

## Appendix C

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

**Product Name: Trimlight LED Controller**

**Trade Mark: SPERLL**

**Test Model: Trimlight-01**

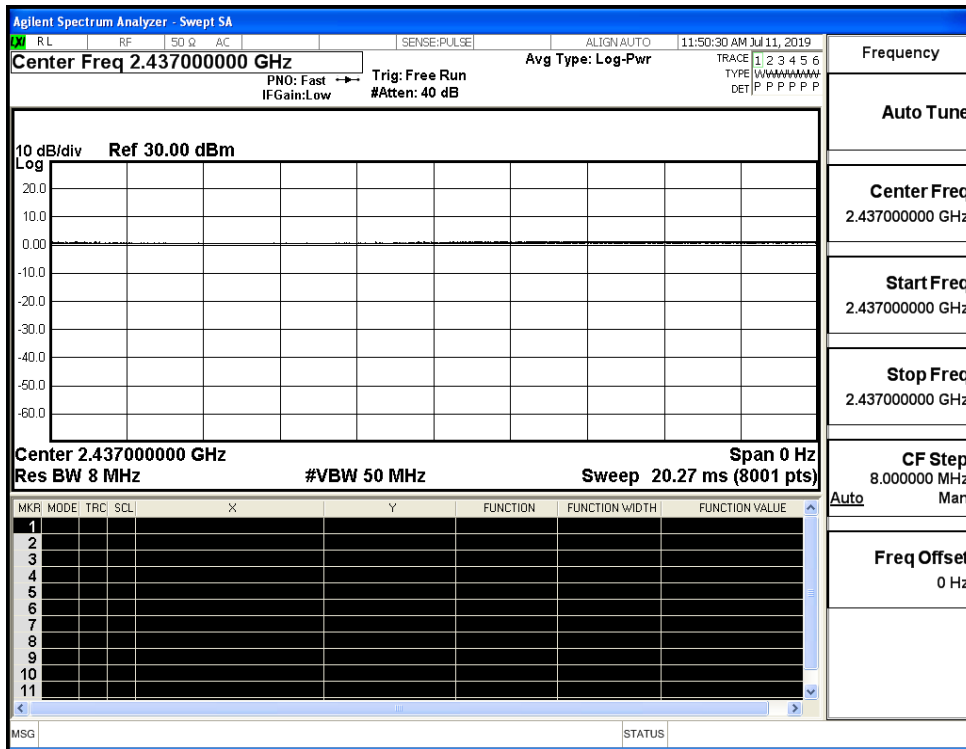
#### Environmental Conditions

Temperature:	24.7 ° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	David Luo
Supervised by:	Wang.Chuang

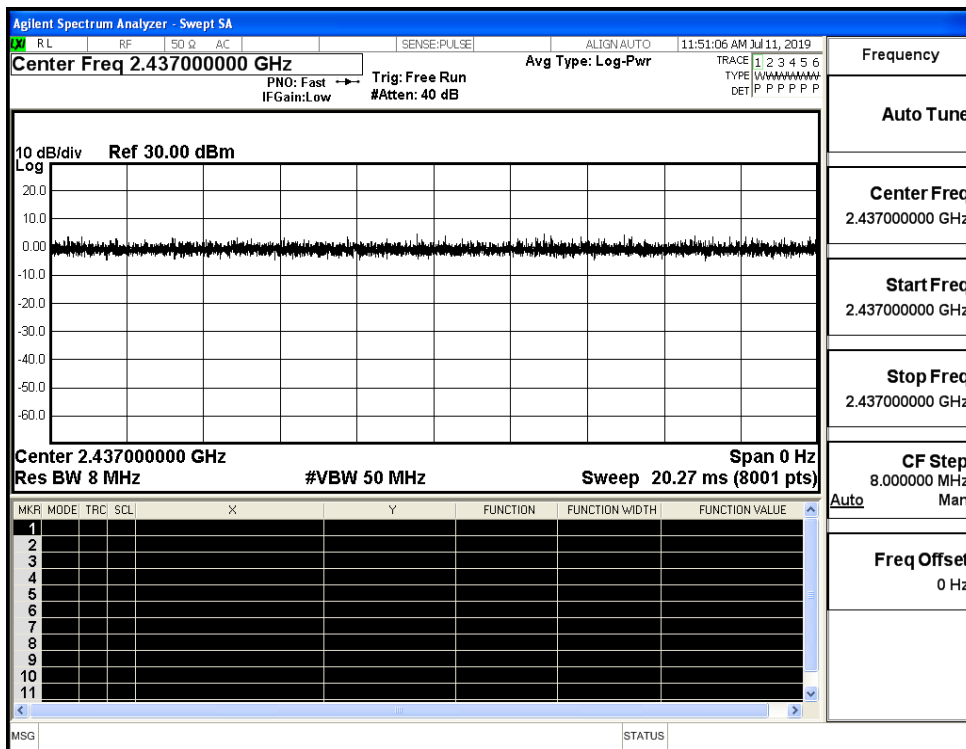
#### C.1 Duty Cycle

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

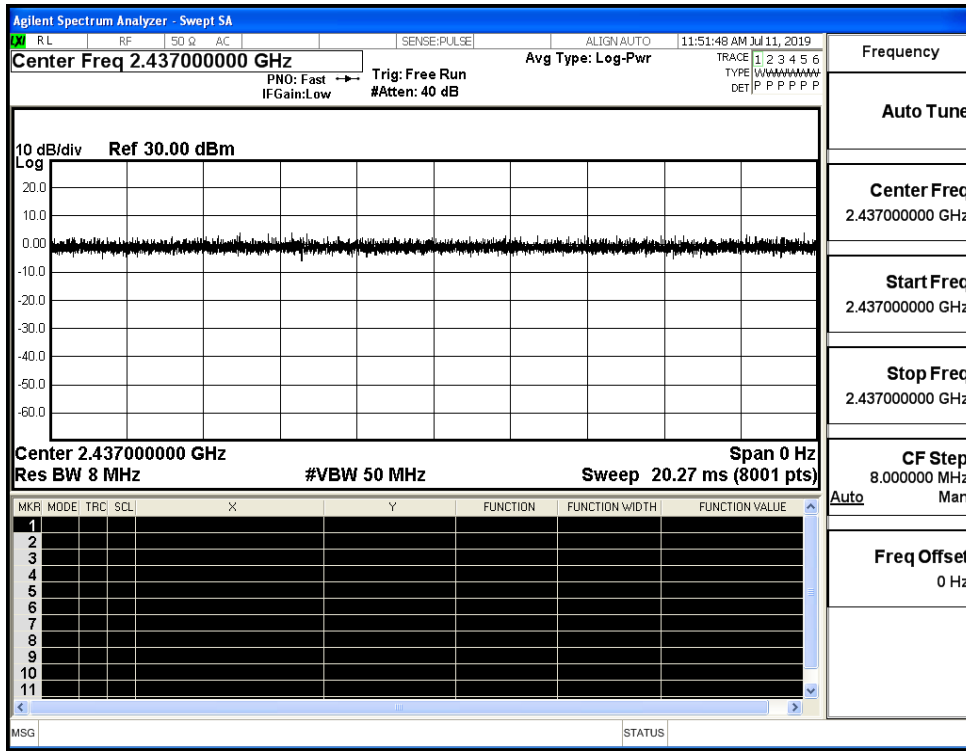
Duty Cycle\_11B\_2437\_Ant1



Duty Cycle\_11G\_2437\_Ant1



Duty Cycle\_11N20SISO\_2437\_Ant1



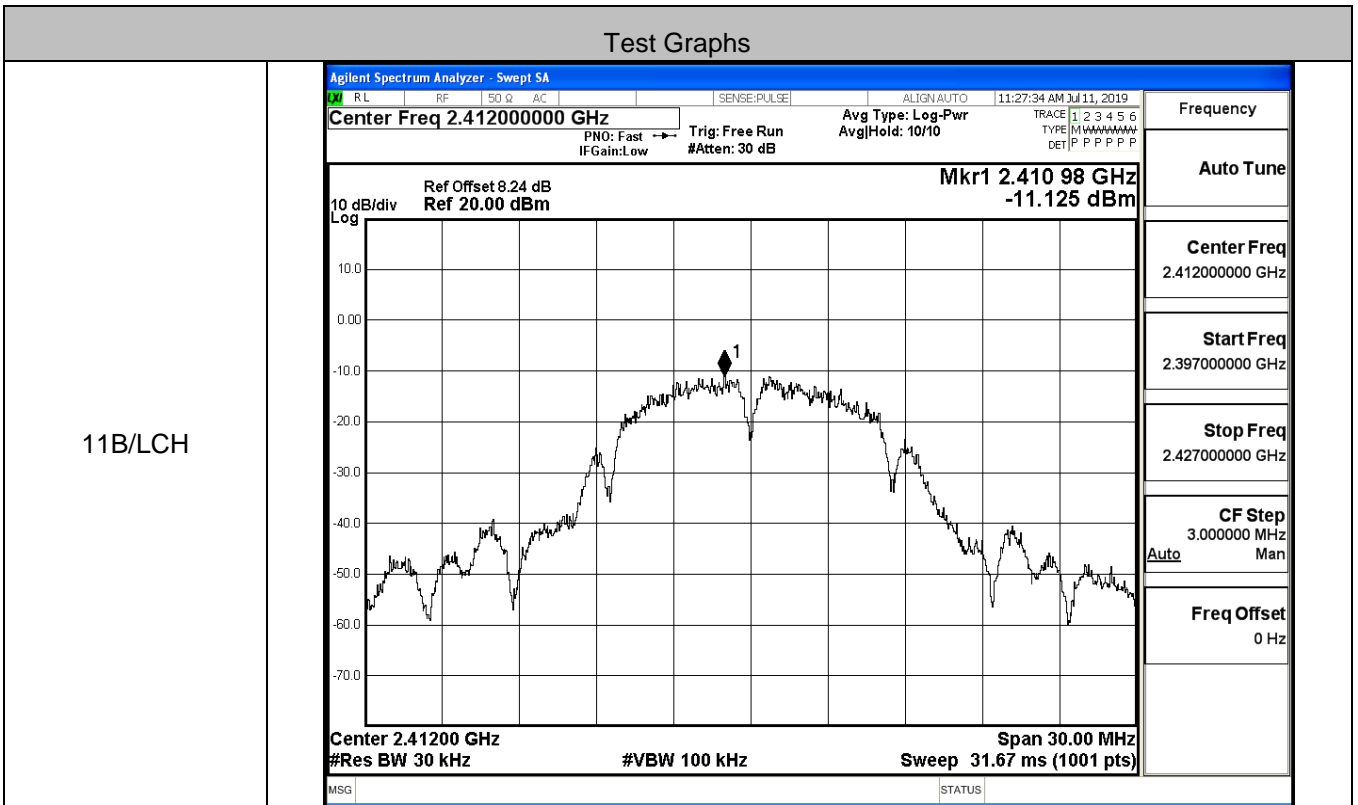
### C.2 Maximum Conducted Output Power

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	8.04	30	PASS
	MCH	7.96	30	PASS
	HCH	8.75	30	PASS
11G	LCH	9.35	30	PASS
	MCH	<b>9.5</b>	30	PASS
	HCH	9.43	30	PASS
11N20SISO	LCH	9.24	30	PASS
	MCH	9.37	30	PASS
	HCH	9.24	30	PASS

### C.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/30KHz]	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-11.125	-21.125	8	PASS
	MCH	-10.430	-20.430	8	PASS
	HCH	-10.702	-20.702	8	PASS
11G	LCH	-14.987	-24.987	8	PASS
	MCH	-14.806	-24.806	8	PASS
	HCH	-14.699	-24.699	8	PASS
11N20SISO	LCH	-14.389	-24.389	8	PASS
	MCH	-14.188	-24.188	8	PASS
	HCH	-13.581	-23.581	8	PASS

