

## Appendix A

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

Product Name: SmartBulb Llight

Trade Mark: N/A

Test Model: JY-006

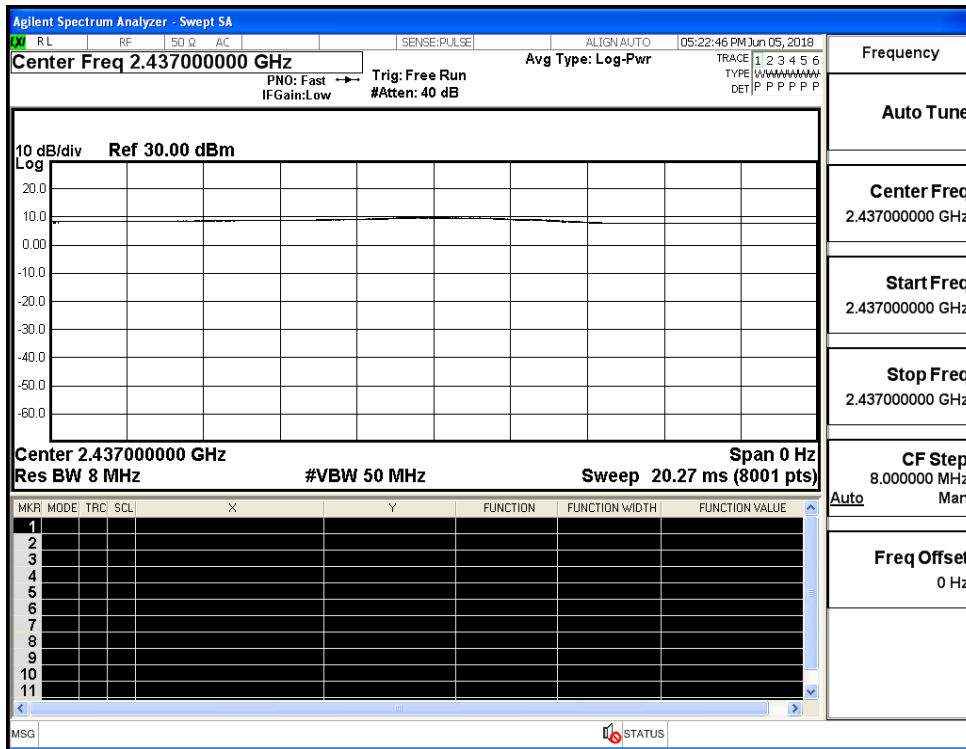
#### Environmental Conditions

Temperature:	23.6 ° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Wilson hong
Supervised by:	Jayden.Zhuo

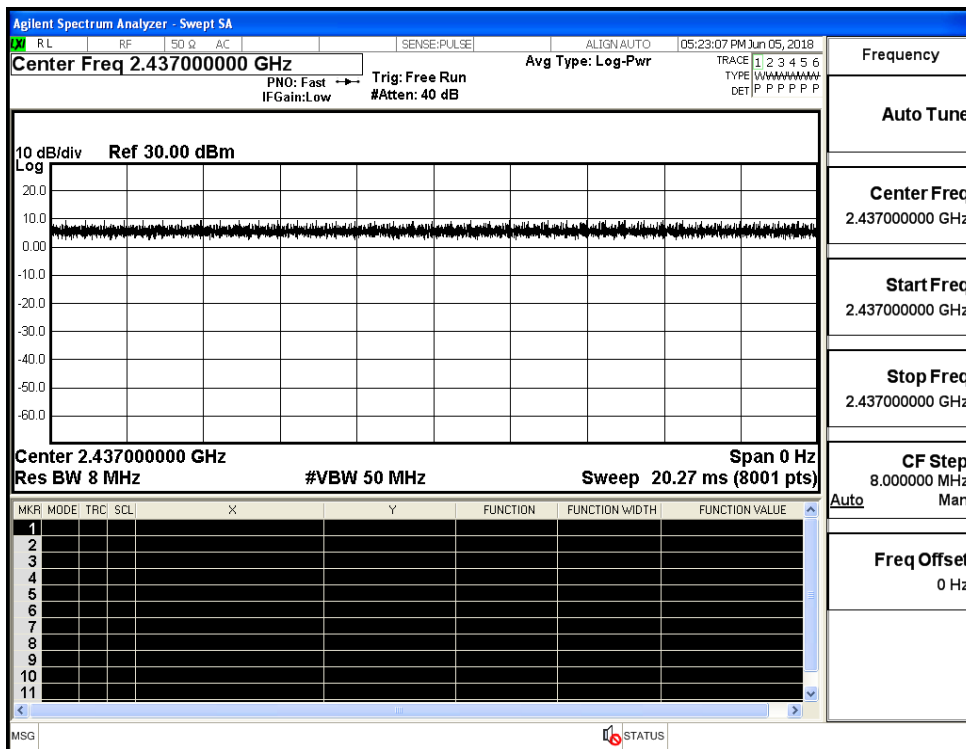
#### A.1 Duty Cycle

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

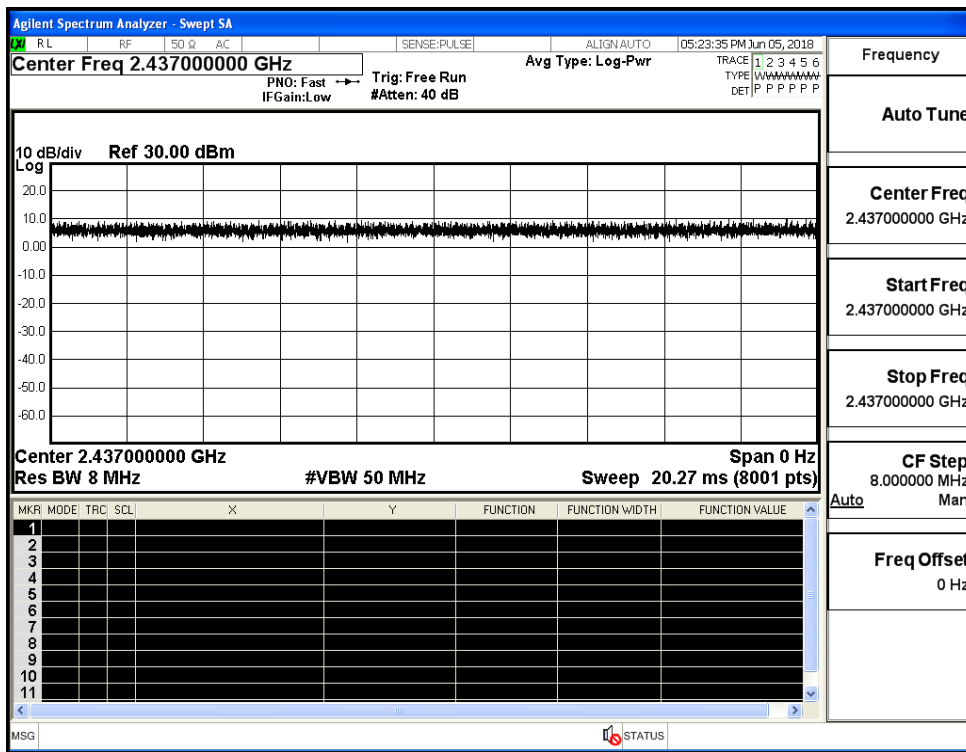
Duty Cycle\_11B\_2437\_Ant1



Duty Cycle\_11G\_2437\_Ant1



Duty Cycle\_11N20SISO\_2437\_Ant1

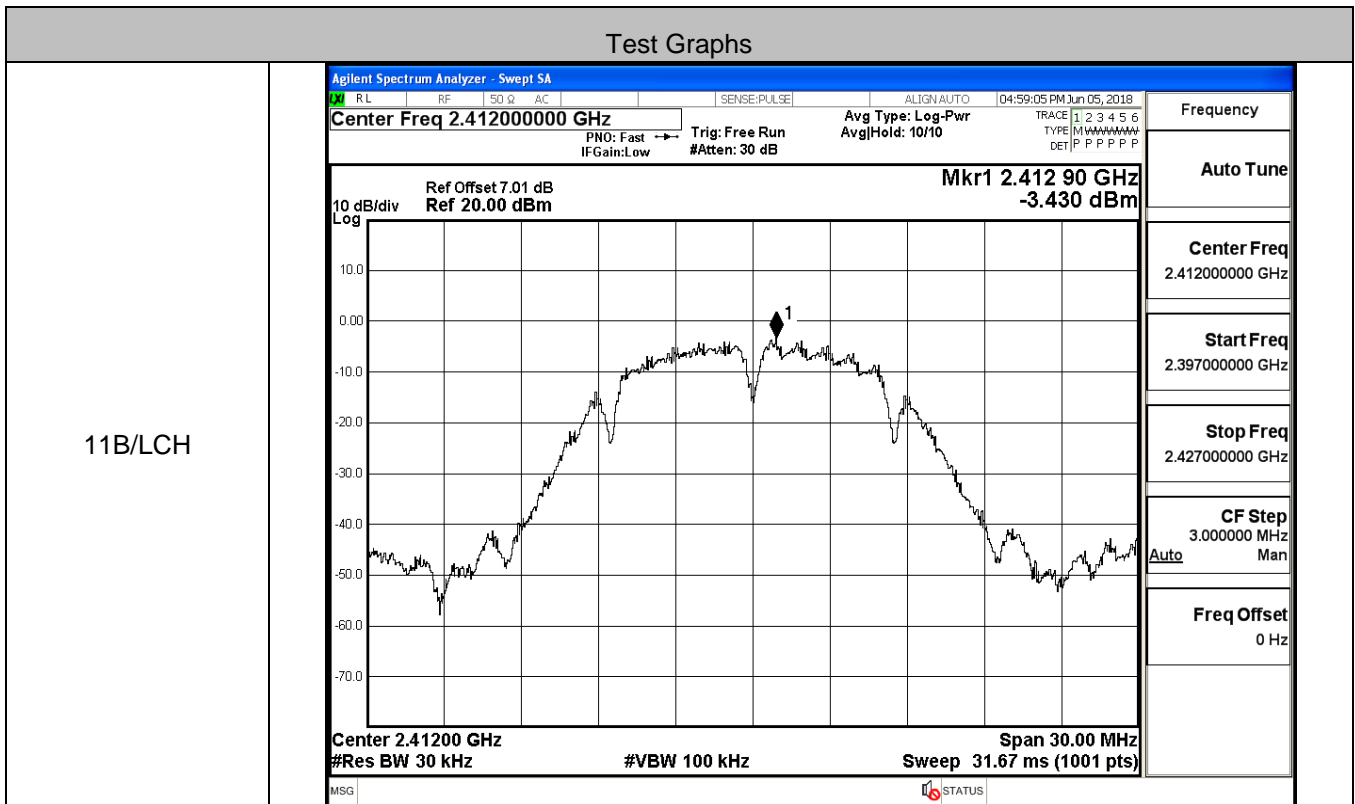


**A.2 Maximum Conducted Output Power**

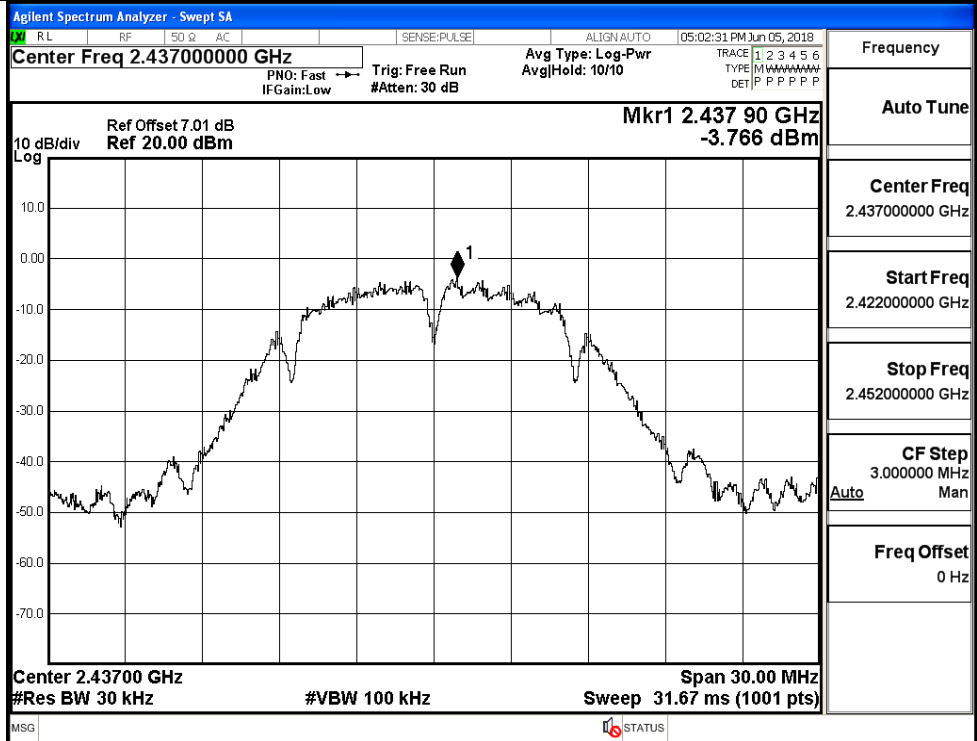
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	14.64	30	PASS
	MCH	14.24	30	PASS
	HCH	13.75	30	PASS
11G	LCH	18.15	30	PASS
	MCH	17.31	30	PASS
	HCH	16.43	30	PASS
11N20SISO	LCH	18.05	30	PASS
	MCH	17.47	30	PASS
	HCH	14.90	30	PASS

### A.3 Maximum Power Spectral Density

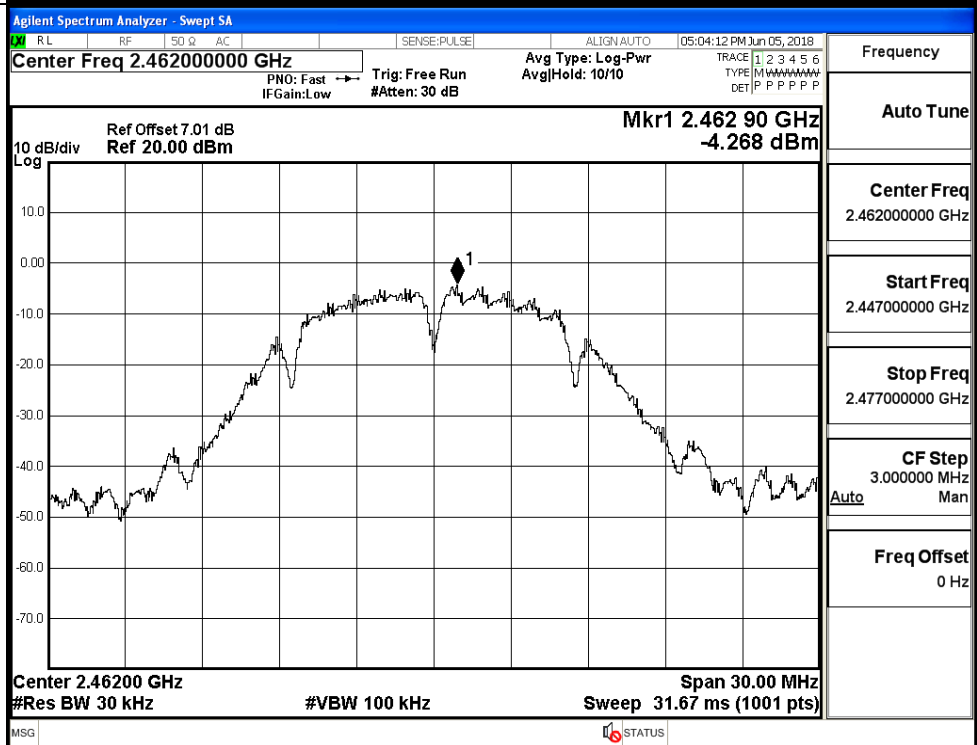
Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-3.430	8	PASS
	MCH	-3.766	8	PASS
	HCH	-4.268	8	PASS
11G	LCH	-5.445	8	PASS
	MCH	-6.136	8	PASS
	HCH	-7.102	8	PASS
11N20SISO	LCH	-5.107	8	PASS
	MCH	-5.982	8	PASS
	HCH	-8.056	8	PASS



