

## Appendix A

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

Product Name: Microtope LED Strip

Trade Mark: Exo Terra

Test Model: PT4251

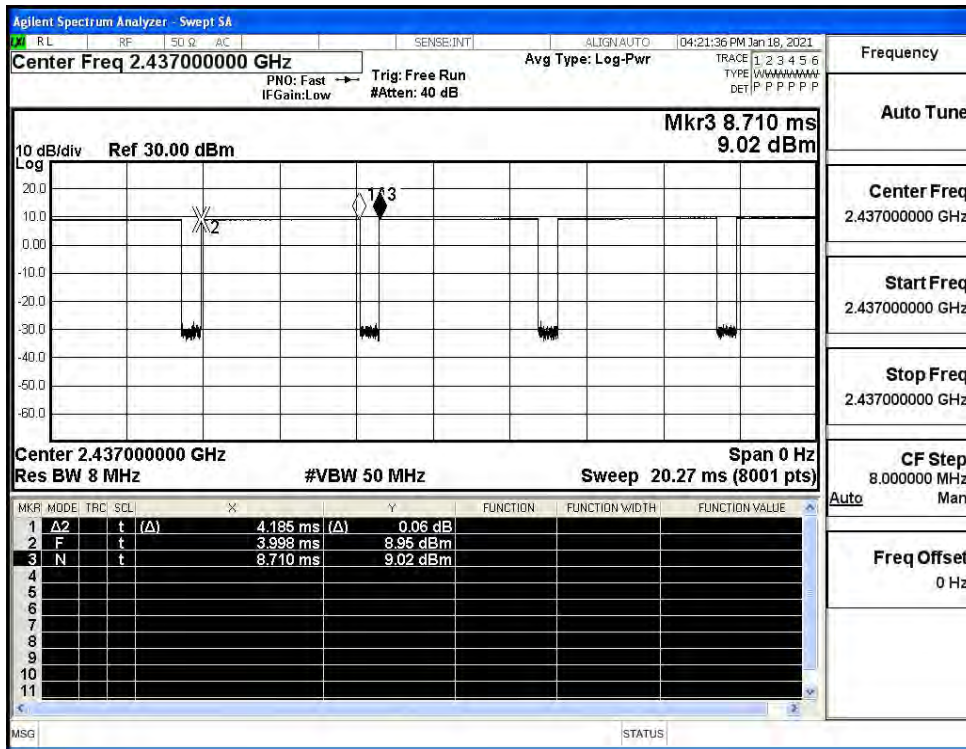
#### Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

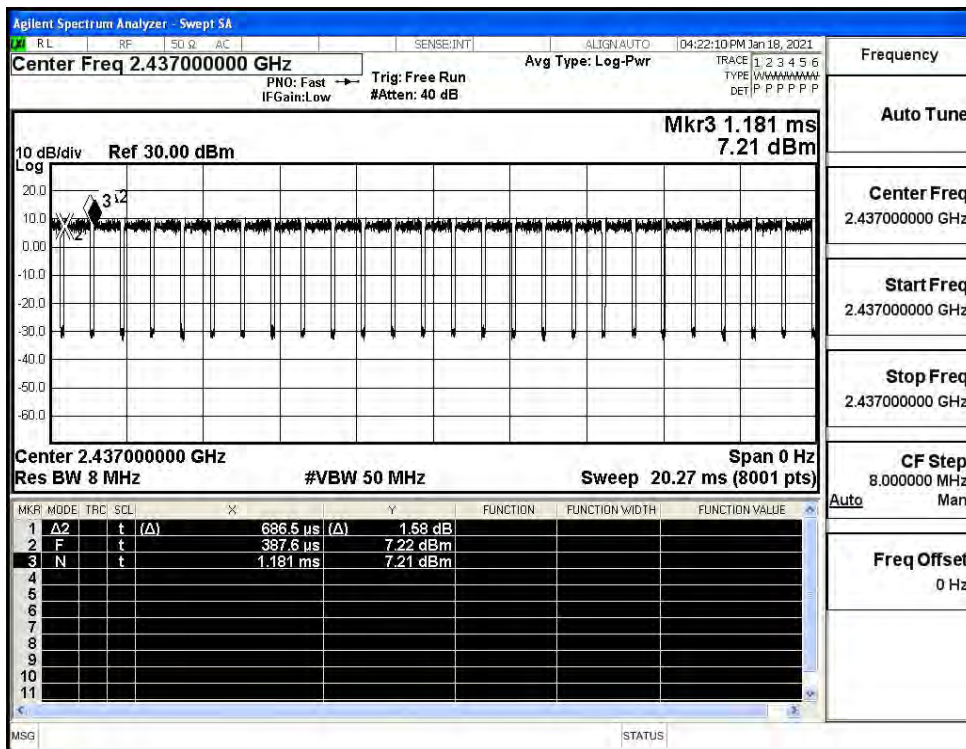
#### A.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	88.82	PASS
11G	2437	Ant1	86.58	PASS
11N20SISO	2437	Ant1	85.67	PASS

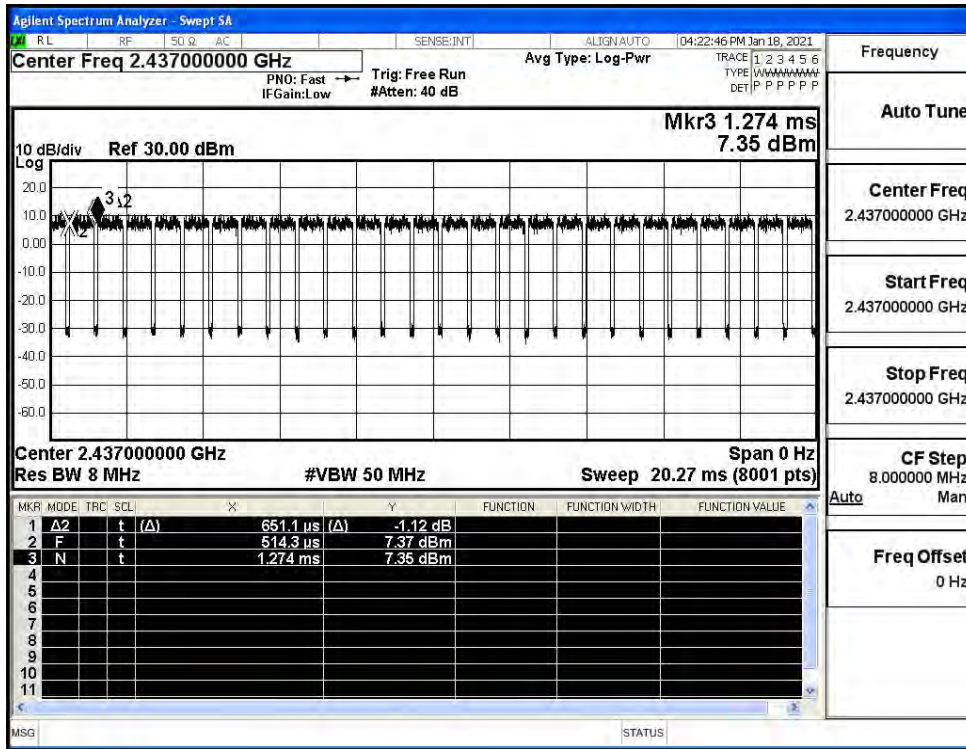
Duty Cycle\_11B\_2437\_Ant1



Duty Cycle\_11G\_2437\_Ant1



Duty Cycle\_11N20SISO\_2437\_Ant1



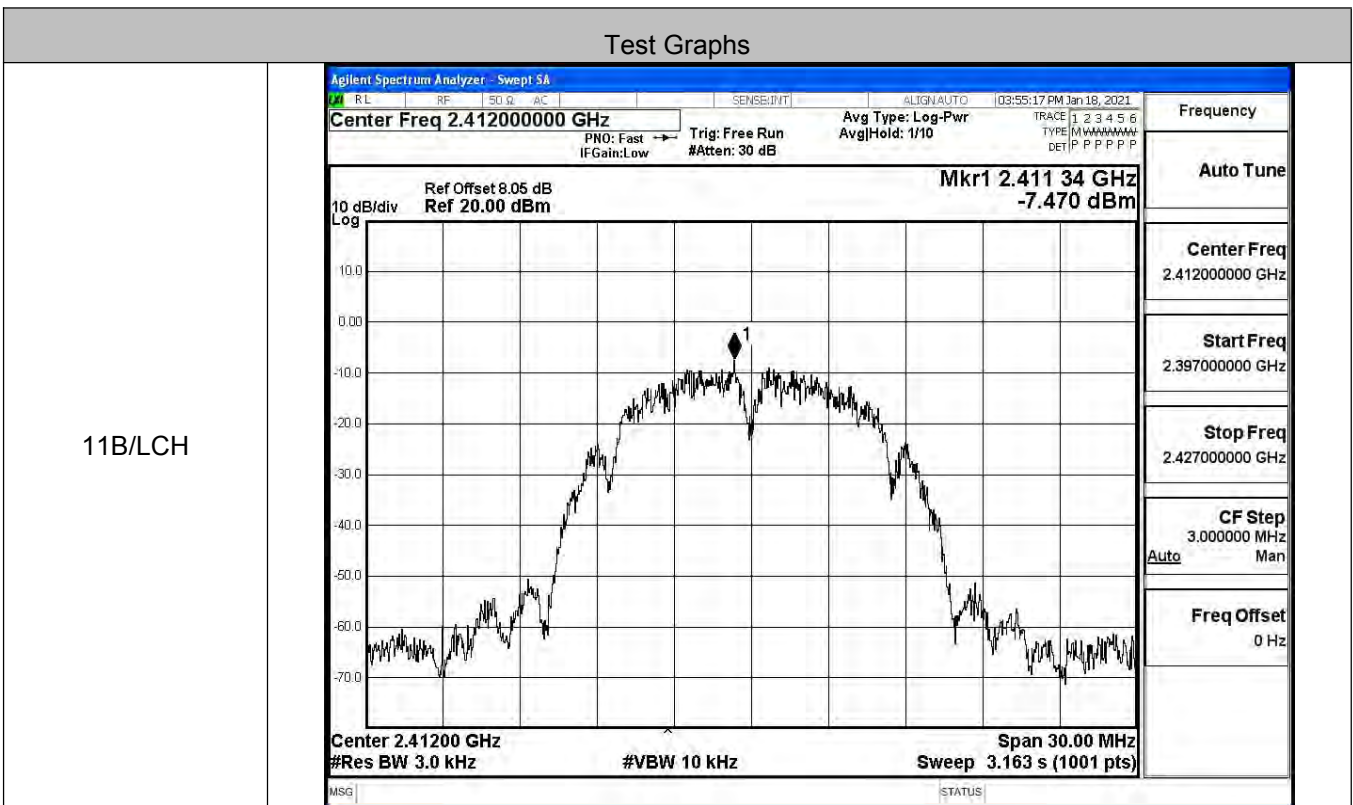
**A.2 Maximum Conducted Output Power**

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	17.90	30	PASS
	MCH	15.94	30	PASS
	HCH	17.86	30	PASS
11G	LCH	22.68	30	PASS
	MCH	20.65	30	PASS
	HCH	22.28	30	PASS
11N20SISO	LCH	22.72	30	PASS
	MCH	20.70	30	PASS
	HCH	22.24	30	PASS

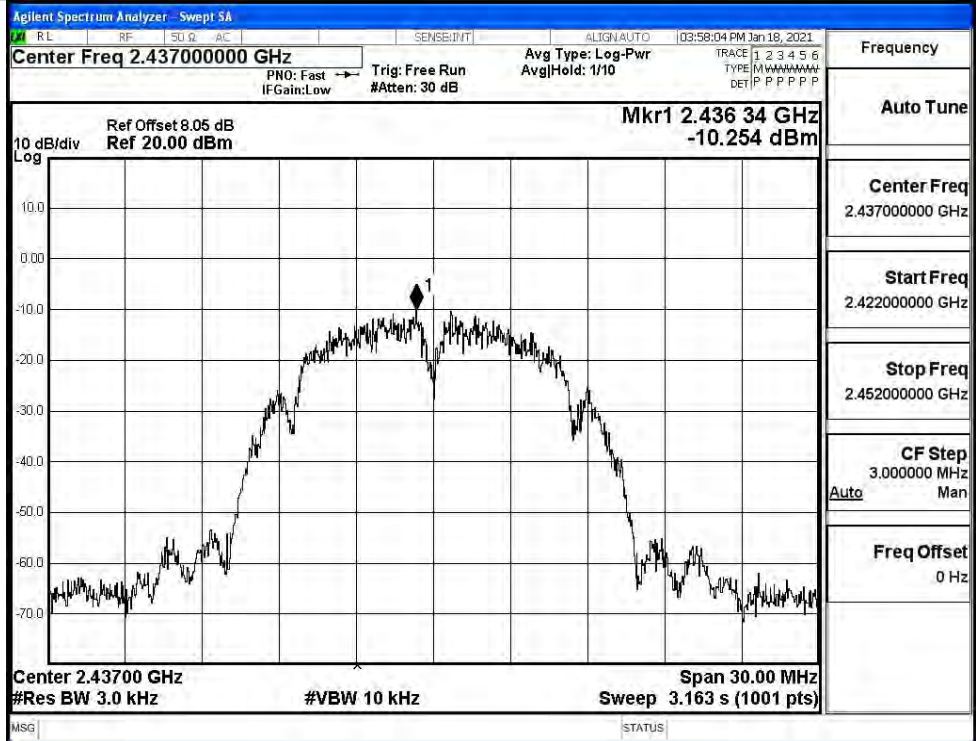
### A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-7.470	8	PASS
	MCH	-10.254	8	PASS
	HCH	-8.527	8	PASS
11G	LCH	-9.750	8	PASS
	MCH	-13.554	8	PASS
	HCH	-12.157	8	PASS
11N20SISO	LCH	-10.972	8	PASS
	MCH	-14.045	8	PASS
	HCH	-12.367	8	PASS

