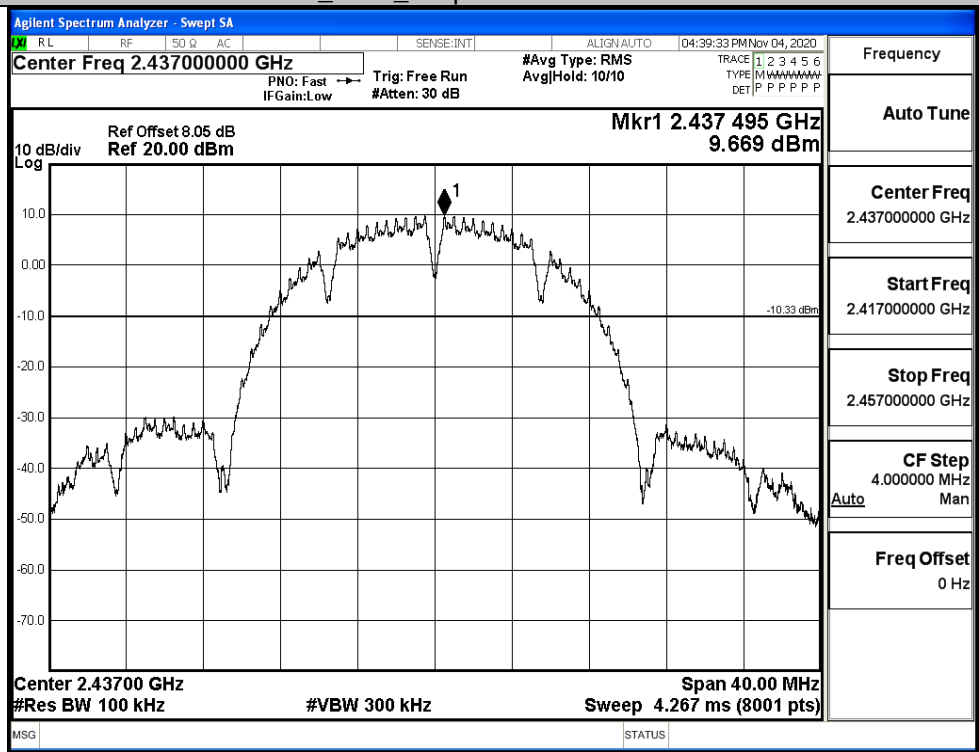


Puw/11B/LCH

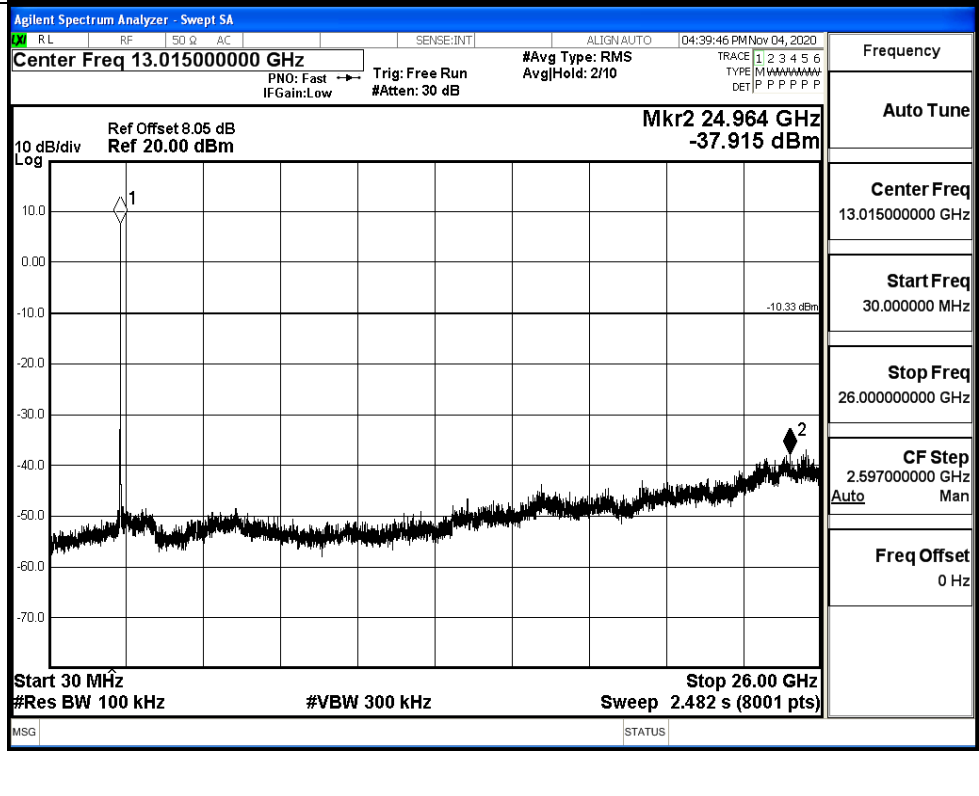


11B\_MCH\_Graphs

Pref/11B/MCH

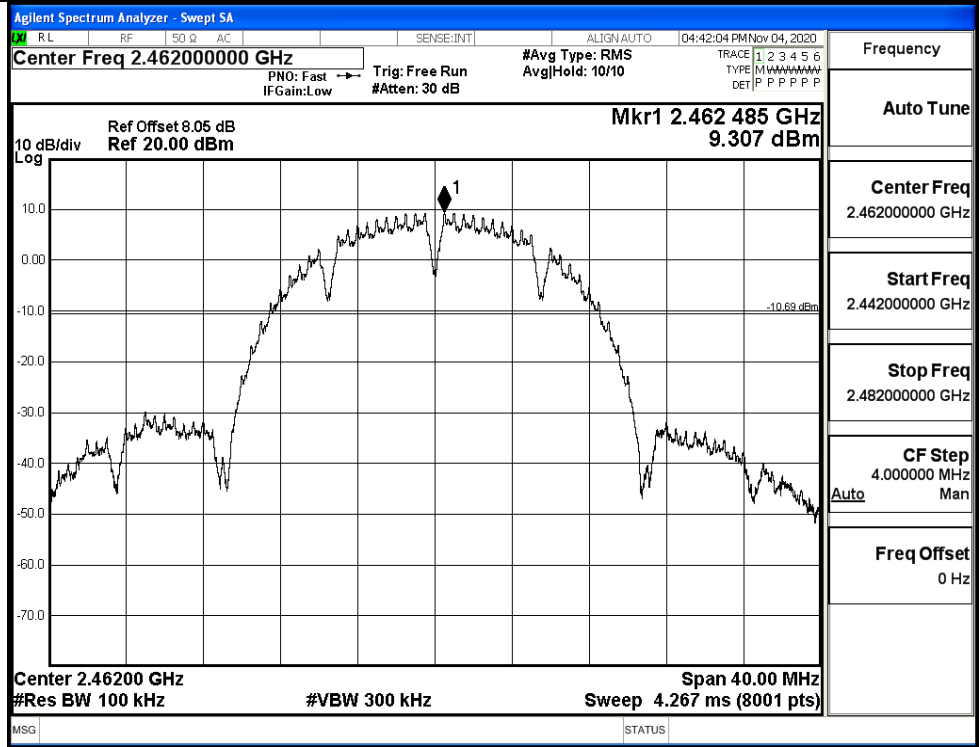


Puw/11B/MCH

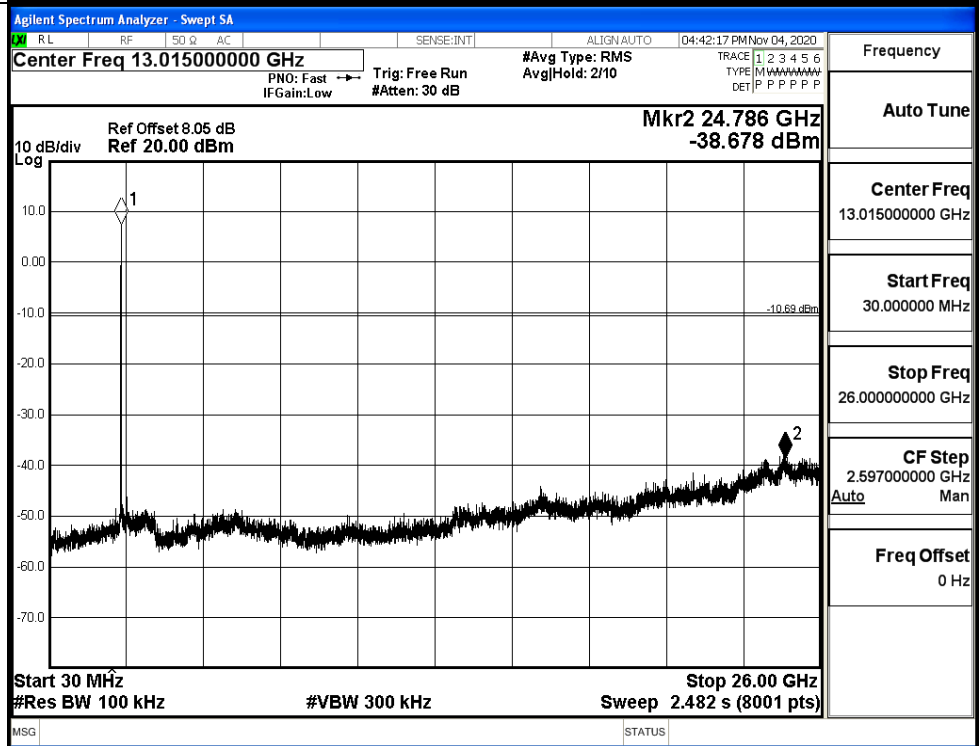


11B\_HCH\_Graphs

Pref/11B/HCH

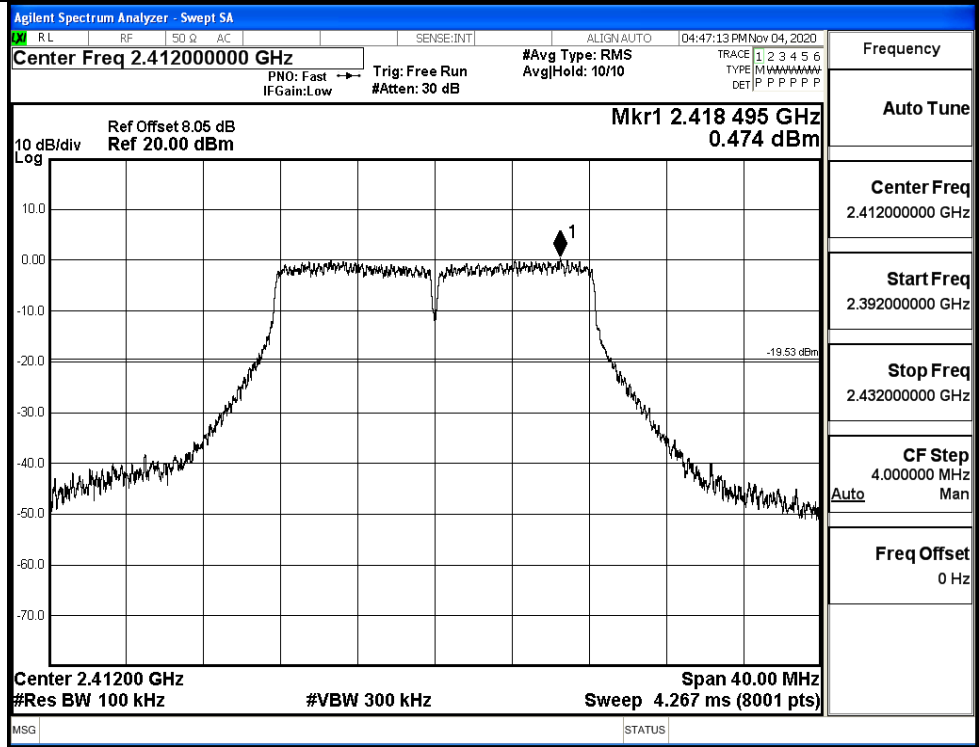


Puw/11B/HCH

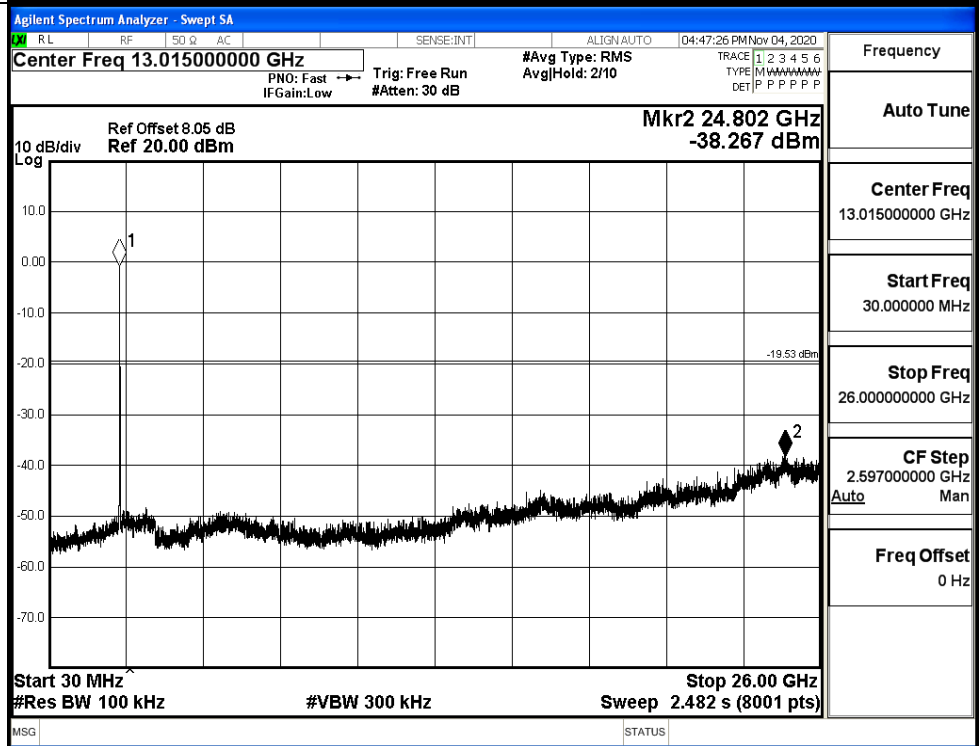


11G\_LCH\_Graphs

Pref/11G/LCH

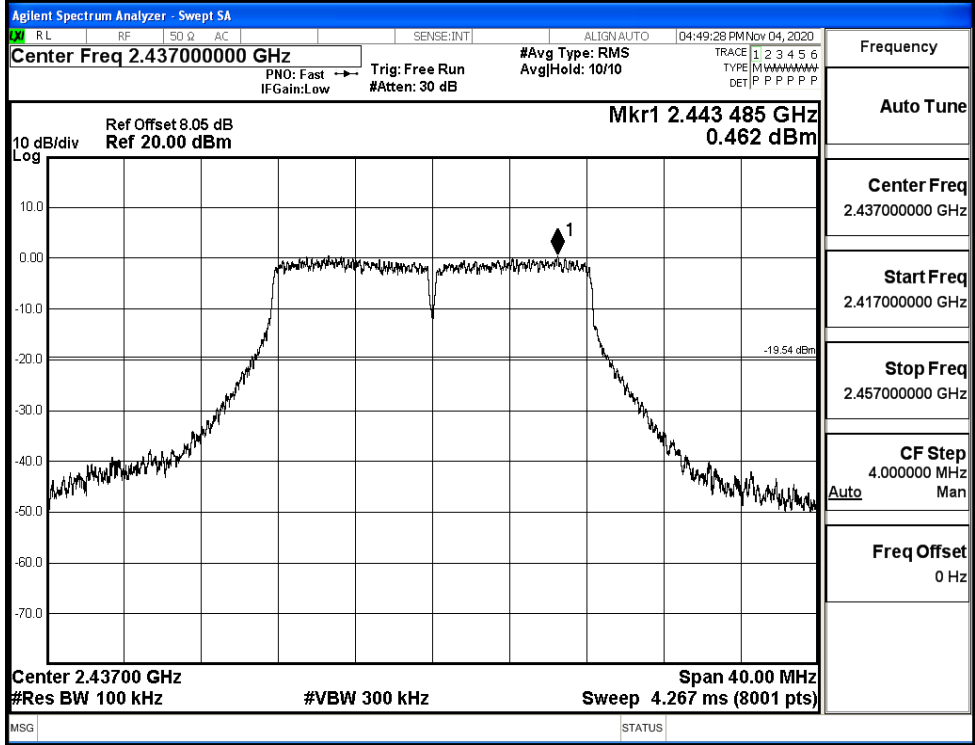


Puw/11G/LCH



