

## Appendix A

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

**Product Name: Smart Dual plug**

**Trade Mark: Nexxt Solutions**

**Test Model: NHP-D610**

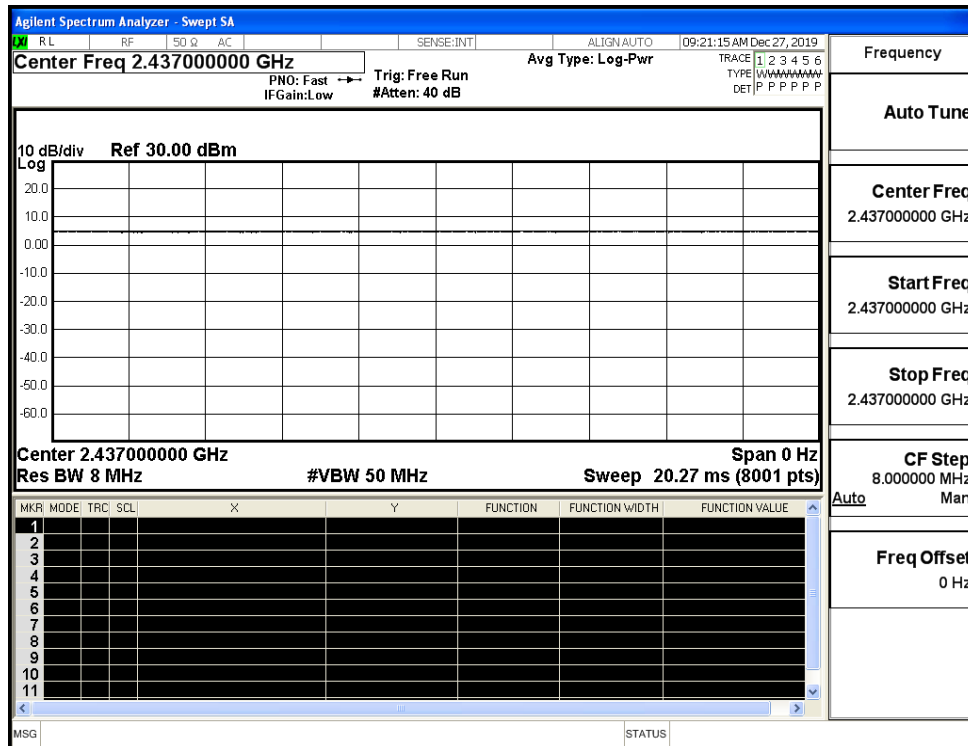
#### Environmental Conditions

Temperature:	24.3 ° C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Alisa Huang
Supervised by:	Wang Chuang

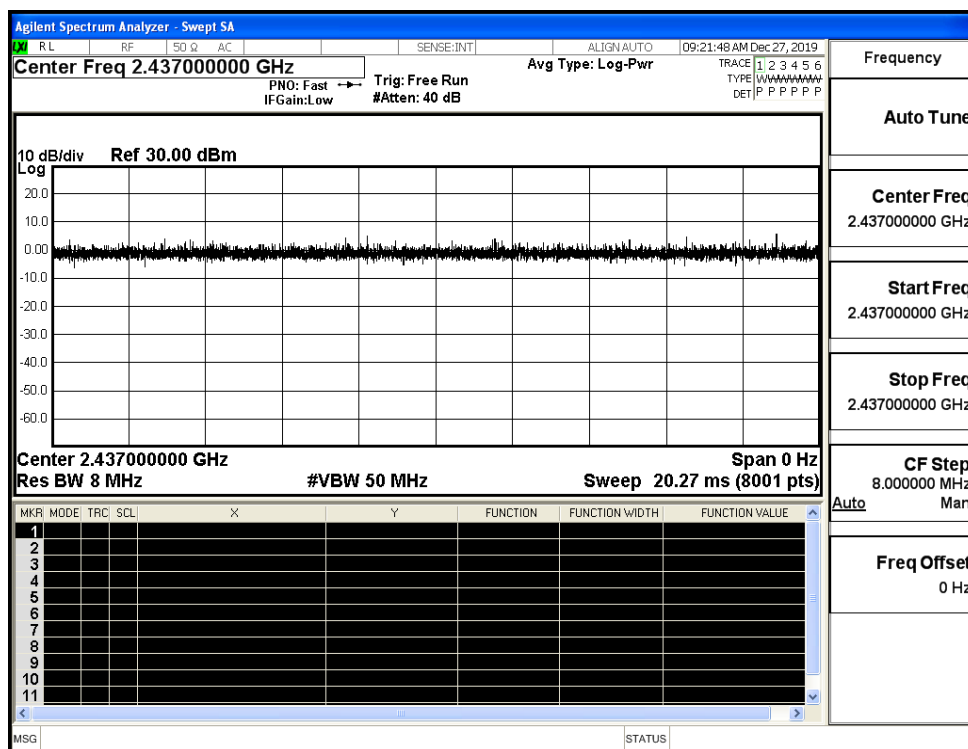
#### A.1 Duty Cycle

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

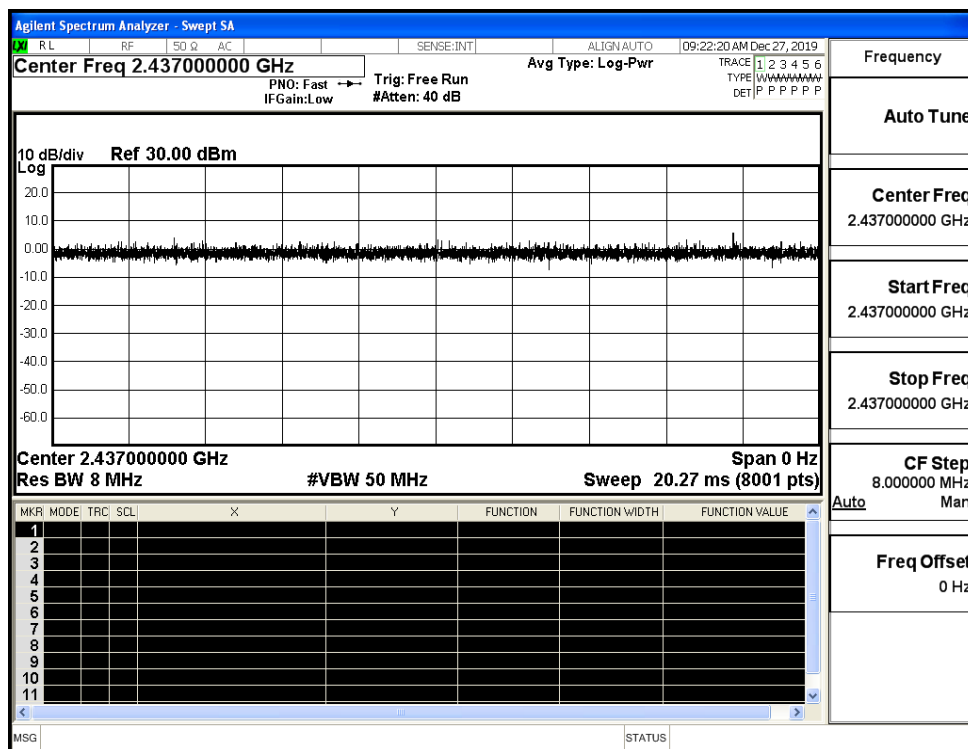
## Duty Cycle\_11B\_2437\_Ant1



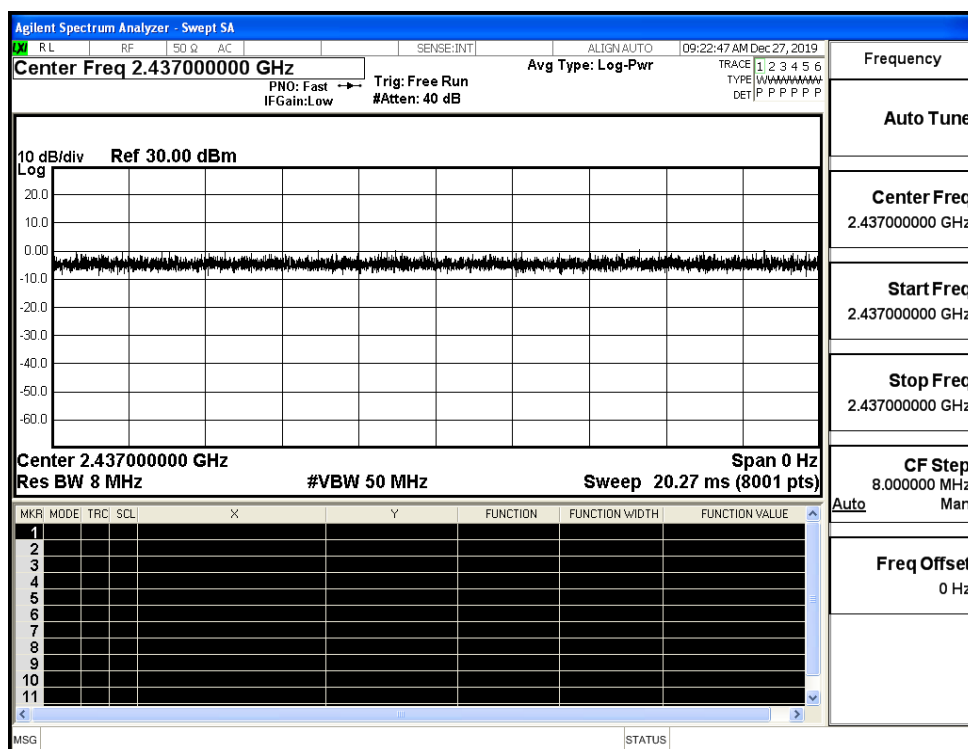
## Duty Cycle\_11G\_2437\_Ant1



## Duty Cycle\_11N20SISO\_2437\_Ant1



## Duty Cycle\_11N40SISO\_2437\_Ant1



**A.2 Maximum Conducted Output Power**

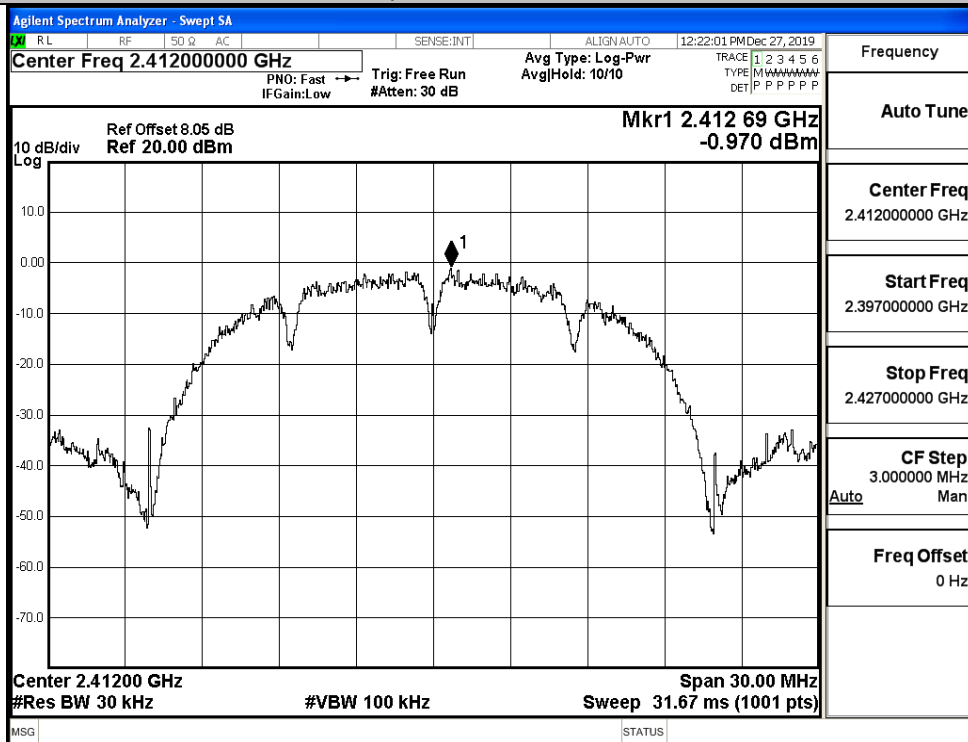
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	16.98	30	PASS
	MCH	16.31	30	PASS
	HCH	15.98	30	PASS
11G	LCH	13.19	30	PASS
	MCH	15.19	30	PASS
	HCH	14.43	30	PASS
11N20SISO	LCH	15.74	30	PASS
	MCH	15.05	30	PASS
	HCH	14.19	30	PASS
11N40SISO	LCH	15.54	30	PASS
	MCH	14.88	30	PASS
	HCH	14.47	30	PASS

### A.3 Maximum Power Spectral Density

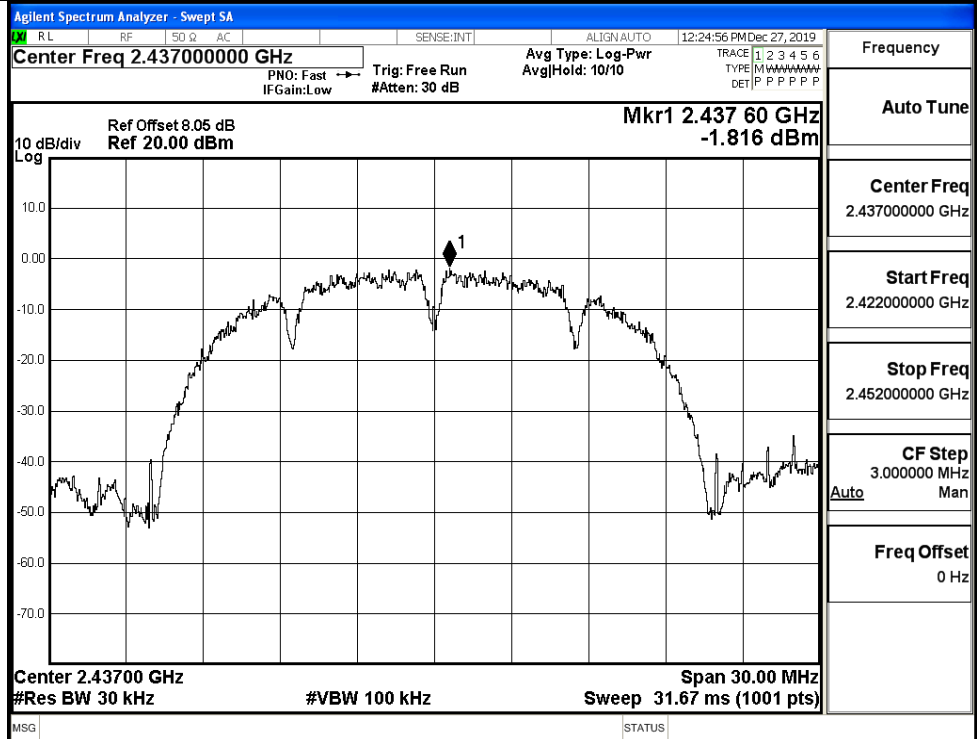
Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-0.970	8	PASS
	MCH	-1.816	8	PASS
	HCH	-1.596	8	PASS
11G	LCH	-11.232	8	PASS
	MCH	-8.832	8	PASS
	HCH	-9.726	8	PASS
11N20SISO	LCH	-8.195	8	PASS
	MCH	-8.846	8	PASS
	HCH	-9.947	8	PASS
11N40SISO	LCH	-11.752	8	PASS
	MCH	-12.557	8	PASS
	HCH	-12.619	8	PASS