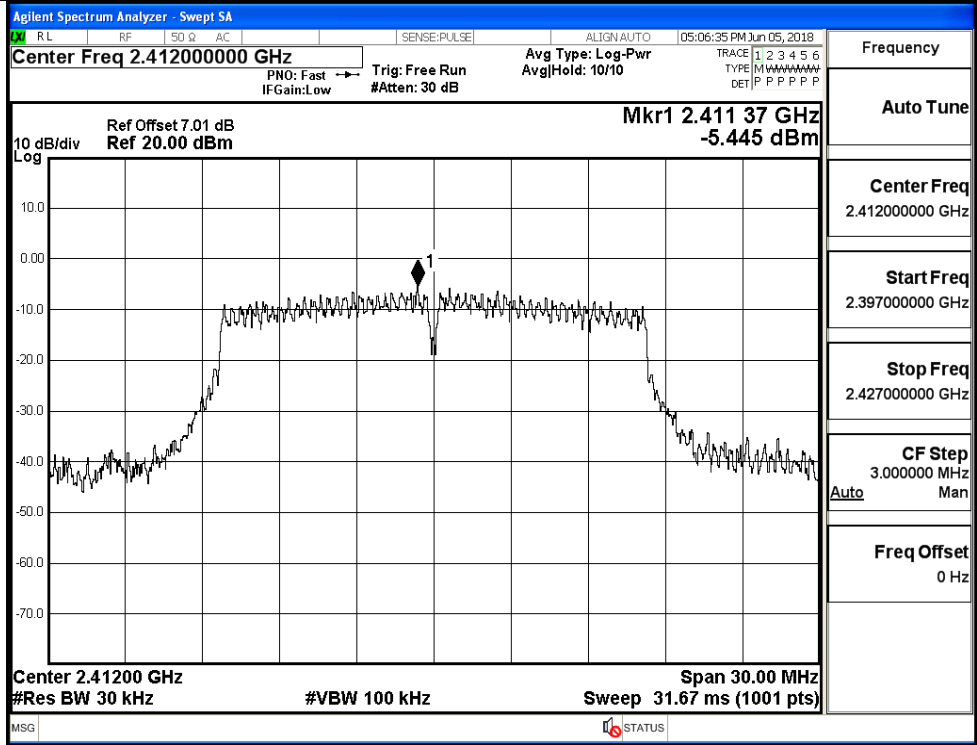
11B/MCH



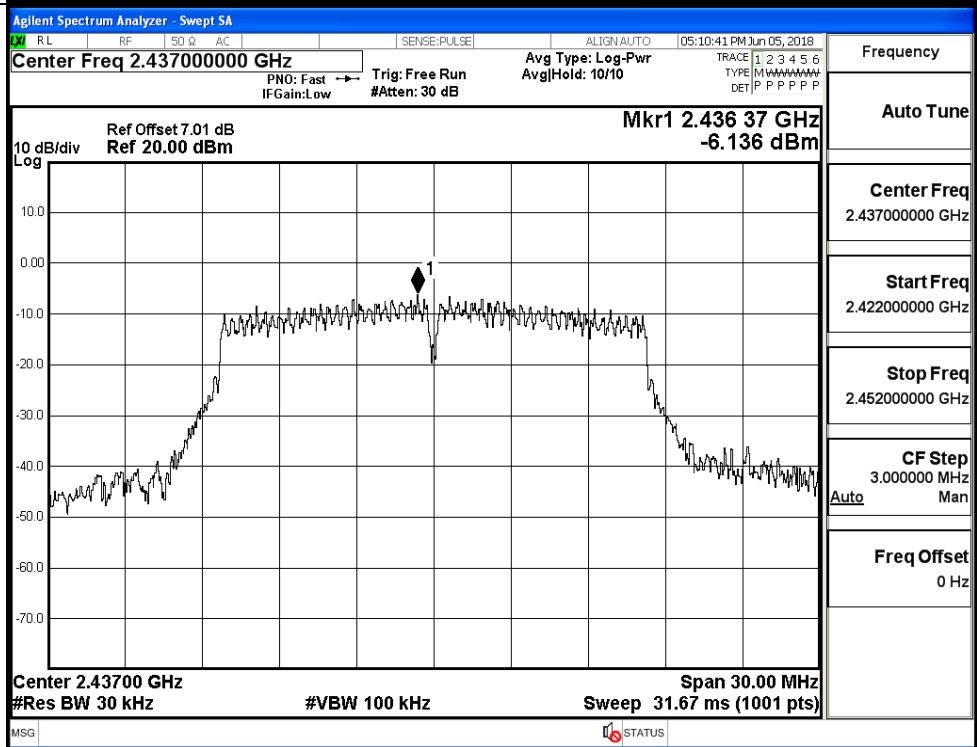
11B/HCH



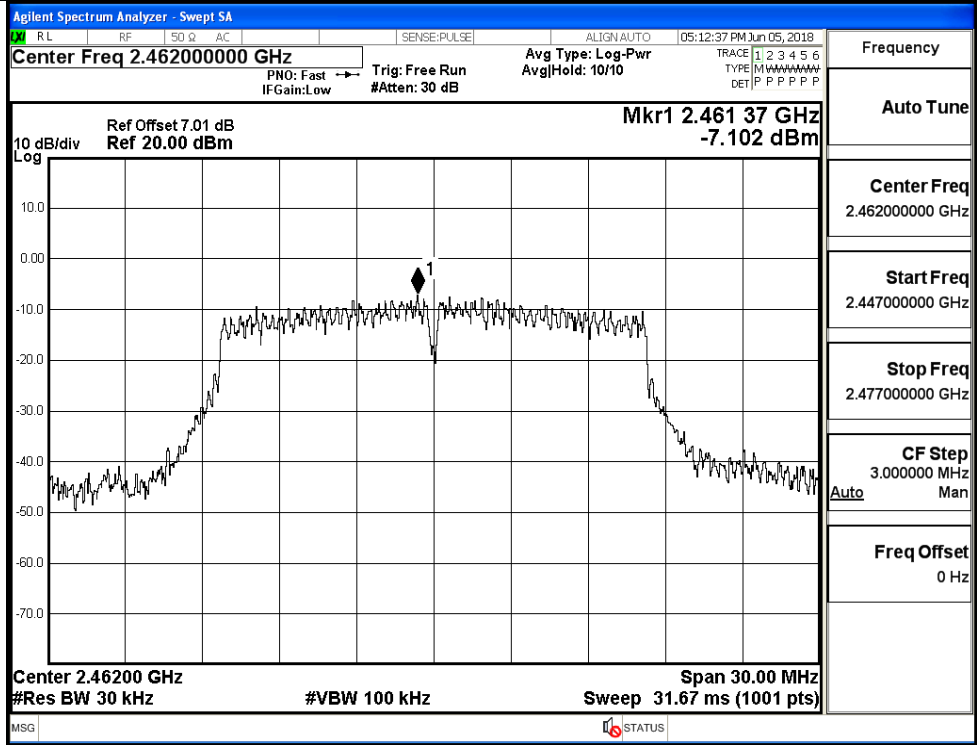
11G/LCH



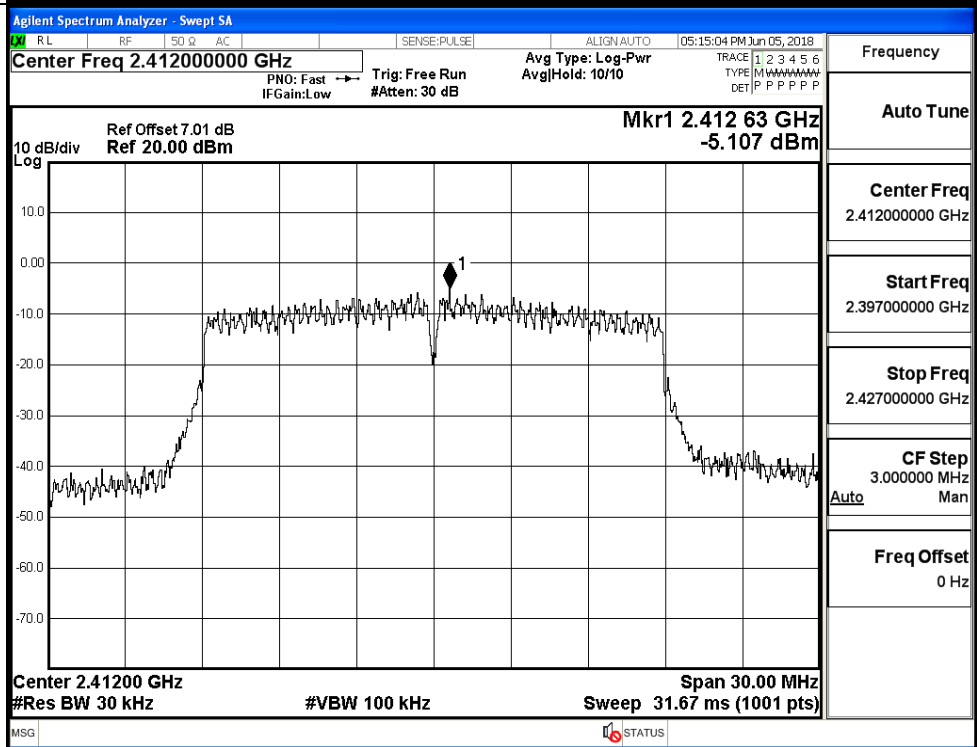
11G/MCH



11G/HCH

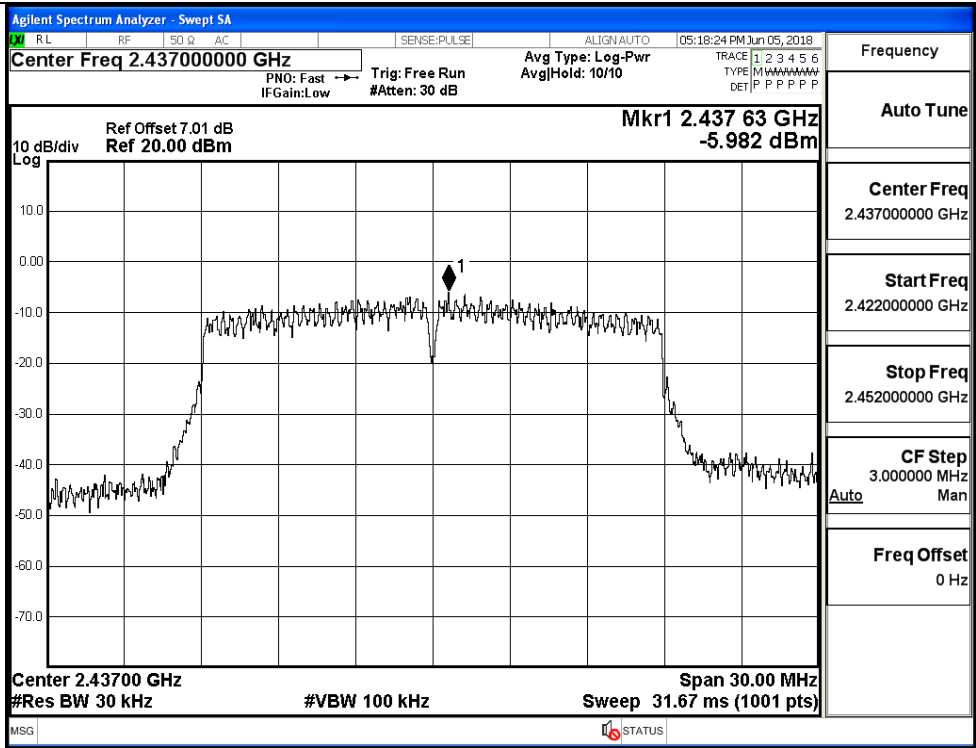


11N20SISO/LCH

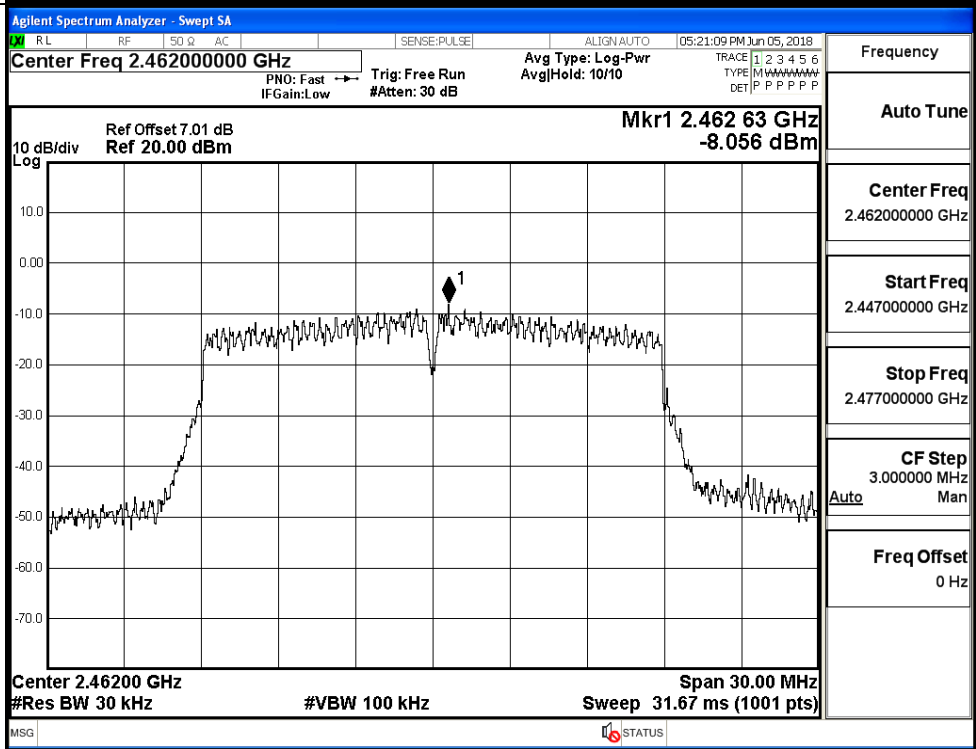




11N20SISO/MCH

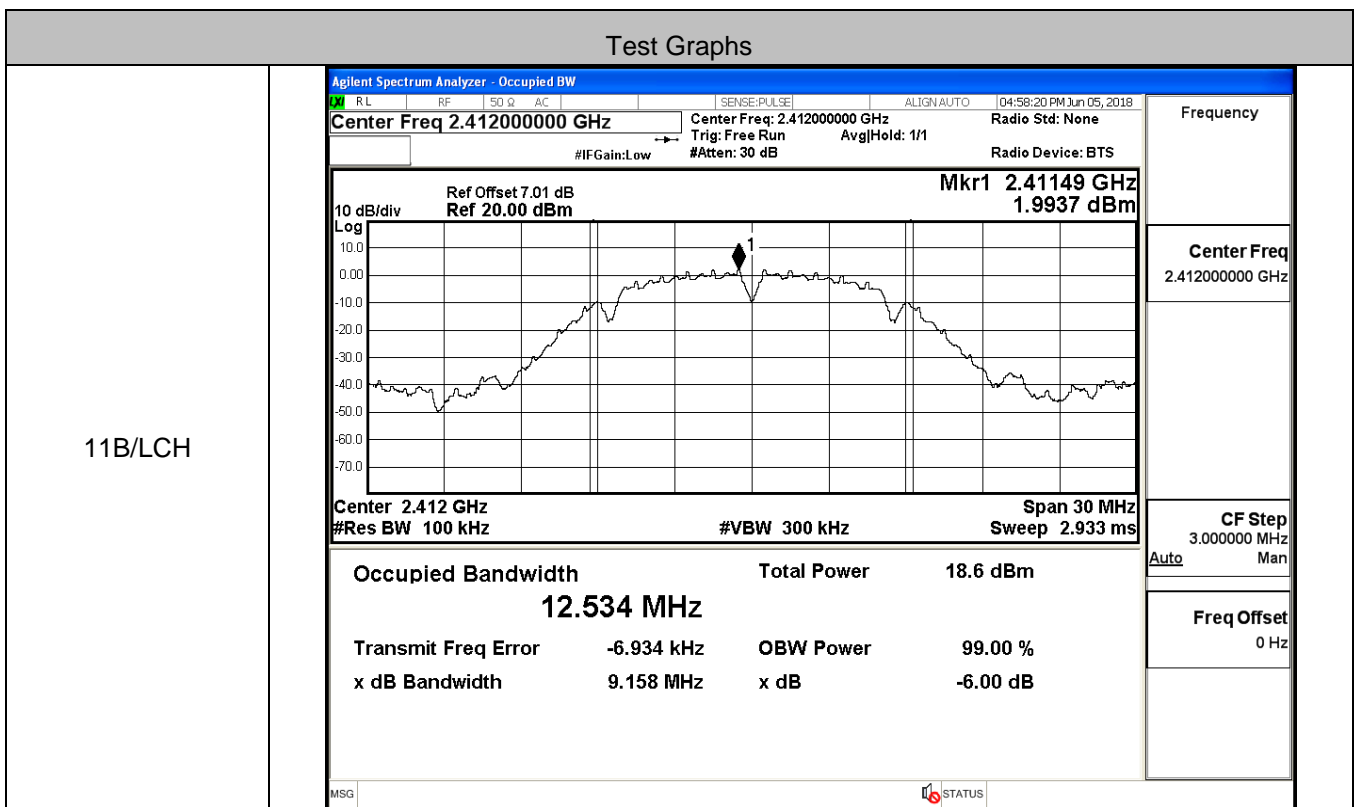


11N20SISO/HCH

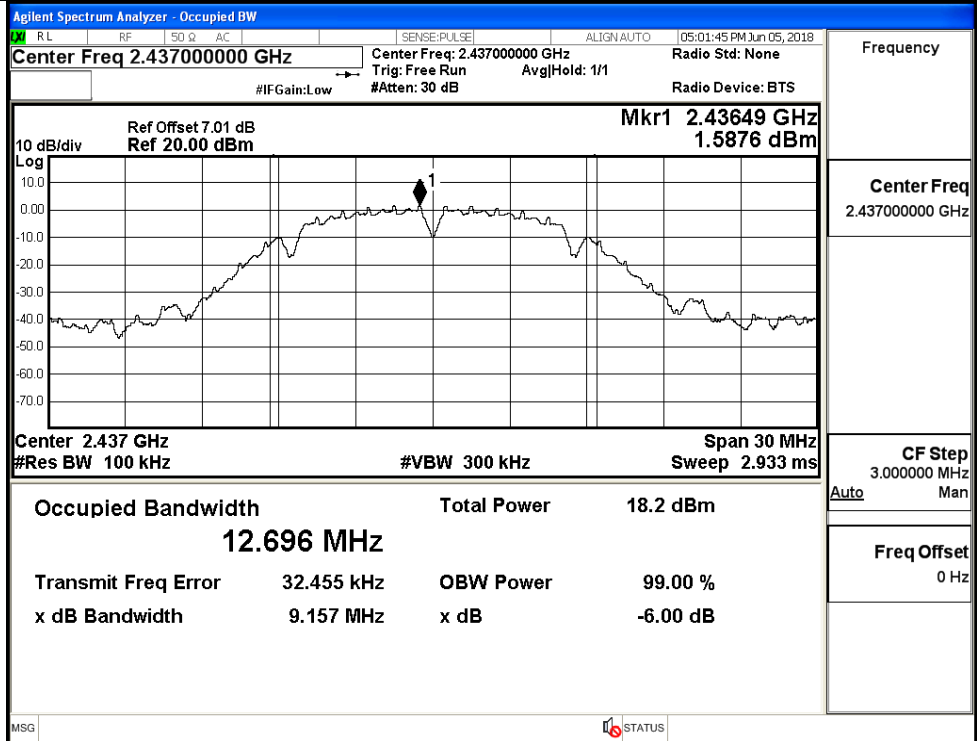


**A.4 6dB Bandwidth**

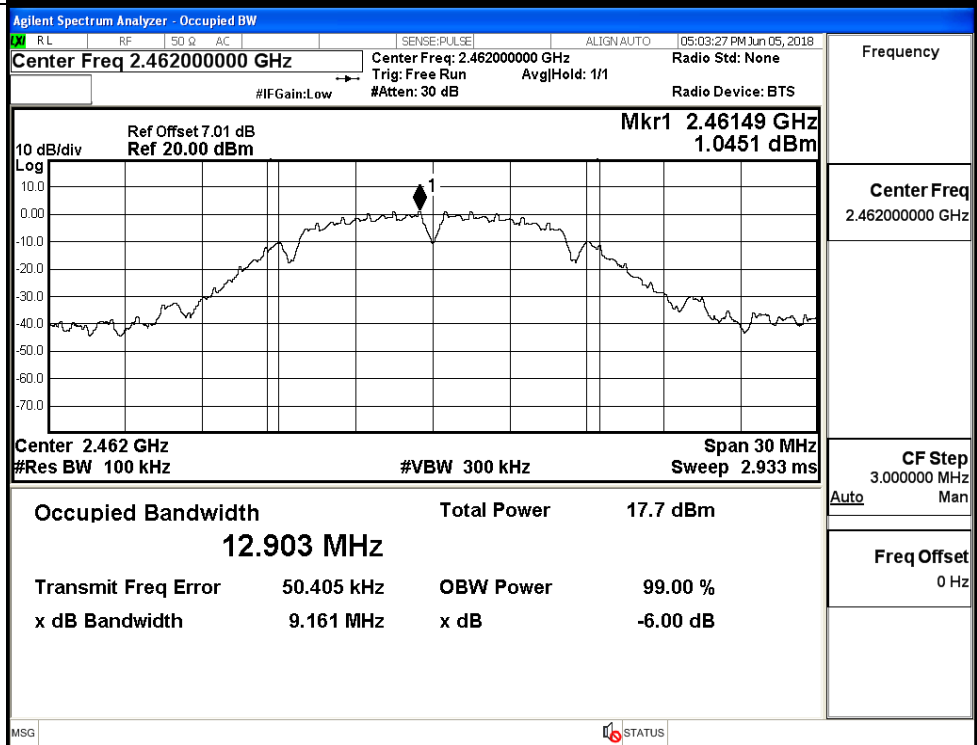
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.158	≥0.5	PASS
	MCH	9.157	≥0.5	PASS
	HCH	9.161	≥0.5	PASS
11G	LCH	16.42	≥0.5	PASS
	MCH	16.41	≥0.5	PASS
	HCH	16.41	≥0.5	PASS
11N20SISO	LCH	17.61	≥0.5	PASS
	MCH	17.61	≥0.5	PASS