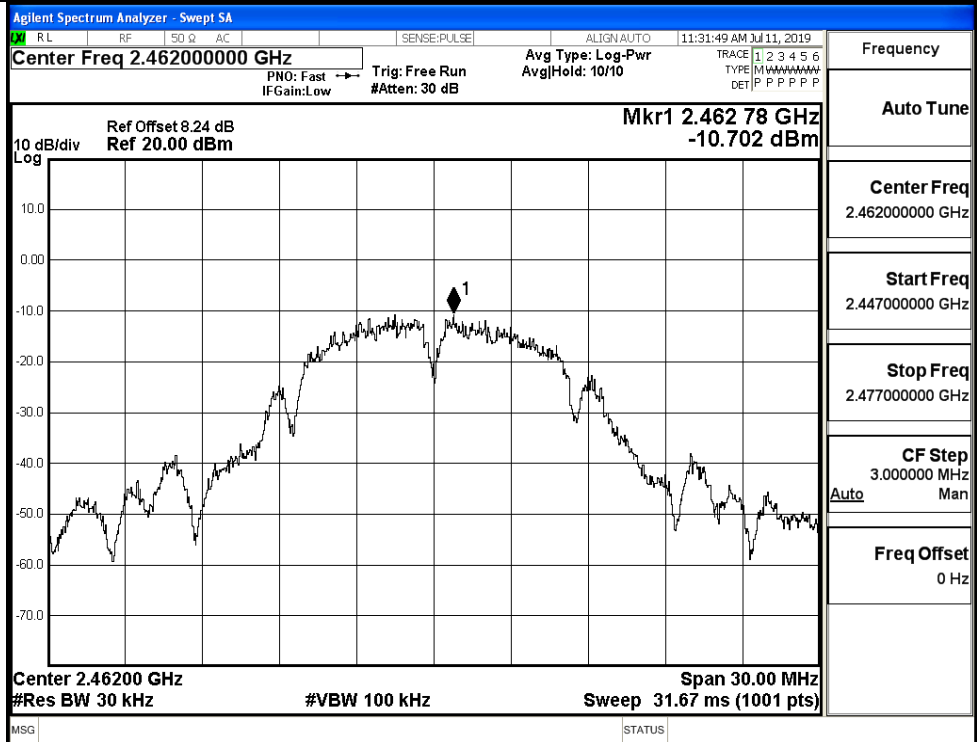
#### Test Graphs



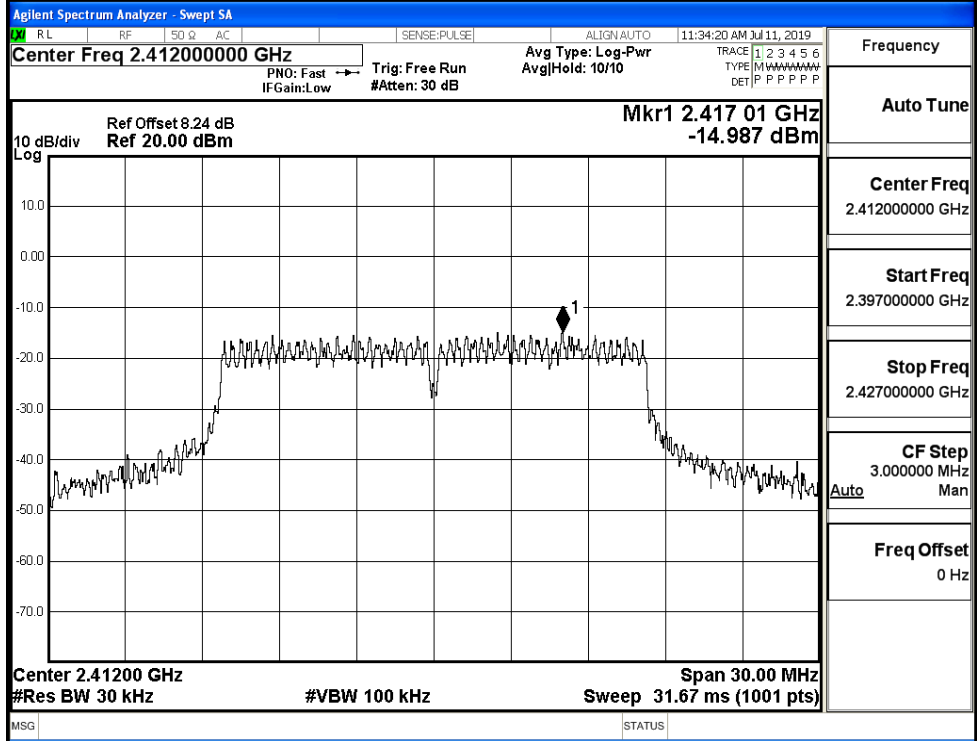
11B/MCH



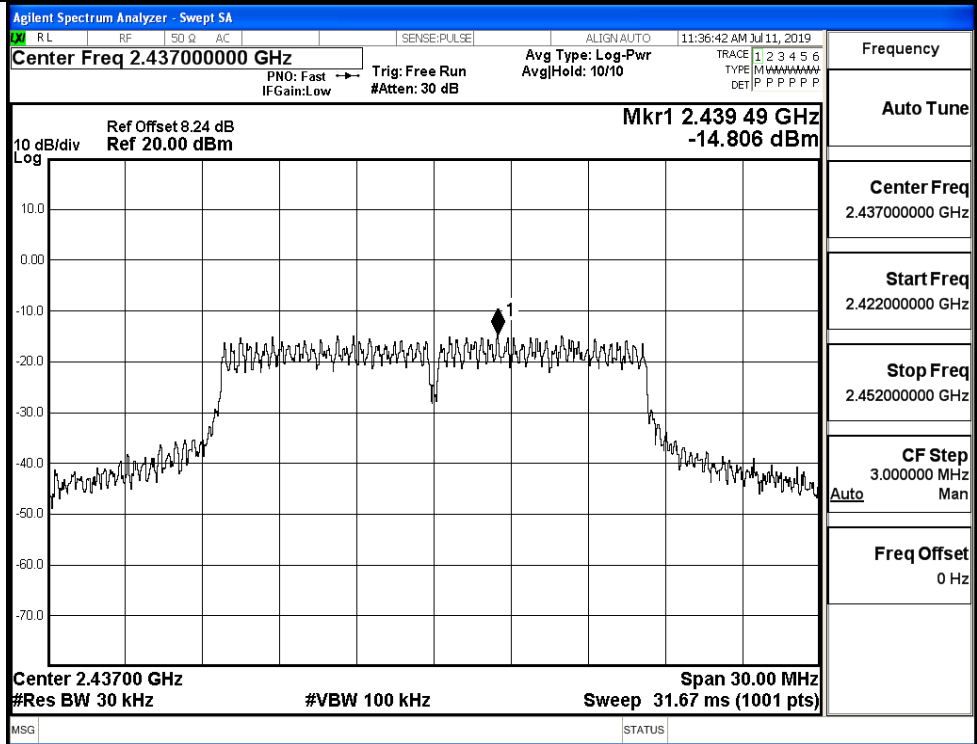
11B/HCH



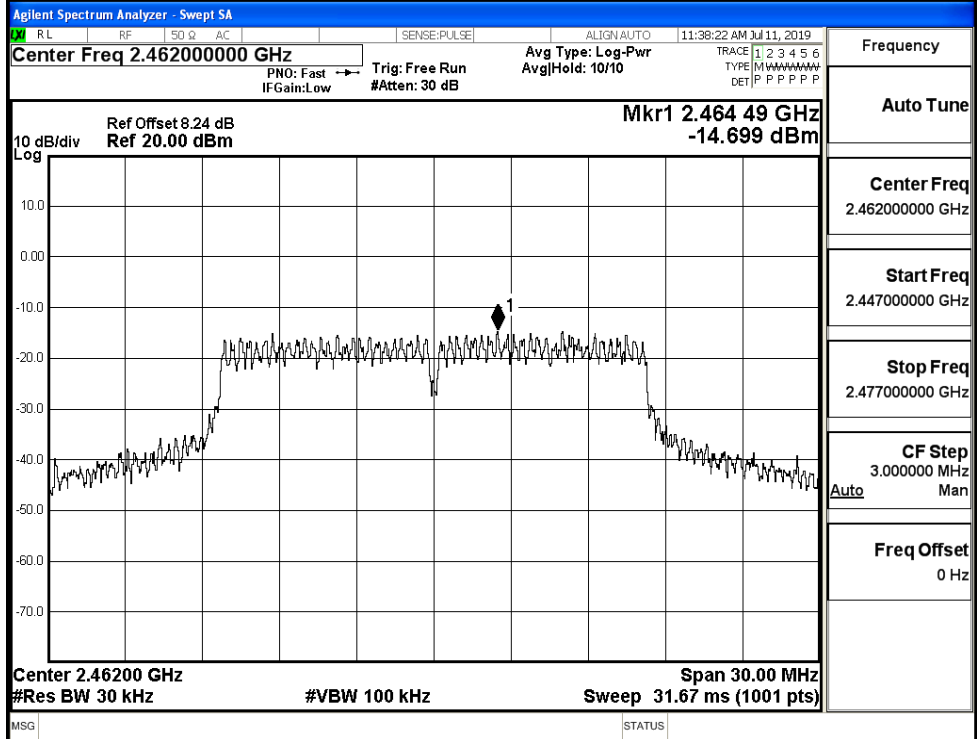
11G/LCH



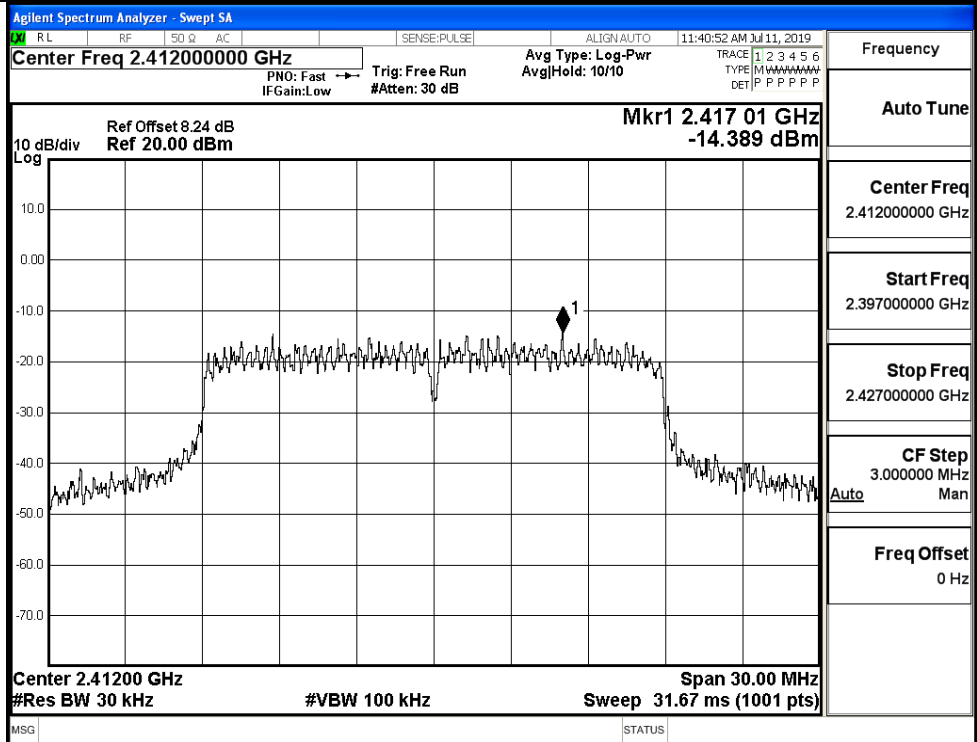
11G/MCH



11G/HCH

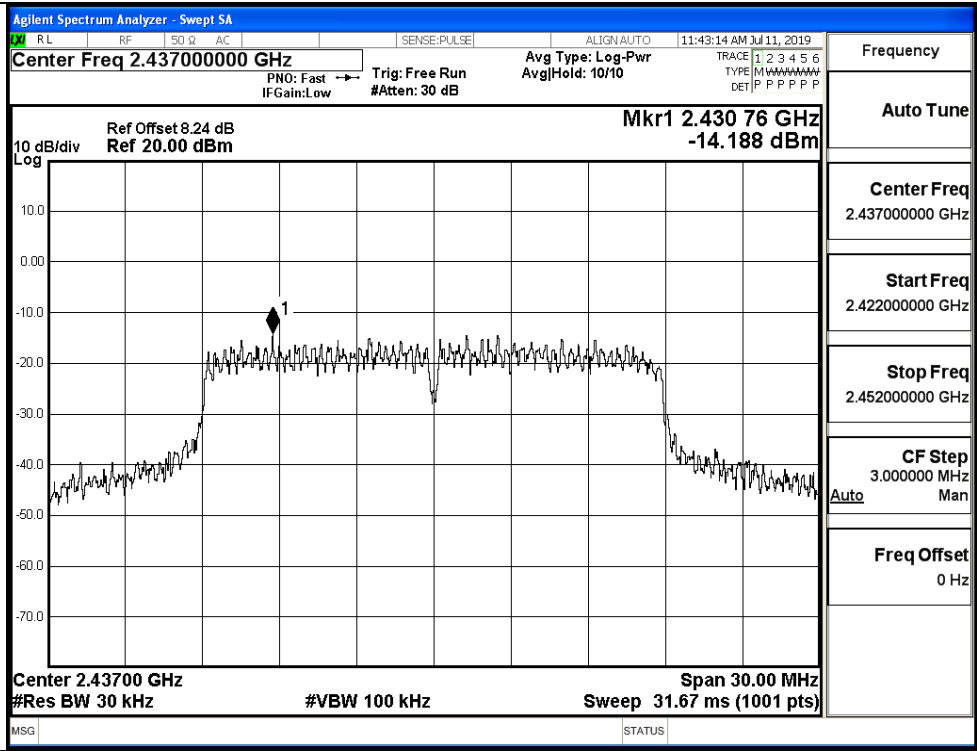


11N20SISO/LCH

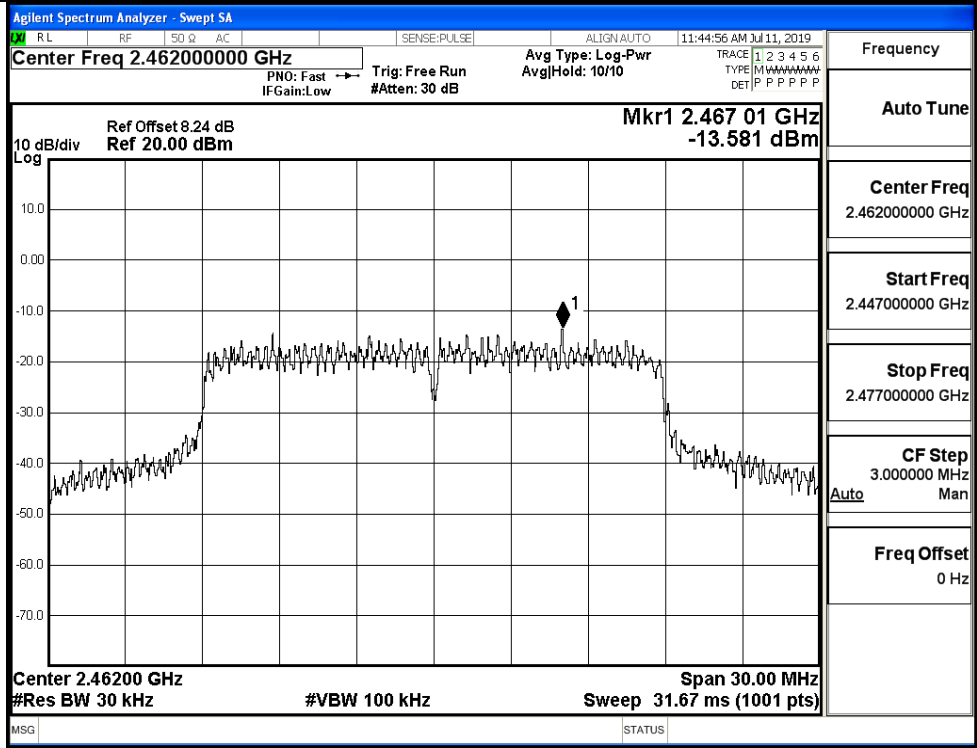




11N20SISO/MCH



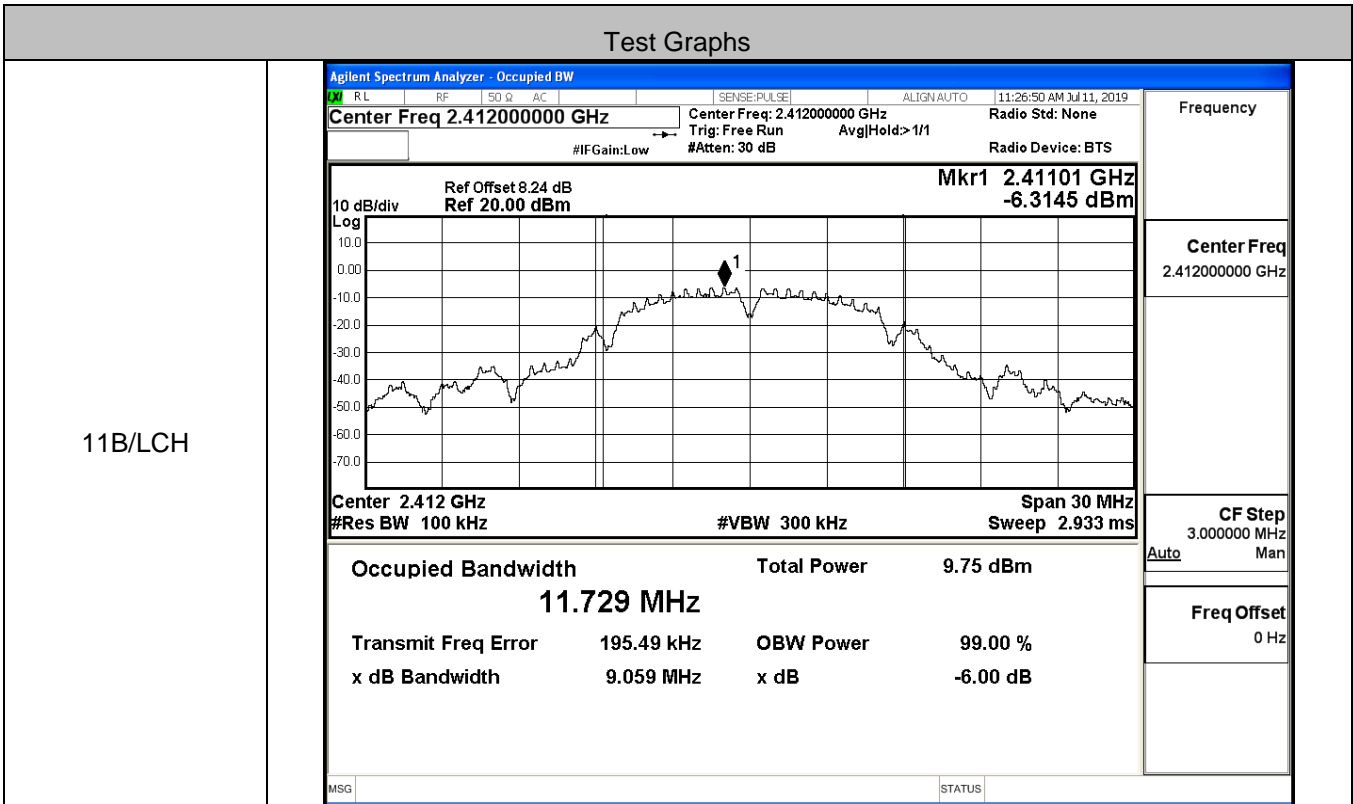
11N20SISO/HCH



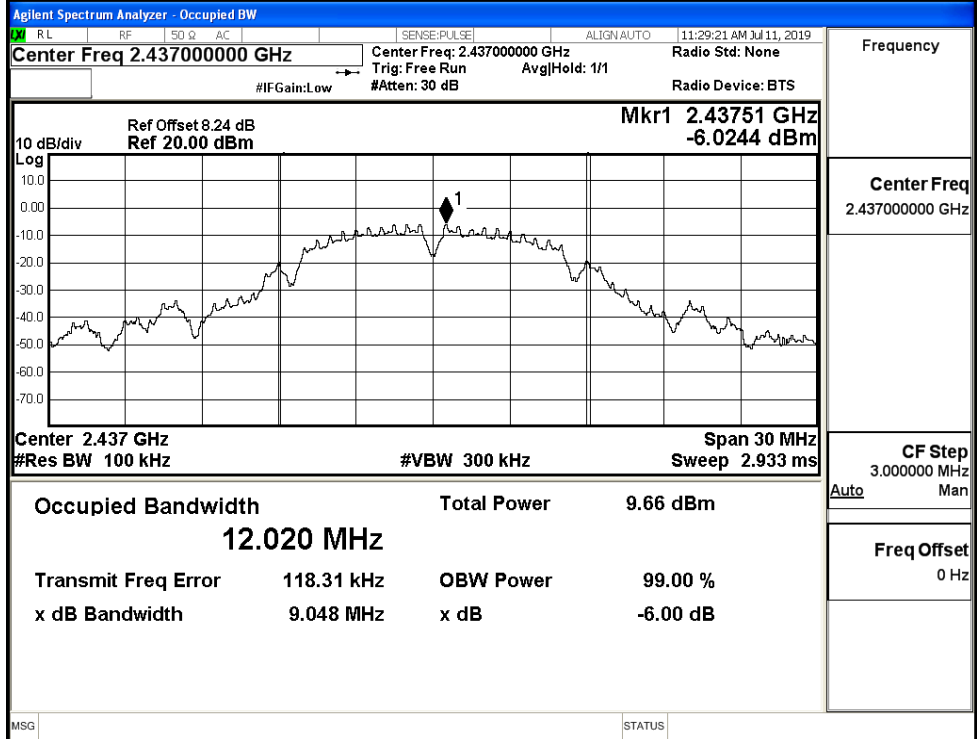
**C.4 6dB Bandwidth**

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.059	≥0.5	PASS
	MCH	9.048	≥0.5	PASS
	HCH	9.088	≥0.5	PASS
11G	LCH	16.30	≥0.5	PASS
	MCH	16.30	≥0.5	PASS
	HCH	16.31	≥0.5	PASS
11N20SISO	LCH	16.62	≥0.5	PASS
	MCH	16.58	≥0.5	PASS
	HCH	16.35	≥0.5	PASS