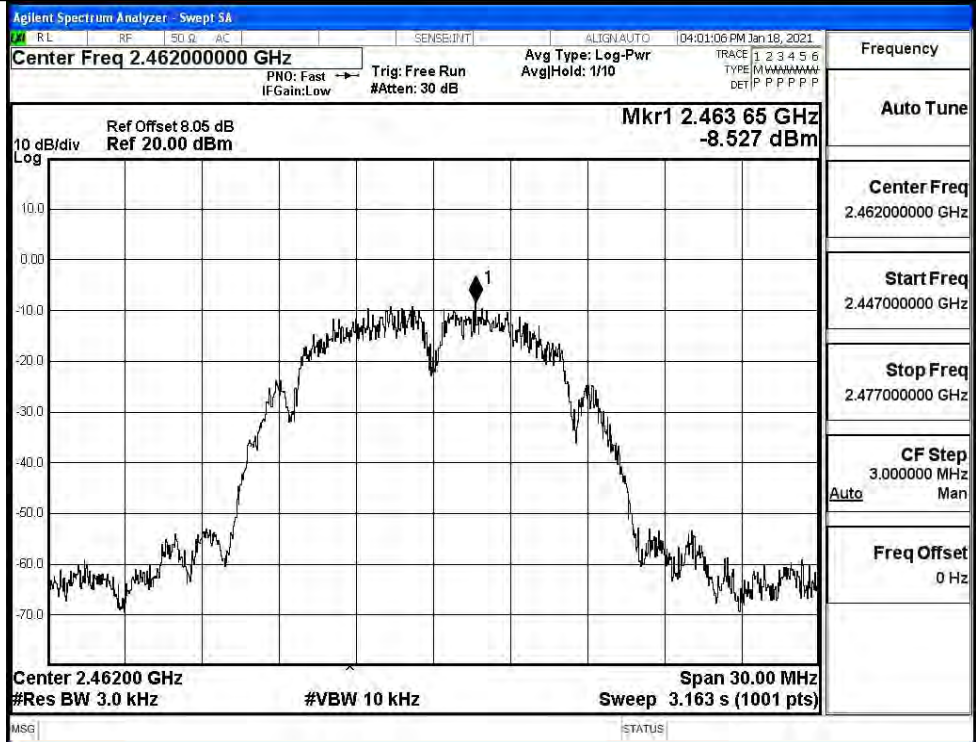
#### Test Graphs



11B/MCH

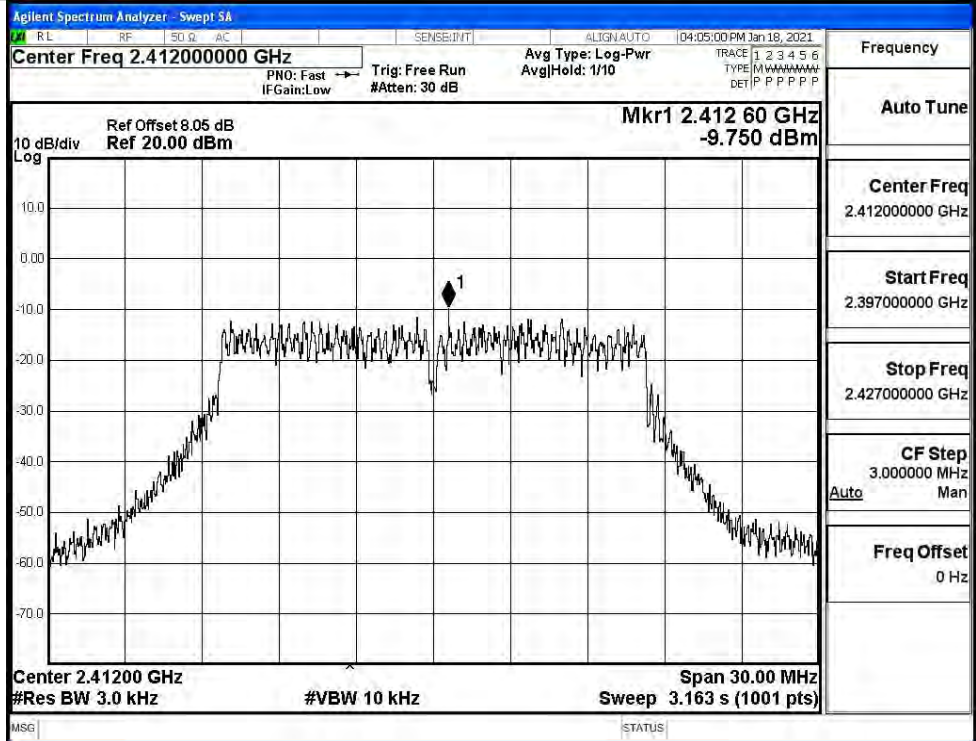


11B/HCH

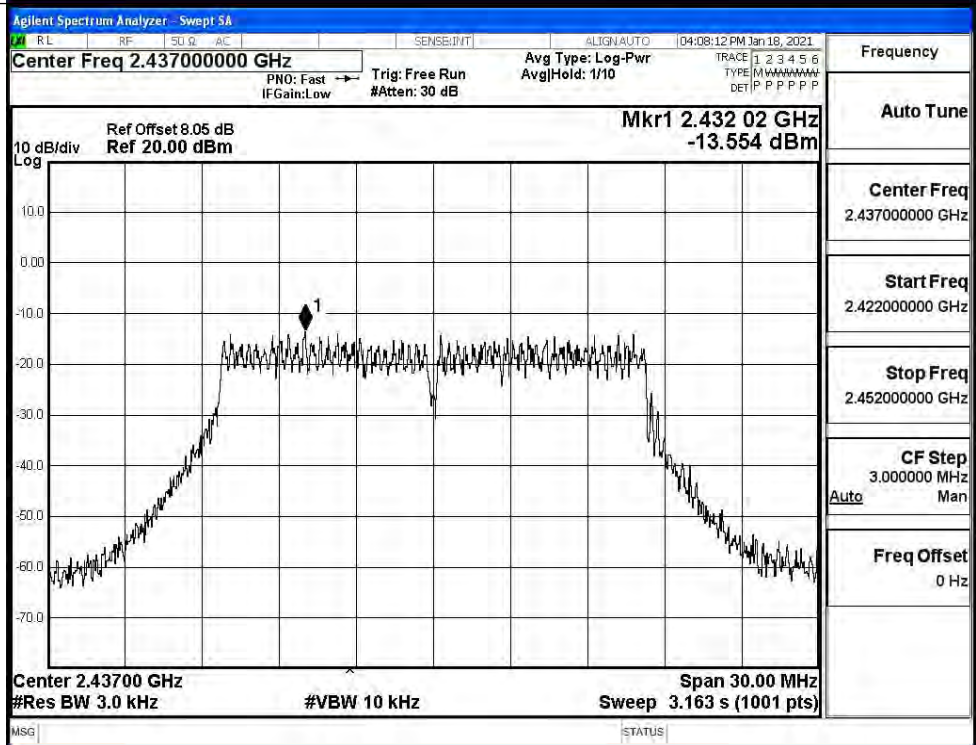




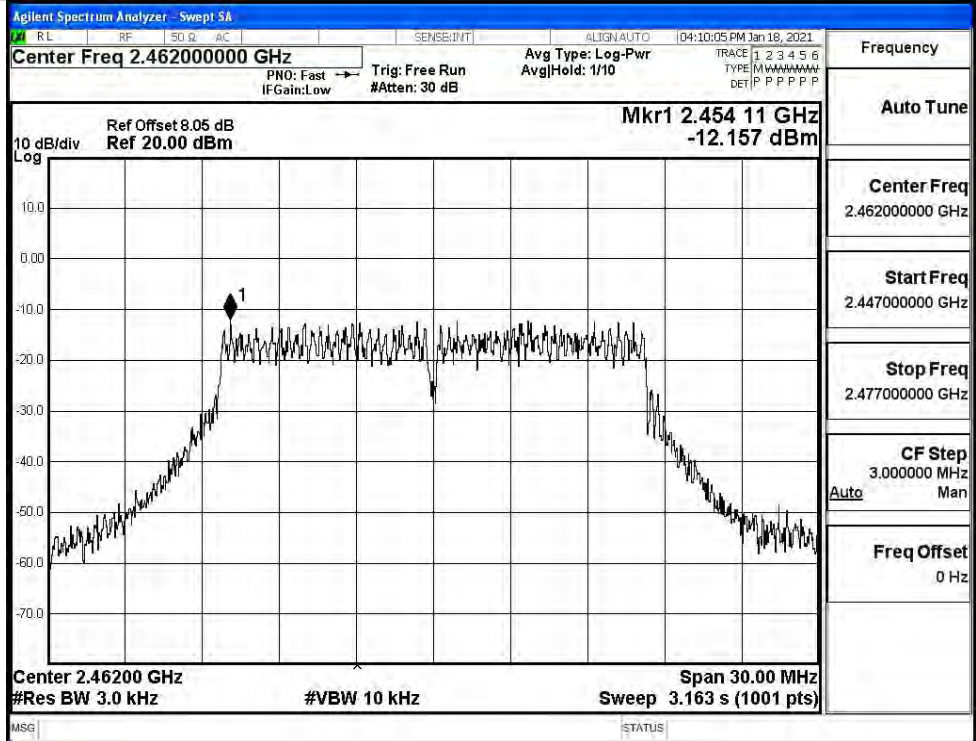
11G/LCH



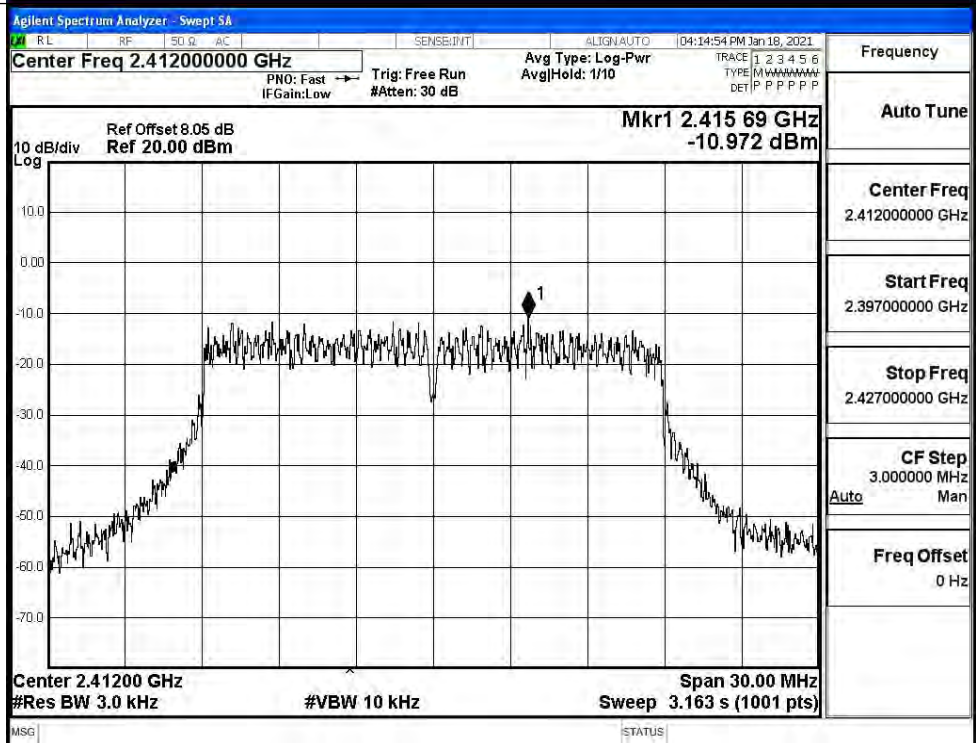
11G/MCH



11G/HCH

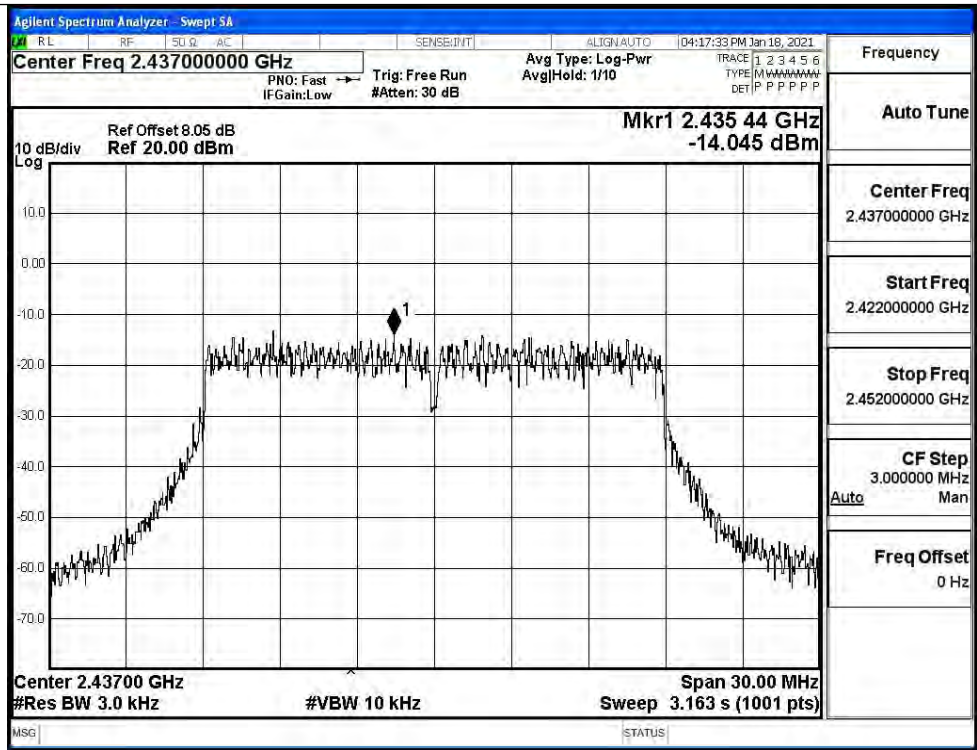


11N20SISO/LCH

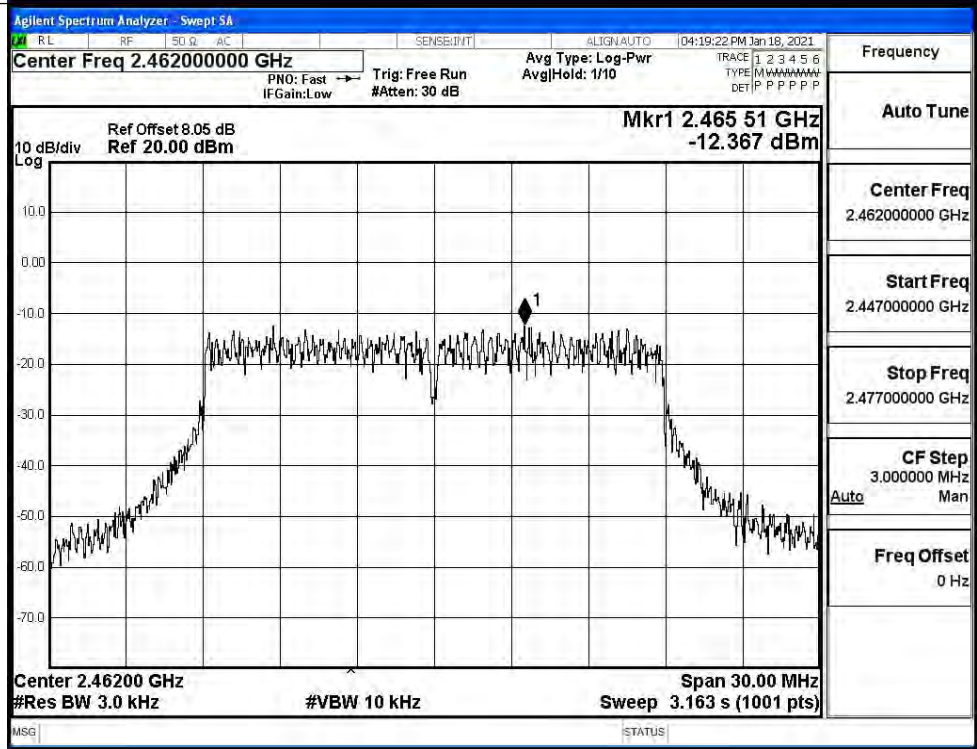




11N20SISO/MCH



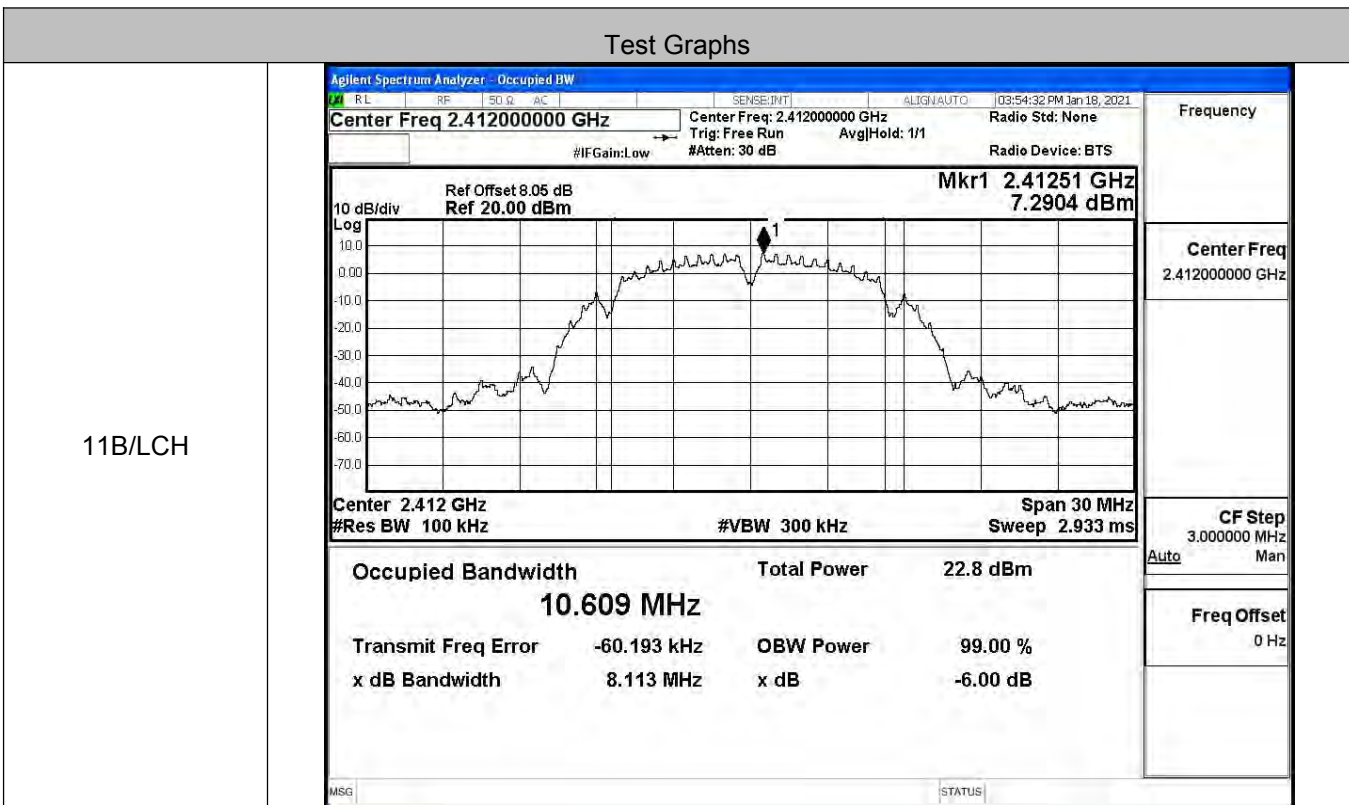
11N20SISO/HCH



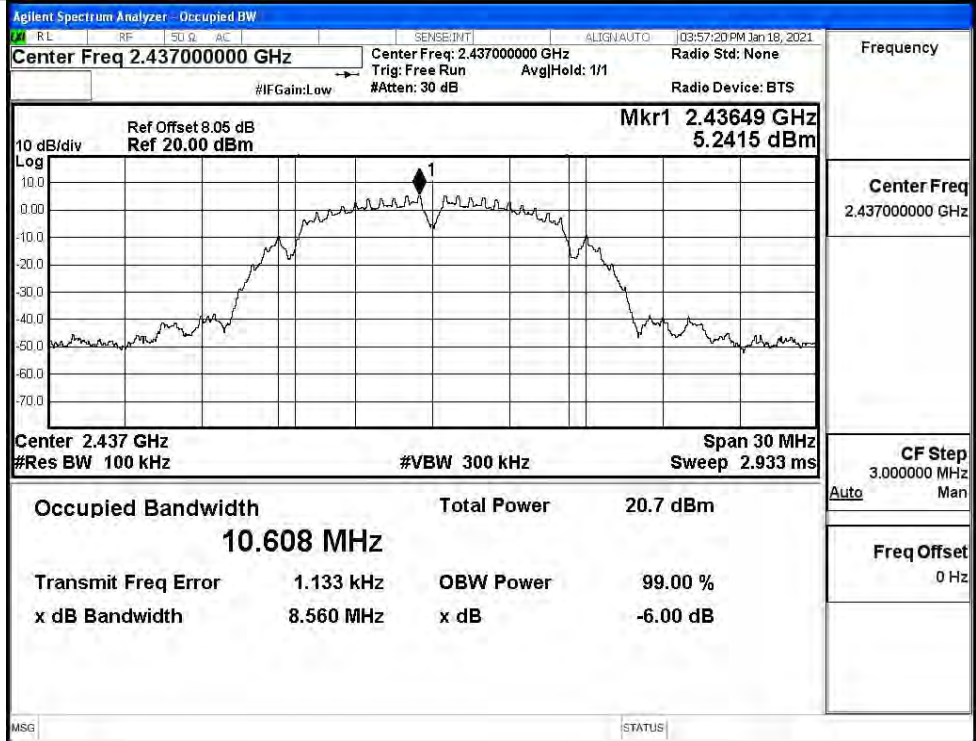
**A.4 6dB Bandwidth**

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.113	≥0.5	PASS
	MCH	8.560	≥0.5	PASS
	HCH	8.561	≥0.5	PASS
11G	LCH	16.35	≥0.5	PASS
	MCH	16.36	≥0.5	PASS
	HCH	16.34	≥0.5	PASS
11N20SISO	LCH	17.31	≥0.5	PASS
	MCH	17.56	≥0.5	PASS
	HCH	17.32	≥0.5	PASS