11G\_MCH\_Graphs

Pref/11G/MCH

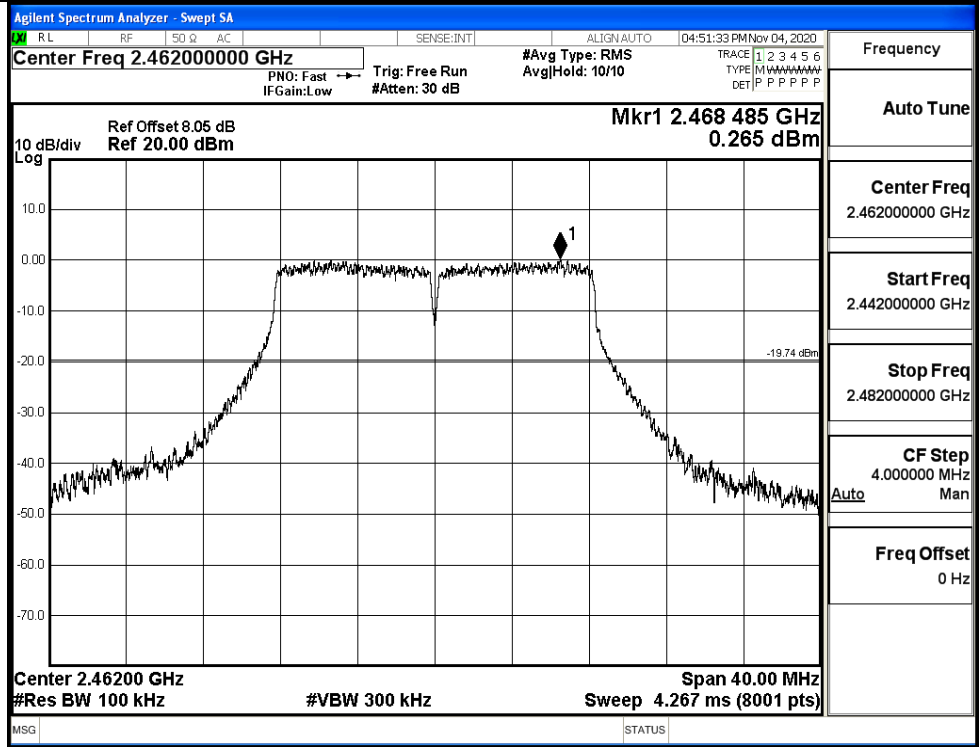


Puw/11G/MCH

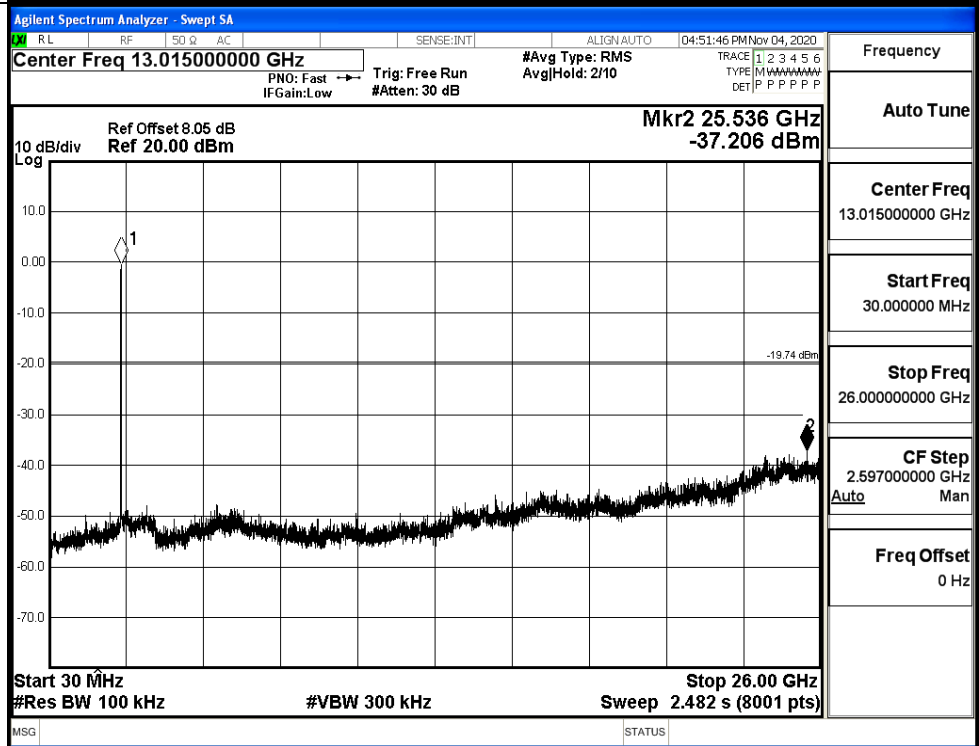


11G\_HCH\_Graphs

Pref/11G/HCH

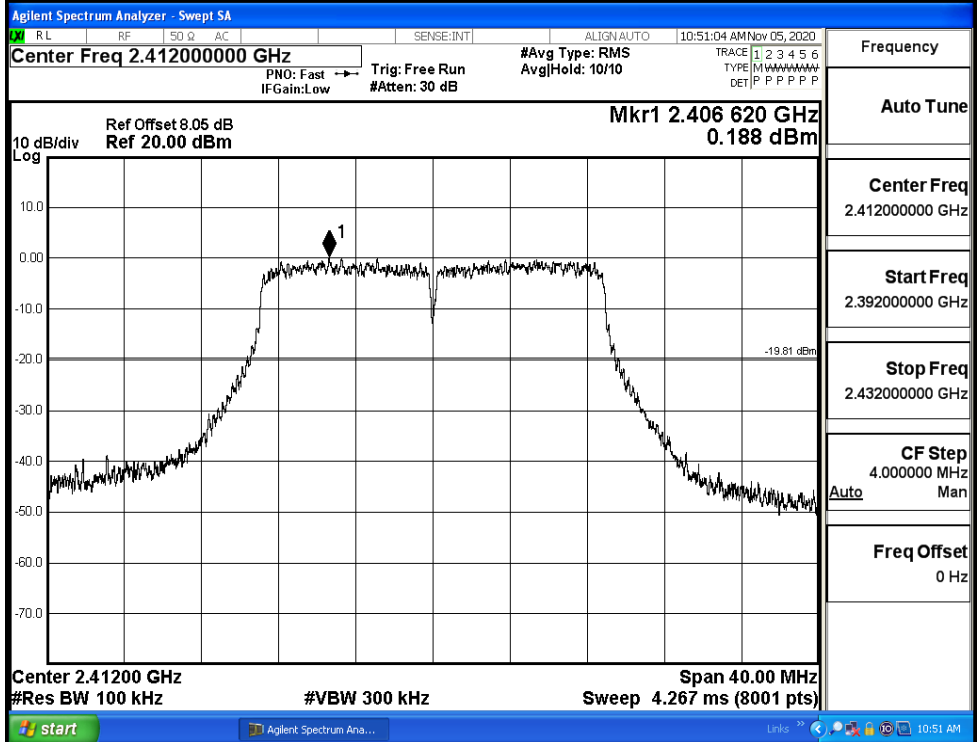


Puw/11G/HCH



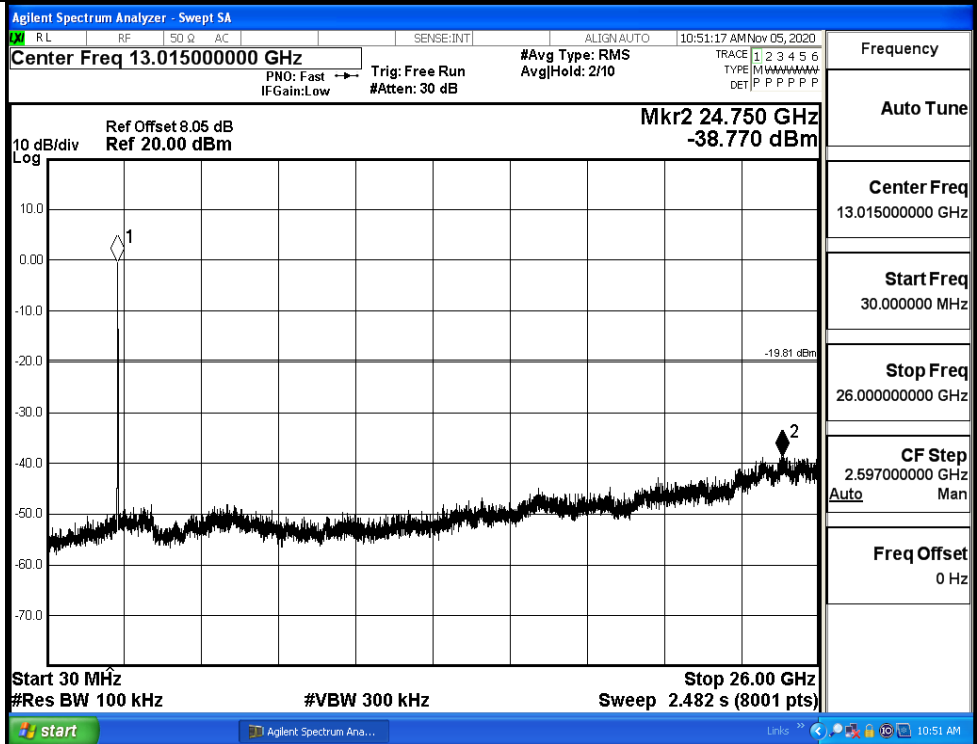
11N20SISO\_LCH\_Graphs

Pref/11N20SIS  
O/LCH



Frequency	
Auto Tune	
Center Freq	2.412000000 GHz
Start Freq	2.392000000 GHz
Stop Freq	2.432000000 GHz
CF Step	4.000000 MHz Auto Man
Freq Offset	0 Hz