	HCH	17.62	≥0.5	PASS



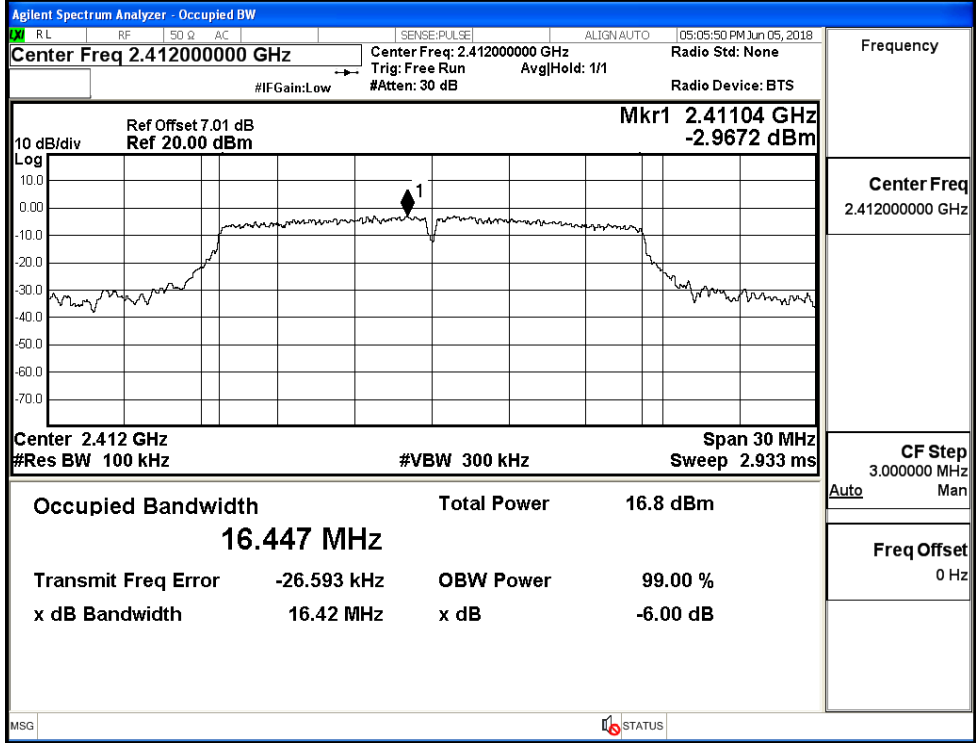
11B/MCH



11B/HCH

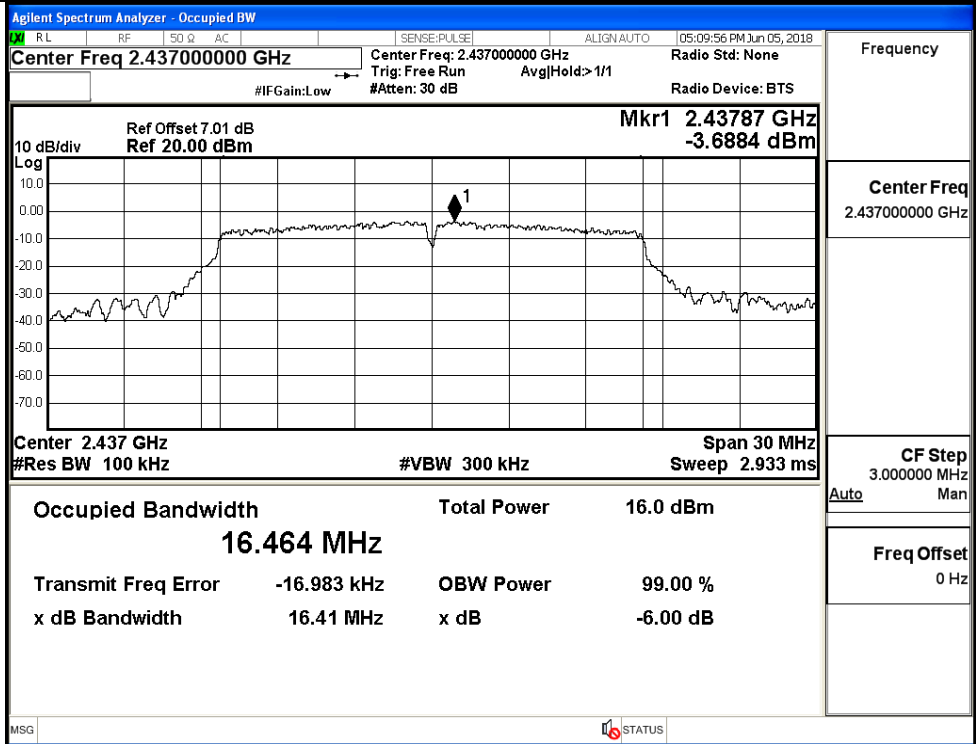


11G/LCH



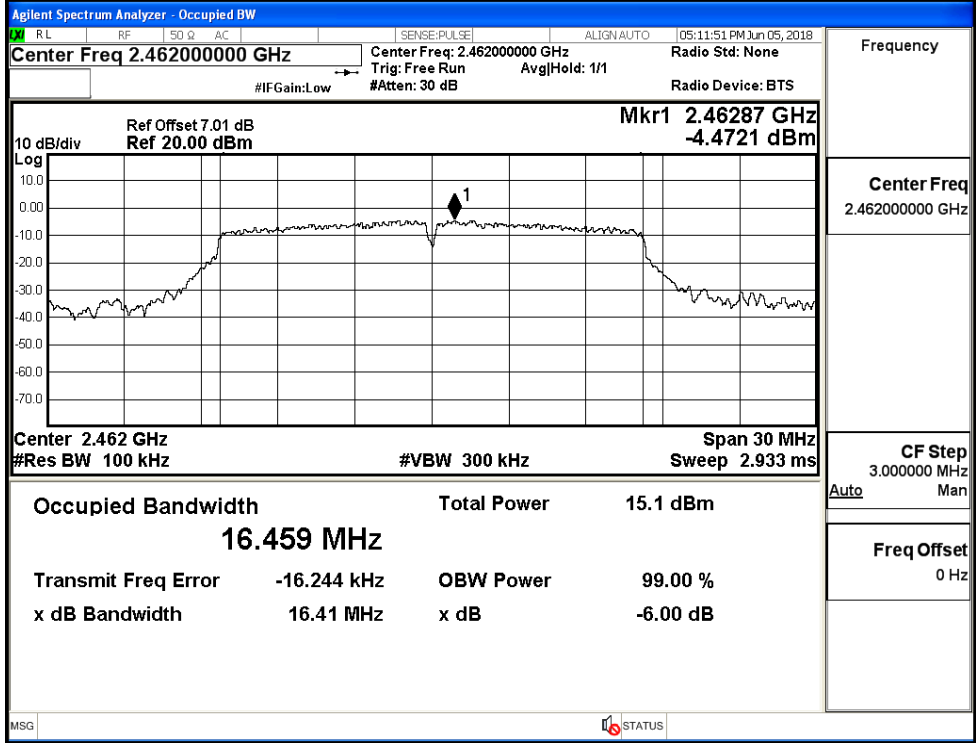
Frequency	2.41200000 GHz
Center Freq	2.41200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11G/MCH



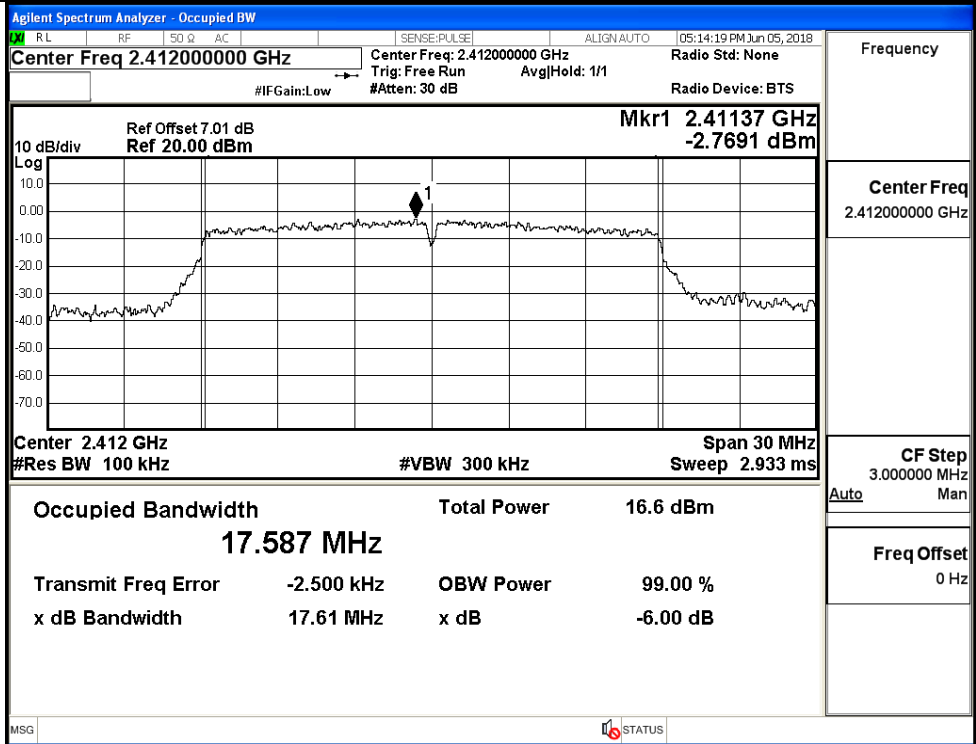
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Center Freq	2.43700000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11G/HCH



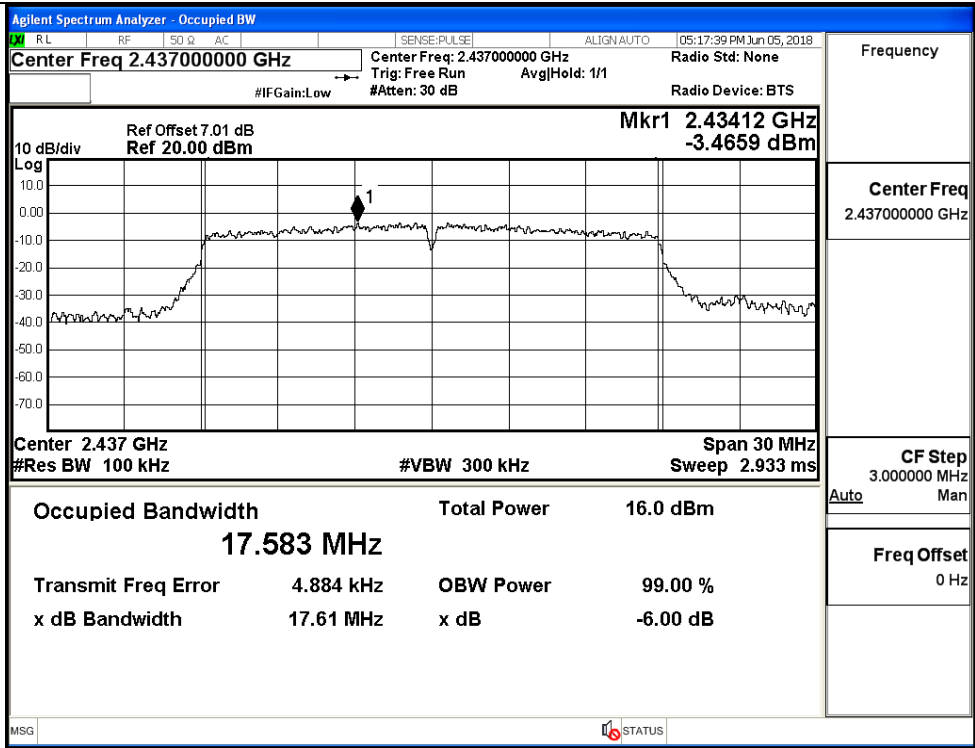
Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11N20SISO/LCH

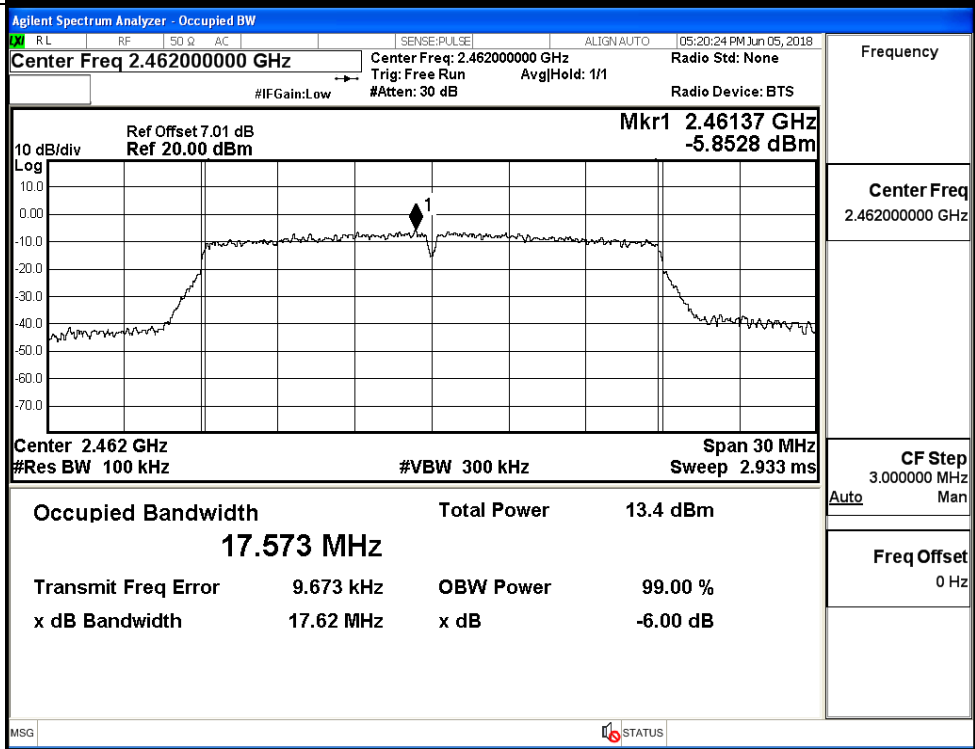


Frequency	2.41200000 GHz
Center Freq	2.41200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11N20SISO/MCH