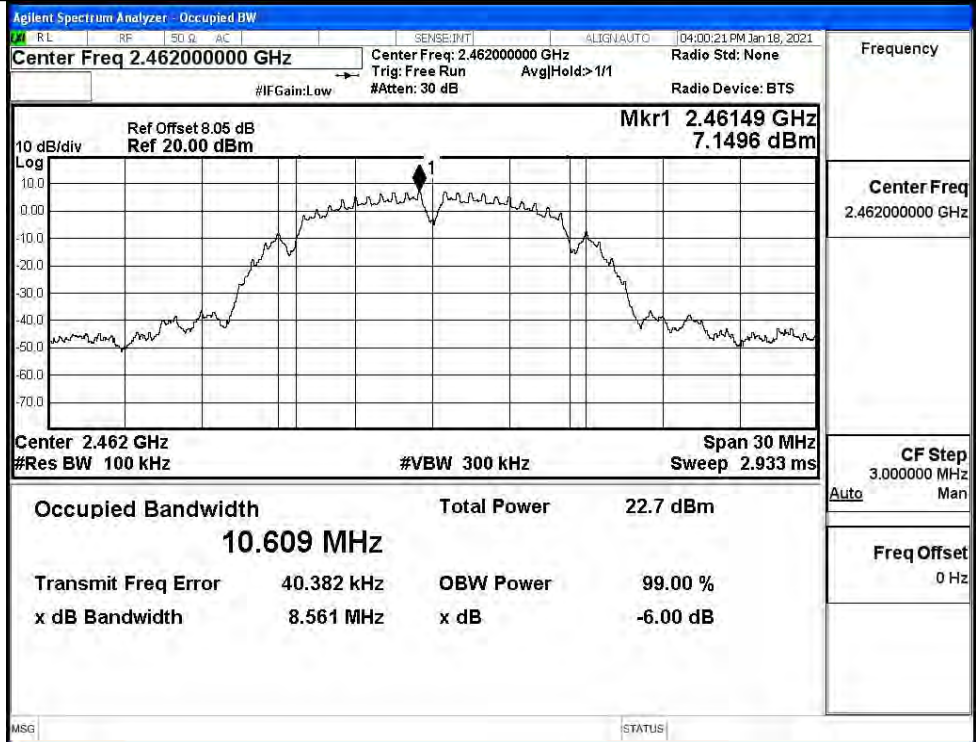
**Test Graphs**



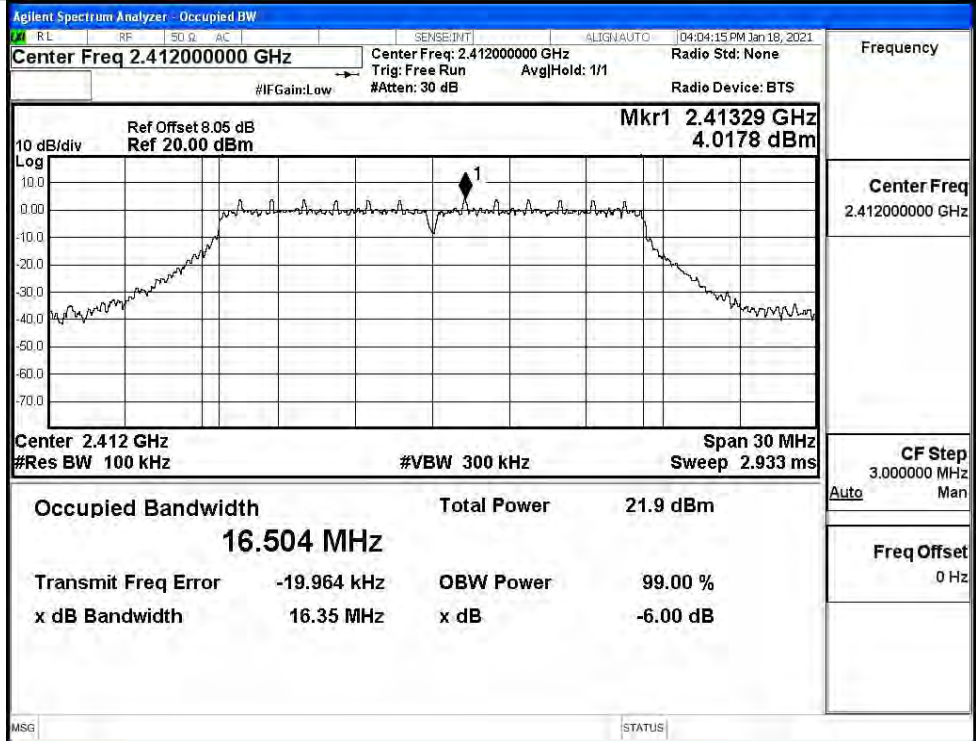
11B/MCH



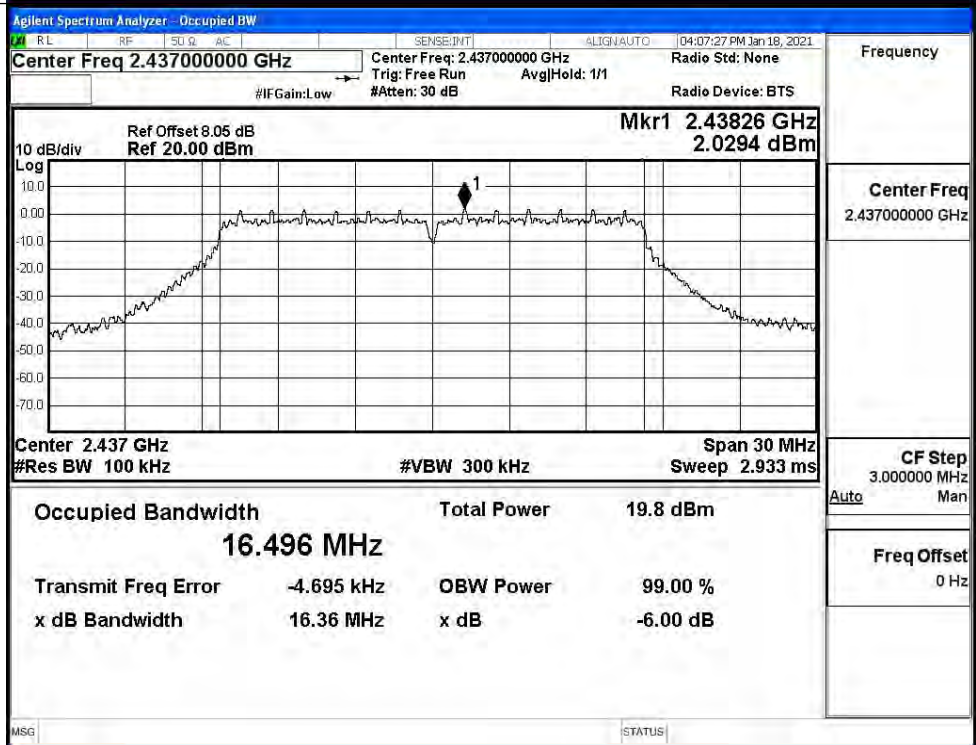
11B/HCH



11G/LCH

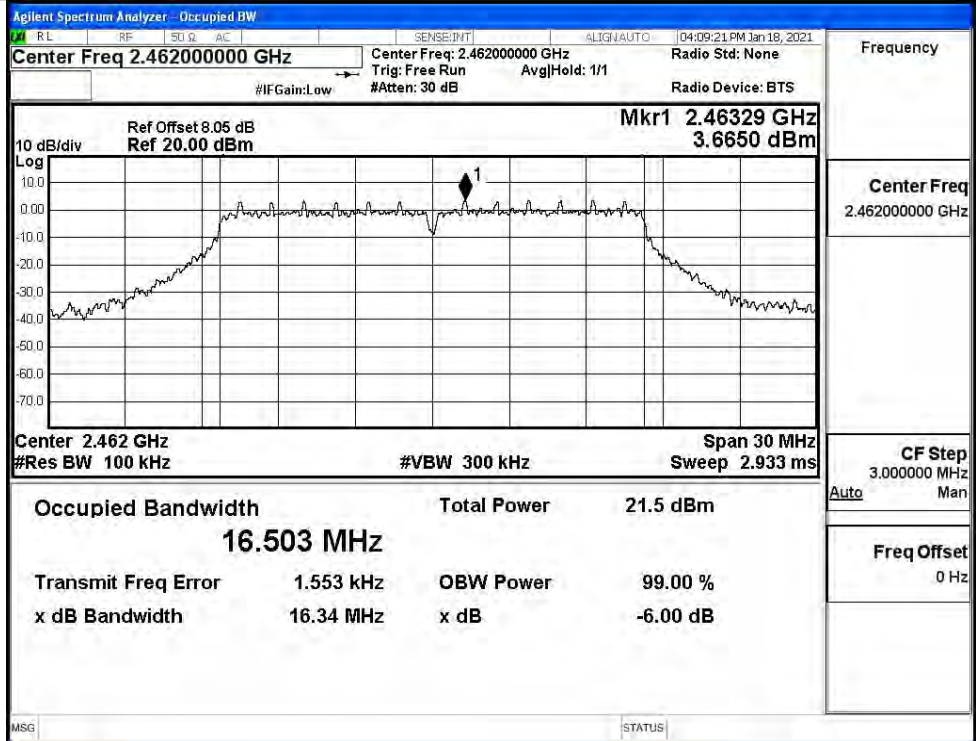


11G/MCH

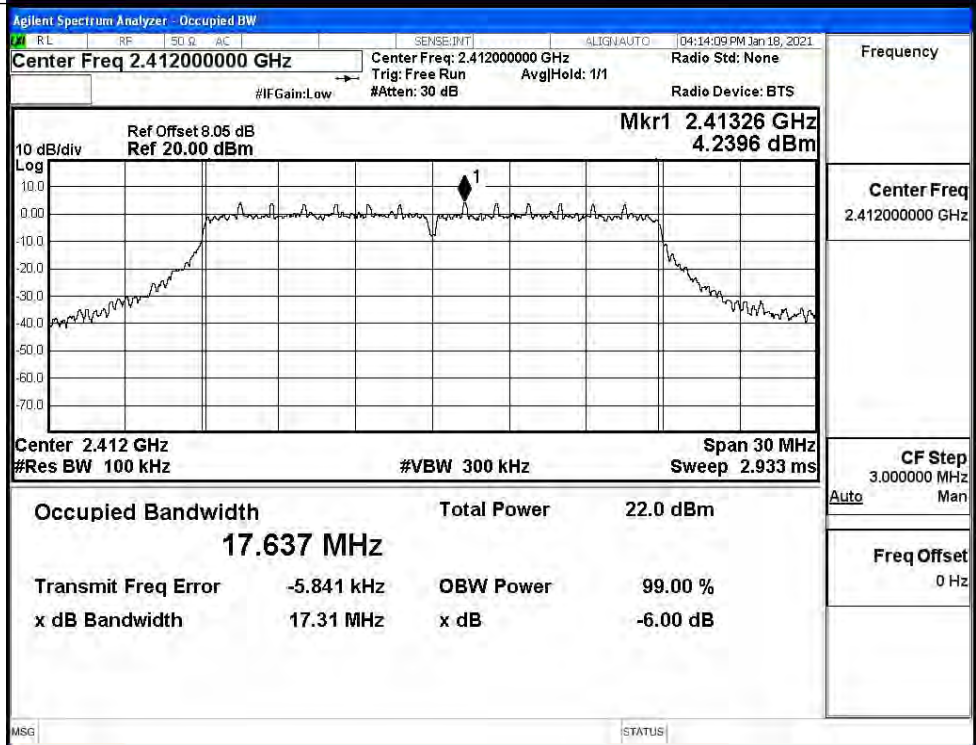




11G/HCH

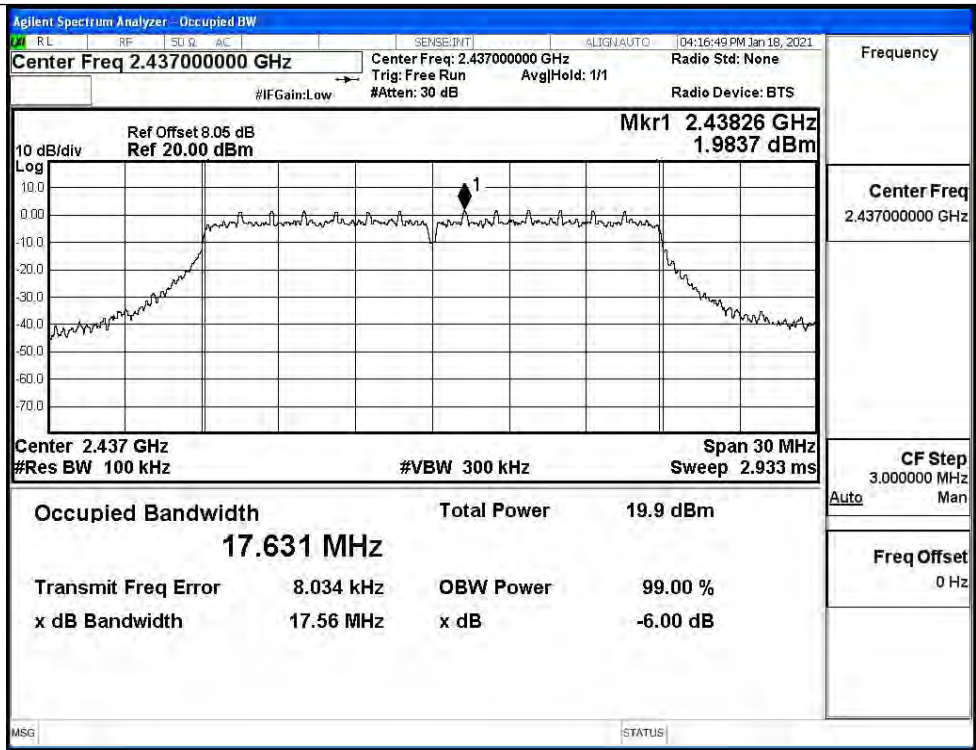


11N20SISO/LCH

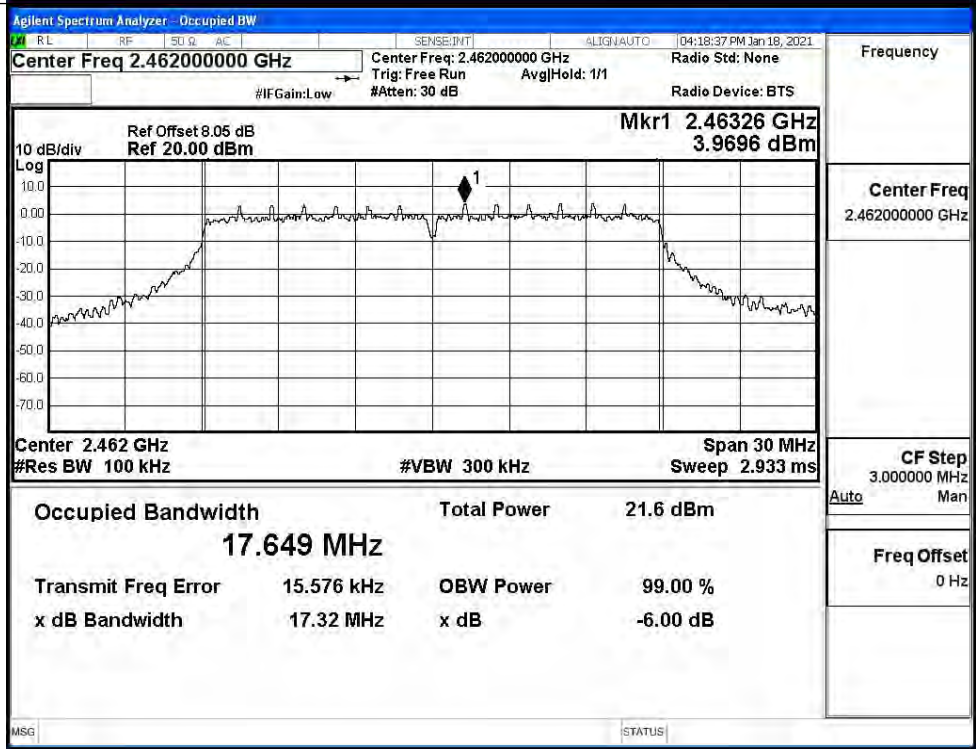




11N20SISO/MCH



11N20SISO/HCH

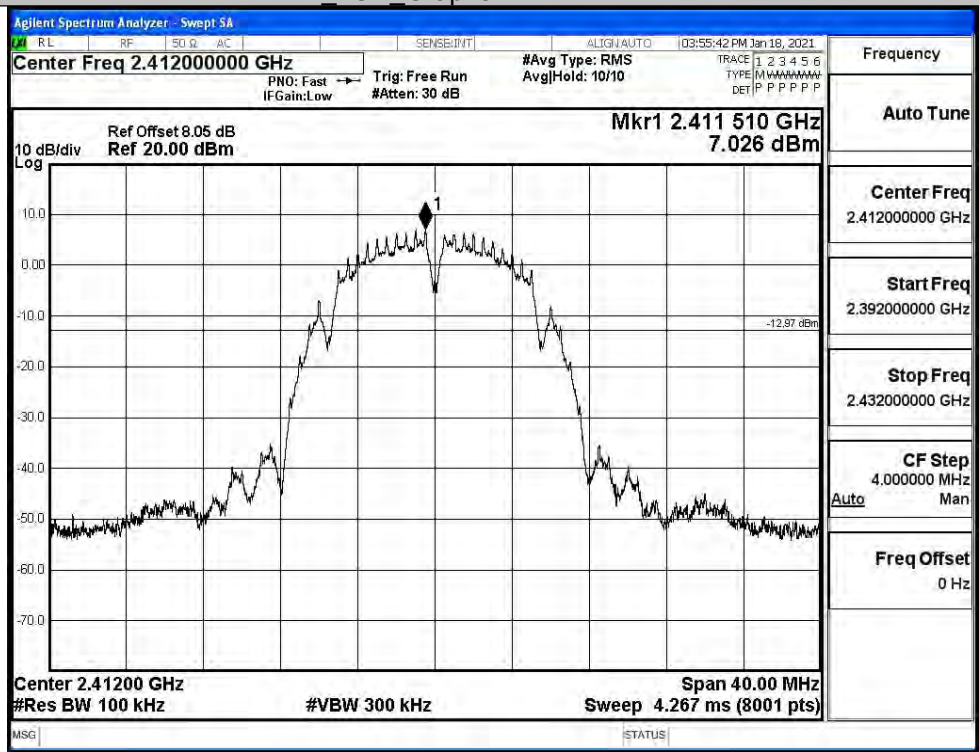


**A.5 RF Conducted Spurious Emissions**

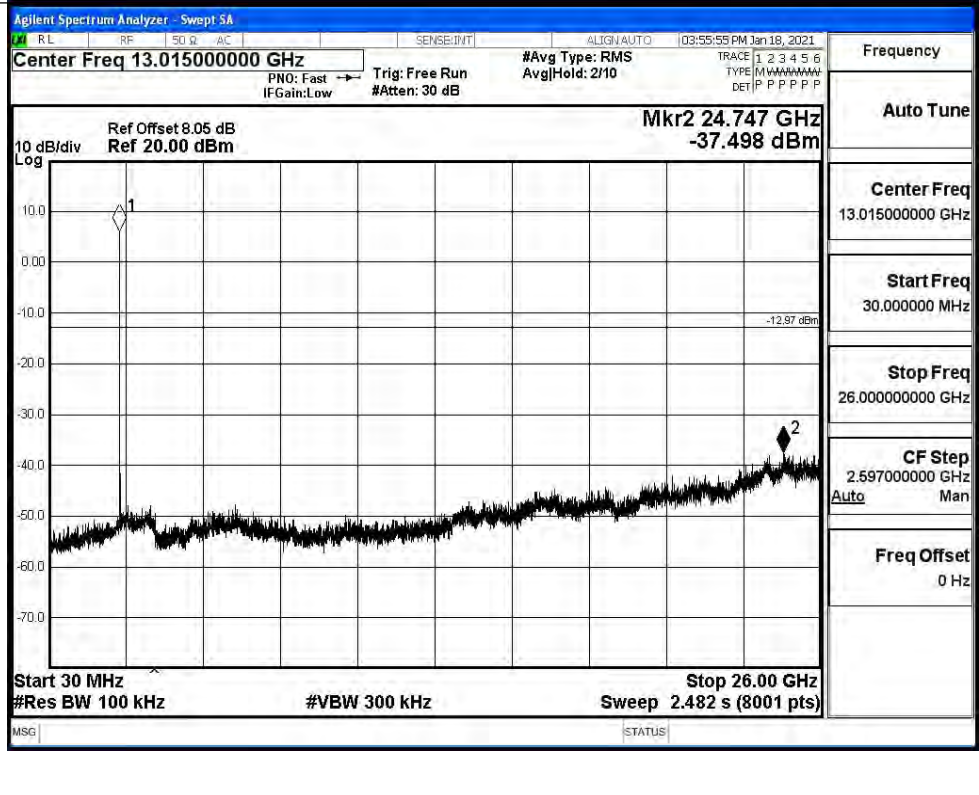
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	7.026	-37.498	-12.974	PASS
	MCH	5.138	-38.028	-14.862	PASS
	HCH	6.889	-37.247	-13.111	PASS
11G	LCH	3.955	-37.716	-16.045	PASS
	MCH	1.874	-37.919	-18.126	PASS
	HCH	3.504	-37.940	-16.496	PASS
11N20 SISO	LCH	4.027	-38.216	-15.973	PASS
	MCH	1.978	-38.532	-18.022	PASS
	HCH	3.692	-37.445	-16.308	PASS