Puw/11N20  
SISO/LCH

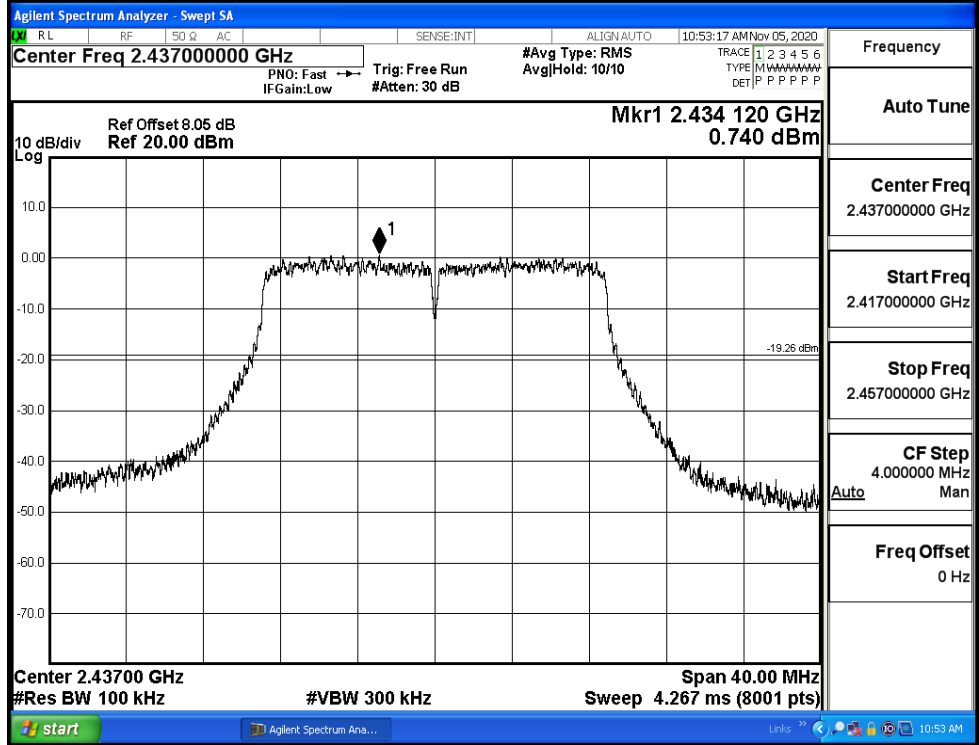


Frequency	
Auto Tune	
Center Freq	13.015000000 GHz
Start Freq	30.000000 MHz
Stop Freq	26.000000000 GHz
CF Step	2.597000000 GHz Auto Man
Freq Offset	0 Hz

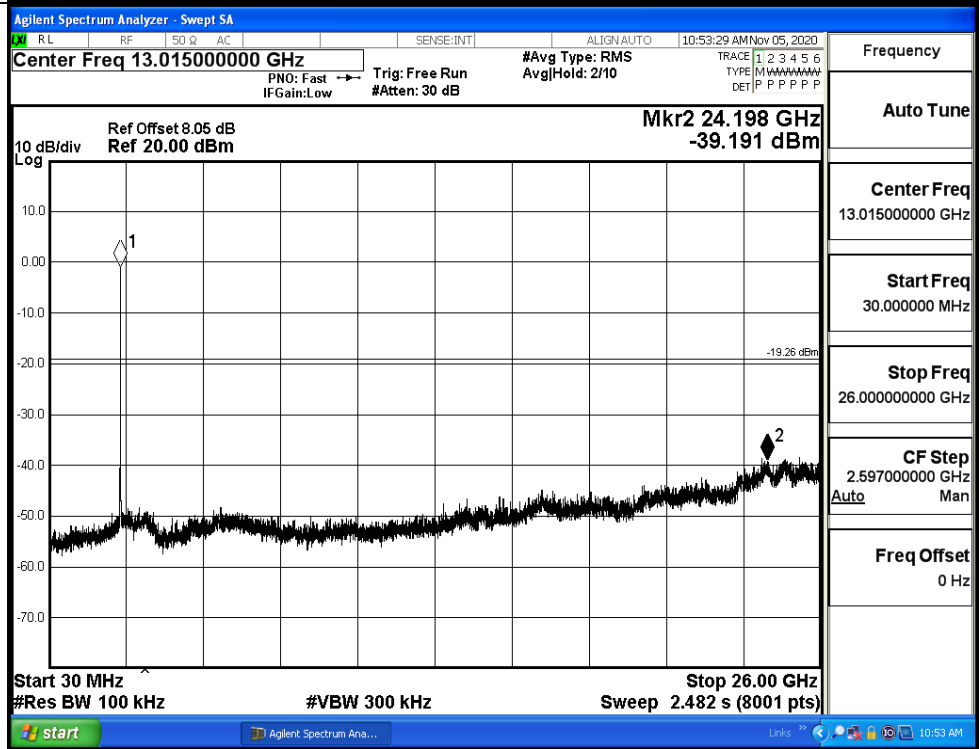


11N20SISO\_MCH\_Graphs

Pref/11N20  
SISO/MCH

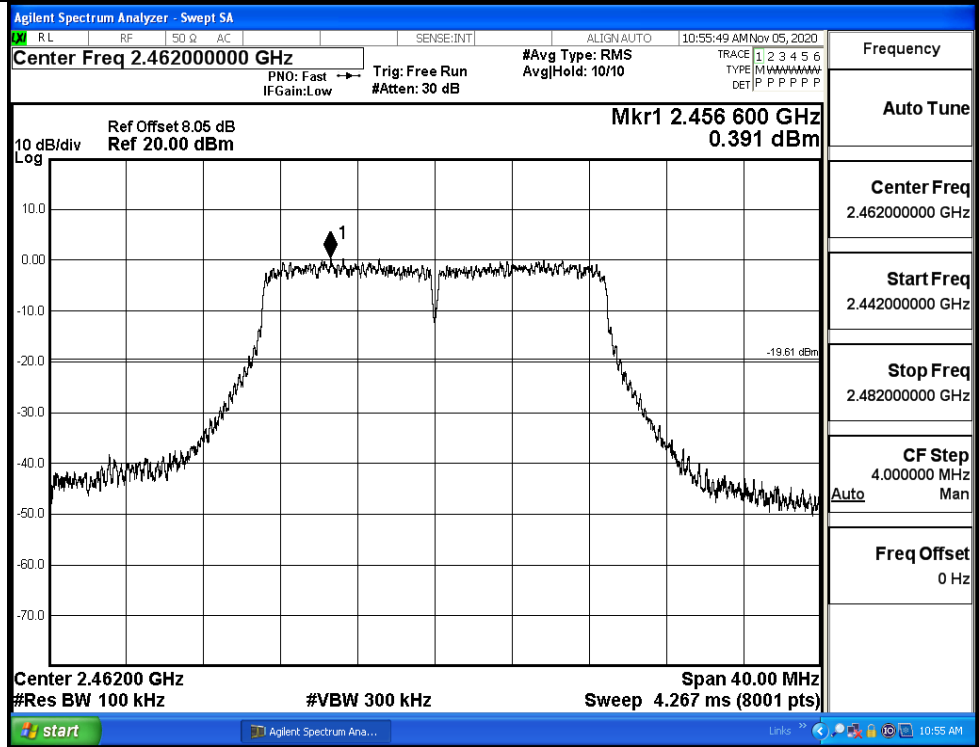


Puw/11N20  
SISO/MCH

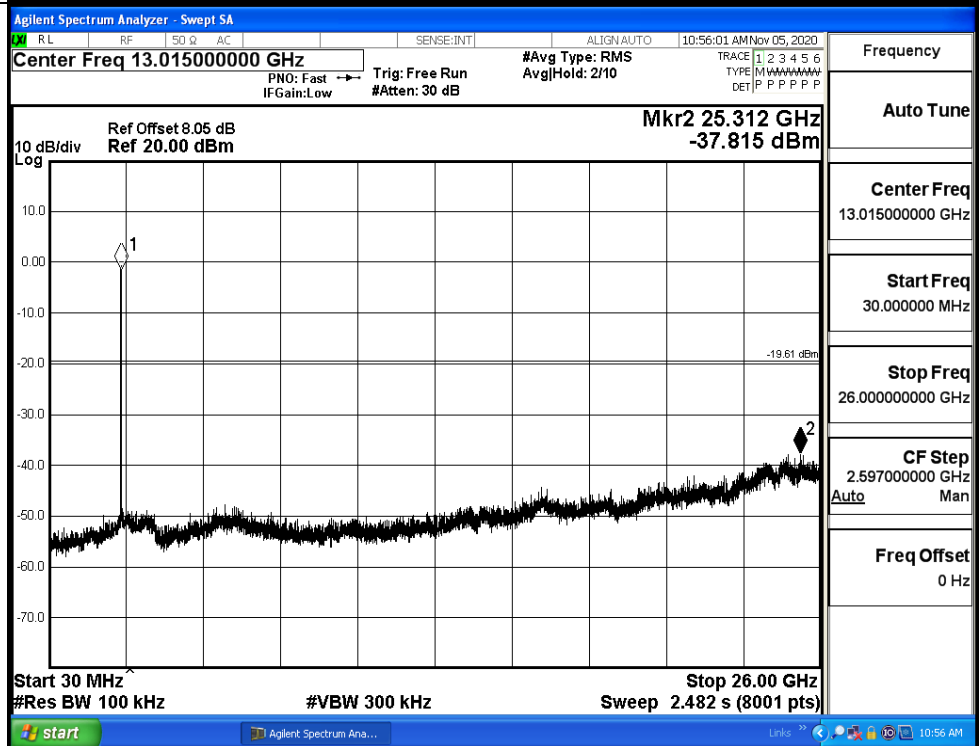


11N20SISO\_HCH\_Graphs

Pref/11N20  
SISO/HCH

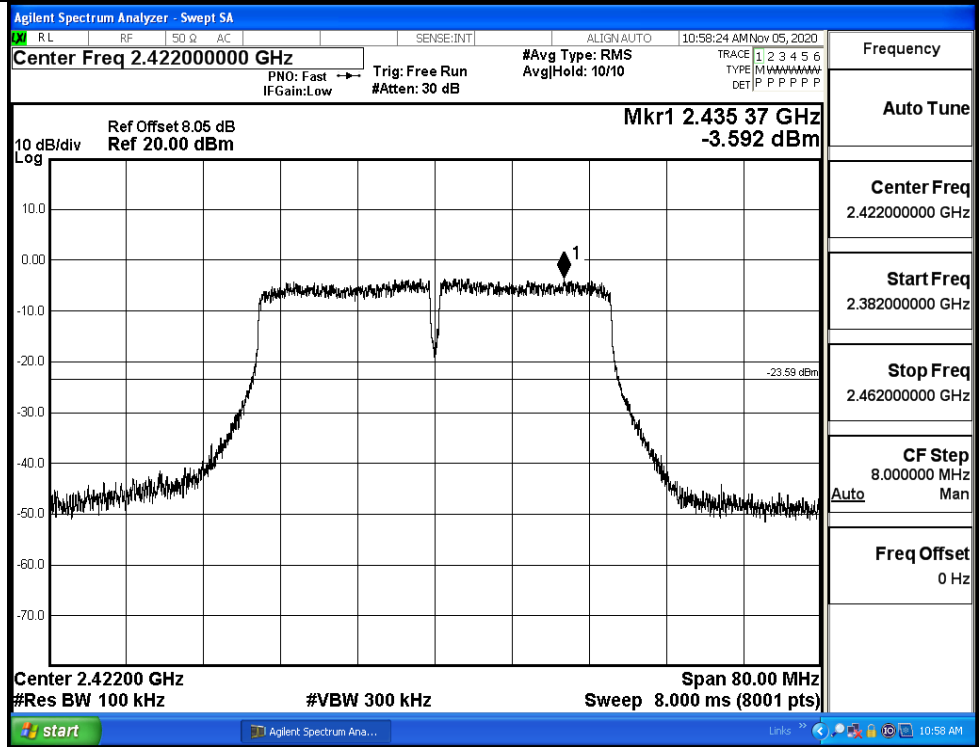


Puw/11N20  
SISO/HCH



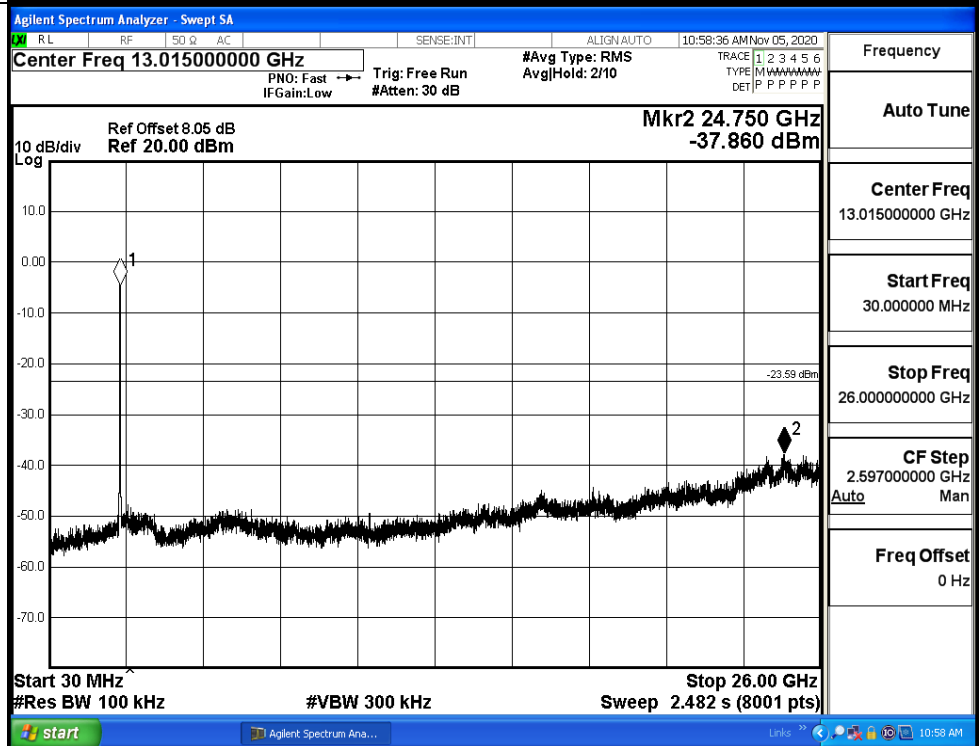
11N40SISO\_LCH\_Graphs

Pref/11N40  
SISO/LCH



Frequency
Auto Tune
Center Freq 2.422000000 GHz
Start Freq 2.382000000 GHz
Stop Freq 2.462000000 GHz
CF Step 8.000000 MHz Auto Man
Freq Offset 0 Hz