Test Graphs

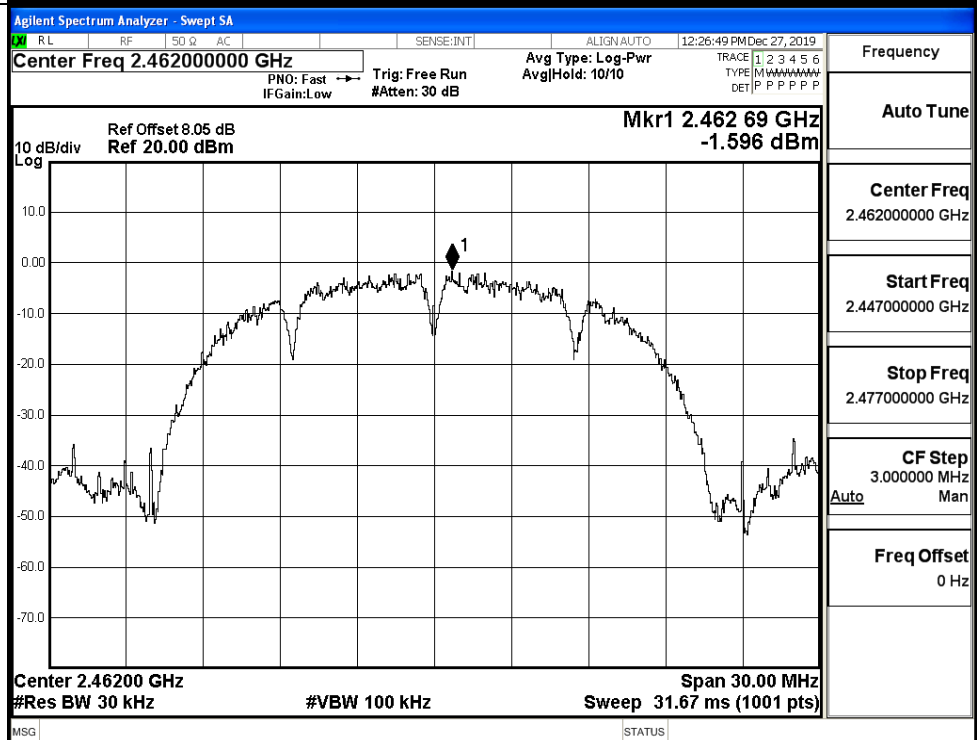
11B/LCH



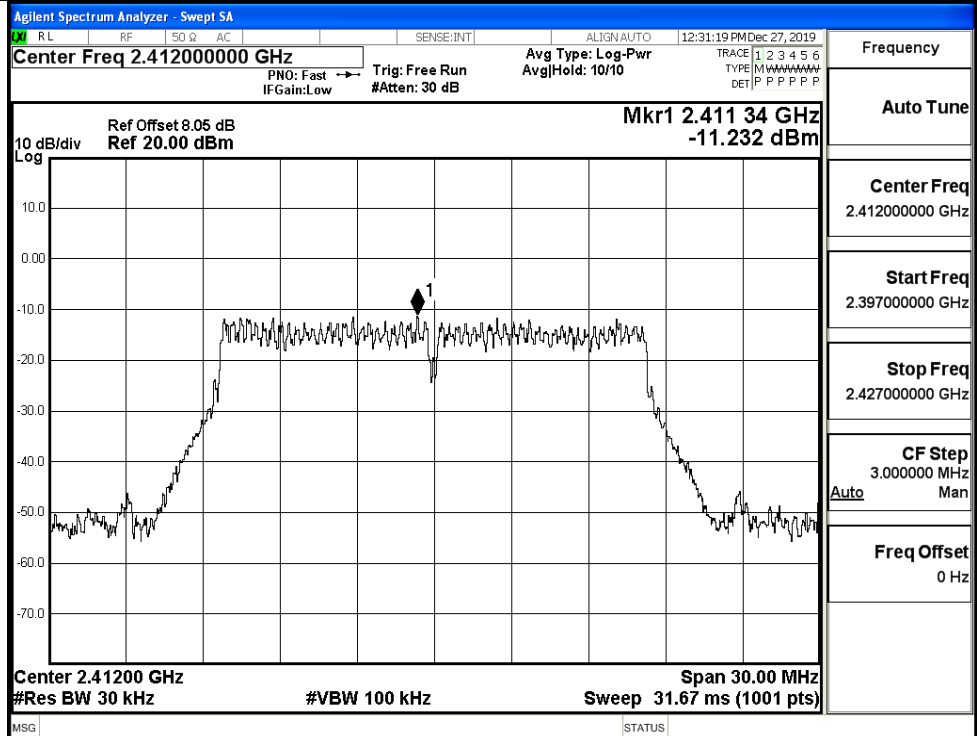
11B/MCH



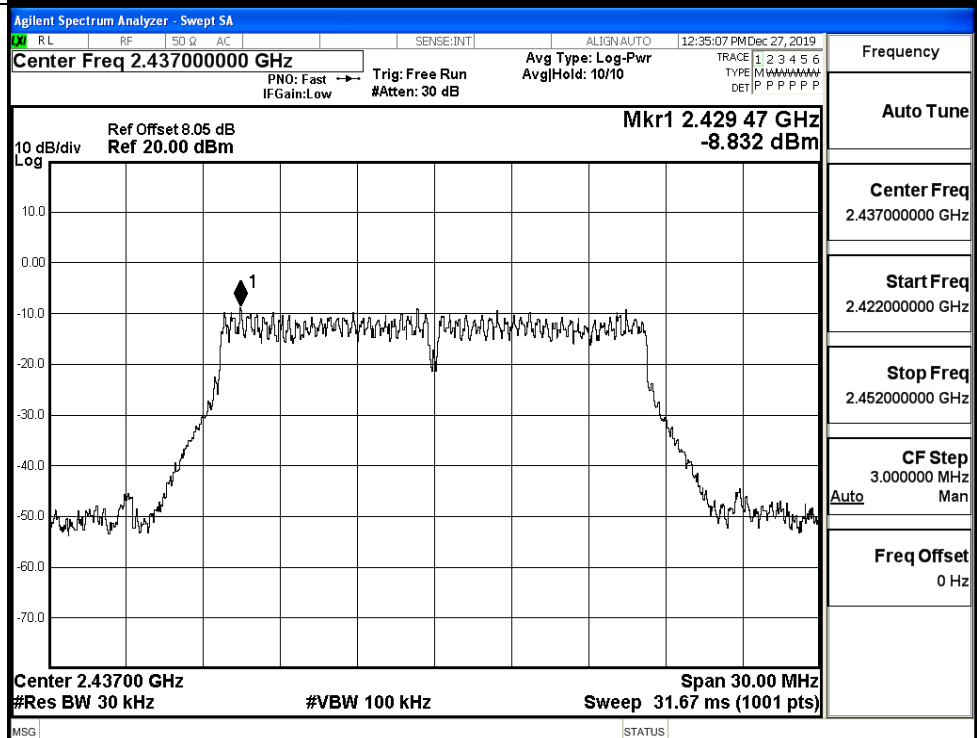
11B/HCH



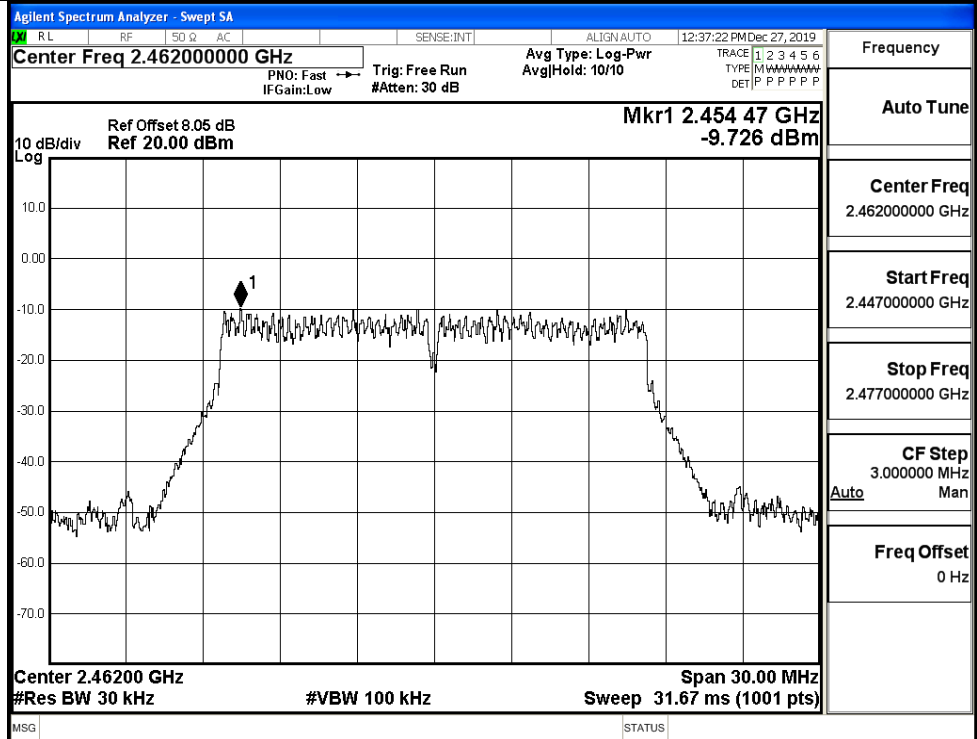
11G/LCH



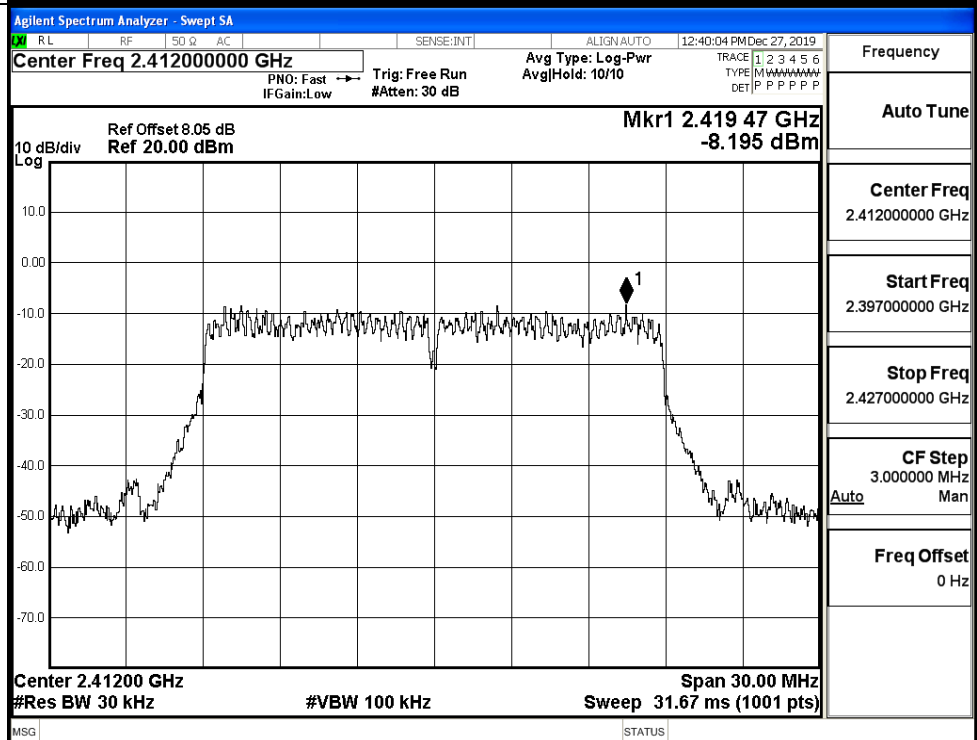
11G/MCH



11G/HCH

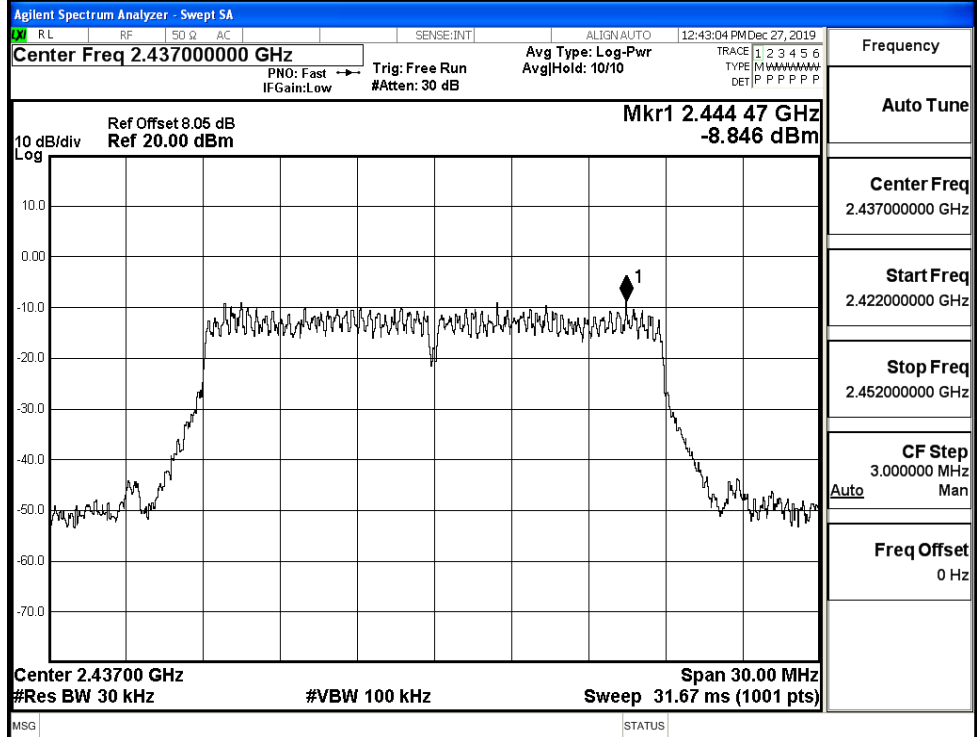


11N20SISO/LCH

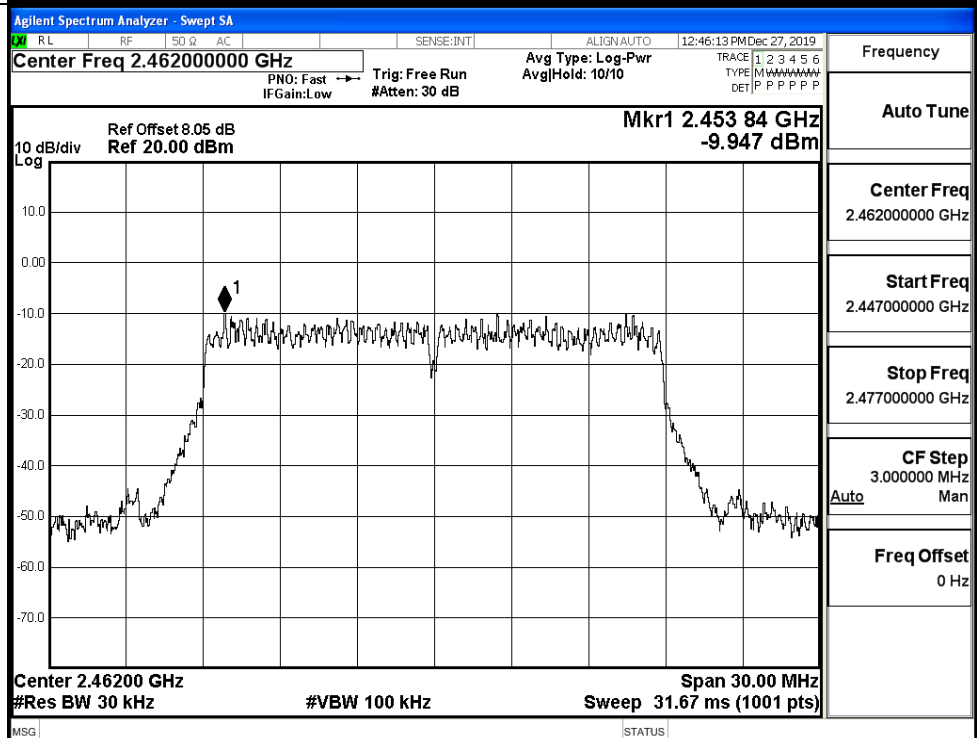




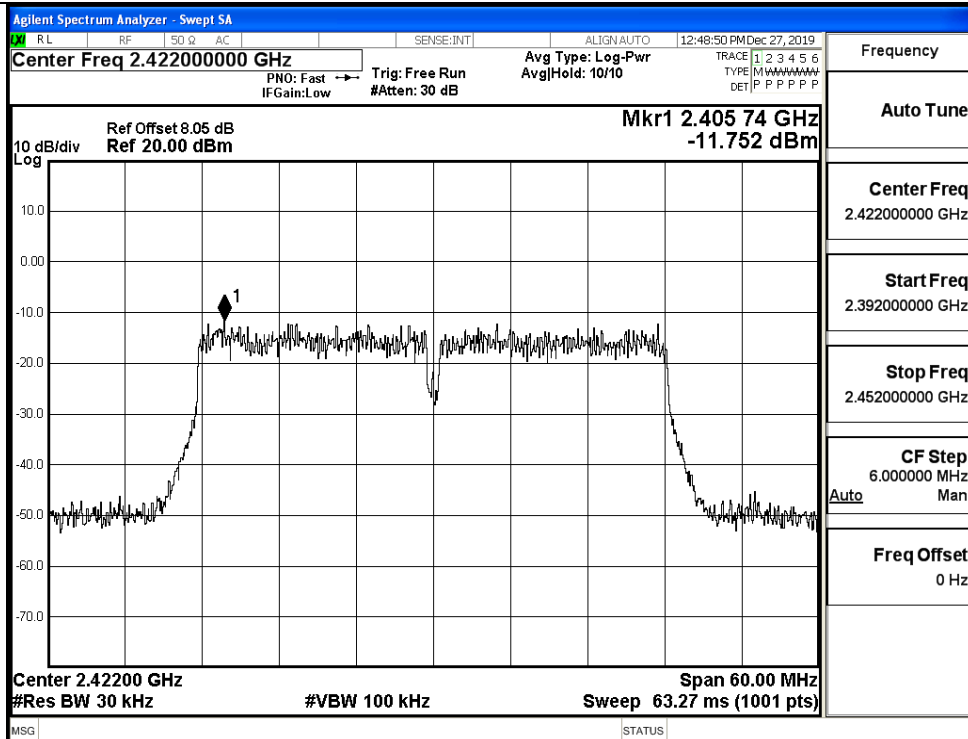
11N20SISO/MCH



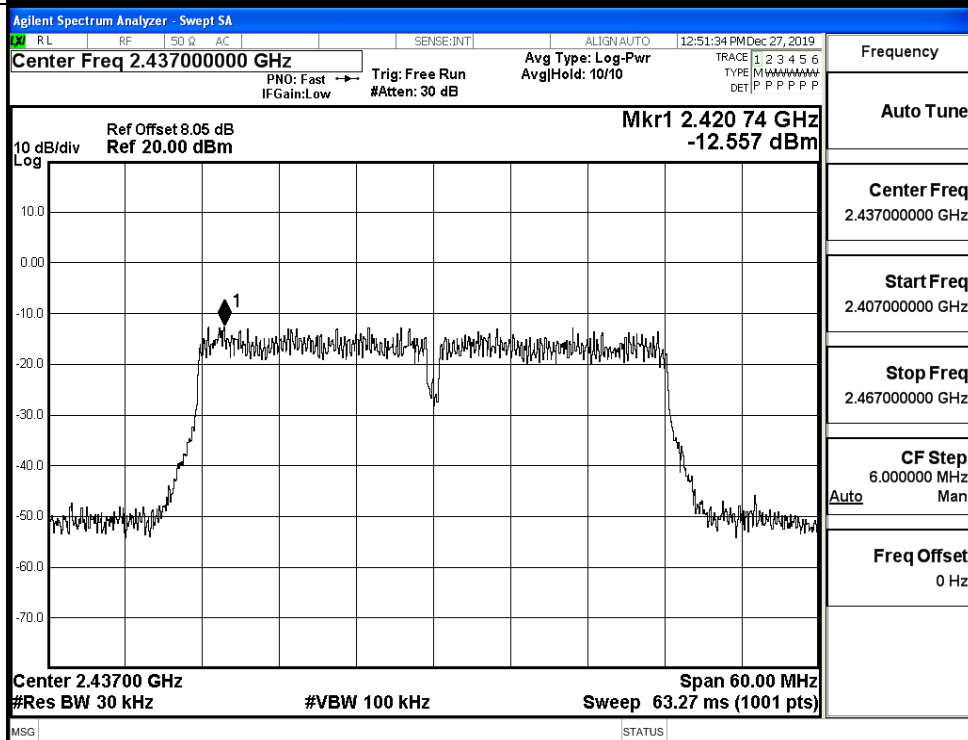
11N20SISO/HCH



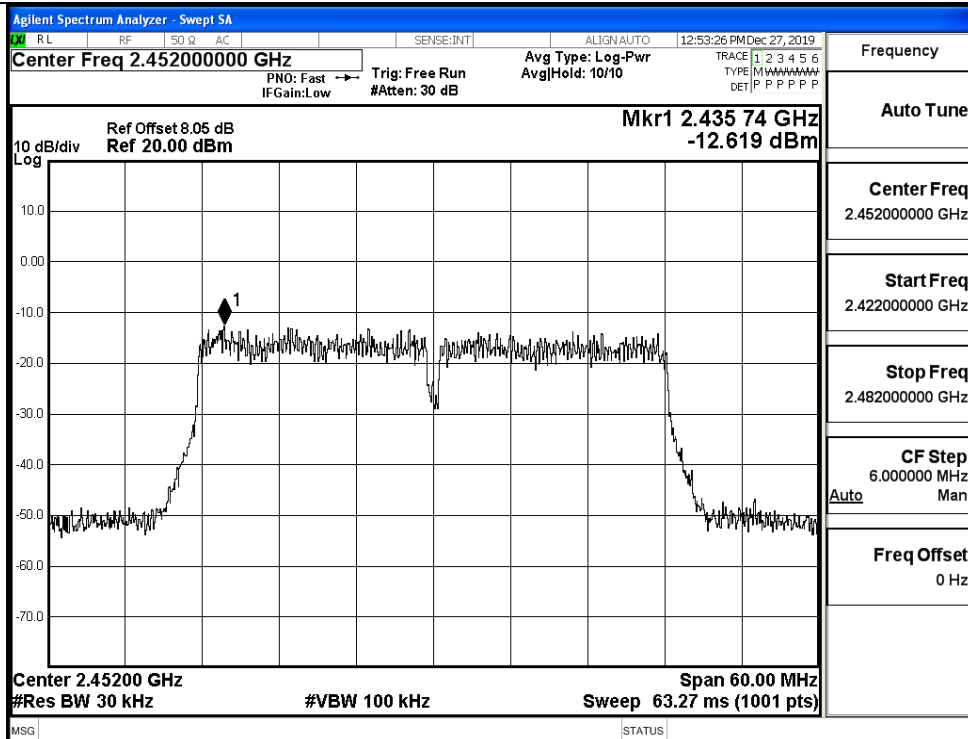
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH

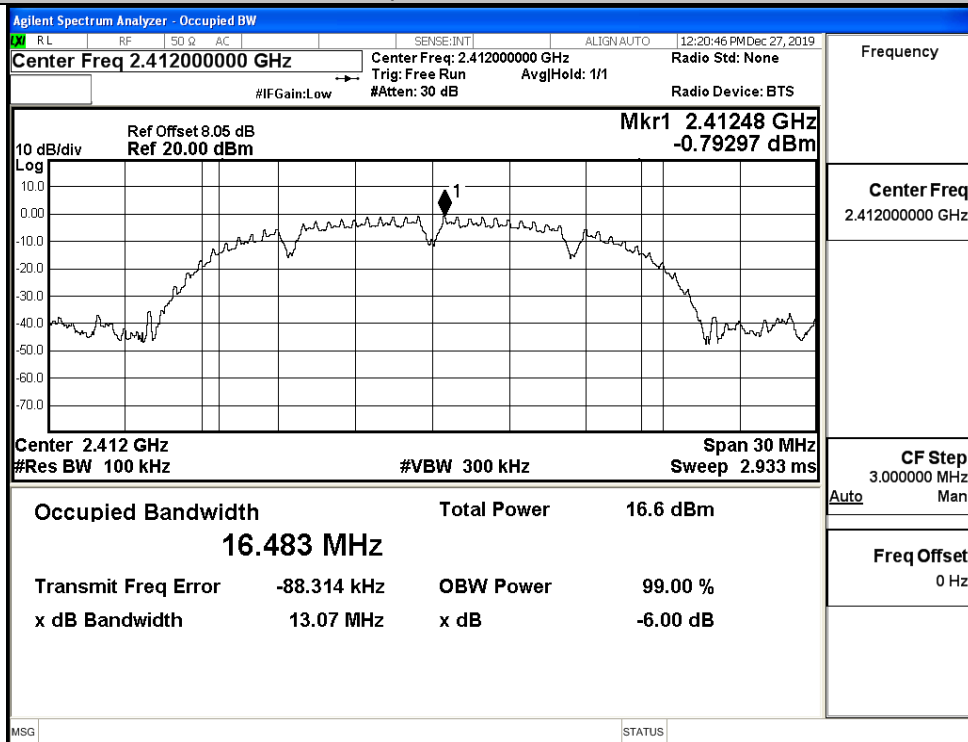


## A.4 6dB Bandwidth

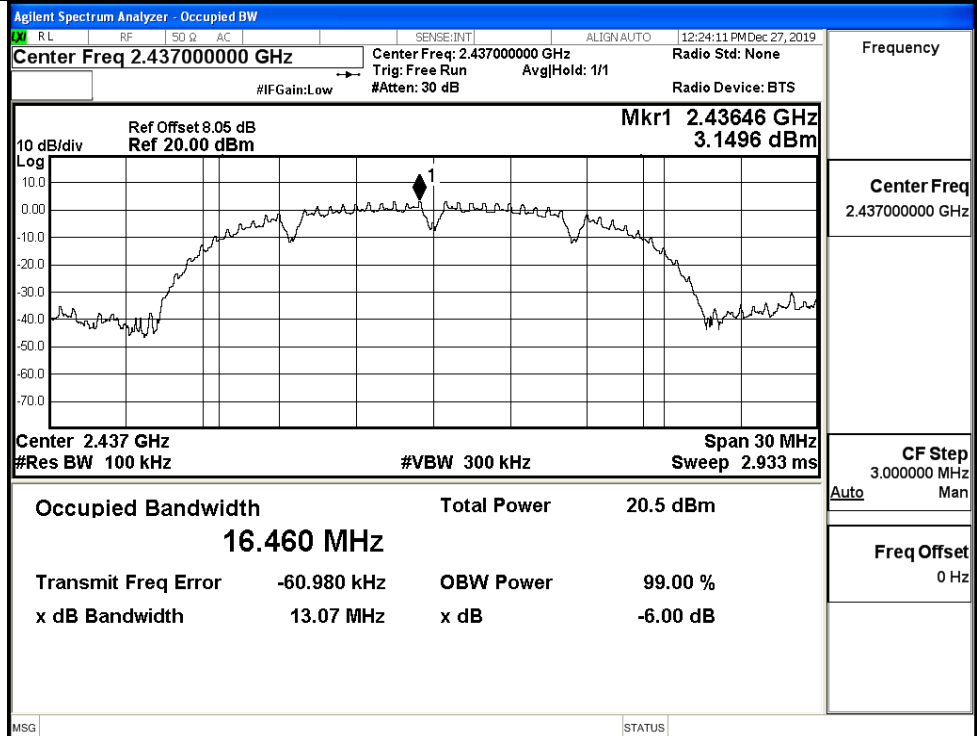
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	13.07	$\geq 0.5$	PASS
	MCH	13.07	$\geq 0.5$	PASS
	HCH	13.06	$\geq 0.5$	PASS
11G	LCH	16.37	$\geq 0.5$	PASS
	MCH	16.39	$\geq 0.5$	PASS
	HCH	16.39	$\geq 0.5$	PASS
11N20SISO	LCH	17.03	$\geq 0.5$	PASS
	MCH	17.13	$\geq 0.5$	PASS
	HCH	17.07	$\geq 0.5$	PASS
11N40SISO	LCH	35.58	$\geq 0.5$	PASS
	MCH	35.57	$\geq 0.5$	PASS
	HCH	35.58	$\geq 0.5$	PASS