11N20SISO/HCH

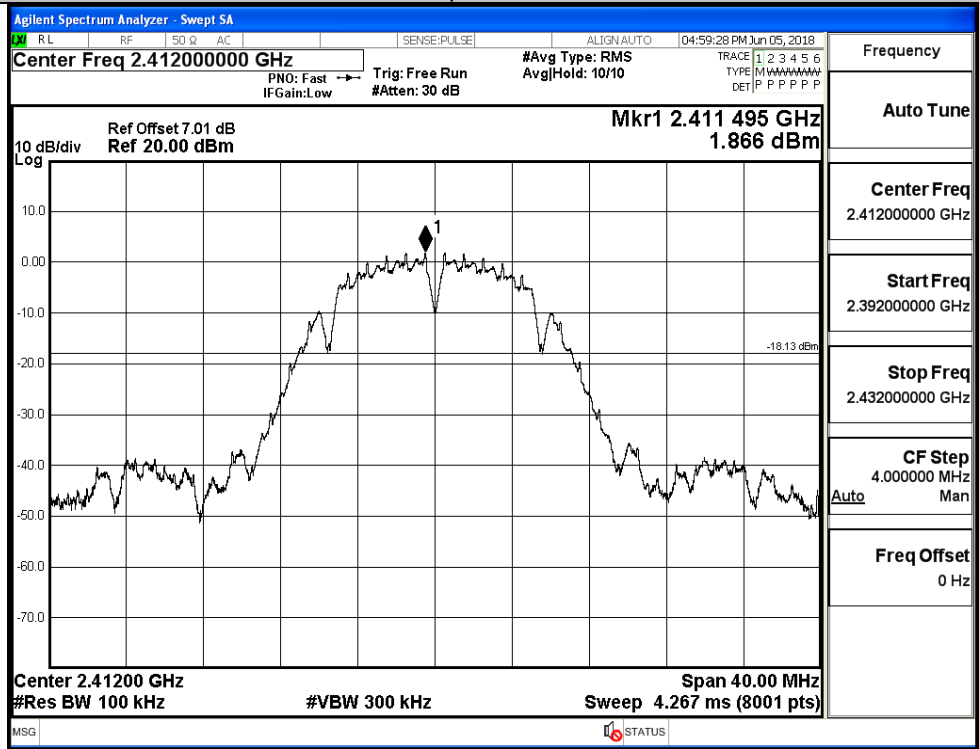


**A.5 RF Conducted Spurious Emissions**

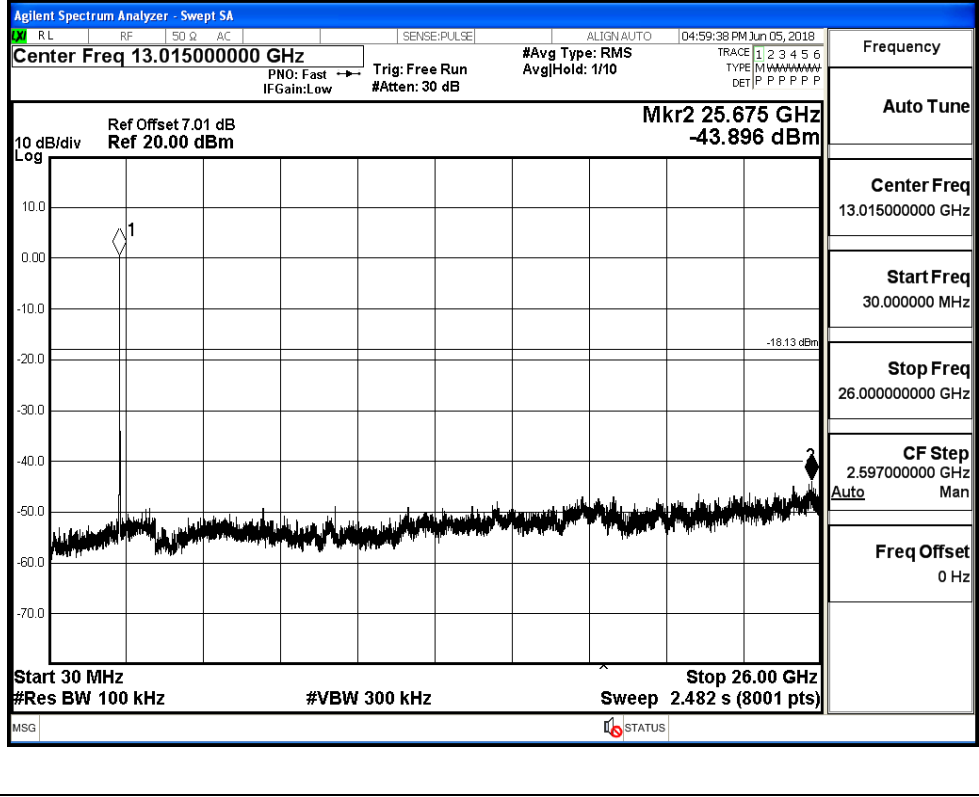
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	1.866	-43.896	-18.134	PASS
	MCH	1.506	-44.445	-18.494	PASS
	HCH	1.005	-44.402	-18.995	PASS
11G	LCH	-3.069	-43.499	-23.069	PASS
	MCH	-3.866	-44.257	-23.866	PASS
	HCH	-4.576	-44.579	-24.576	PASS
11N20 SISO	LCH	-2.848	-43.741	-22.848	PASS
	MCH	-5.844	-37.225	-25.844	PASS
	HCH	-6.017	-42.516	-26.017	PASS