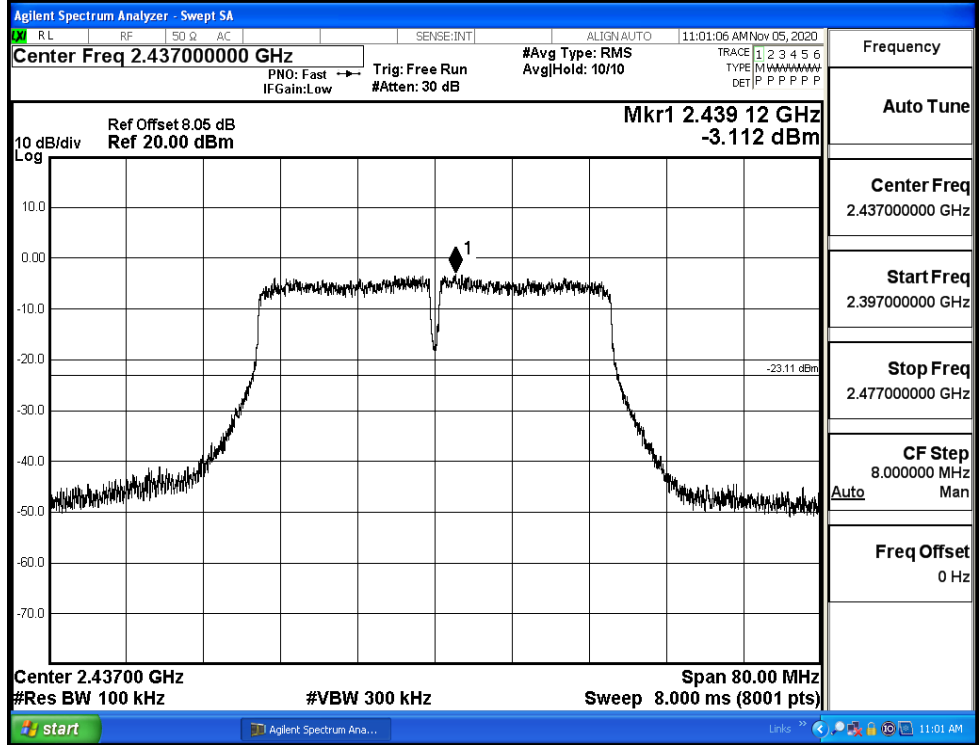
Puw/11N40  
SISO/LCH



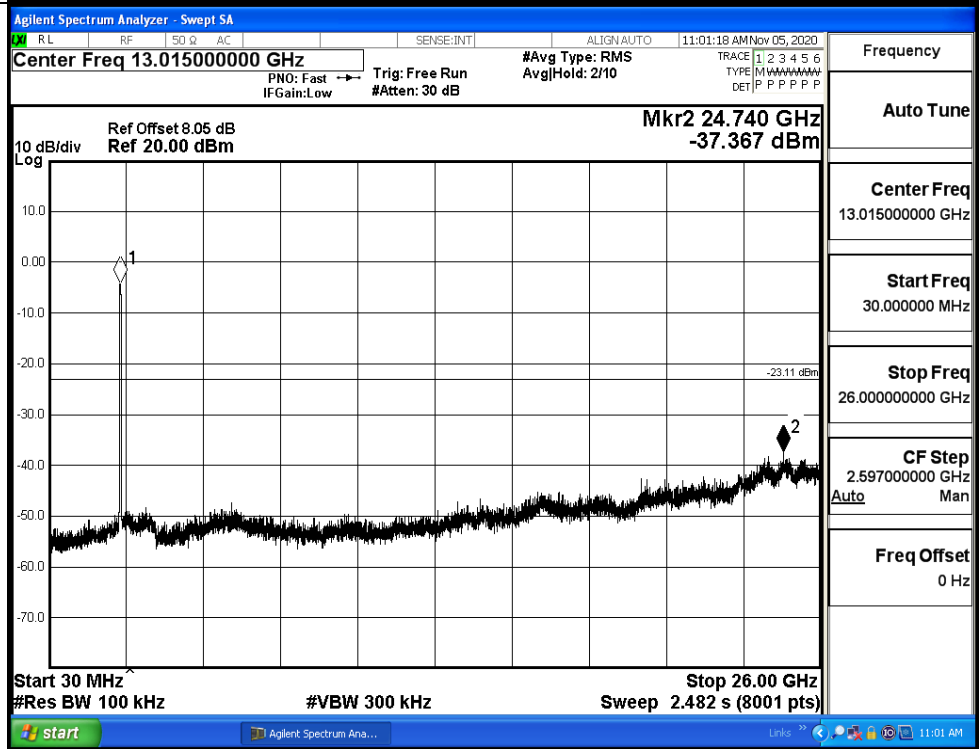
Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz Auto Man
Freq Offset 0 Hz

