

## Appendix A

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

Product Name: Digital Picture Frame

Trade Mark: N/A

Test Model: B-141k

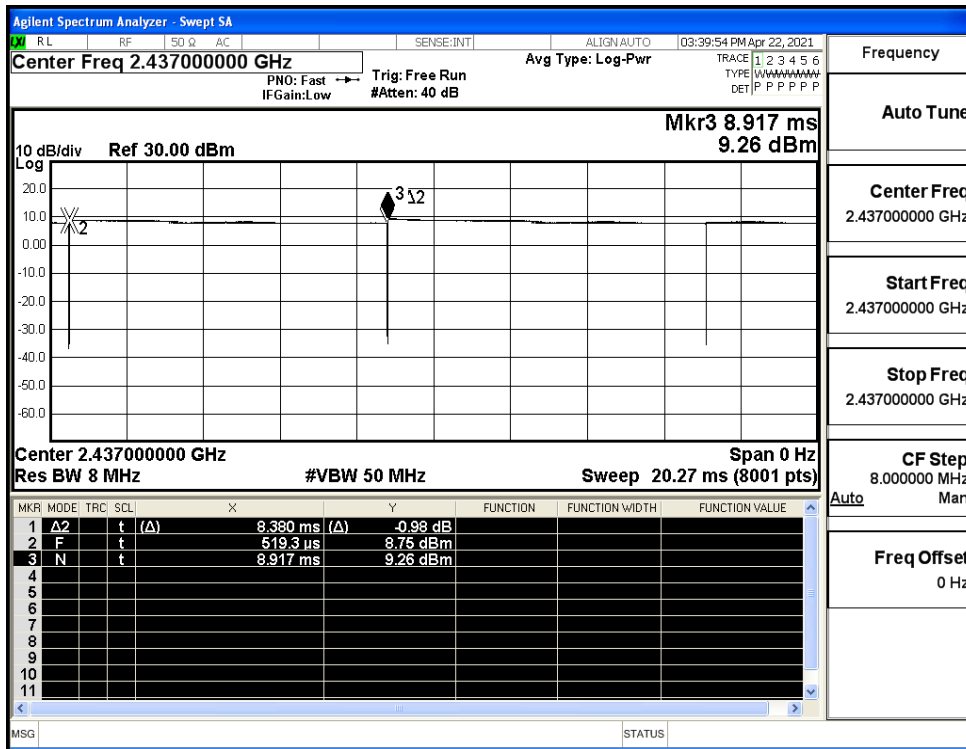
#### Environmental Conditions

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

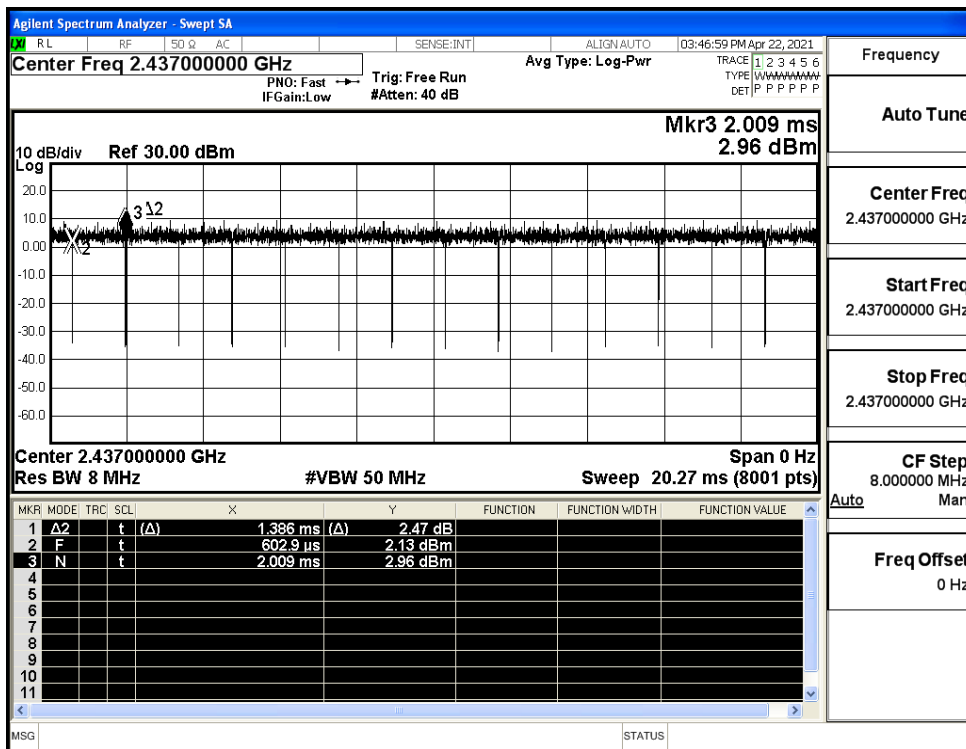
#### A.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	99.79	PASS
11G	2437	Ant1	98.56	PASS
11N20SISO	2437	Ant1	98.65	PASS
11N40SISO	2437	Ant1	98.07	PASS