## Test Graphs

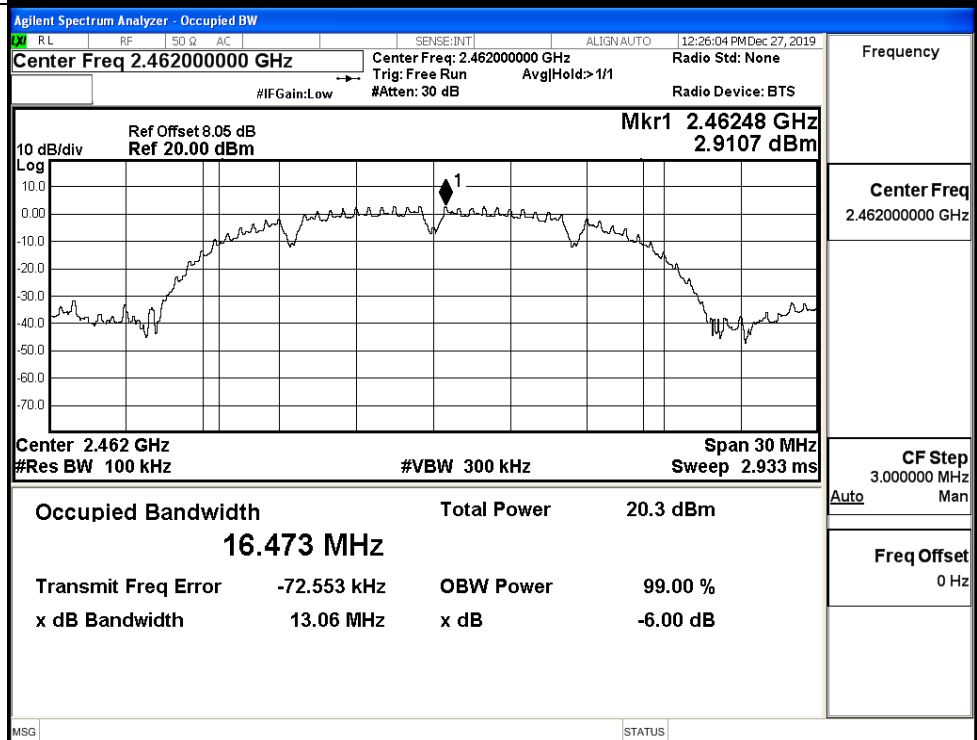
11B/LCH



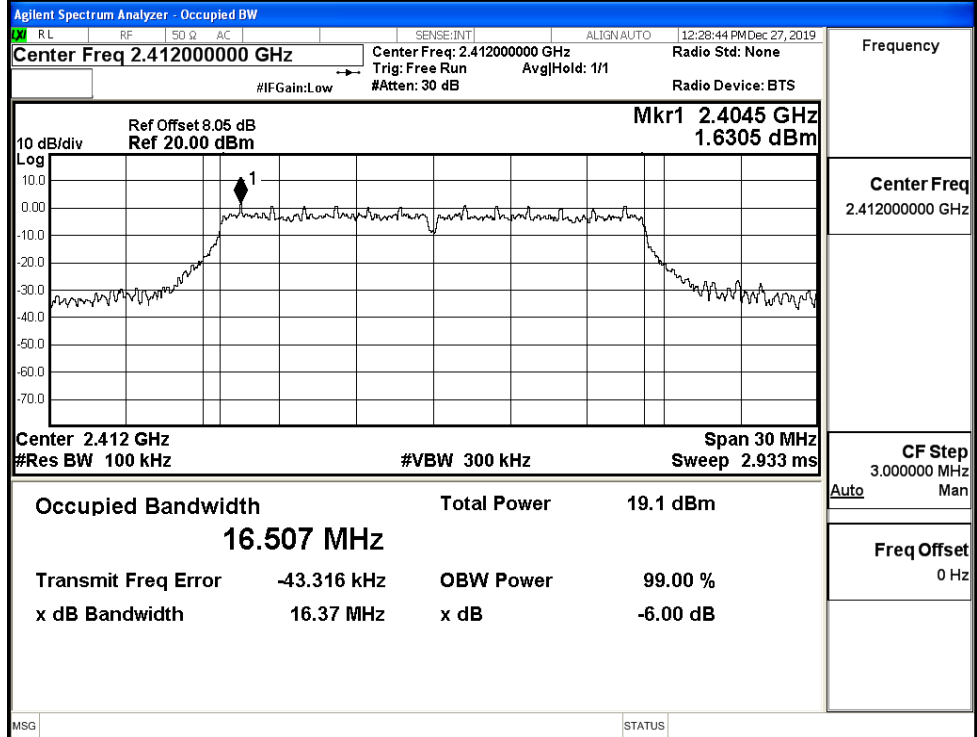
11B/MCH



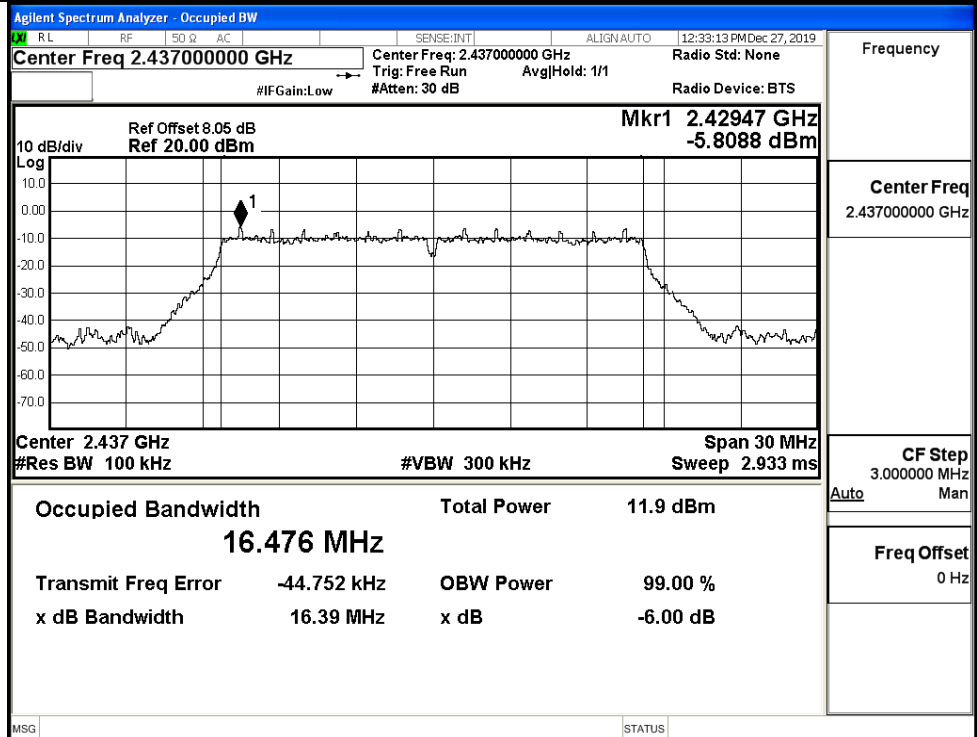
11B/HCH



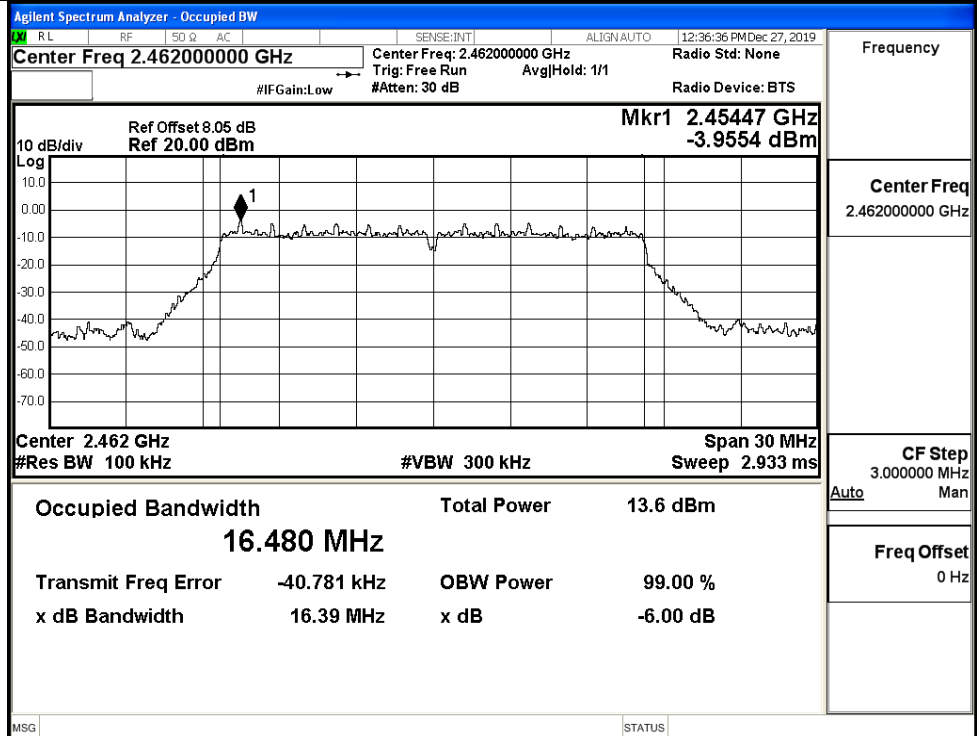
11G/LCH



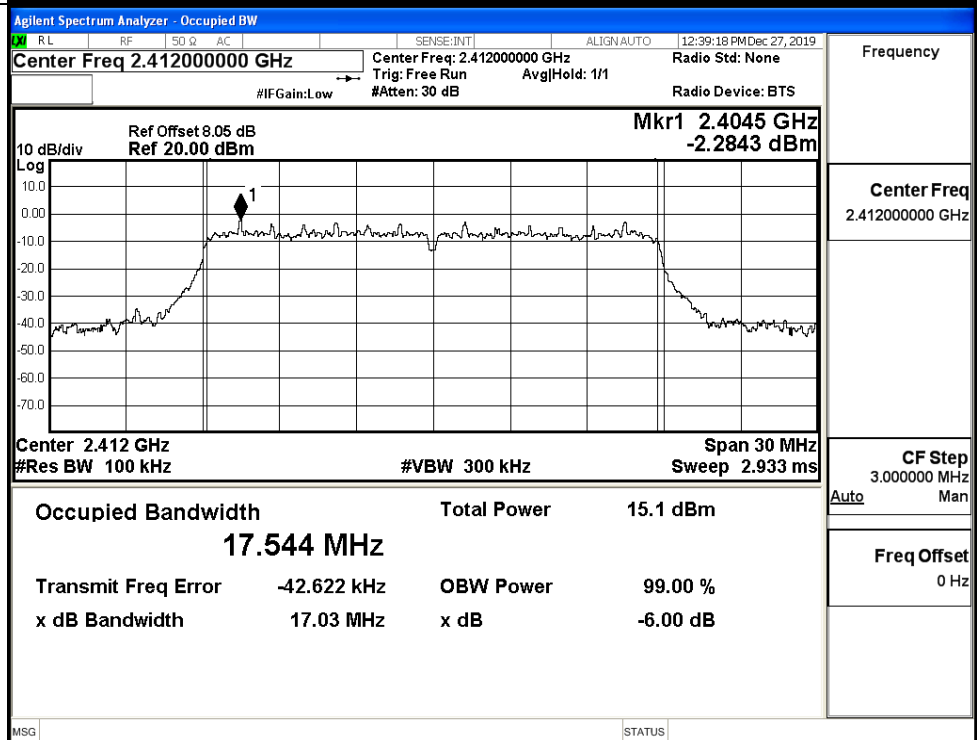
11G/MCH



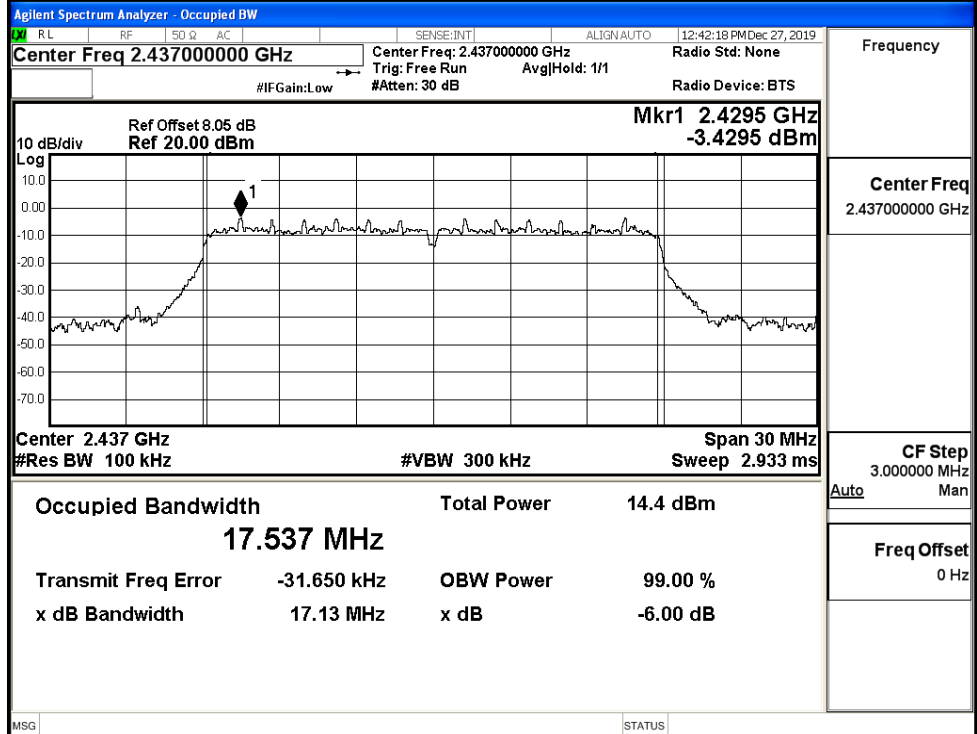
11G/HCH



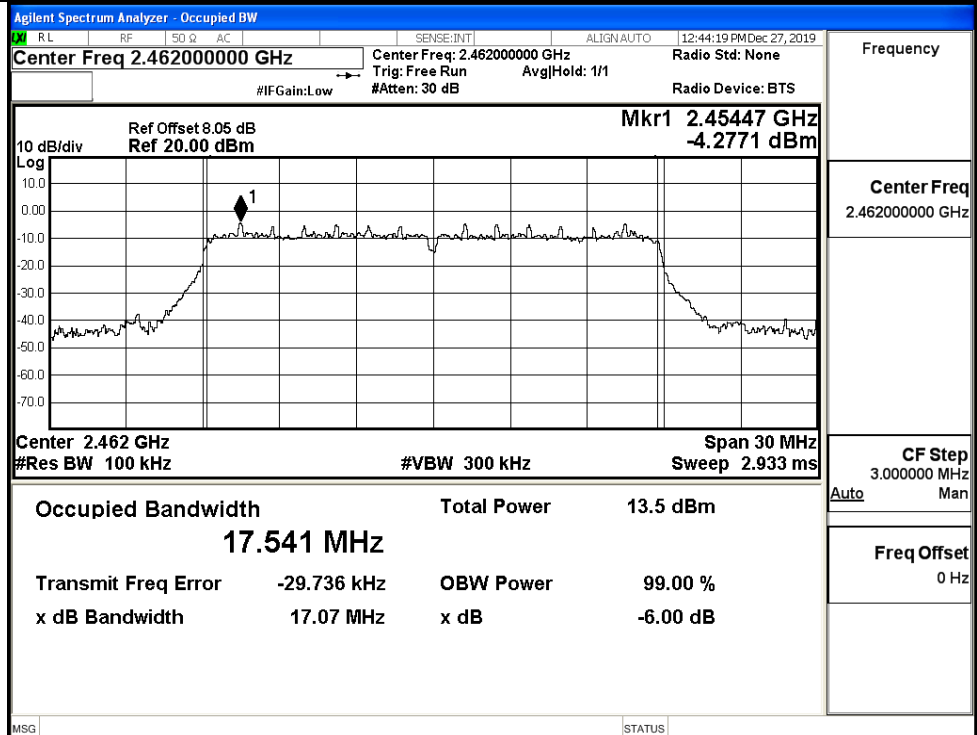
11N20SISO/LCH



11N20SISO/MCH

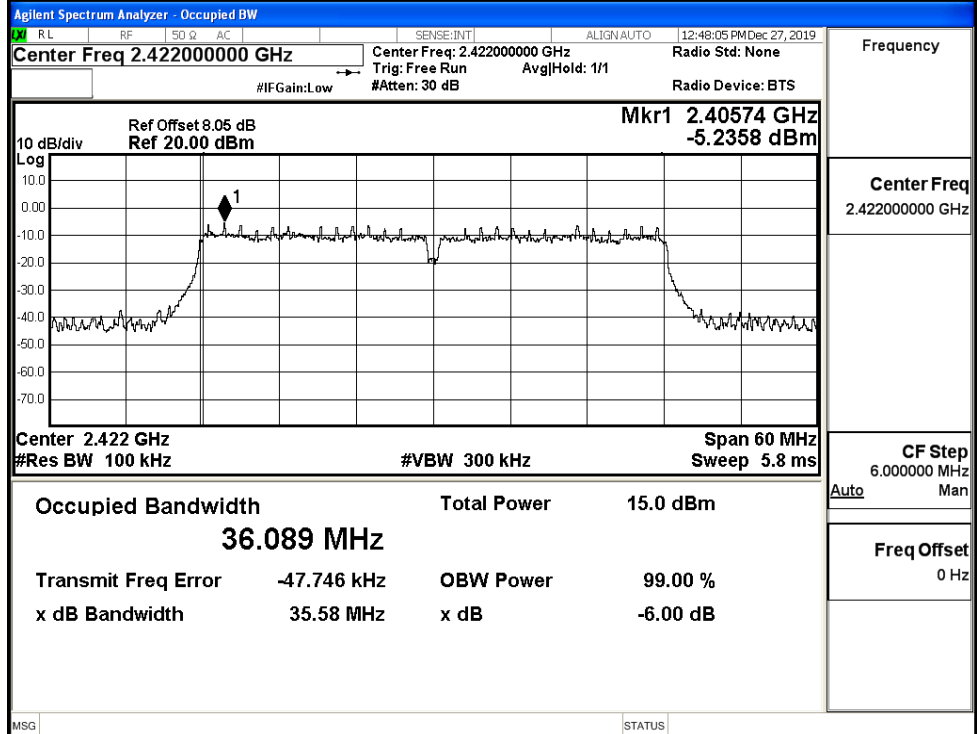


11N20SISO/HCH

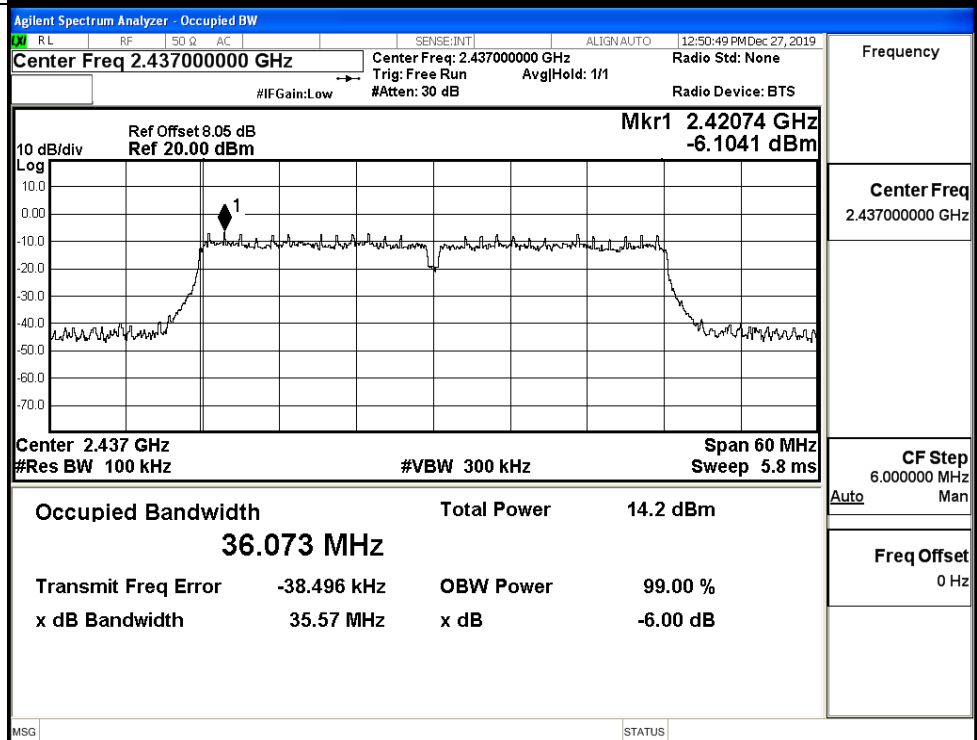




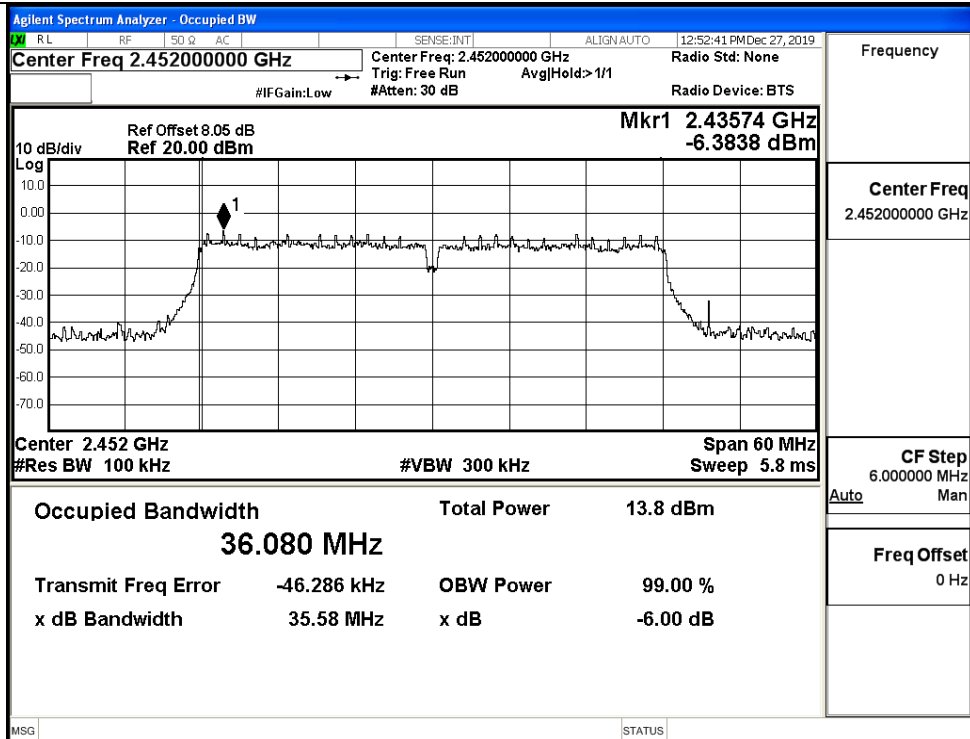
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH

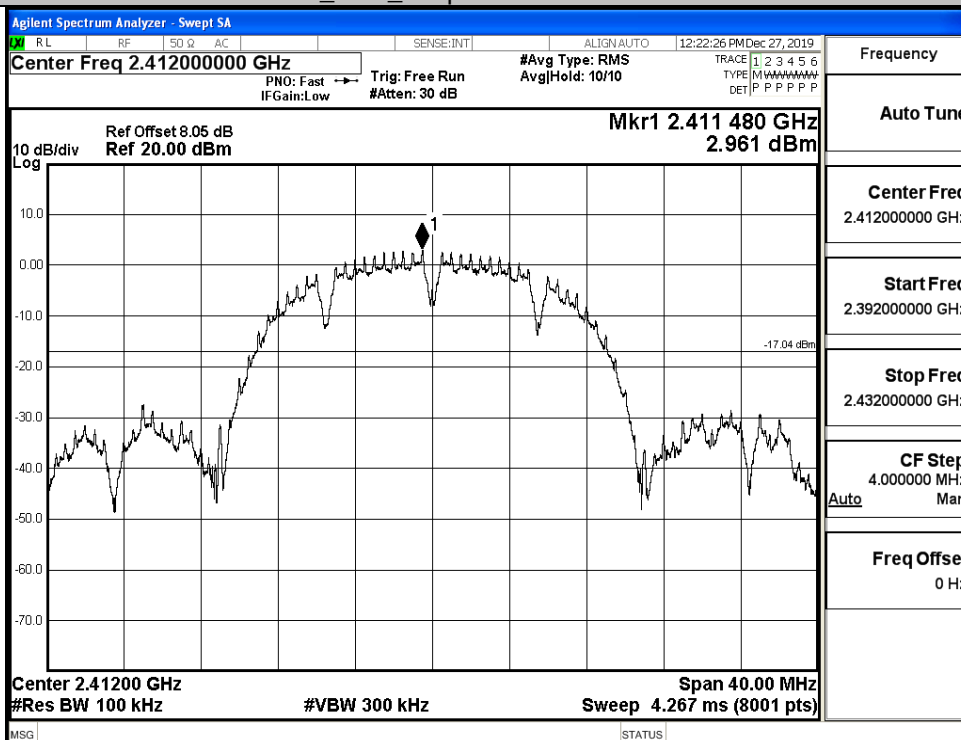


## A.5 RF Conducted Spurious Emissions

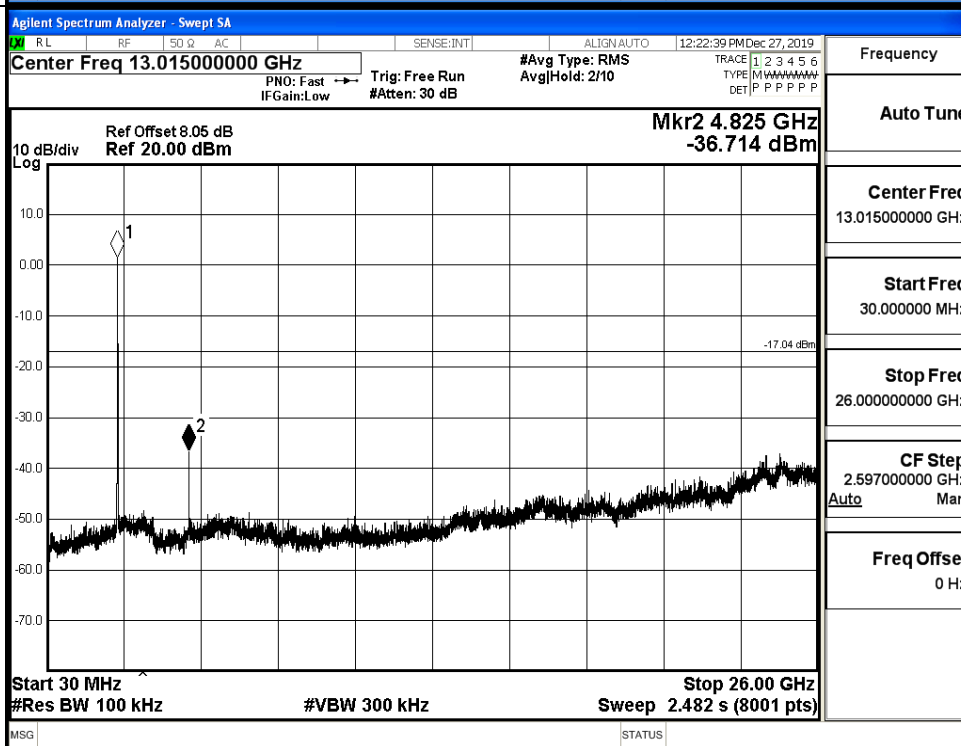
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	2.961	-36.714	-17.039	PASS
	MCH	2.529	-37.761	-17.471	PASS
	HCH	2.517	-37.978	-17.483	PASS
11G	LCH	-5.733	-37.170	-25.733	PASS
	MCH	-3.647	-37.067	-23.647	PASS
	HCH	-4.301	-37.802	-24.301	PASS
11N20 SISO	LCH	-3.186	-37.901	-23.186	PASS
	MCH	-3.58	-37.643	-23.580	PASS
	HCH	-4.949	-38.103	-24.949	PASS
11N40 SISO	LCH	-5.921	-37.579	-25.921	PASS
	MCH	-7.297	-37.365	-27.297	PASS
	HCH	-6.76	-37.895	-26.760	PASS

