

## Appendix A

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

Product Name: Smart In Wall Outlet

Trade Mark: Xenon/Jinvoo

Test Model: SM-PW801U

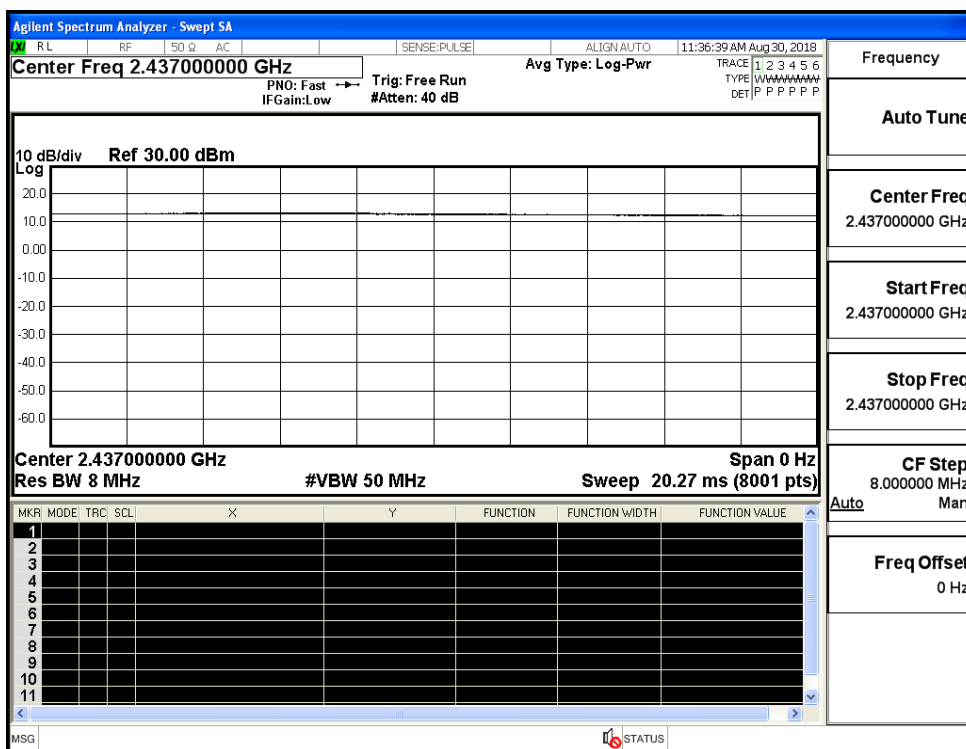
#### Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Jayden.Zhuo

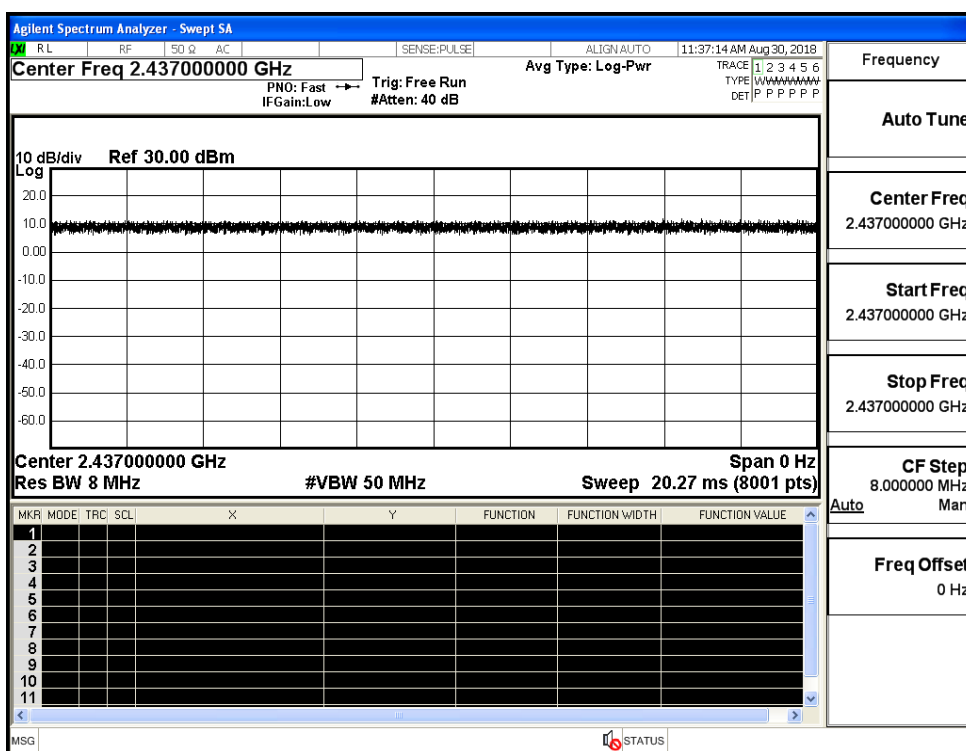
#### A.1 Duty Cycle

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

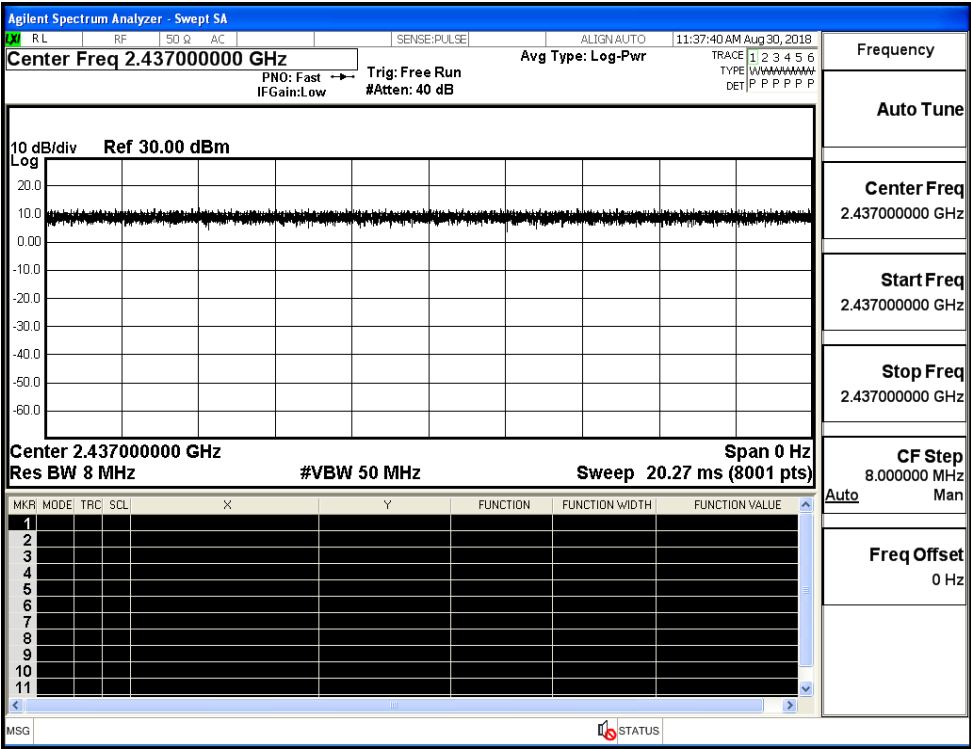
## Duty Cycle\_11B\_2437\_Ant1



## 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	17.50	30	PASS
	MCH	17.63	30	PASS
	HCH	17.46	30	PASS
11G	LCH	17.70	30	PASS
	MCH	17.52	30	PASS
	HCH	17.40	30	PASS
11N20SISO	LCH	17.80	30	PASS
	MCH	17.36	30	PASS
	HCH	17.75	30	PASS

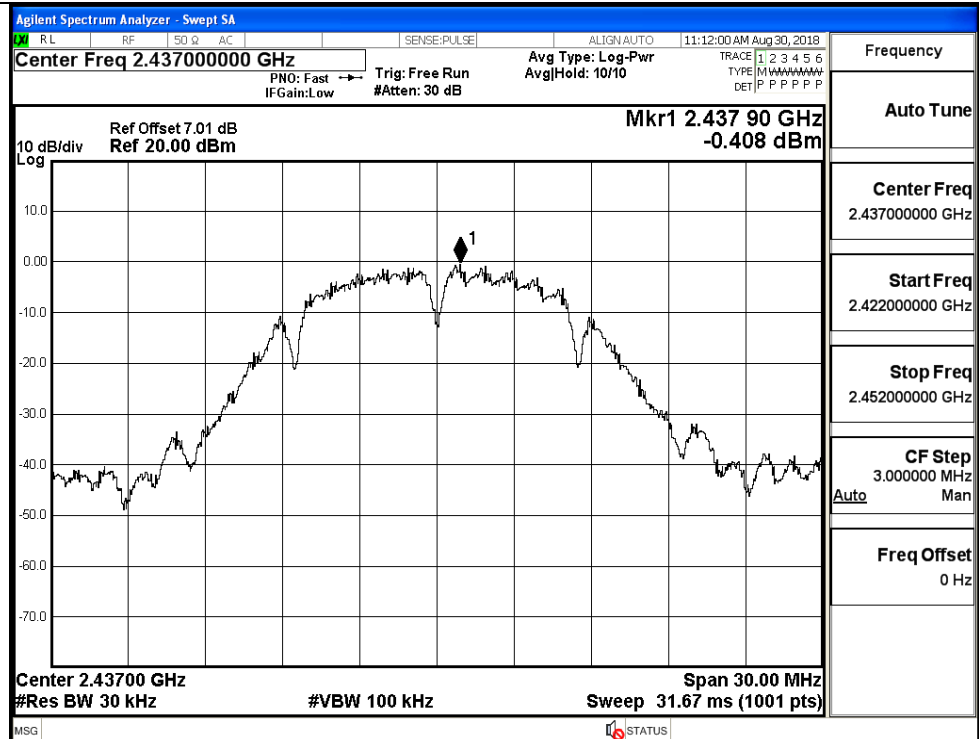
### A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-0.506	8	PASS
	MCH	-0.408	8	PASS
	HCH	-0.621	8	PASS
11G	LCH	-6.028	8	PASS
	MCH	-6.287	8	PASS
	HCH	-6.298	8	PASS
11N20SISO	LCH	-5.175	8	PASS
	MCH	-4.705	8	PASS
	HCH	-5.535	8	PASS