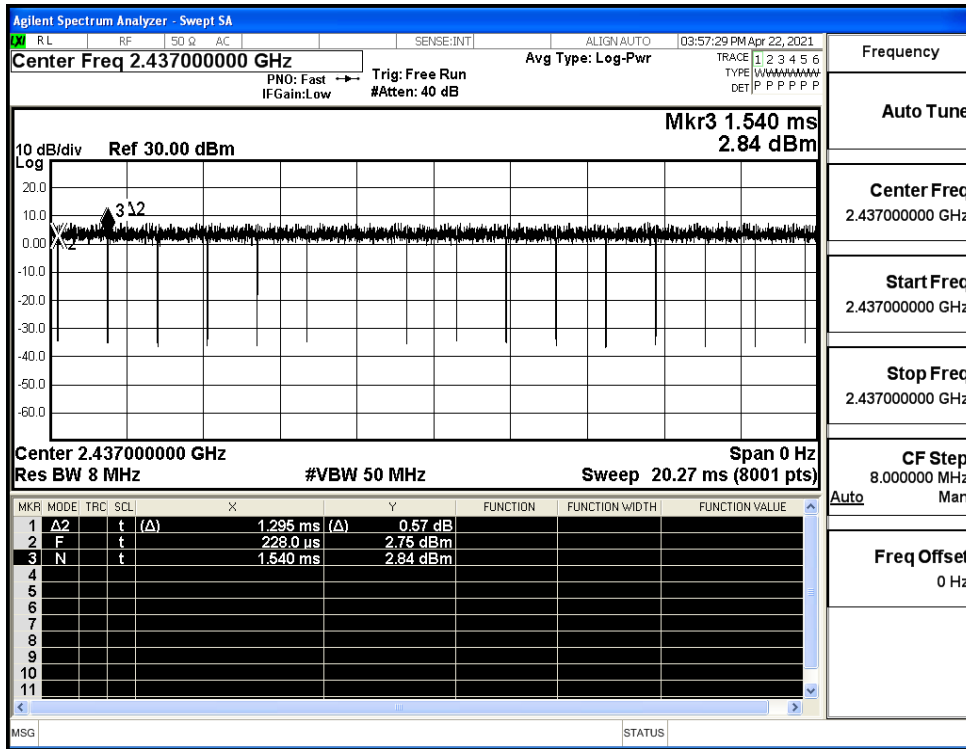
Duty Cycle\_11B\_2437\_Ant1



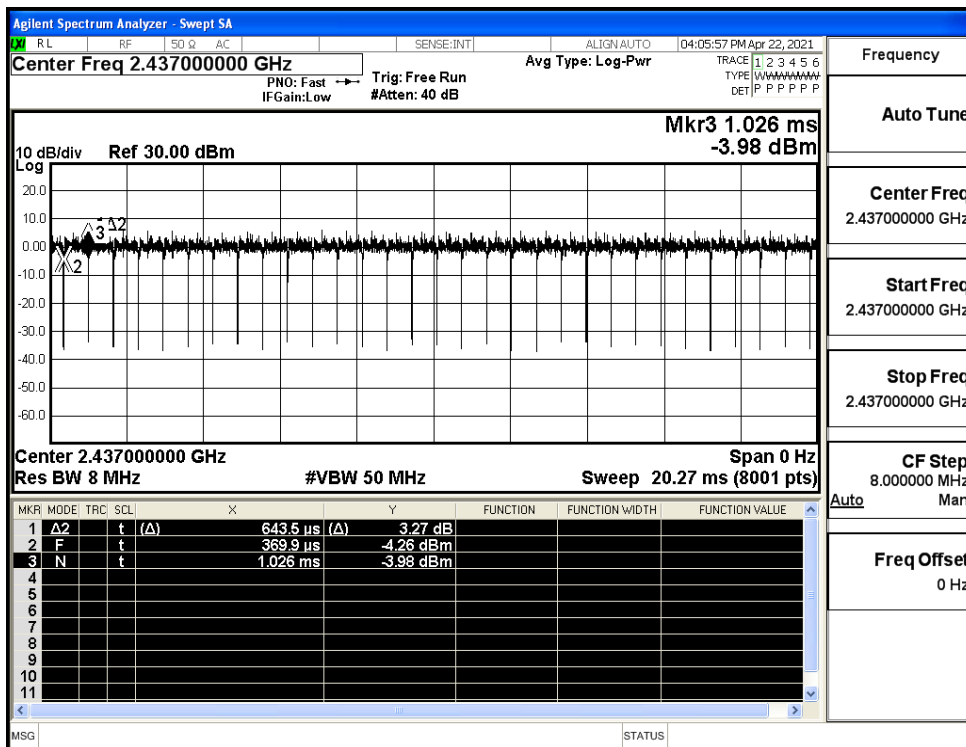
Duty Cycle\_11G\_2437\_Ant1



Duty Cycle\_11N20SISO\_2437\_Ant1



Duty Cycle\_11N40SISO\_2437\_Ant1



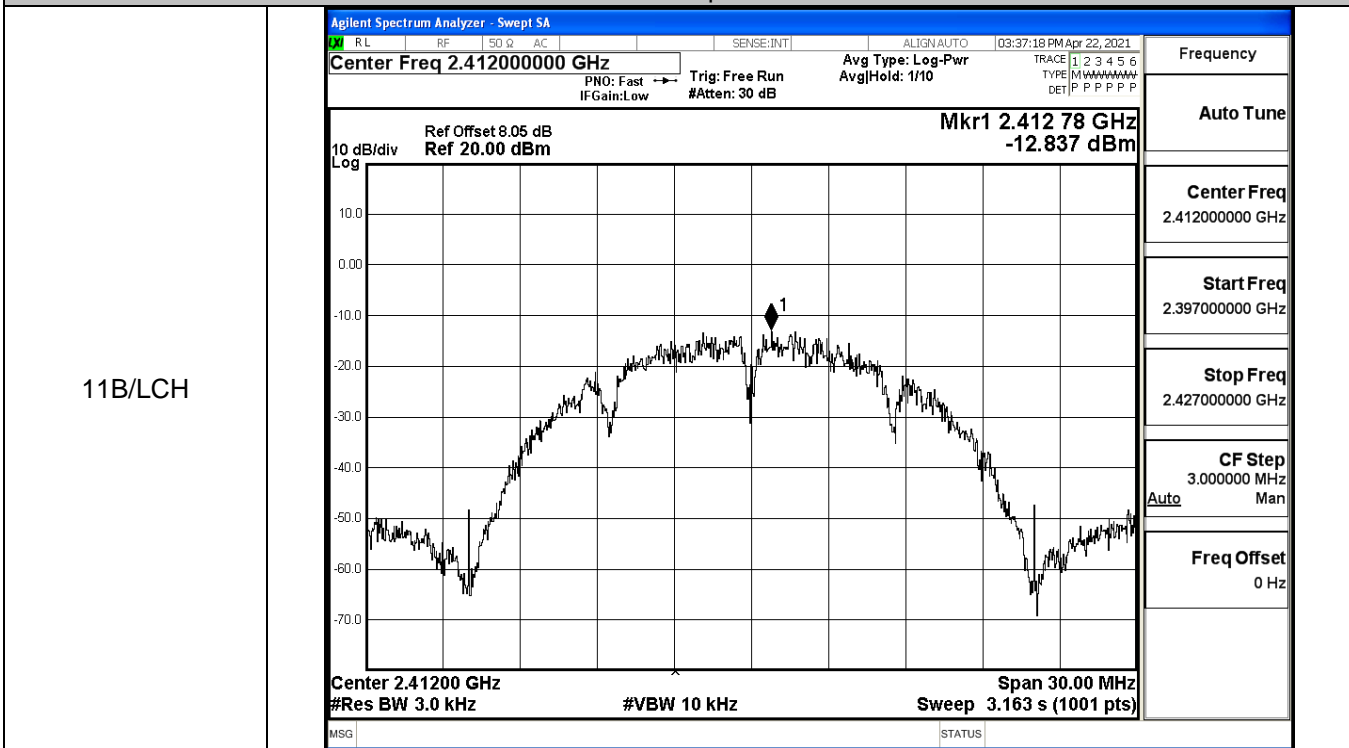
**A.2 Maximum Conducted Output Power**

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	14.6	30	PASS
	MCH	15.89	30	PASS
	HCH	16.29	30	PASS
11G	LCH	13.37	30	PASS
	MCH	15.35	30	PASS
	HCH	16.65	30	PASS
11N20SISO	LCH	12.71	30	PASS
	MCH	14.49	30	PASS
	HCH	16.09	30	PASS
11N40SISO	LCH	14.03	30	PASS
	MCH	15.1	30	PASS
	HCH	15.97	30	PASS