11B LCH Graphs

Pref/11B/LCH

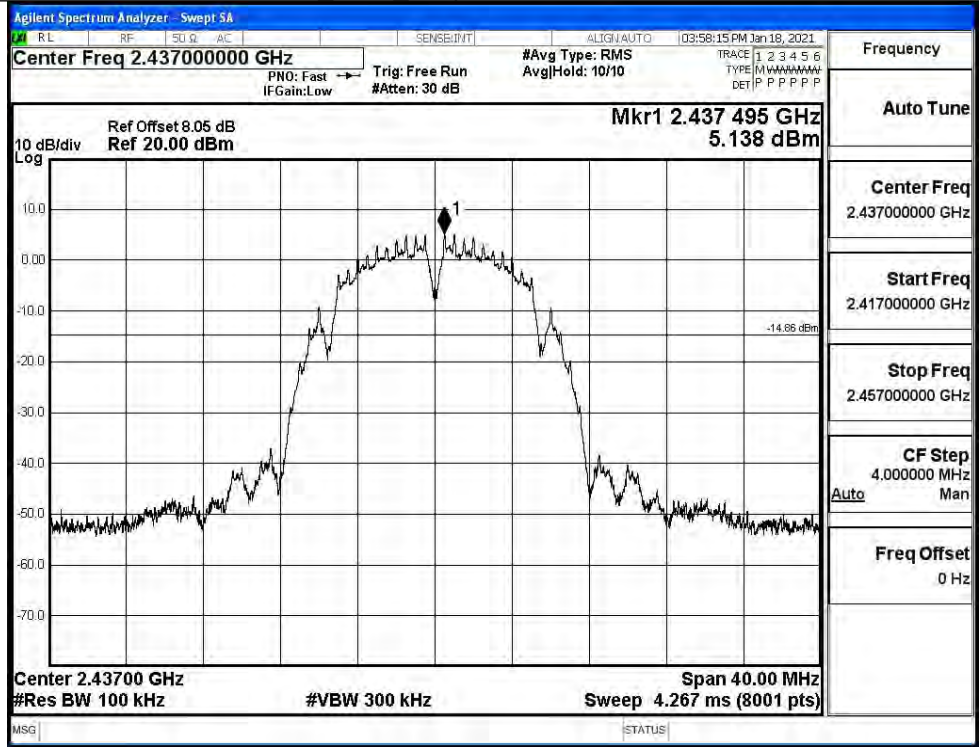


Puw/11B/LCH

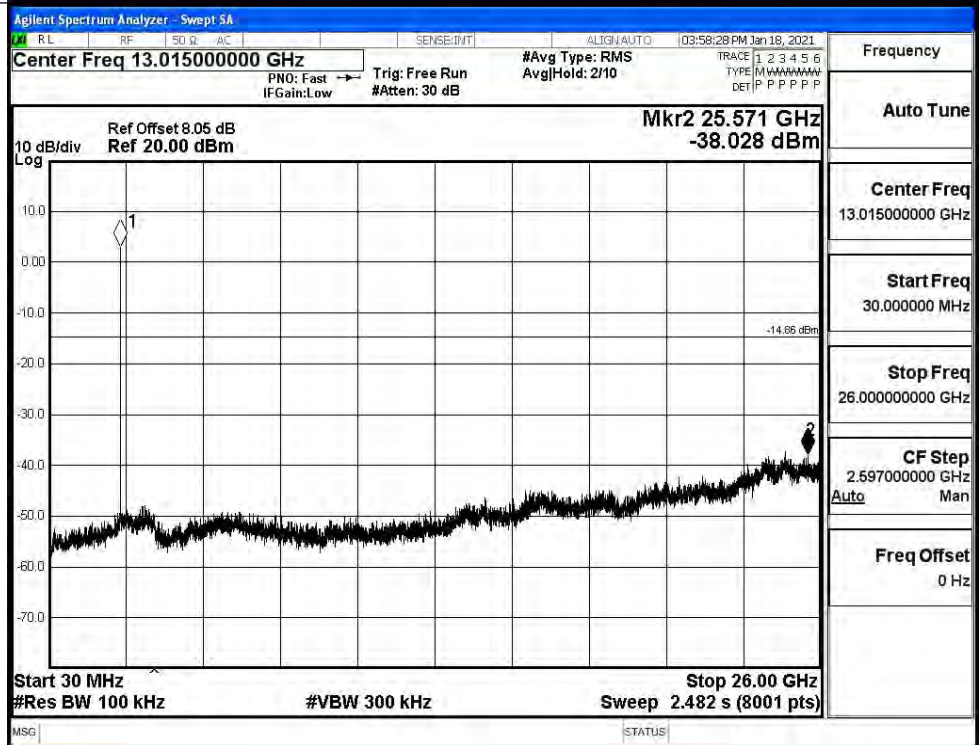


11B MCH Graphs

Pref/11B/MCH



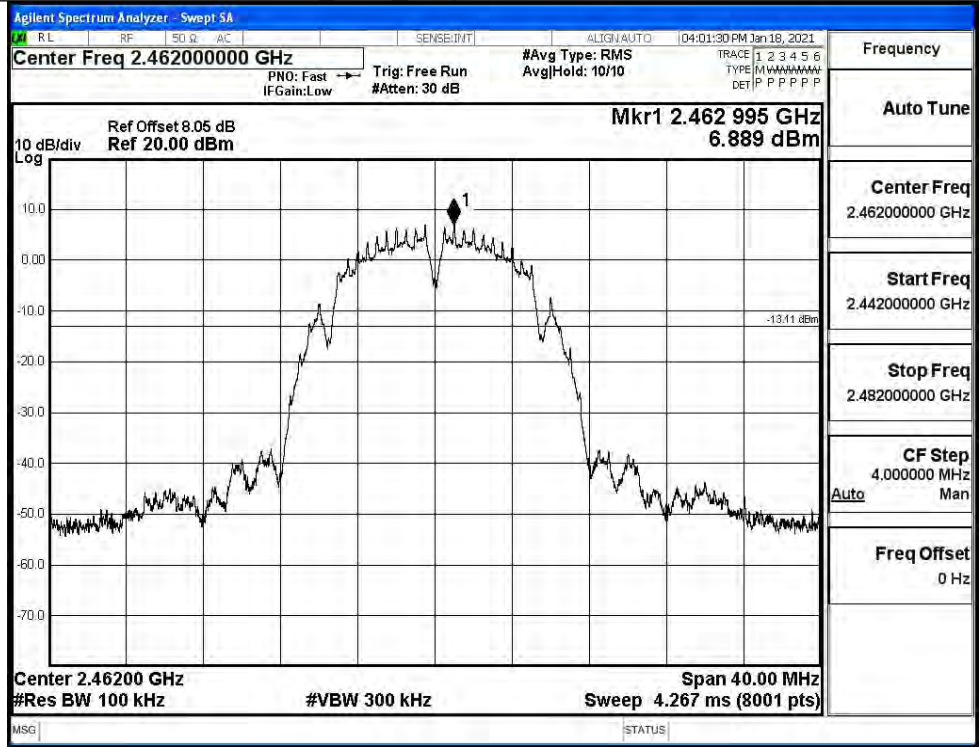
Puw/11B/MCH





11B HCH Graphs

Pref/11B/HCH



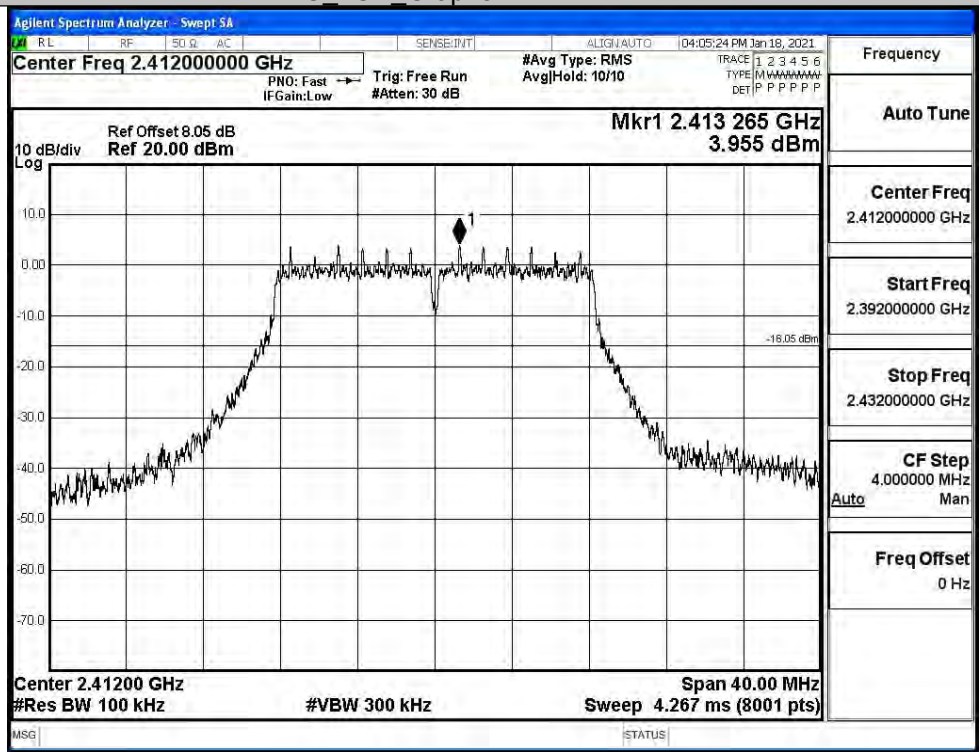
Puw/11B/HCH



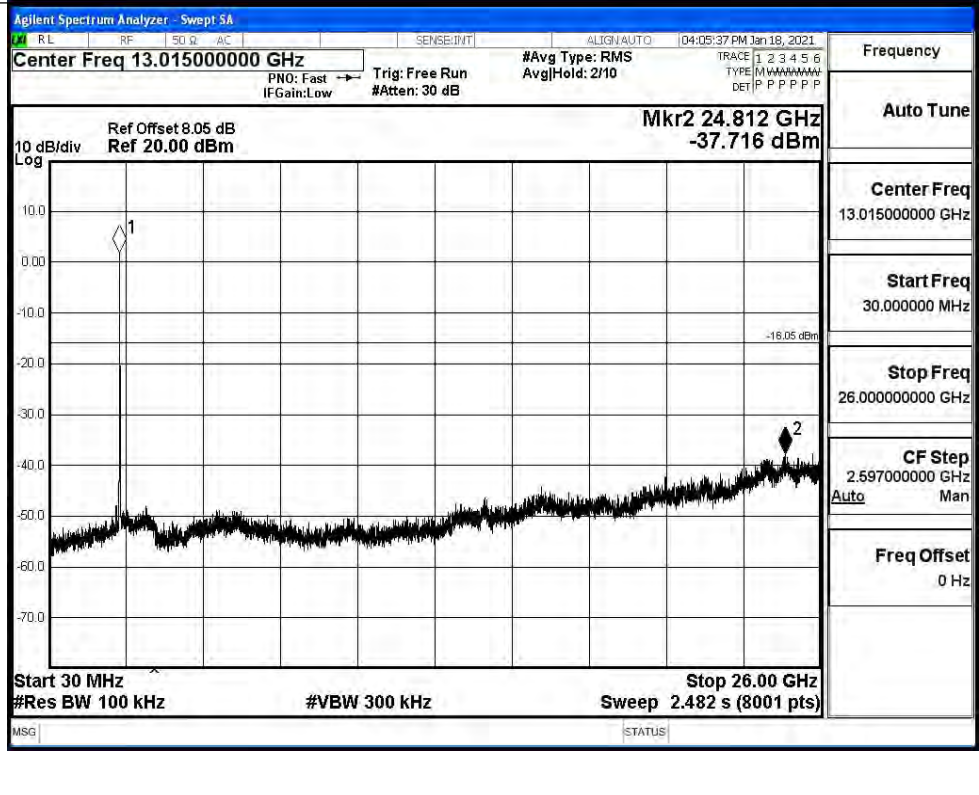


11G LCH Graphs

Pref/11G/LCH

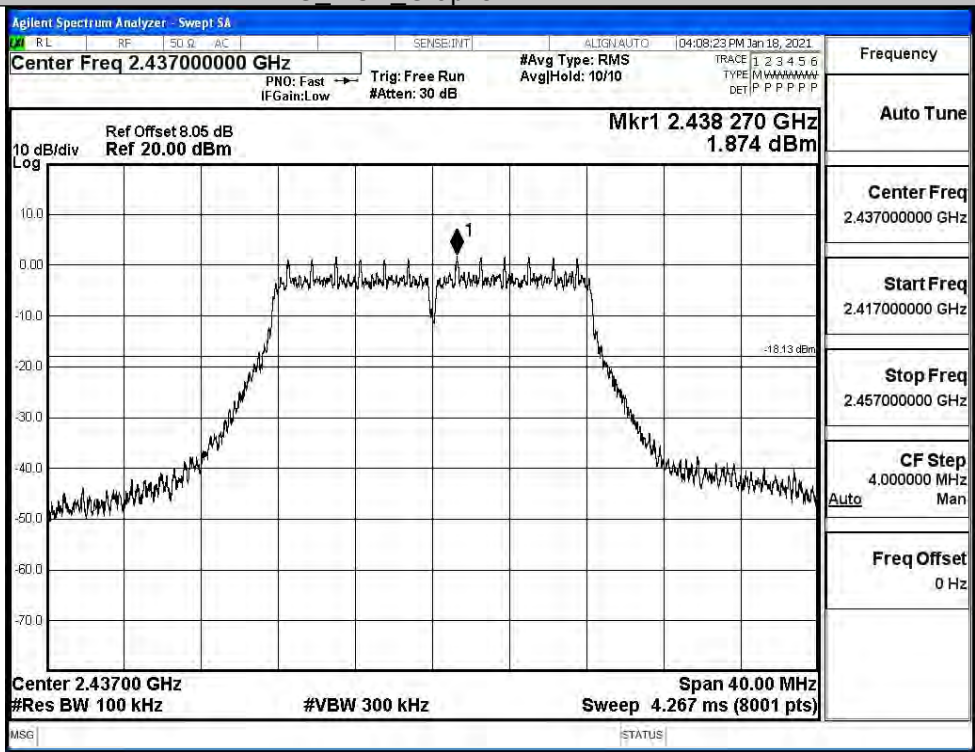


Puw/11G/LCH

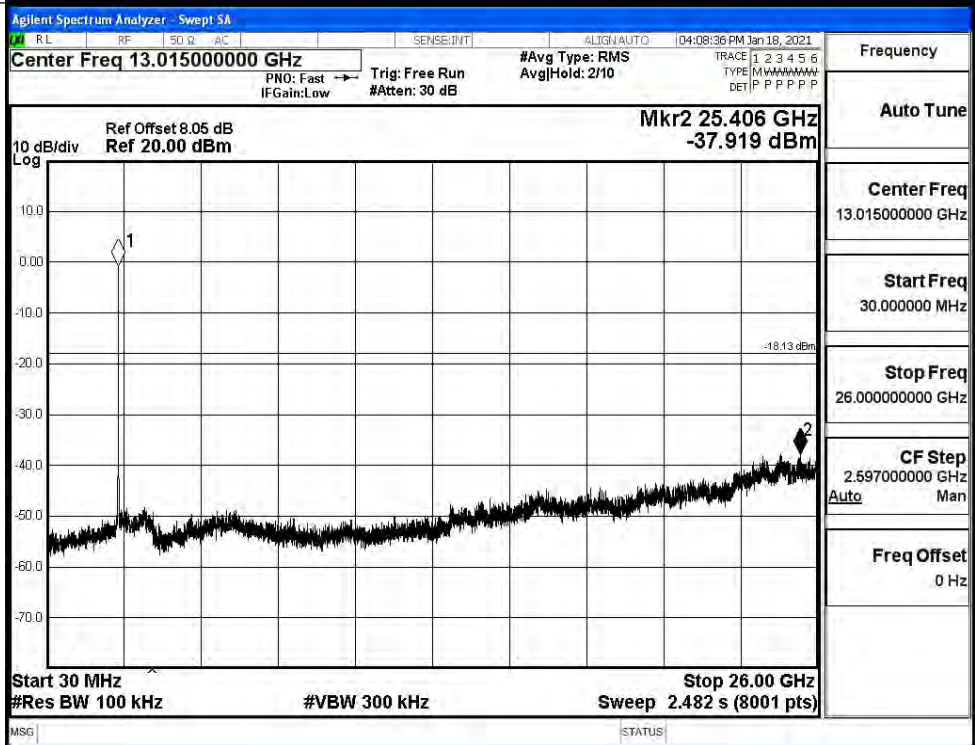


11G MCH Graphs

Pref/11G/MCH