11B\_LCH\_Graphs

Pref/11B/LCH



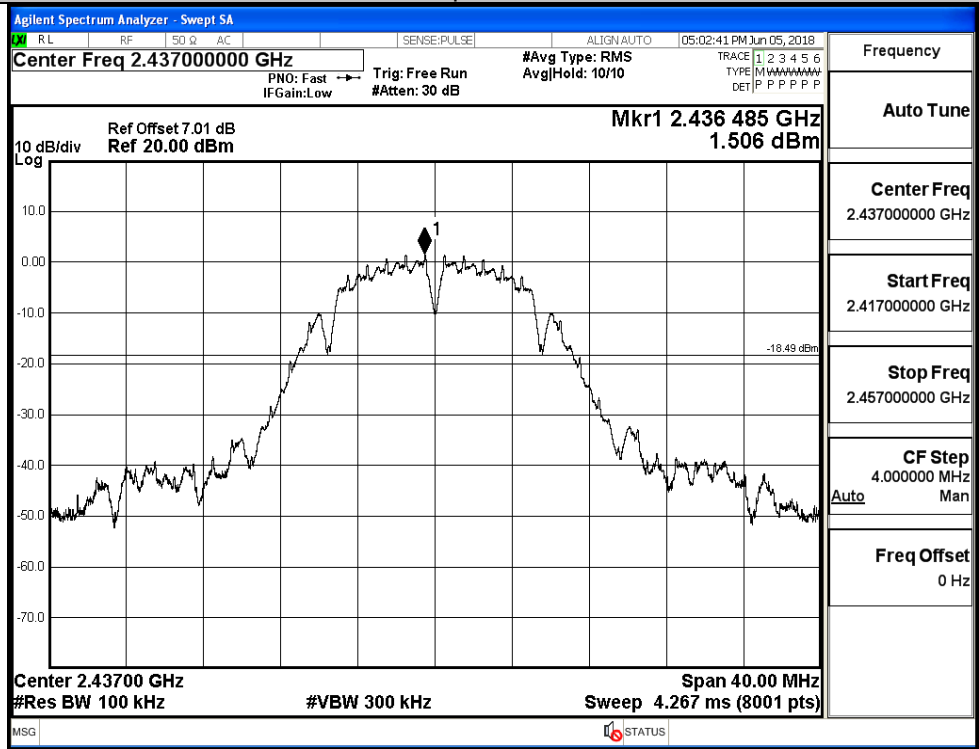
Puw/11B/LCH



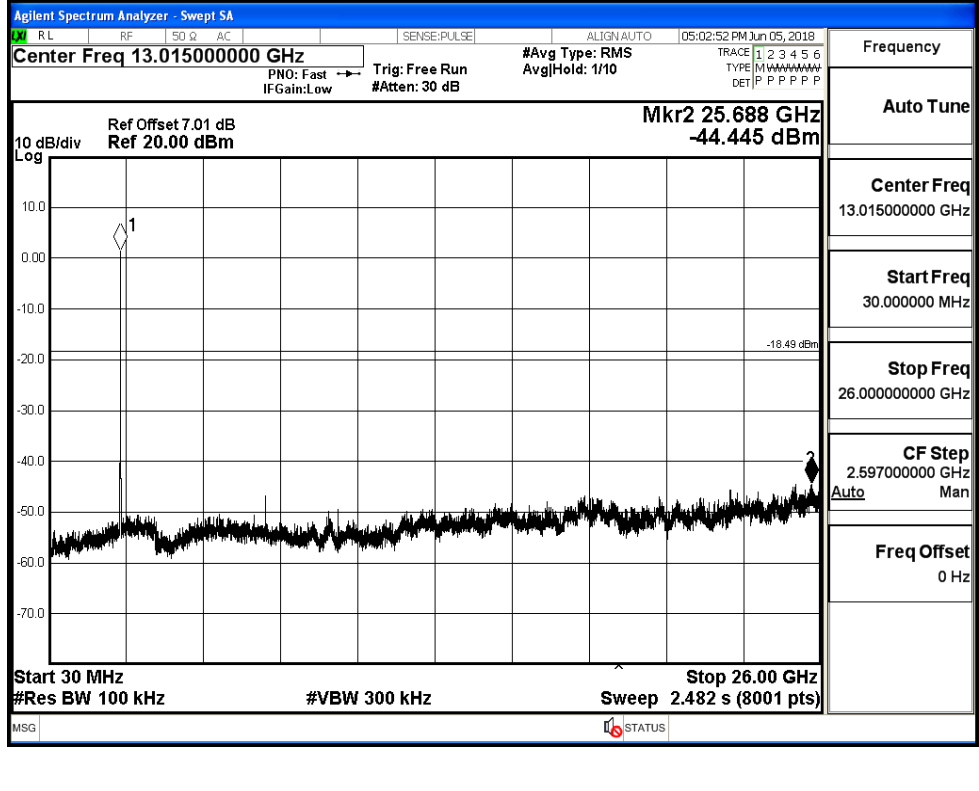


11B\_MCH\_Graphs

Pref/11B/MCH

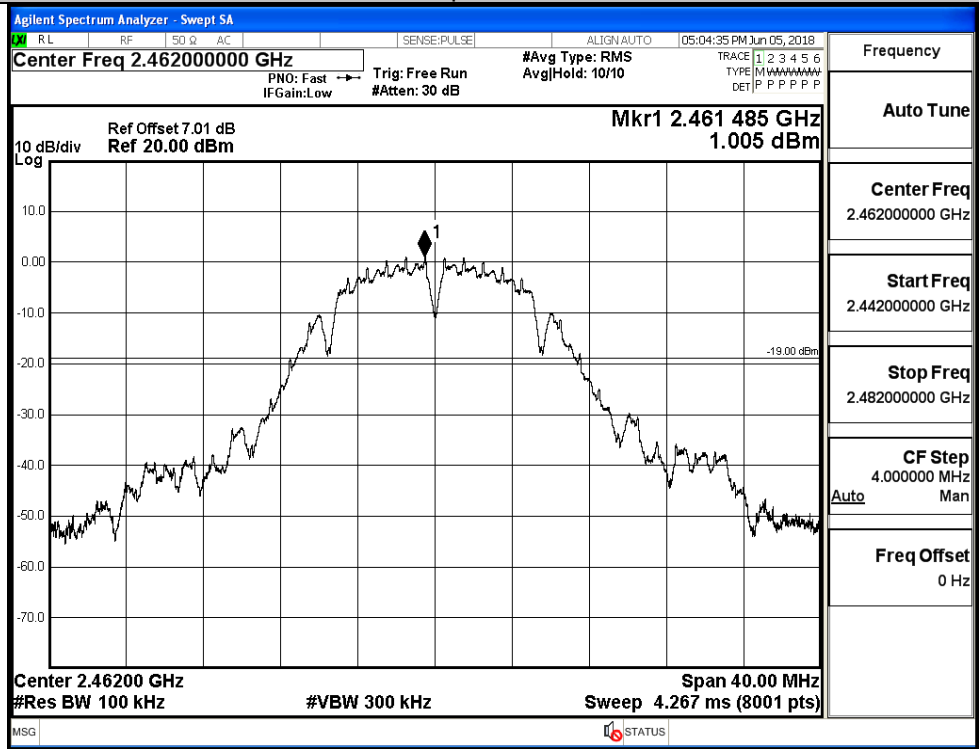


Puw/11B/MCH

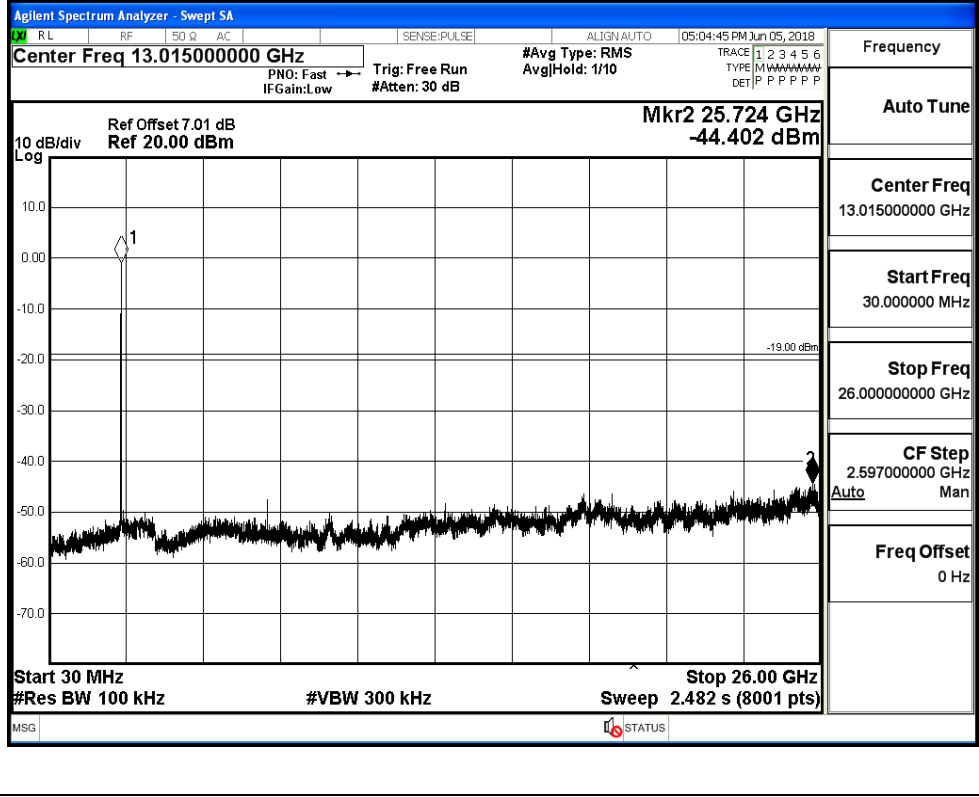


11B\_HCH\_Graphs

Pref/11B/HCH

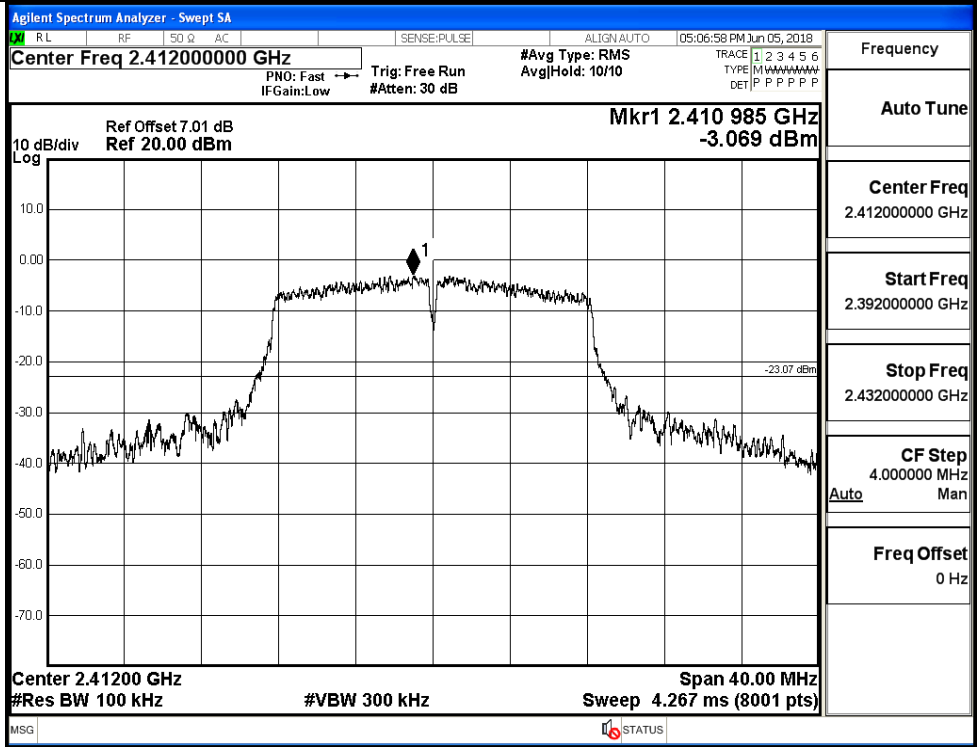


Puw/11B/HCH

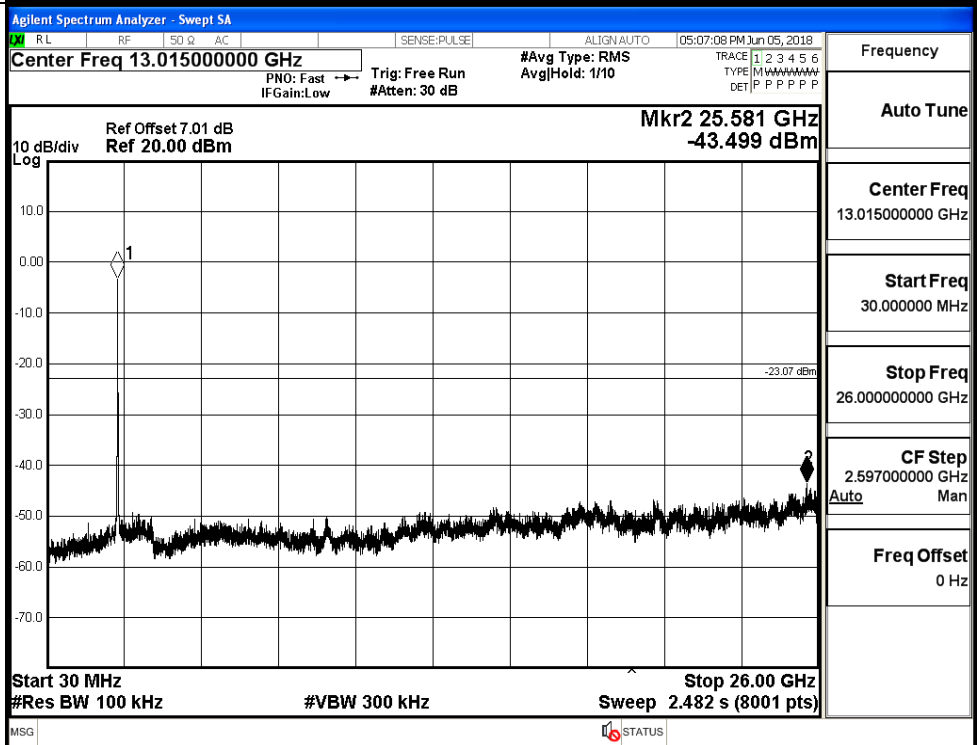


11G\_LCH\_Graphs

Pref/11G/LCH

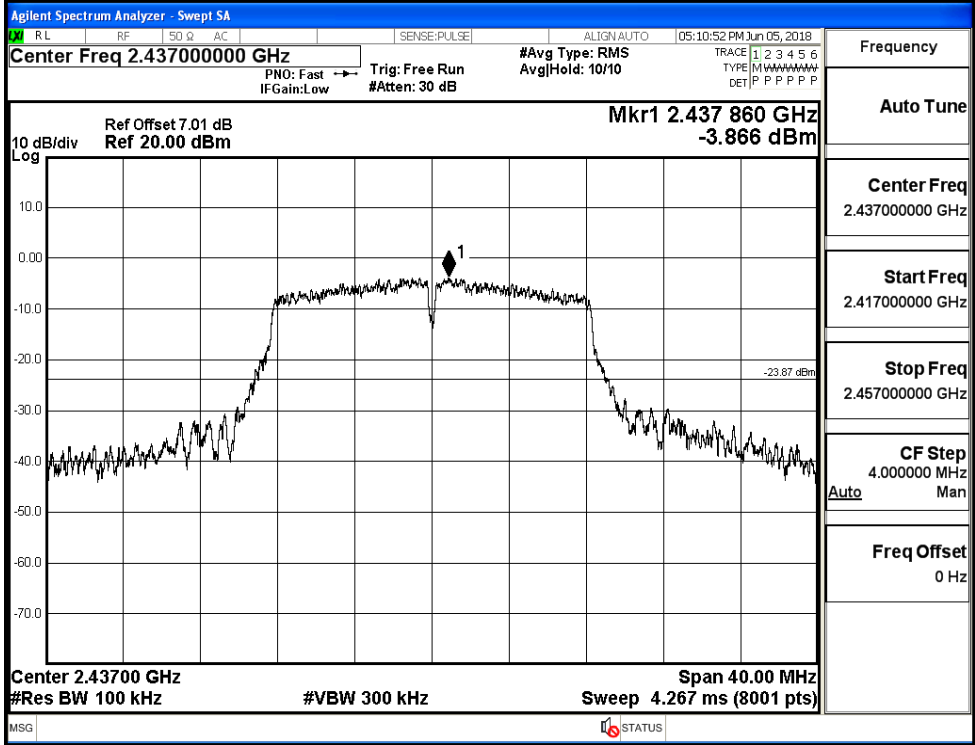


Puw/11G/LCH

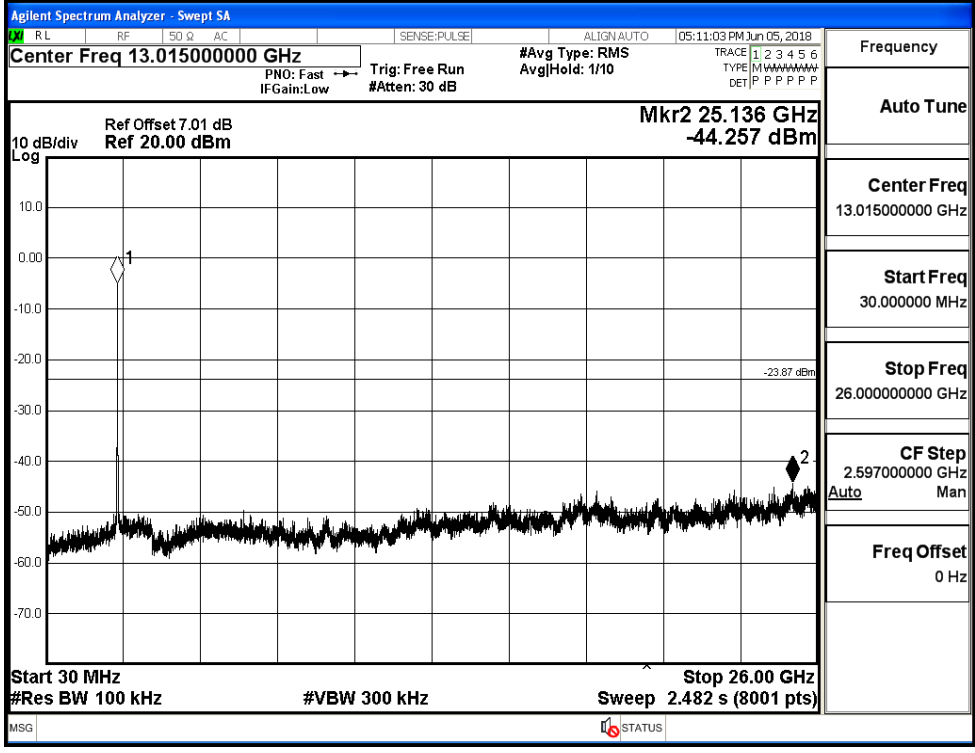


11G\_MCH\_Graphs

Pref/11G/MCH

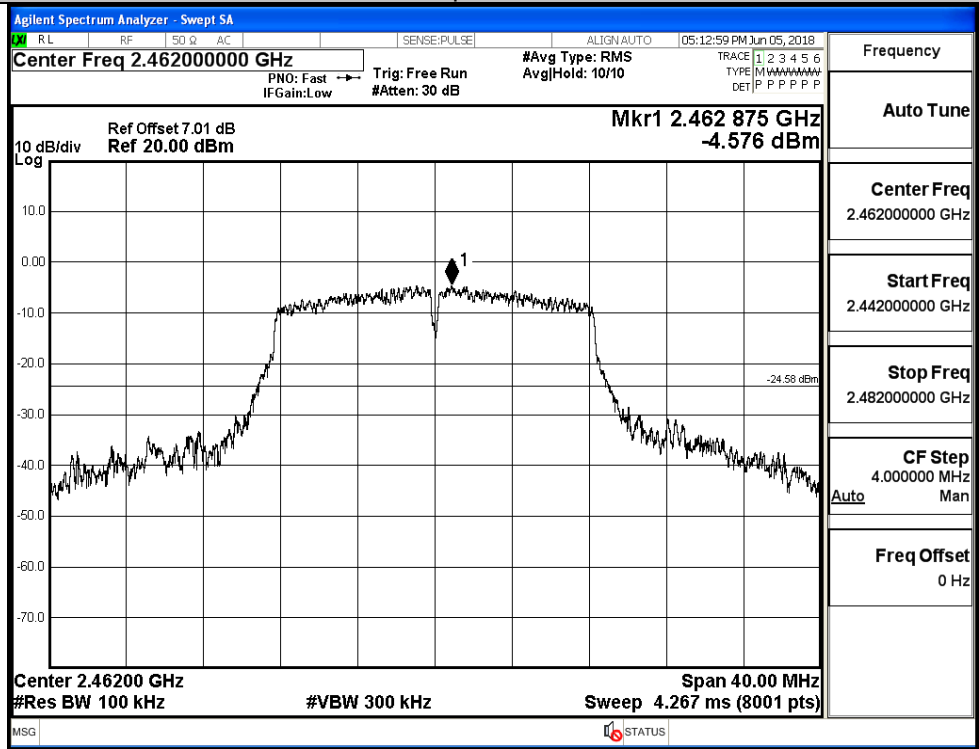


Puw/11G/MCH

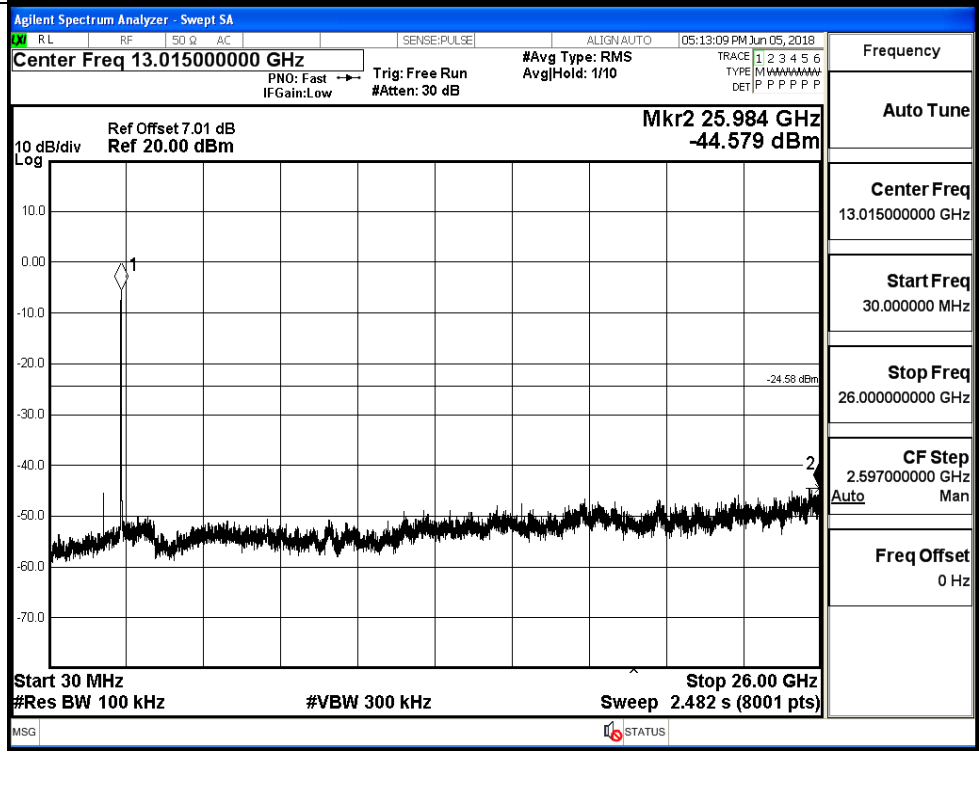


11G\_HCH\_Graphs

Pref/11G/HCH

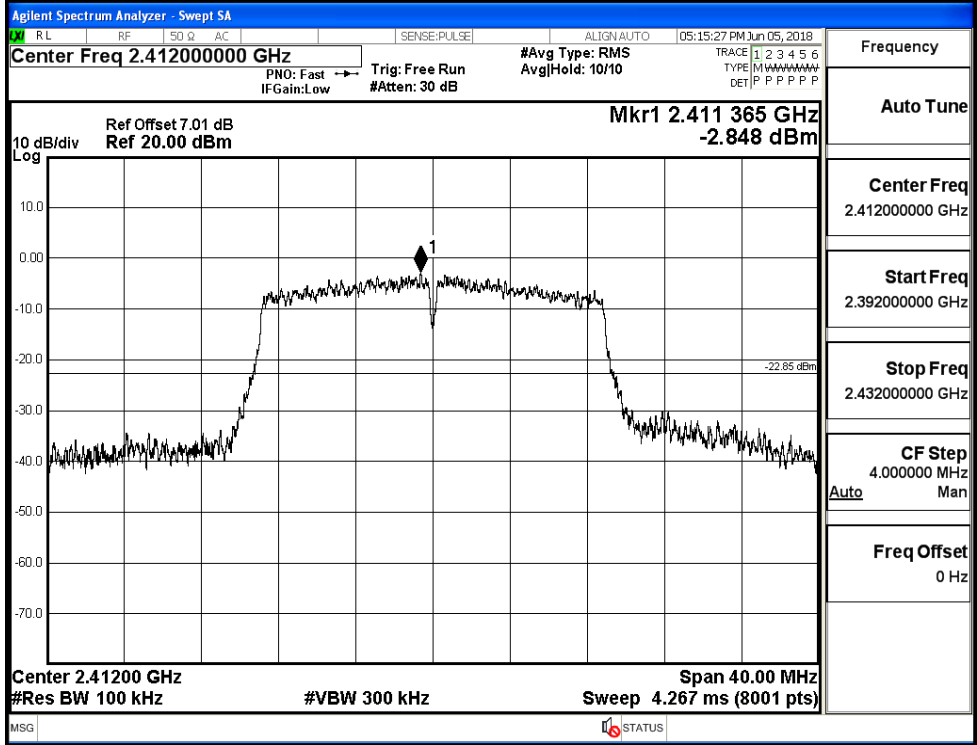


Puw/11G/HCH

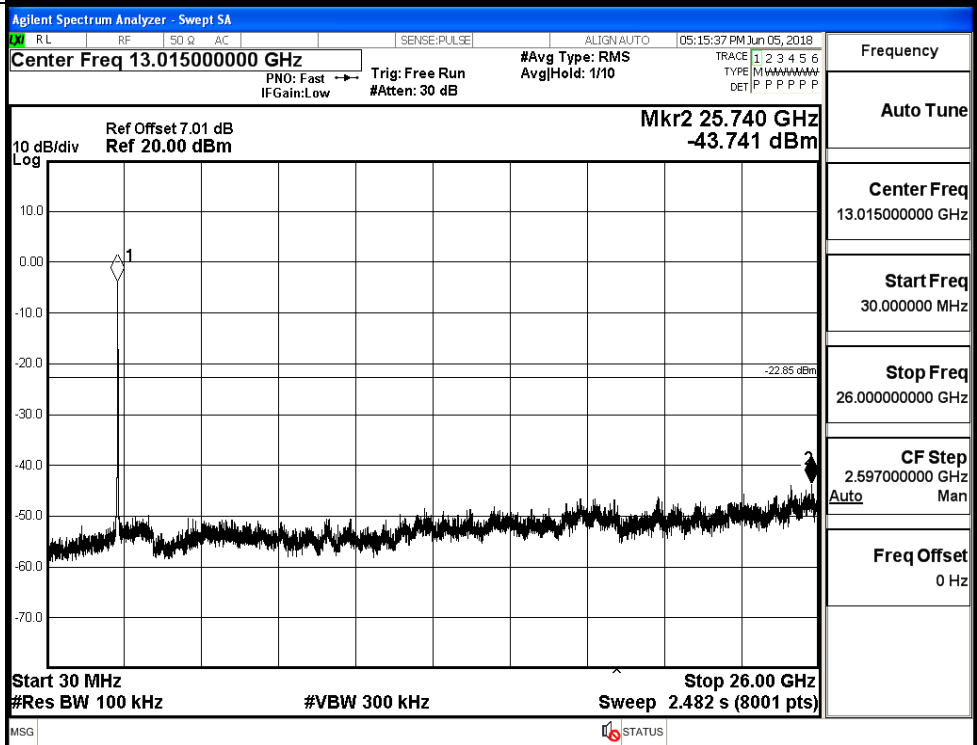


11N20SISO\_LCH\_Graphs

Pref/11N20SIS  
O/LCH

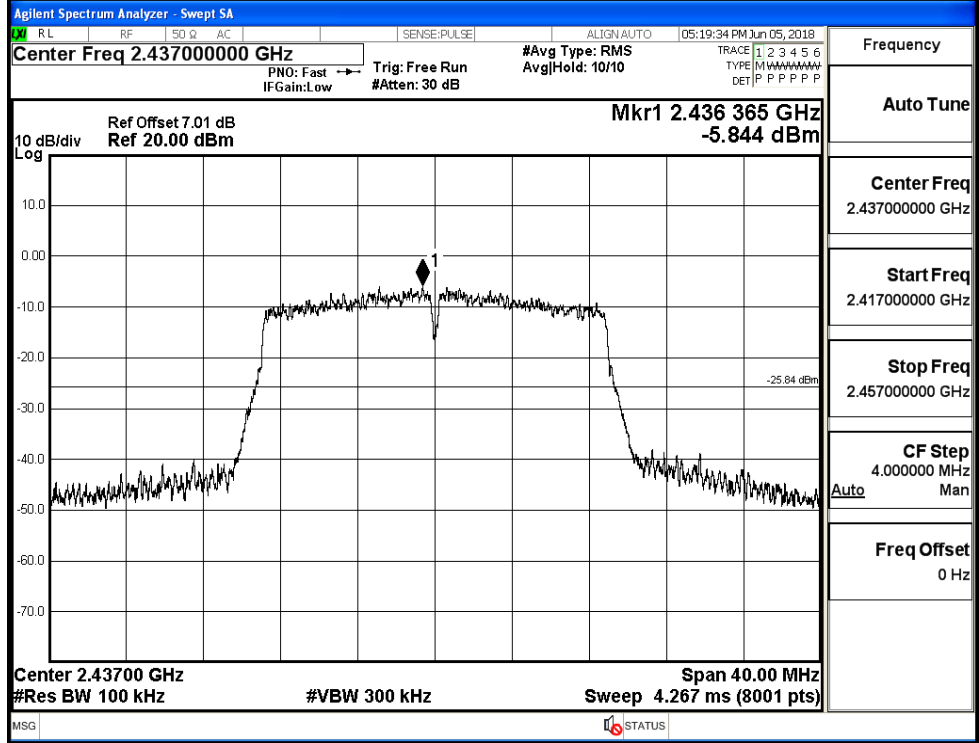


Puw/11N20  
SISO/LCH