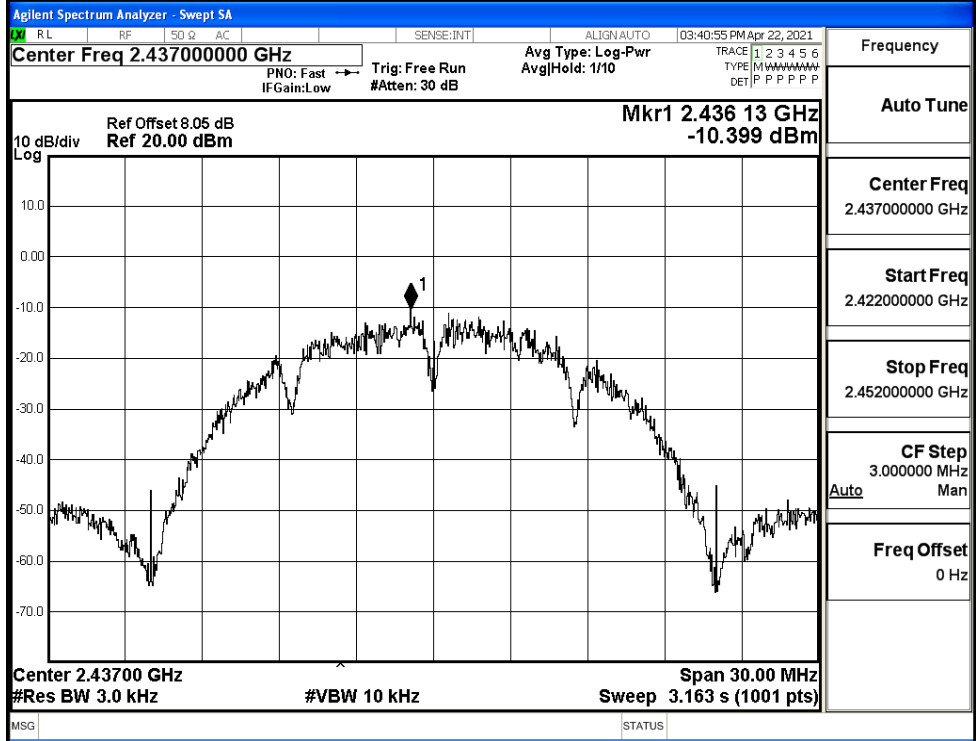
### A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-12.837	8	PASS
	MCH	-10.399	8	PASS
	HCH	-11.696	8	PASS
11G	LCH	-18.417	8	PASS
	MCH	-15.398	8	PASS
	HCH	-13.811	8	PASS
11N20SISO	LCH	-17.791	8	PASS
	MCH	-15.219	8	PASS
	HCH	-13.967	8	PASS
11N40SISO	LCH	-16.186	8	PASS
	MCH	-14.890	8	PASS
	HCH	-14.387	8	PASS

#### Test Graphs

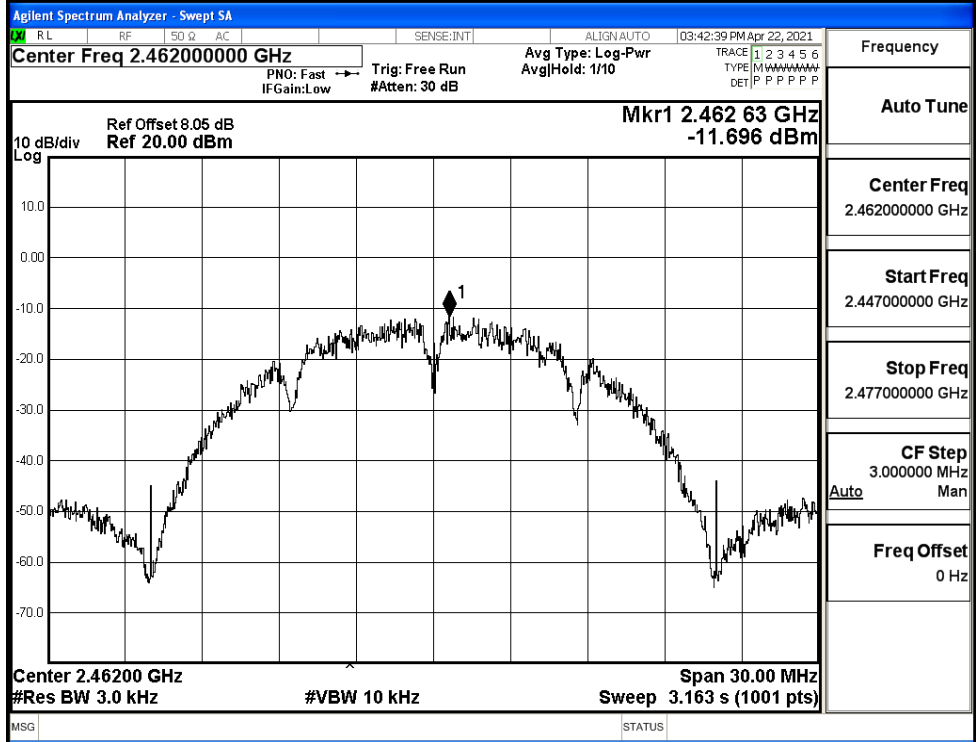


11B/MCH



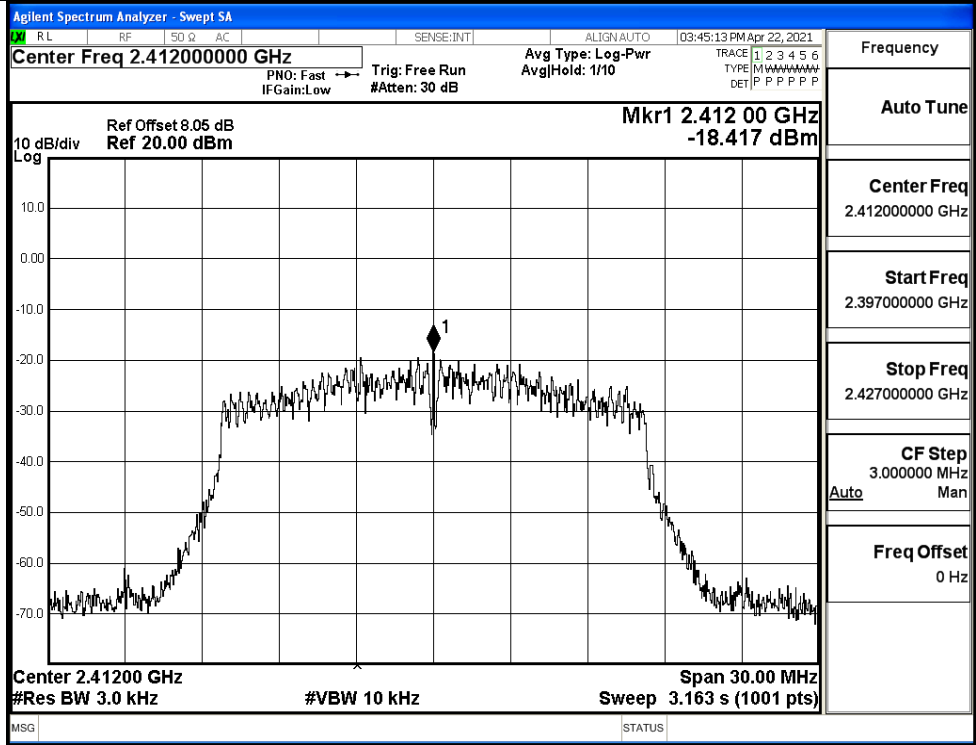
Frequency
Auto Tune
Center Freq 2.43700000 GHz
Start Freq 2.42200000 GHz
Stop Freq 2.45200000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