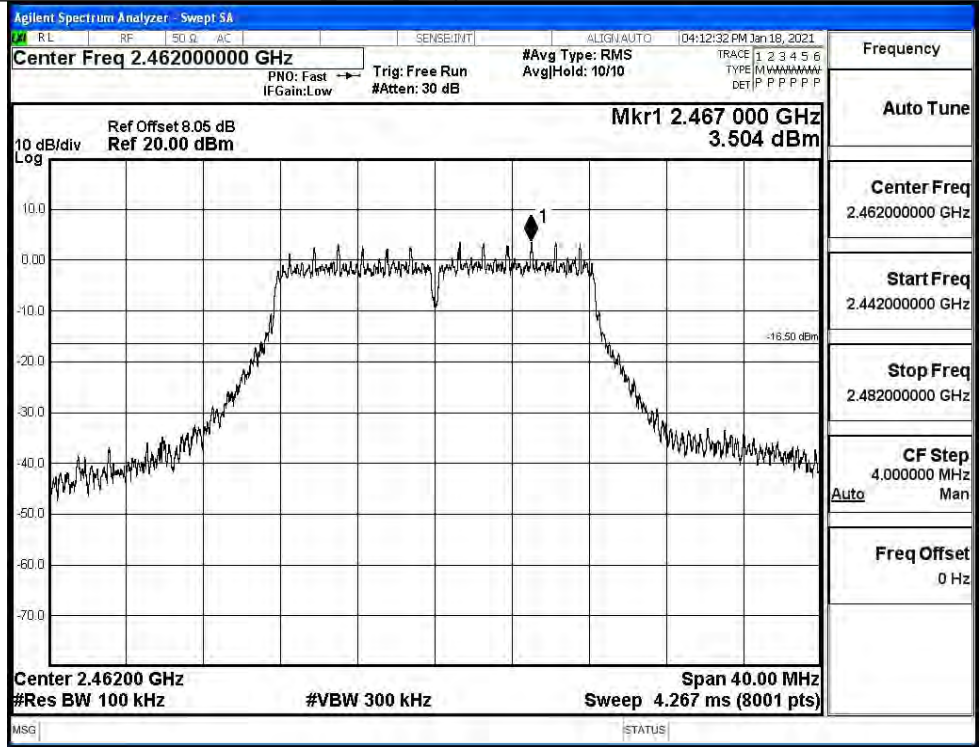


Puw/11G/MCH

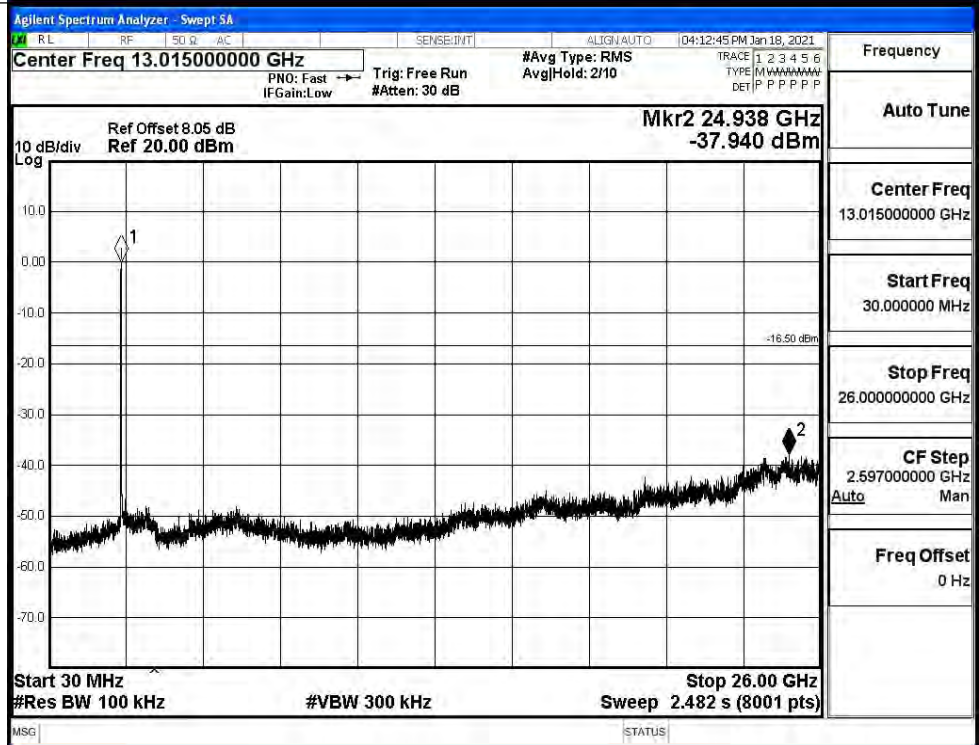


11G HCH Graphs

Pref/11G/HCH



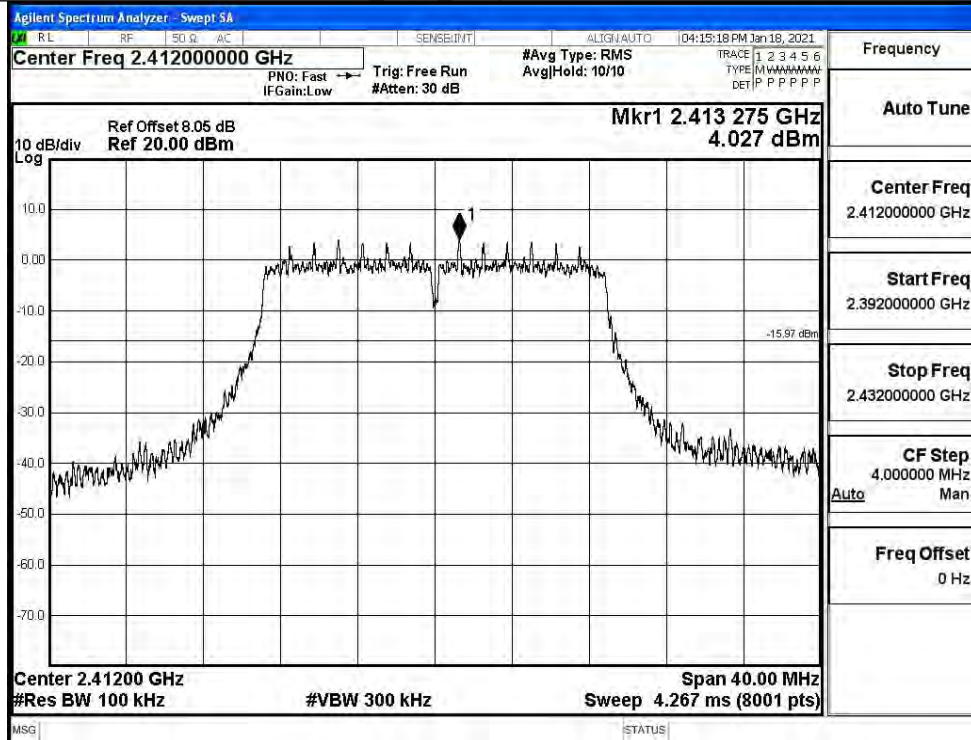
Puw/11G/HCH



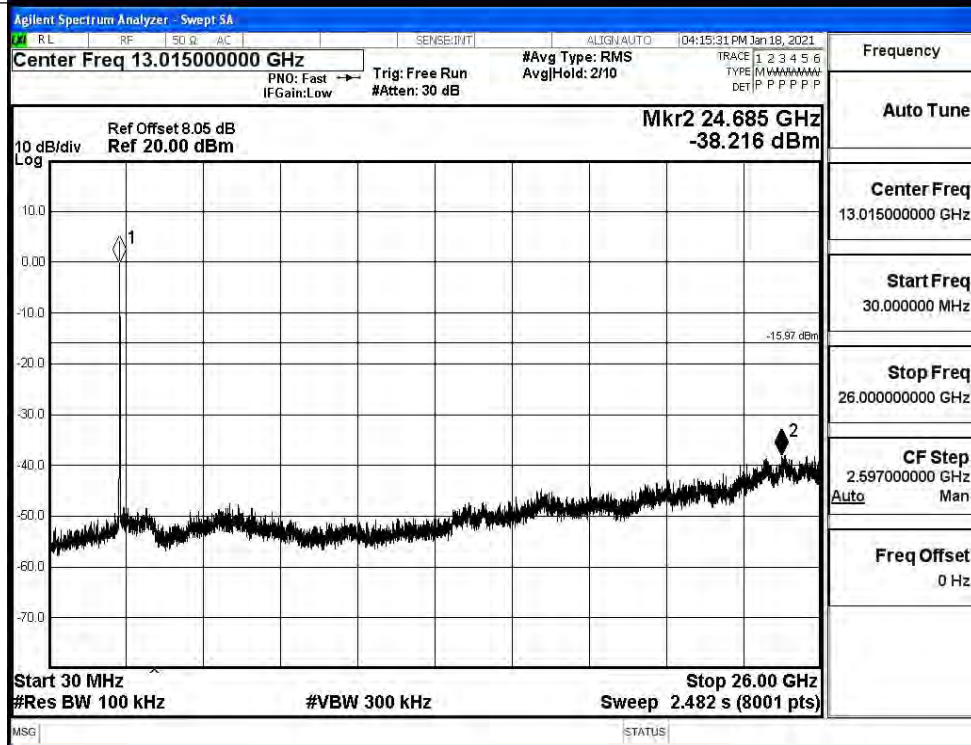


11N20SISO LCH Graphs

Pref/11N20SIS  
O/LCH

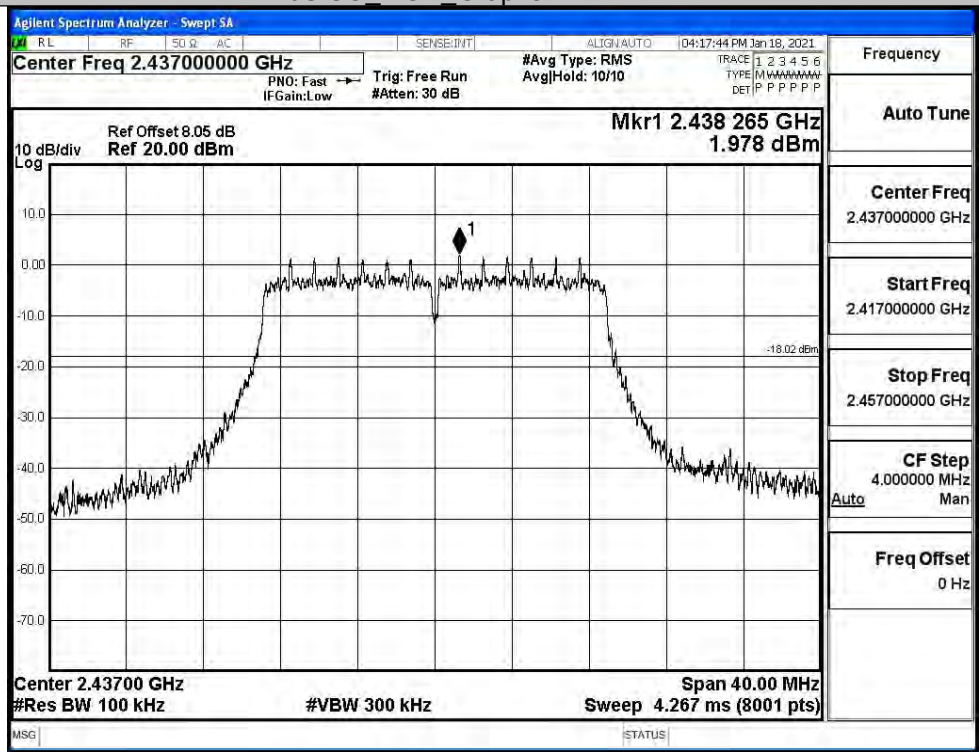


Puw/11N20  
SISO/LCH

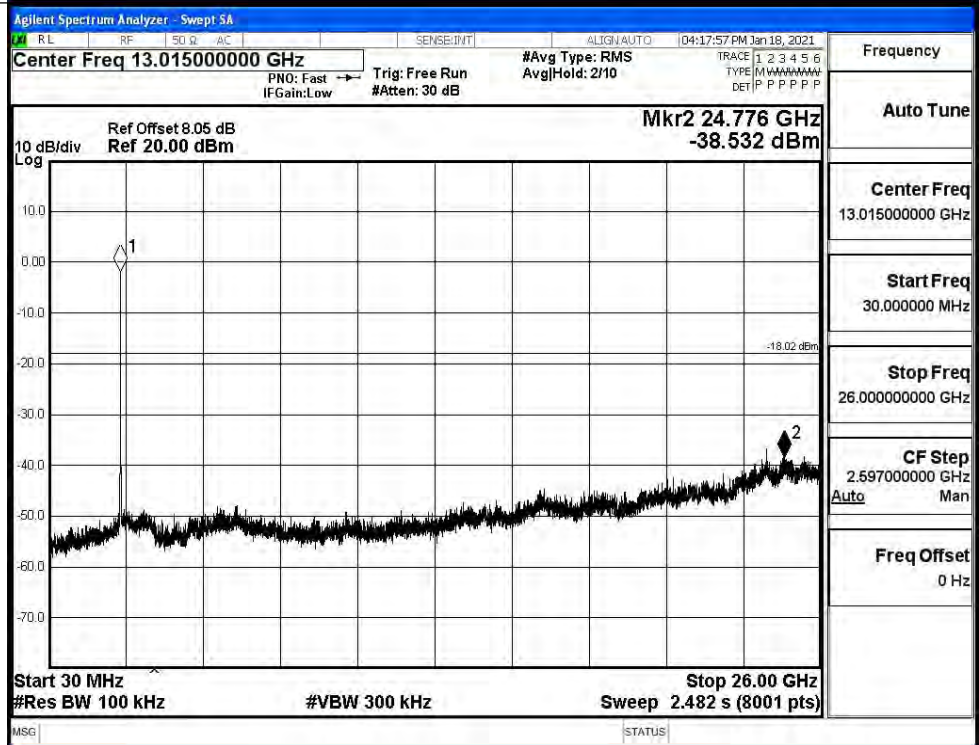


11N20SISO MCH Graphs

Pref/11N20  
SISO/MCH



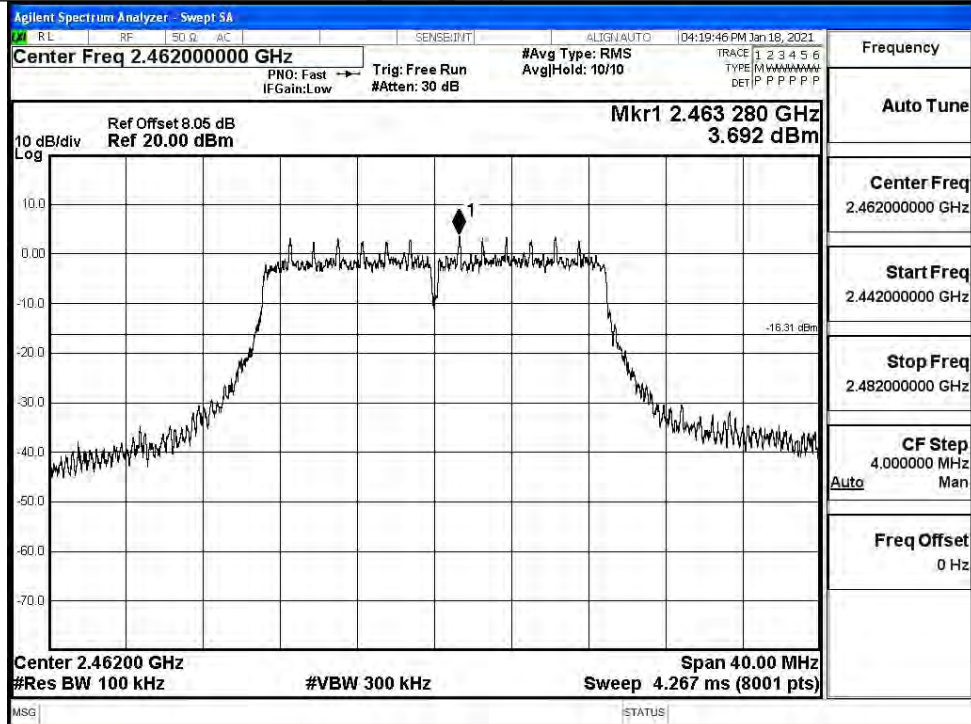
Puw/11N20  
SISO/MCH