11N40SISO\_MCH\_Graphs

Pref/11N40  
SISO/MCH

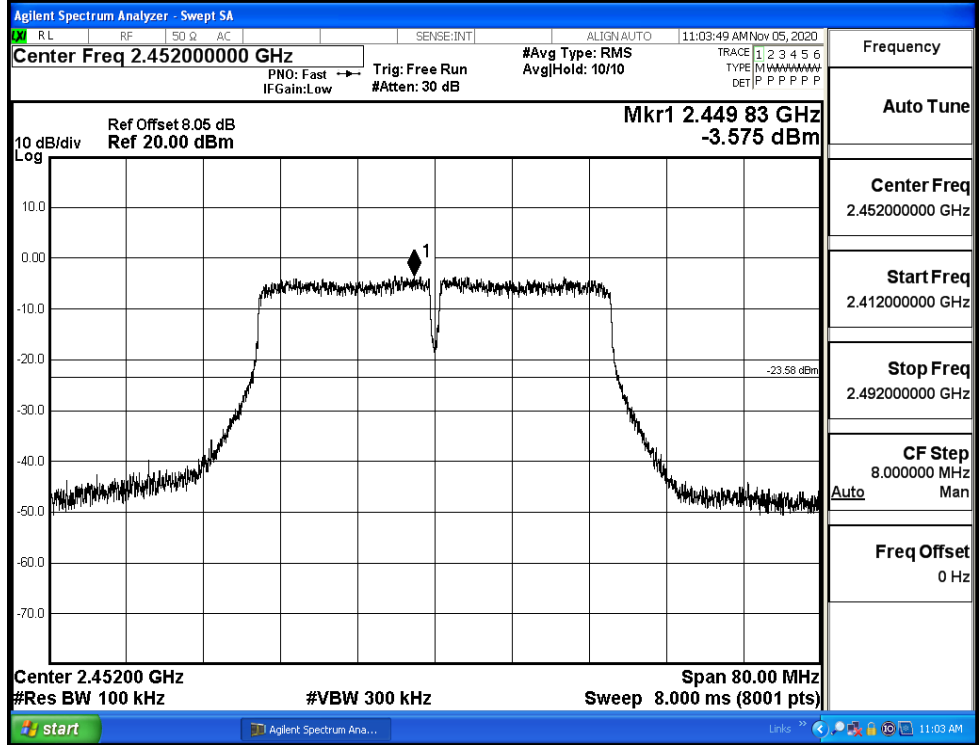


Puw/11N40  
SISO/MCH

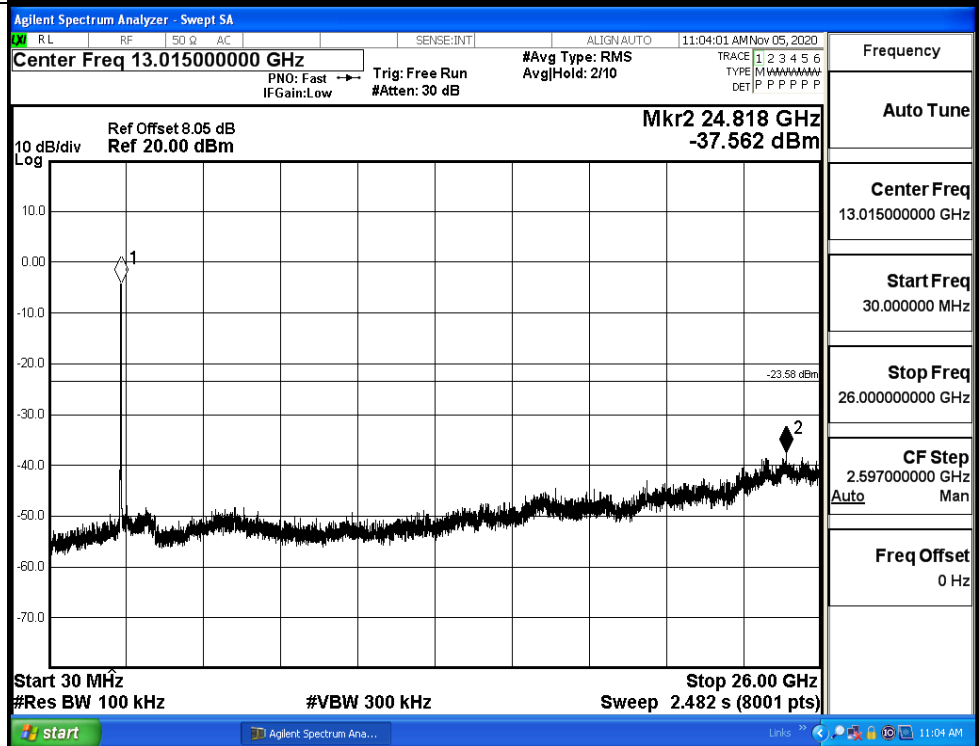


11N40SISO\_HCH\_Graphs

Pref/11N40  
SISO/HCH

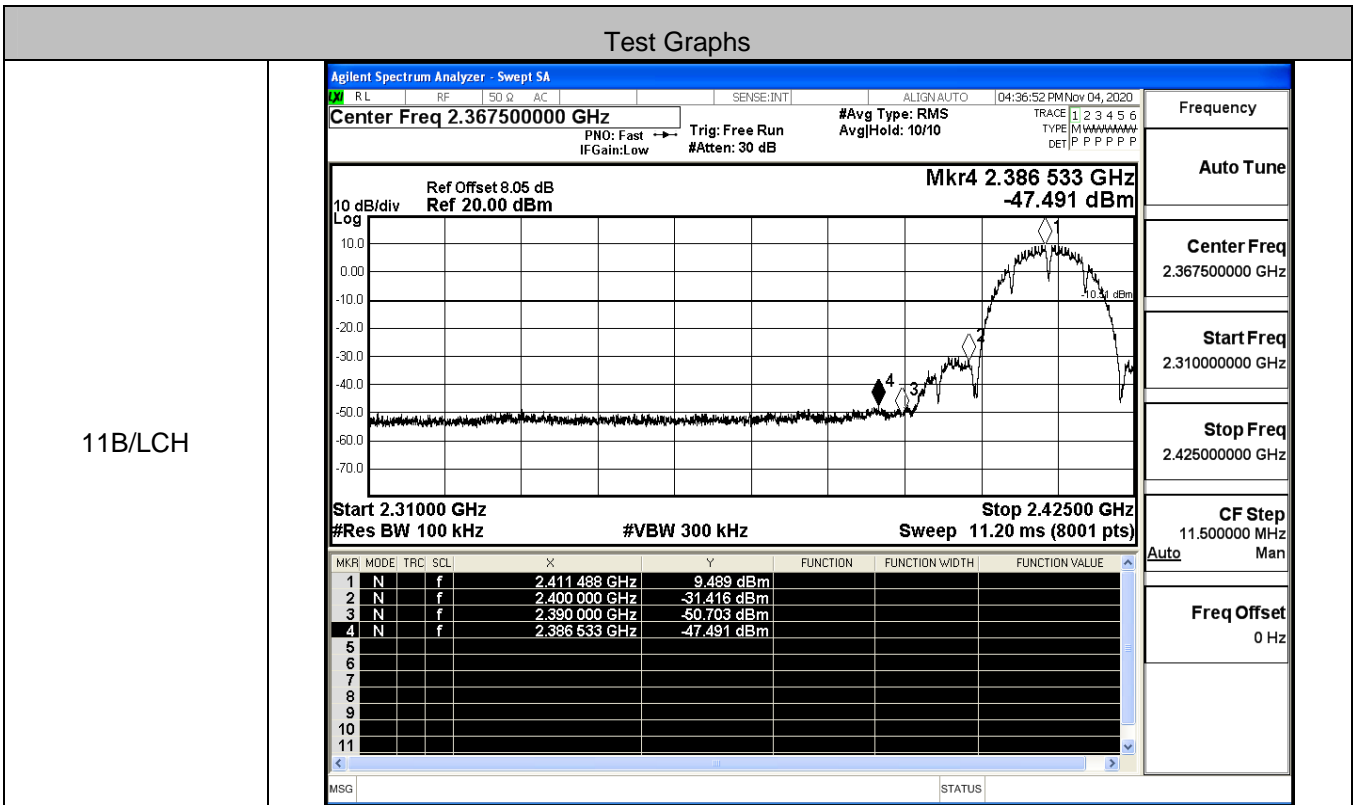


Puw/11N40  
SISO/HCH

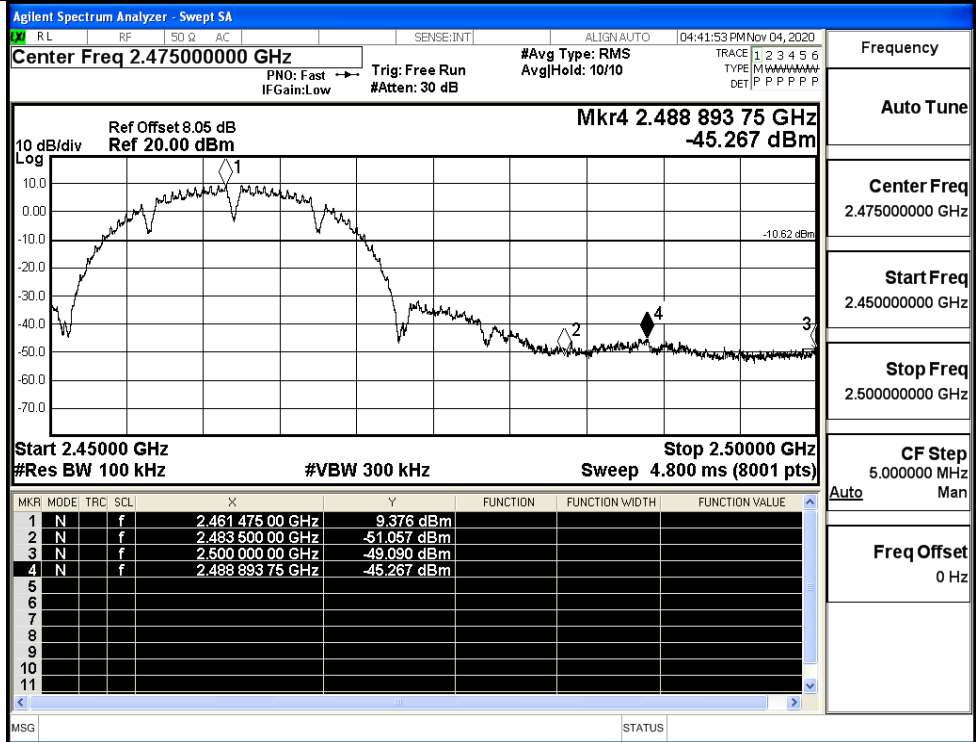


### A.6 Band-edge for RF Conducted Emissions

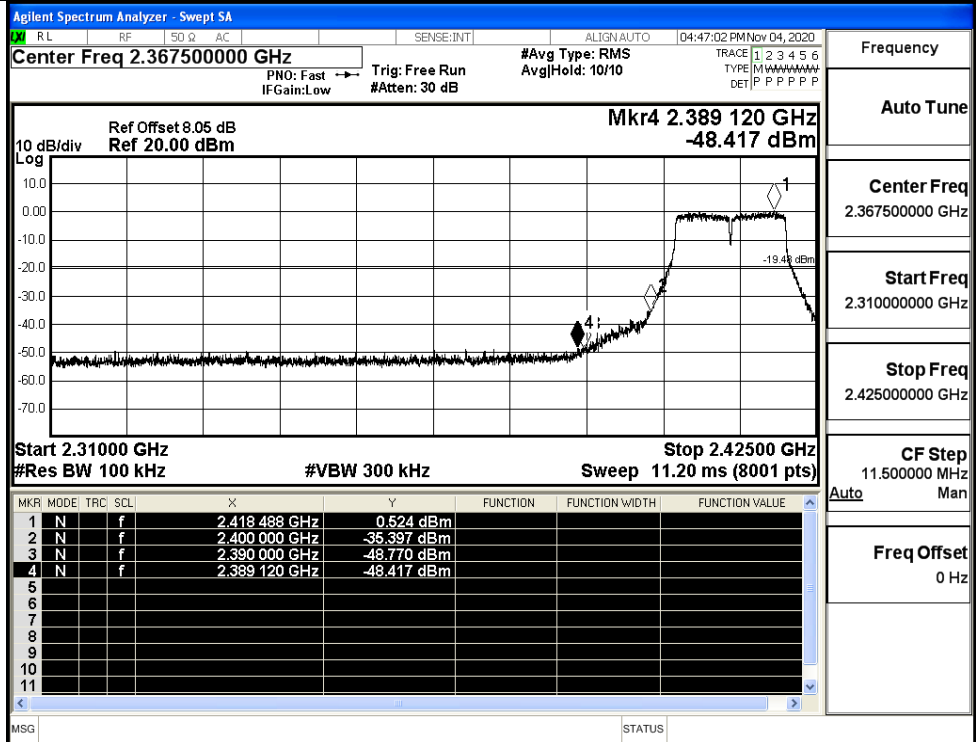
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	9.489	-47.491	-10.51	PASS
	HCH	9.376	-45.267	-10.62	PASS
11G	LCH	0.524	-48.417	-19.48	PASS
	HCH	0.308	-46.865	-19.69	PASS
11N20SISO	LCH	0.396	-44.413	-19.6	PASS
	HCH	0.656	-45.470	-19.34	PASS
11N40SISO	LCH	-3.473	-43.742	-23.47	PASS
	HCH	-3.475	-43.559	-23.48	PASS