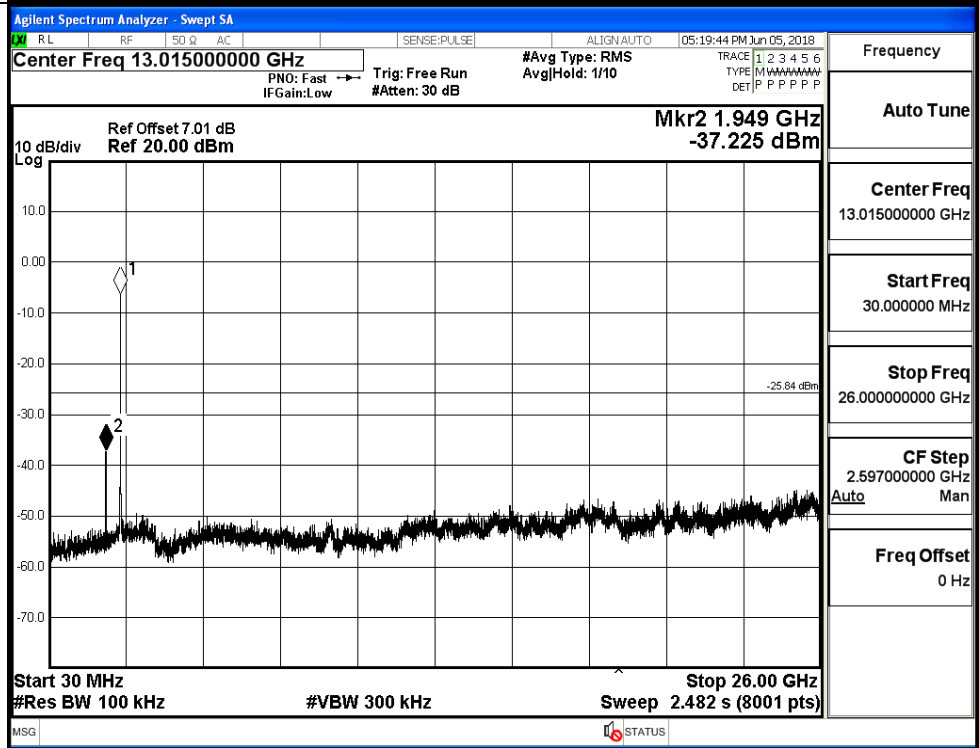


11N20SISO\_MCH\_Graphs

Pref/11N20  
SISO/MCH

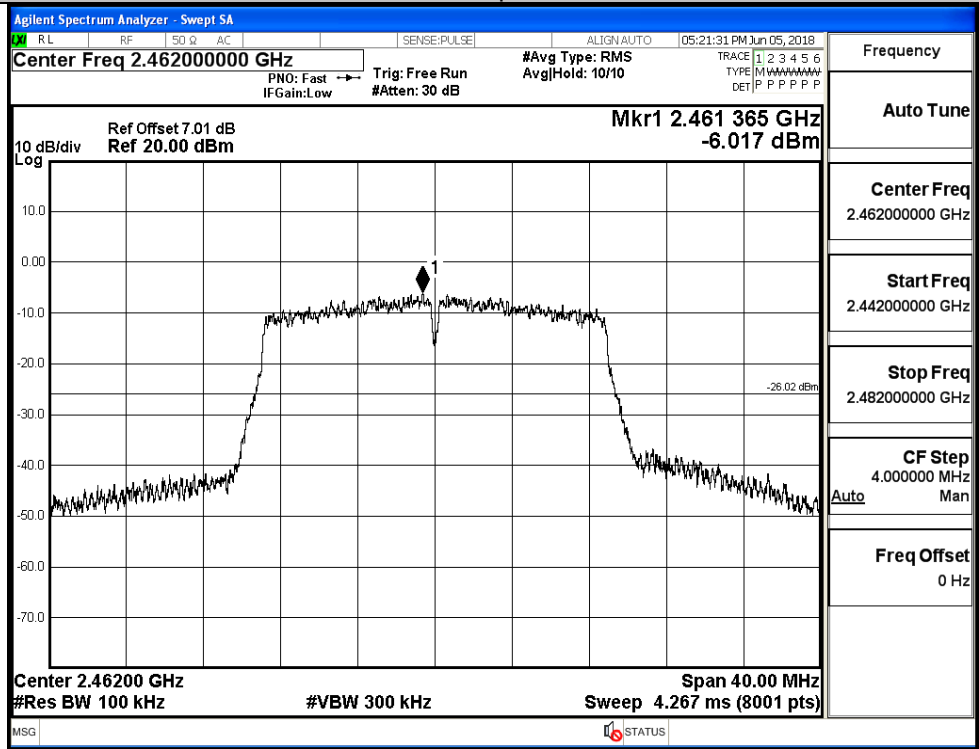


Puw/11N20  
SISO/MCH

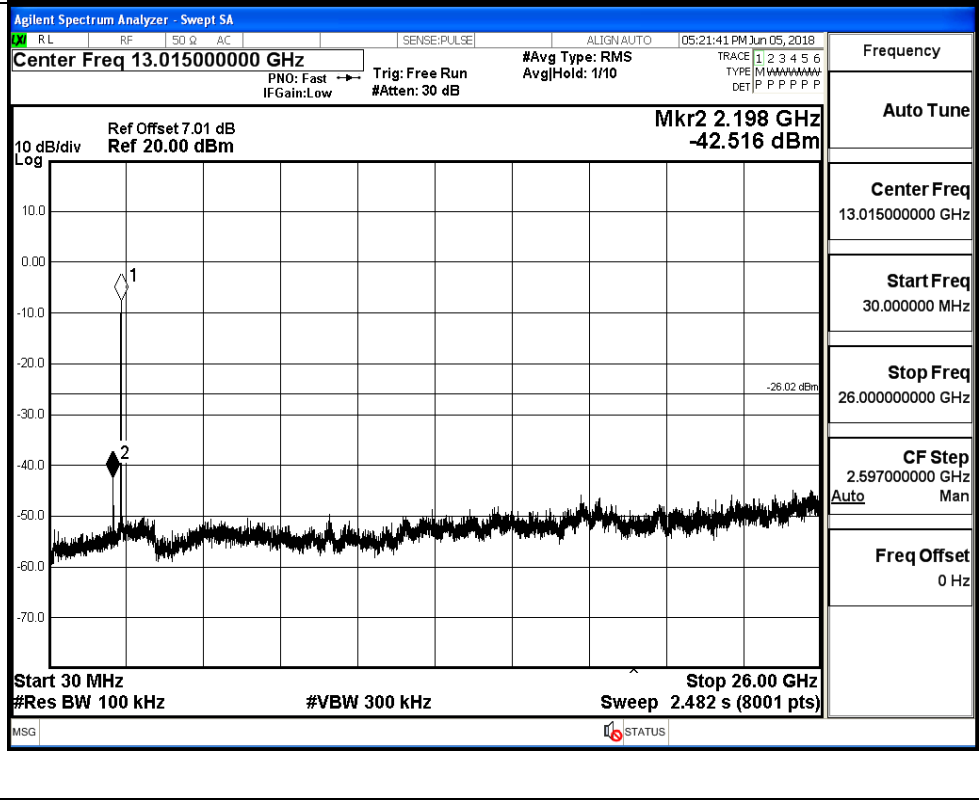


11N20SISO\_HCH\_Graphs

Pref/11N20  
SISO/HCH



Puw/11N20  
SISO/HCH





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

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	1.945	-45.365	-18.06	PASS
	HCH	1.047	-48.833	-18.95	PASS
11G	LCH	-2.983	-37.675	-22.98	PASS
	HCH	-4.562	-43.461	-24.56	PASS
11N20SISO	LCH	-3.228	-36.937	-23.23	PASS
	HCH	-5.912	-48.314	-25.91	PASS

#### Test Graphs

11B/LCH

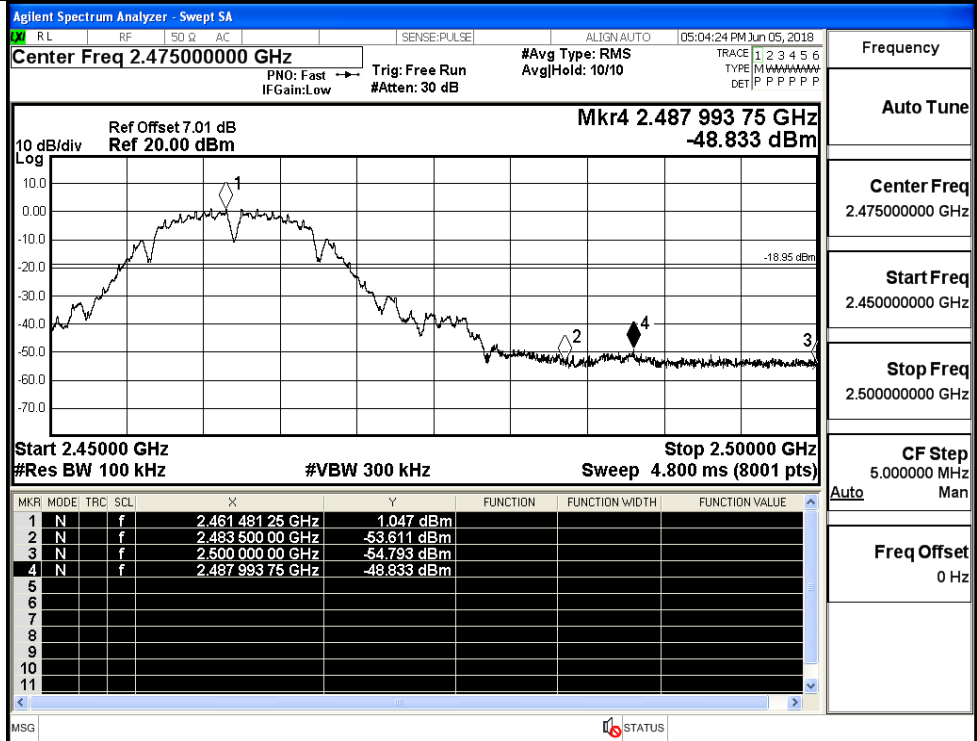
**Agilent Spectrum Analyzer - Swept SA**

Center Freq 2.367500000 GHz

Mkr4 2.388 329 GHz -45.365 dBm

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.411 488 GHz	-1.945 dBm			
2	N	f		2.400 000 GHz	-48.834 dBm			
3	N	f		2.380 000 GHz	-49.260 dBm			
4	N	f		2.388 329 GHz	-45.365 dBm			