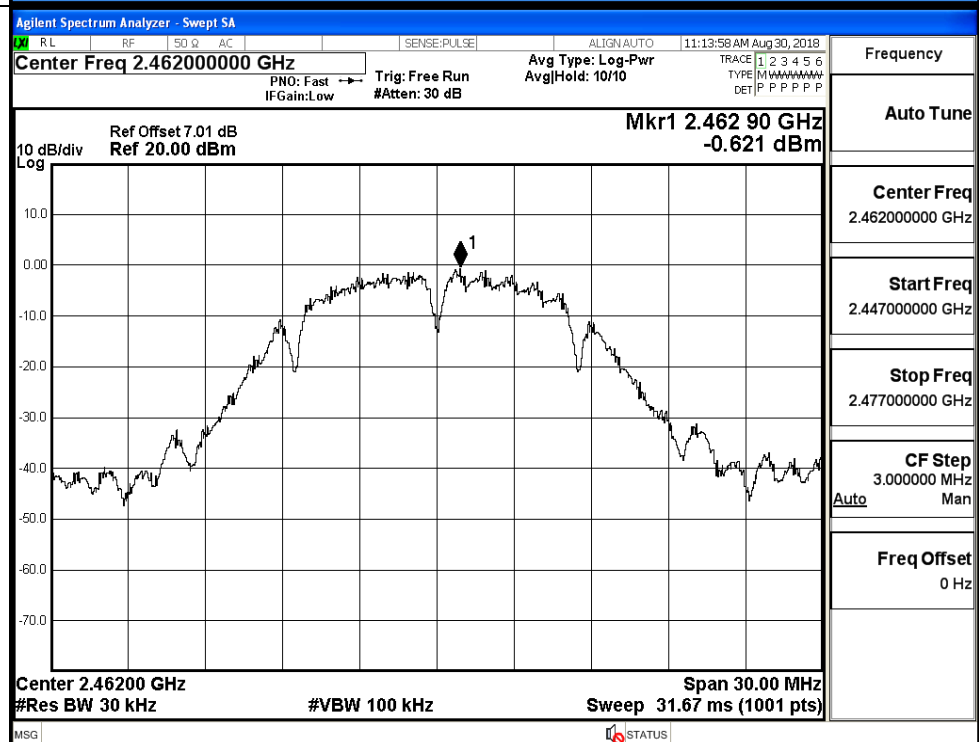
#### Test Graphs



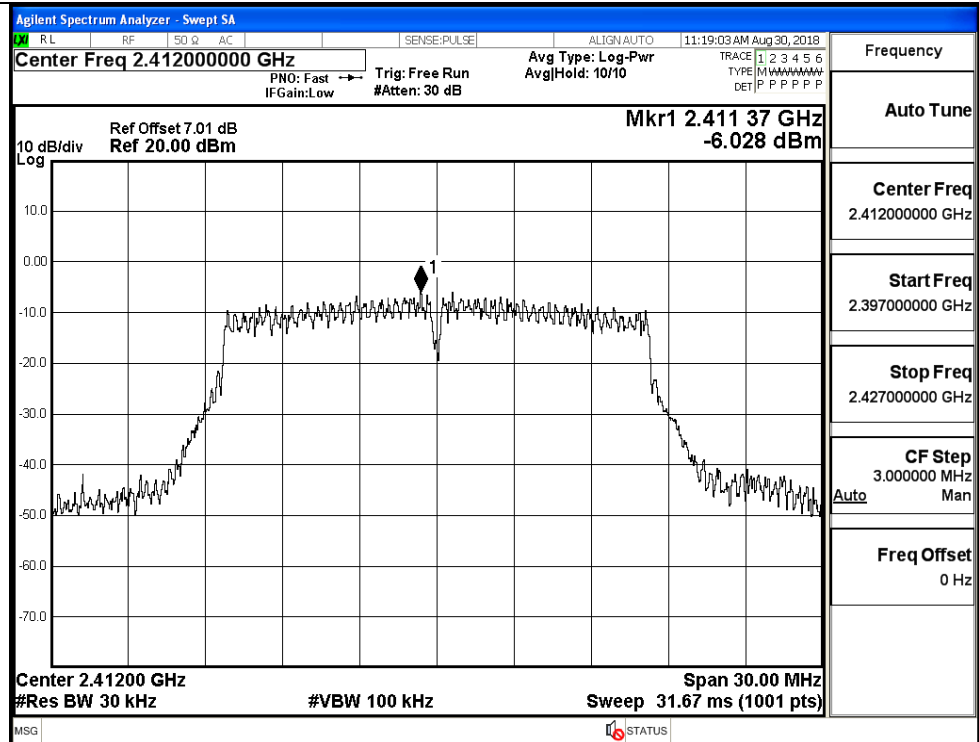
11B/MCH



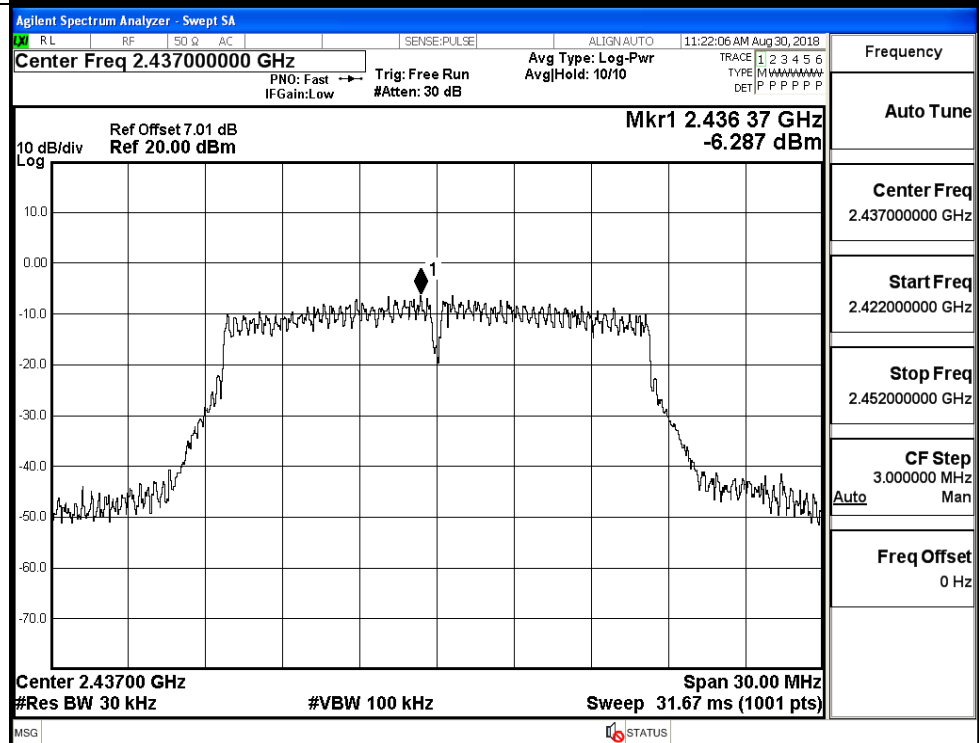
11B/HCH



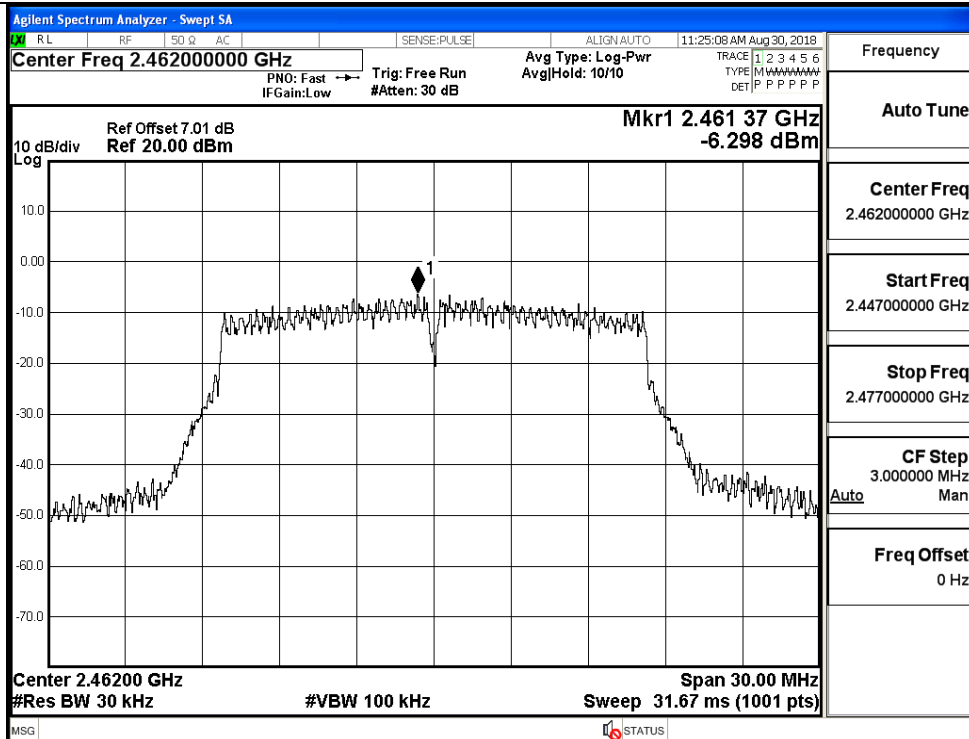
11G/LCH



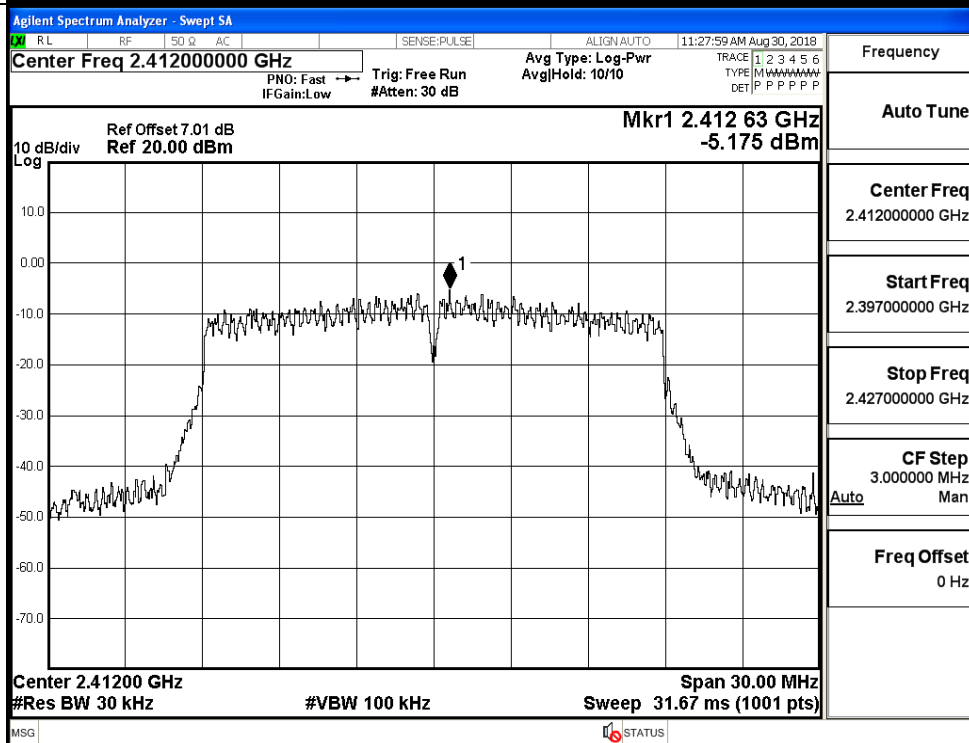
11G/MCH



11G/HCH

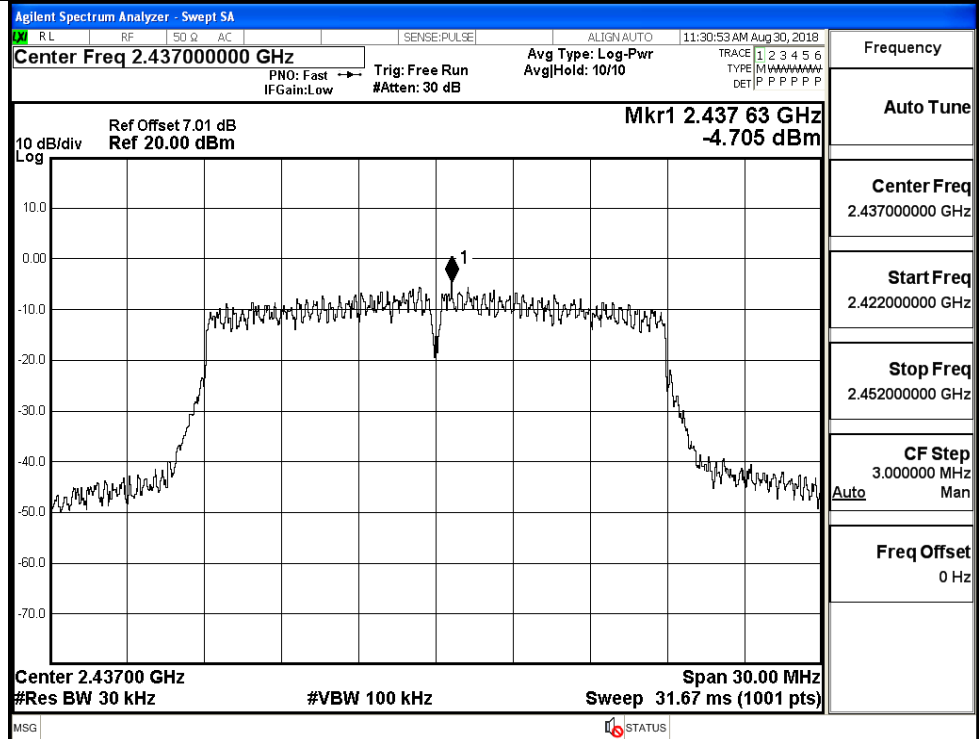


11N20SISO/LCH

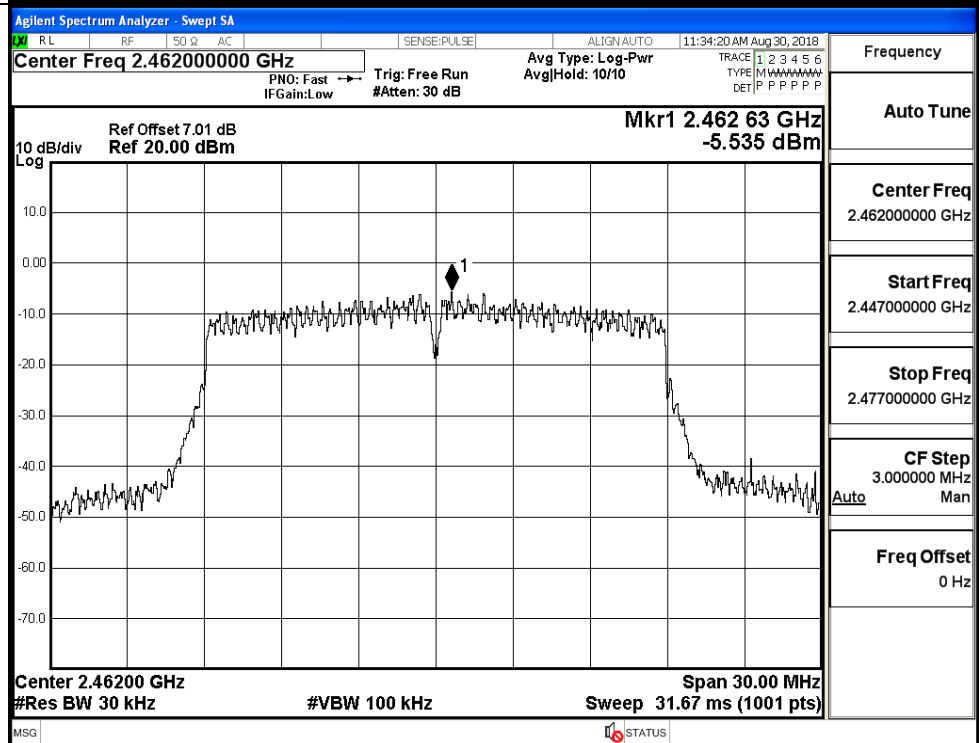




11N20SISO/MCH



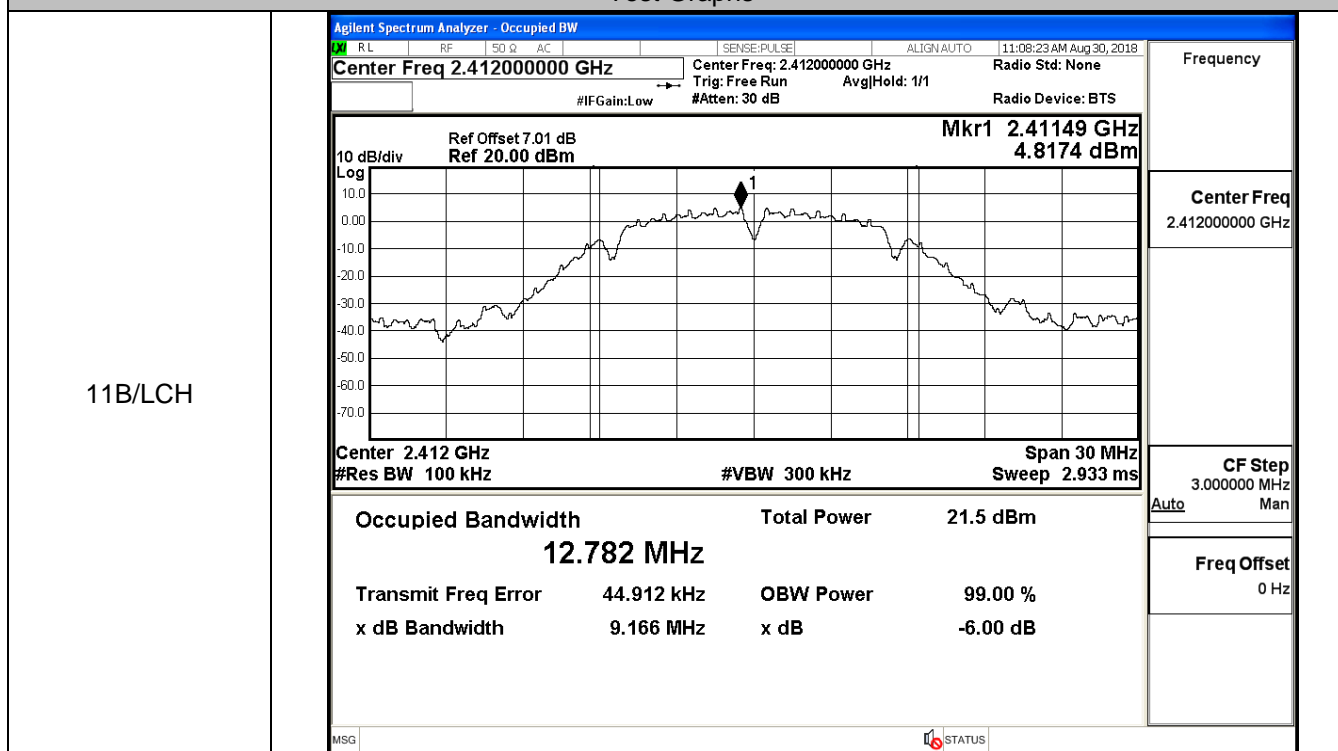
11N20SISO/HCH



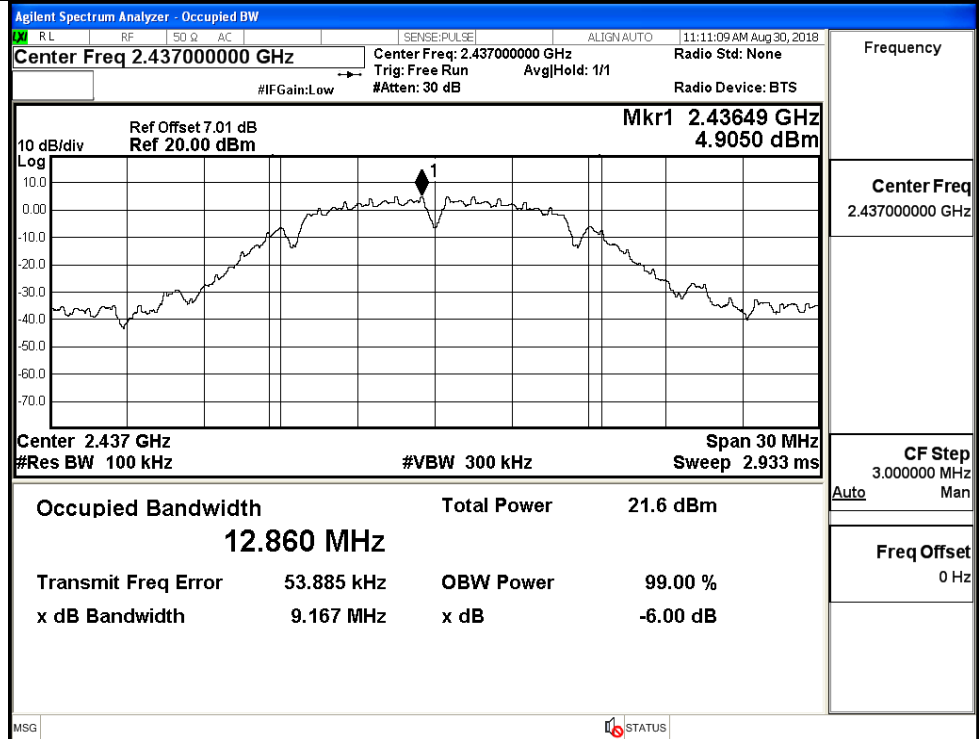
## A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.166	$\geq 0.5$	PASS
	MCH	9.167	$\geq 0.5$	PASS
	HCH	9.167	$\geq 0.5$	PASS
11G	LCH	16.41	$\geq 0.5$	PASS
	MCH	16.41	$\geq 0.5$	PASS
	HCH	16.41	$\geq 0.5$	PASS
11N20SISO	LCH	17.62	$\geq 0.5$	PASS
	MCH	17.61	$\geq 0.5$	PASS
	HCH	17.62	$\geq 0.5$	PASS