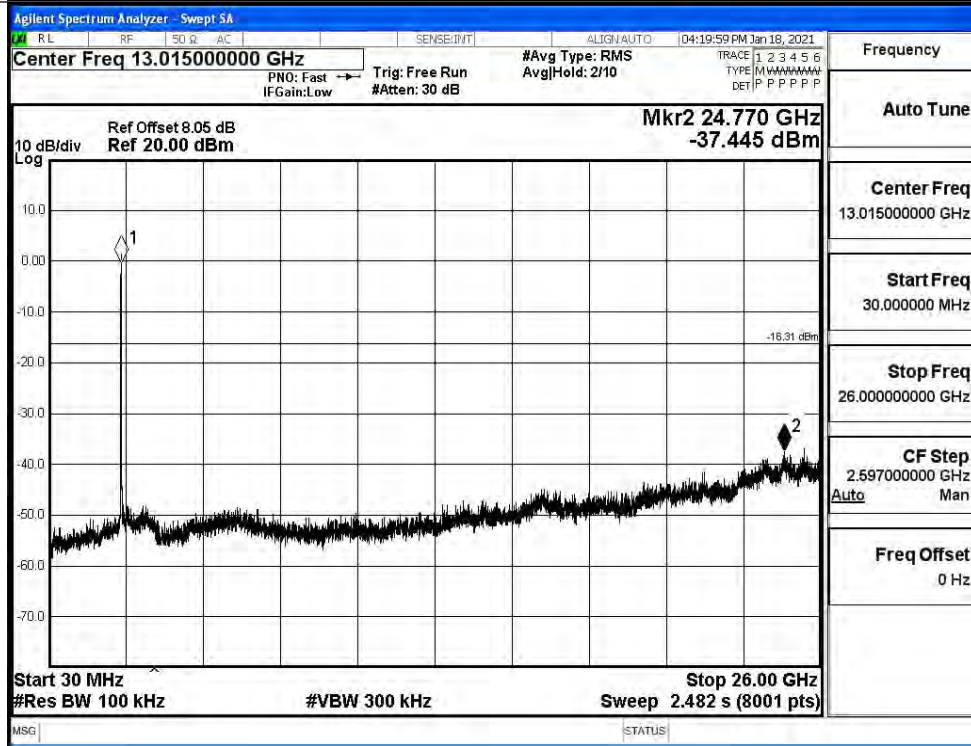


11N20SISO HCH Graphs

Pref/11N20  
SISO/HCH

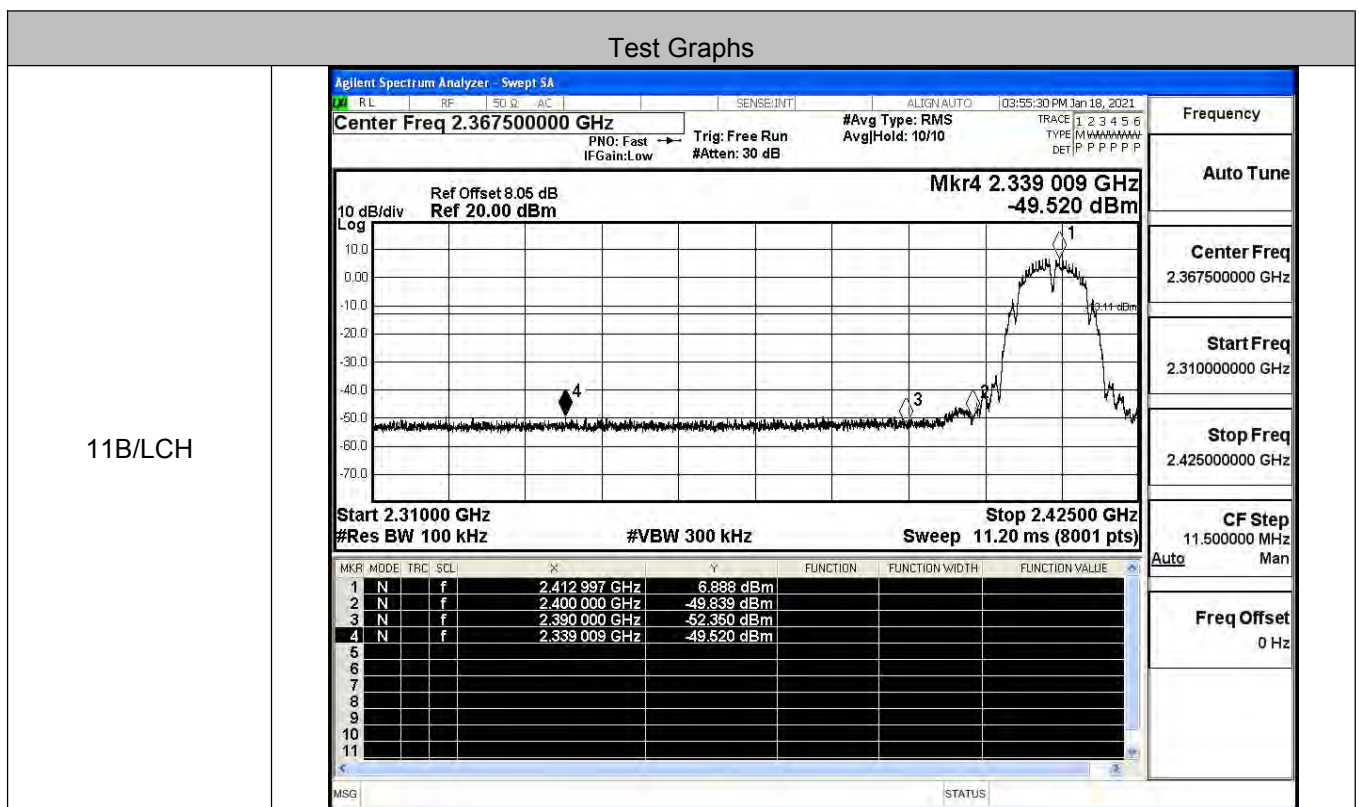


Puw/11N20  
SISO/HCH

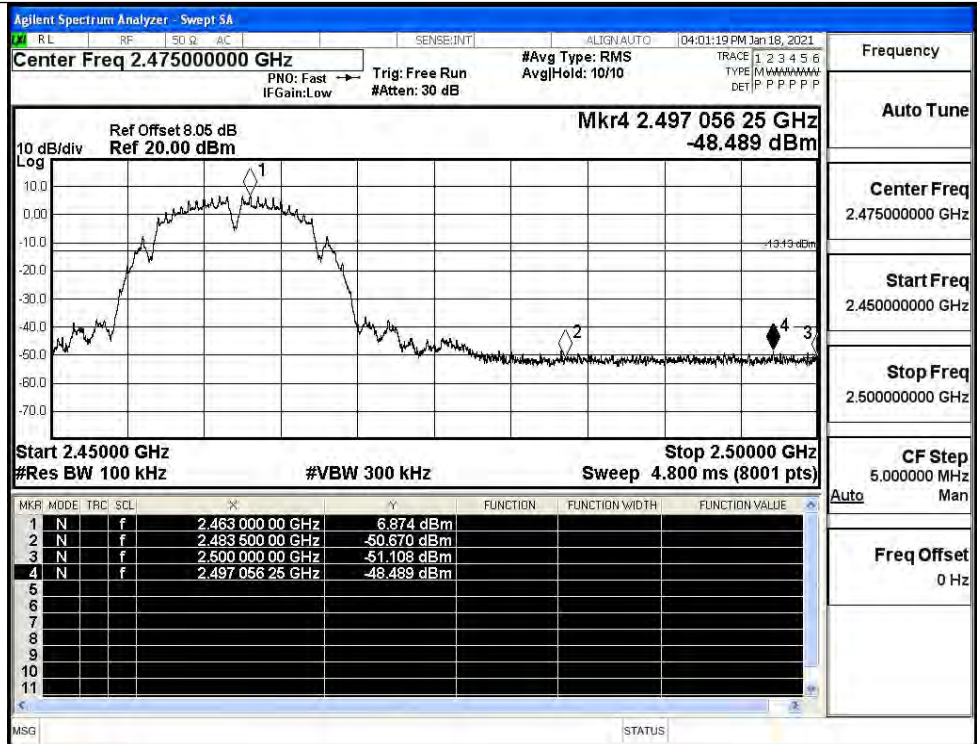


### A.6 Band-edge for RF Conducted Emissions

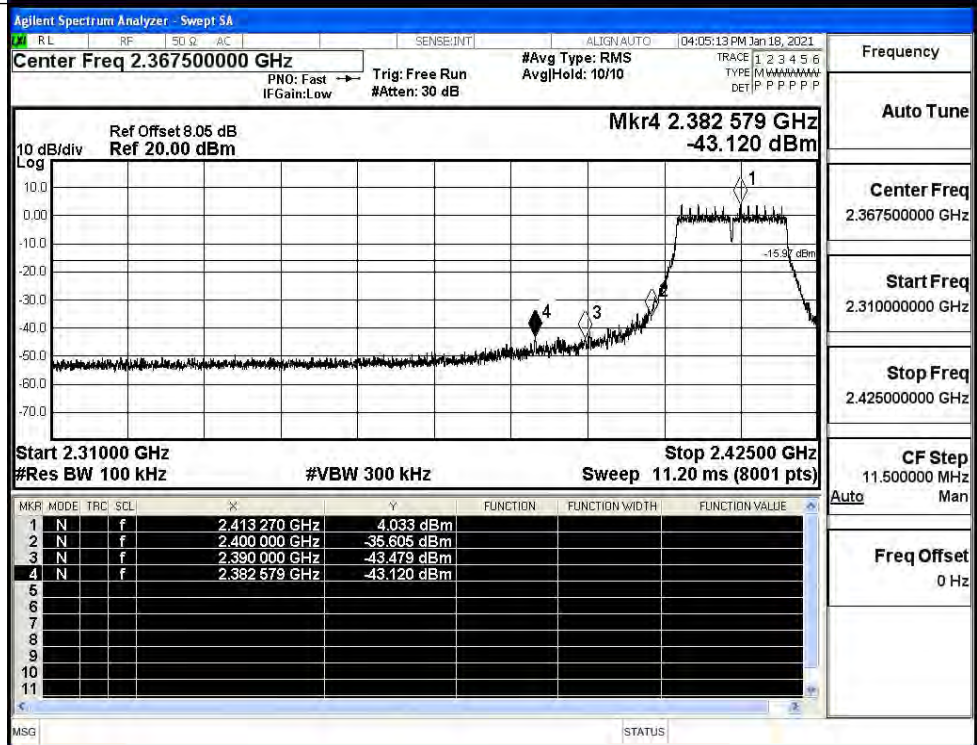
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	6.888	-49.520	-13.11	PASS
	HCH	6.874	-48.489	-13.13	PASS
11G	LCH	4.033	-43.120	-15.97	PASS
	HCH	3.513	-40.301	-16.49	PASS
11N20SISO	LCH	4.097	-42.233	-15.90	PASS
	HCH	3.624	-38.763	-16.38	PASS