11B/HCH

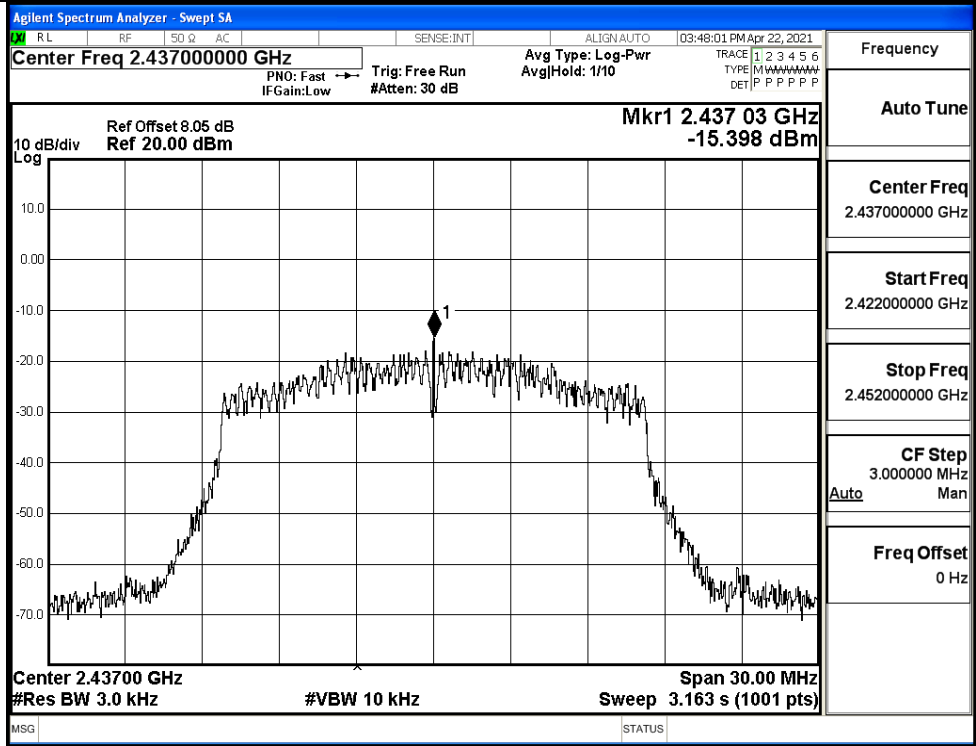


Frequency
Auto Tune
Center Freq 2.46200000 GHz
Start Freq 2.44700000 GHz
Stop Freq 2.47700000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