## 11B\_LCH\_Graphs

Pref/11B/LCH

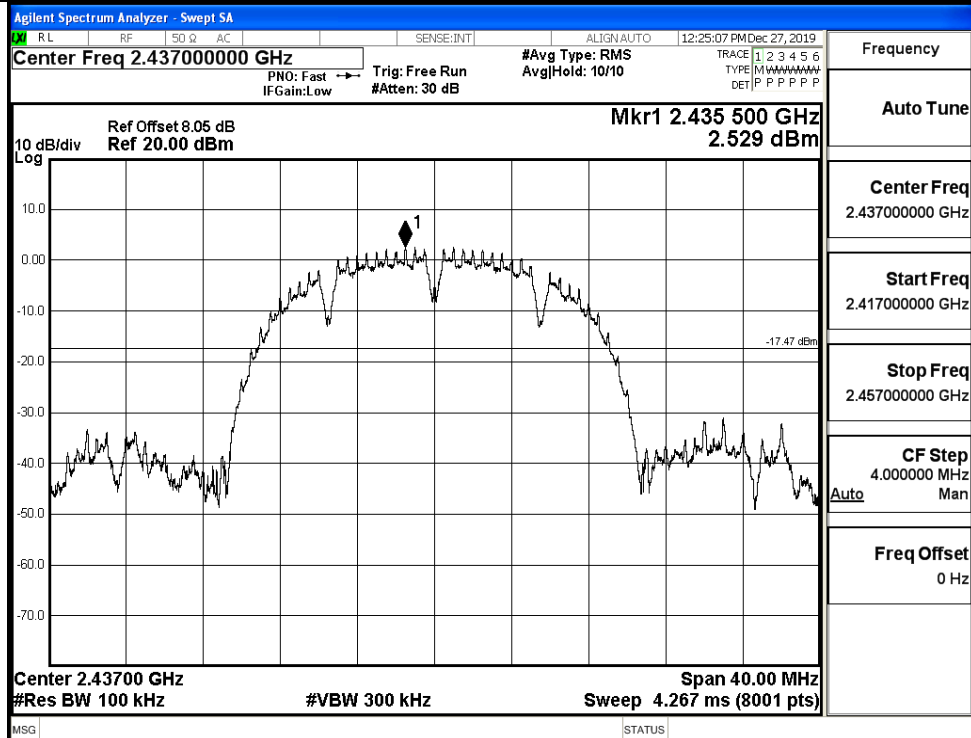


Puw/11B/LCH

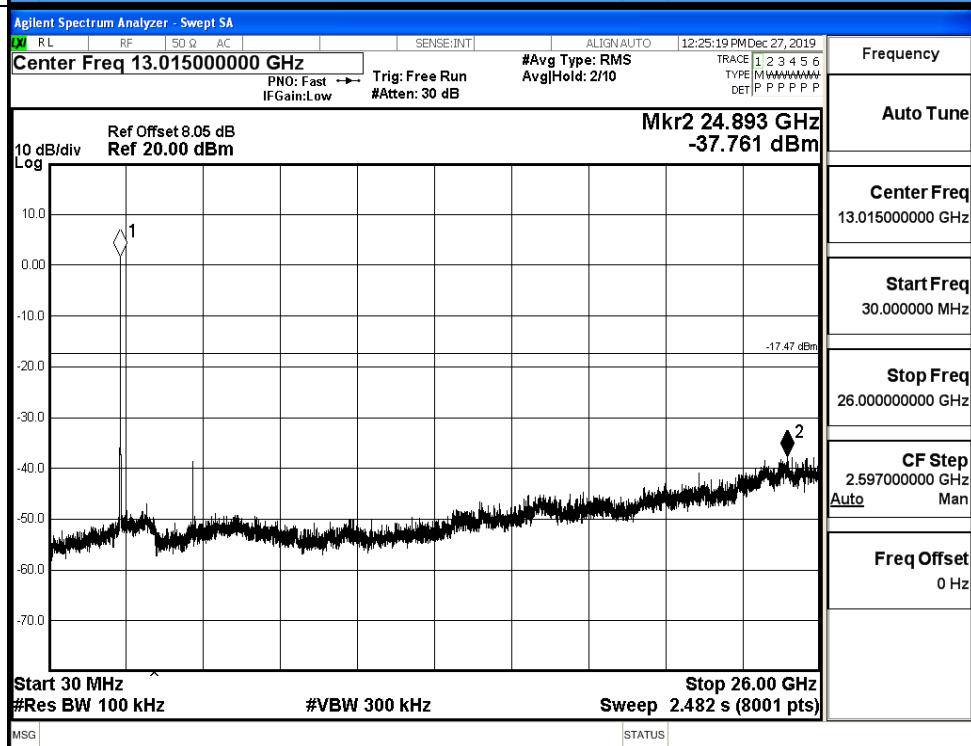


## 11B\_MCH\_Graphs

Pref/11B/MCH

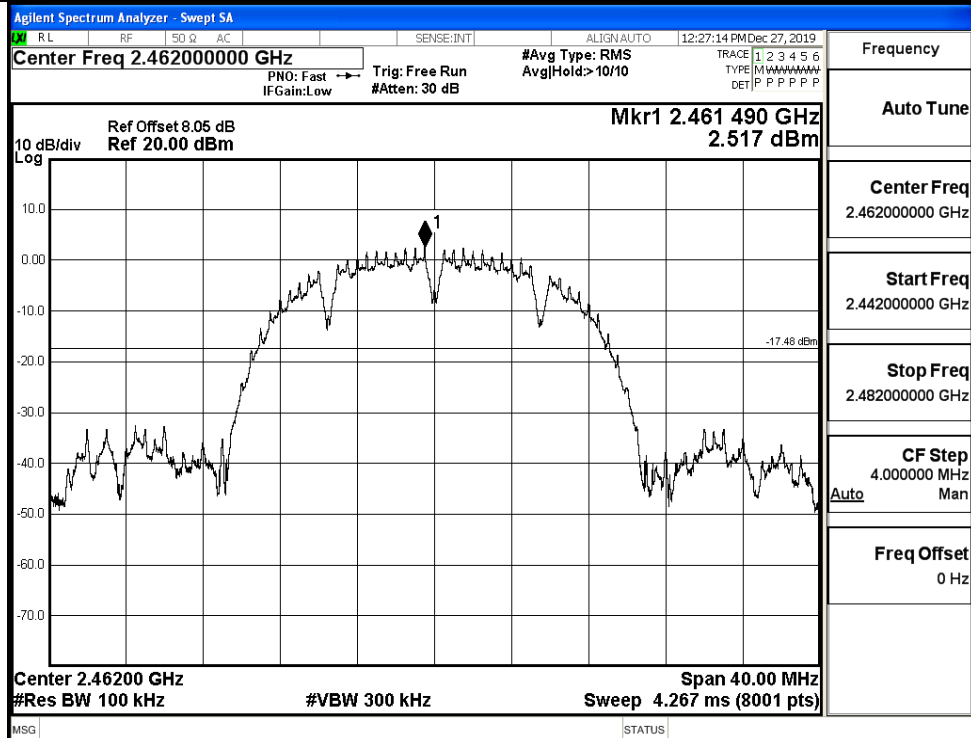


Puw/11B/MCH

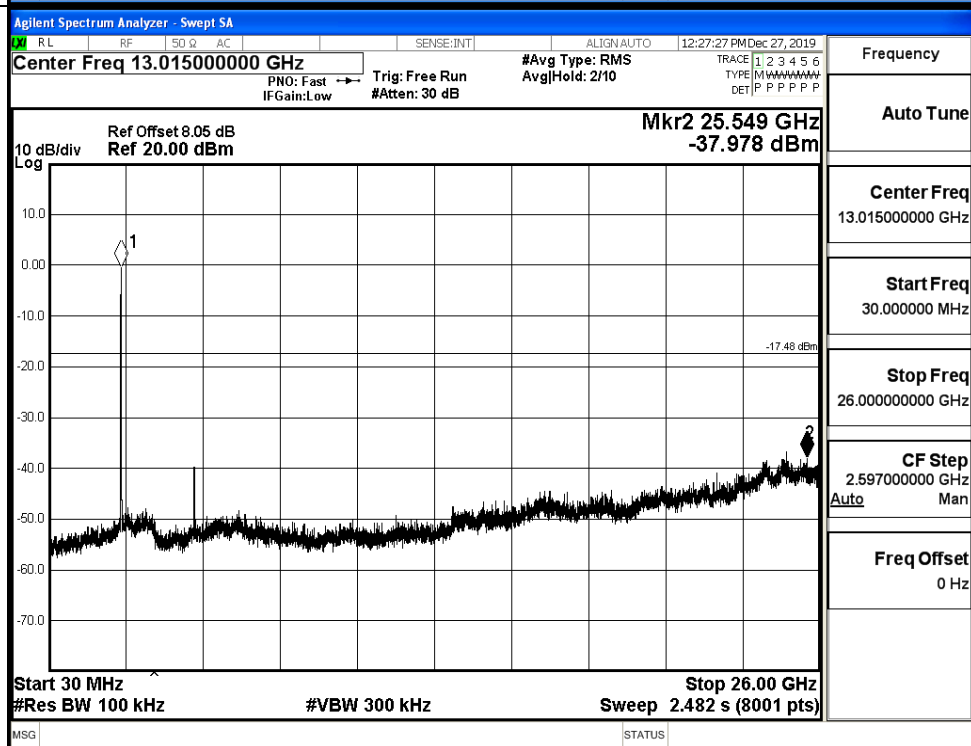


## 11B\_HCH\_Graphs

Pref/11B/HCH

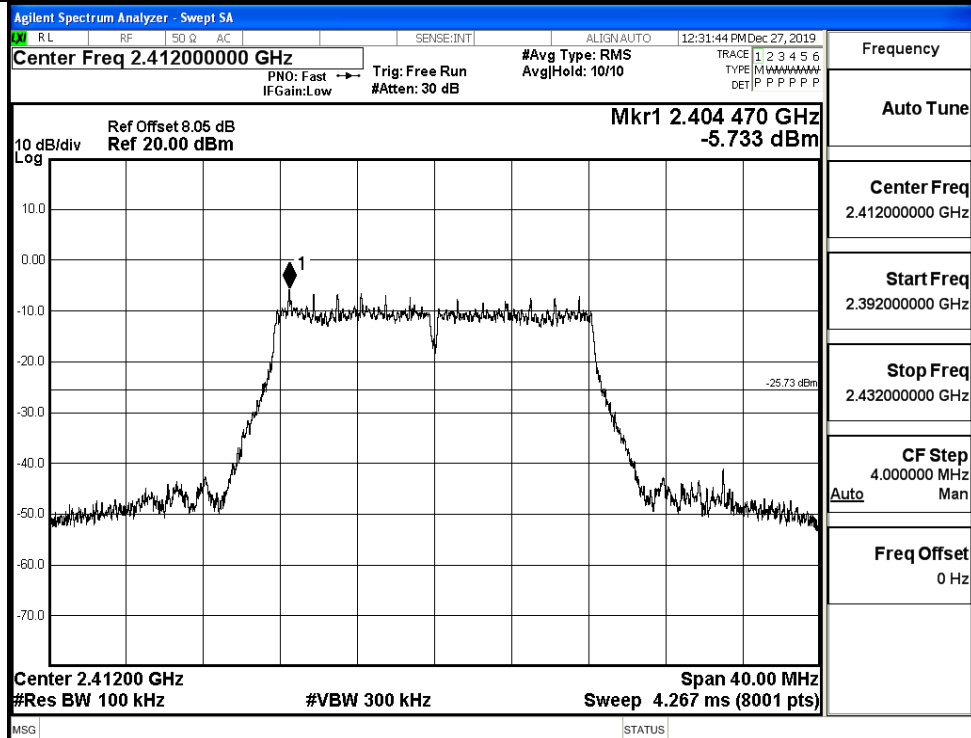


Puw/11B/HCH

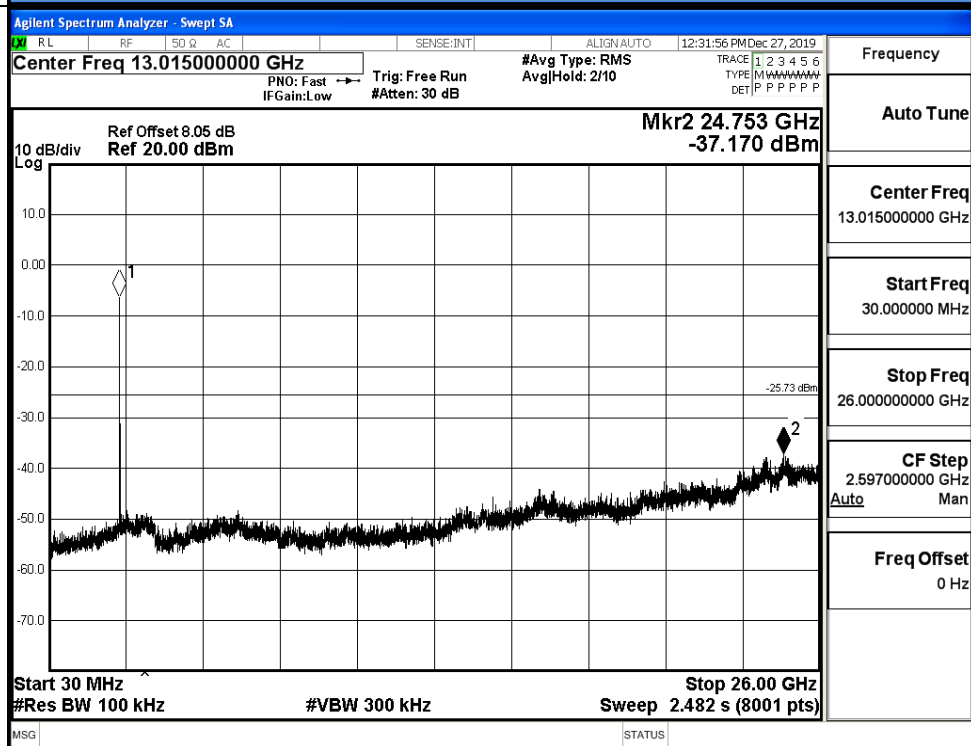


## 11G\_LCH\_Graphs

Pref/11G/LCH

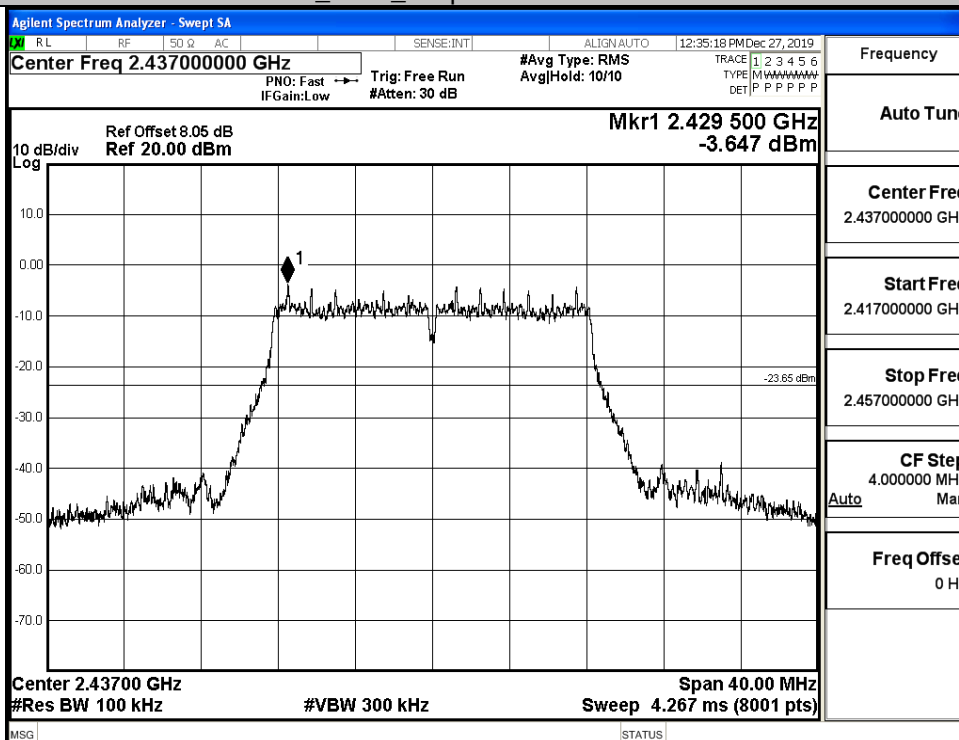


Puw/11G/LCH

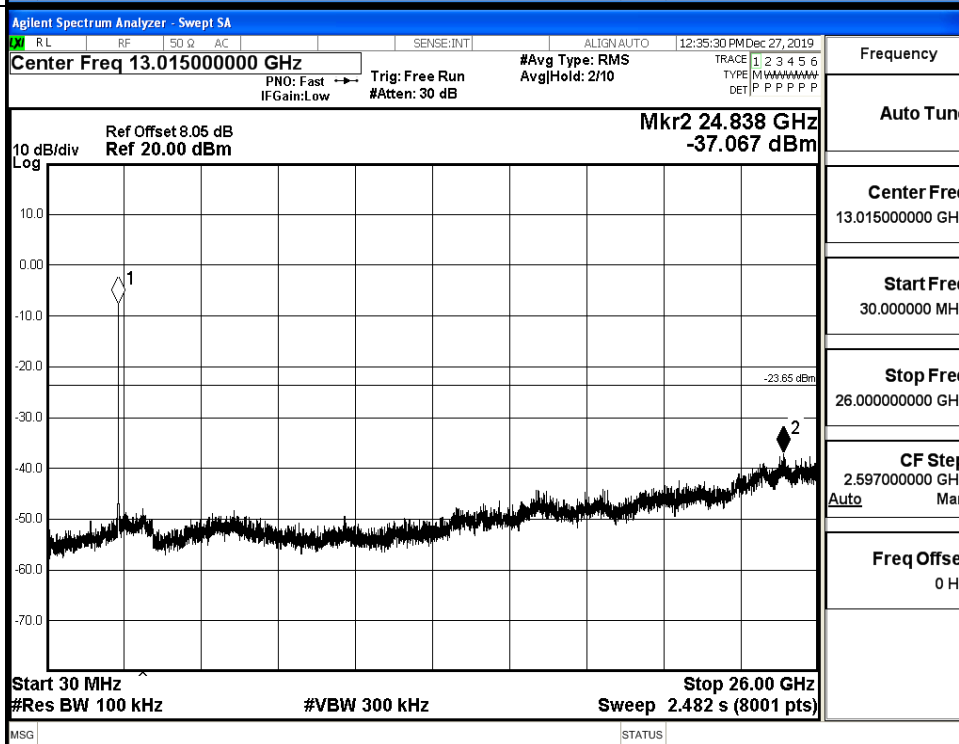


## 11G\_MCH\_Graphs

Pref/11G/MCH



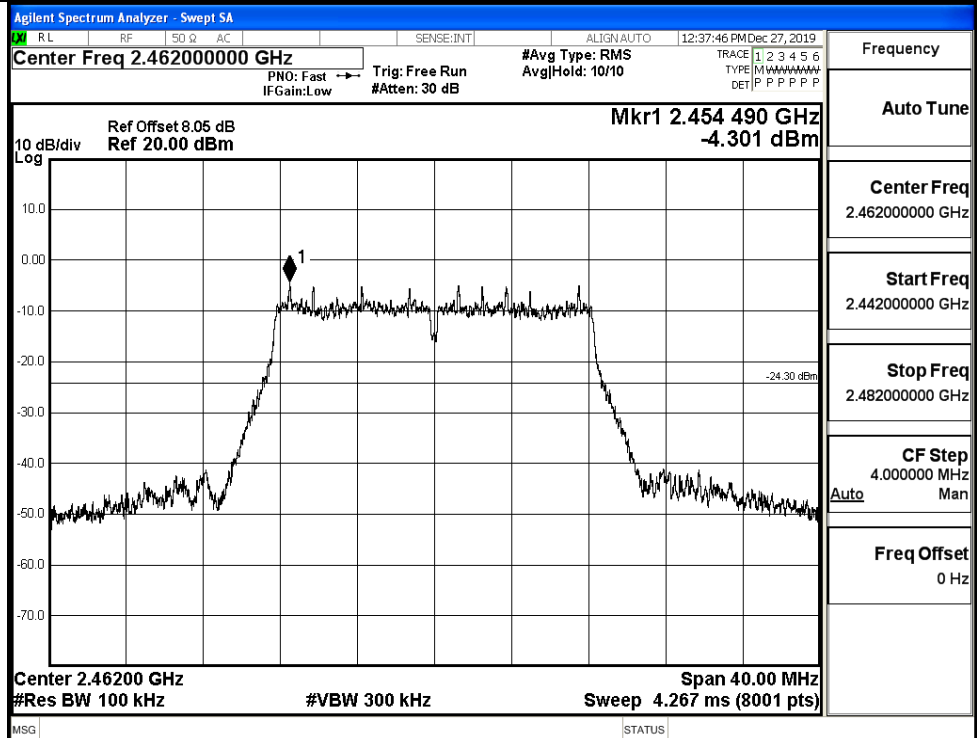
Puw/11G/MCH



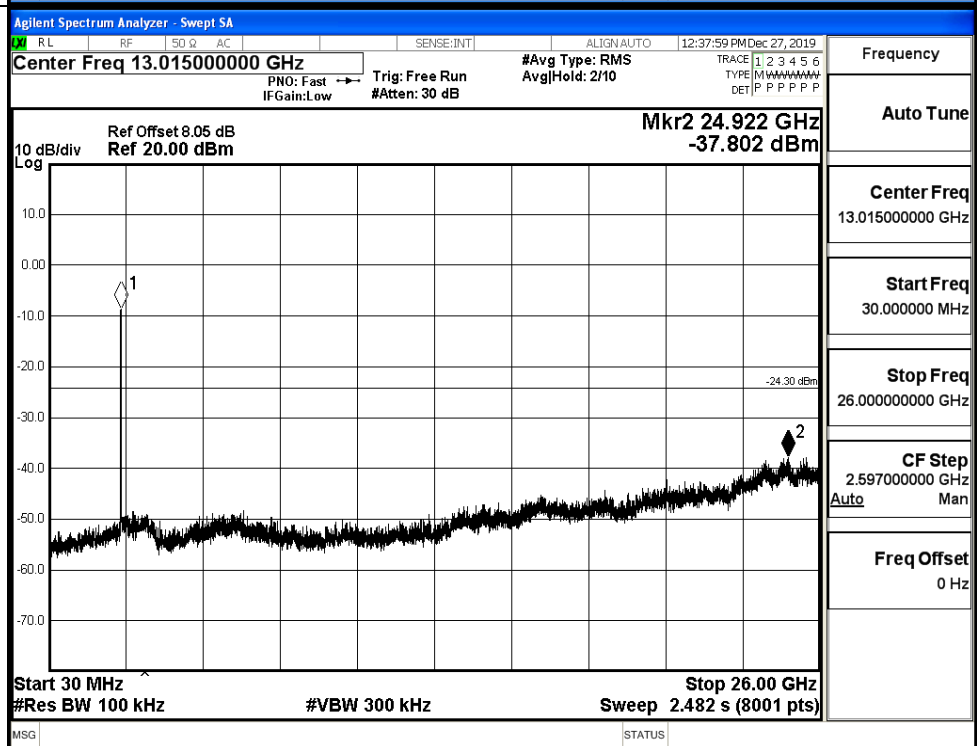


## 11G\_HCH\_Graphs

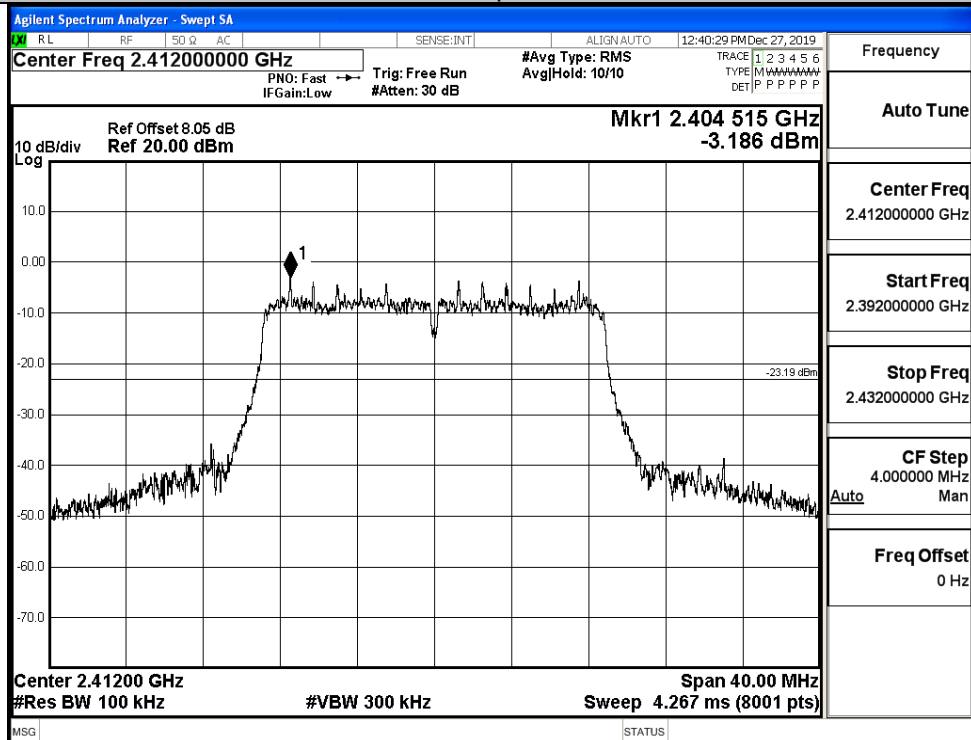
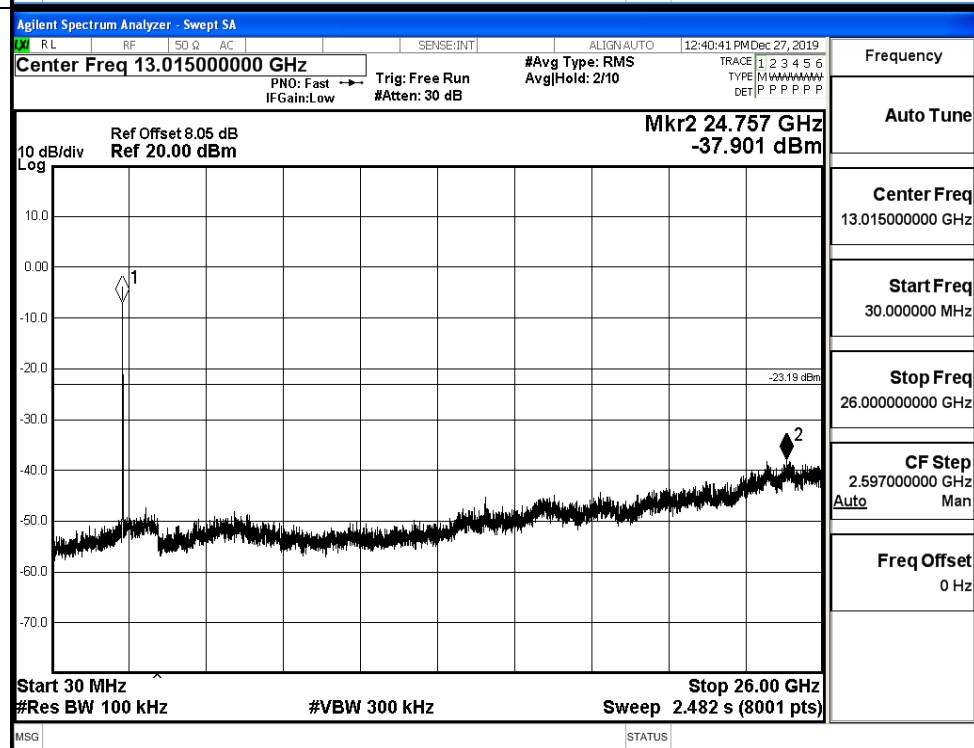
Pref/11G/HCH



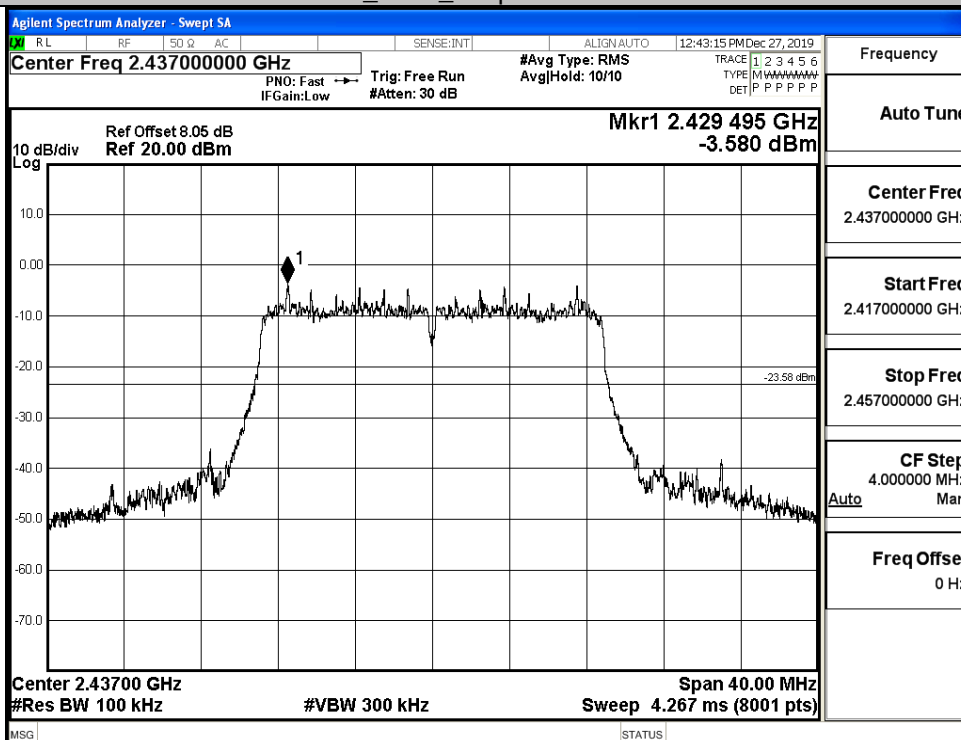
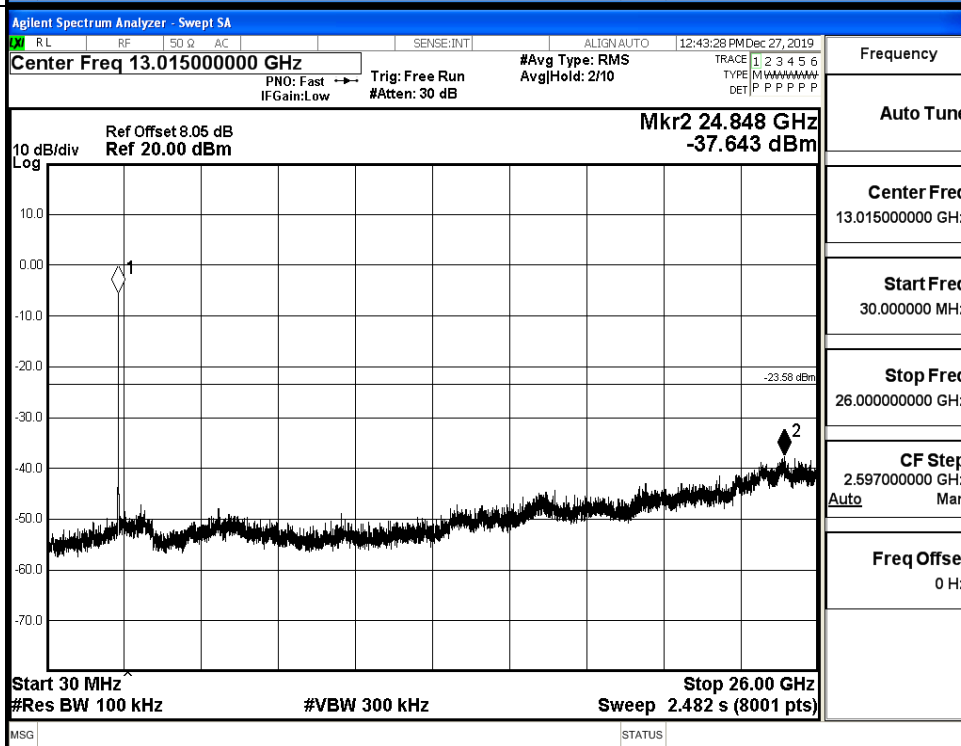
Puw/11G/HCH



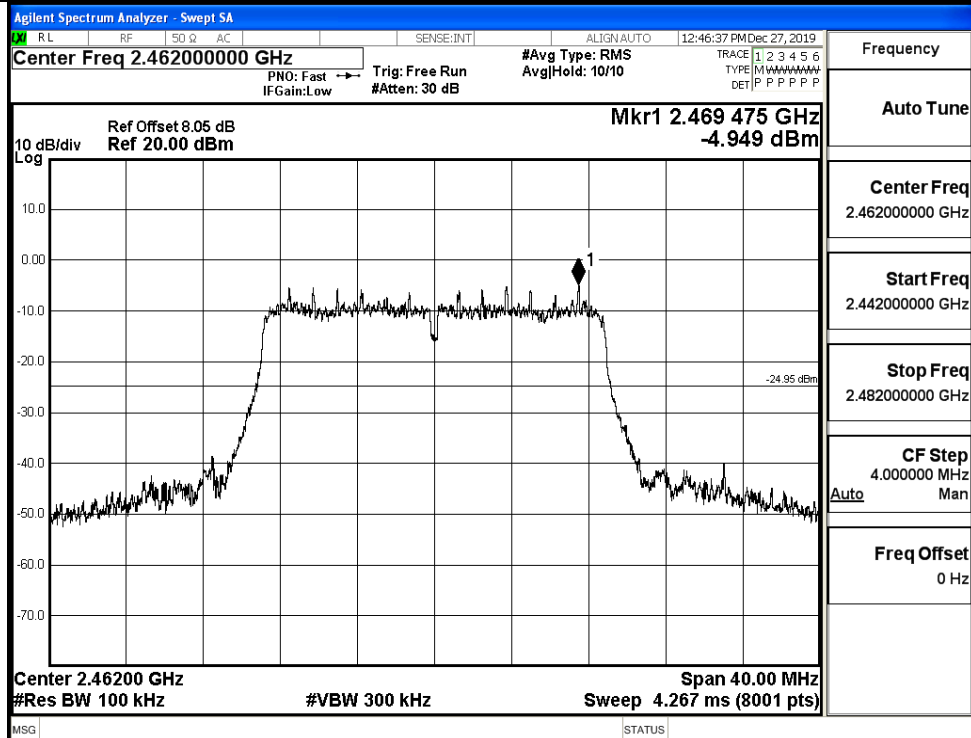
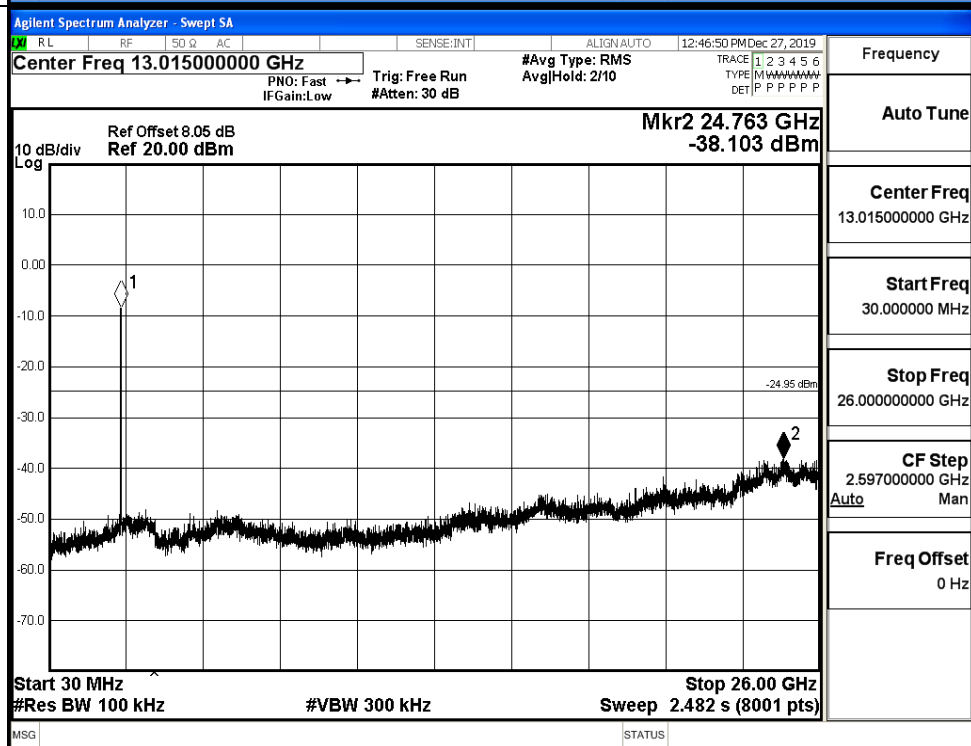
## 11N20ISO\_LCH\_Graphs