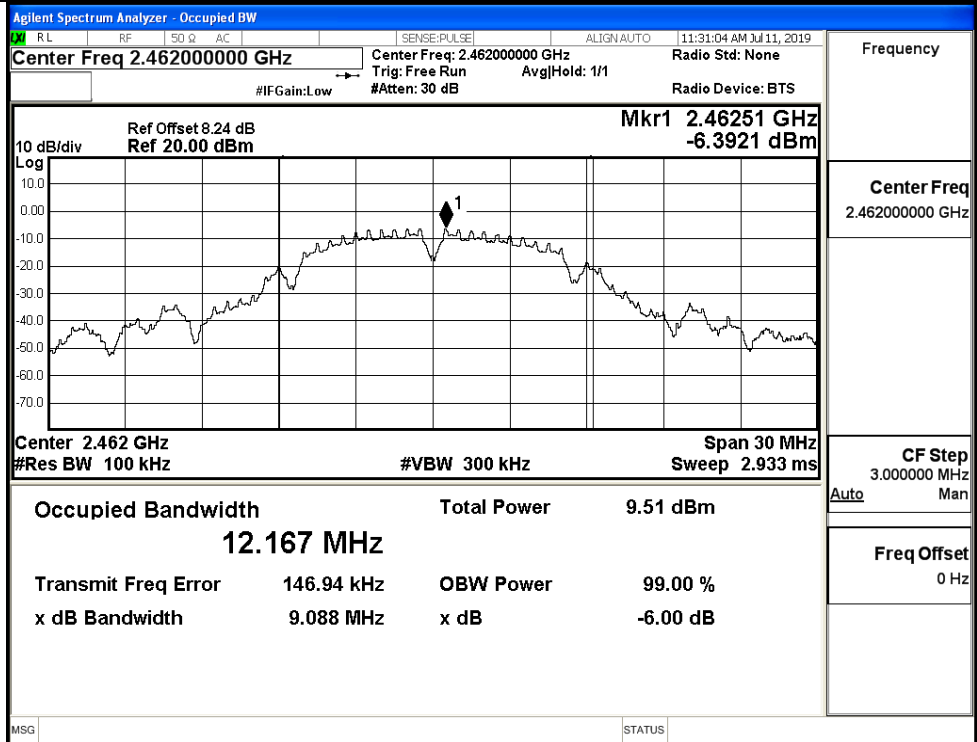
**Test Graphs**



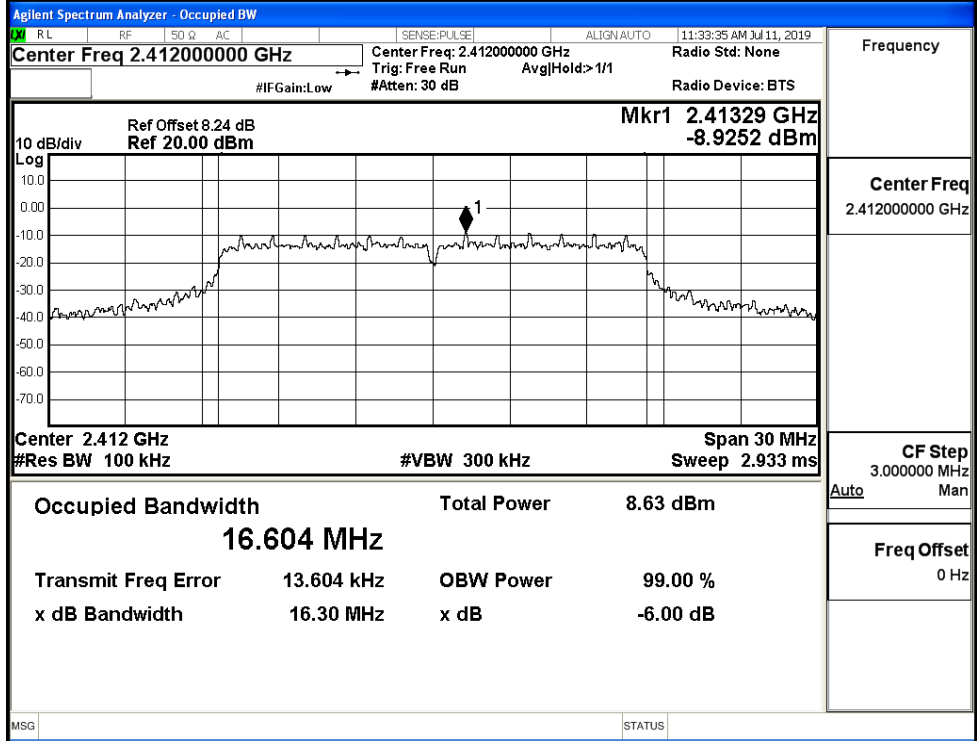
11B/MCH



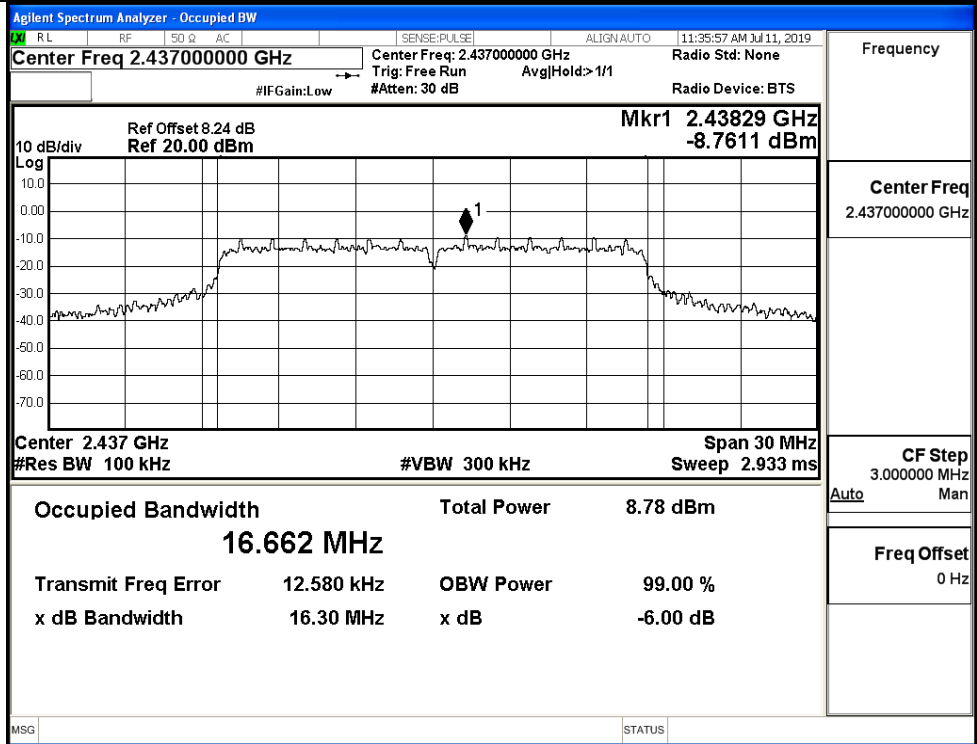
11B/HCH



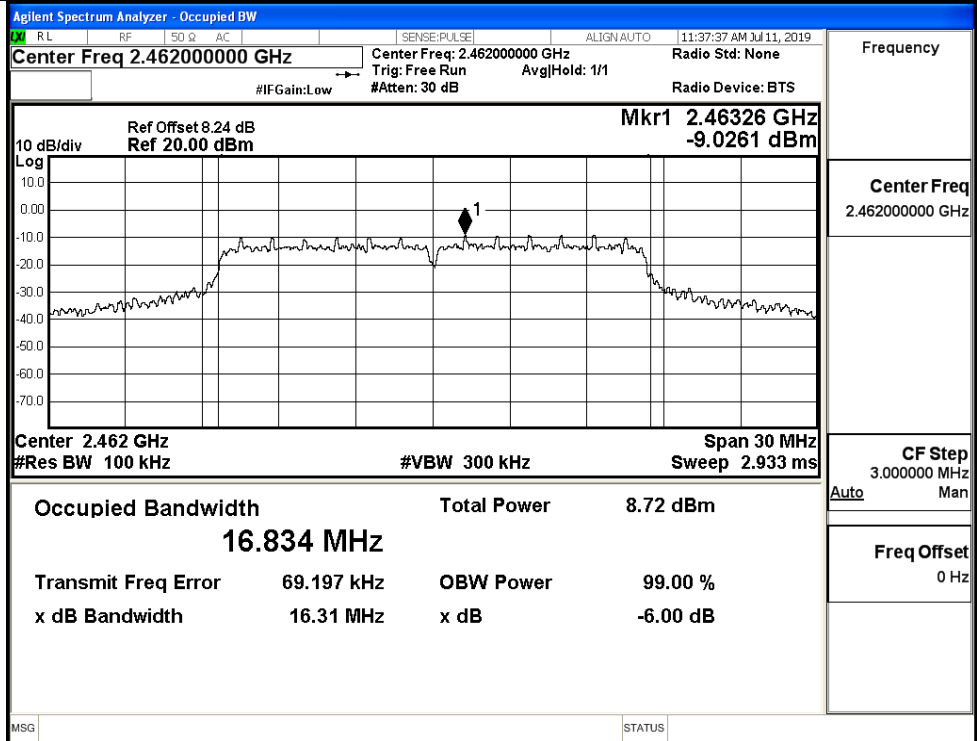
11G/LCH



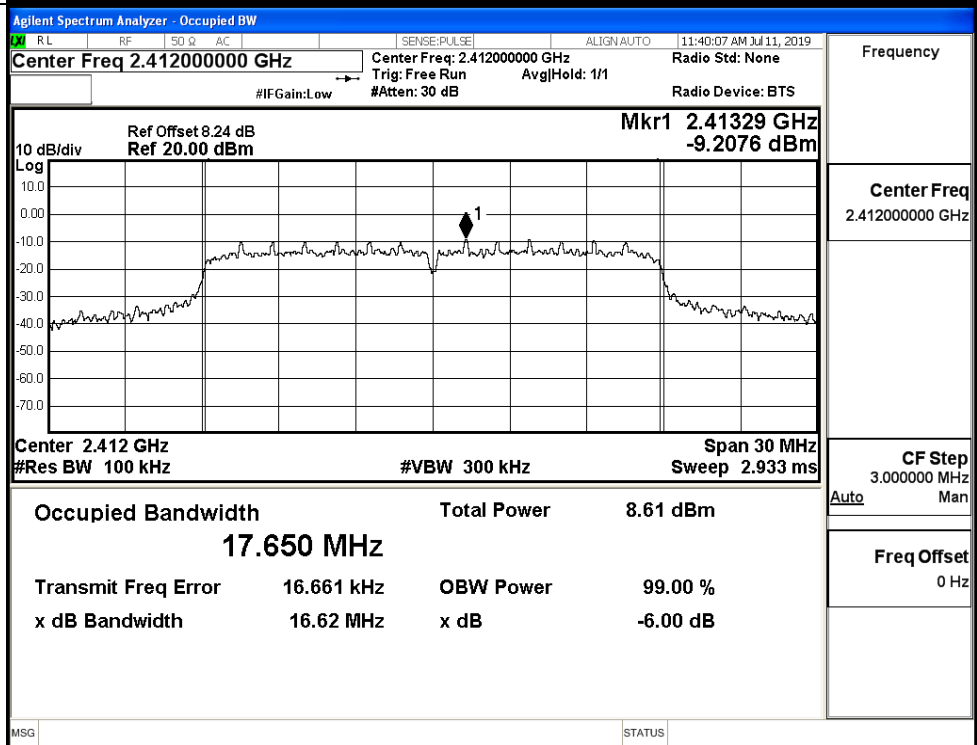
11G/MCH



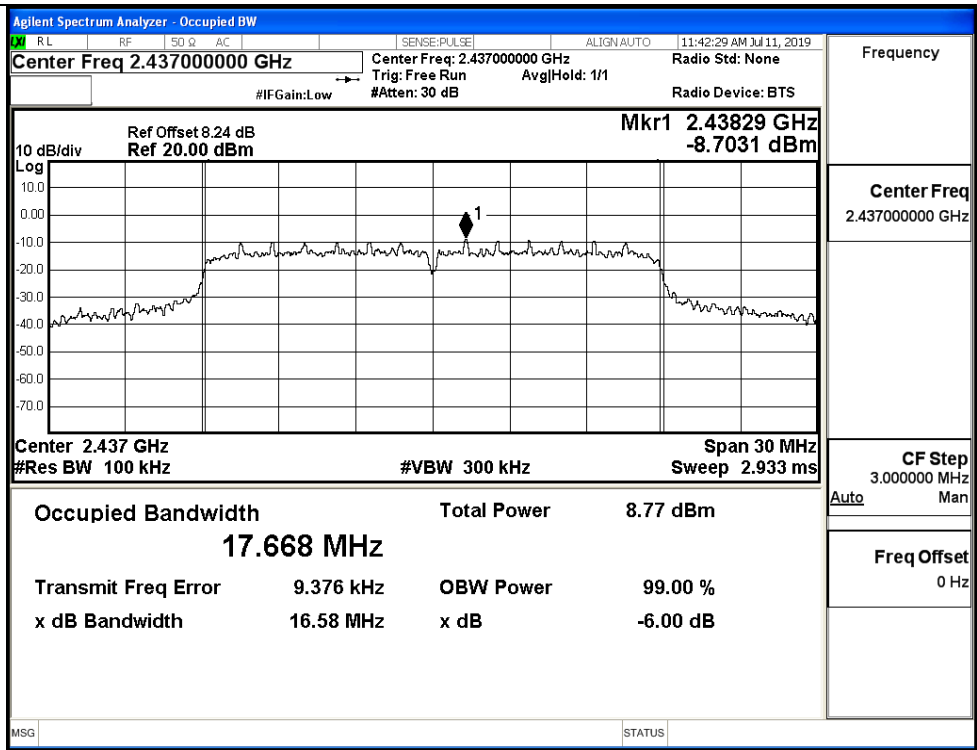
11G/HCH



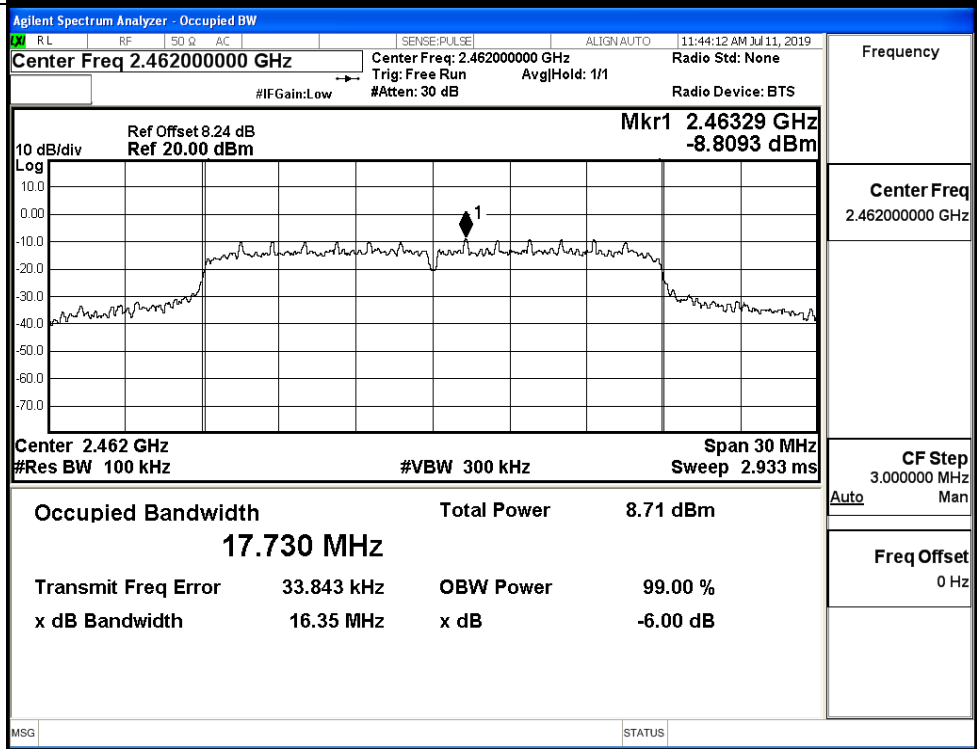
11N20SISO/LCH



11N20SISO/MCH



11N20SISO/HCH

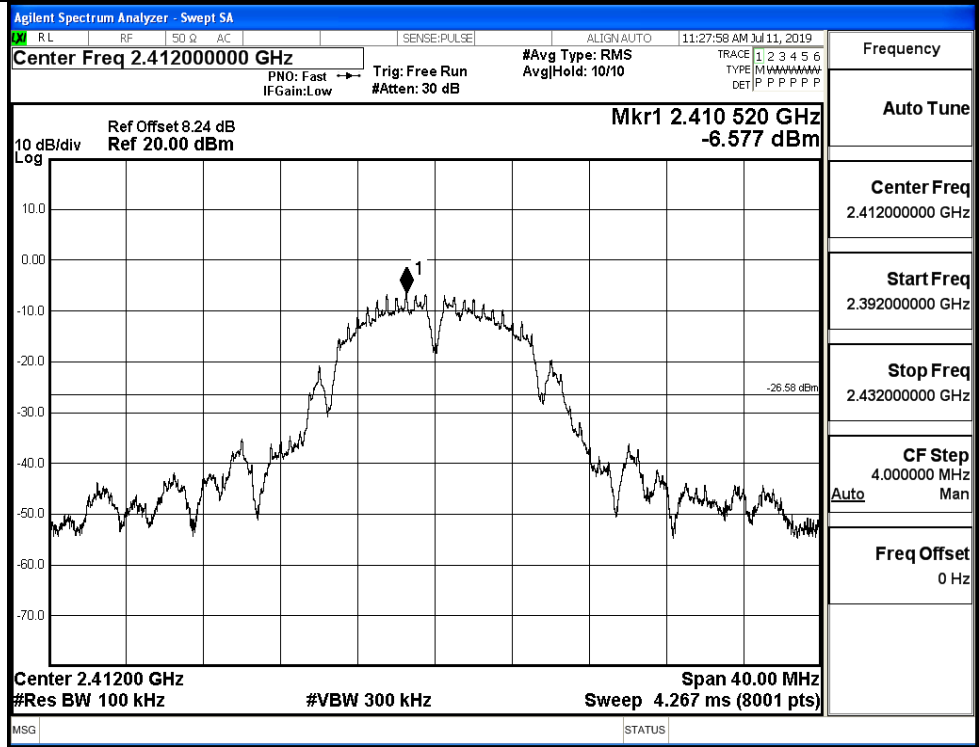


### C.5 RF Conducted Spurious Emissions

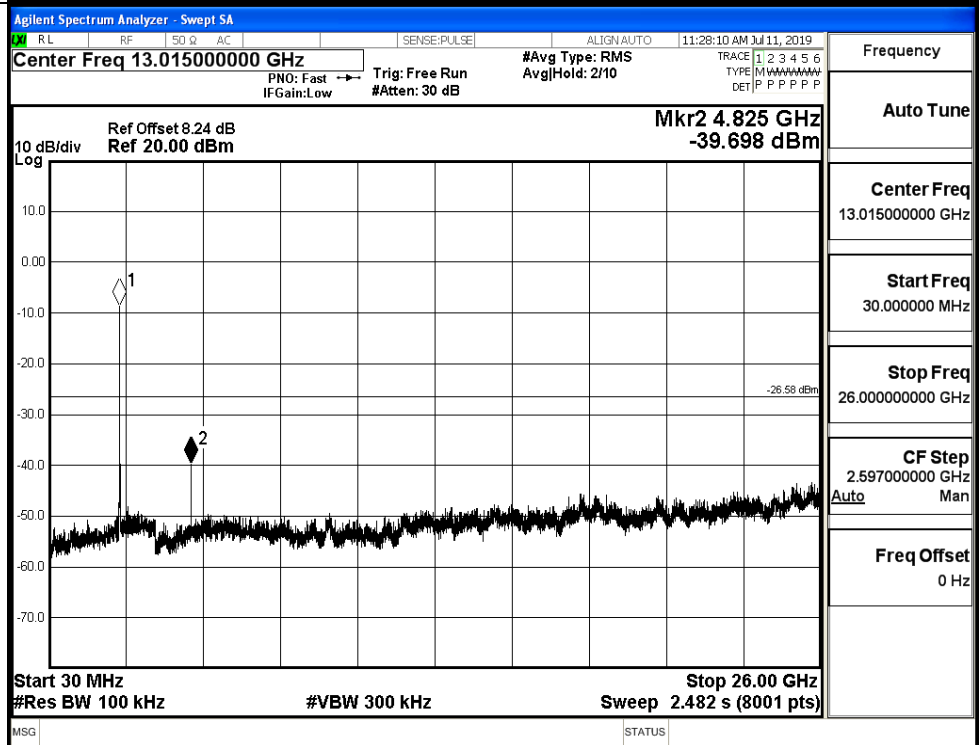
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-6.577	-39.698	-26.577	PASS
	MCH	-6.03	-42.044	-26.030	PASS
	HCH	-6.235	-43.681	-26.235	PASS
11G	LCH	-9.308	-43.886	-29.308	PASS
	MCH	-8.766	-43.798	-28.766	PASS
	HCH	-9.02	-40.544	-29.020	PASS
11N20 SISO	LCH	-9.429	-43.573	-29.429	PASS
	MCH	-8.881	-42.493	-28.881	PASS
	HCH	-8.847	-43.108	-28.847	PASS