11B/HCH



Frequency

Auto Tune

Center Freq  
2.47500000 GHz

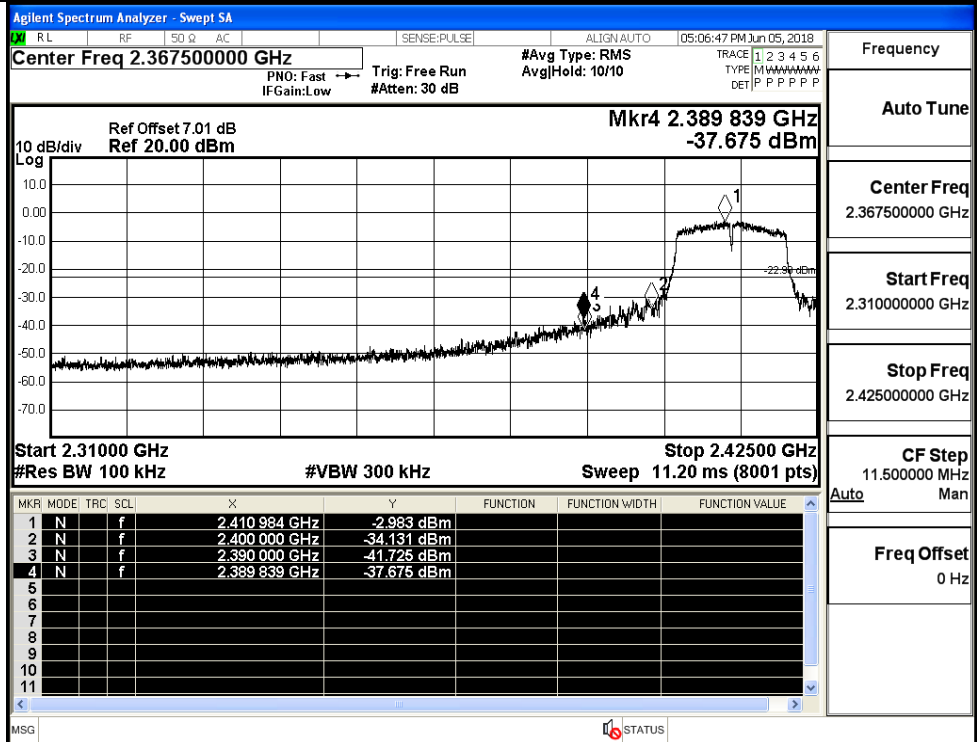
Start Freq  
2.45000000 GHz

Stop Freq  
2.50000000 GHz

CF Step  
5.000000 MHz

Freq Offset  
0 Hz

11G/LCH



Frequency

Auto Tune

Center Freq  
2.36750000 GHz

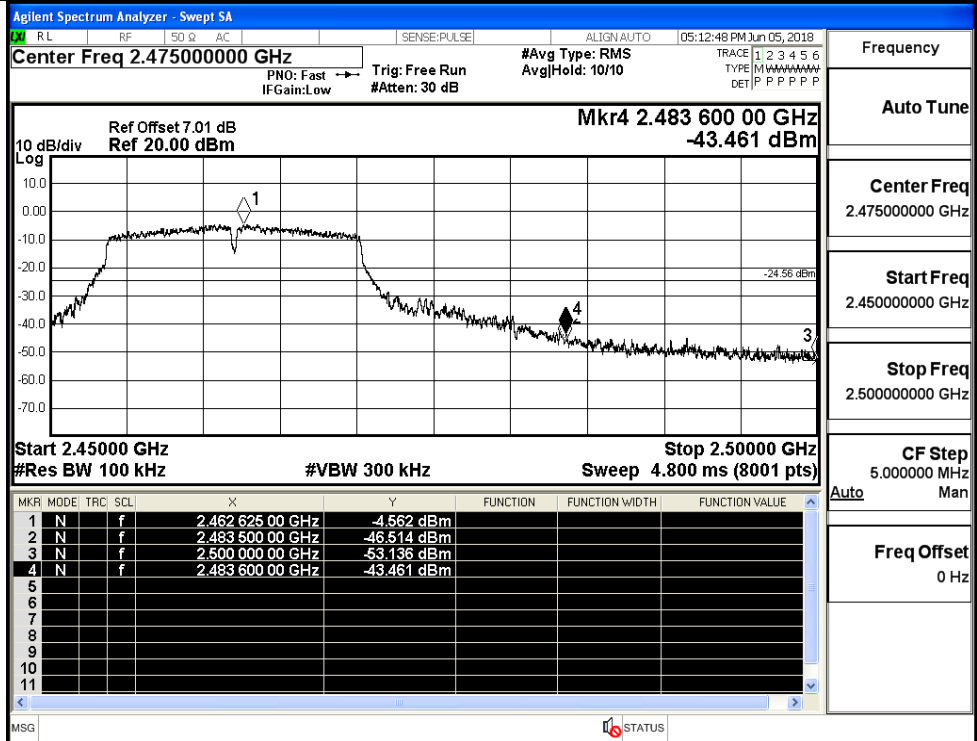
Start Freq  
2.31000000 GHz

Stop Freq  
2.42500000 GHz

CF Step  
11.500000 MHz

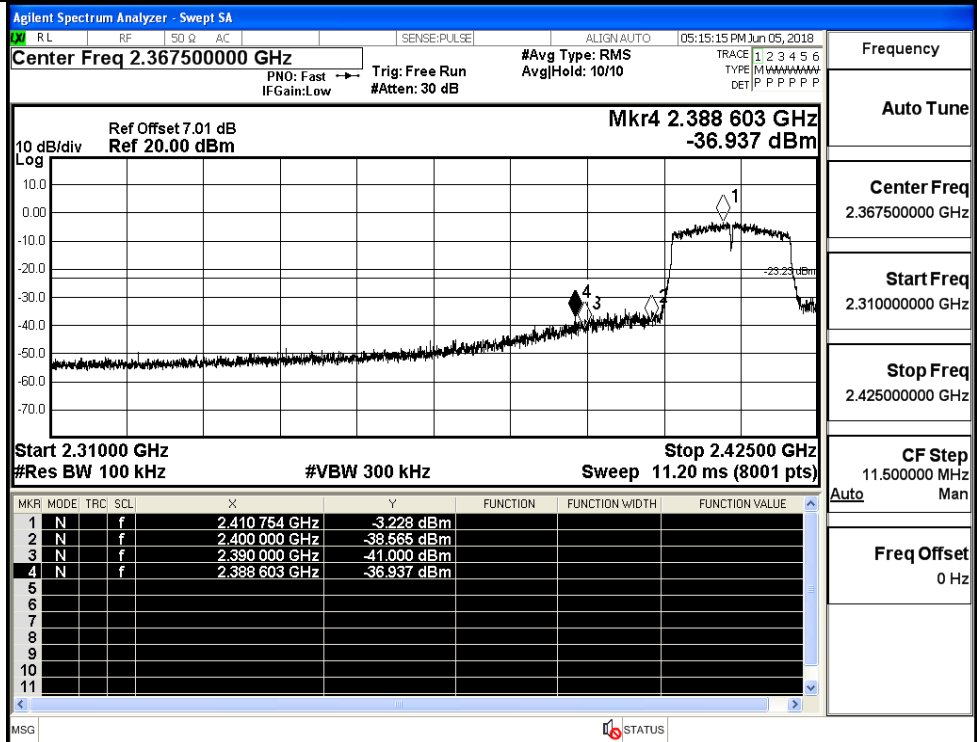
Freq Offset  
0 Hz

11G/HCH



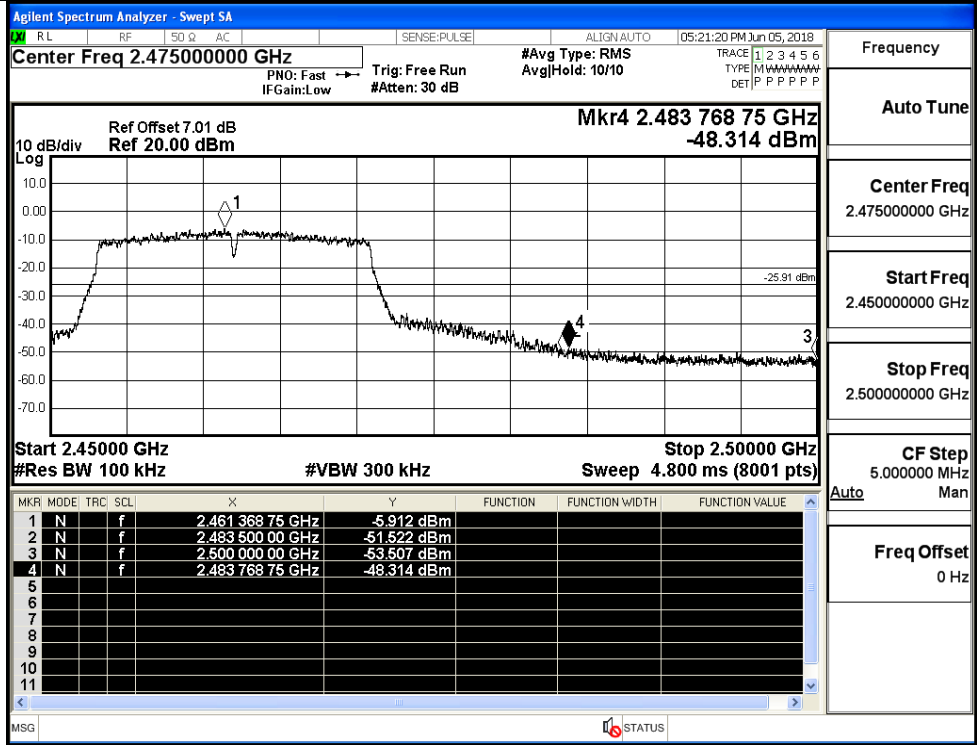
Frequency	
Auto Tune	
Center Freq	2.475000000 GHz
Start Freq	2.450000000 GHz
Stop Freq	2.500000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N20SISO/LCH



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

11N20SISO/HCH

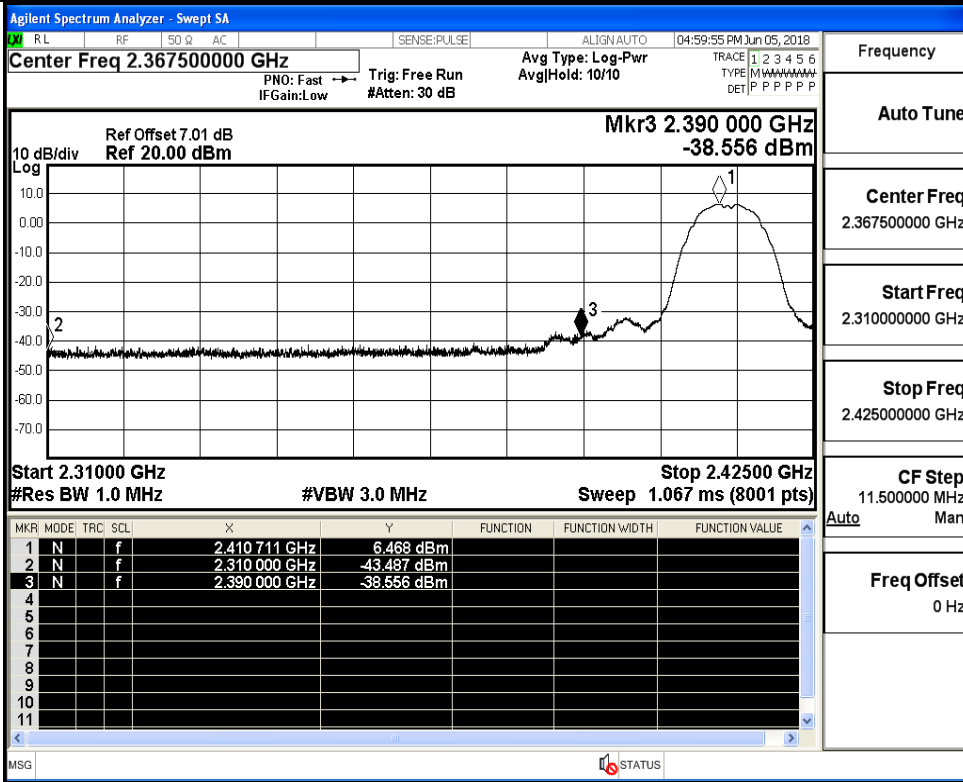


Frequency
Auto Tune
Center Freq 2.475000000 GHz
Start Freq 2.450000000 GHz
Stop Freq 2.500000000 GHz
CF Step 5.000000 MHz Auto Man
Freq Offset 0 Hz

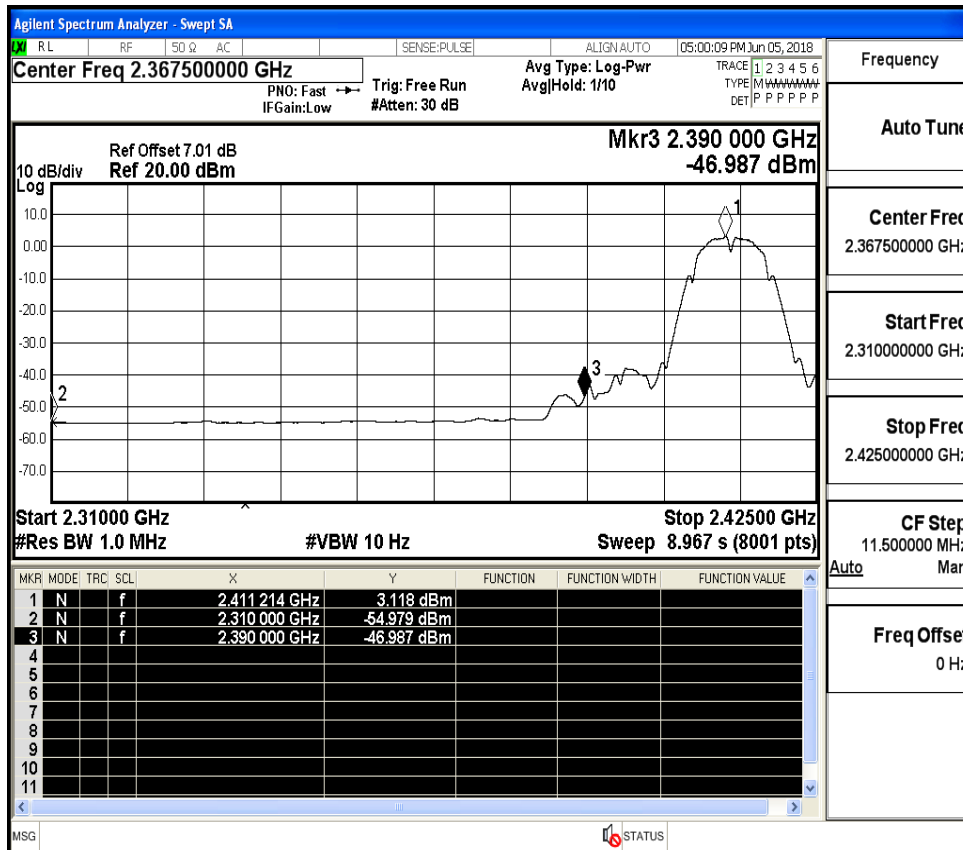
## A.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-43.49	2.0	0	53.77	PEAK	74	PASS
	2412	Ant1	2310.0	-54.98	2.0	0	42.28	AV	54	PASS
	2412	Ant1	2390.0	-38.56	2.0	0	58.70	PEAK	74	PASS
	2412	Ant1	2390.0	-46.99	2.0	0	50.27	AV	54	PASS
	2462	Ant1	2483.5	-43.55	2.0	0	53.71	PEAK	74	PASS
	2462	Ant1	2483.5	-53.16	2.0	0	44.10	AV	54	PASS
	2462	Ant1	2500.0	-43.57	2.0	0	53.69	PEAK	74	PASS
	2462	Ant1	2500.0	-54.07	2.0	0	43.19	AV	54	PASS
11G	2412	Ant1	2310.0	-44.12	2.0	0	53.14	PEAK	74	PASS
	2412	Ant1	2310.0	-54.72	2.0	0	42.54	AV	54	PASS
	2412	Ant1	2390.0	-34.10	2.0	0	63.16	PEAK	74	PASS
	2412	Ant1	2390.0	-46.45	2.0	0	50.81	AV	54	PASS
	2462	Ant1	2483.5	-32.57	2.0	0	64.69	PEAK	74	PASS
	2462	Ant1	2483.5	-48.38	2.0	0	48.88	AV	54	PASS
	2462	Ant1	2500.0	-39.08	2.0	0	58.18	PEAK	74	PASS
	2462	Ant1	2500.0	-52.35	2.0	0	44.91	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-44.27	2.0	0	52.99	PEAK	74	PASS
	2412	Ant1	2310.0	-54.86	2.0	0	42.40	AV	54	PASS
	2412	Ant1	2390.0	-34.54	2.0	0	62.71	PEAK	74	PASS
	2412	Ant1	2390.0	-46.98	2.0	0	50.28	AV	54	PASS
	2462	Ant1	2483.5	-38.12	2.0	0	59.14	PEAK	74	PASS
	2462	Ant1	2483.5	-50.78	2.0	0	46.48	AV	54	PASS
	2462	Ant1	2500.0	-43.67	2.0	0	53.59	PEAK	74	PASS
	2462	Ant1	2500.0	-53.59	2.0	0	43.67	AV	54	PASS

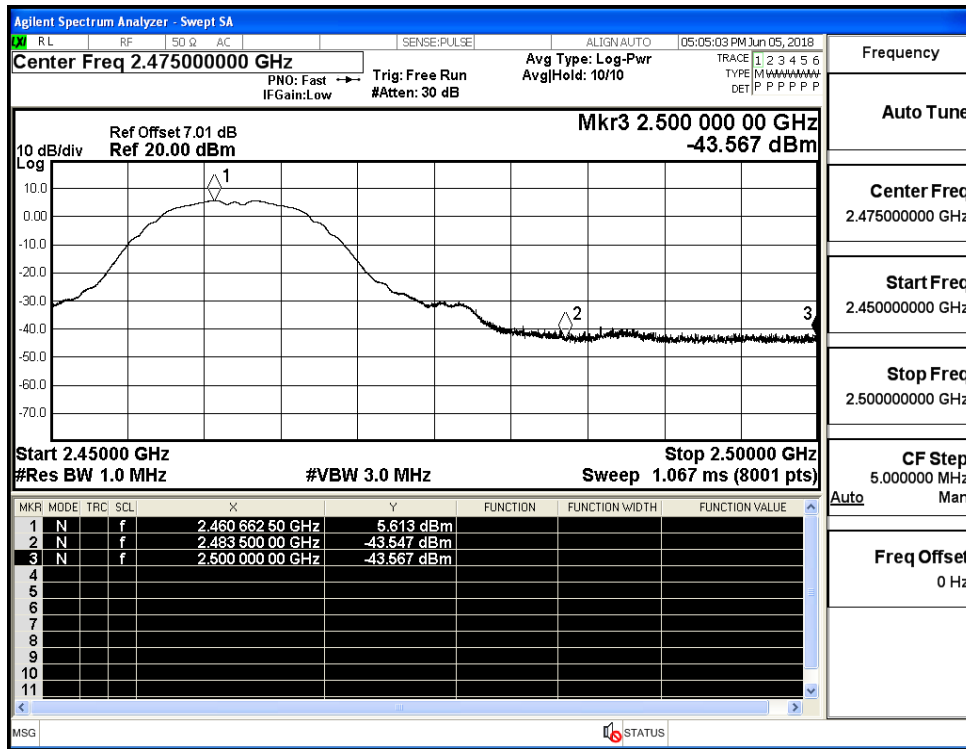
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



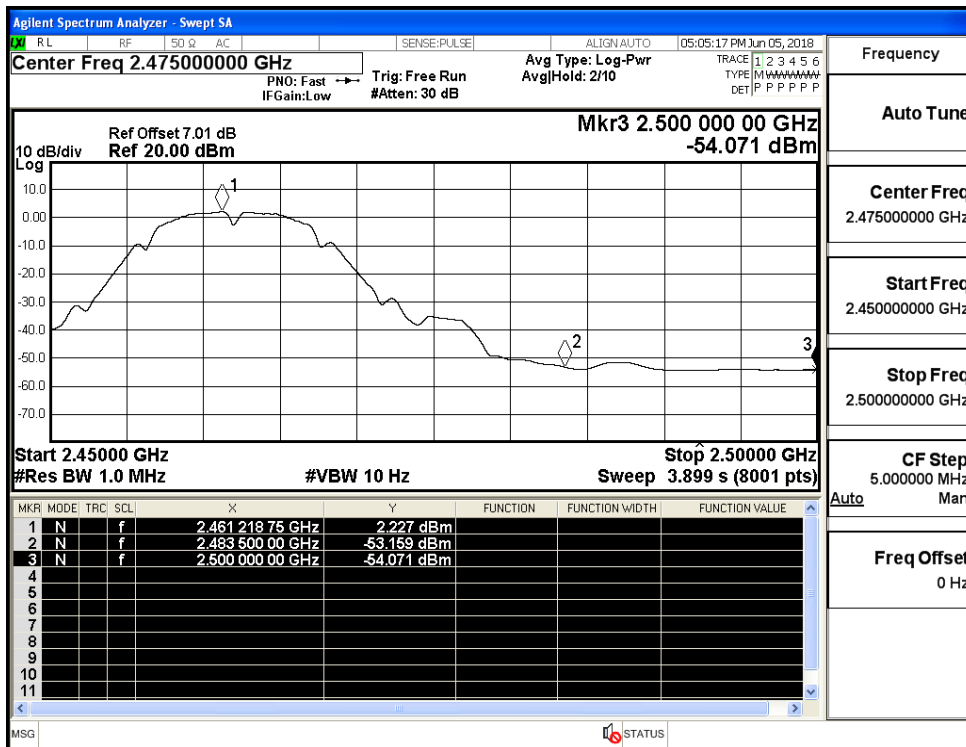
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