Pref/11N20SIS  
O/LCHPuw/11N20  
SISO/LCH

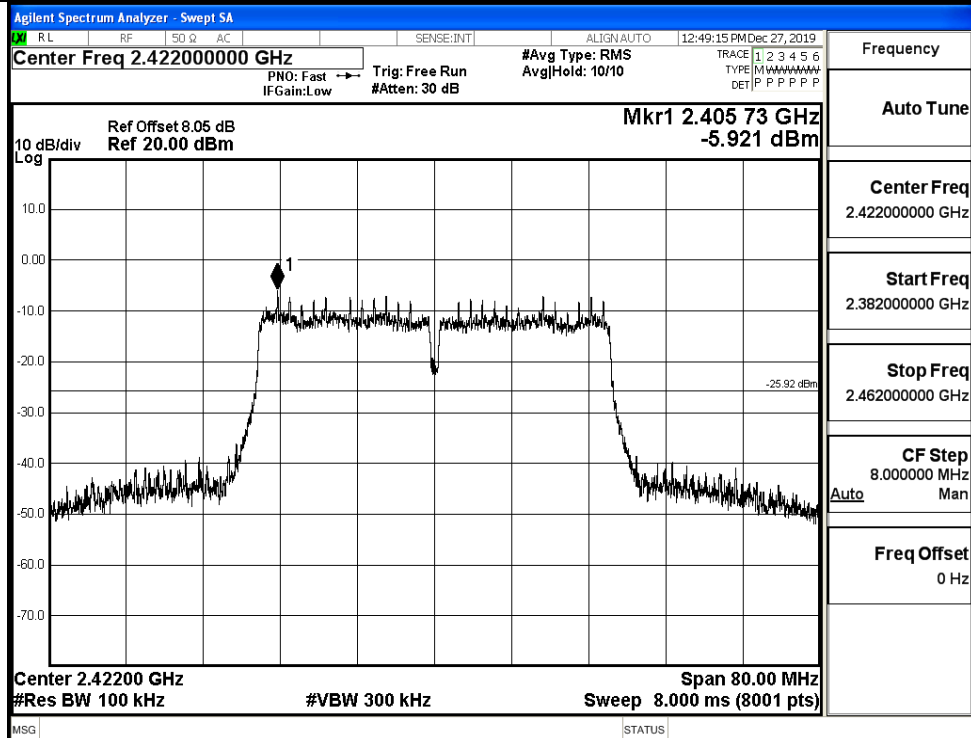
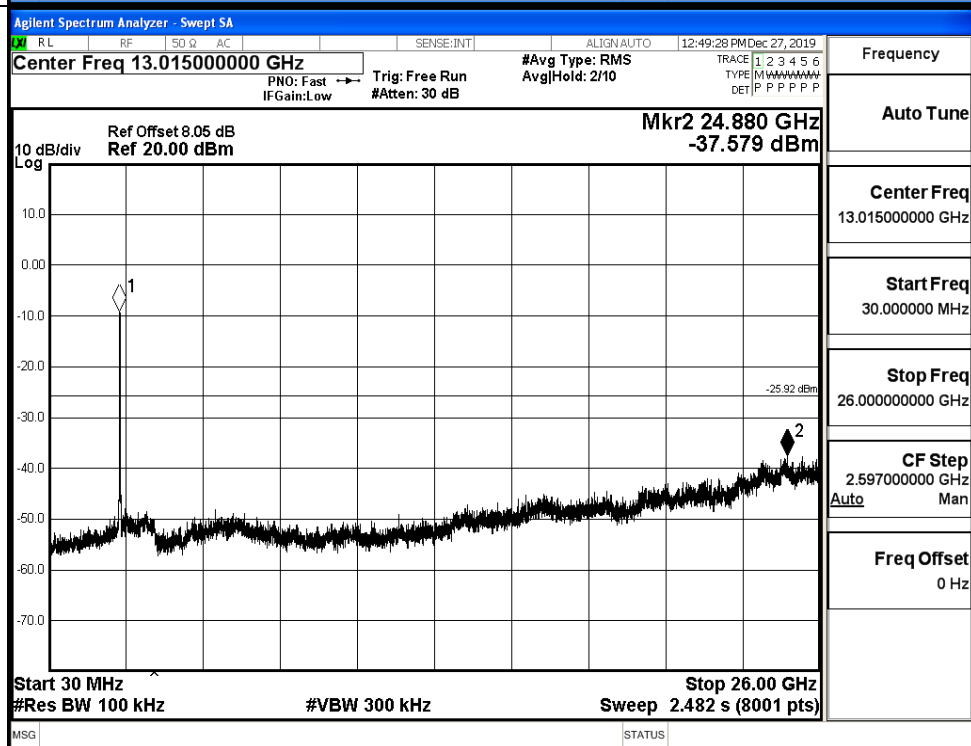
## 11N20SISO\_MCH\_Graphs

Pref/11N20  
SISO/MCHPuw/11N20  
SISO/MCH

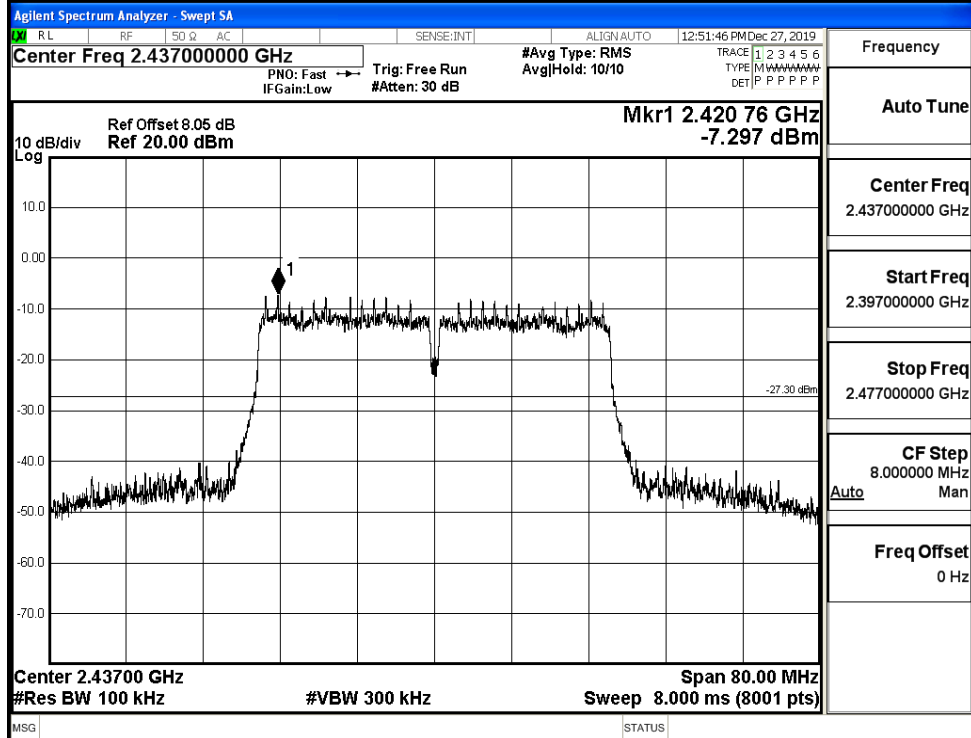
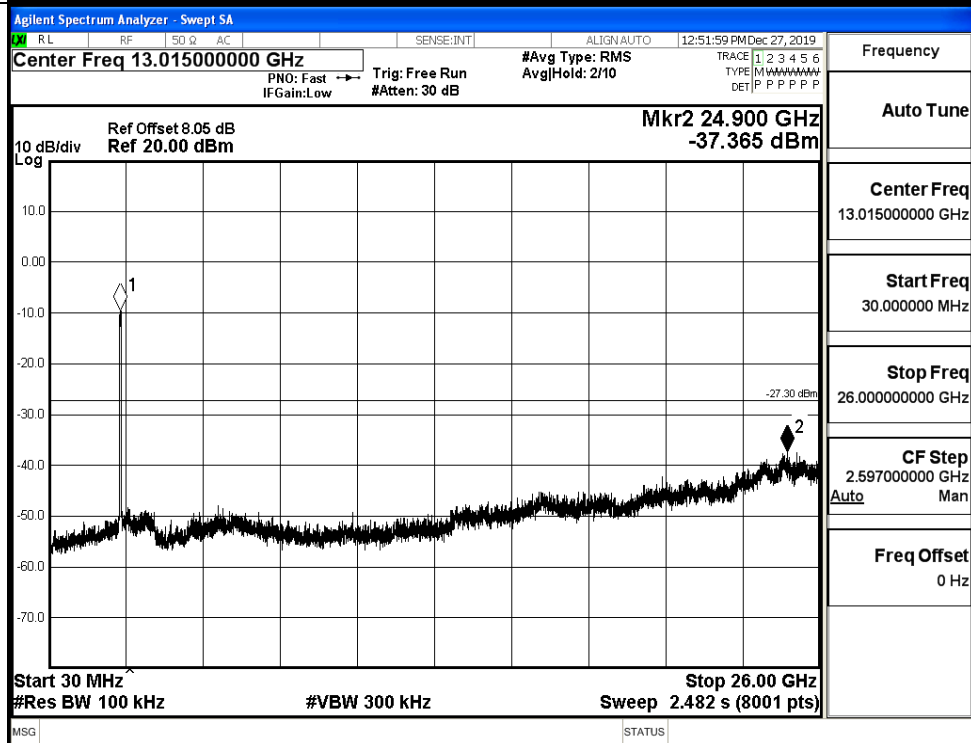
## 11N20ISO\_HCH\_Graphs

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

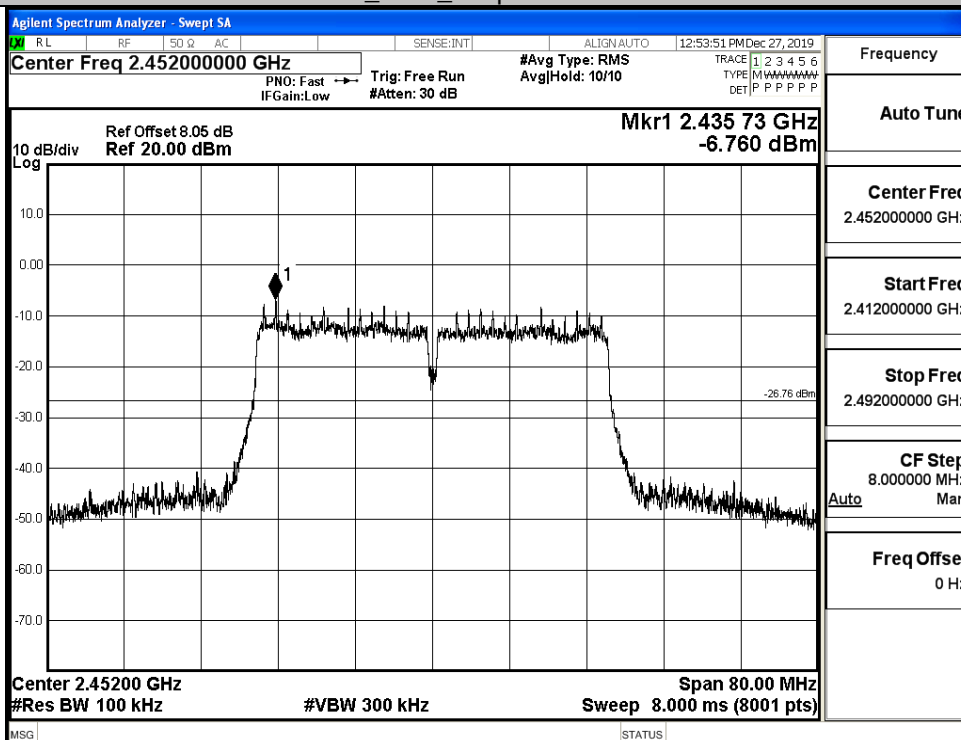
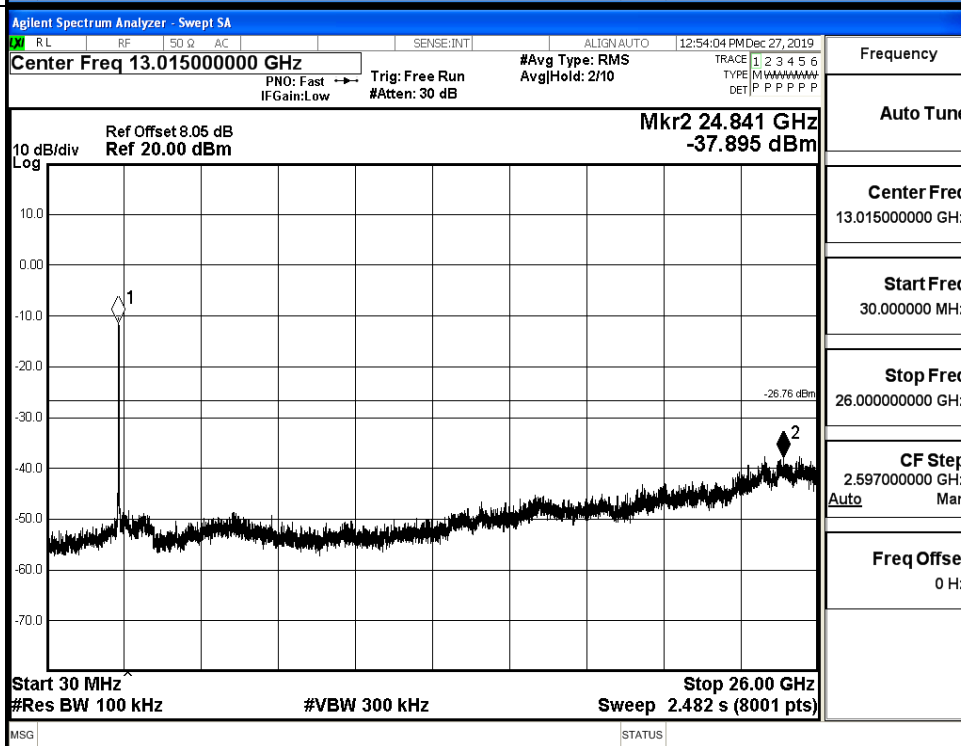
## 11N40SISO\_LCH\_Graphs

Pref/11N40  
SISO/LCHPuw/11N40  
SISO/LCH

## 11N40SISO\_MCH\_Graphs

Pref/11N40  
SISO/MCHPuw/11N40  
SISO/MCH

## 11N40SISO\_HCH\_Graphs

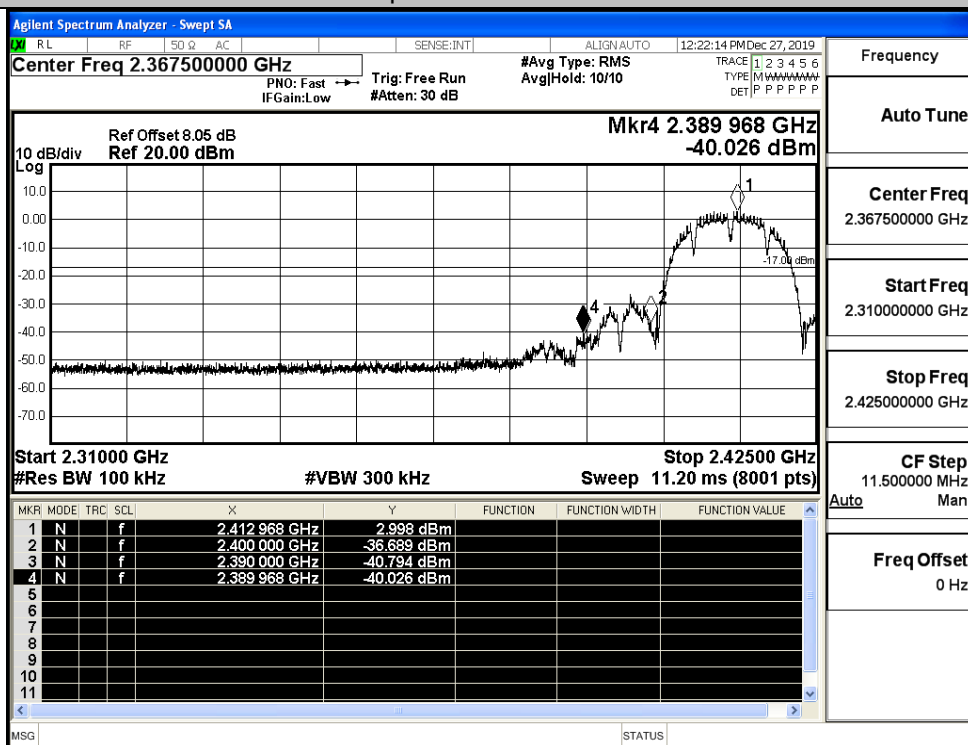
Pref/11N40  
SISO/HCHPuw/11N40  
SISO/HCH

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

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	2.998	-40.026	-17	PASS
	HCH	2.628	-42.627	-17.37	PASS
11G	LCH	-5.424	-49.705	-25.42	PASS
	HCH	-4.834	-48.175	-24.83	PASS
11N20SISO	LCH	-2.790	-47.416	-22.79	PASS
	HCH	-4.667	-48.985	-24.67	PASS
11N40SISO	LCH	-7.096	-41.889	-27.1	PASS
	HCH	-6.663	-44.552	-26.66	PASS

## Test Graphs

11B/LCH





Agilent Spectrum Analyzer - Swept Freq

RL RF 50  $\Omega$  AC SENSE:INT ALIGN AUTO 12:27:02 PM Dec 27, 2019

Center Freq 2.475000000 GHz PNO: Fast Trg: Free Run #Avg Type: RMS Avg/Hold: 10/10

Ref Offset 8.05 dB Ref 20.00 dBm Mkr4 2.487 481 25 GHz -42.627 dBm

10 dB/div Log

Ref Offset 8.05 dB Ref 20.00 dBm

Mkr4 2.487 481 25 GHz -42.627 dBm

10 dB/div Log

17.37 dBm

Start Freq 2.45000 GHz Stop Freq 2.50000 GHz

#Res BW 100 kHz #VBW 300 kHz Sweep 4.800 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.461 493 75 GHz	-2.628 dBm			
2	N		f	2.483 500 00 GHz	-50.017 dBm			
3	N		f	2.500 000 00 GHz	-52.517 dBm			
4	N		f	2.487 481 25 GHz	-42.627 dBm			
5								
6								
7								
8								
9								
10								
11								

Auto

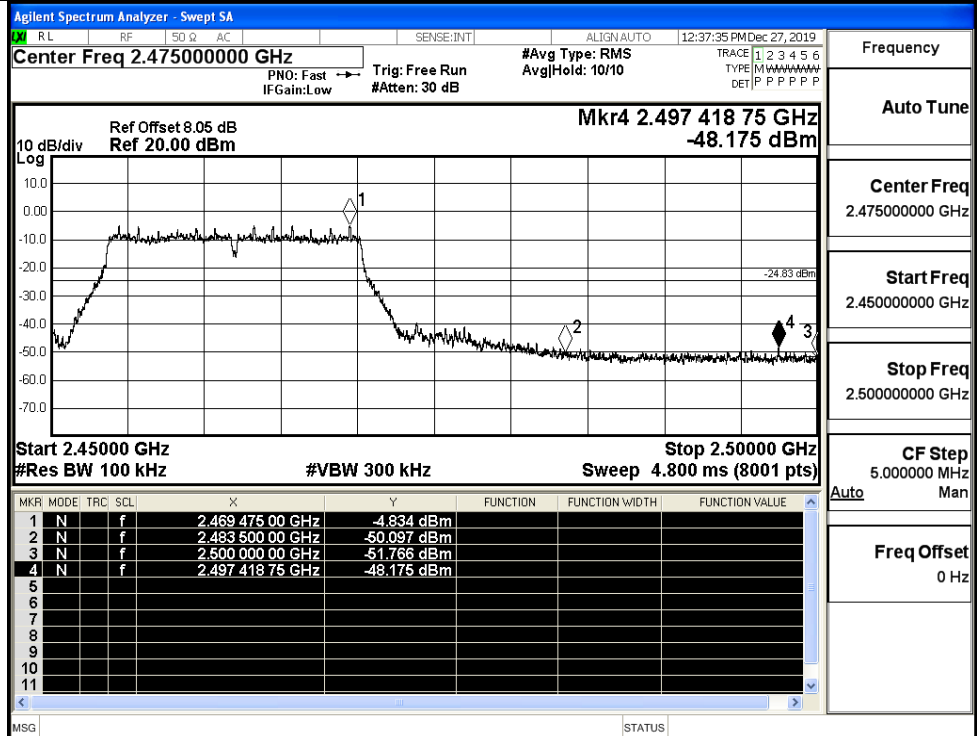
CF Step 5.000000 MHz

Freq Offset 0 Hz

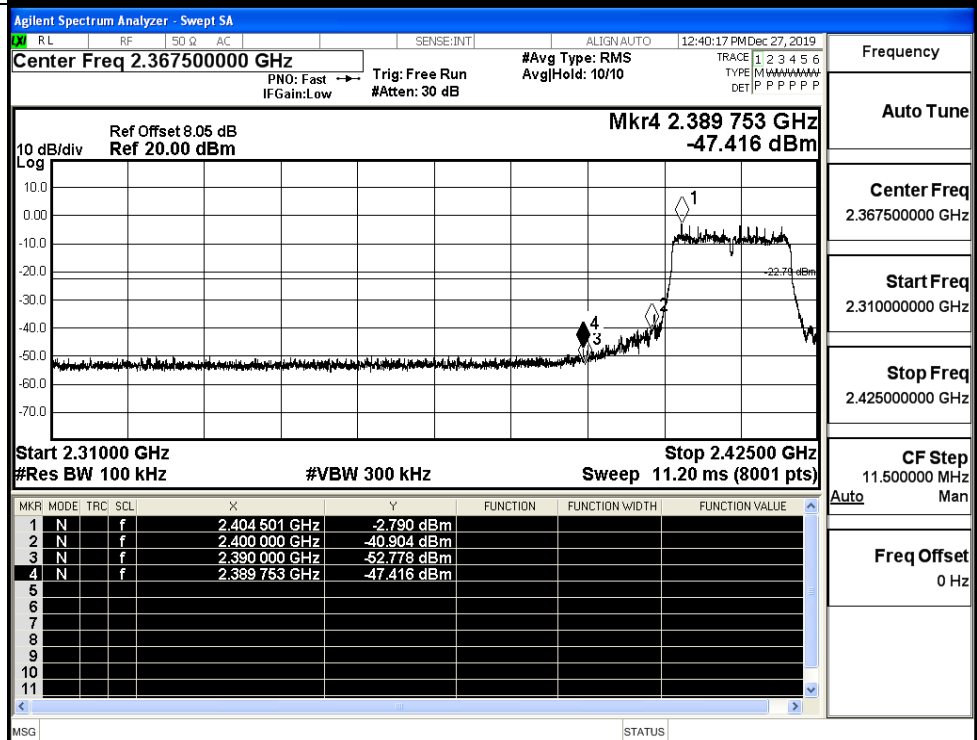
MSG STATUS

[illegible]