11B\_LCH\_Graphs

Pref/11B/LCH



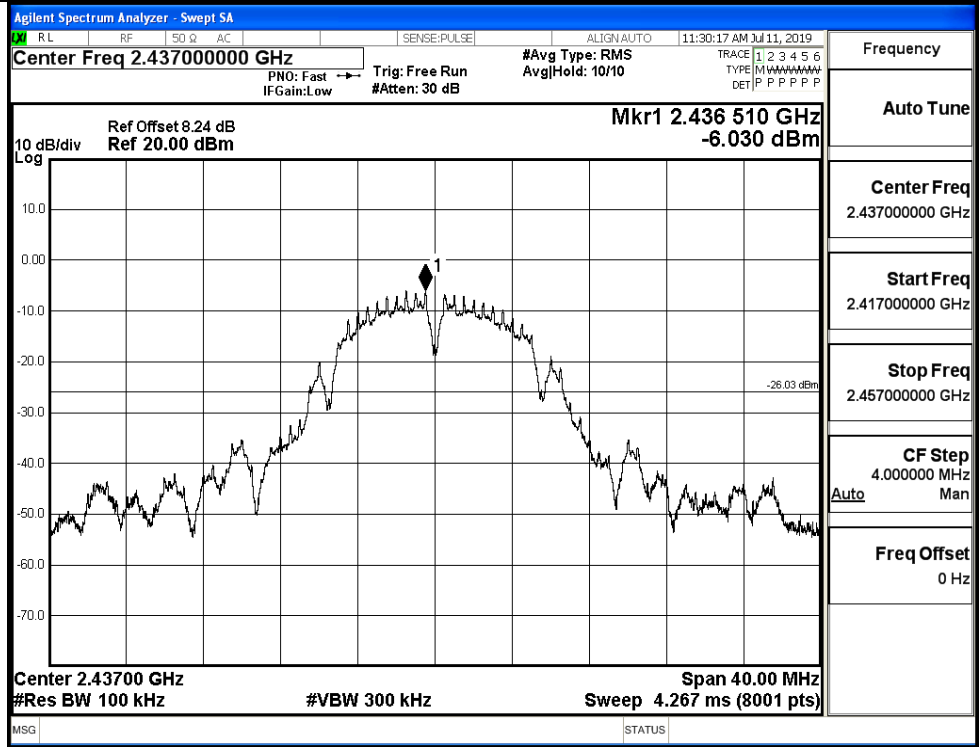
Puw/11B/LCH



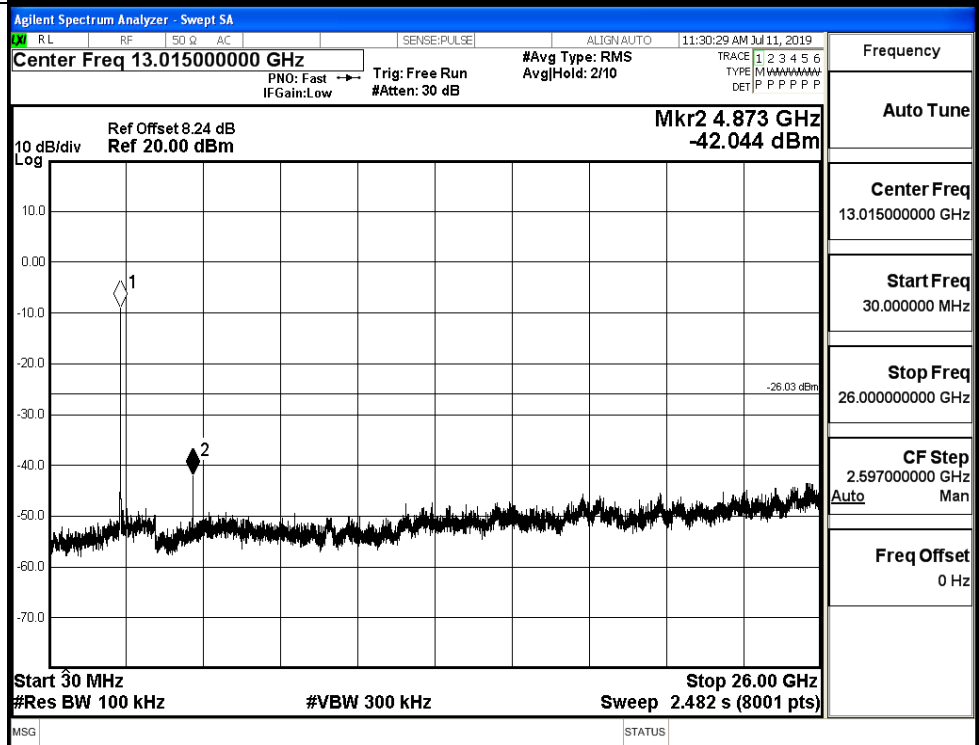


11B\_MCH\_Graphs

Pref/11B/MCH

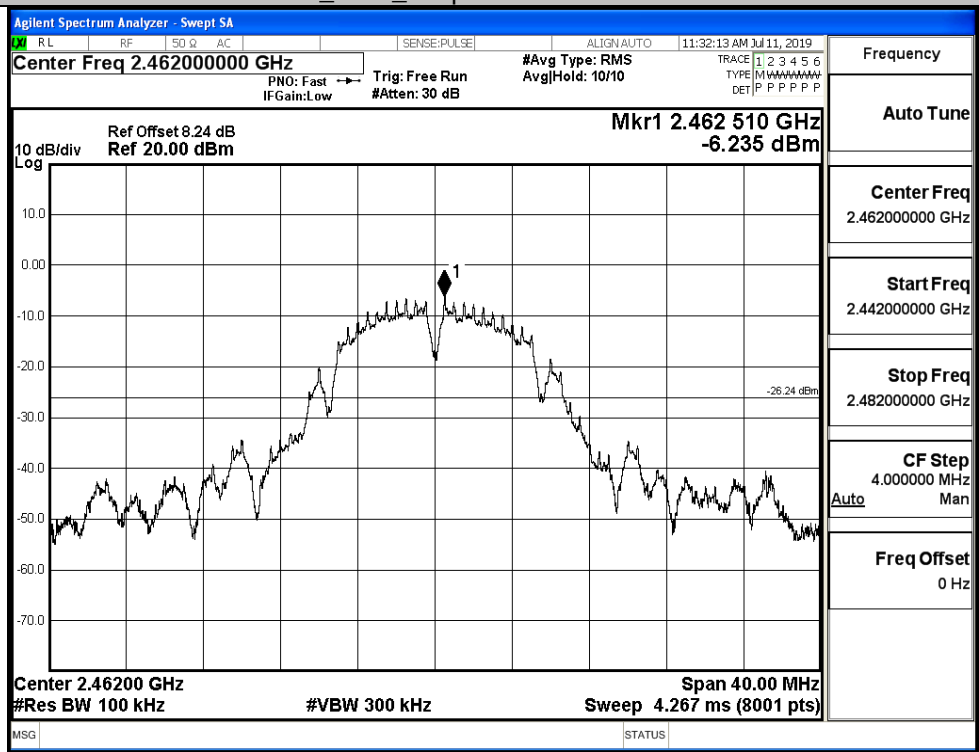


Puw/11B/MCH

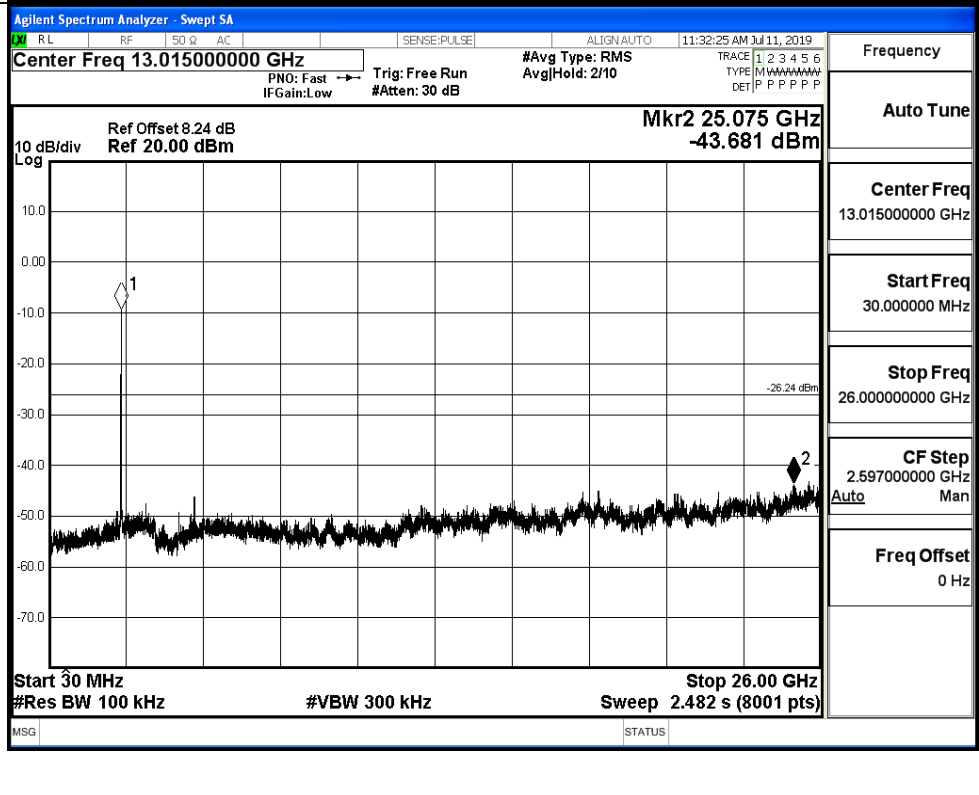


11B\_HCH\_Graphs

Pref/11B/HCH

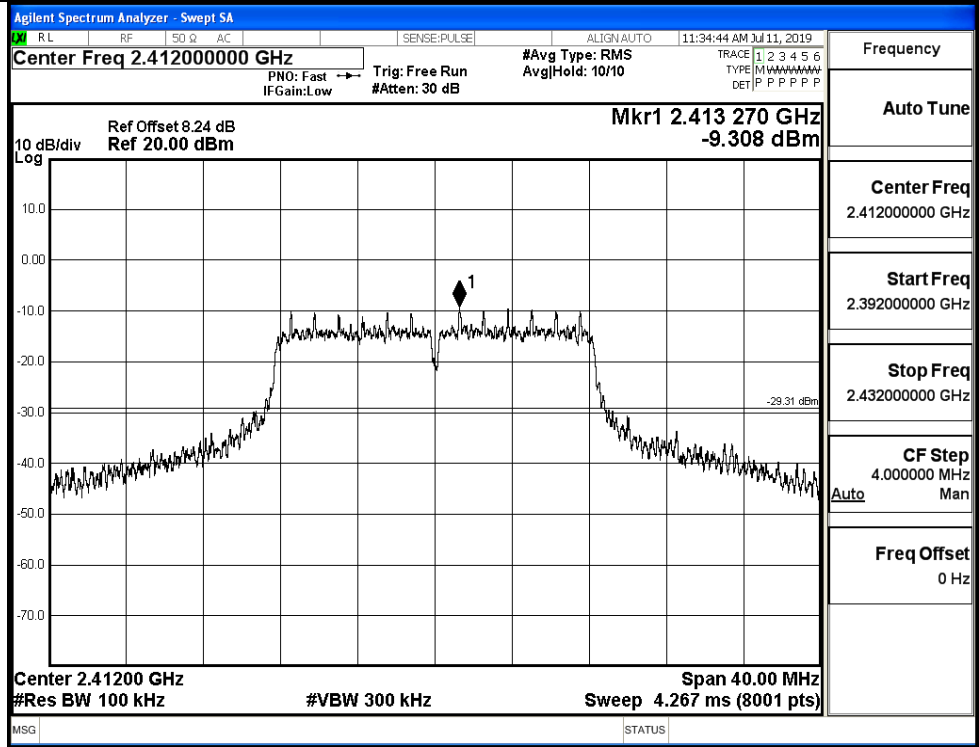


Puw/11B/HCH

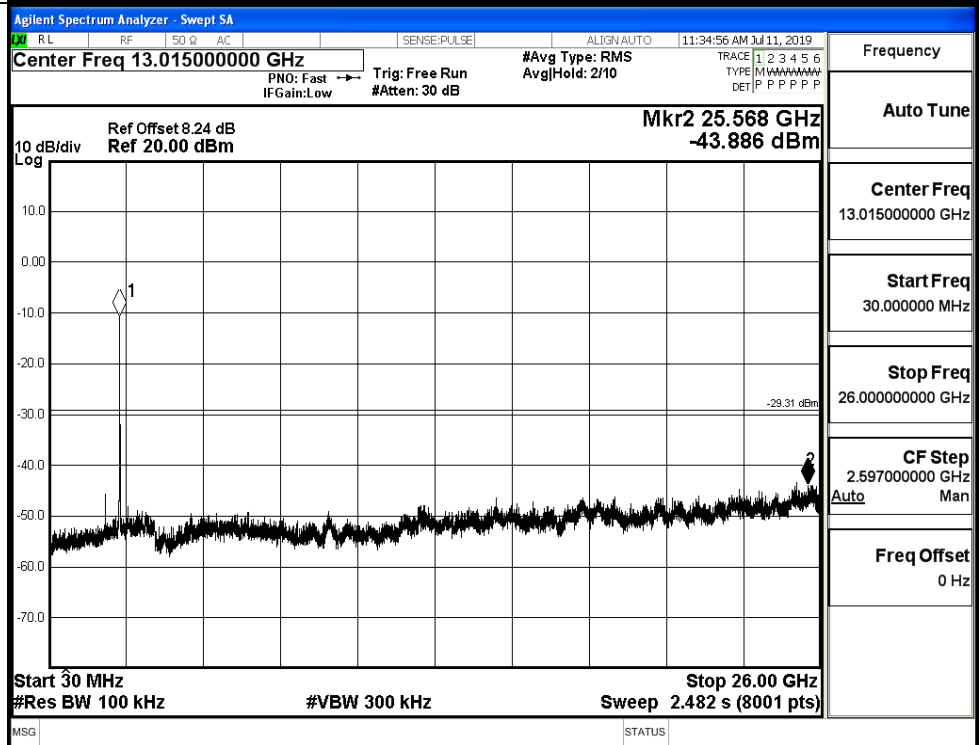


11G\_LCH\_Graphs

Pref/11G/LCH

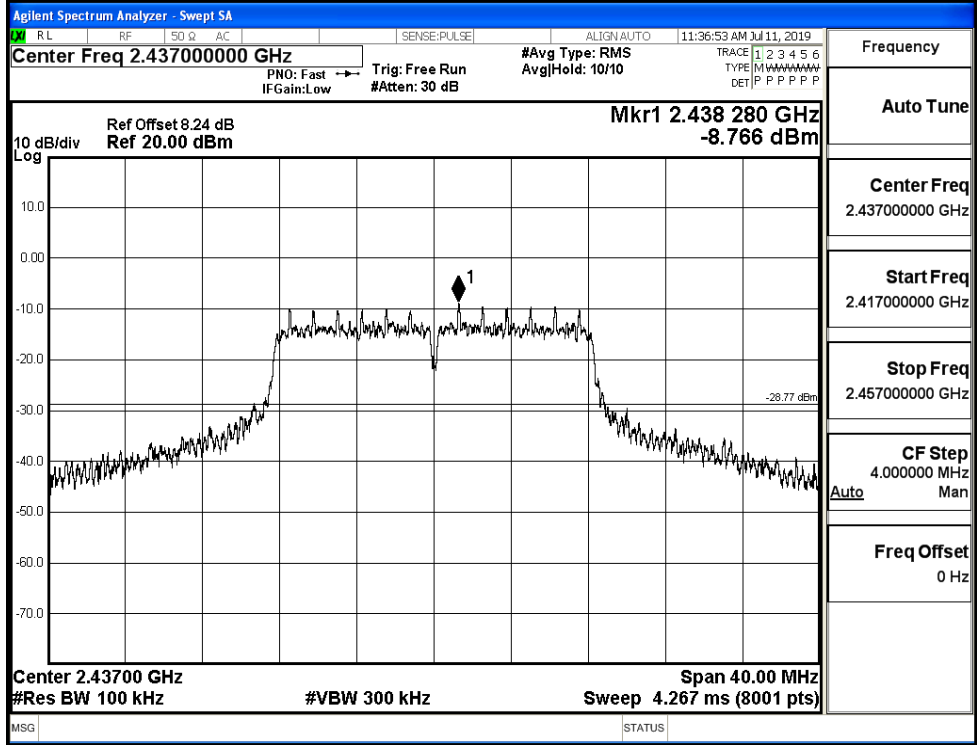


Puw/11G/LCH

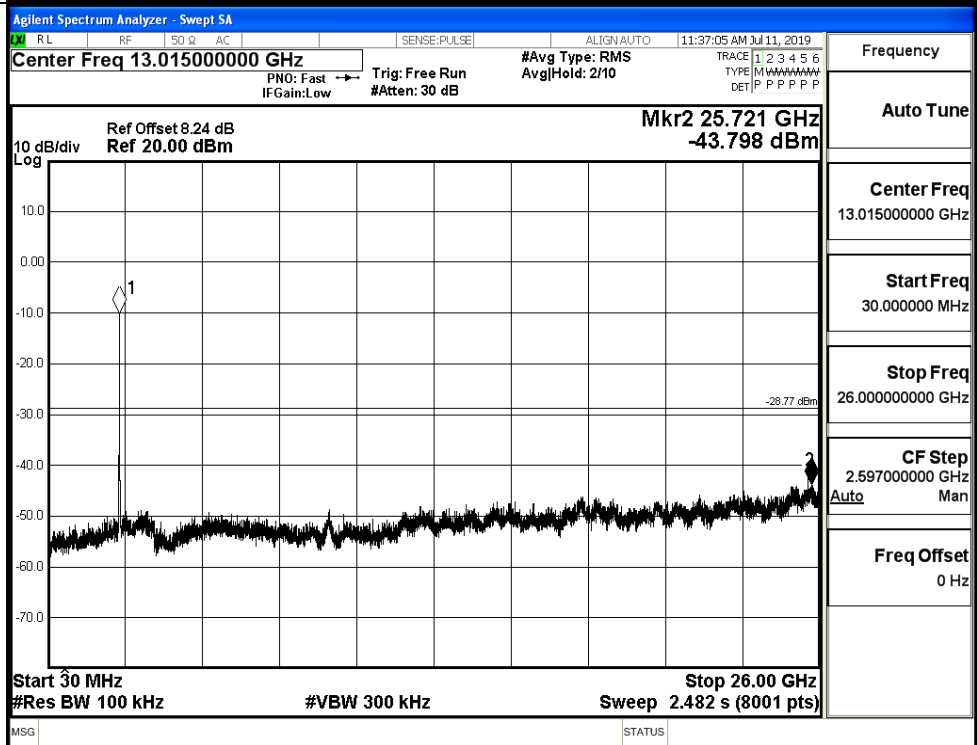


11G\_MCH\_Graphs

Pref/11G/MCH

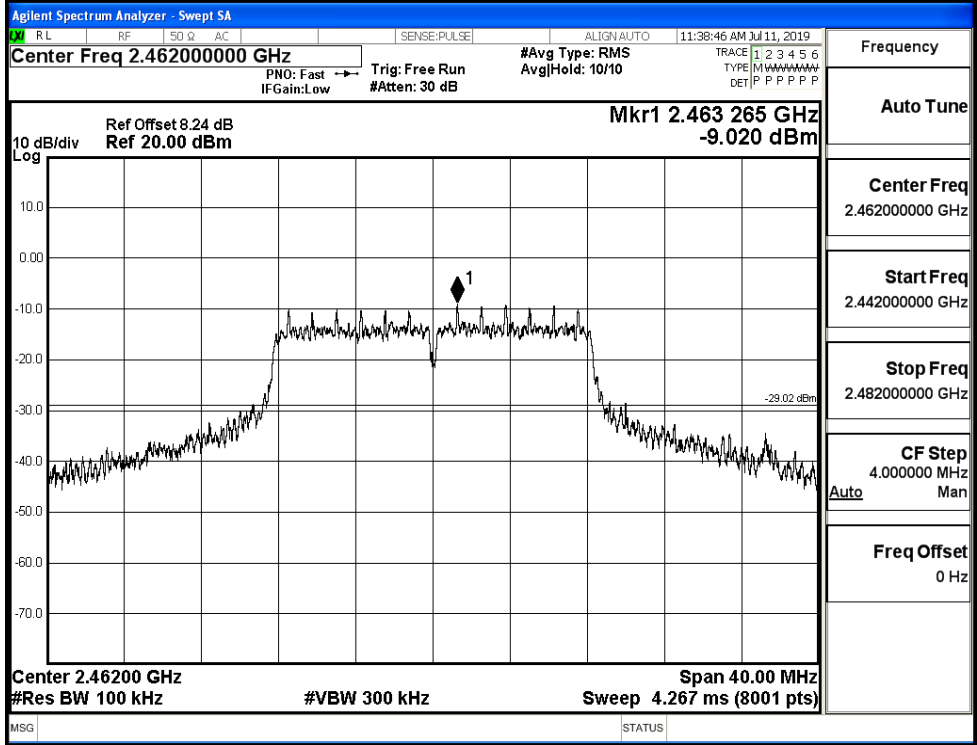