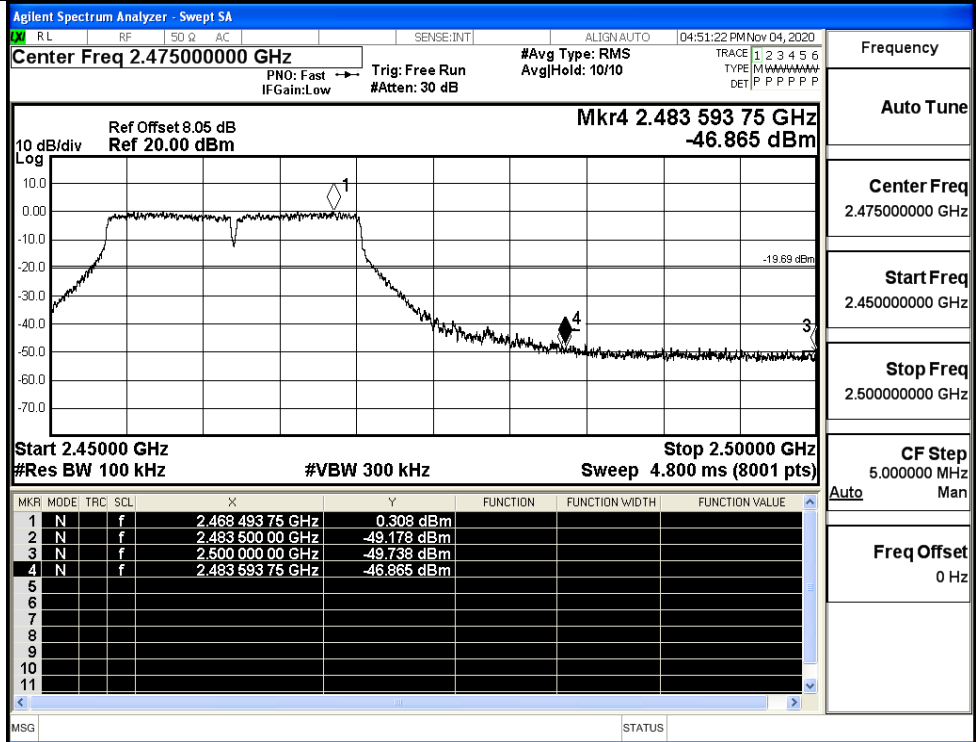
11B/HCH



11G/LCH

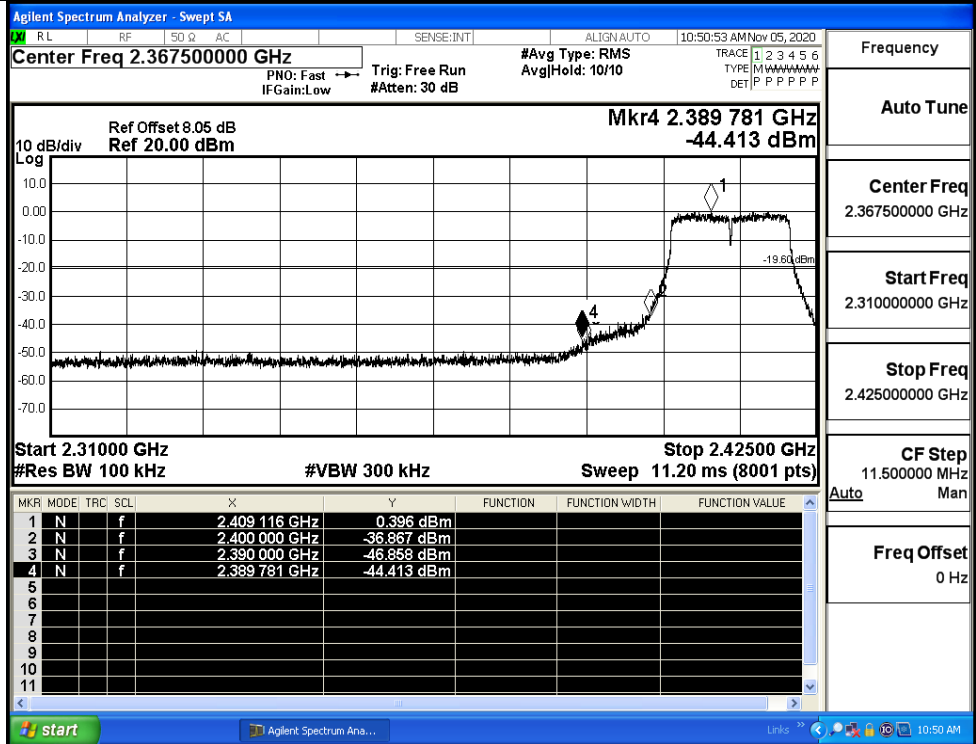


11G/HCH



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

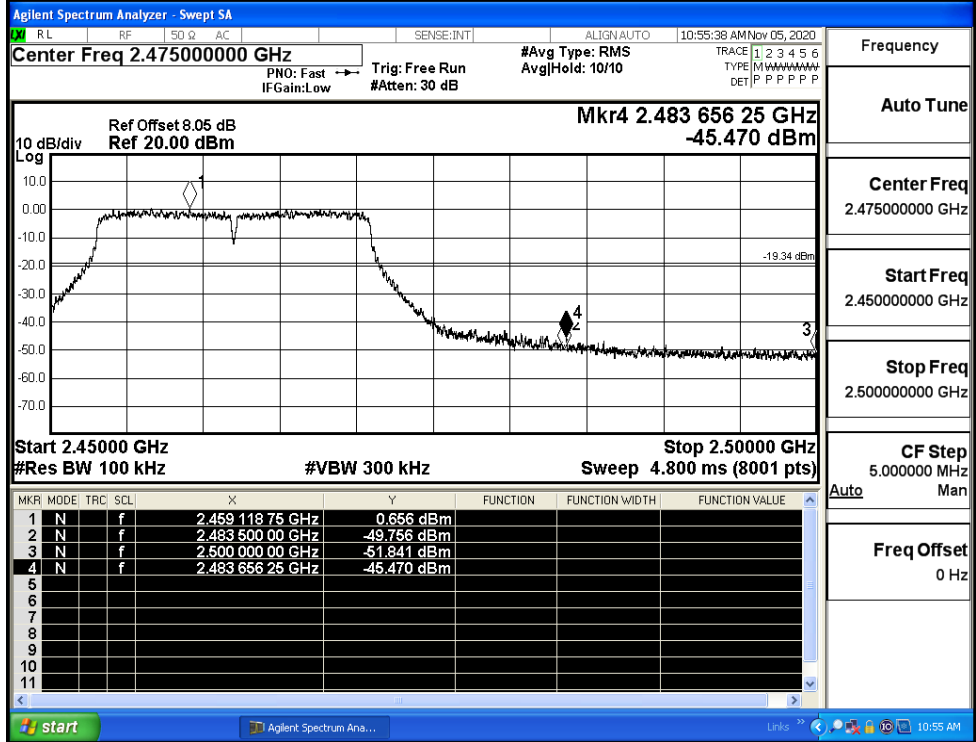
11N20SISO/LCH



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

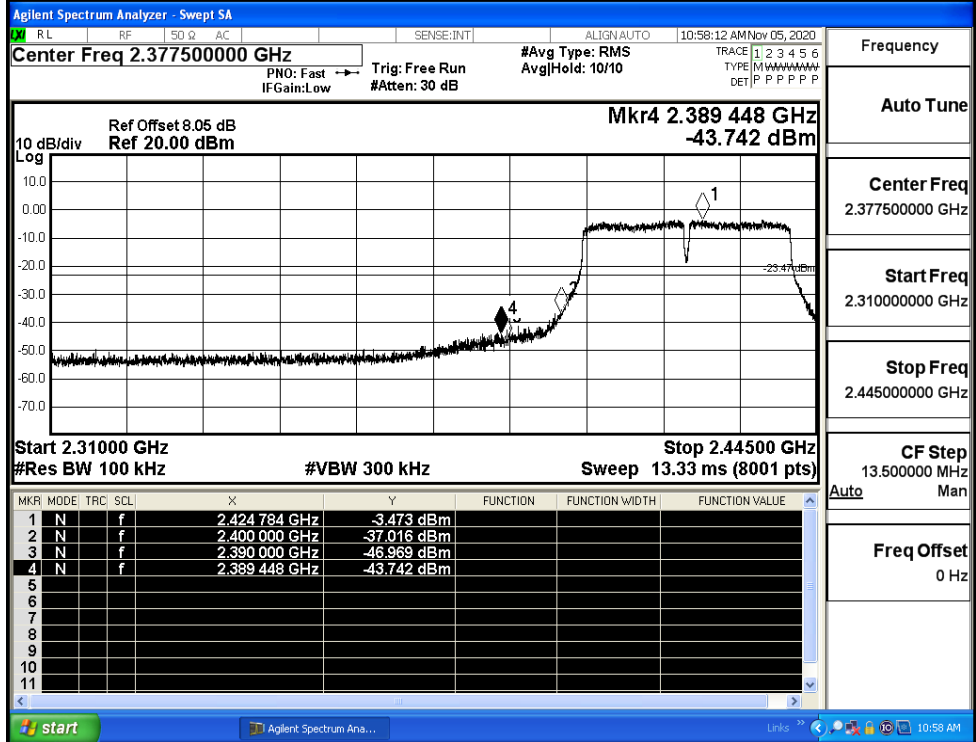


11N20SISO/HCH



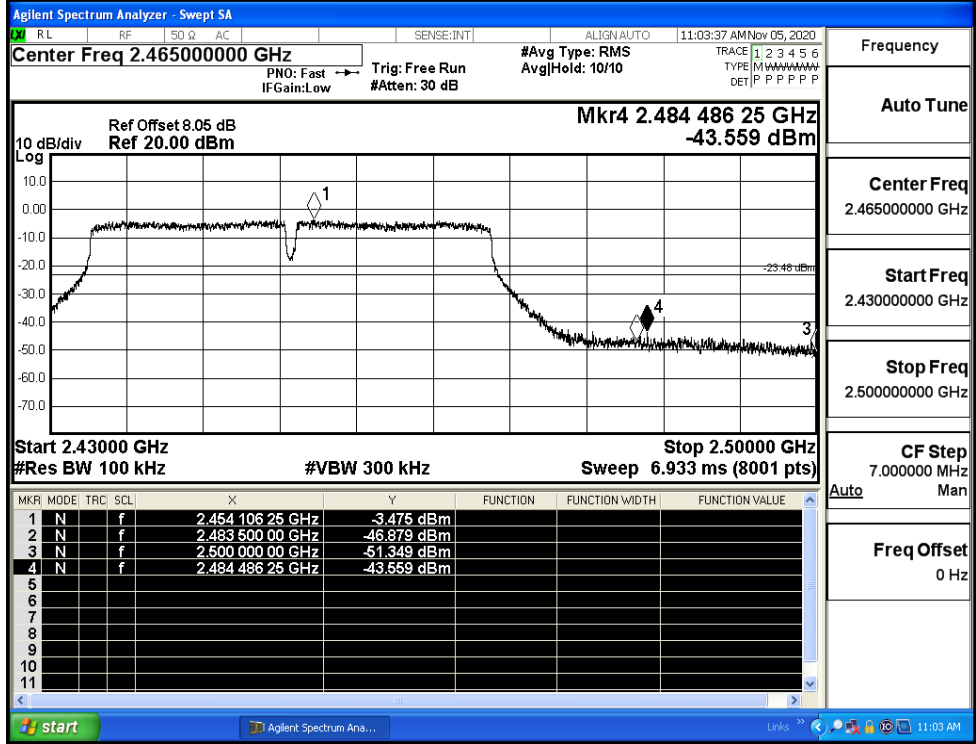
Frequency  
Auto Tune  
Center Freq  
2.475000000 GHz  
Start Freq  
2.450000000 GHz  
Stop Freq  
2.500000000 GHz  
CF Step  
5.000000 MHz  
Auto Man  
Freq Offset  
0 Hz

11N40SISO/LCH



Frequency  
Auto Tune  
Center Freq  
2.377500000 GHz  
Start Freq  
2.310000000 GHz  
Stop Freq  
2.445000000 GHz  
CF Step  
13.500000 MHz  
Auto Man  
Freq Offset  
0 Hz

11N40SISO/HCH

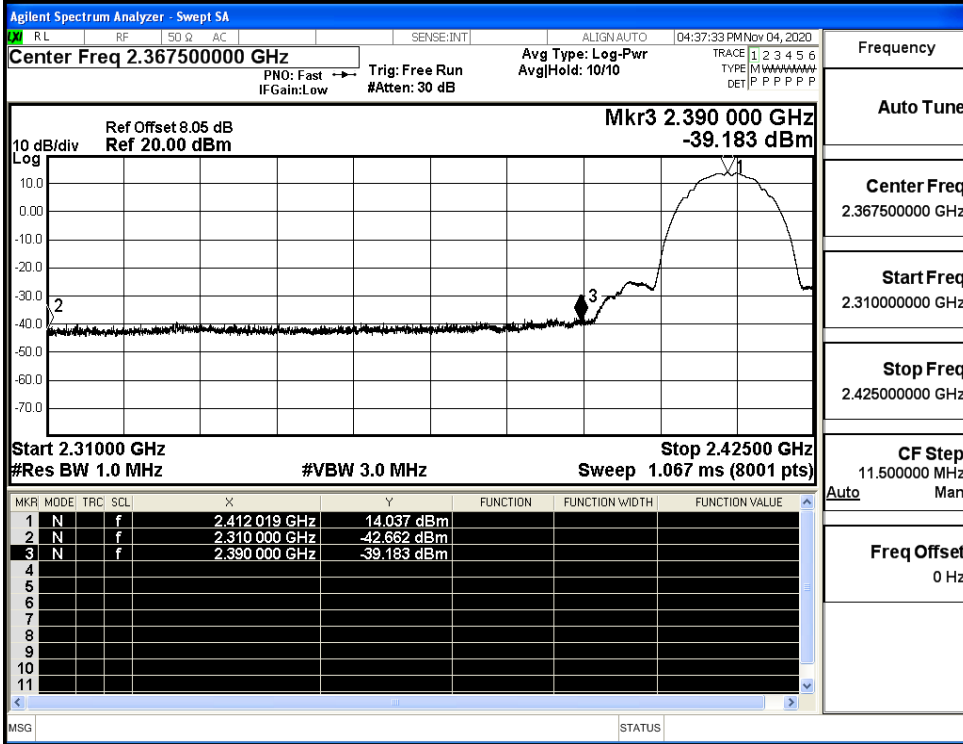


## A.7 Restrict-band band-edge measurements

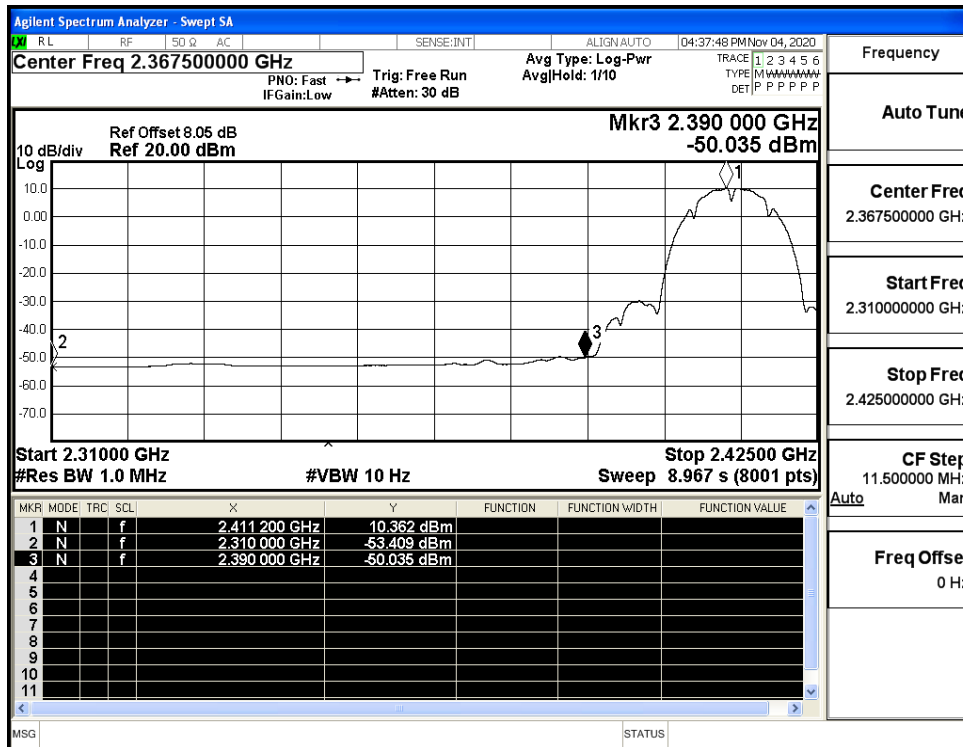
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-42.66	2.0	0	52.60	PEAK	74	PASS
	2412	Ant1	2310.0	-53.41	2.0	0	41.85	AV	54	PASS
	2412	Ant1	2390.0	-39.18	2.0	0	56.07	PEAK	74	PASS
	2412	Ant1	2390.0	-50.04	2.0	0	45.22	AV	54	PASS
	2462	Ant1	2483.5	-40.15	2.0	0	55.10	PEAK	74	PASS
	2462	Ant1	2483.5	-49.46	2.0	0	45.80	AV	54	PASS
	2462	Ant1	2500.0	-41.06	2.0	0	54.20	PEAK	74	PASS
	2462	Ant1	2500.0	-50.82	2.0	0	44.44	AV	54	PASS
11G	2412	Ant1	2310.0	-44.07	2.0	0	51.19	PEAK	74	PASS
	2412	Ant1	2310.0	-53.48	2.0	0	41.78	AV	54	PASS
	2412	Ant1	2390.0	-37.63	2.0	0	57.63	PEAK	74	PASS
	2412	Ant1	2390.0	-49.92	2.0	0	45.34	AV	54	PASS
	2462	Ant1	2483.5	-34.26	2.0	0	61.00	PEAK	74	PASS
	2462	Ant1	2483.5	-49.76	2.0	0	45.50	AV	54	PASS
	2462	Ant1	2500.0	-40.70	2.0	0	54.56	PEAK	74	PASS
	2462	Ant1	2500.0	-52.02	2.0	0	43.23	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-44.12	2.0	0	51.13	PEAK	74	PASS
	2412	Ant1	2310.0	-53.59	2.0	0	41.67	AV	54	PASS
	2412	Ant1	2390.0	-31.69	2.0	0	63.57	PEAK	74	PASS
	2412	Ant1	2390.0	-48.88	2.0	0	46.38	AV	54	PASS
	2462	Ant1	2483.5	-36.30	2.0	0	58.96	PEAK	74	PASS
	2462	Ant1	2483.5	-49.59	2.0	0	45.67	AV	54	PASS
	2462	Ant1	2500.0	-41.64	2.0	0	53.62	PEAK	74	PASS
	2462	Ant1	2500.0	-52.15	2.0	0	43.11	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-41.47	2.0	0	53.79	PEAK	74	PASS
	2422	Ant1	2310.0	-53.64	2.0	0	41.62	AV	54	PASS

	2422	Ant1	2390.0	-35.63	2.0	0	59.63	PEAK	74	PASS
	2422	Ant1	2390.0	-46.64	2.0	0	48.62	AV	54	PASS
	2452	Ant1	2483.5	-33.41	2.0	0	61.85	PEAK	74	PASS
	2452	Ant1	2483.5	-47.68	2.0	0	47.58	AV	54	PASS
	2452	Ant1	2500.0	-39.26	2.0	0	56.00	PEAK	74	PASS
	2452	Ant1	2500.0	-50.74	2.0	0	44.52	AV	54	PASS

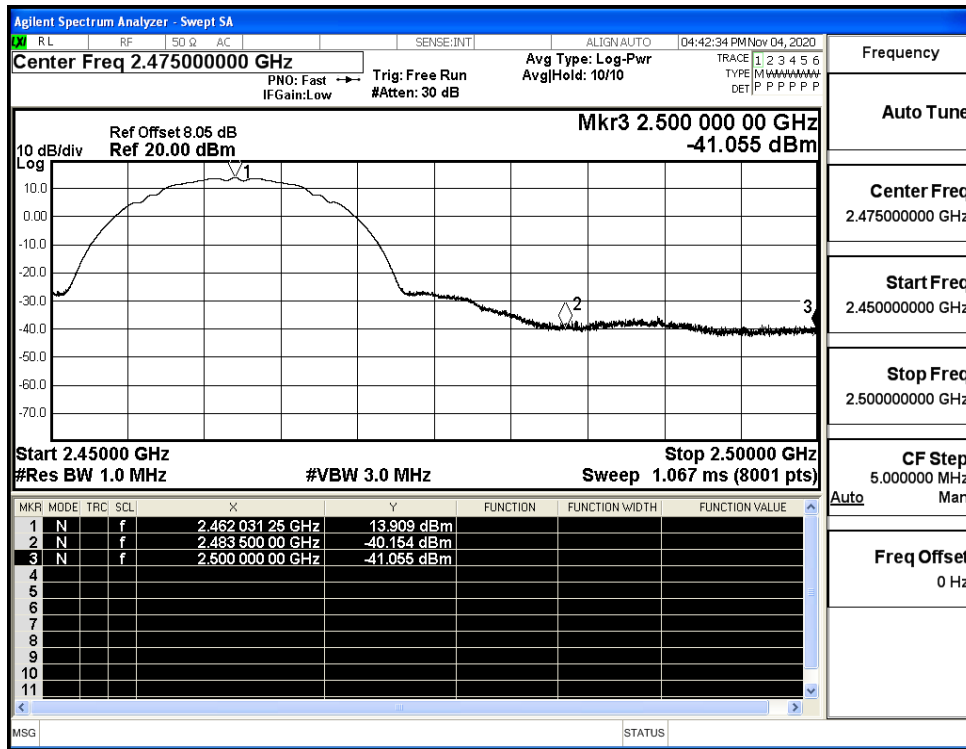
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