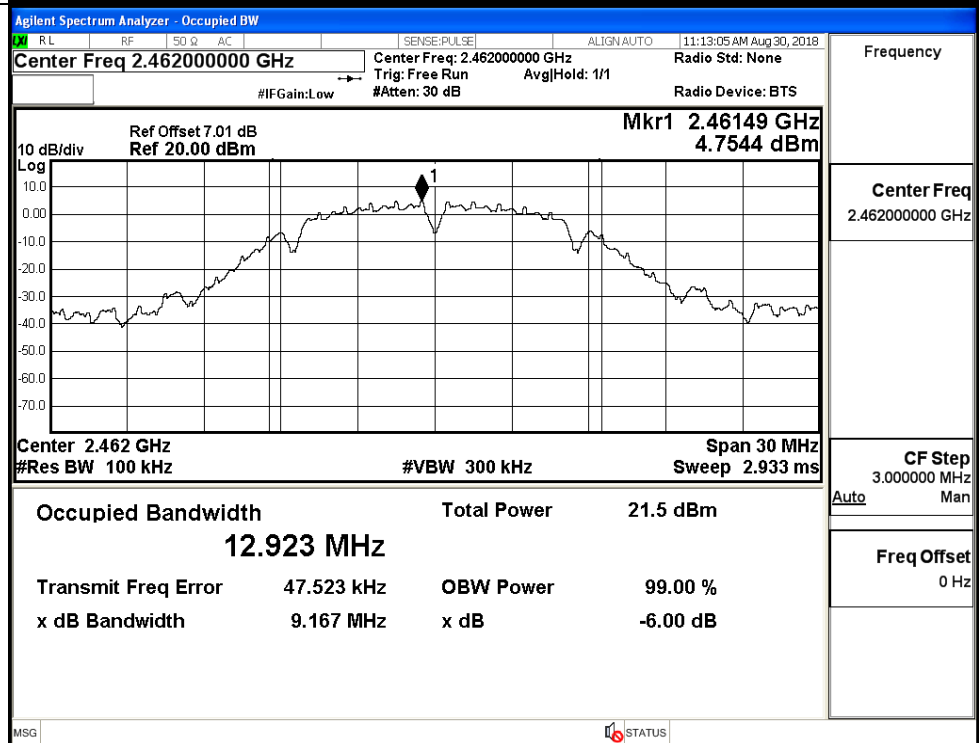
### Test Graphs



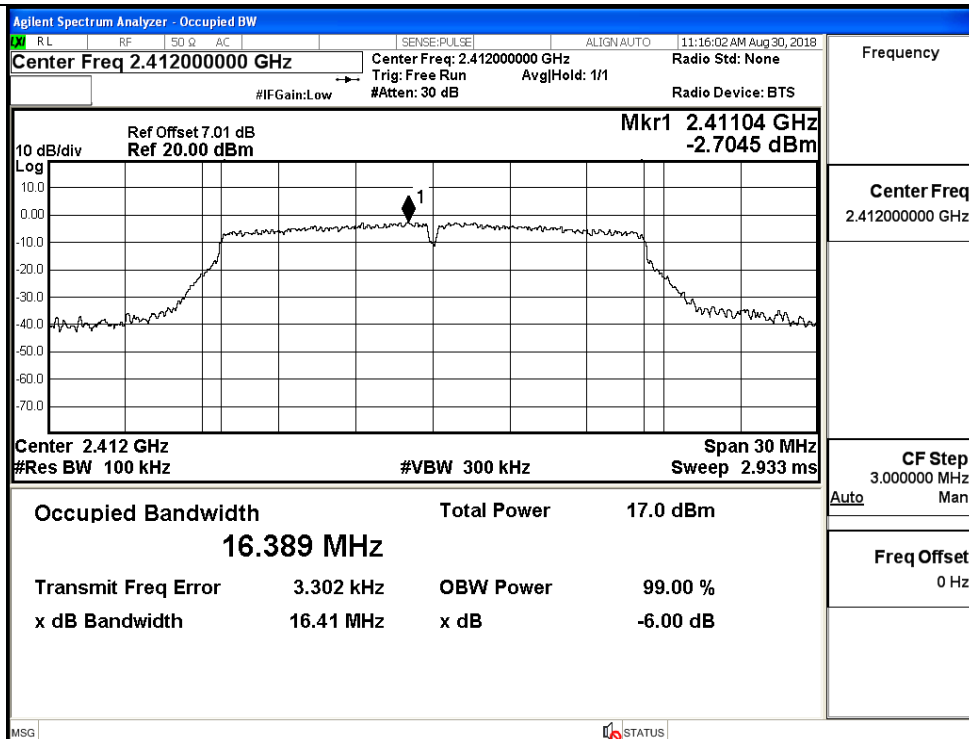
11B/MCH



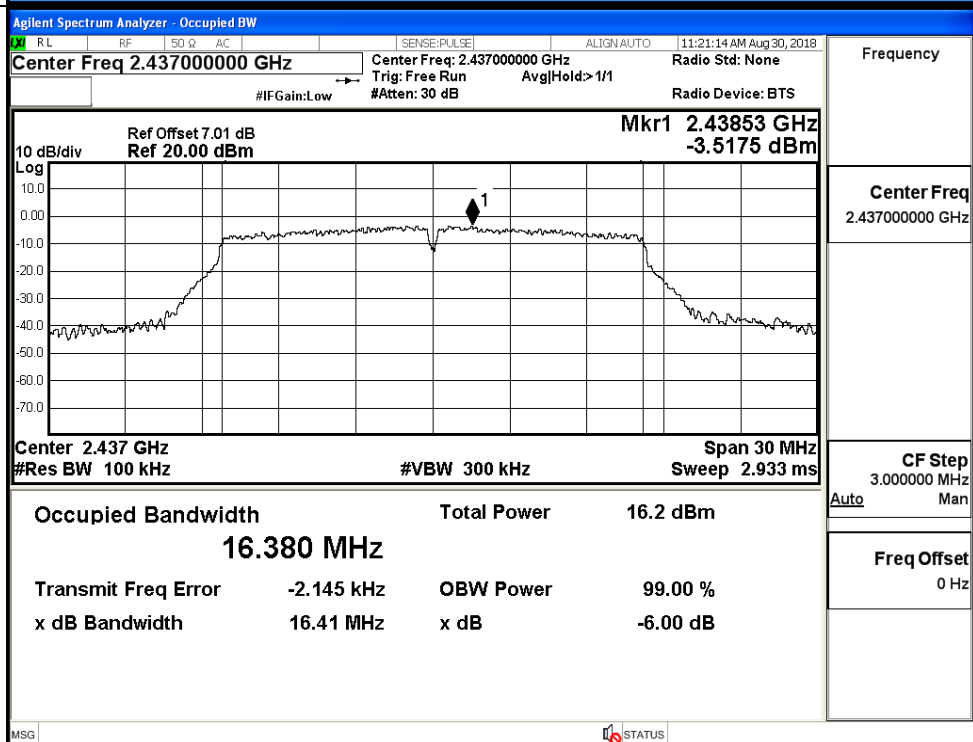
11B/HCH



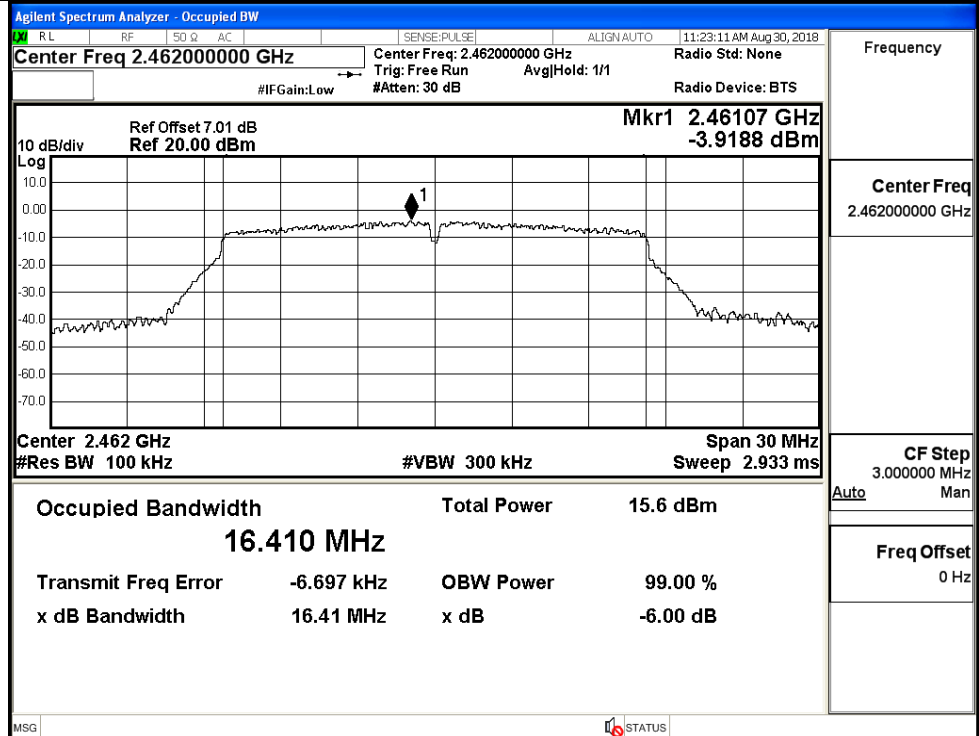
11G/LCH



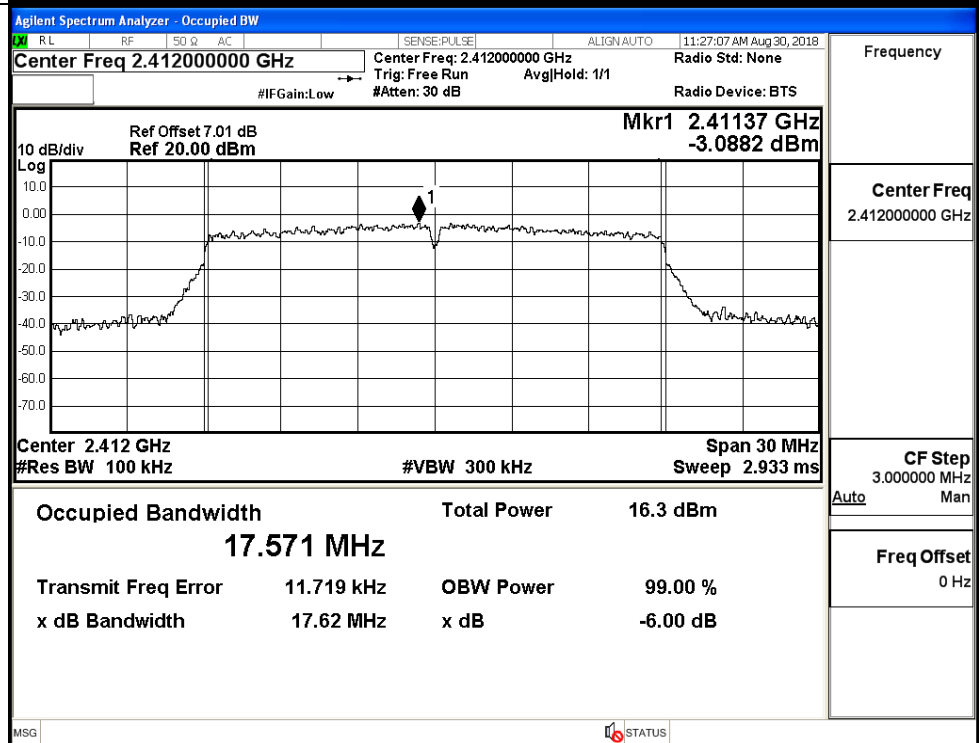
11G/MCH



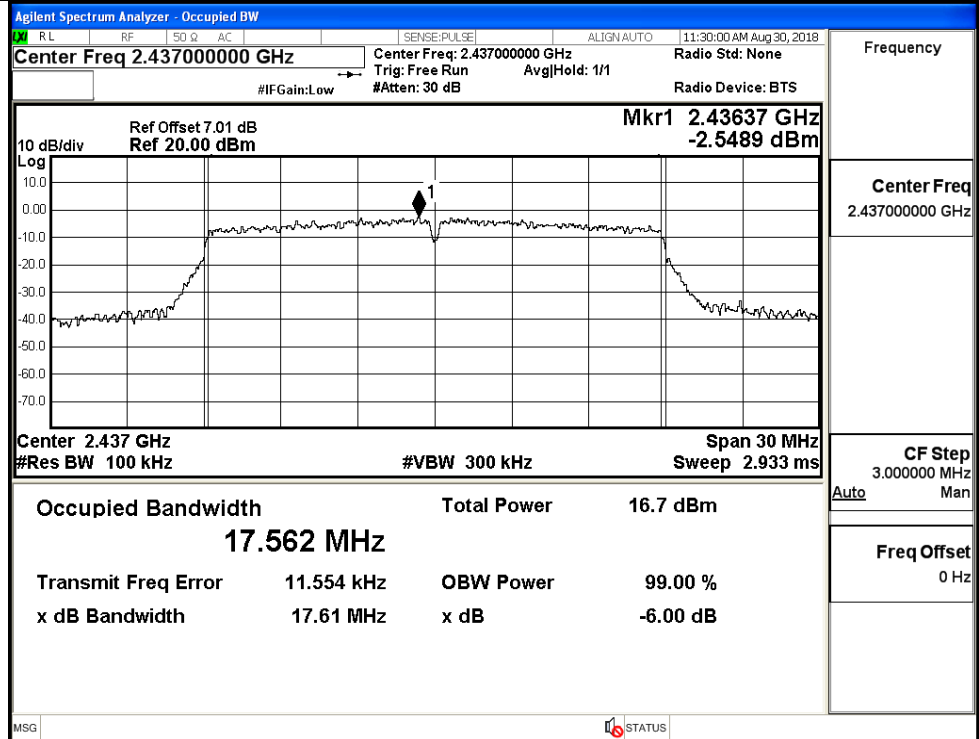
11G/HCH



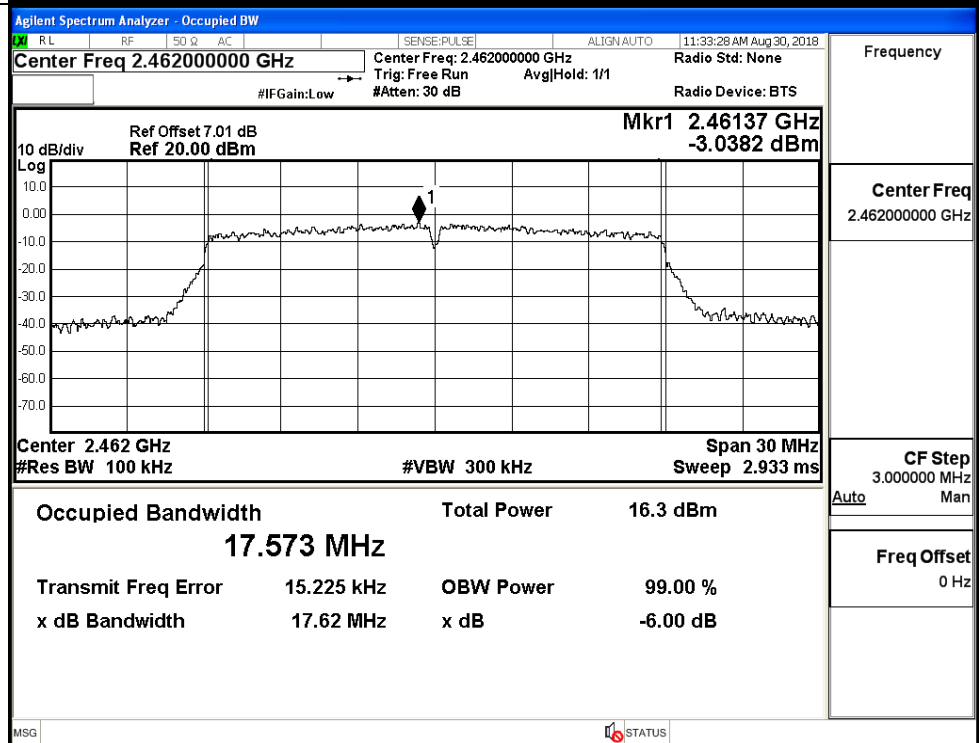
11N20SISO/LCH



11N20SISO/MCH



11N20SISO/HCH

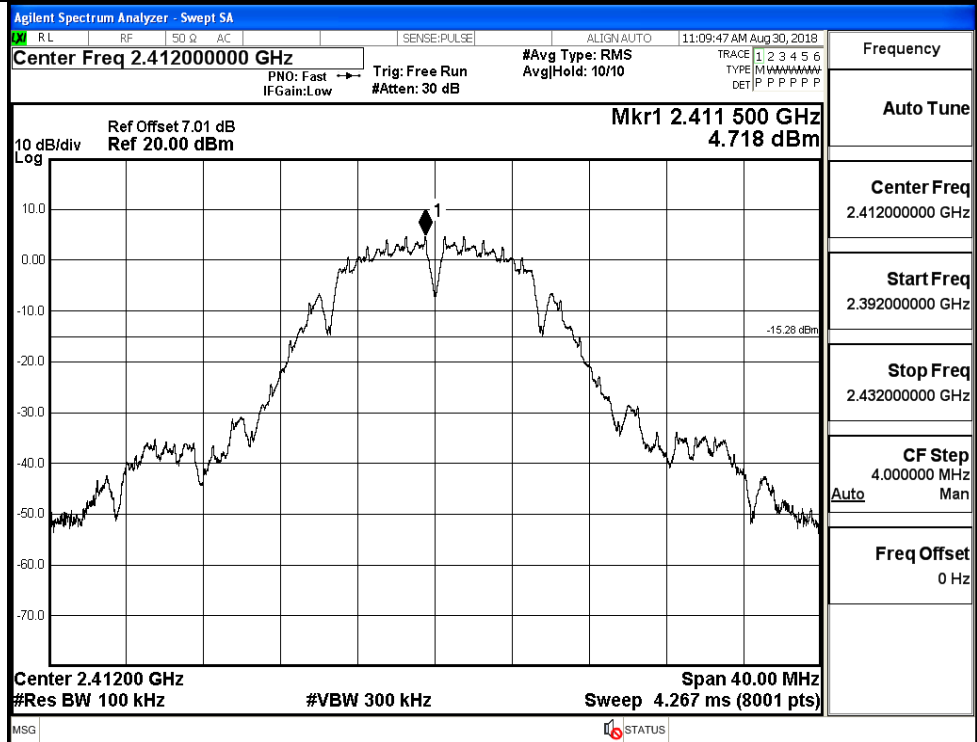


**A.5 RF Conducted Spurious Emissions**

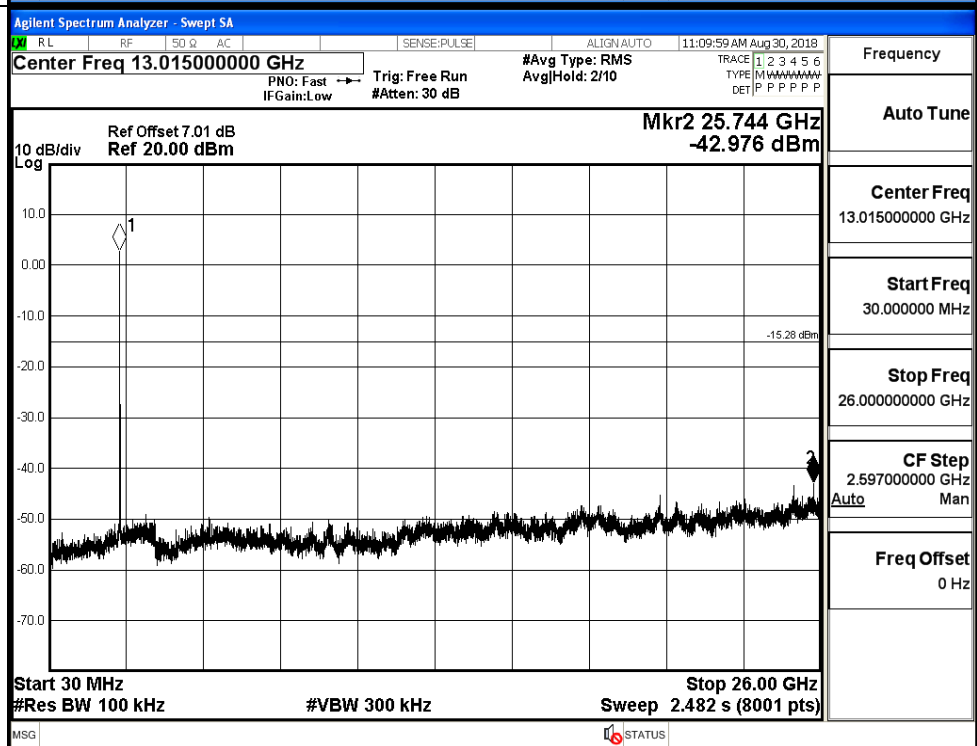
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	4.718	-42.976	-15.282	PASS
	MCH	4.847	-45.336	-15.153	PASS
	HCH	4.666	-45.283	-15.334	PASS
11G	LCH	-3.198	-44.657	-23.198	PASS
	MCH	-3.575	-44.159	-23.575	PASS
	HCH	-3.805	-44.659	-23.805	PASS
11N20 SISO	LCH	-3.177	-44.335	-23.177	PASS
	MCH	-2.765	-44.399	-22.765	PASS
	HCH	-2.945	-45.147	-22.945	PASS