Puw/11G/MCH

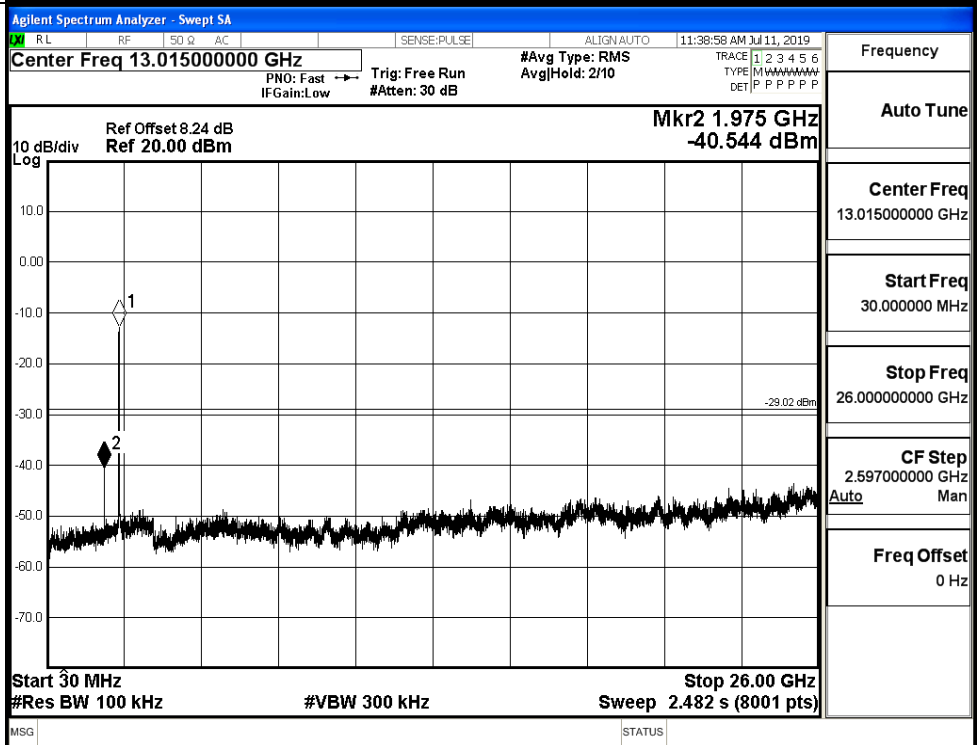


11G\_HCH\_Graphs

Pref/11G/HCH

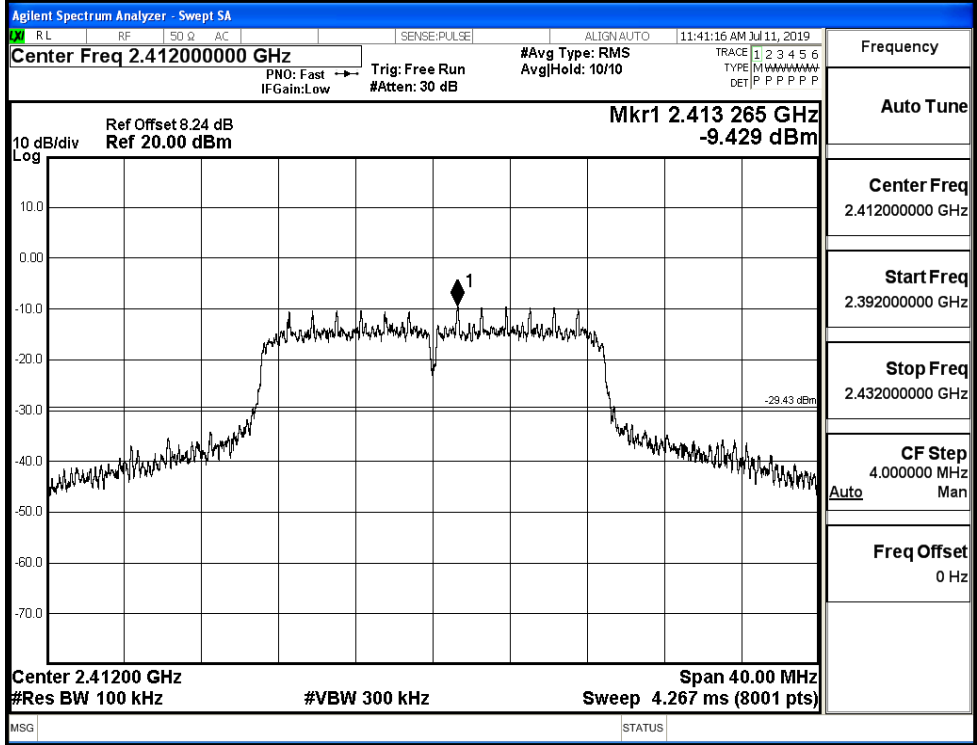


Puw/11G/HCH

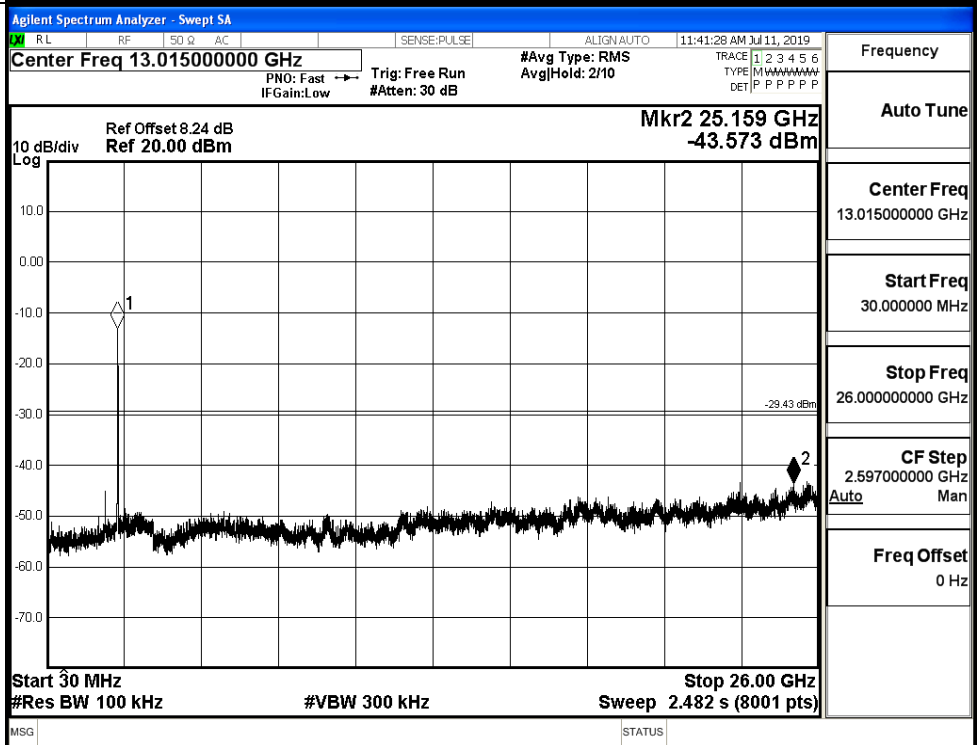


11N20SISO\_LCH\_Graphs

Pref/11N20SIS  
O/LCH

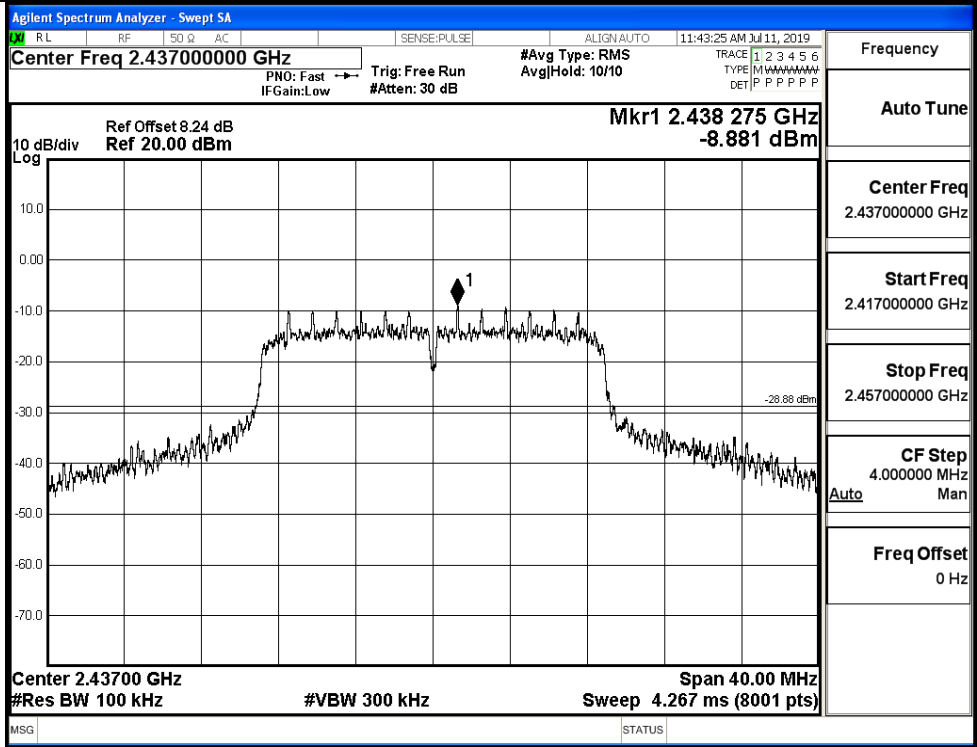


Puw/11N20  
SISO/LCH

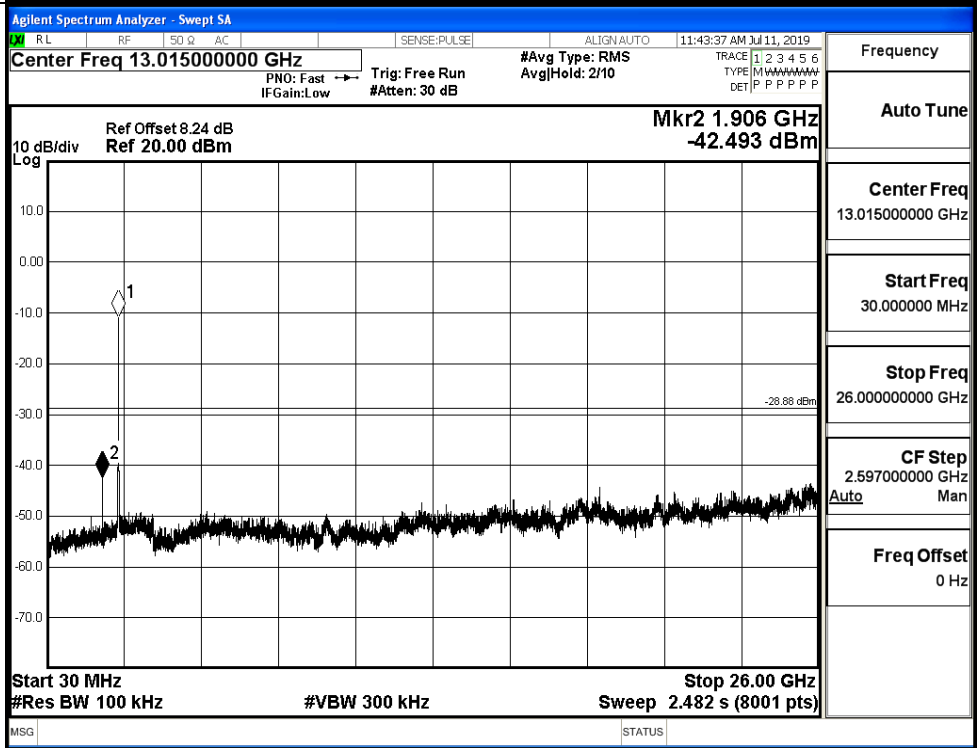


11N20SISO\_MCH\_Graphs

Pref/11N20  
SISO/MCH

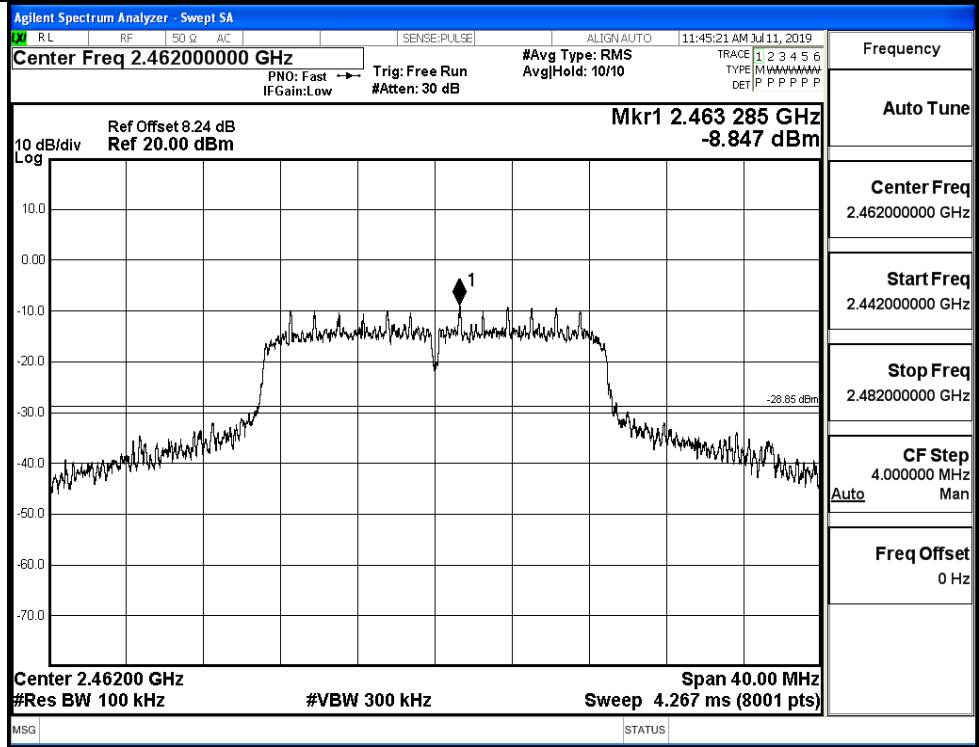


Puw/11N20  
SISO/MCH

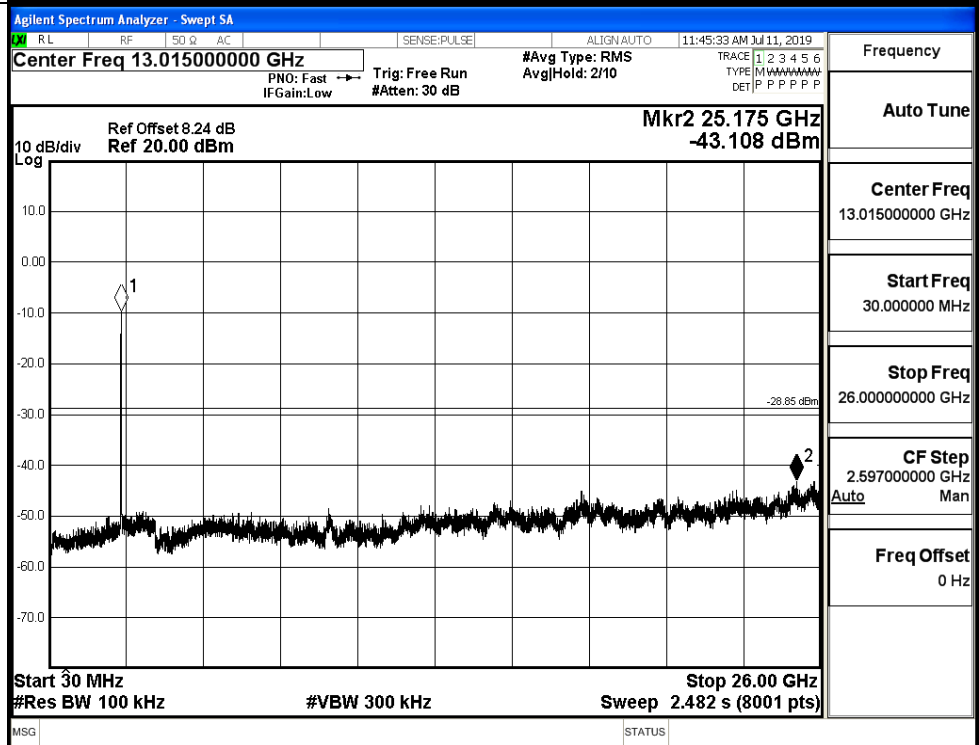


11N20SISO\_HCH\_Graphs

Pref/11N20  
SISO/HCH



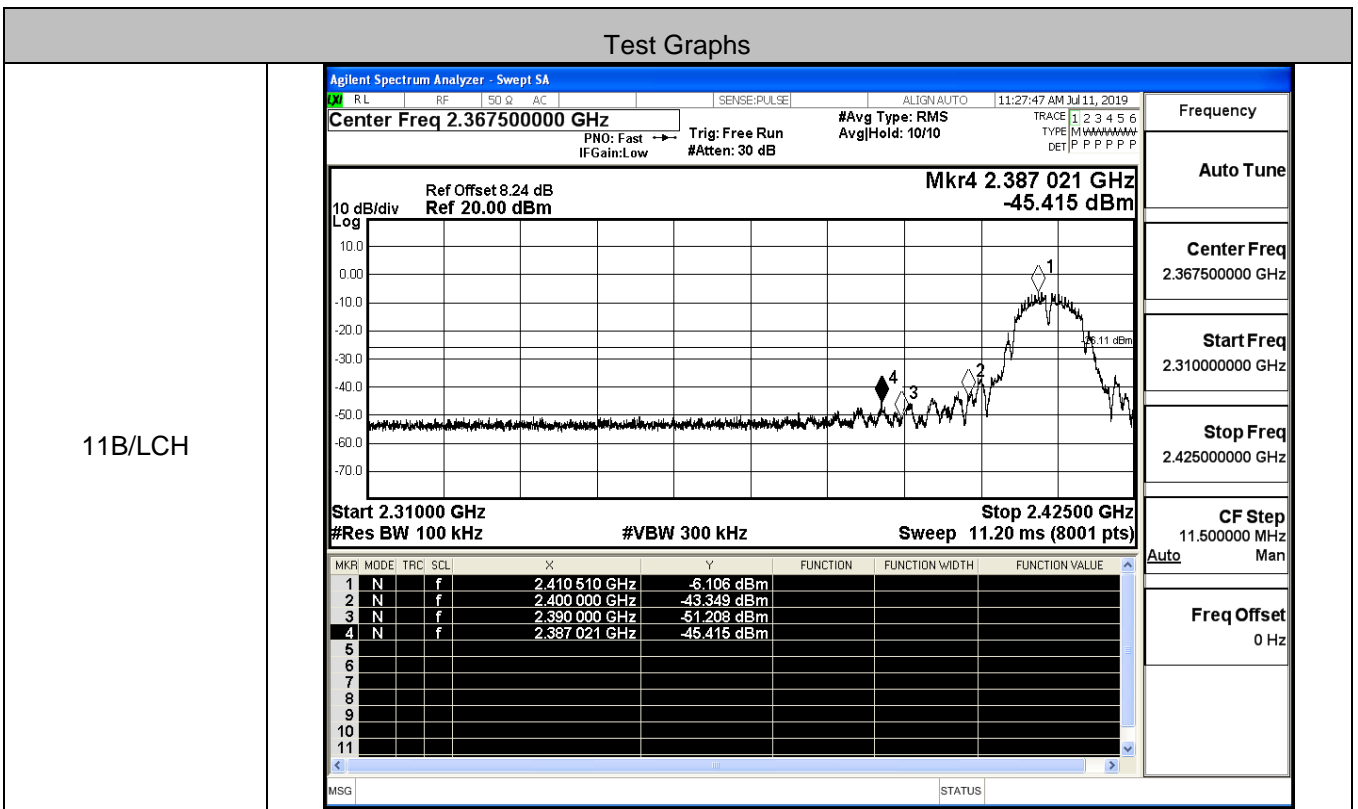