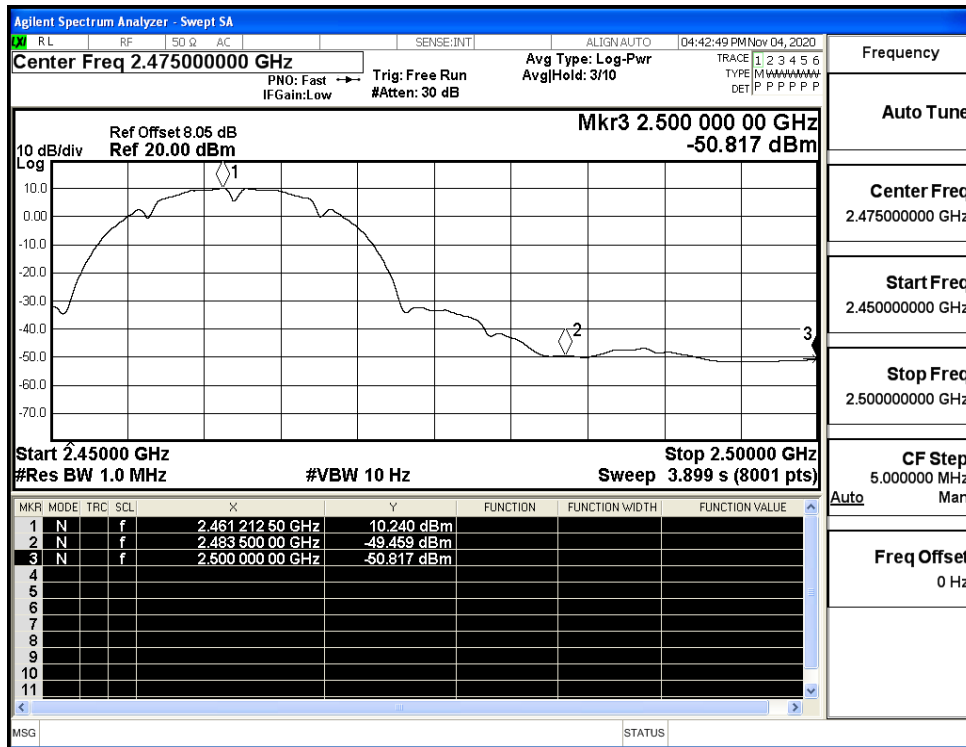
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



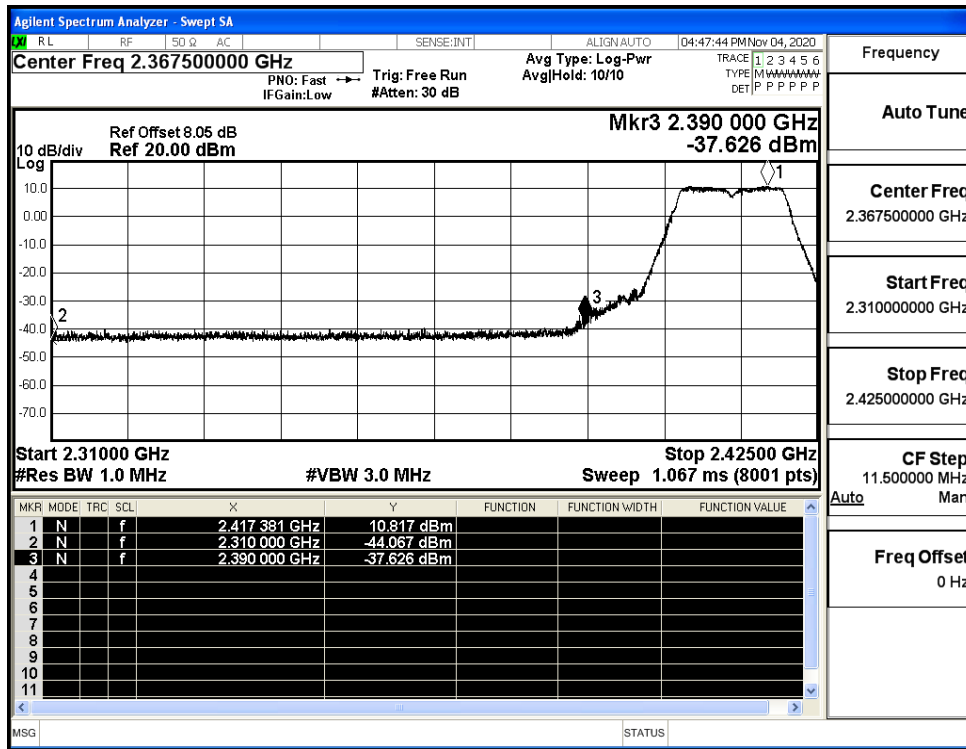
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_PEAK



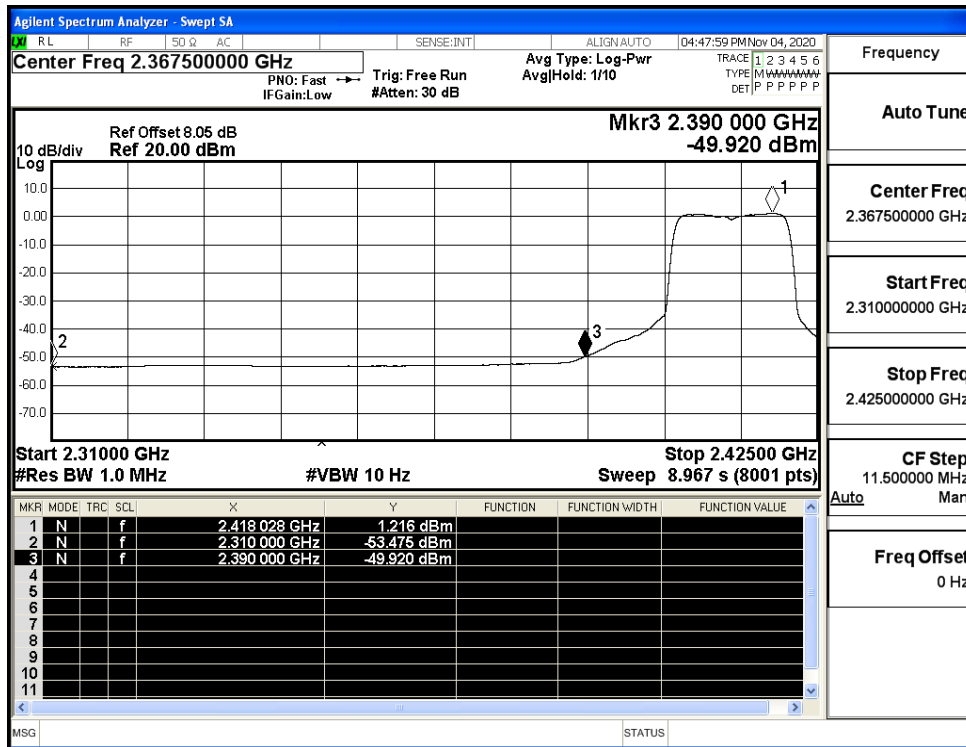
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV



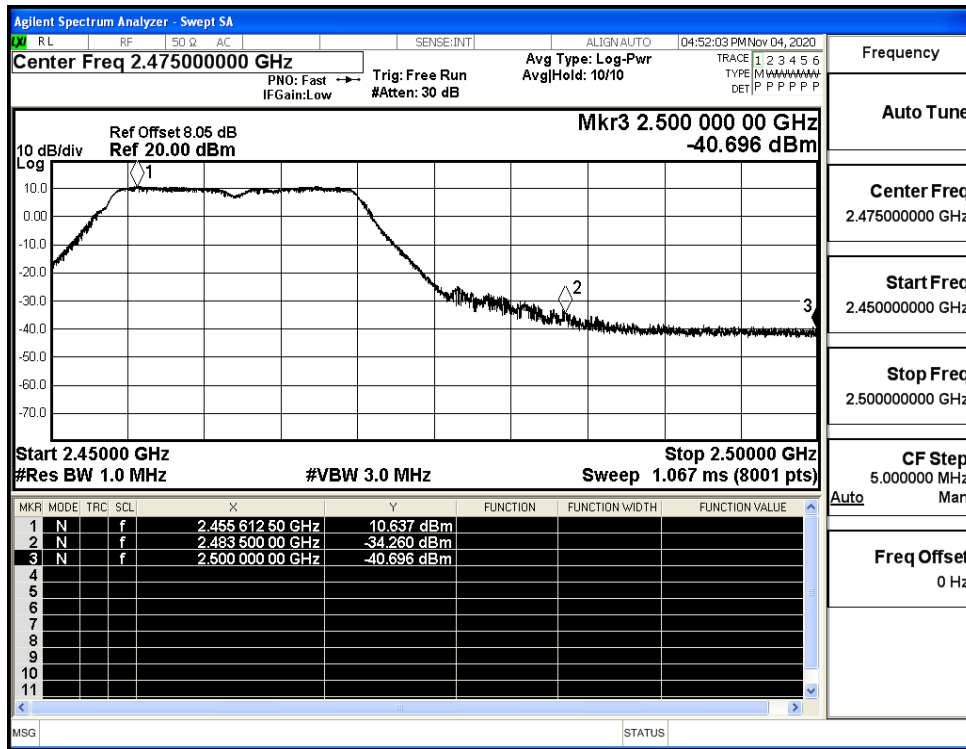
Restrict-band band-edge measurements\_11G\_2412\_Ant1\_PEAK



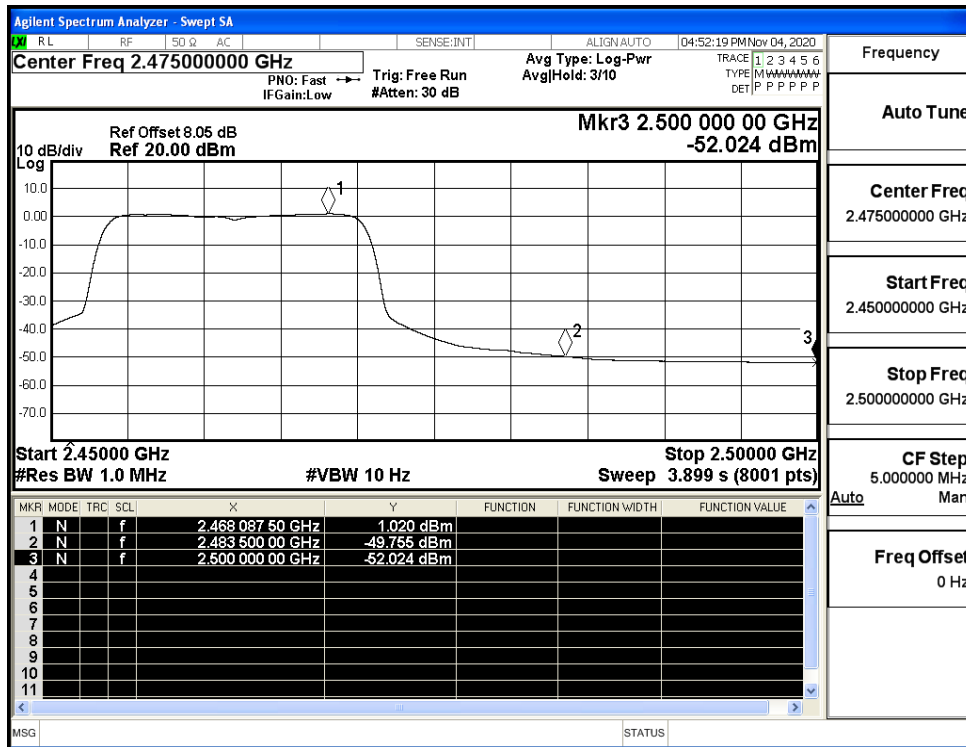
Restrict-band band-edge measurements\_11G\_2412\_Ant1\_AV



Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK

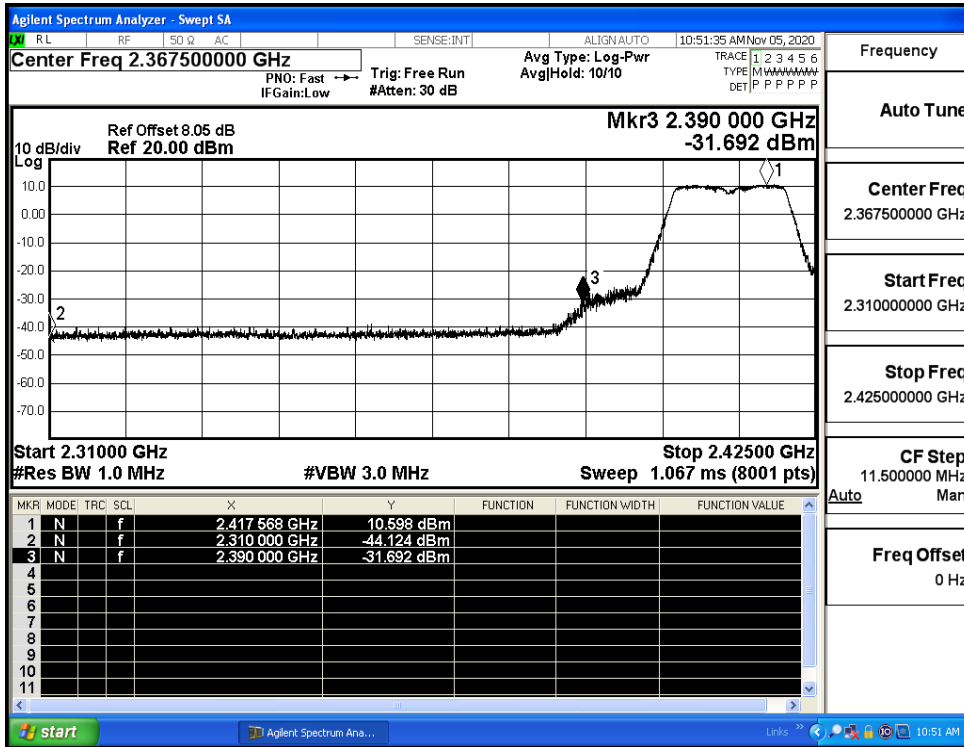


Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV

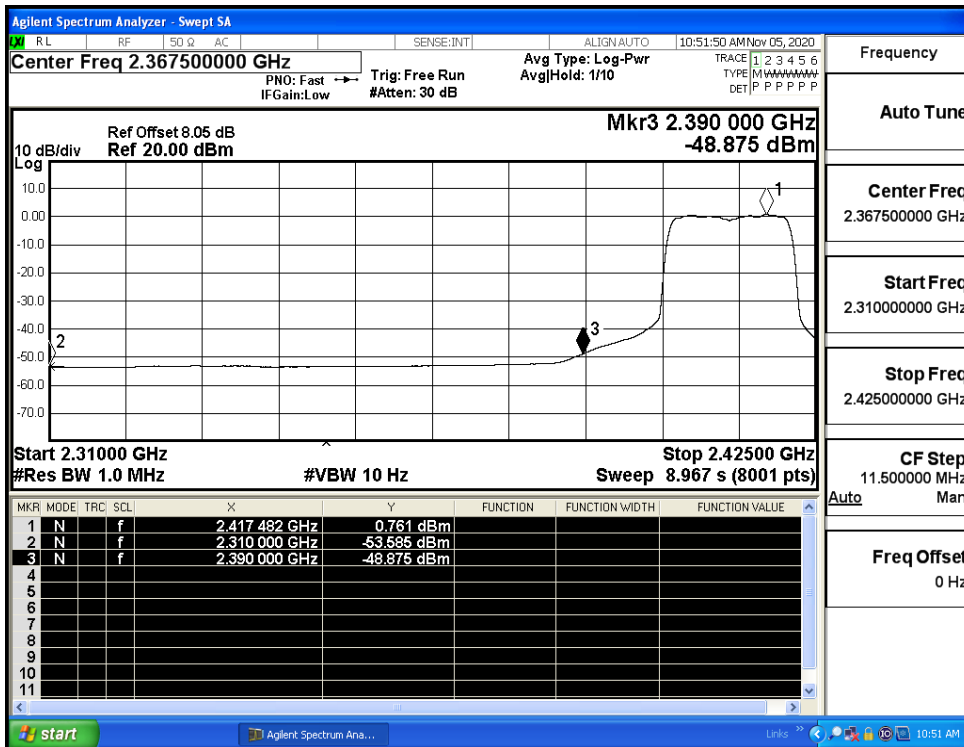




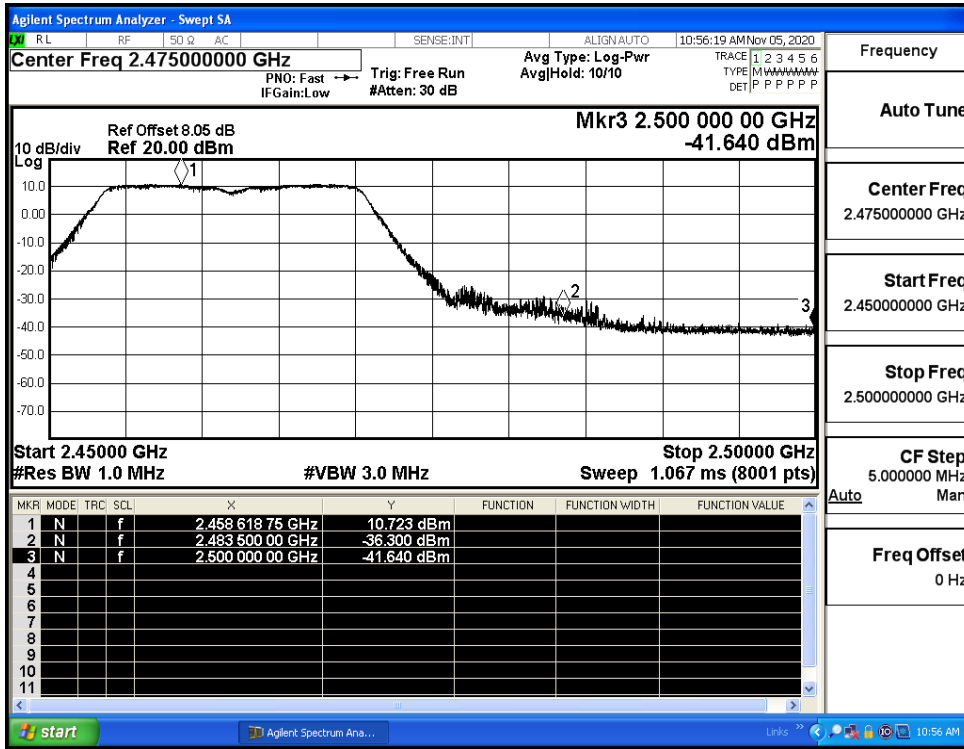
Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_PEAK



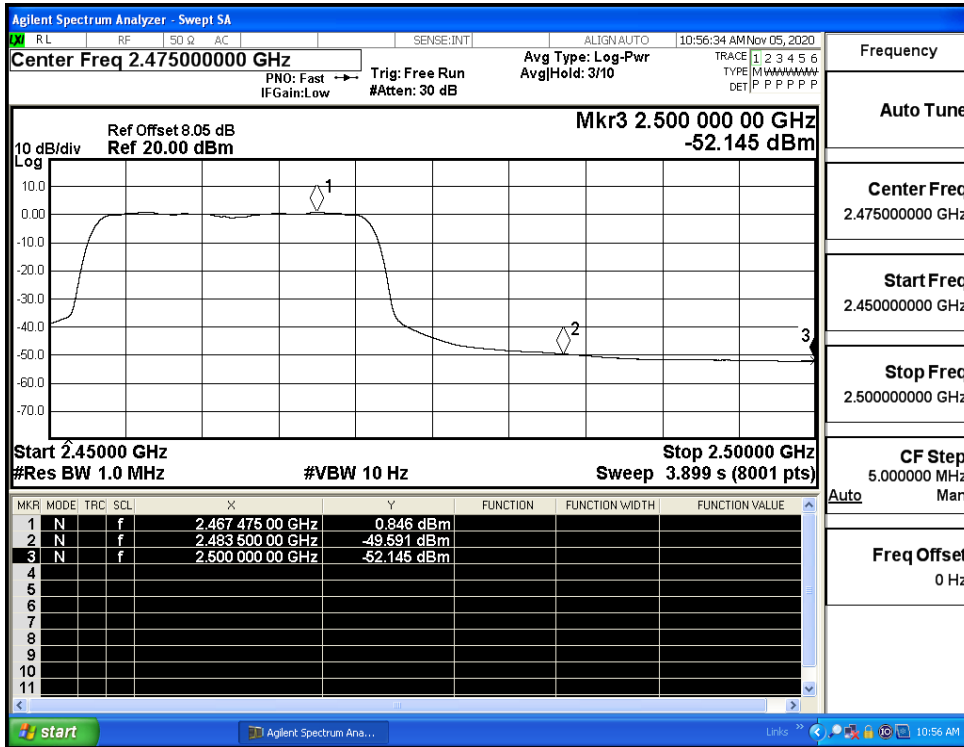
Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_AV



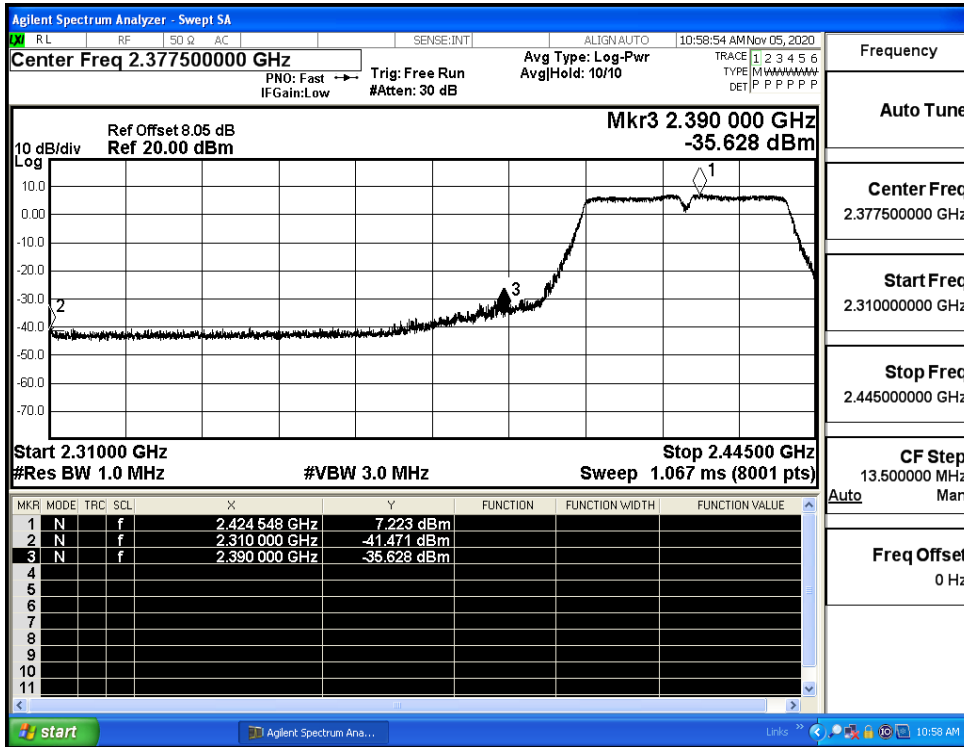
Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_PEAK



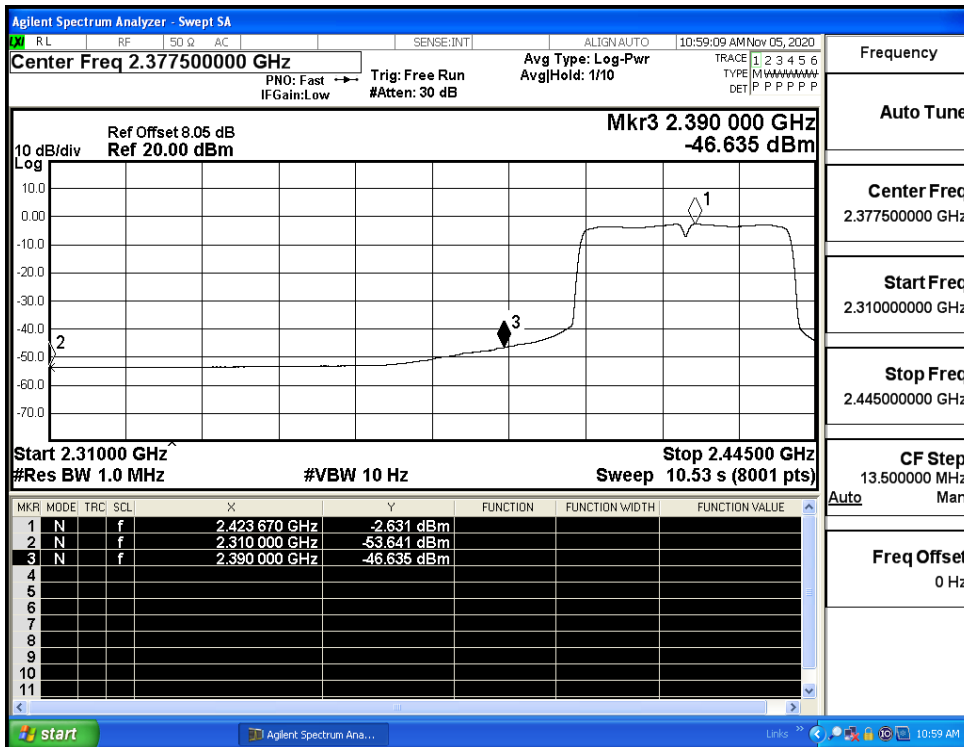
Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_AV



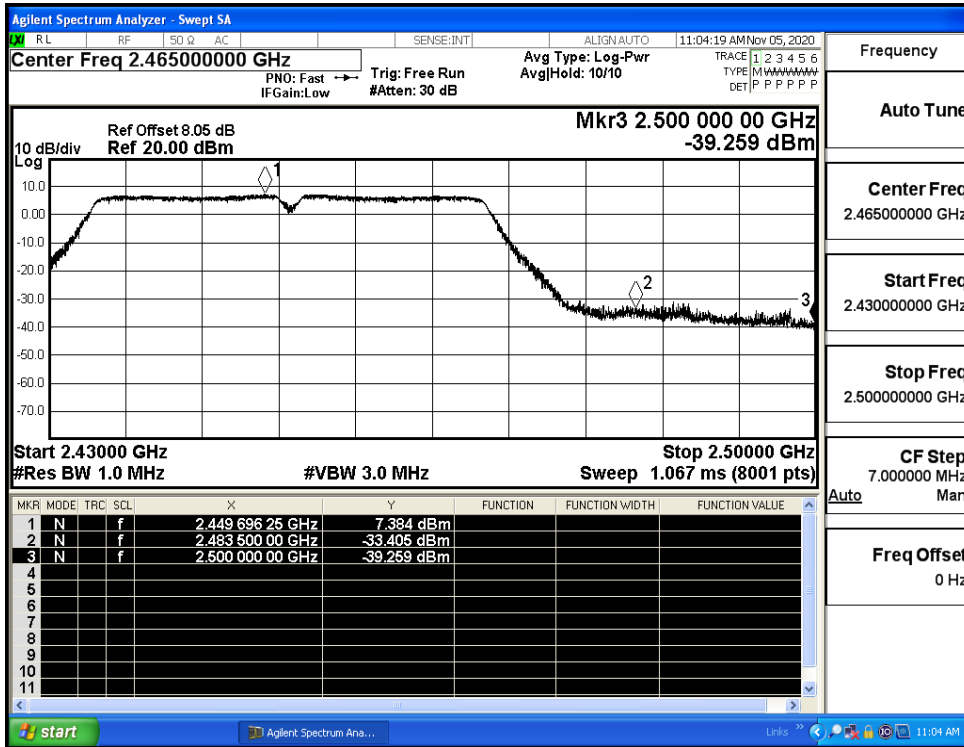
Restrict-band band-edge measurements\_11N40SISO\_2422\_Ant1\_PEAK



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