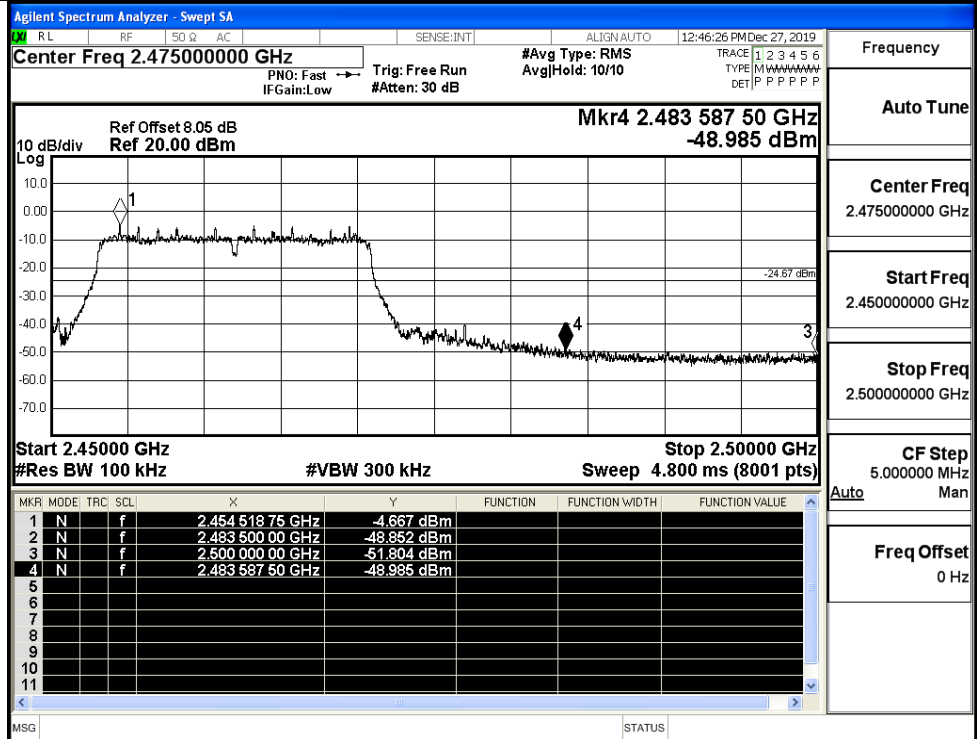
11G/HCH



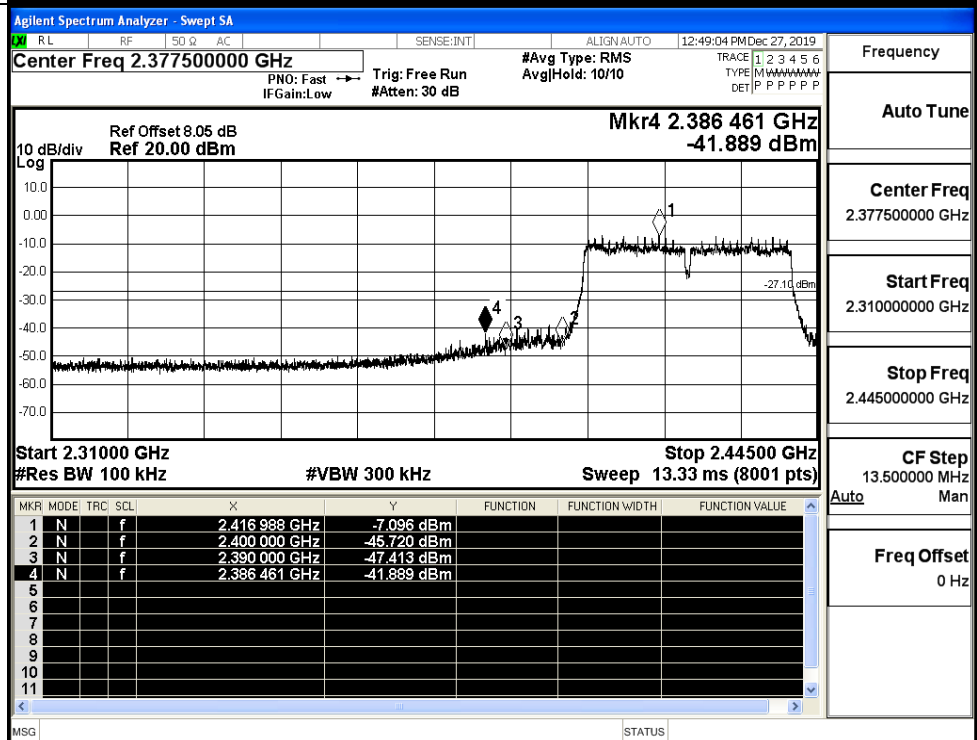
11N20SISO/LCH



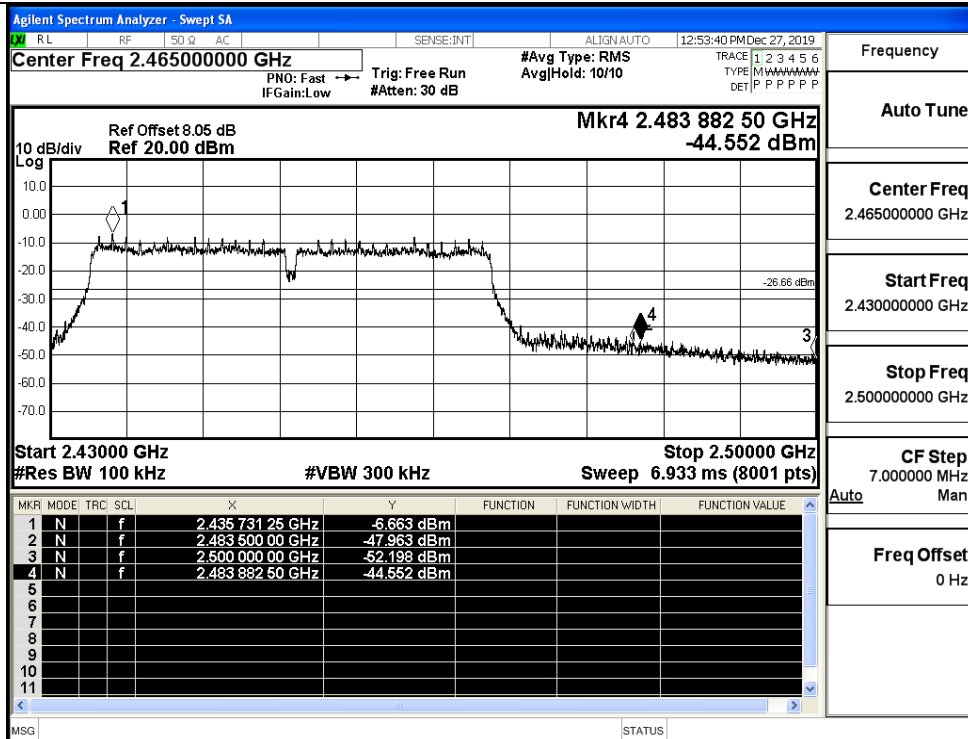
11N20SISO/HCH



11N40SISO/LCH



11N40SISO/HCH

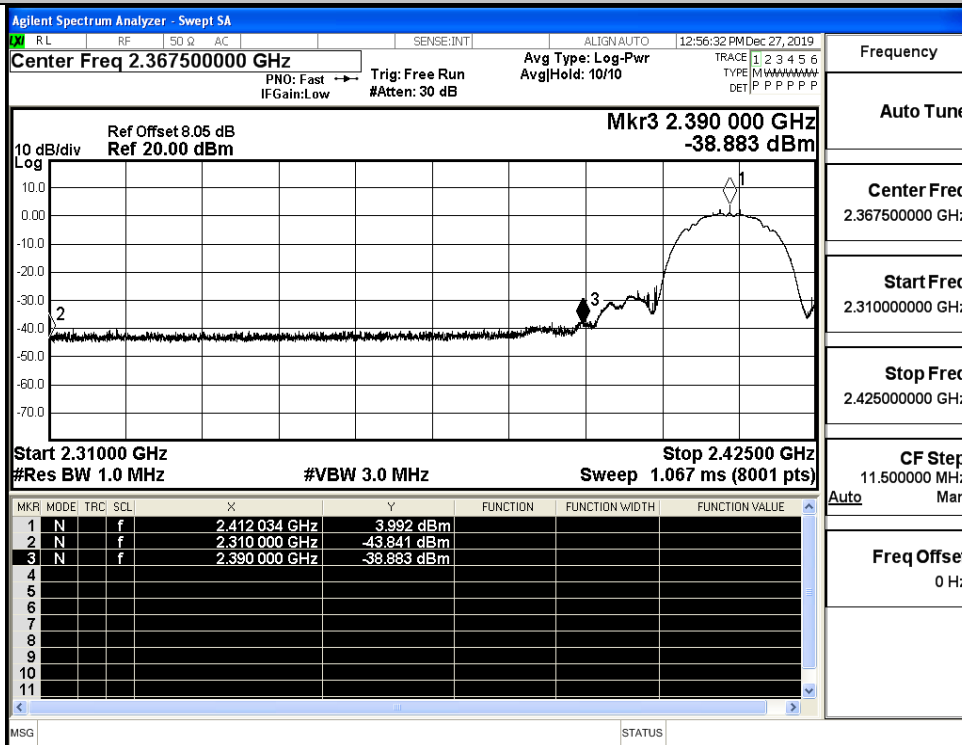


## A.7 Restrict-band band-edge measurements

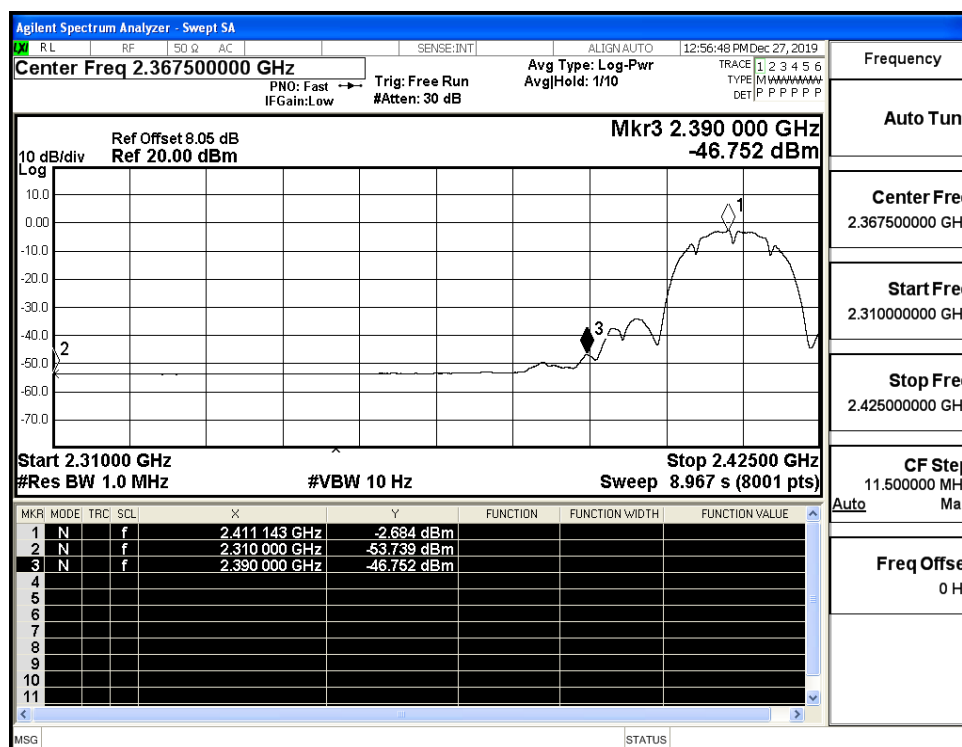
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-43.84	2.0	0	53.42	PEAK	74	PASS
	2412	Ant1	2310.0	-53.74	2.0	0	43.52	AV	54	PASS
	2412	Ant1	2390.0	-38.88	2.0	0	58.37	PEAK	74	PASS
	2412	Ant1	2390.0	-46.75	2.0	0	50.51	AV	54	PASS
	2462	Ant1	2483.5	-36.84	2.0	0	60.41	PEAK	74	PASS
	2462	Ant1	2483.5	-47.76	2.0	0	49.49	AV	54	PASS
	2462	Ant1	2500.0	-41.74	2.0	0	55.52	PEAK	74	PASS
	2462	Ant1	2500.0	-52.35	2.0	0	44.91	AV	54	PASS
11G	2412	Ant1	2310.0	-43.45	2.0	0	53.81	PEAK	74	PASS
	2412	Ant1	2310.0	-53.67	2.0	0	43.59	AV	54	PASS
	2412	Ant1	2390.0	-39.18	2.0	0	58.08	PEAK	74	PASS
	2412	Ant1	2390.0	-52.22	2.0	0	45.04	AV	54	PASS
	2462	Ant1	2483.5	-40.29	2.0	0	56.96	PEAK	74	PASS
	2462	Ant1	2483.5	-51.20	2.0	0	46.05	AV	54	PASS
	2462	Ant1	2500.0	-42.34	2.0	0	54.92	PEAK	74	PASS
	2462	Ant1	2500.0	-52.66	2.0	0	44.59	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.16	2.0	0	54.09	PEAK	74	PASS
	2412	Ant1	2310.0	-53.60	2.0	0	43.66	AV	54	PASS
	2412	Ant1	2390.0	-40.31	2.0	0	56.95	PEAK	74	PASS
	2412	Ant1	2390.0	-51.07	2.0	0	46.19	AV	54	PASS
	2462	Ant1	2483.5	-40.12	2.0	0	57.13	PEAK	74	PASS
	2462	Ant1	2483.5	-51.01	2.0	0	46.25	AV	54	PASS
	2462	Ant1	2500.0	-41.31	2.0	0	55.95	PEAK	74	PASS
	2462	Ant1	2500.0	-52.66	2.0	0	44.60	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-42.03	2.0	0	55.23	PEAK	74	PASS
	2422	Ant1	2310.0	-53.57	2.0	0	43.69	AV	54	PASS

	2422	Ant1	2390.0	-30.58	2.0	0	66.68	PEAK	74	PASS
	2422	Ant1	2390.0	-46.41	2.0	0	50.85	AV	54	PASS
	2452	Ant1	2483.5	-33.34	2.0	0	63.91	PEAK	74	PASS
	2452	Ant1	2483.5	-48.12	2.0	0	49.14	AV	54	PASS
	2452	Ant1	2500.0	-41.31	2.0	0	55.95	PEAK	74	PASS
	2452	Ant1	2500.0	-52.02	2.0	0	45.24	AV	54	PASS

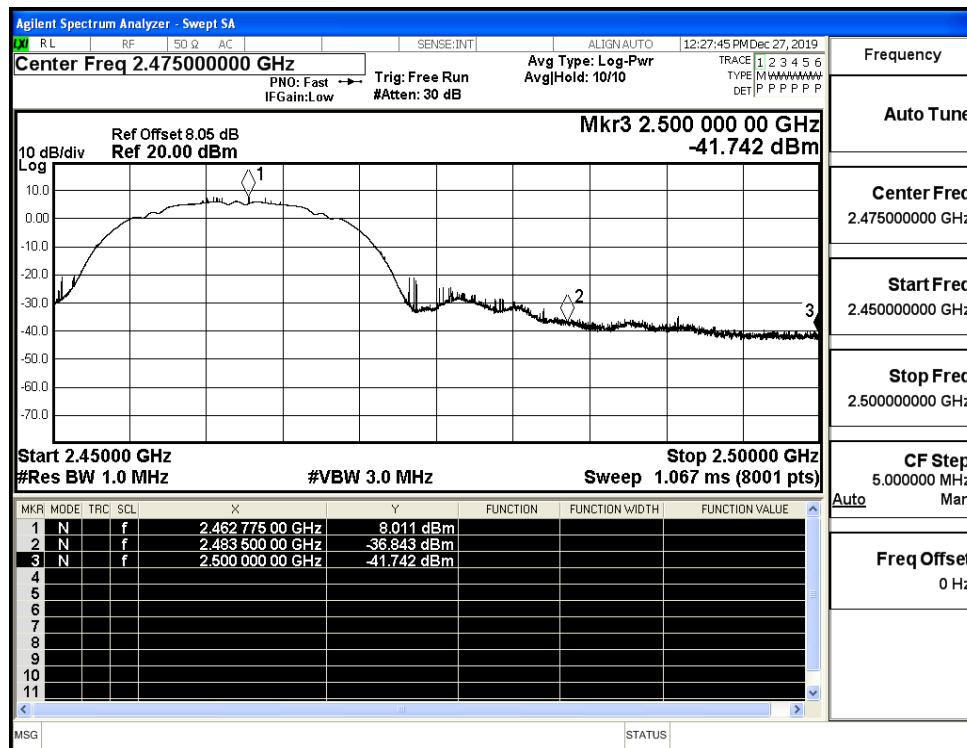
## Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



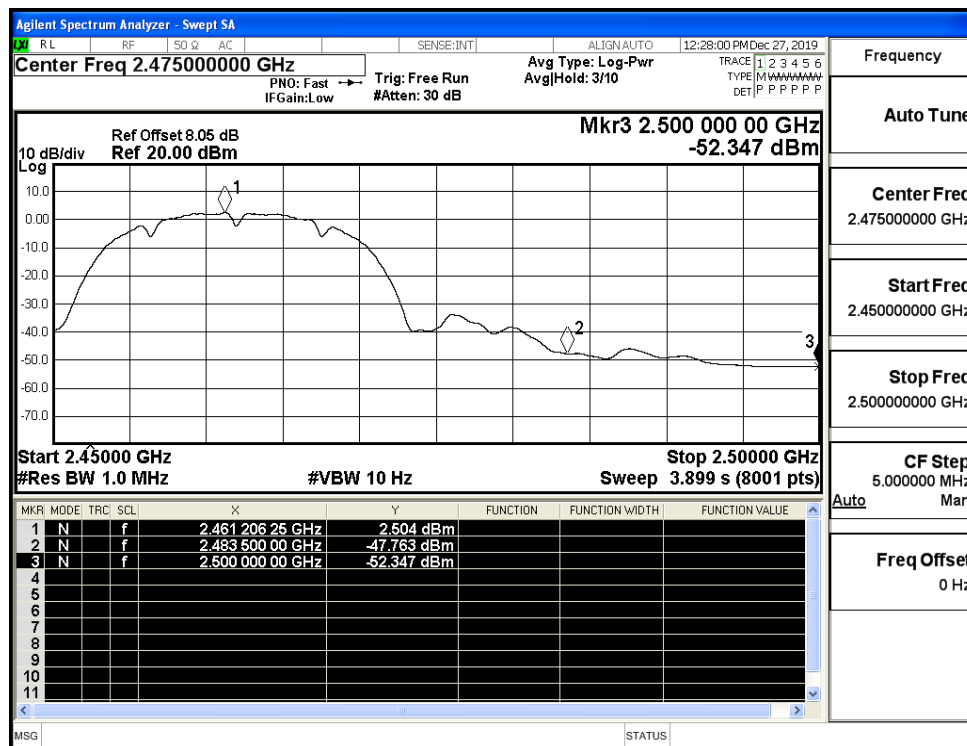
## Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



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

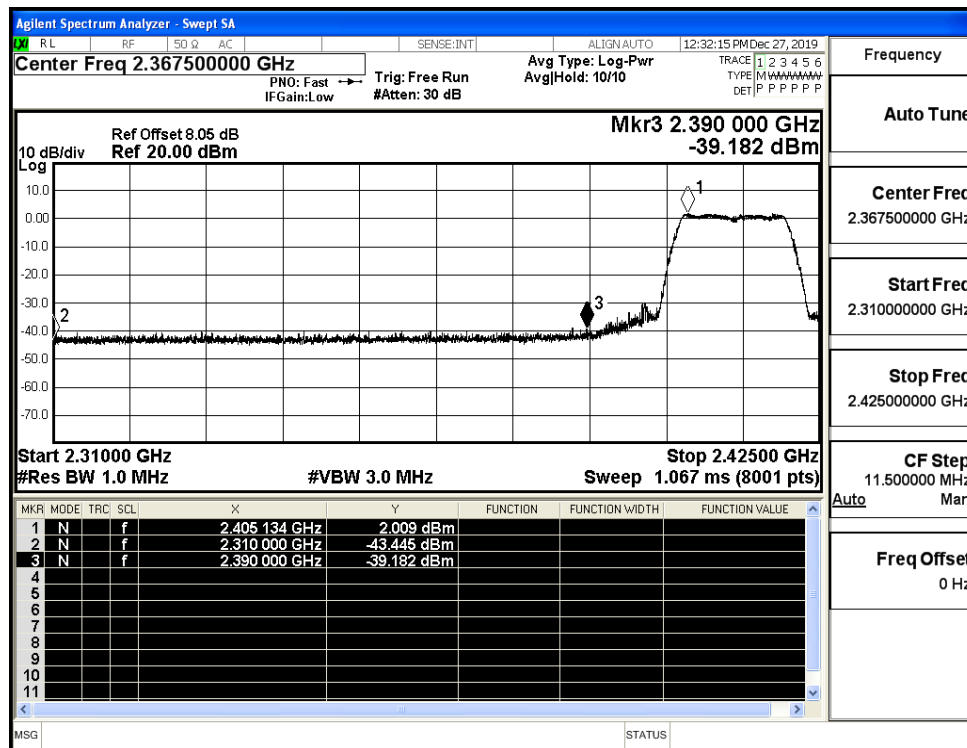


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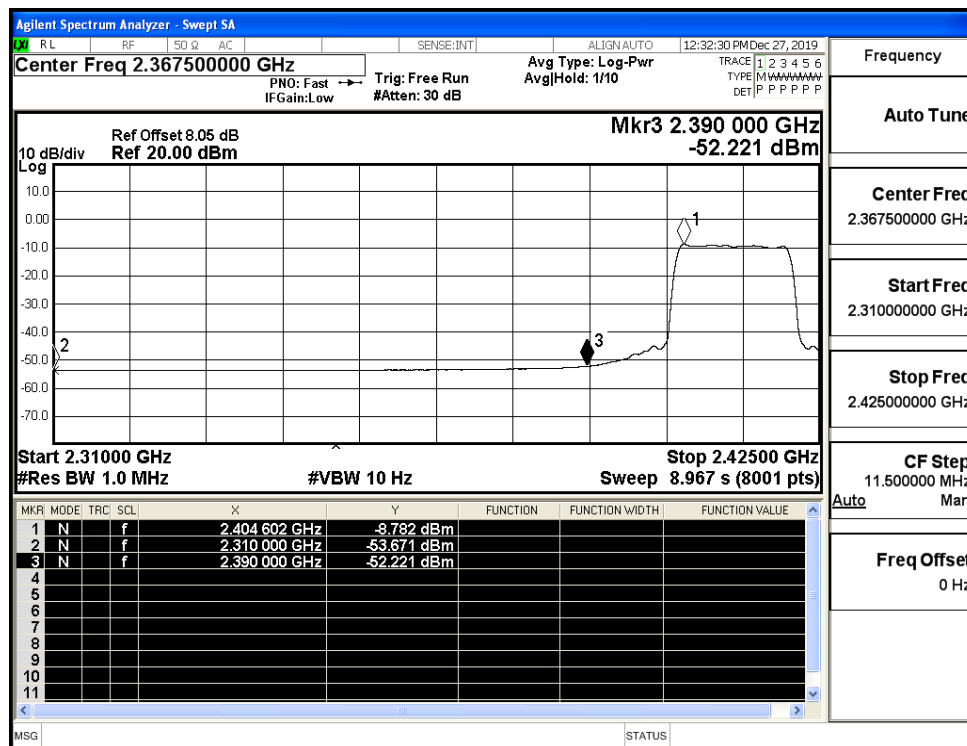