Puw/11N20  
SISO/HCH



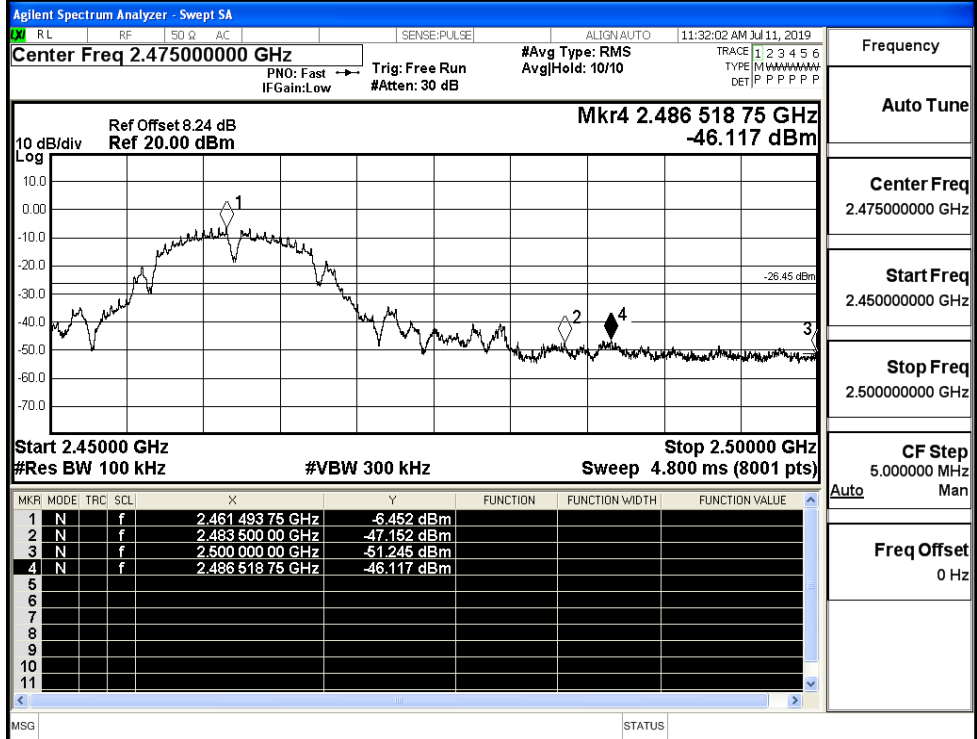


### C.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-6.106	-45.415	-26.11	PASS
	HCH	-6.452	-46.117	-26.45	PASS
11G	LCH	-9.377	-44.862	-29.38	PASS
	HCH	-9.316	-45.391	-29.32	PASS
11N20SISO	LCH	-9.278	-44.877	-29.28	PASS
	HCH	-8.842	-43.000	-28.84	PASS

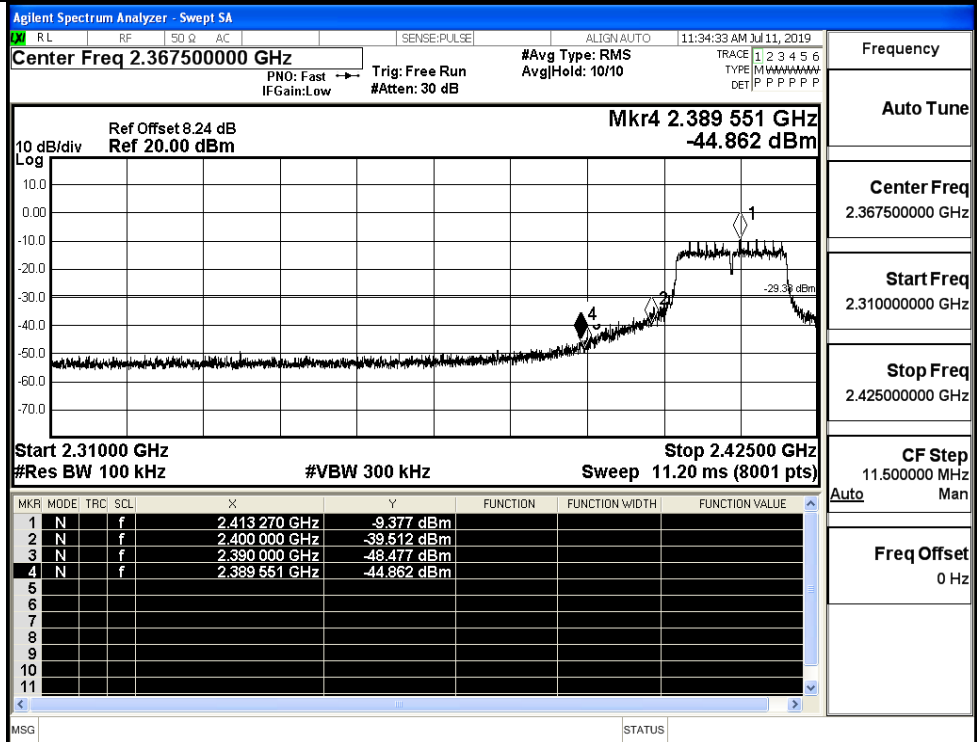


11B/HCH



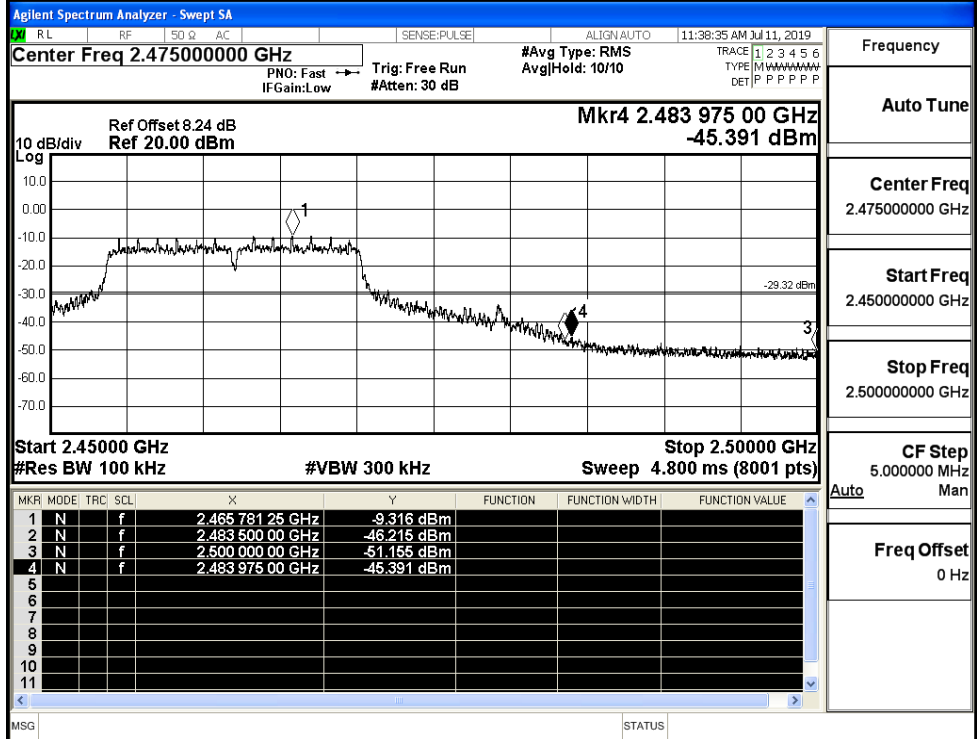
Frequency	2.475000000 GHz
Auto Tune	
Center Freq	2.475000000 GHz
Start Freq	2.450000000 GHz
Stop Freq	2.500000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11G/LCH