11B/HCH

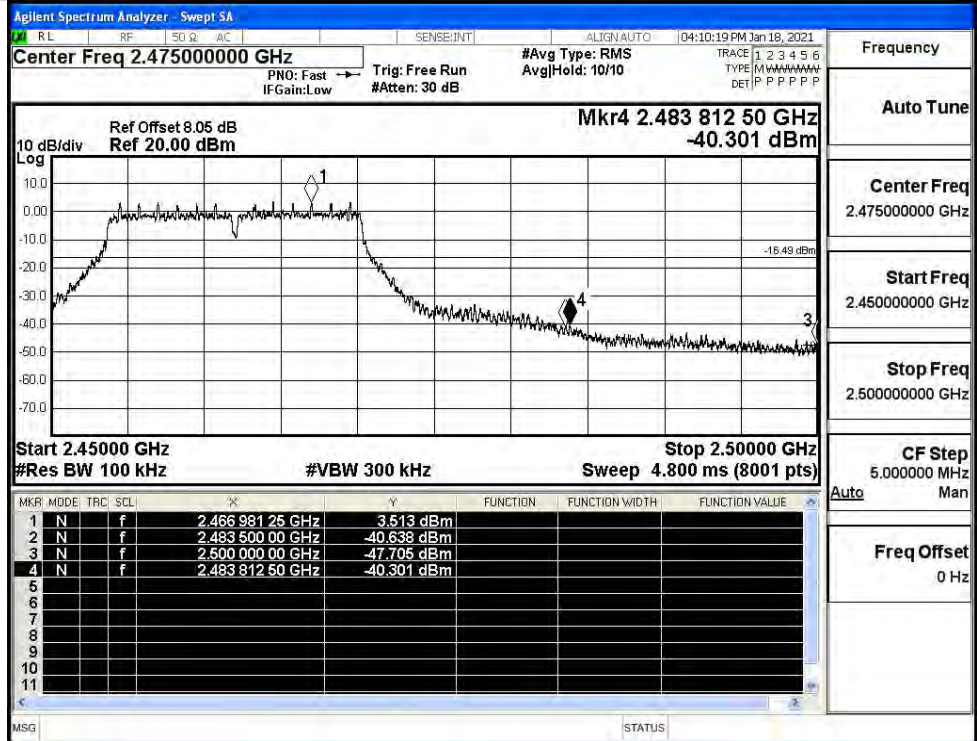


11G/LCH



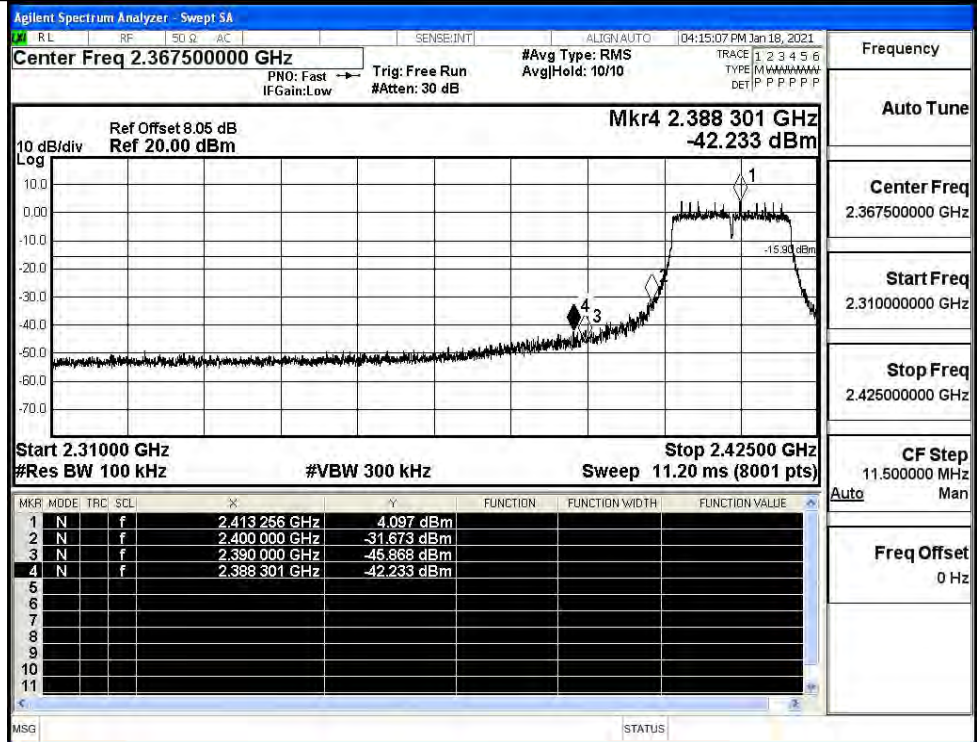


11G/HCH



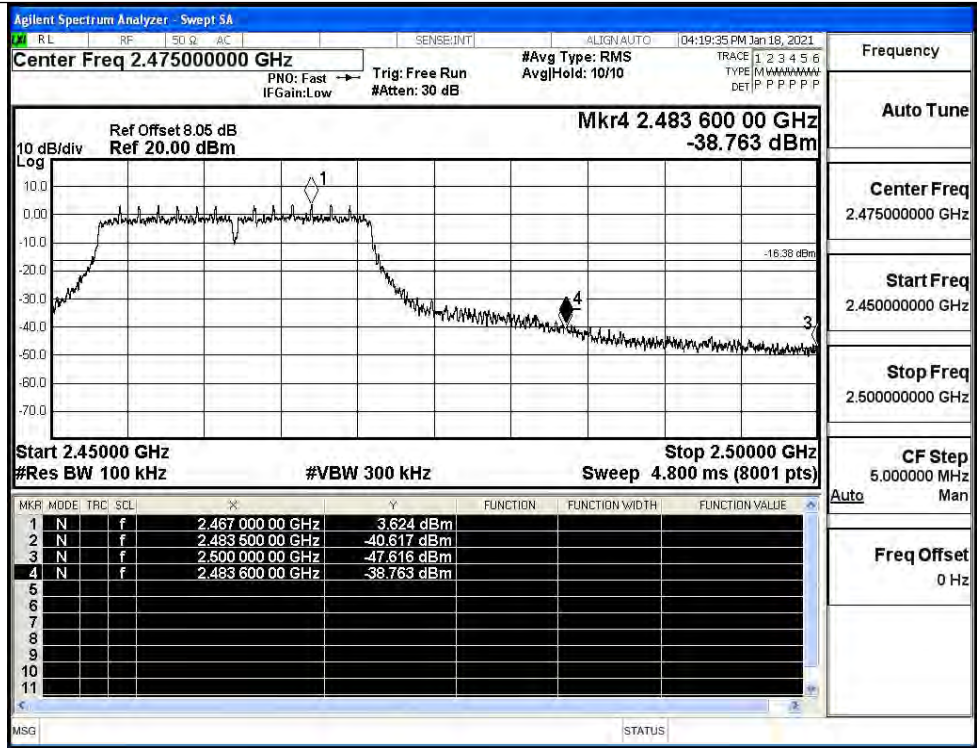
Frequency	2.475000000 GHz
Auto Tune	
Center Freq	2.475000000 GHz
Start Freq	2.450000000 GHz
Stop Freq	2.500000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N20SISO/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

11N20SISO/HCH

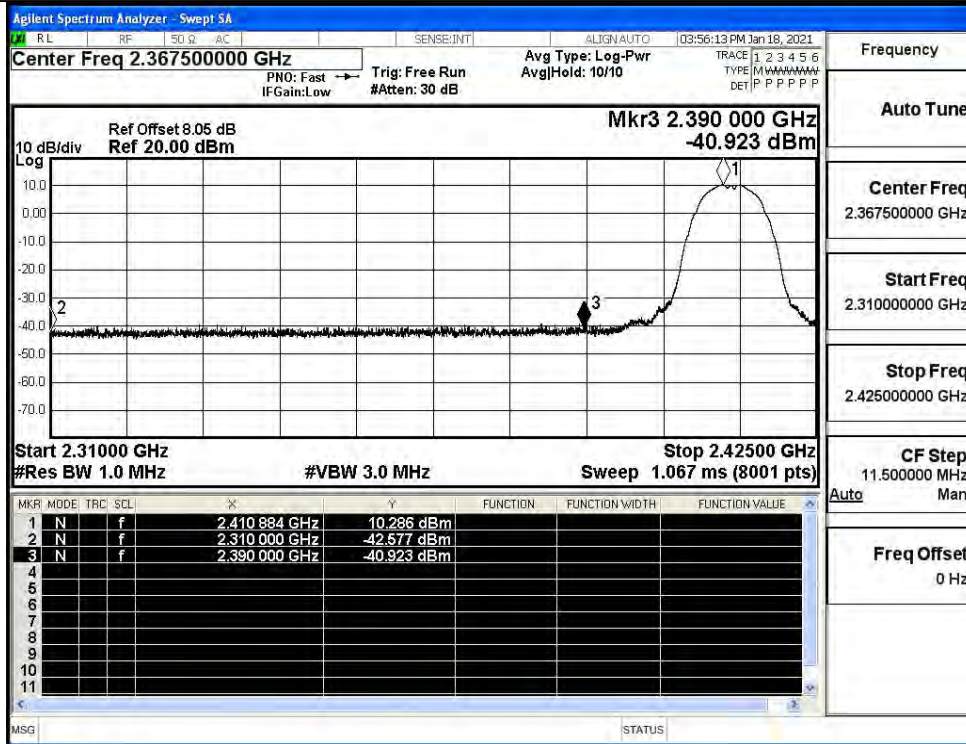




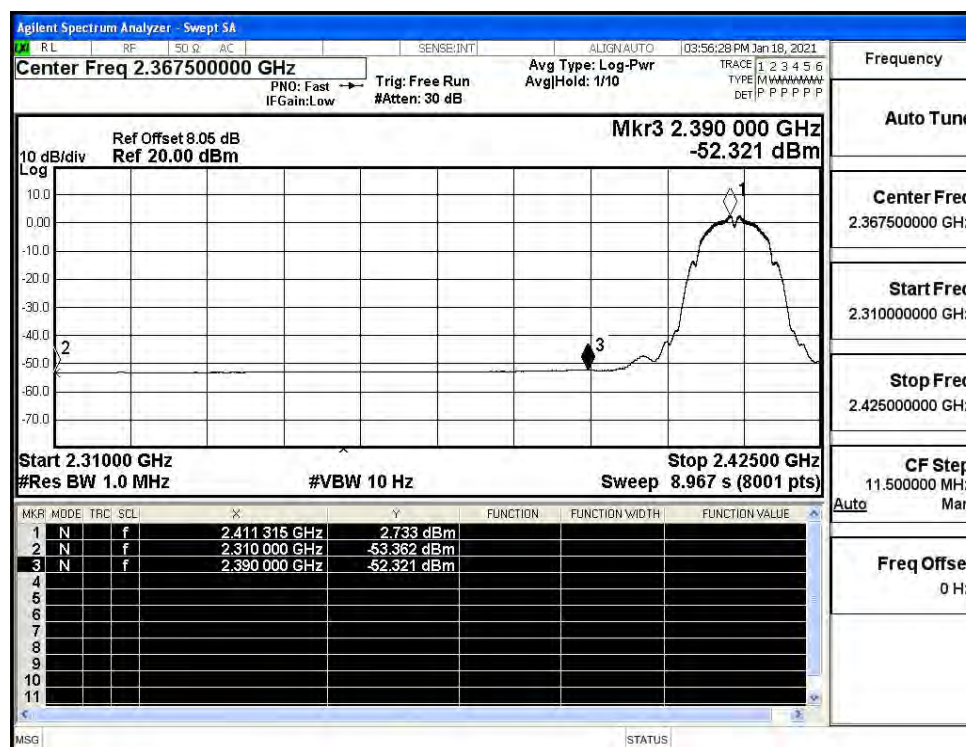
## A.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-42.58	2.0	0	54.65	PEAK	74	PASS
	2412	Ant1	2310.0	-53.36	2.0	0	43.87	AV	54	PASS
	2412	Ant1	2390.0	-40.92	2.0	0	56.31	PEAK	74	PASS
	2412	Ant1	2390.0	-52.32	2.0	0	44.91	AV	54	PASS
	2462	Ant1	2483.5	-41.39	2.0	0	55.84	PEAK	74	PASS
	2462	Ant1	2483.5	-52.05	2.0	0	45.18	AV	54	PASS
	2462	Ant1	2500.0	-42.53	2.0	0	54.70	PEAK	74	PASS
	2462	Ant1	2500.0	-52.06	2.0	0	45.17	AV	54	PASS
11G	2412	Ant1	2310.0	-42.24	2.0	0	54.99	PEAK	74	PASS
	2412	Ant1	2310.0	-53.39	2.0	0	43.84	AV	54	PASS
	2412	Ant1	2390.0	-30.99	2.0	0	66.24	PEAK	74	PASS
	2412	Ant1	2390.0	-48.90	2.0	0	48.33	AV	54	PASS
	2462	Ant1	2483.5	-30.72	2.0	0	66.51	PEAK	74	PASS
	2462	Ant1	2483.5	-44.26	2.0	0	52.97	AV	54	PASS
	2462	Ant1	2500.0	-37.48	2.0	0	59.75	PEAK	74	PASS
	2462	Ant1	2500.0	-50.25	2.0	0	46.98	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.25	2.0	0	53.98	PEAK	74	PASS
	2412	Ant1	2310.0	-53.43	2.0	0	43.80	AV	54	PASS
	2412	Ant1	2390.0	-30.96	2.0	0	66.27	PEAK	74	PASS
	2412	Ant1	2390.0	-48.15	2.0	0	49.08	AV	54	PASS
	2462	Ant1	2483.5	-26.29	2.0	0	70.94	PEAK	74	PASS
	2462	Ant1	2483.5	-43.25	2.0	0	53.98	AV	54	PASS
	2462	Ant1	2500.0	-37.39	2.0	0	59.84	PEAK	74	PASS
	2462	Ant1	2500.0	-49.85	2.0	0	47.38	AV	54	PASS

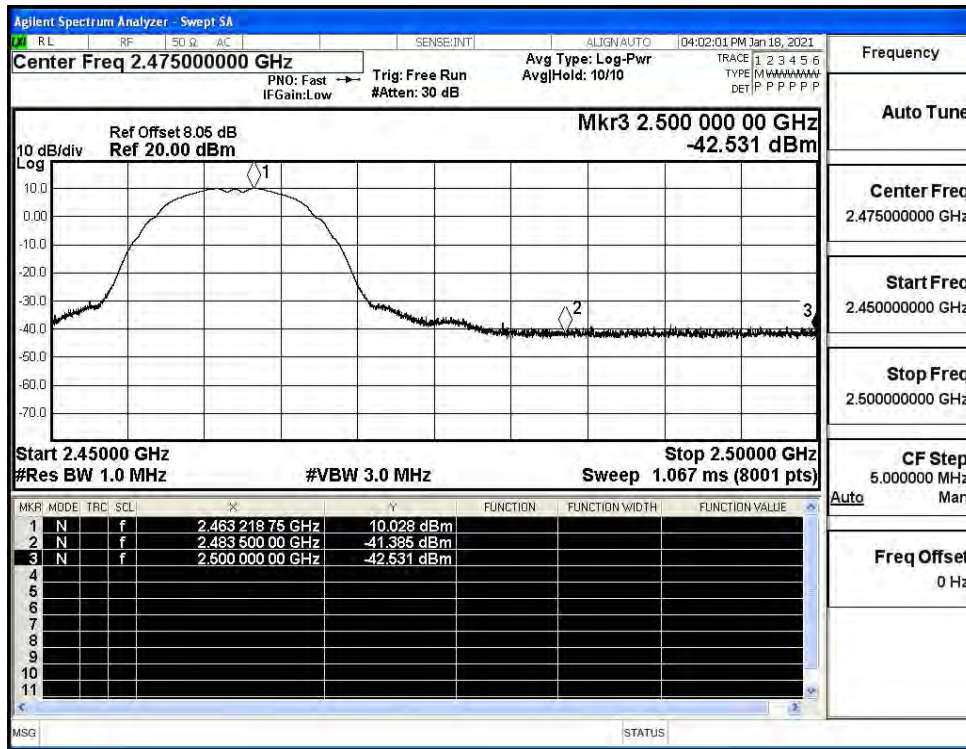
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



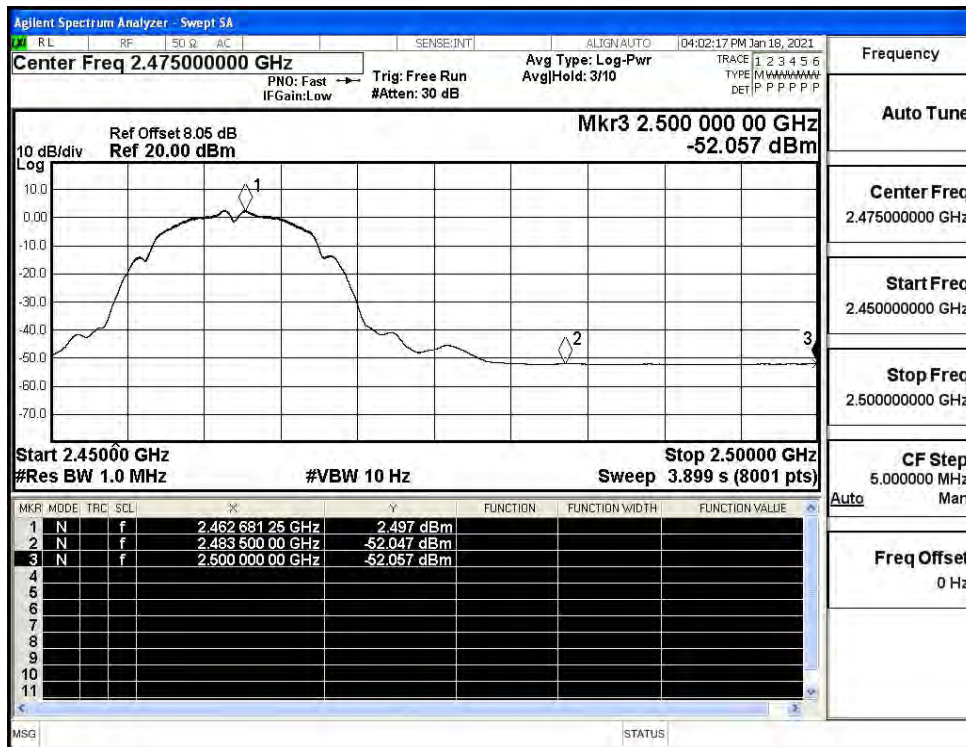
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