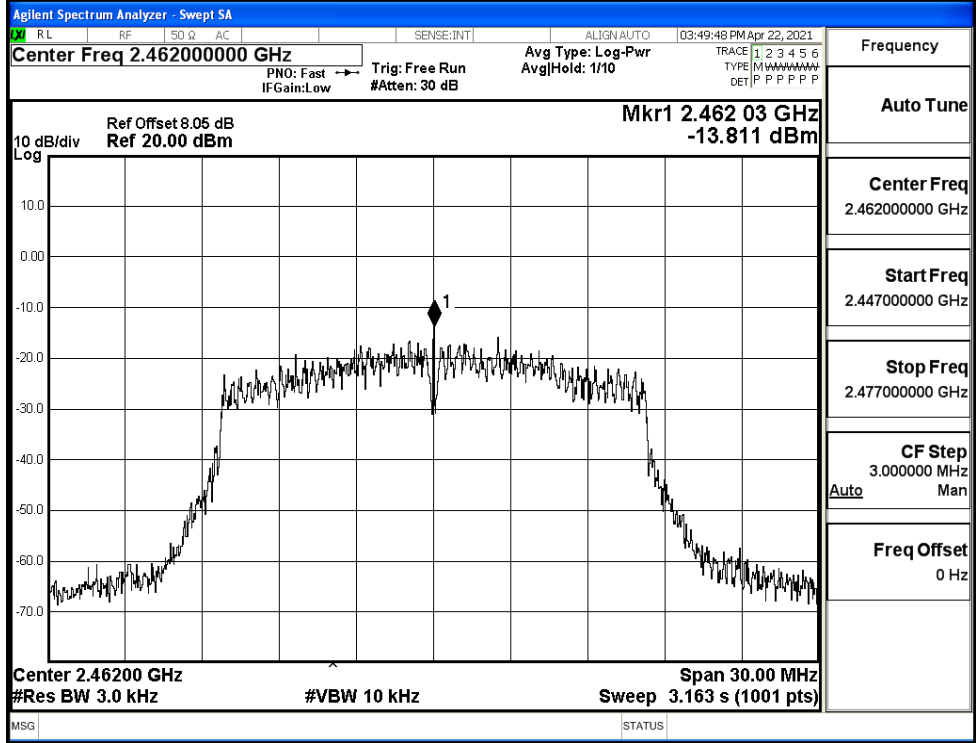
11G/LCH



11G/MCH

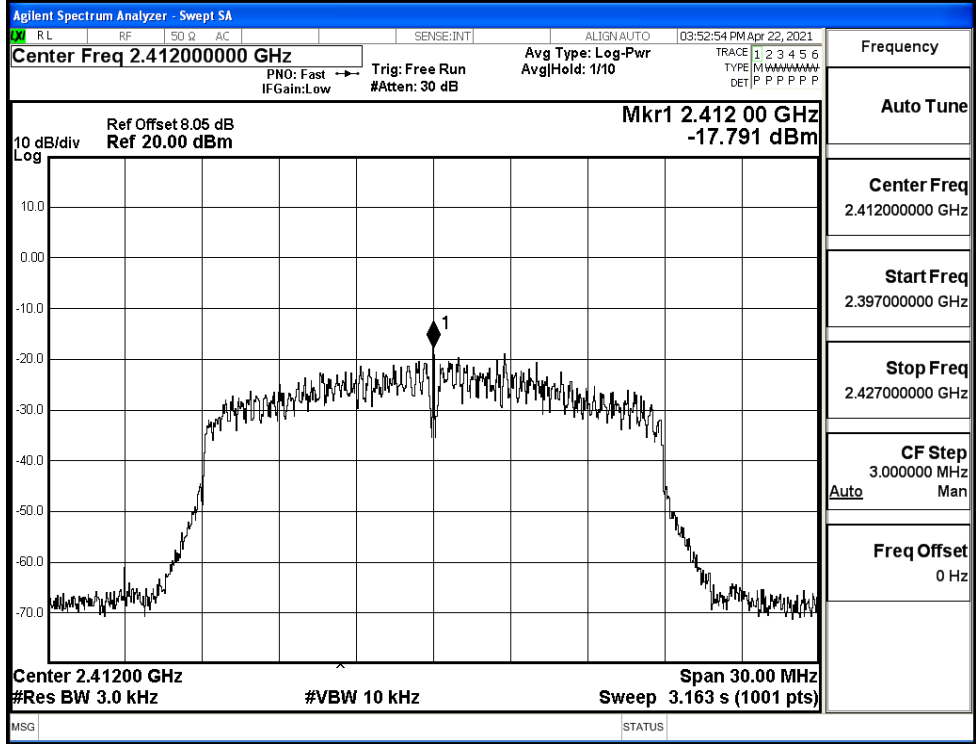


11G/HCH



Frequency
Auto Tune
Center Freq 2.46200000 GHz
Start Freq 2.447000000 GHz
Stop Freq 2.477000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

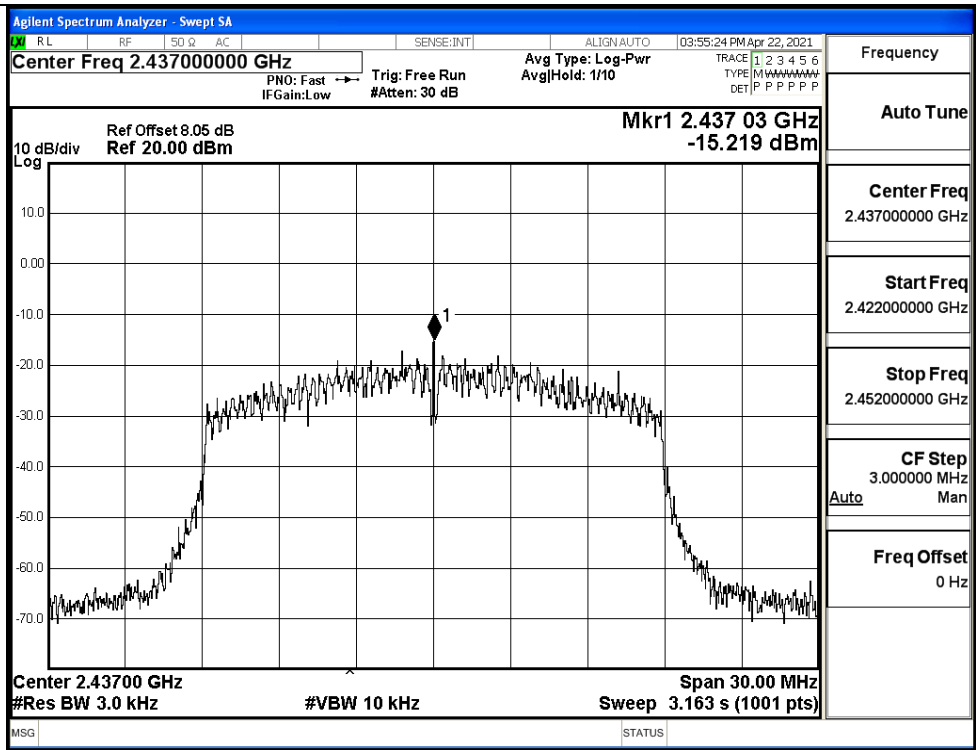
11N20SISO/LCH



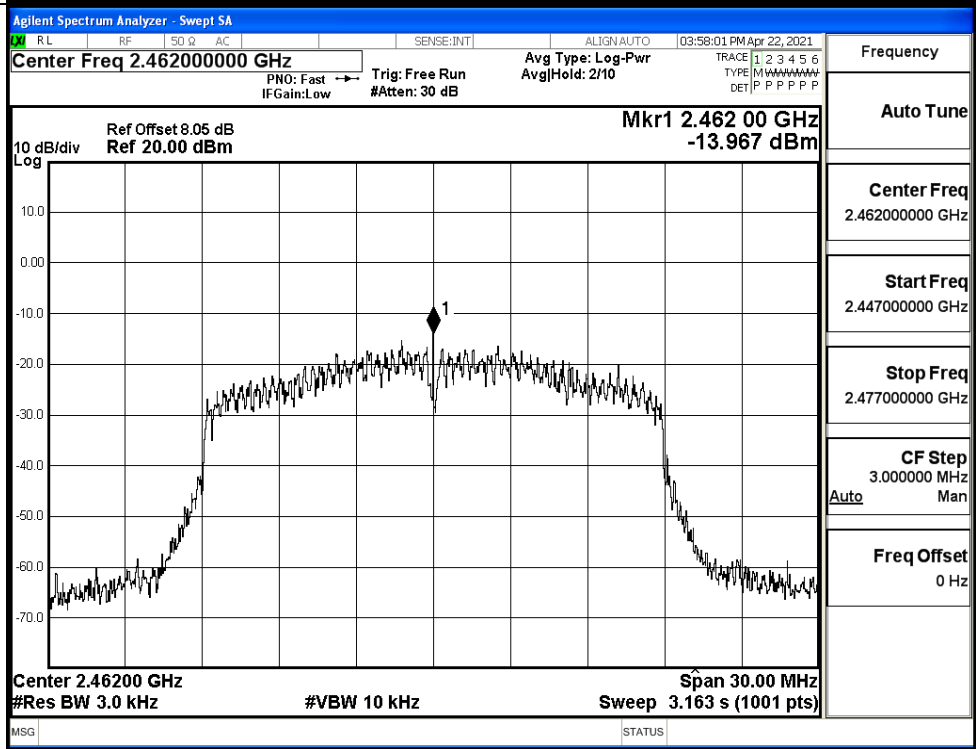
Frequency
Auto Tune
Center Freq 2.412000000 GHz
Start Freq 2.397000000 GHz
Stop Freq 2.427000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz



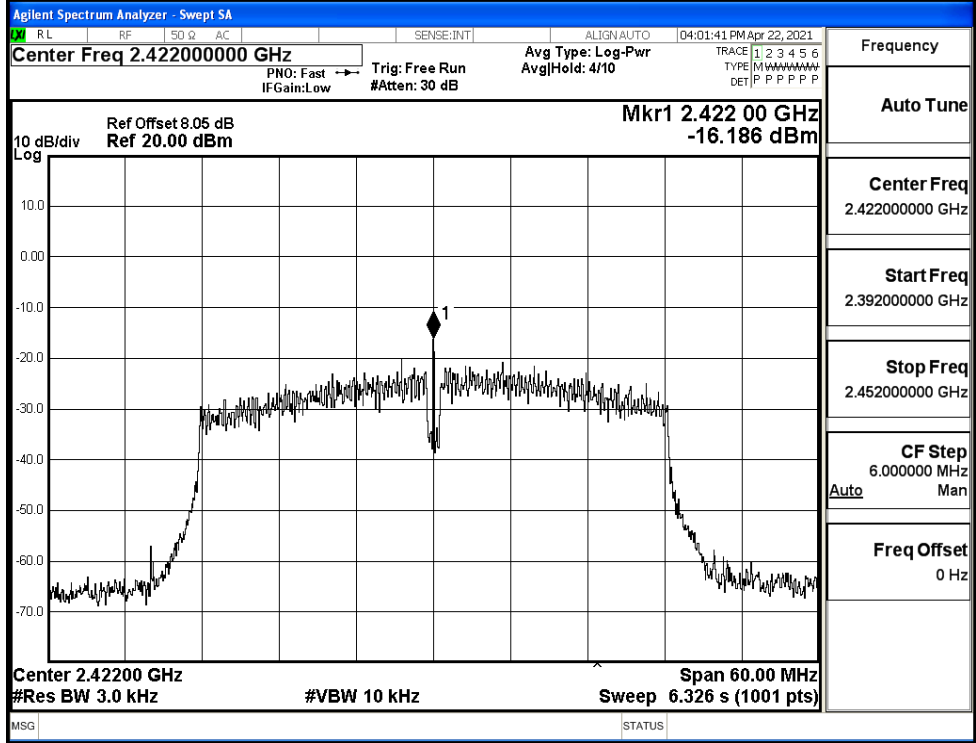
11N20SISO/MCH



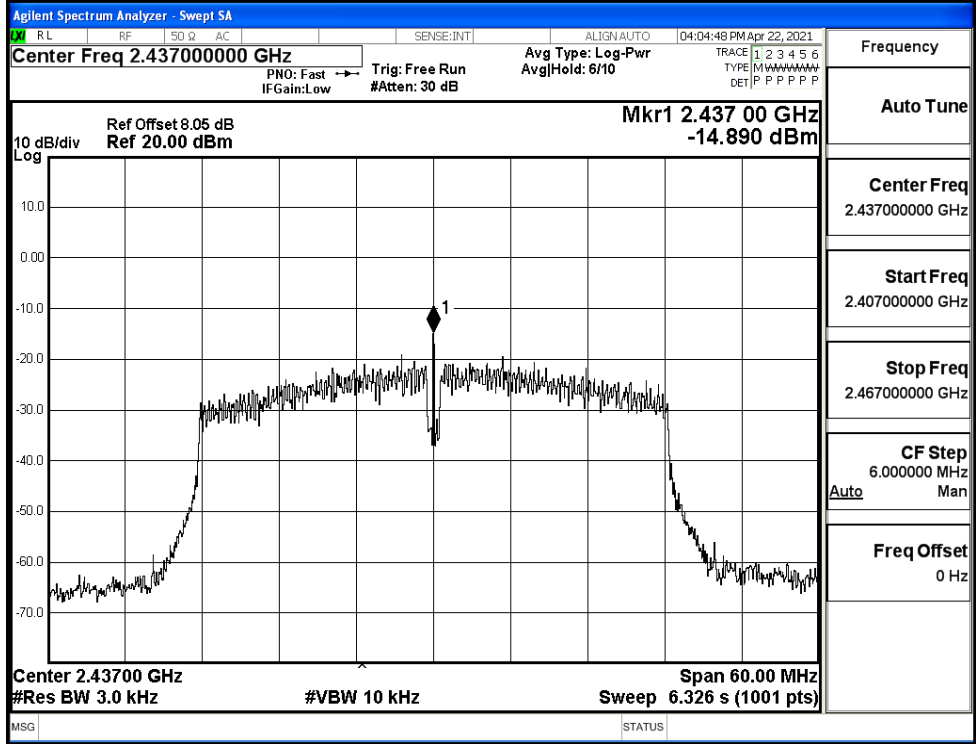
11N20SISO/HCH



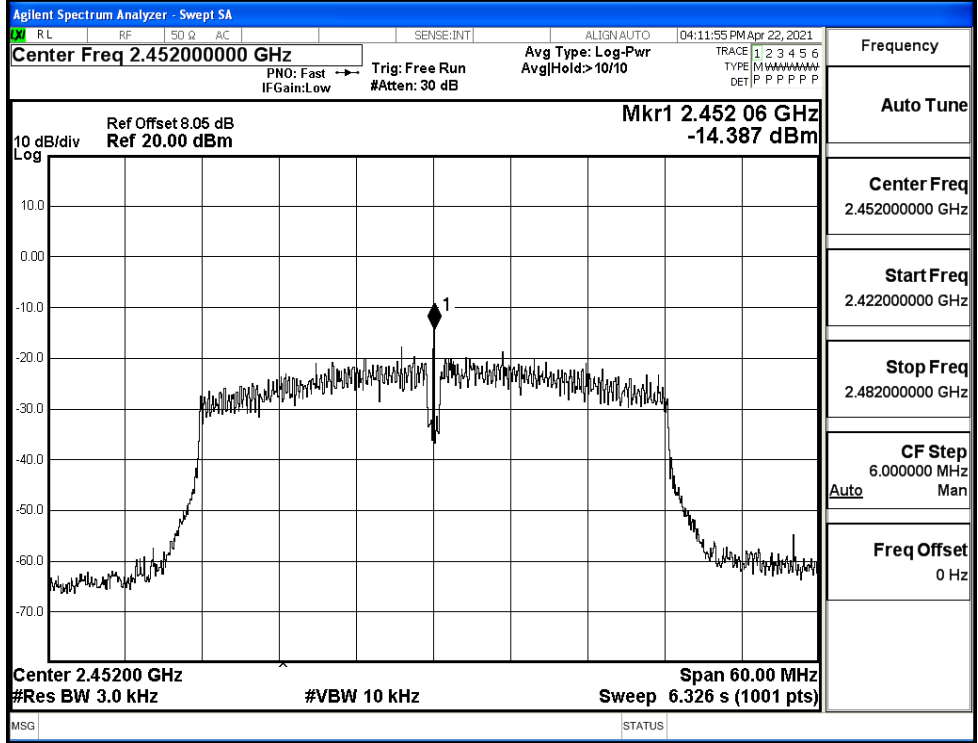
11N40SISO/LCH



11N40SISO/MCH

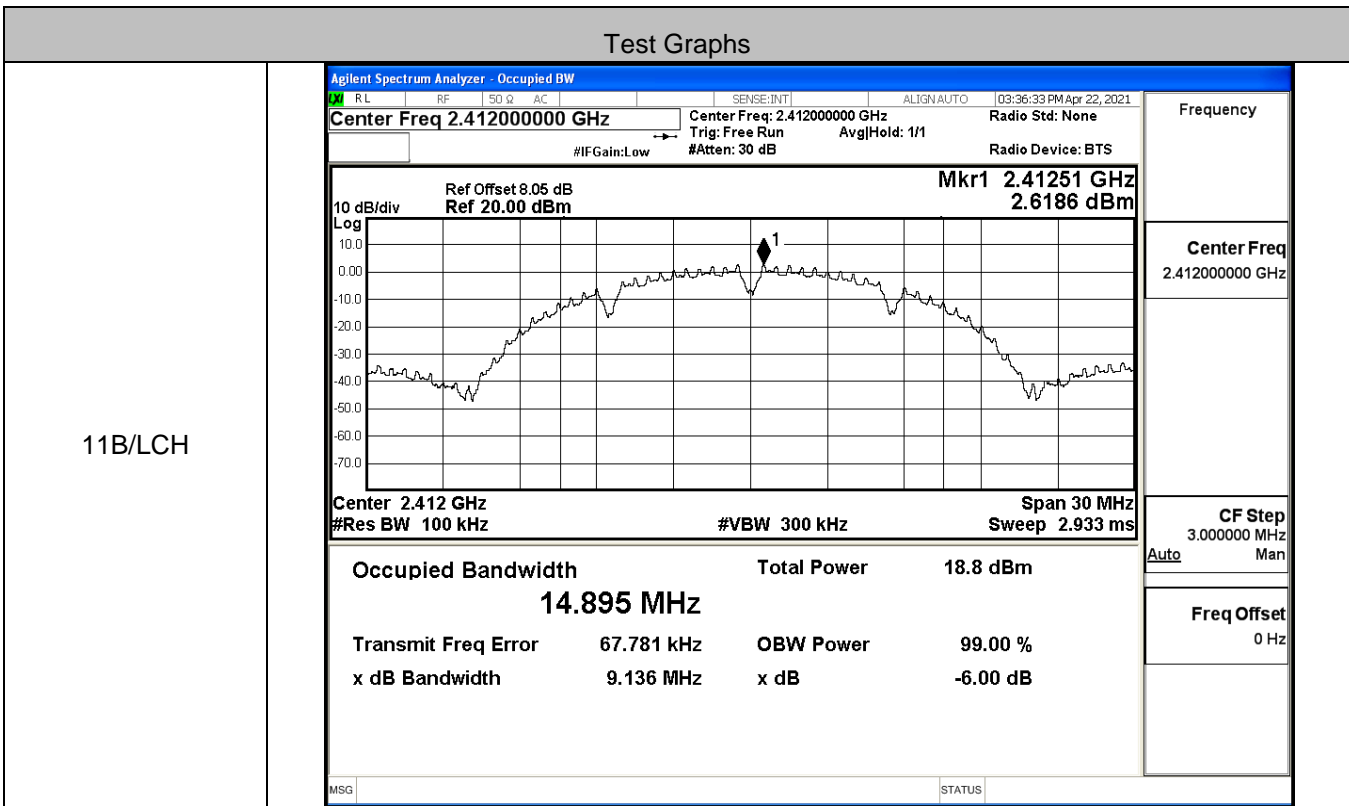


11N40SISO/HCH