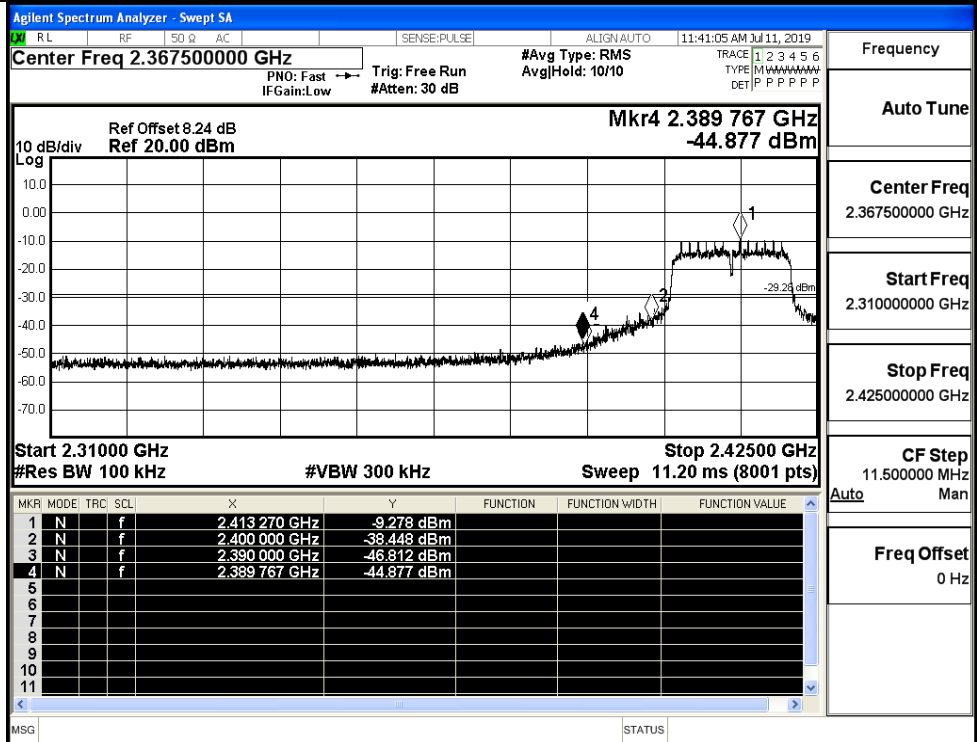


Frequency	2.367500000 GHz
Auto Tune	
Center Freq	2.367500000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.425000000 GHz
CF Step	11.500000 MHz
Freq Offset	0 Hz

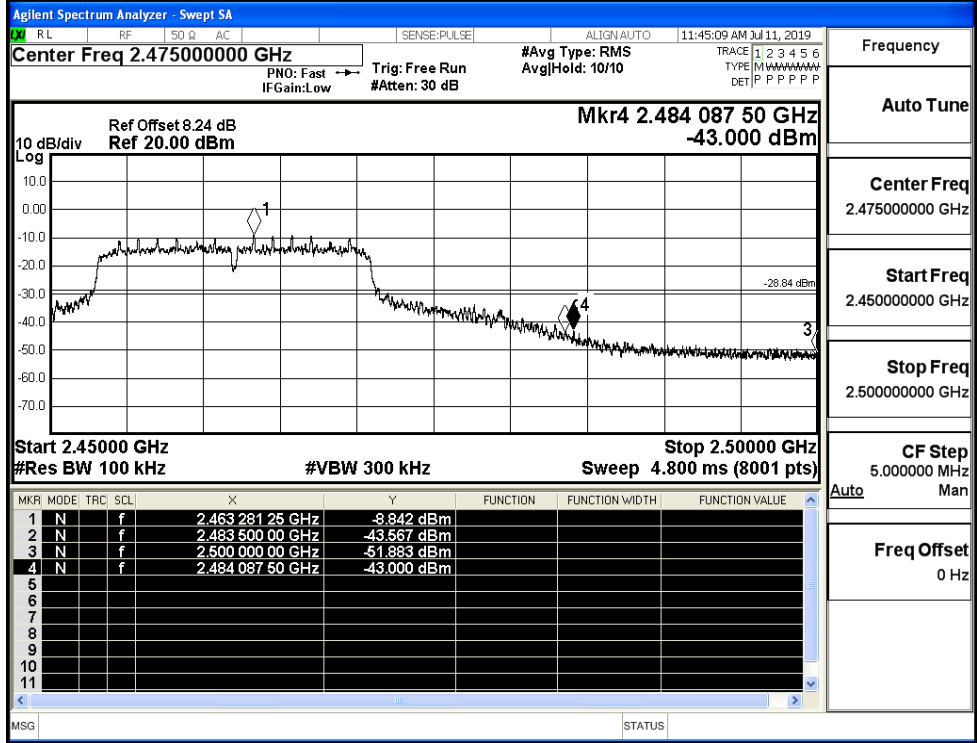
11G/HCH



11N20SISO/LCH



11N20SISO/HCH



Frequency

Auto Tune

Center Freq  
2.475000000 GHz

Start Freq  
2.450000000 GHz

Stop Freq  
2.500000000 GHz

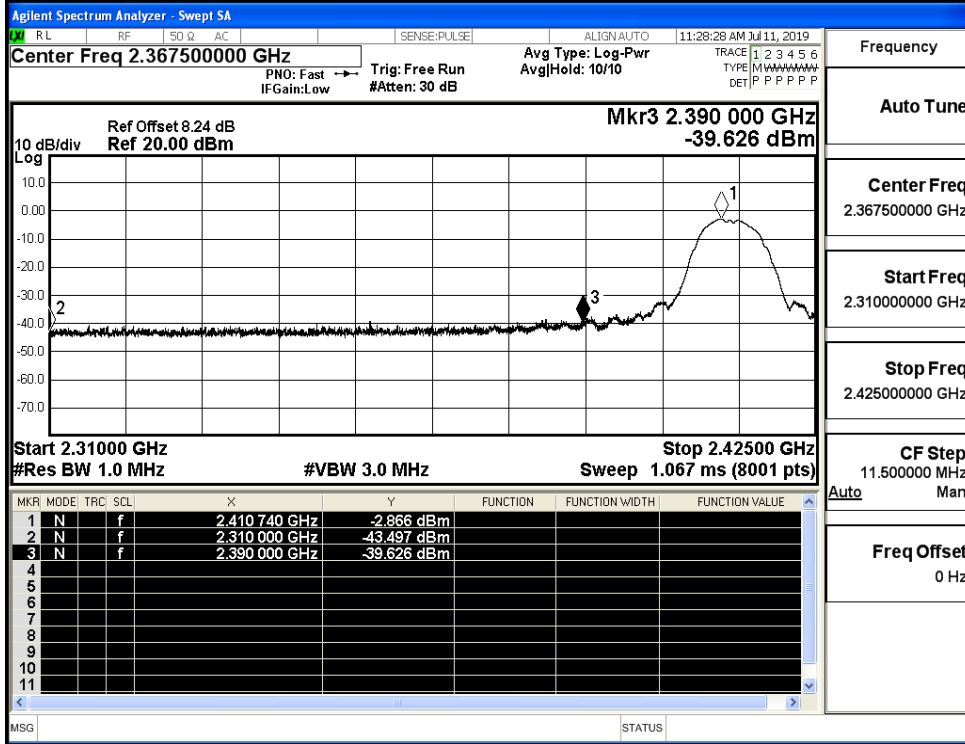
CF Step  
5.000000 MHz

Freq Offset  
0 Hz

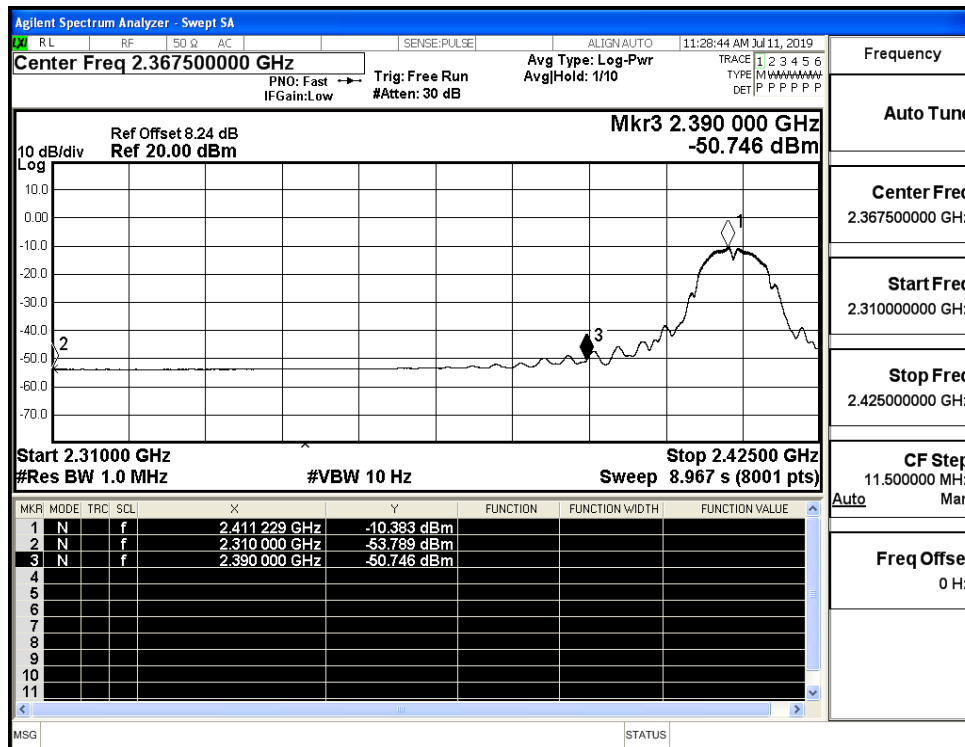
### C.7 Restrict-band band-edge measurements

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	-43.50	2.0	0	53.76	PEAK	74	PASS
	2412	Ant1	2310.0	-53.79	2.0	0	43.47	AV	54	PASS
	2412	Ant1	2390.0	-39.63	2.0	0	57.63	PEAK	74	PASS
	2412	Ant1	2390.0	-50.75	2.0	0	46.51	AV	54	PASS
	2462	Ant1	2483.5	-38.12	2.0	0	59.14	PEAK	74	PASS
	2462	Ant1	2483.5	-49.89	2.0	0	47.36	AV	54	PASS
	2462	Ant1	2500.0	-42.05	2.0	0	55.21	PEAK	74	PASS
	2462	Ant1	2500.0	-52.71	2.0	0	44.55	AV	54	PASS
11G	2412	Ant1	2310.0	-43.65	2.0	0	53.61	PEAK	74	PASS
	2412	Ant1	2310.0	-53.76	2.0	0	43.50	AV	54	PASS
	2412	Ant1	2390.0	-35.72	2.0	0	61.54	PEAK	74	PASS
	2412	Ant1	2390.0	-48.46	2.0	0	48.80	AV	54	PASS
	2462	Ant1	2483.5	-33.83	2.0	0	63.43	PEAK	74	PASS
	2462	Ant1	2483.5	-47.59	2.0	0	49.67	AV	54	PASS
	2462	Ant1	2500.0	-42.28	2.0	0	54.98	PEAK	74	PASS
	2462	Ant1	2500.0	-52.52	2.0	0	44.74	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.51	2.0	0	53.74	PEAK	74	PASS
	2412	Ant1	2310.0	-53.78	2.0	0	43.48	AV	54	PASS
	2412	Ant1	2390.0	-35.49	2.0	0	61.77	PEAK	74	PASS
	2412	Ant1	2390.0	-48.50	2.0	0	48.75	AV	54	PASS
	2462	Ant1	2483.5	-31.97	2.0	0	65.29	PEAK	74	PASS
	2462	Ant1	2483.5	-47.03	2.0	0	50.23	AV	54	PASS
	2462	Ant1	2500.0	-41.45	2.0	0	55.81	PEAK	74	PASS
	2462	Ant1	2500.0	-52.38	2.0	0	44.88	AV	54	PASS

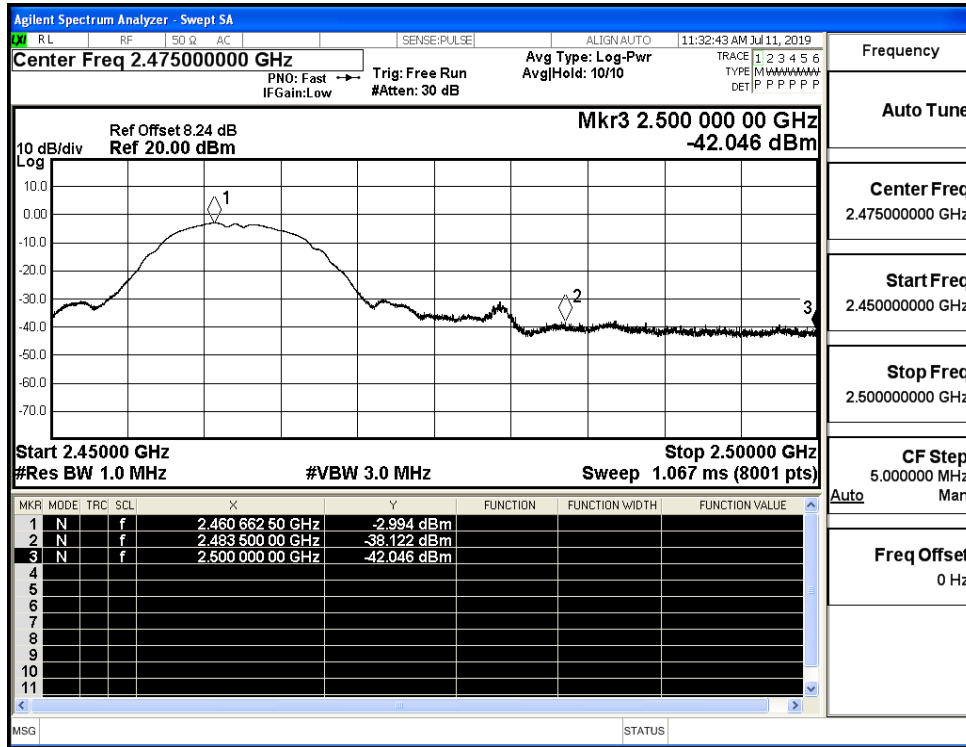
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



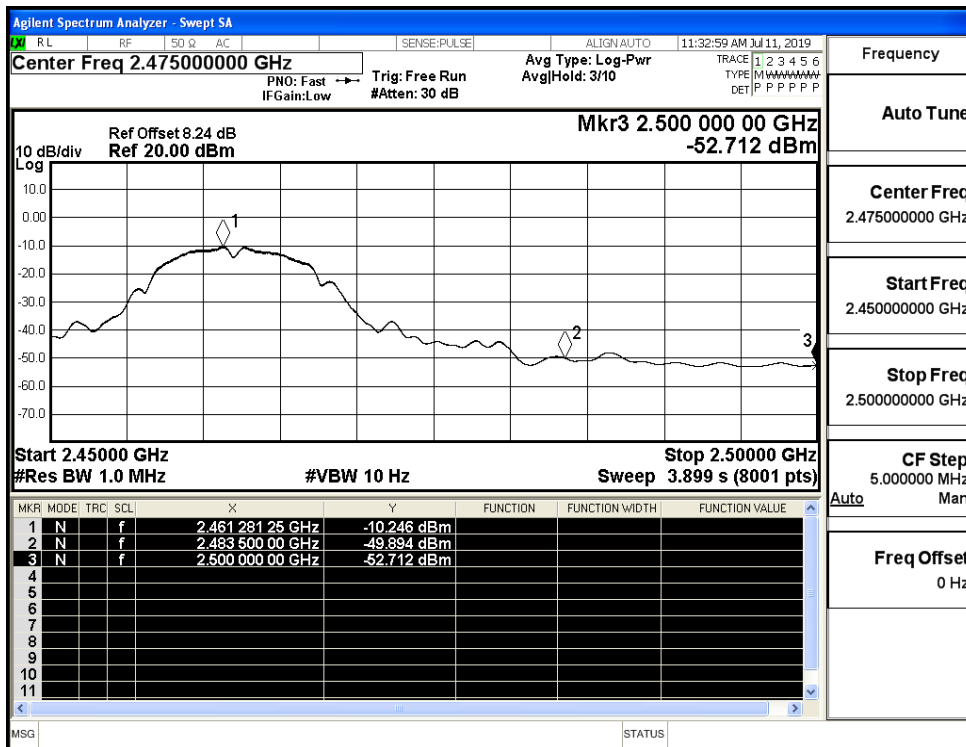
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