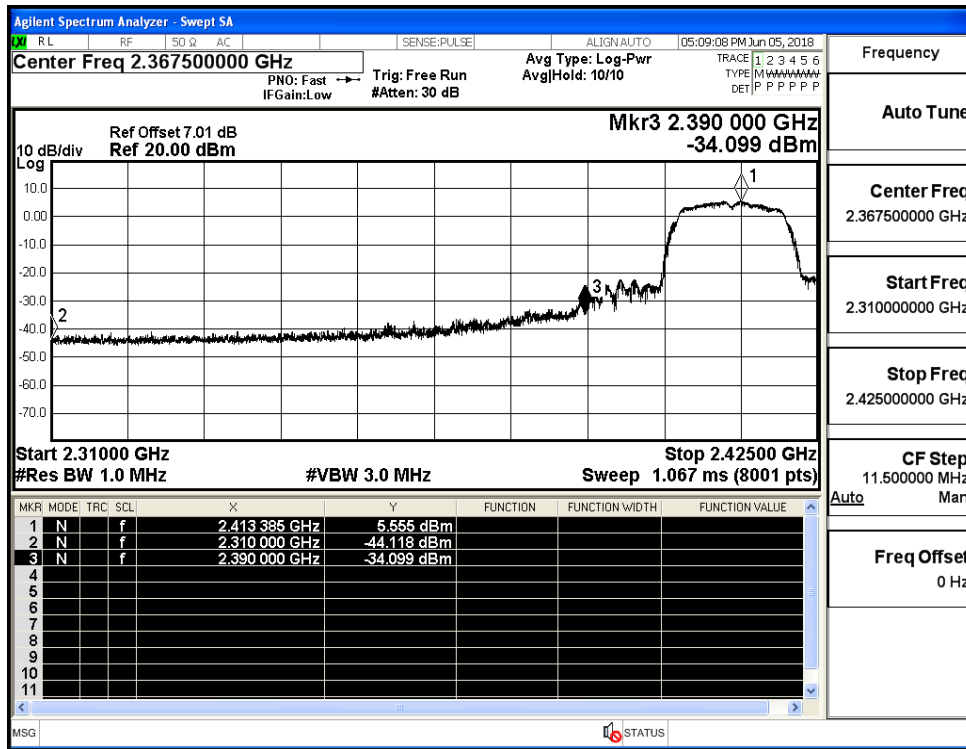
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_PEAK



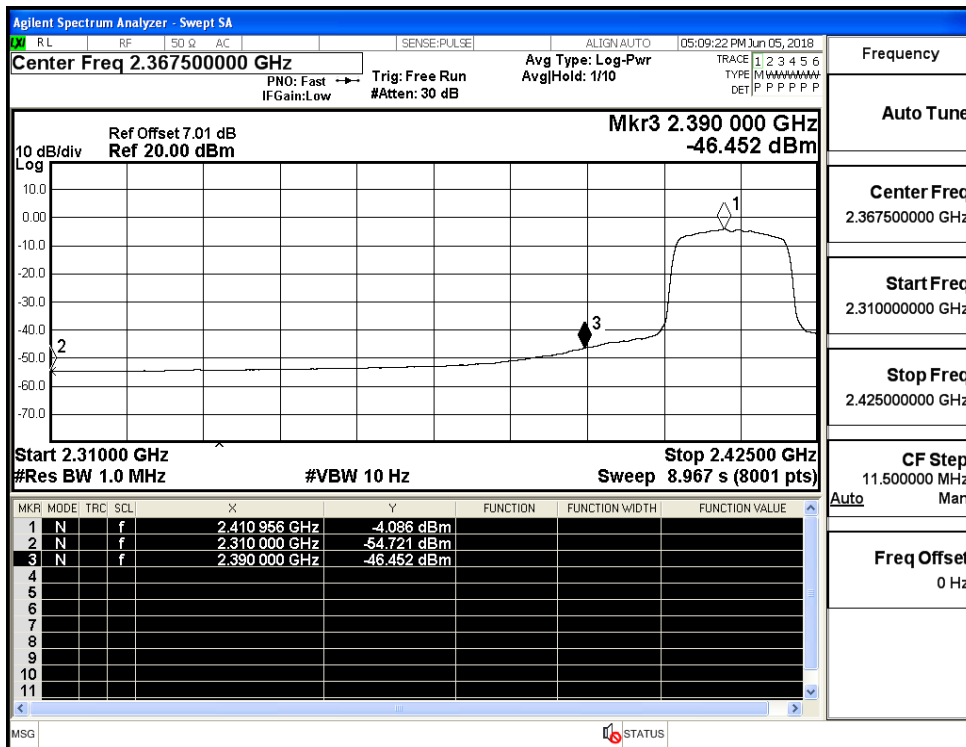
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV



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

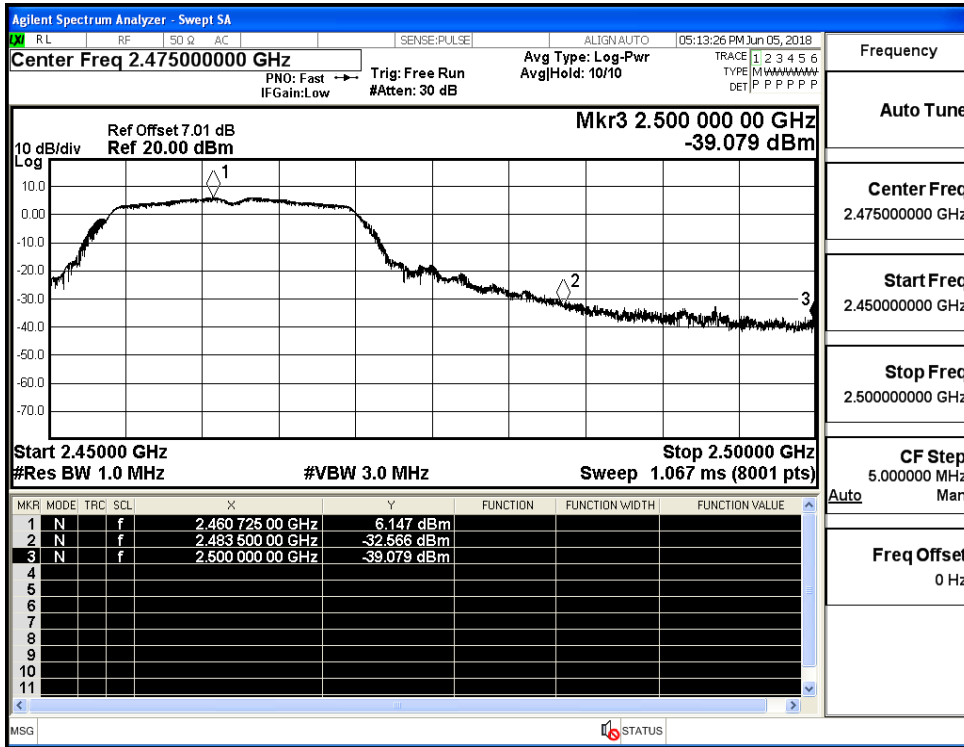


Restrict-band band-edge measurements\_11G\_2412\_Ant1\_AV

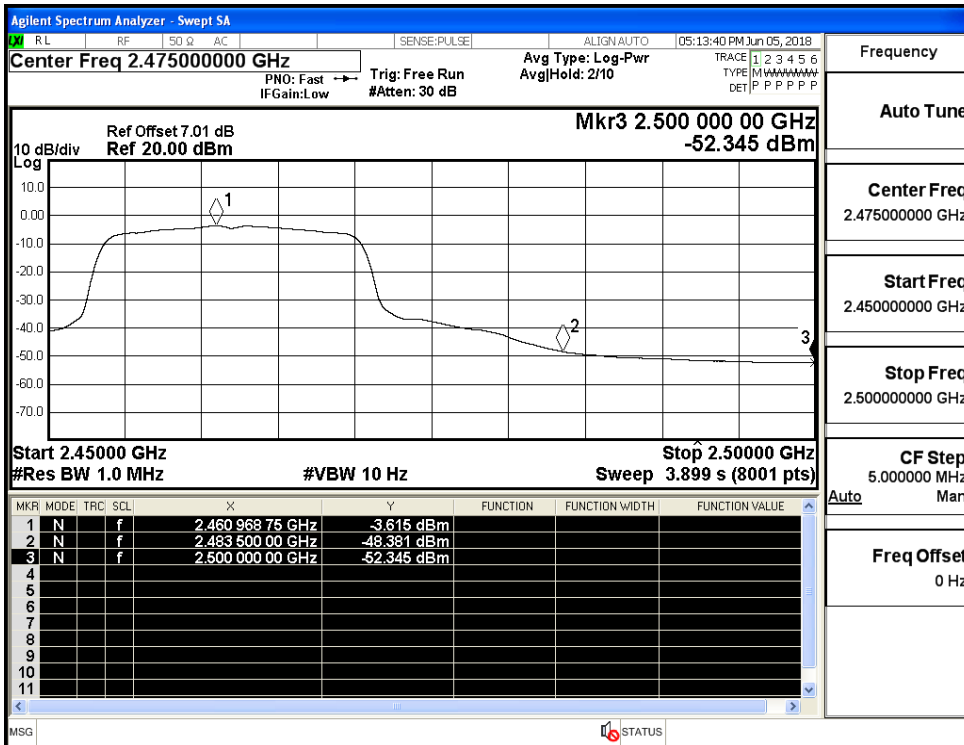




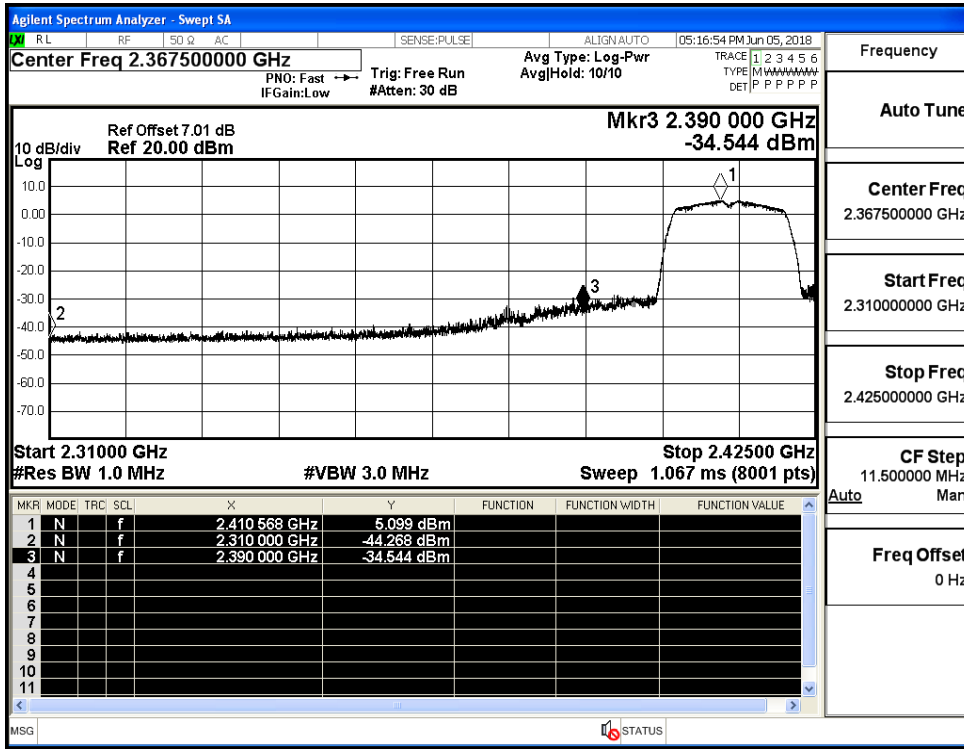
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK



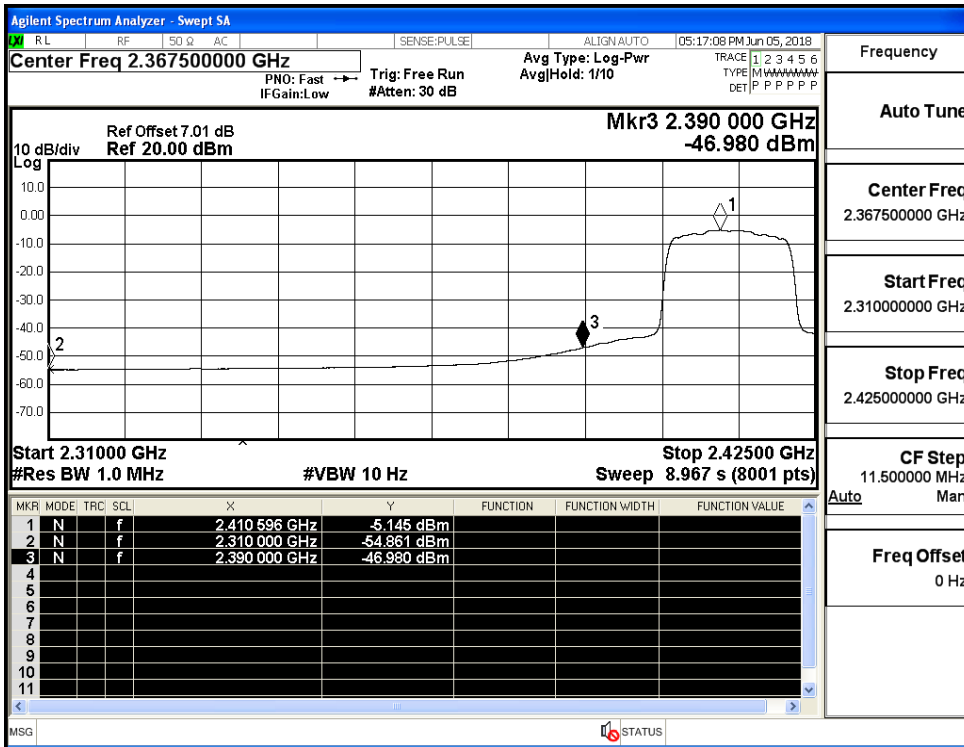
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV



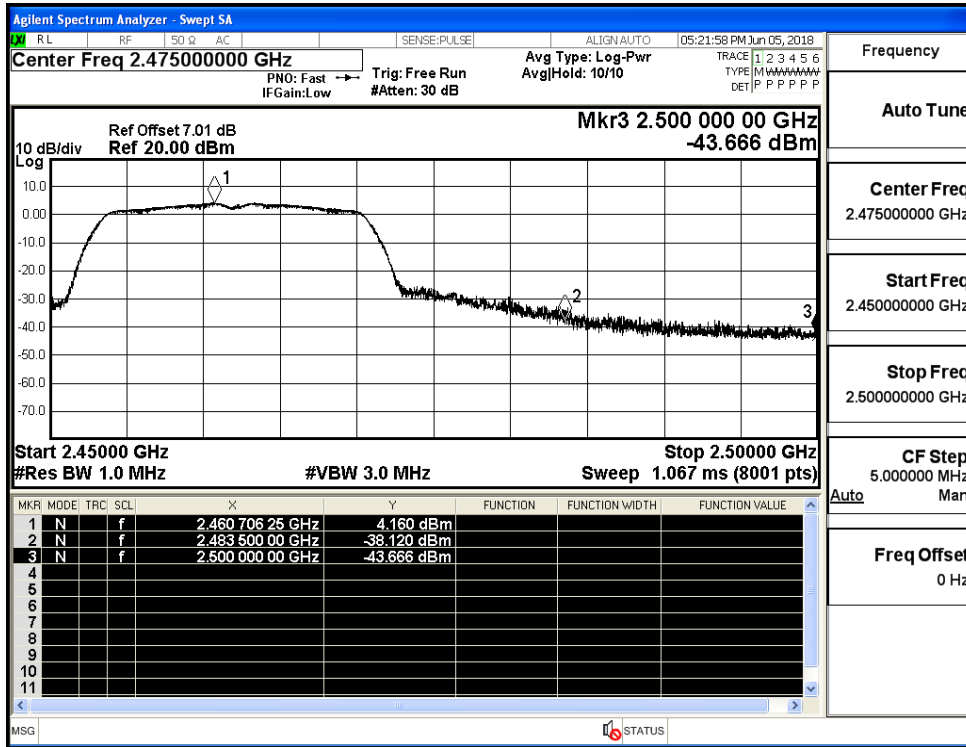
Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_PEAK



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