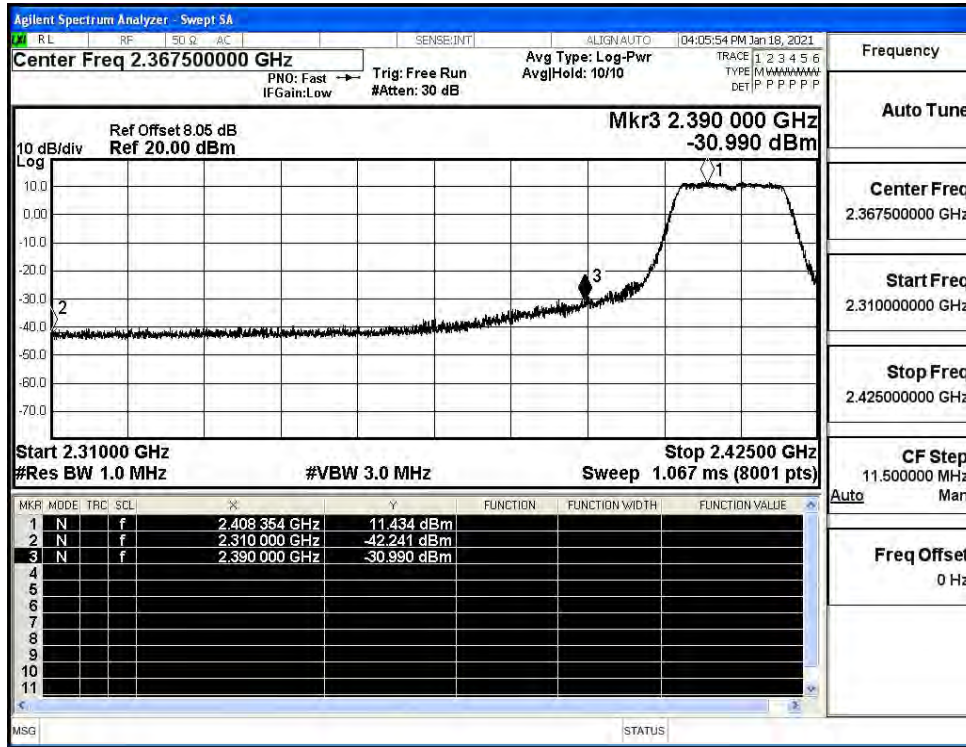
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_PEAK



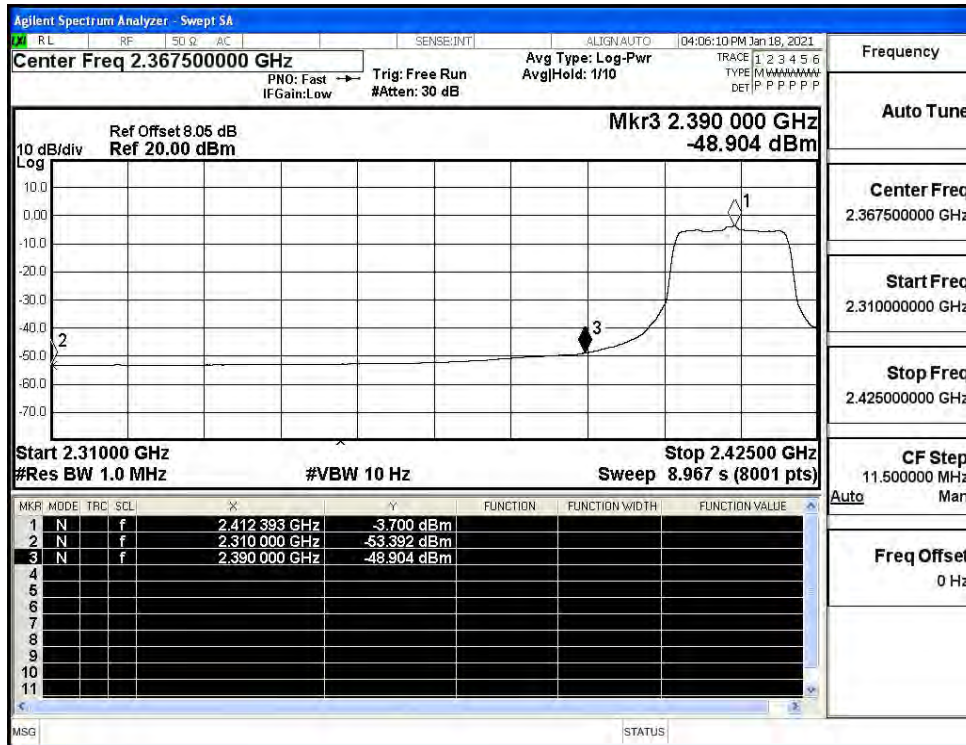
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV



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

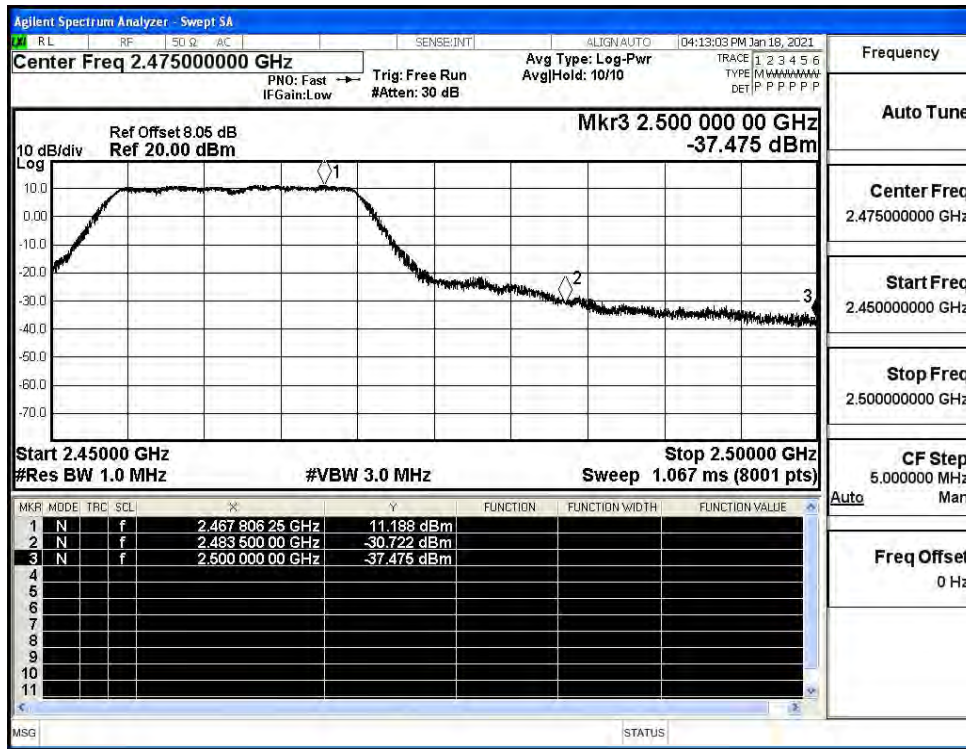


Restrict-band band-edge measurements\_11G\_2412\_Ant1\_AV

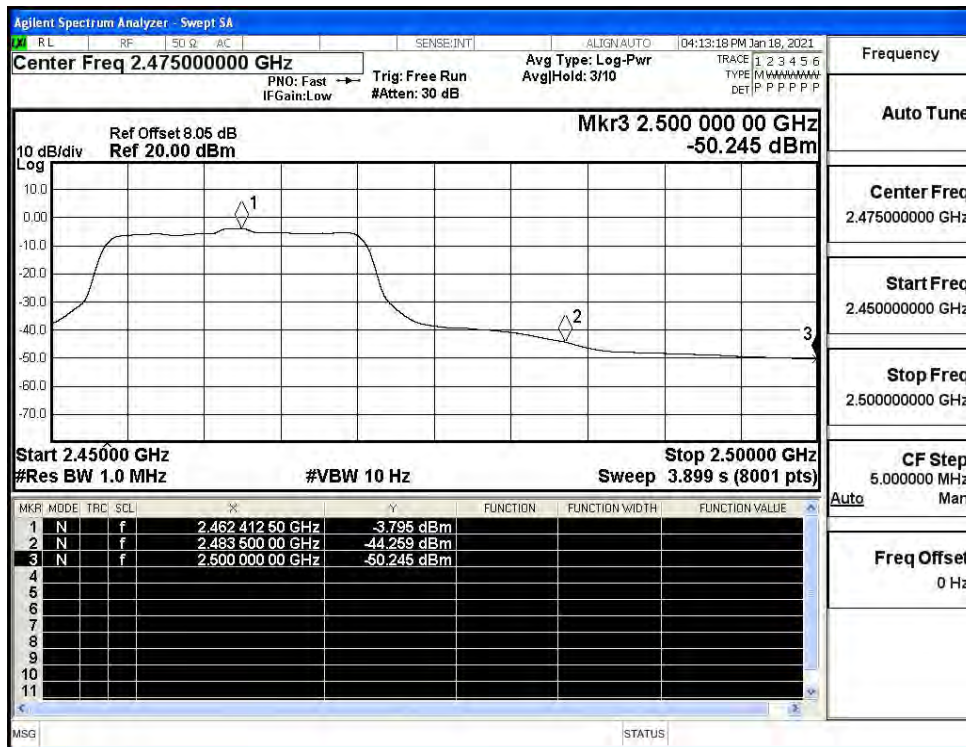




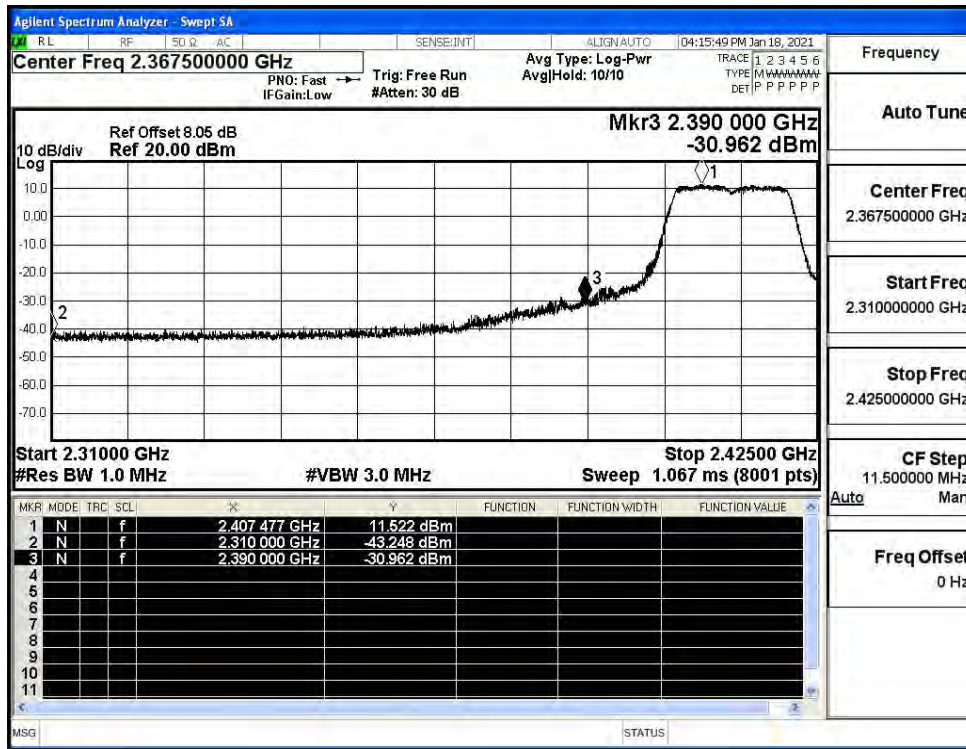
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK



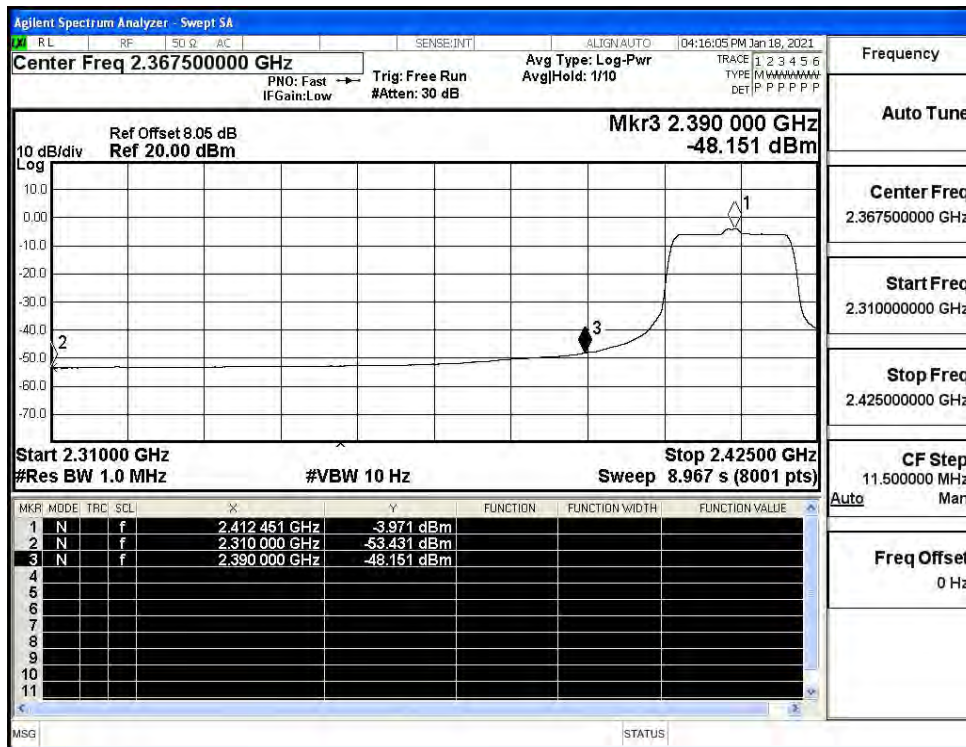
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV



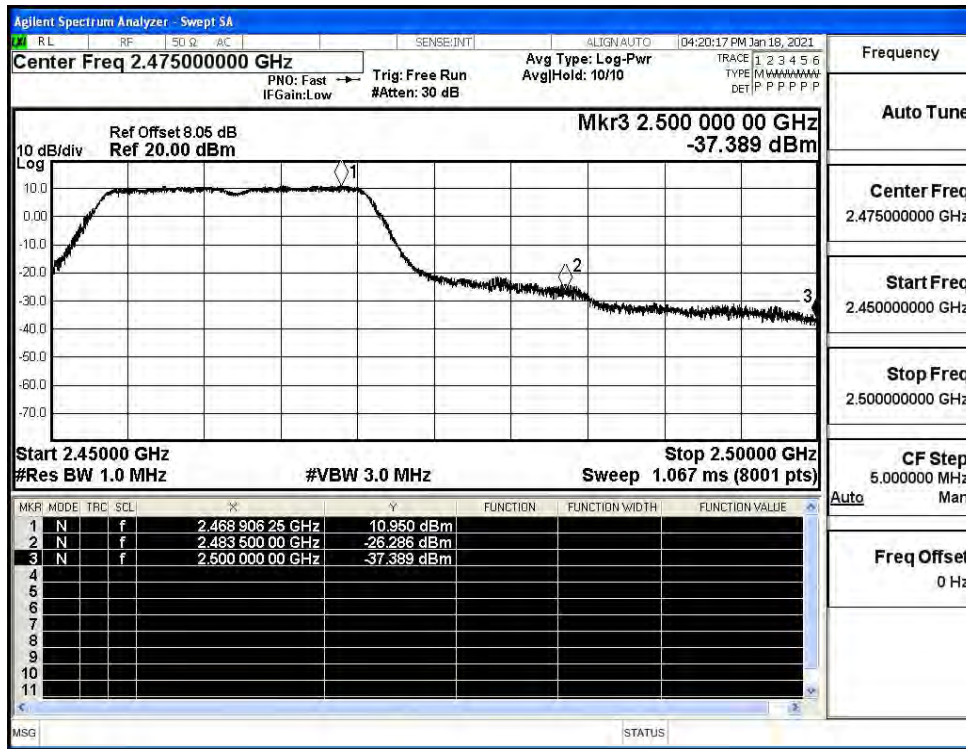
Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_PEAK



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