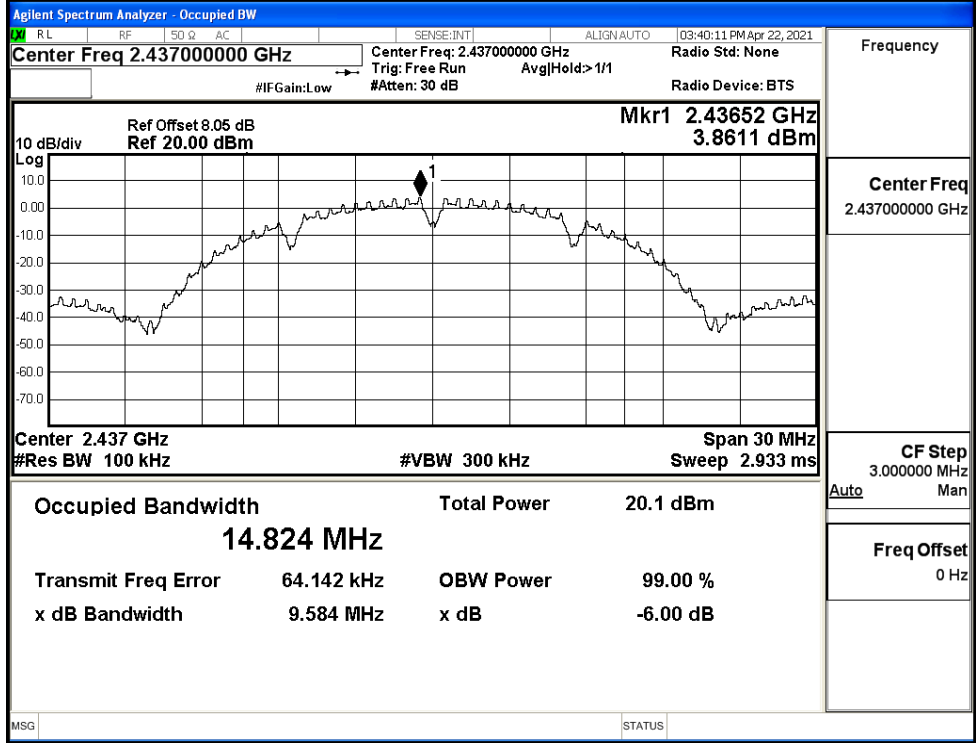


**A.4 6dB Bandwidth**

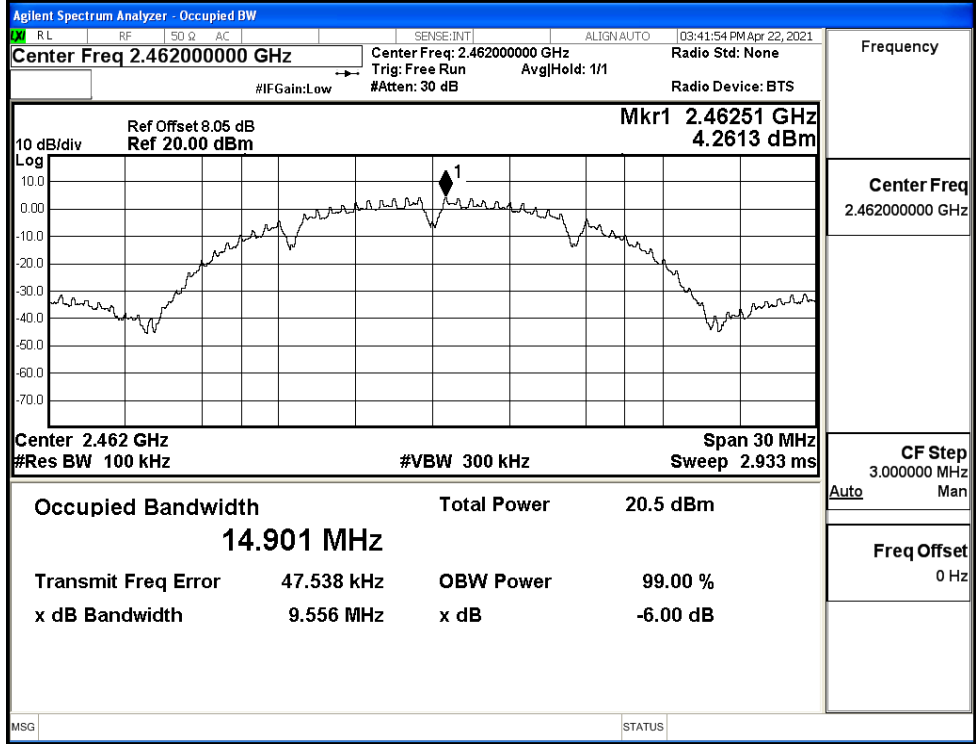
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.136	≥0.5	PASS
	MCH	9.584	≥0.5	PASS
	HCH	9.556	≥0.5	PASS
11G	LCH	15.06	≥0.5	PASS
	MCH	13.78	≥0.5	PASS
	HCH	13.84	≥0.5	PASS