## 11B\_LCH\_Graphs

Pref/11B/LCH



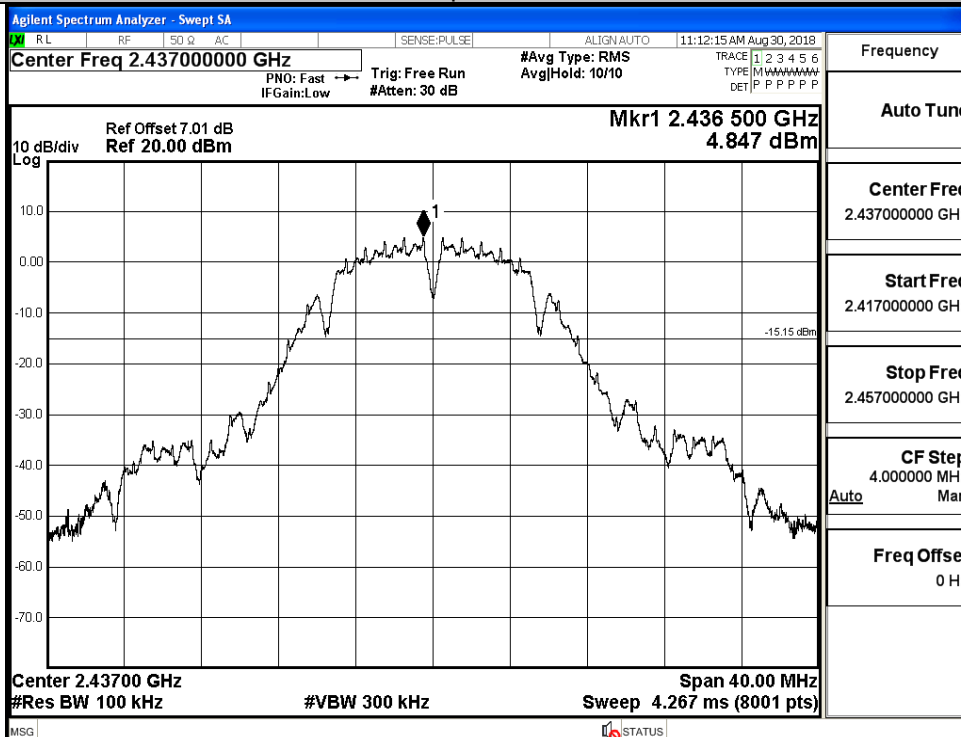
Puw/11B/LCH



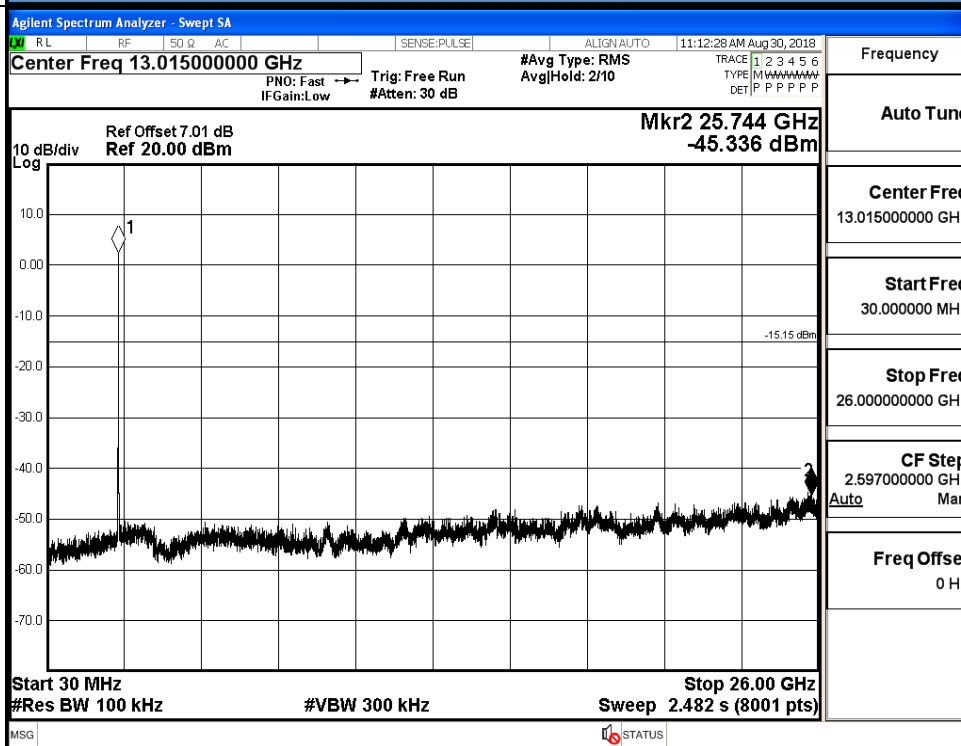


## 11B\_MCH\_Graphs

Pref/11B/MCH

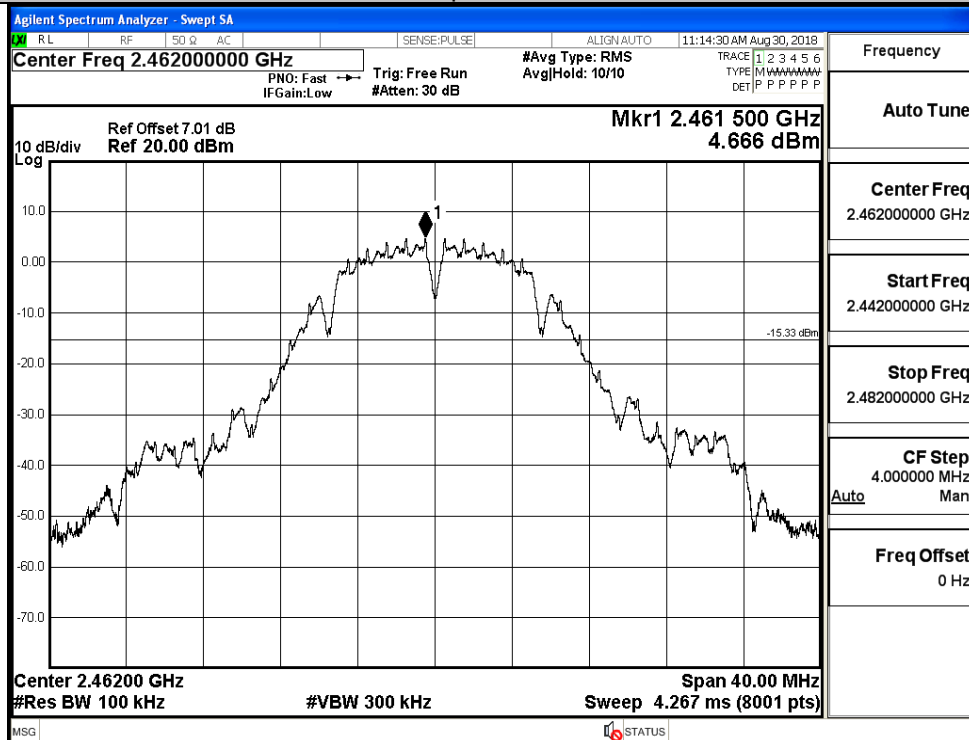


Puw/11B/MCH

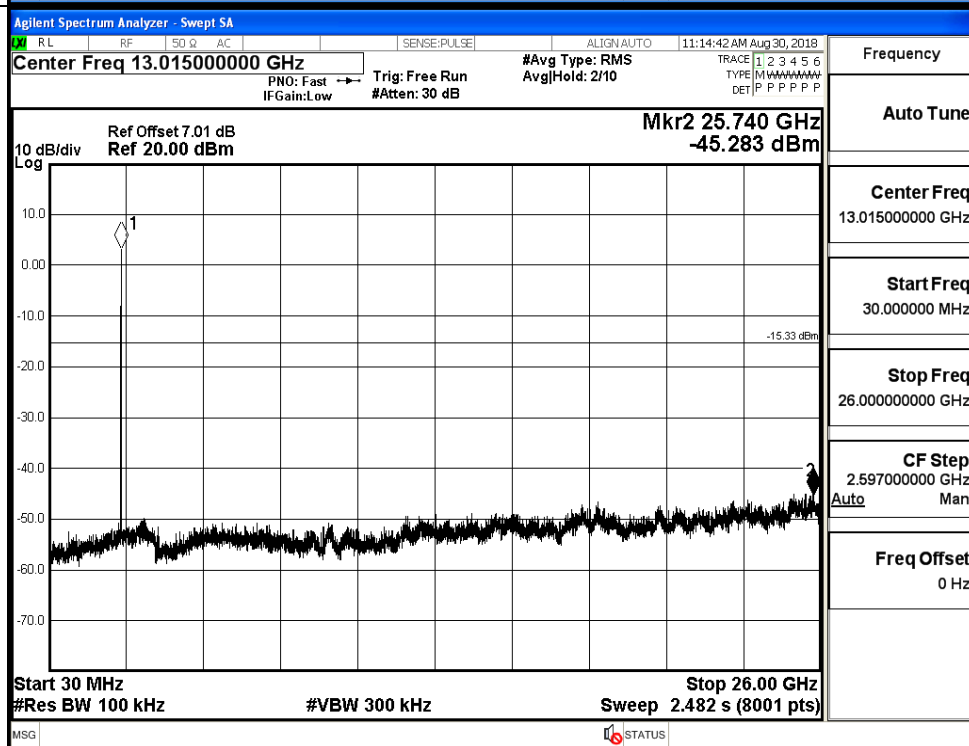


## 11B\_HCH\_Graphs

Pref/11B/HCH

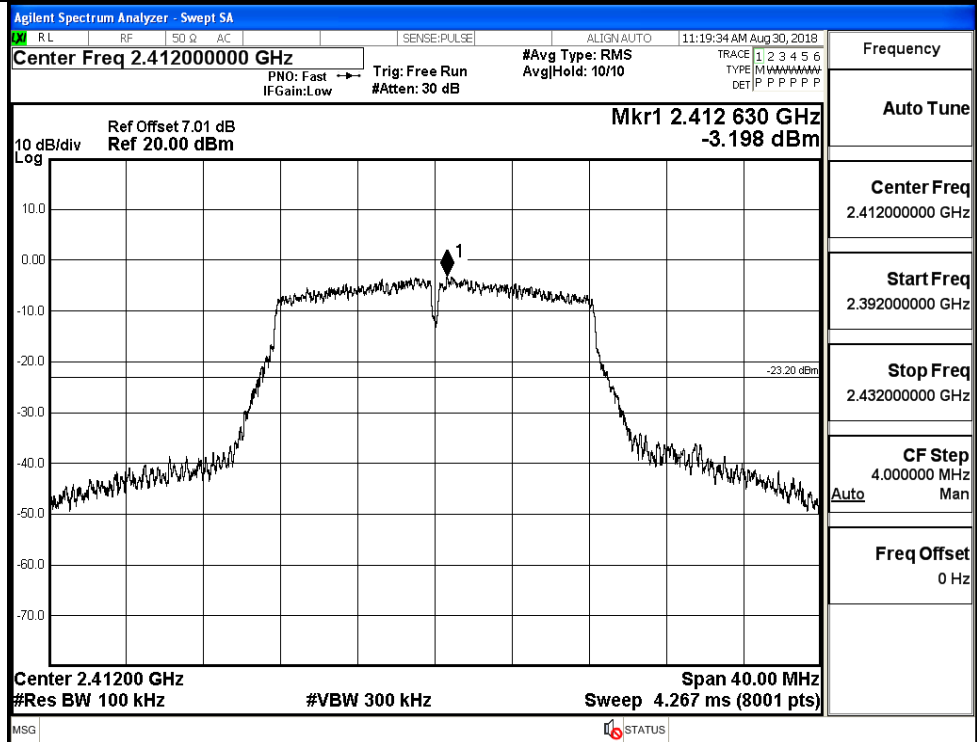


Puw/11B/HCH

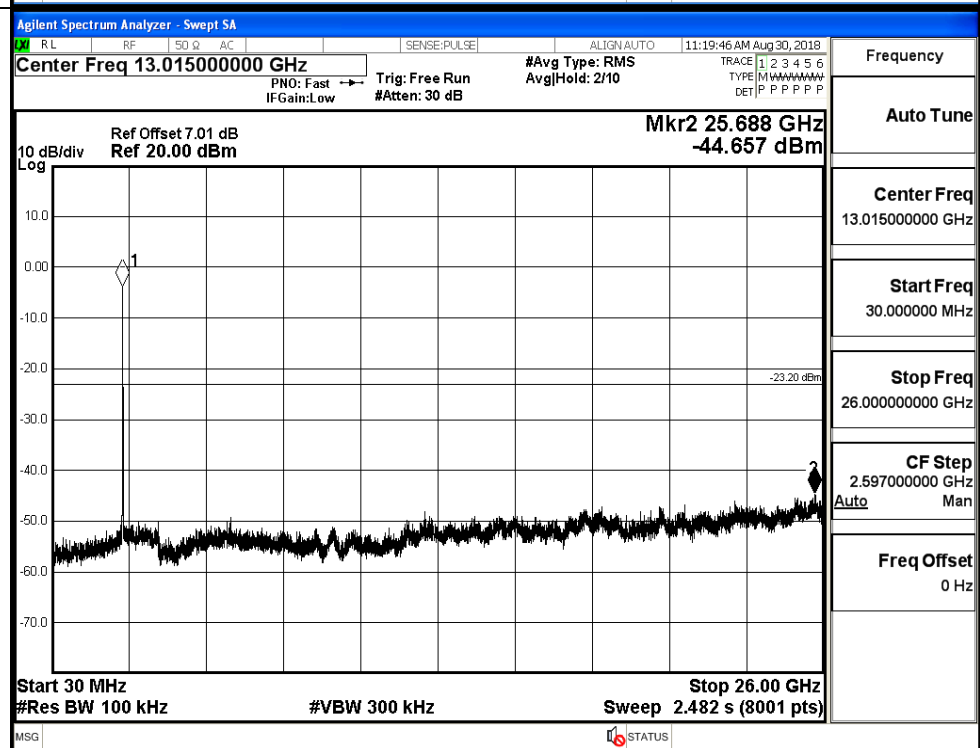


## 11G\_LCH\_Graphs

Pref/11G/LCH

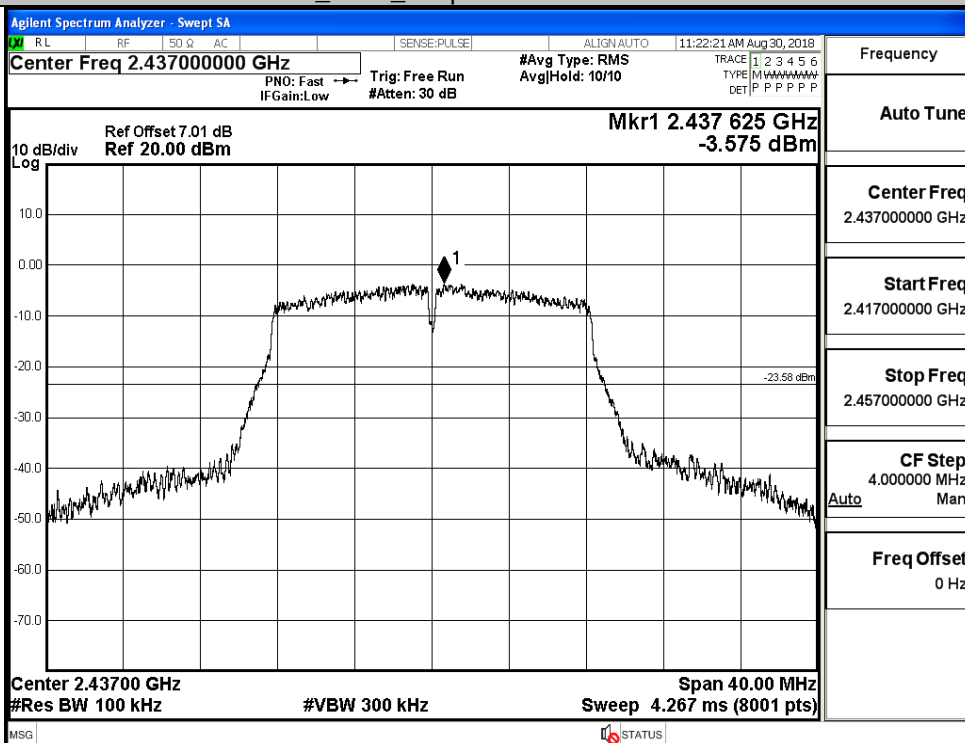


Puw/11G/LCH