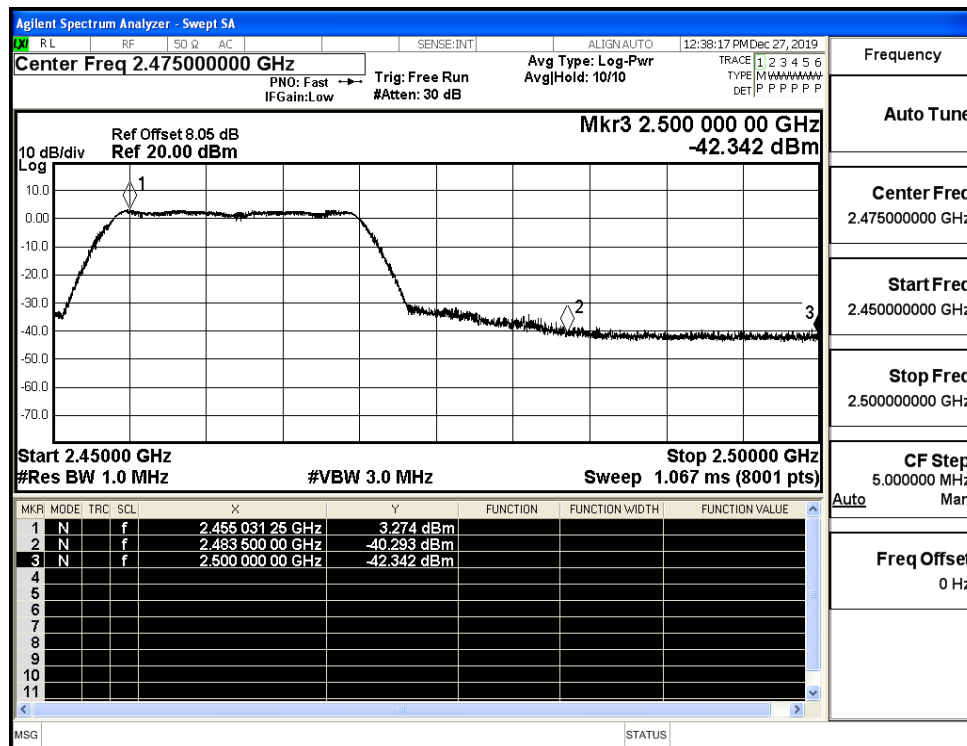
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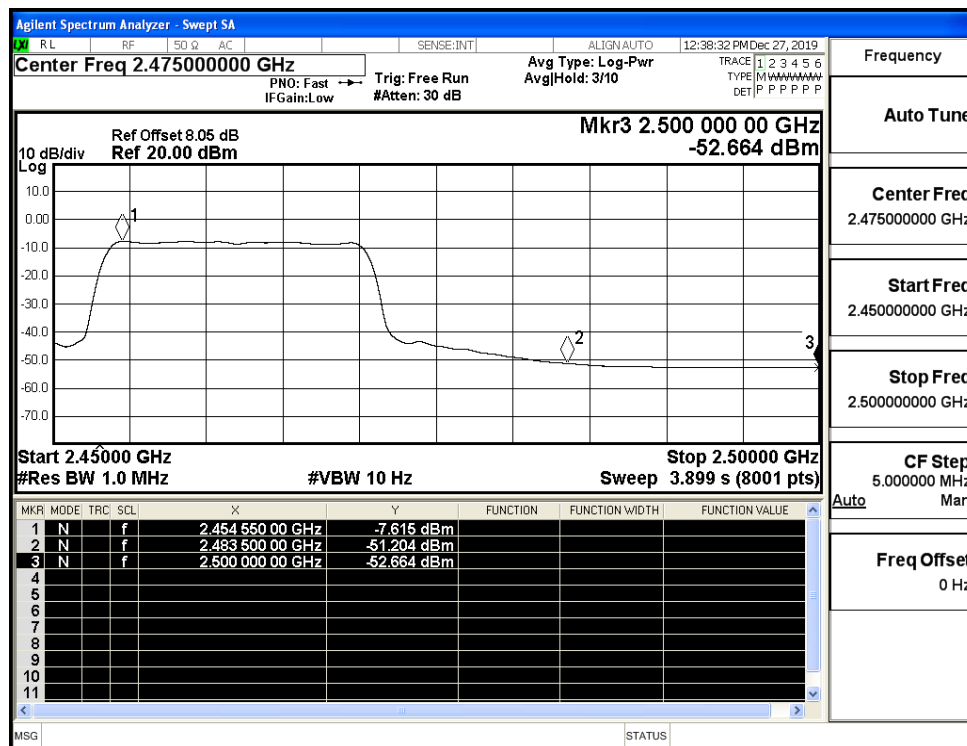
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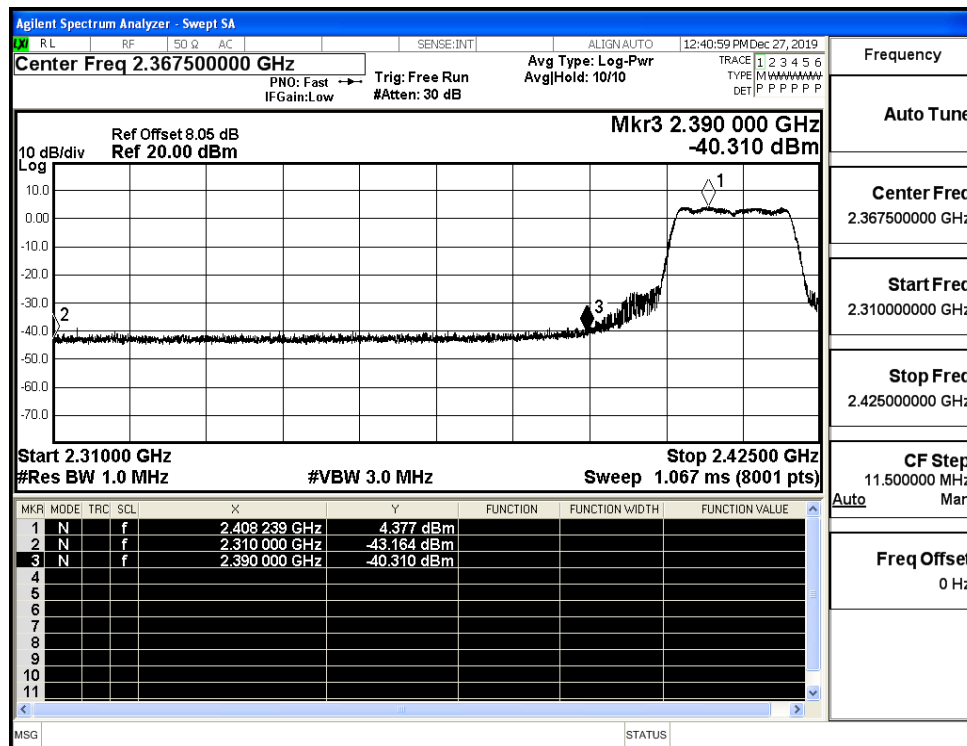
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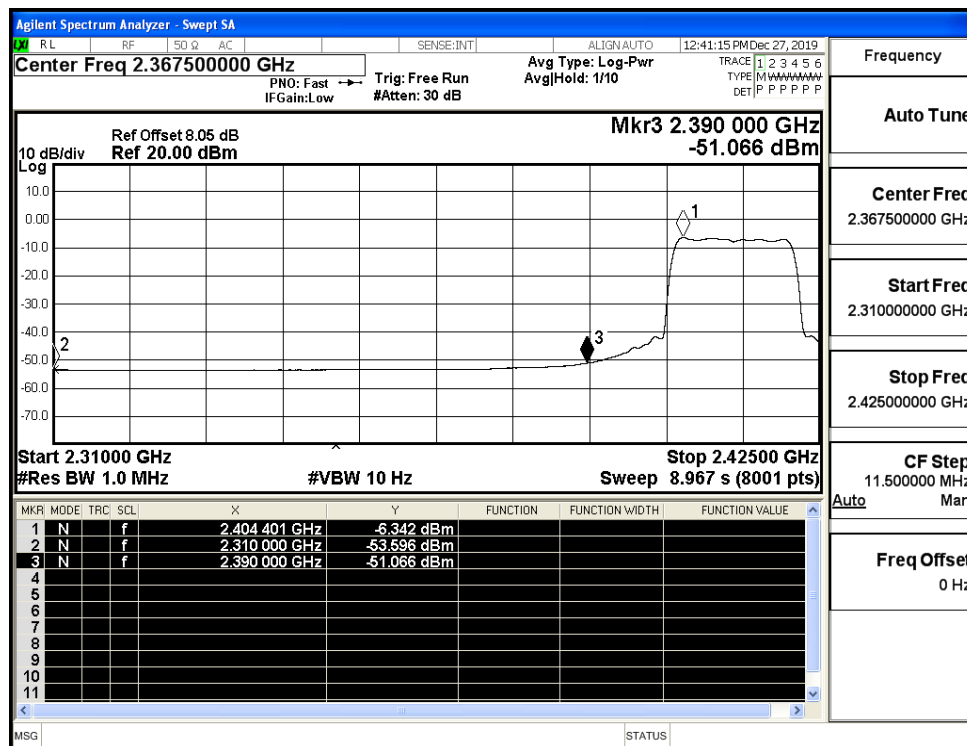
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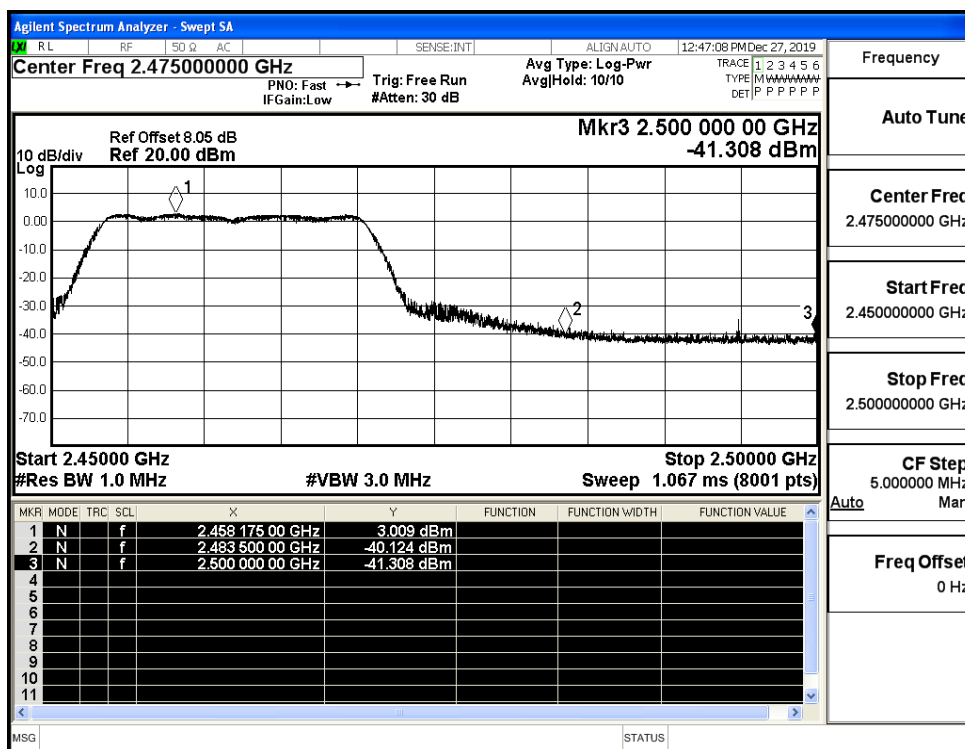
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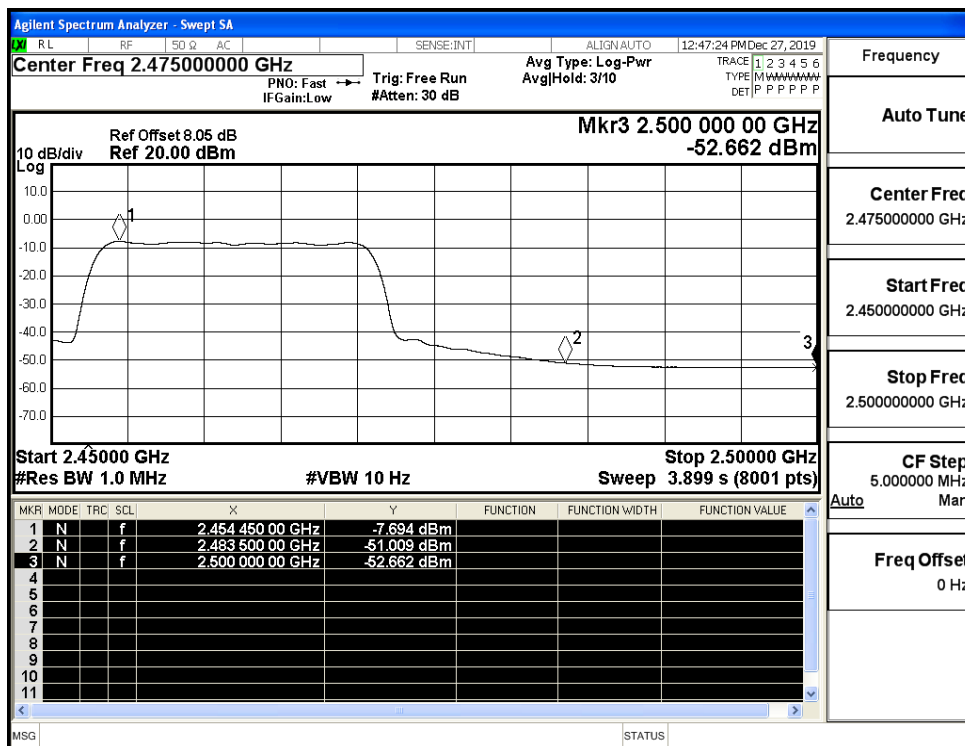
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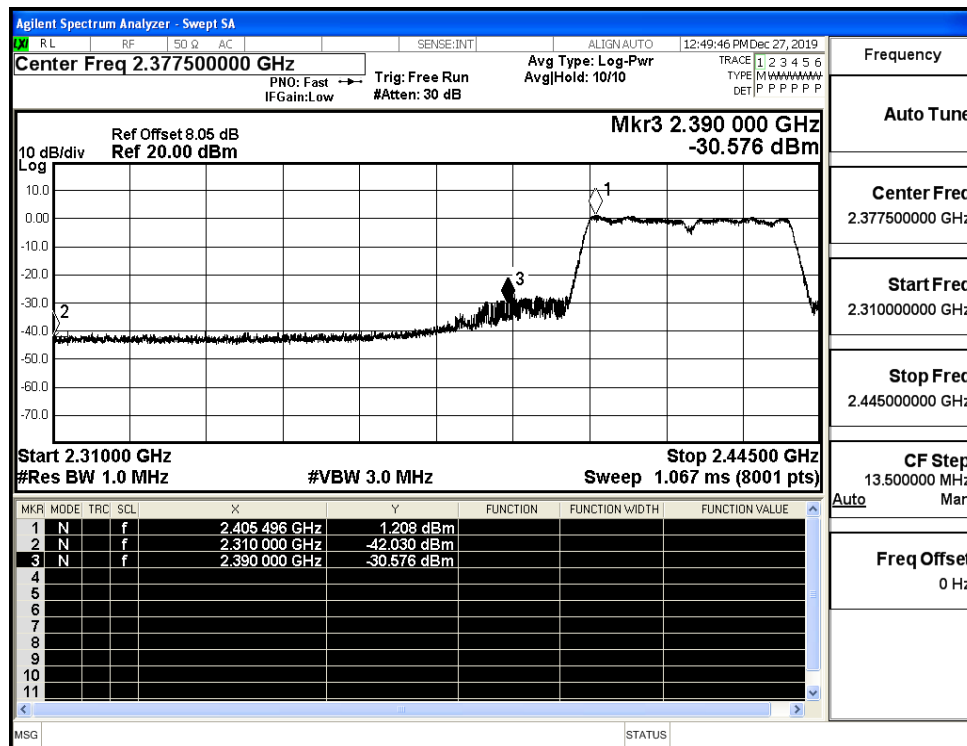
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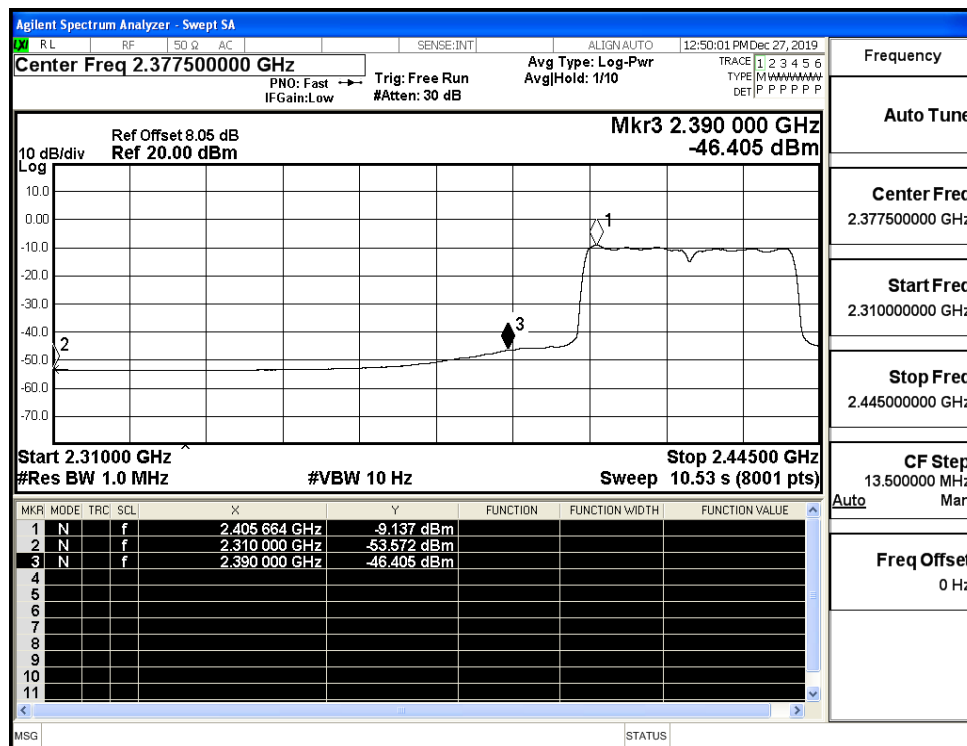
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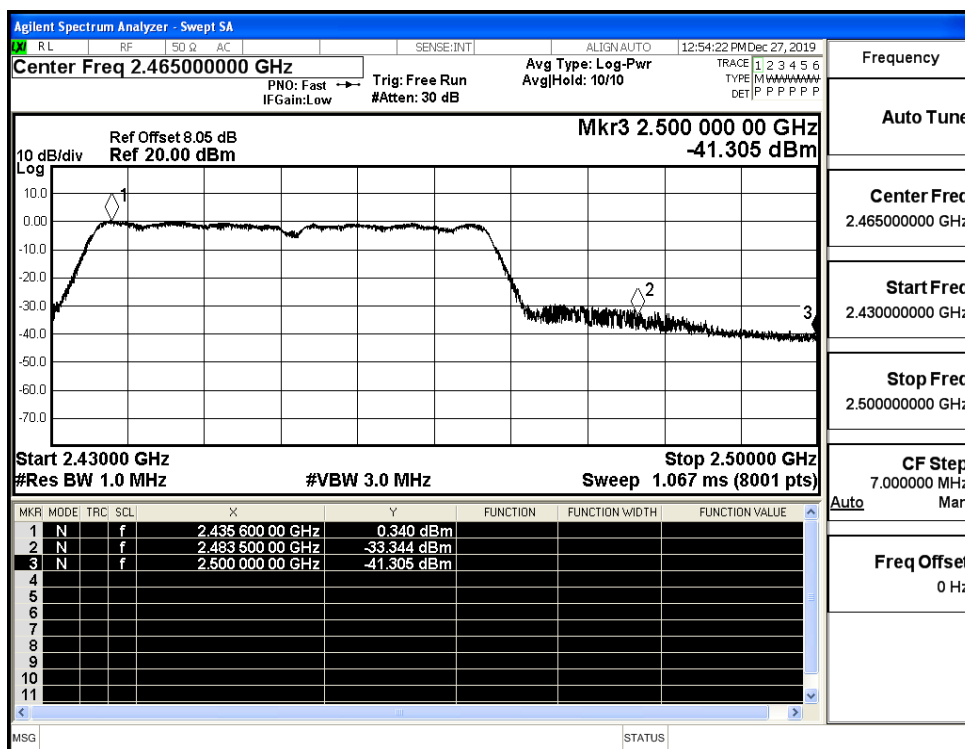
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## Restrict-band band-edge measurements\_11N40SISO\_2422\_Ant1\_AV



## Restrict-band band-edge measurements\_11N40SISO\_2452\_Ant1\_PEAK



## Restrict-band band-edge measurements\_11N40SISO\_2452\_Ant1\_AV