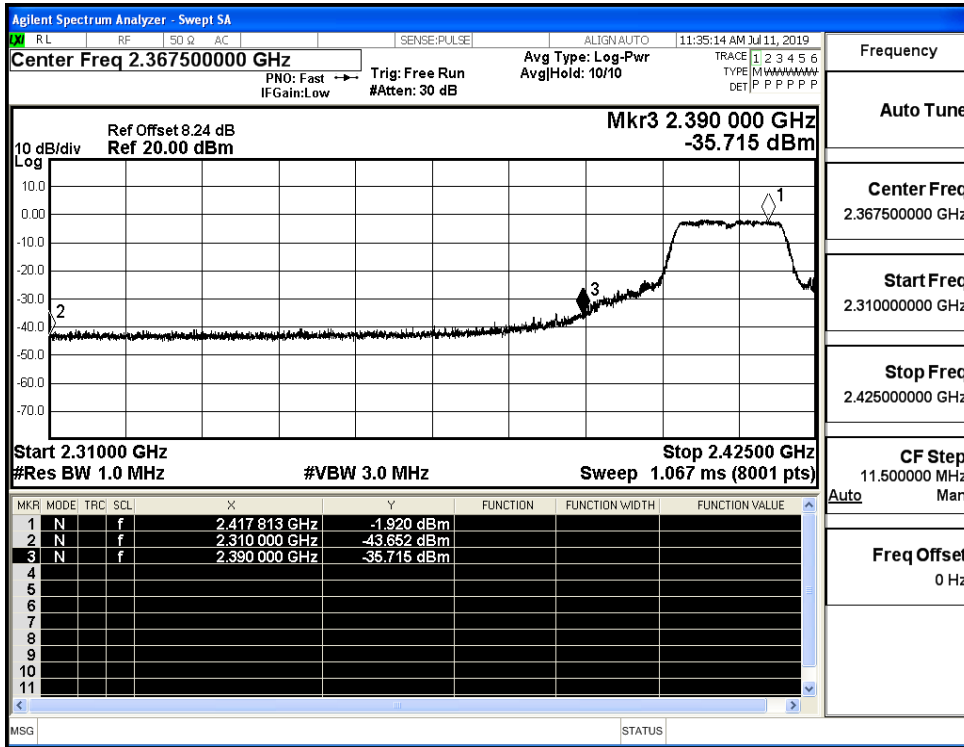
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_PEAK



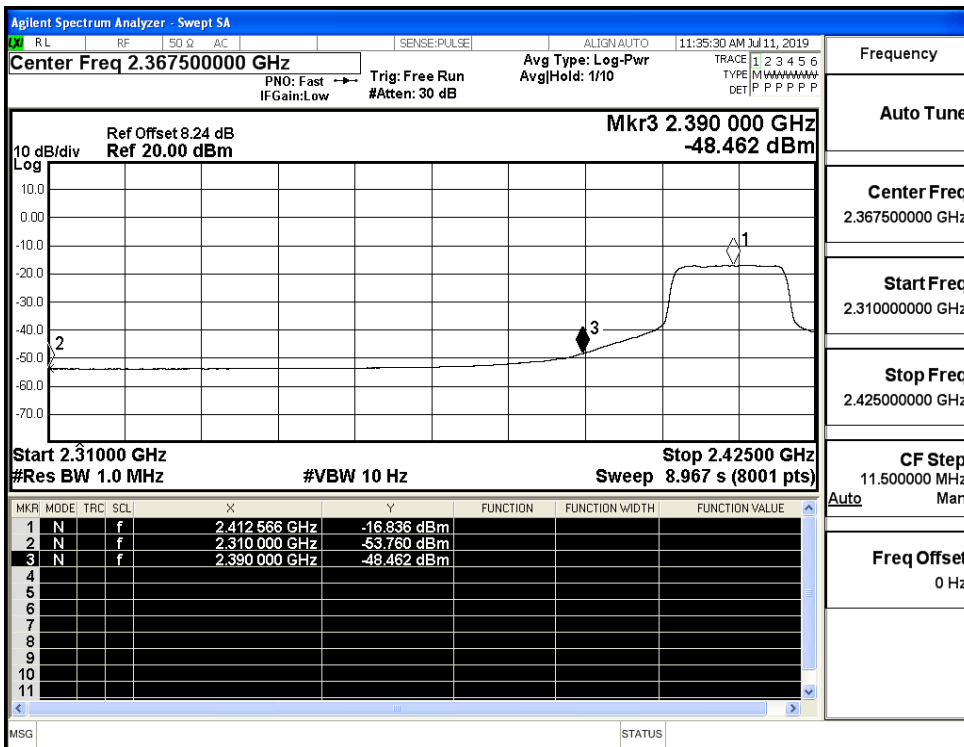
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV



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

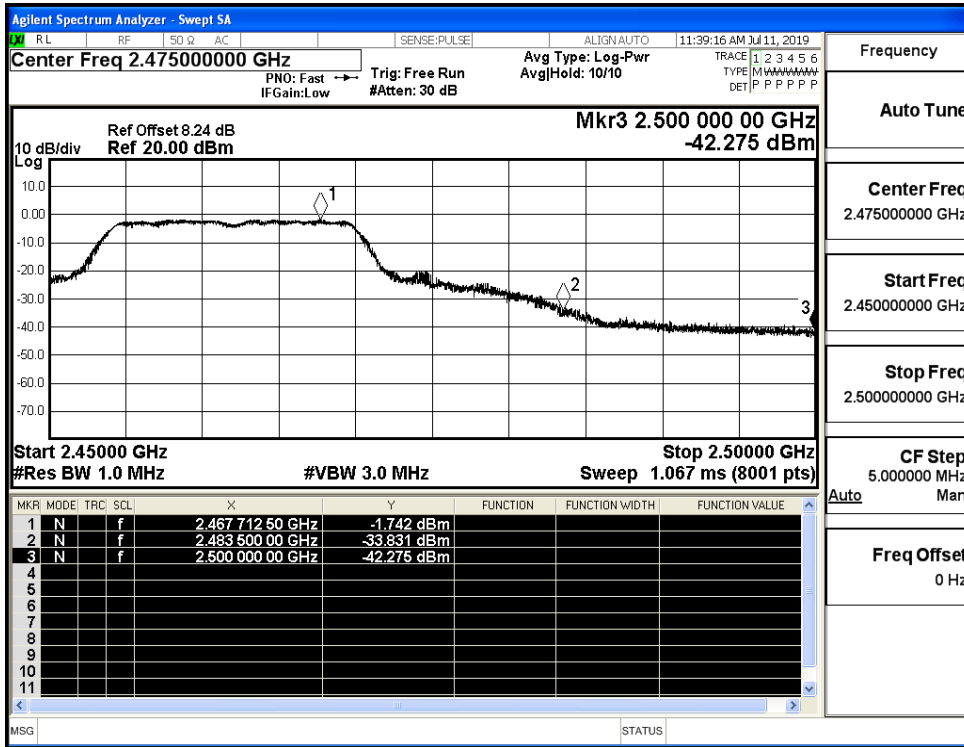


Restrict-band band-edge measurements\_11G\_2412\_Ant1\_AV

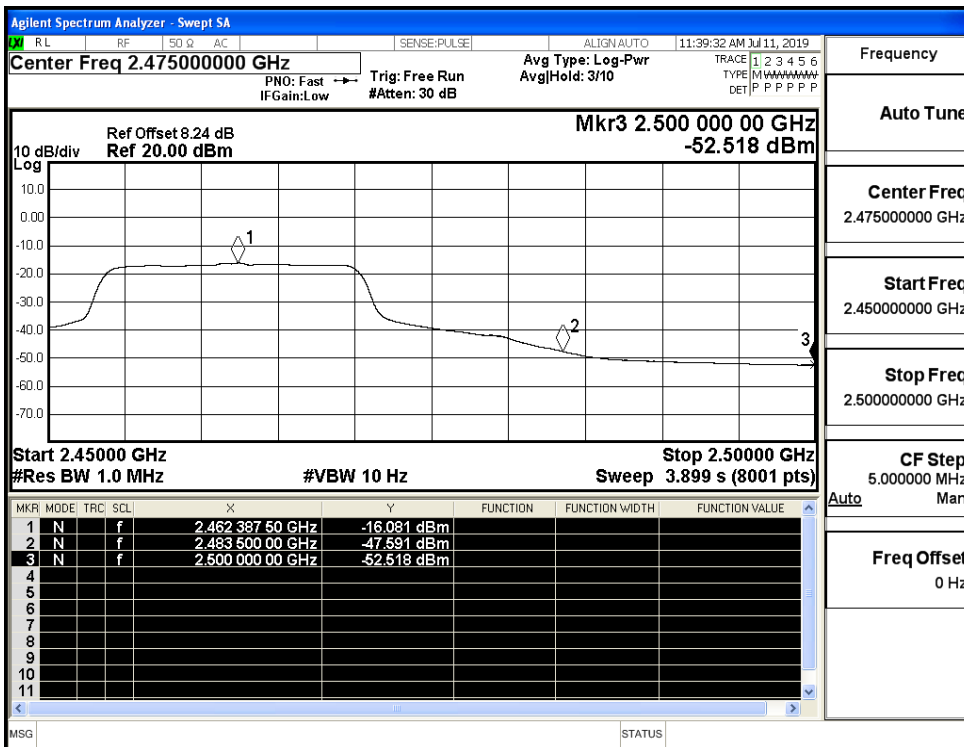




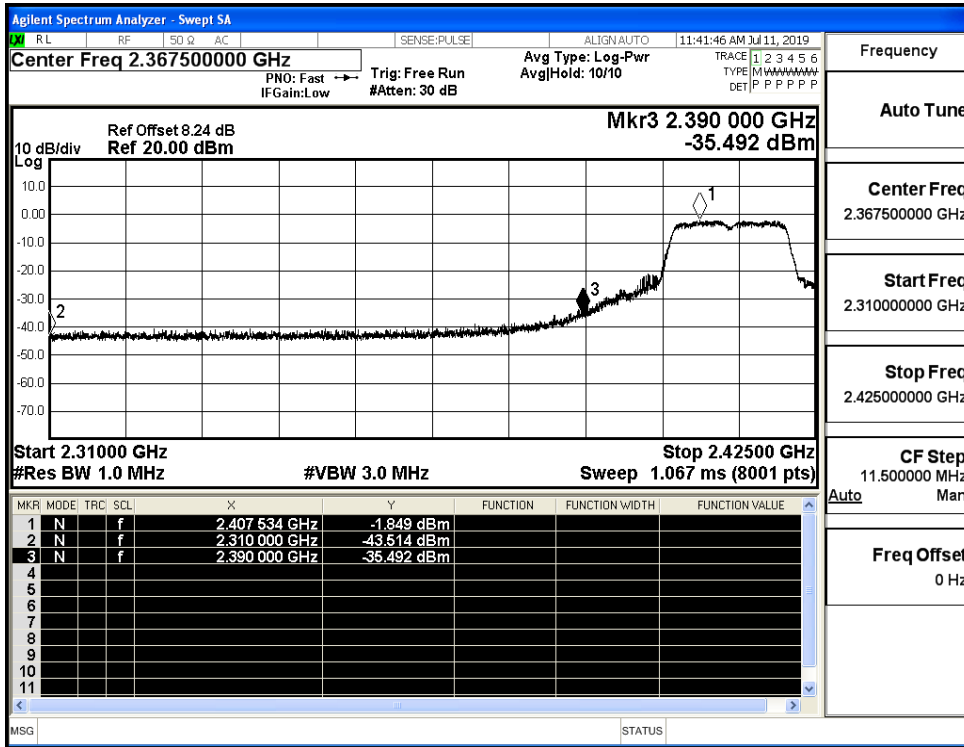
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK



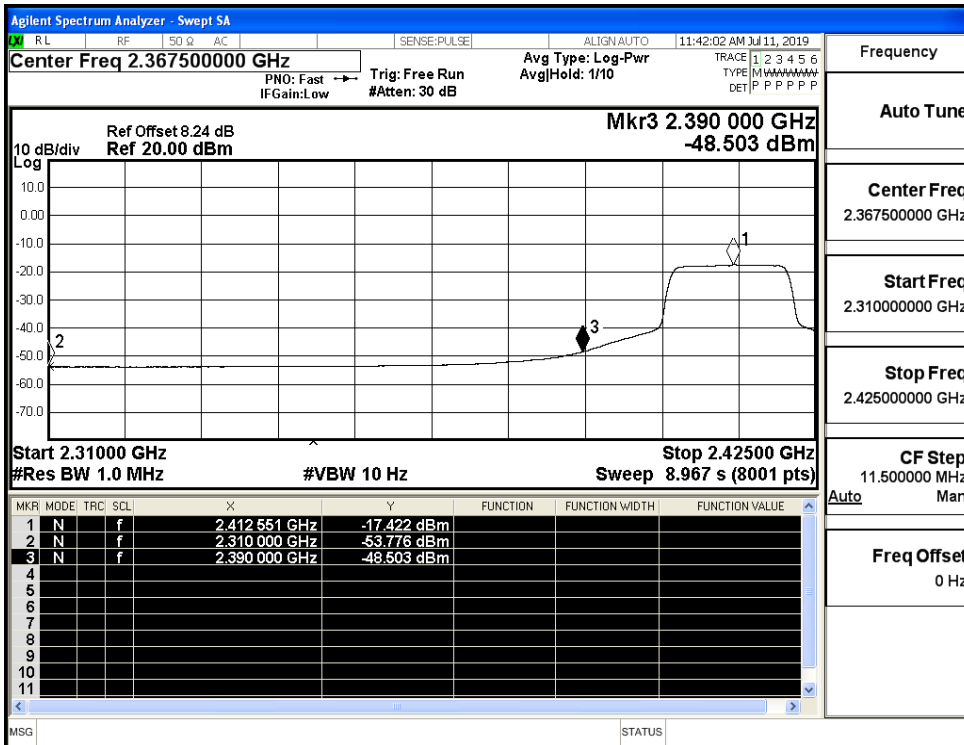
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV



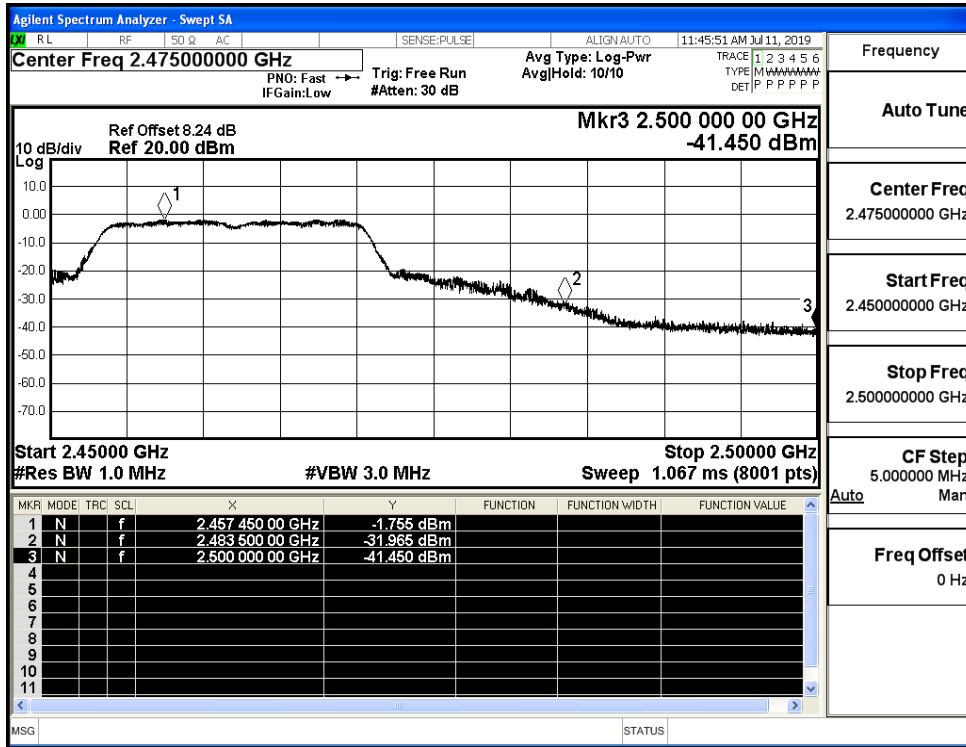
Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_PEAK



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