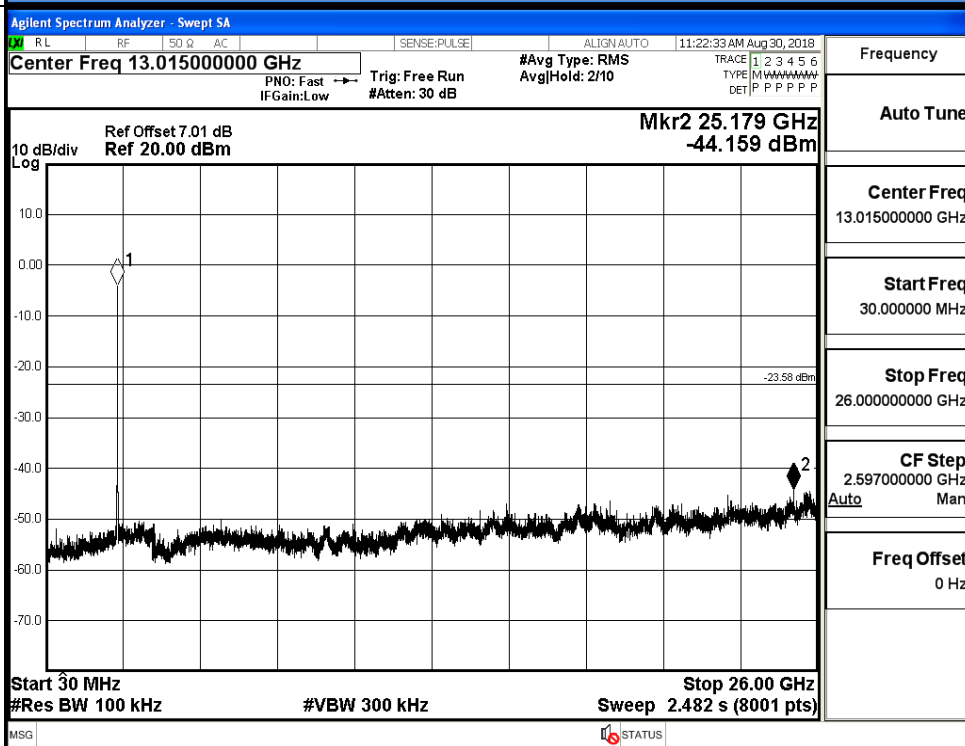


# 11G\_MCH\_Graphs

Pref/11G/MCH

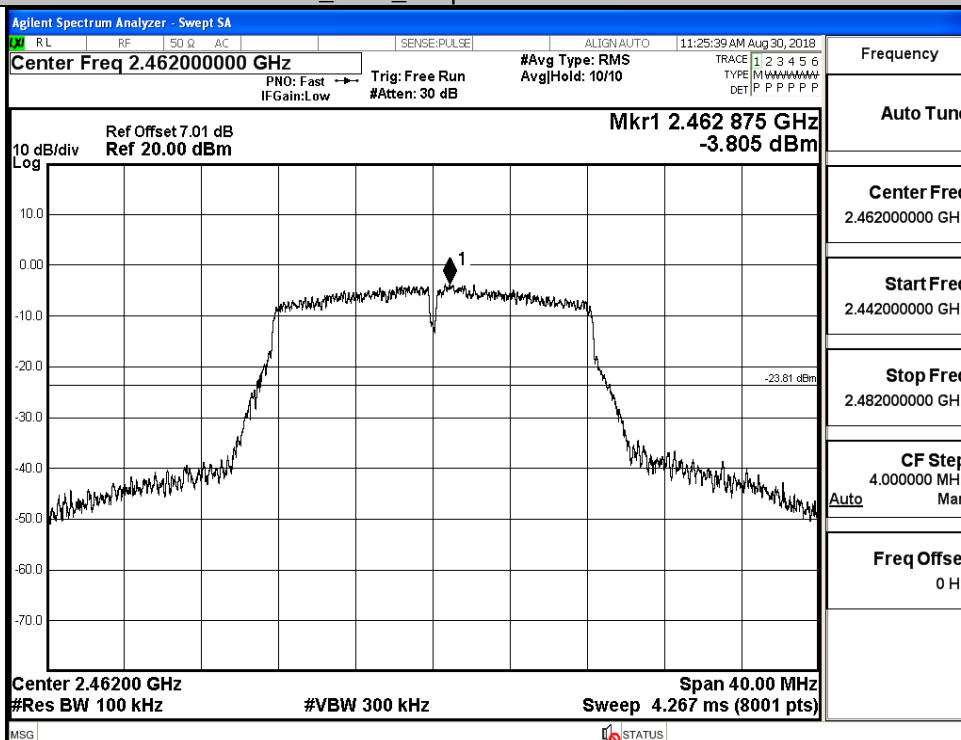


Puw/11G/MCH

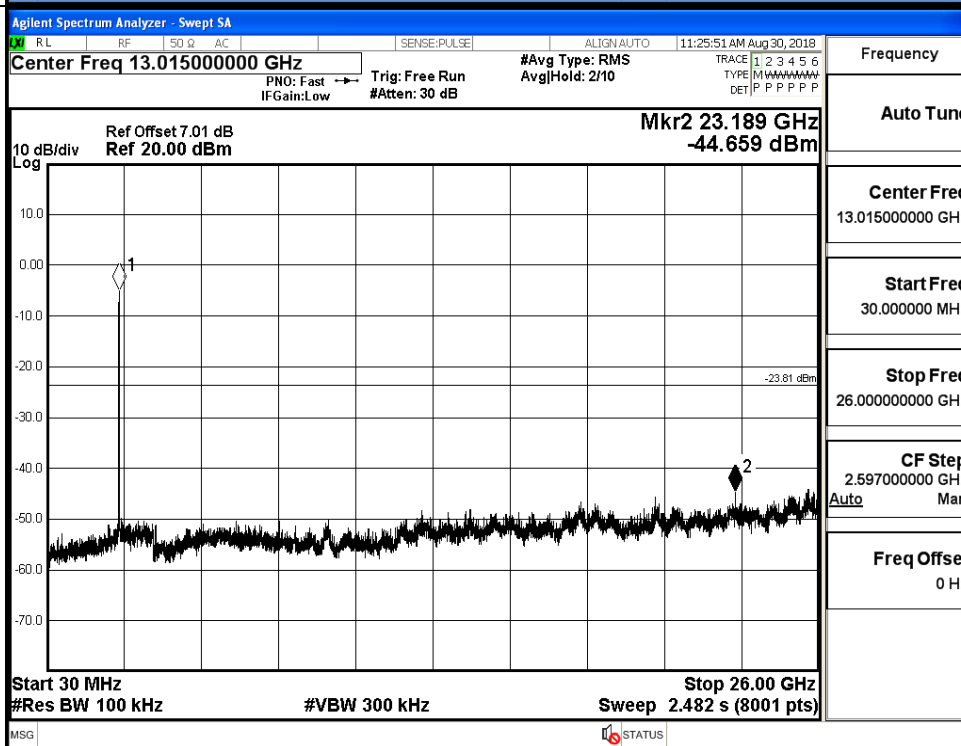


## 11G\_HCH\_Graphs

Pref/11G/HCH

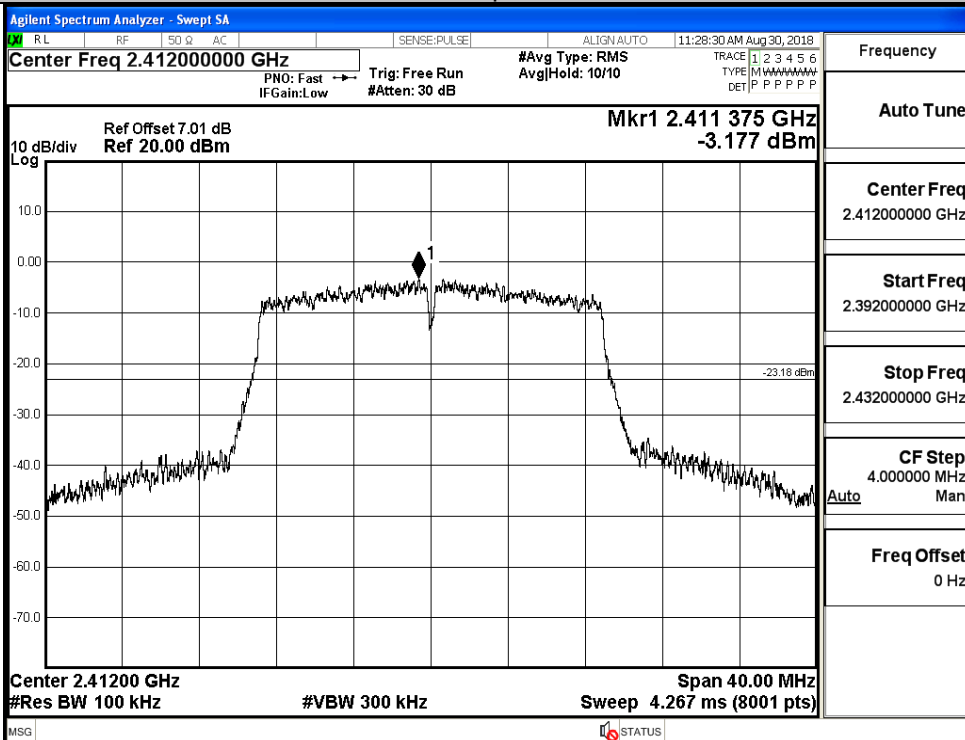


Puw/11G/HCH

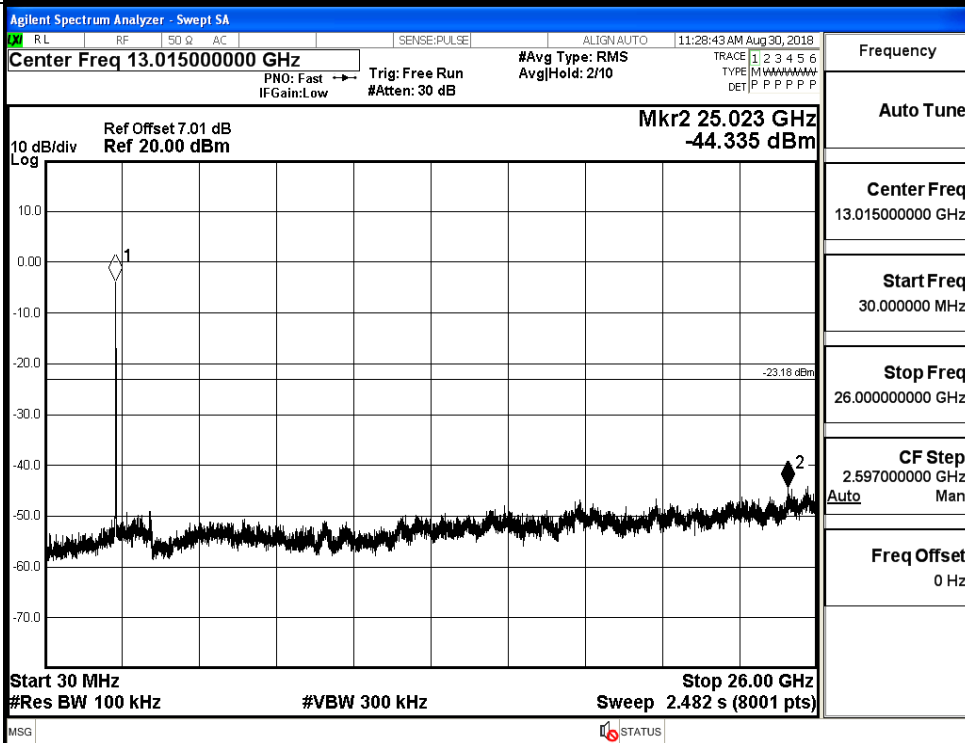


# 11N20ISO\_LCH\_Graphs

Pref/11N20SIS  
O/LCH

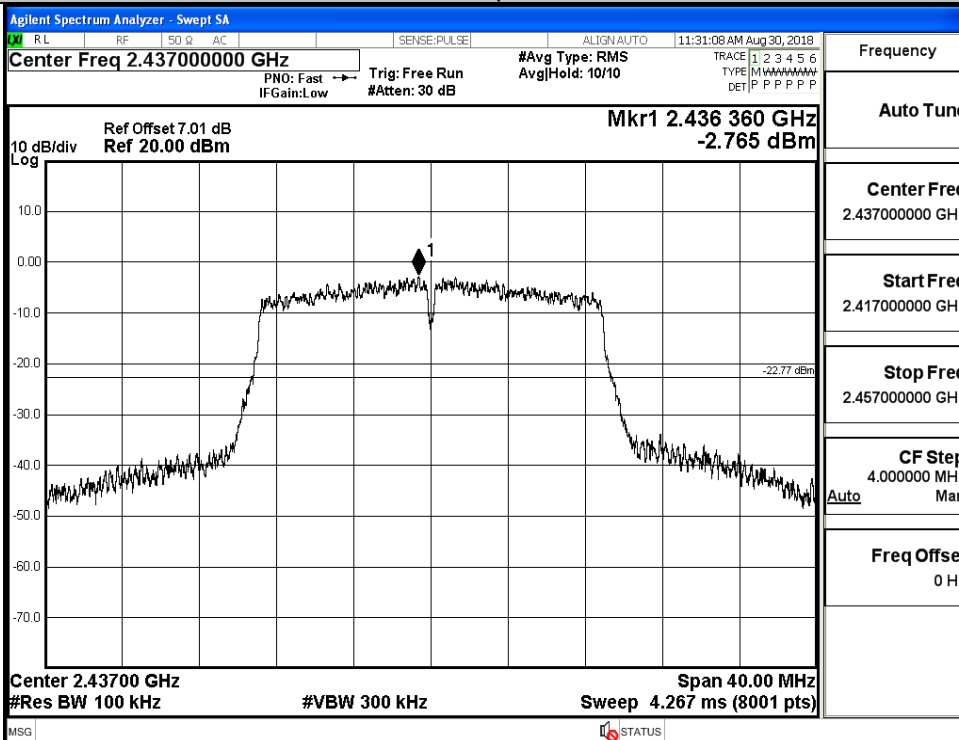


Puw/11N20  
SISO/LCH

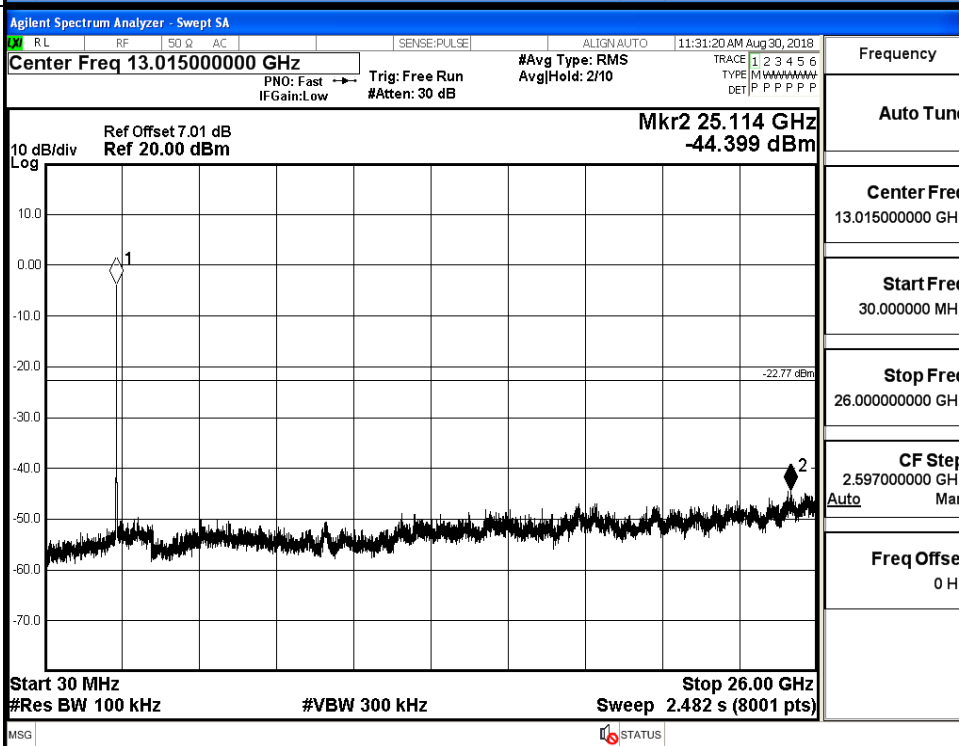


# 11N20ISO\_MCH\_Graphs

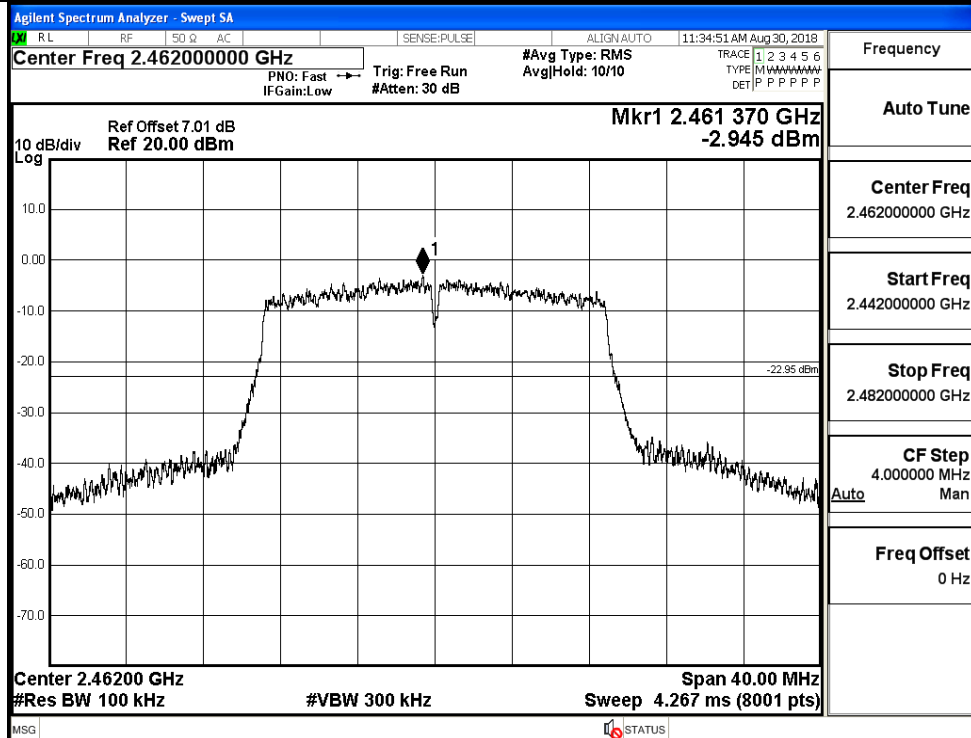
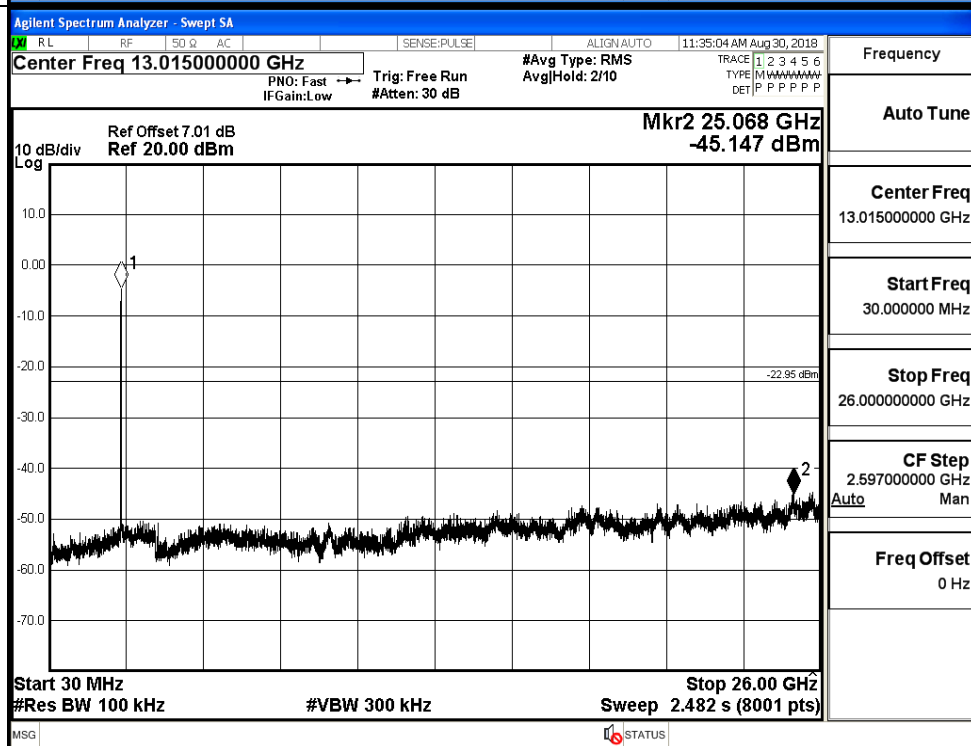
Pref/11N20  
SISO/MCH



Puw/11N20  
SISO/MCH



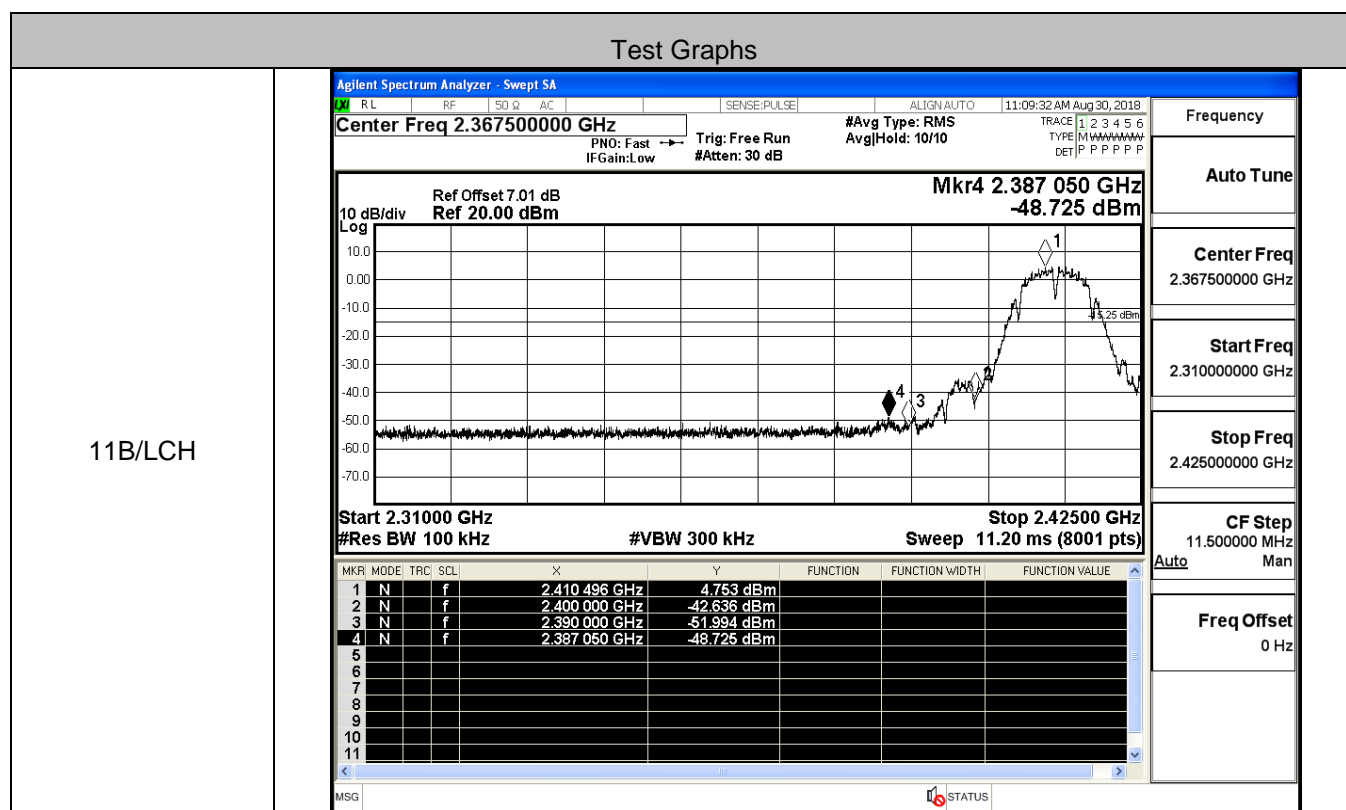
## 11N20ISO\_HCH\_Graphs

Pref/11N20  
SISO/HCHPuw/11N20  
SISO/HCH

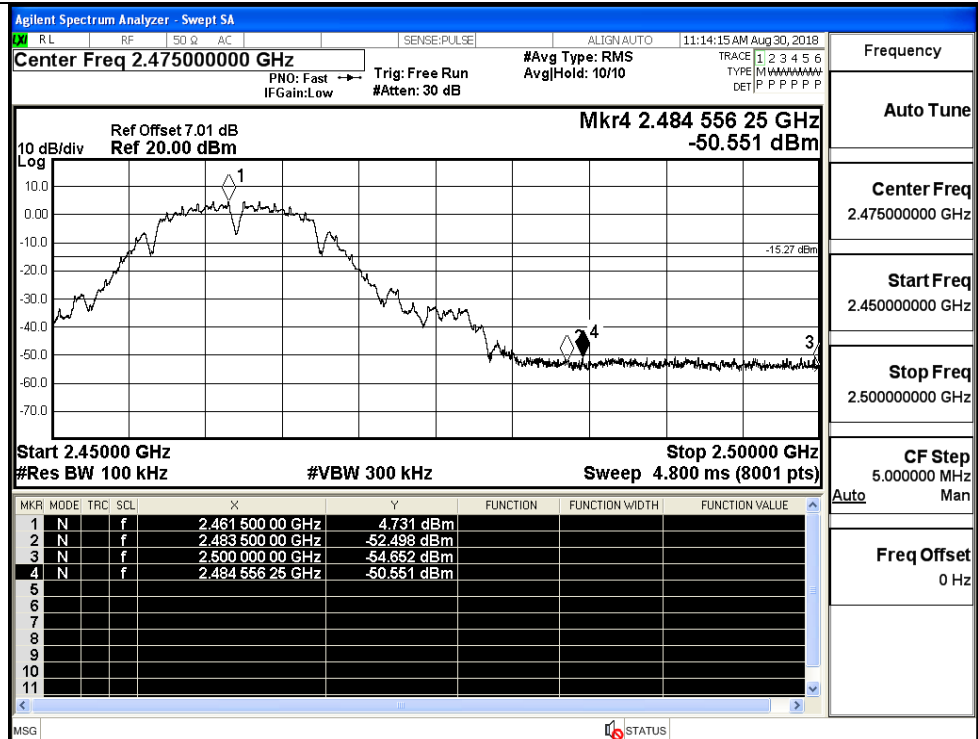


## A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	4.753	-48.725	-15.25	PASS
	HCH	4.731	-50.551	-15.27	PASS
11G	LCH	-3.186	-47.584	-23.19	PASS
	HCH	-3.570	-47.975	-23.57	PASS
11N20SISO	LCH	-3.374	-46.313	-23.37	PASS
	HCH	-3.099	-45.898	-23.1	PASS



11B/HCH



Frequency

Auto Tune

Center Freq

2.475000000 GHz

Start Freq

2.450000000 GHz

Stop Freq

2.500000000 GHz

CF Step

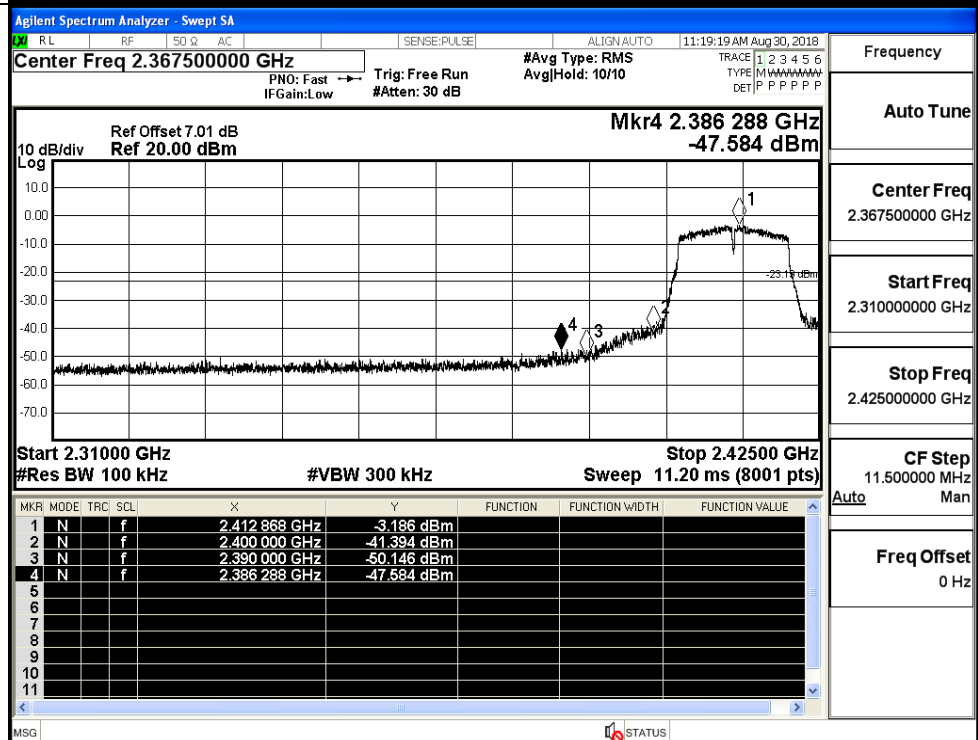
5.000000 MHz

Auto

Freq Offset

0 Hz

11G/LCH



Frequency

Auto Tune

Center Freq

2.367500000 GHz

Start Freq

2.310000000 GHz

Stop Freq

2.425000000 GHz

CF Step

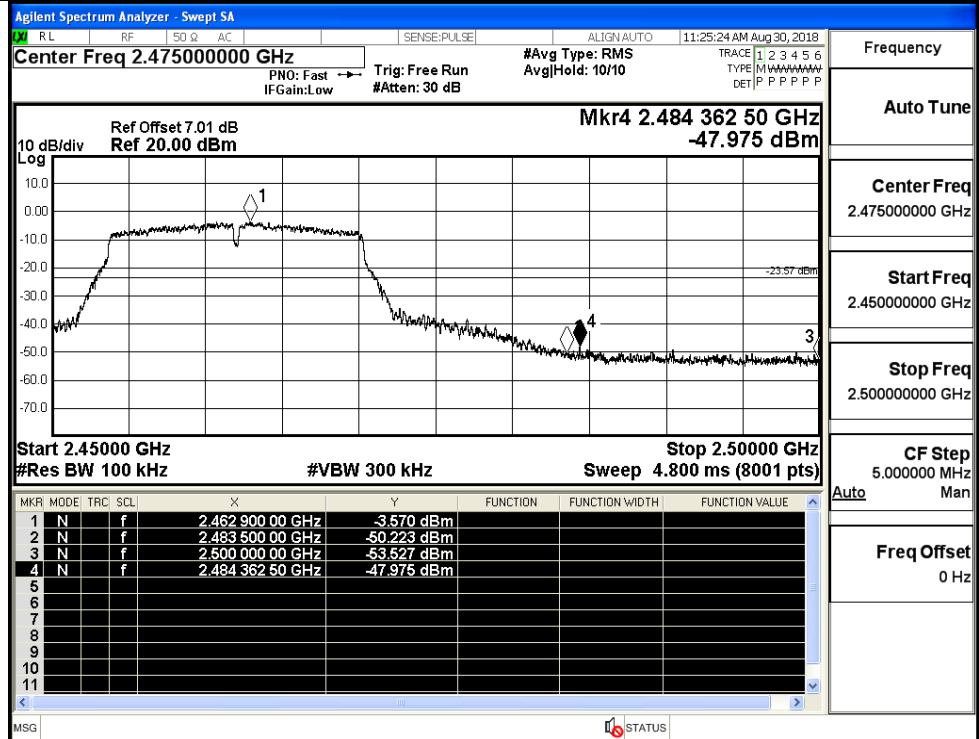
11.500000 MHz

Auto

Freq Offset

0 Hz

11G/HCH

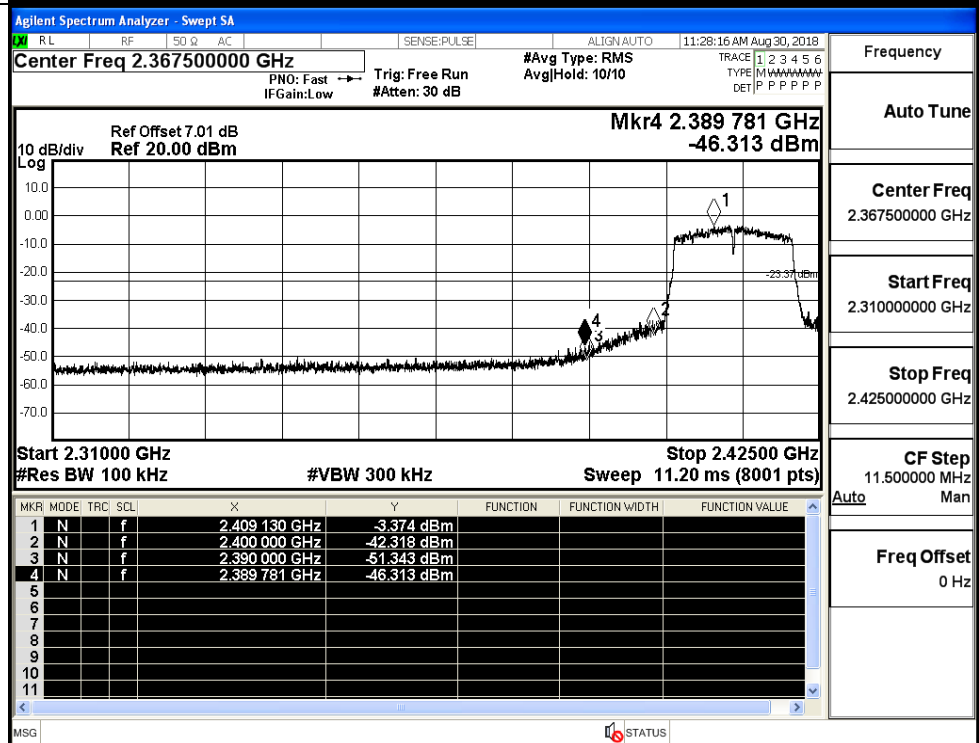


Frequency

Auto Tune

Center Freq  
2.475000000 GHzStart Freq  
2.450000000 GHzStop Freq  
2.500000000 GHzCF Step  
5.000000 MHz  
Auto ManFreq Offset  
0 Hz

11N20SISO/LCH

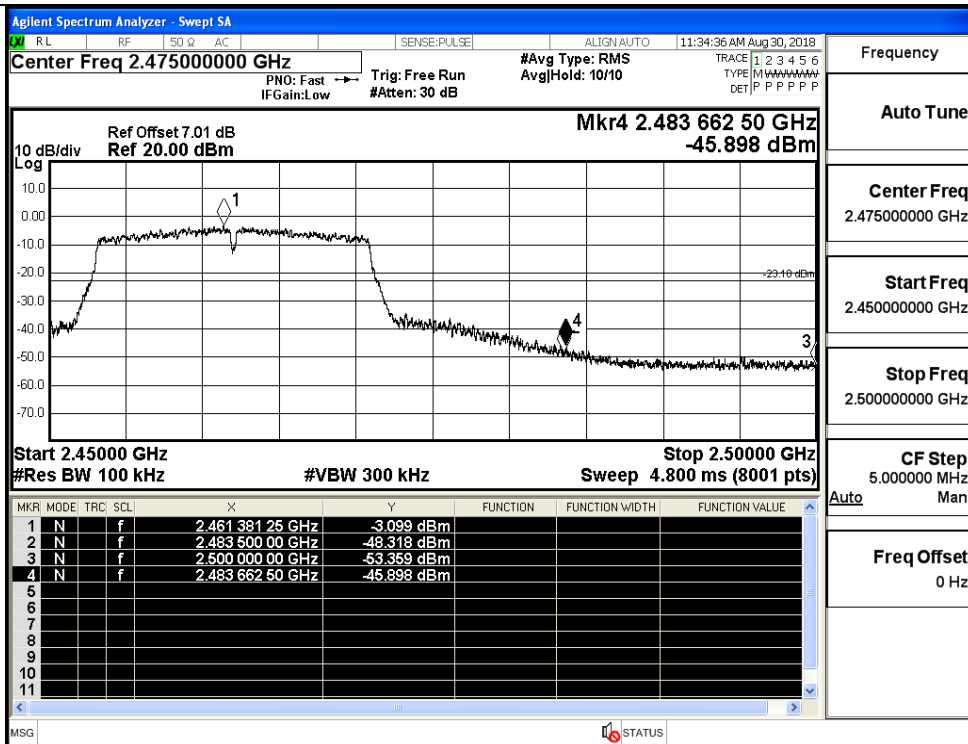


Frequency

Auto Tune

Center Freq  
2.367500000 GHzStart Freq  
2.310000000 GHzStop Freq  
2.425000000 GHzCF Step  
11.500000 MHz  
Auto ManFreq Offset  
0 Hz

11N20SISO/HCH

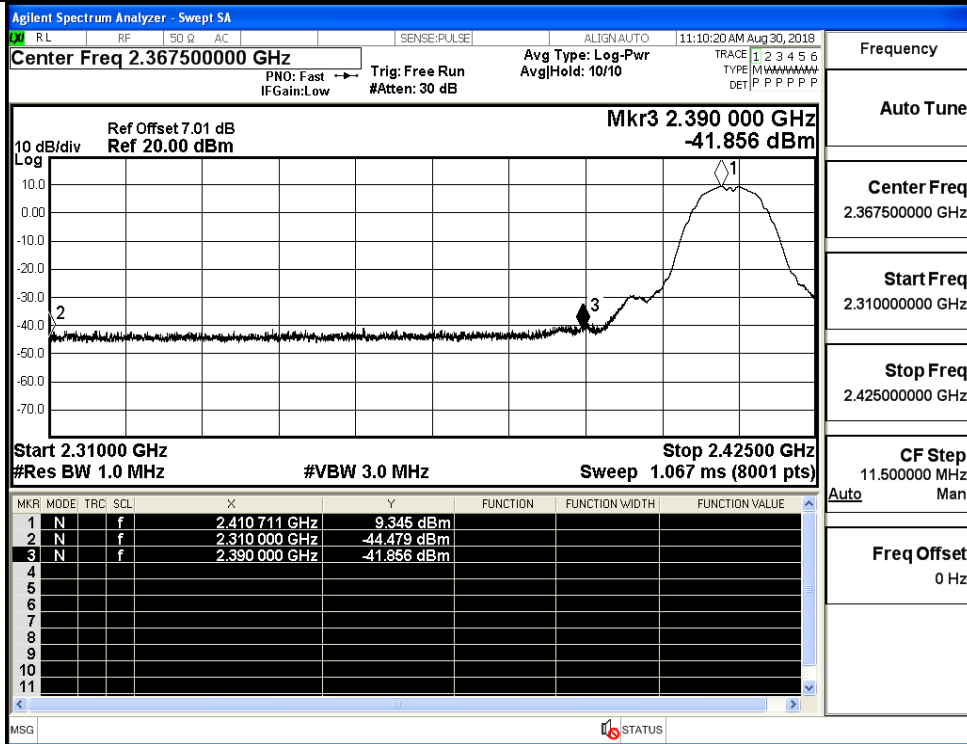


Frequency
Auto Tune
Center Freq 2.475000000 GHz
Start Freq 2.450000000 GHz
Stop Freq 2.500000000 GHz
CF Step 5.000000 MHz Auto Man
Freq Offset 0 Hz

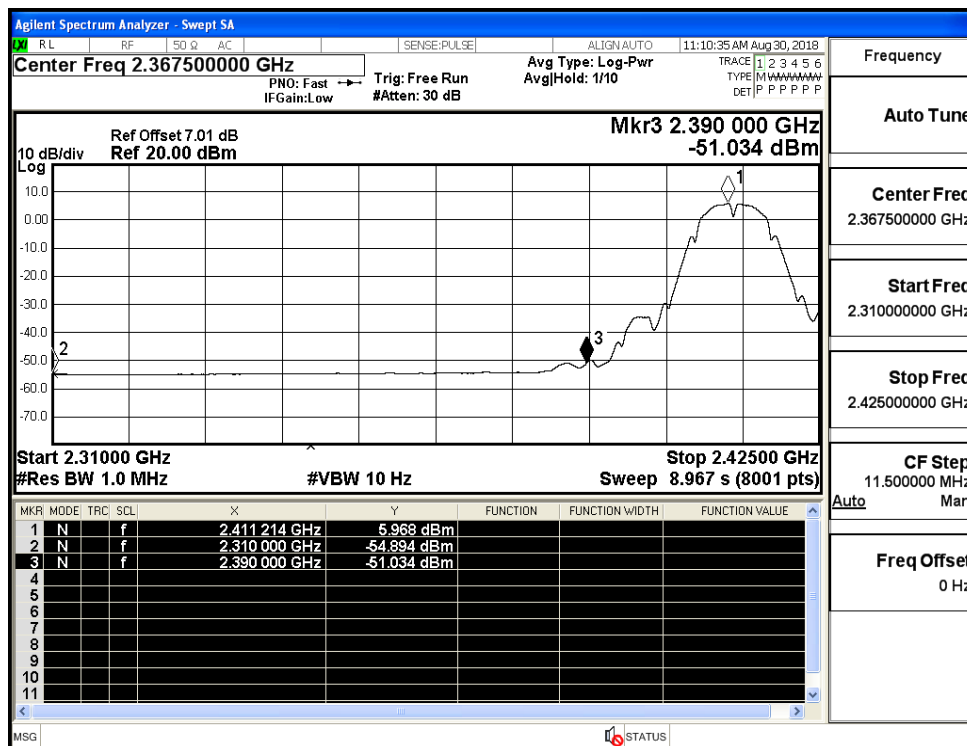
## A.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-44.479	2.50	0	53.249	PEAK	74	PASS
	2412	Ant1	2310.0	-54.894	2.50	0	42.834	AV	54	PASS
	2412	Ant1	2390.0	-41.856	2.50	0	55.872	PEAK	74	PASS
	2412	Ant1	2390.0	-51.034	2.50	0	46.694	AV	54	PASS
	2462	Ant1	2483.5	-43.458	2.50	0	54.270	PEAK	74	PASS
	2462	Ant1	2483.5	-53.256	2.50	0	44.472	AV	54	PASS
	2462	Ant1	2500.0	-43.043	2.50	0	54.685	PEAK	74	PASS
	2462	Ant1	2500.0	-53.837	2.50	0	43.891	AV	54	PASS
11G	2412	Ant1	2310.0	-44.337	2.50	0	53.391	PEAK	74	PASS
	2412	Ant1	2310.0	-54.836	2.50	0	42.892	AV	54	PASS
	2412	Ant1	2390.0	-37.578	2.50	0	60.150	PEAK	74	PASS
	2412	Ant1	2390.0	-50.746	2.50	0	46.982	AV	54	PASS
	2462	Ant1	2483.5	-39.074	2.50	0	58.654	PEAK	74	PASS
	2462	Ant1	2483.5	-51.201	2.50	0	46.527	AV	54	PASS
	2462	Ant1	2500.0	-41.575	2.50	0	56.153	PEAK	74	PASS
	2462	Ant1	2500.0	-53.360	2.50	0	44.368	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-44.546	2.50	0	53.182	PEAK	74	PASS
	2412	Ant1	2310.0	-54.852	2.50	0	42.876	AV	54	PASS
	2412	Ant1	2390.0	-33.810	2.50	0	63.918	PEAK	74	PASS
	2412	Ant1	2390.0	-49.538	2.50	0	48.190	AV	54	PASS
	2462	Ant1	2483.5	-34.665	2.50	0	63.063	PEAK	74	PASS
	2462	Ant1	2483.5	-49.635	2.50	0	48.093	AV	54	PASS
	2462	Ant1	2500.0	-43.462	2.50	0	54.266	PEAK	74	PASS
	2462	Ant1	2500.0	-53.311	2.50	0	44.417	AV	54	PASS

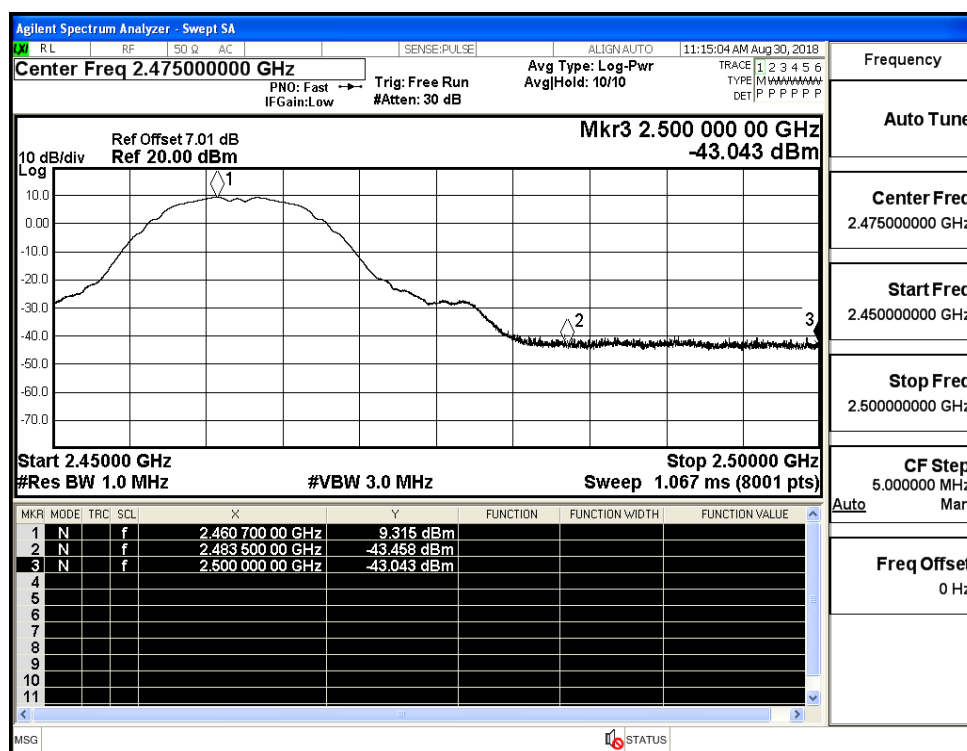
## Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



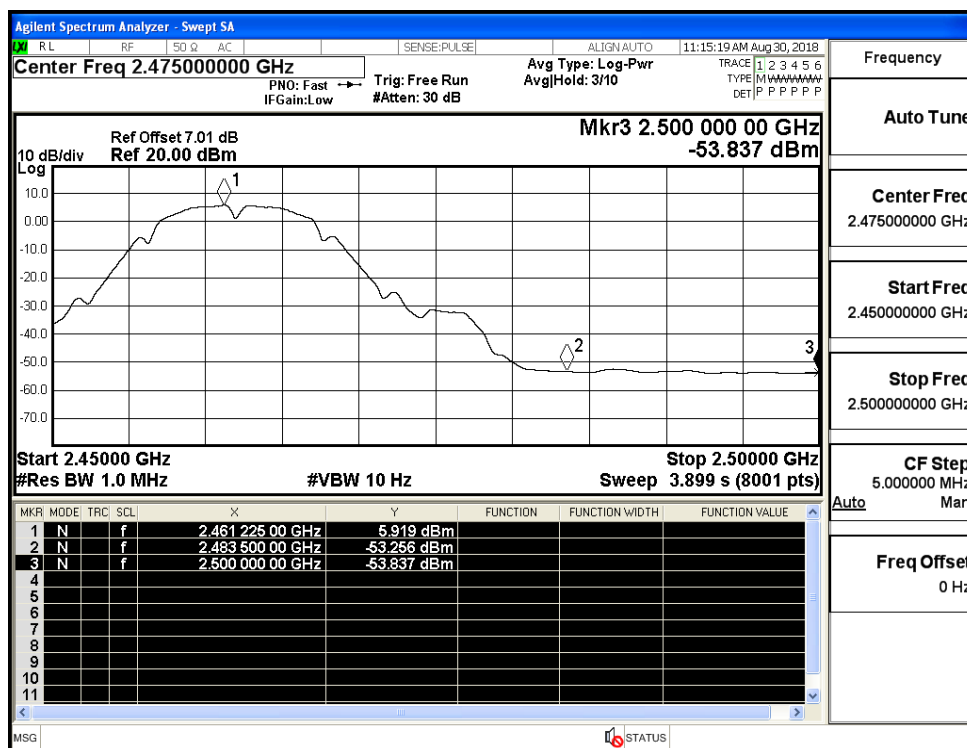
## Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



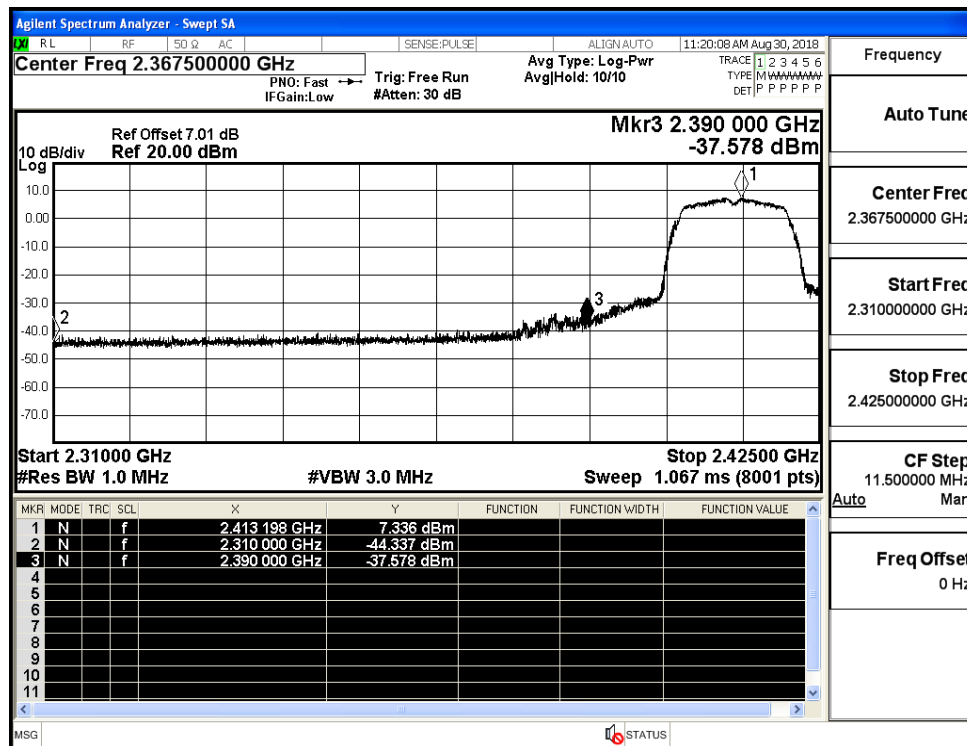
## Restrict-band band-edge measurements\_11B\_2462\_Ant1\_PEAK



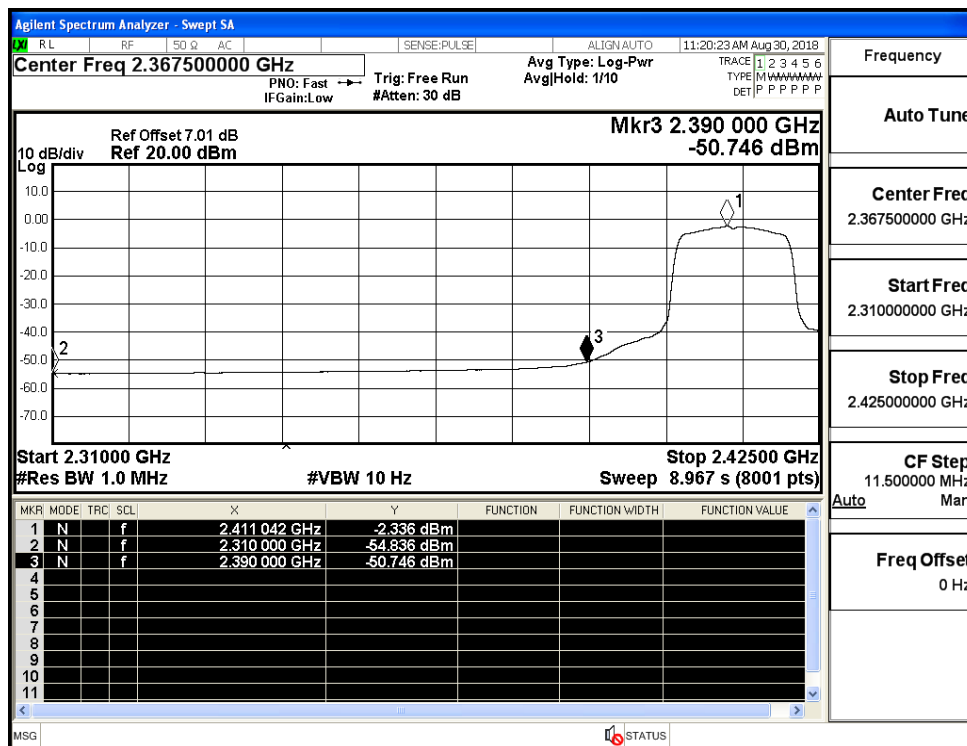
## Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV



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

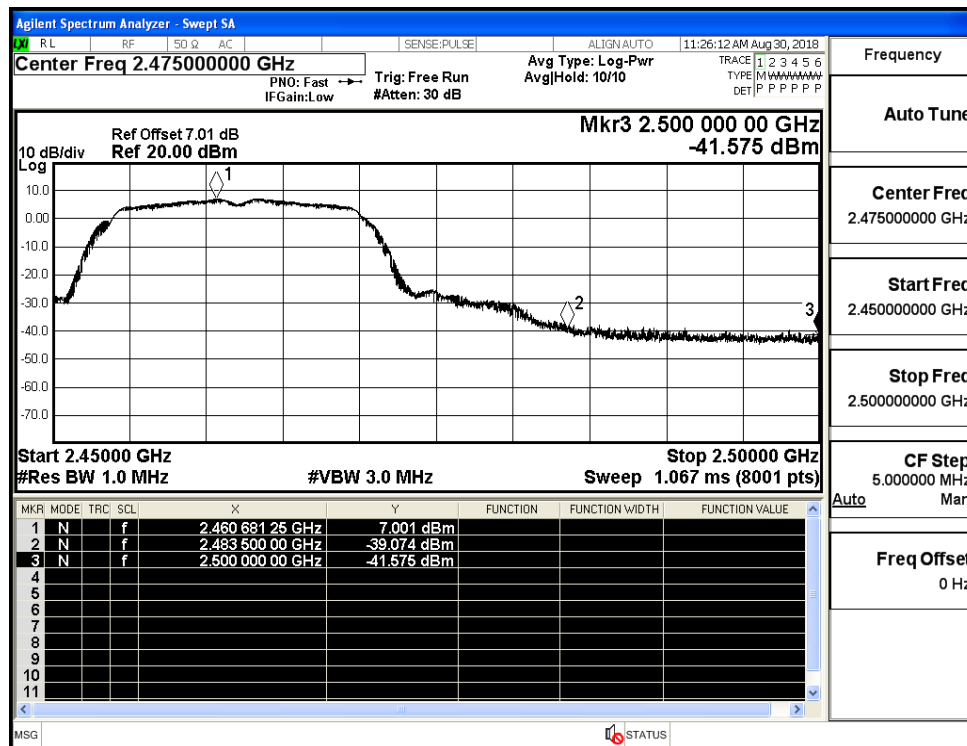


## Restrict-band band-edge measurements\_11G\_2412\_Ant1\_AV

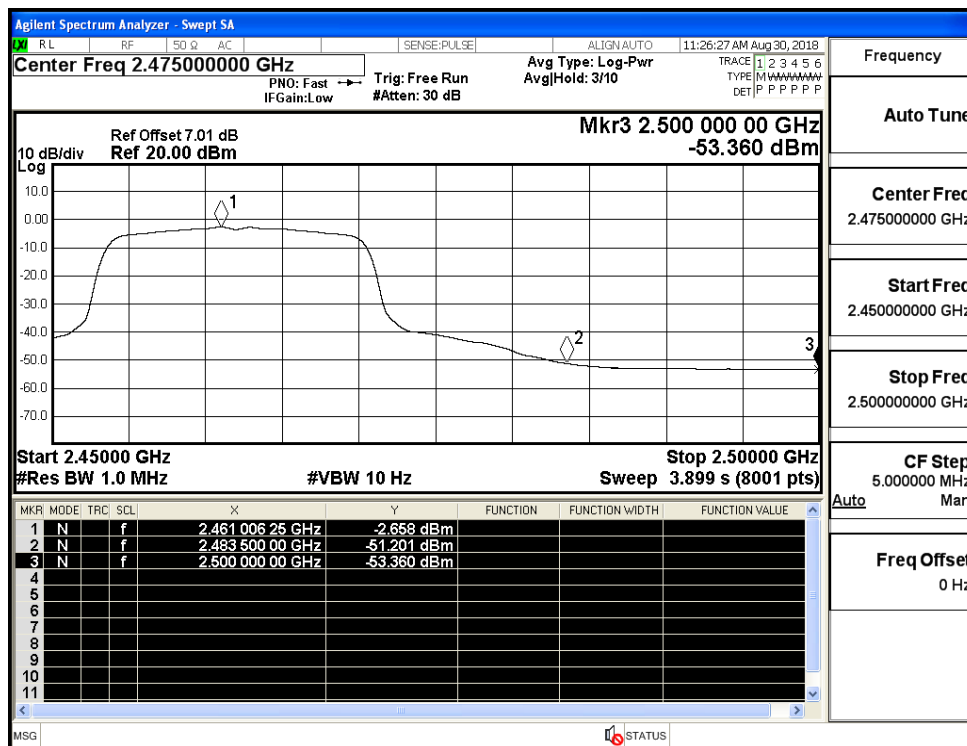




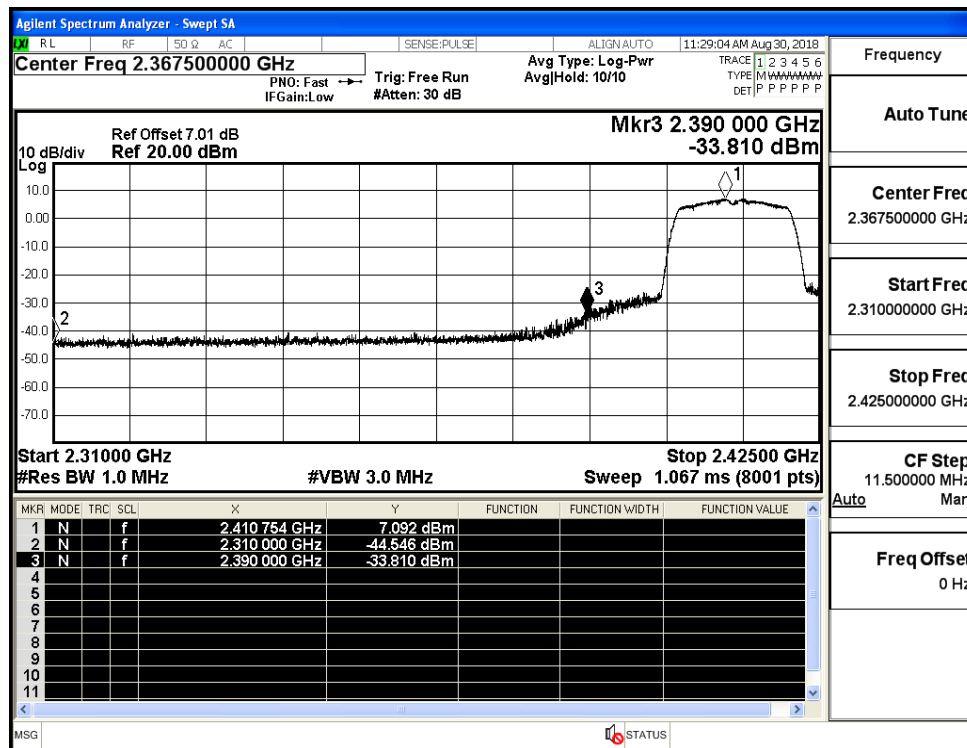
## Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK



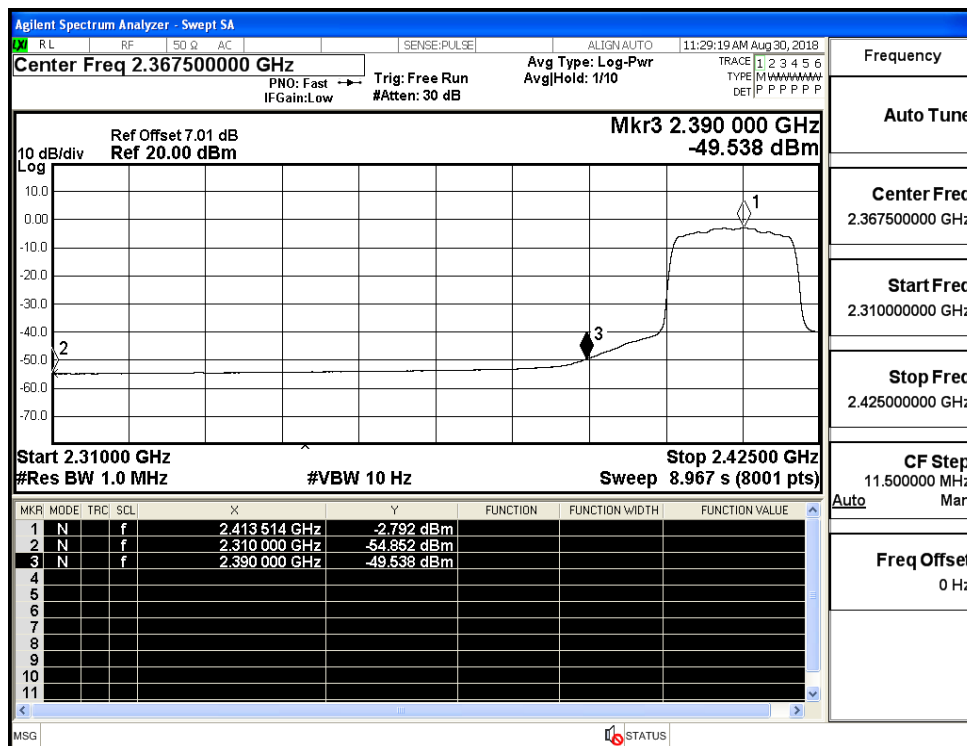
## Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV



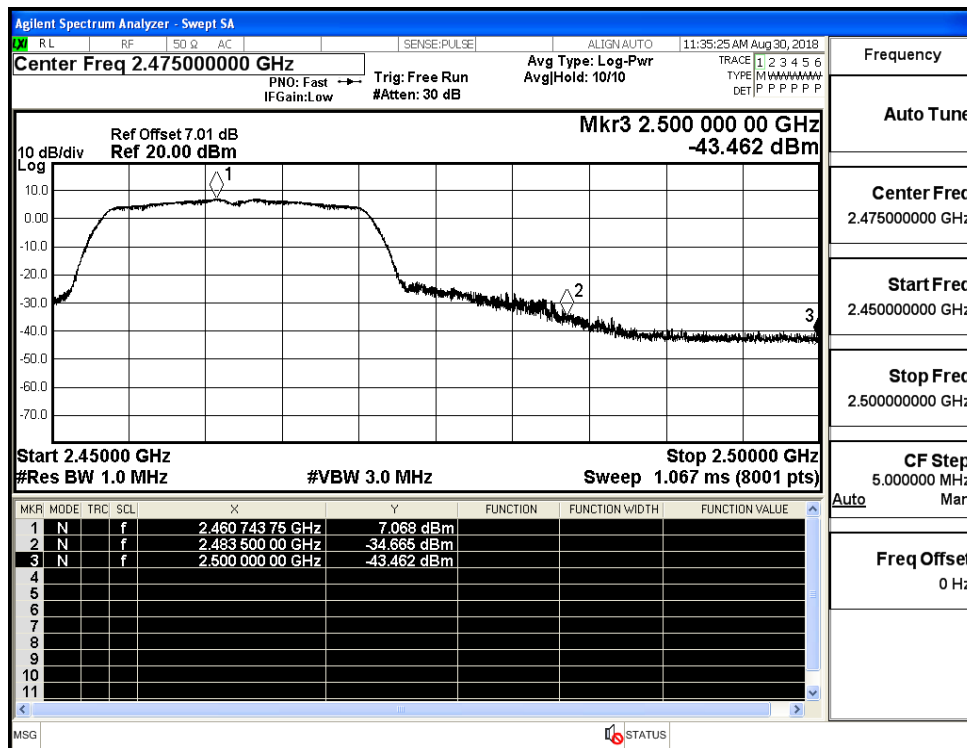
## Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_PEAK



## 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