11N20SISO	LCH	13.81	≥0.5	PASS
	MCH	11.34	≥0.5	PASS
	HCH	13.78	≥0.5	PASS
11N40SISO	LCH	31.31	≥0.5	PASS
	MCH	31.37	≥0.5	PASS
	HCH	33.87	≥0.5	PASS



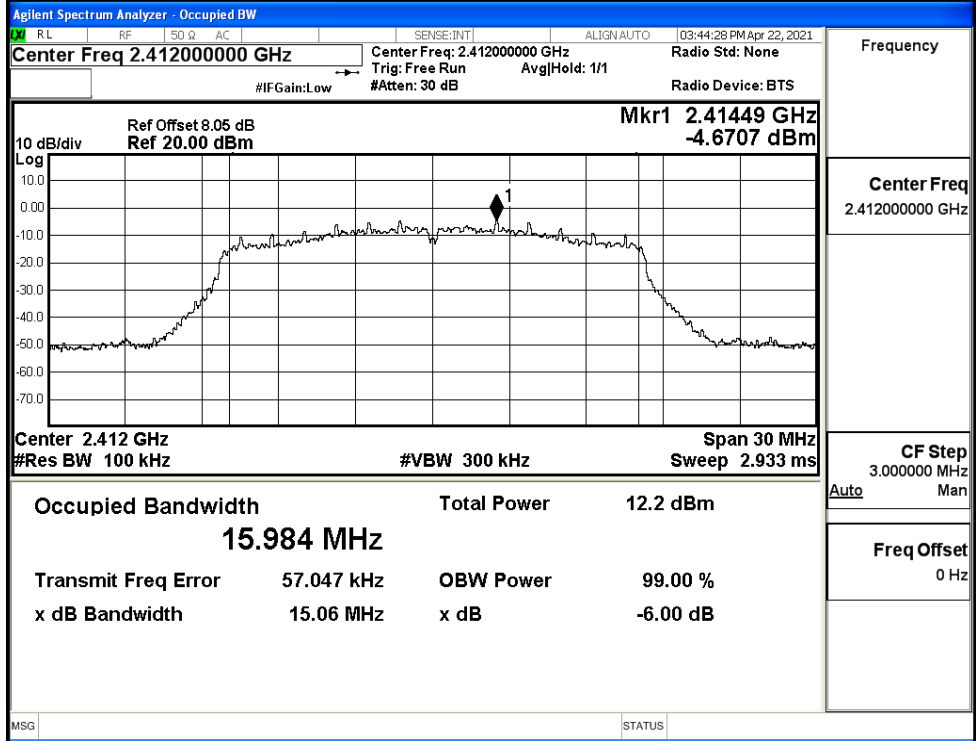
11B/MCH



11B/HCH

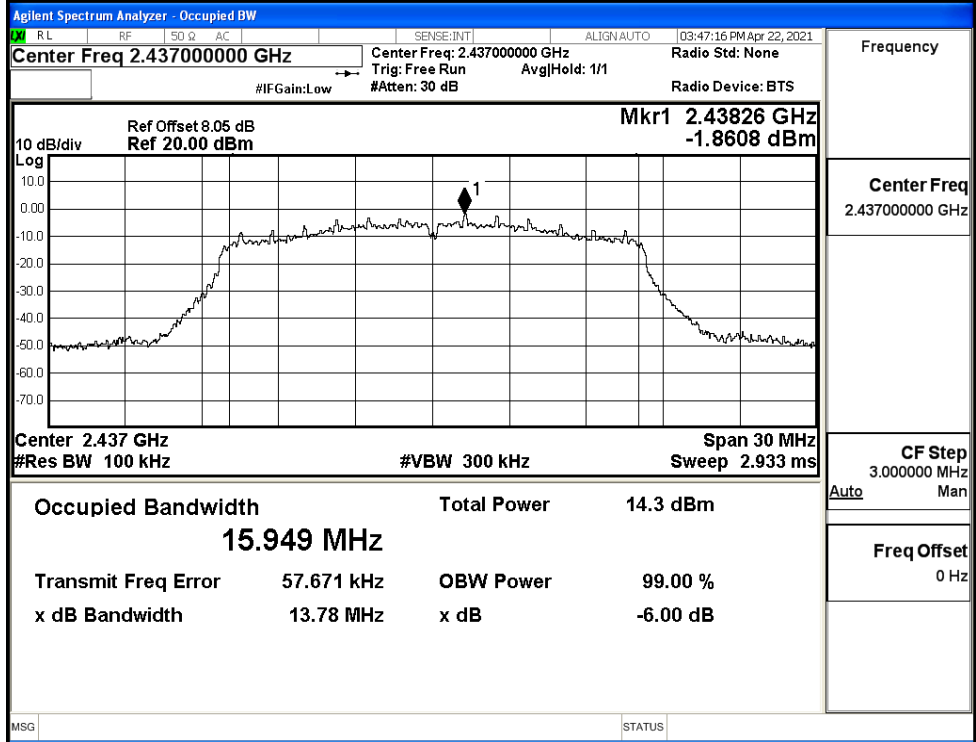


11G/LCH



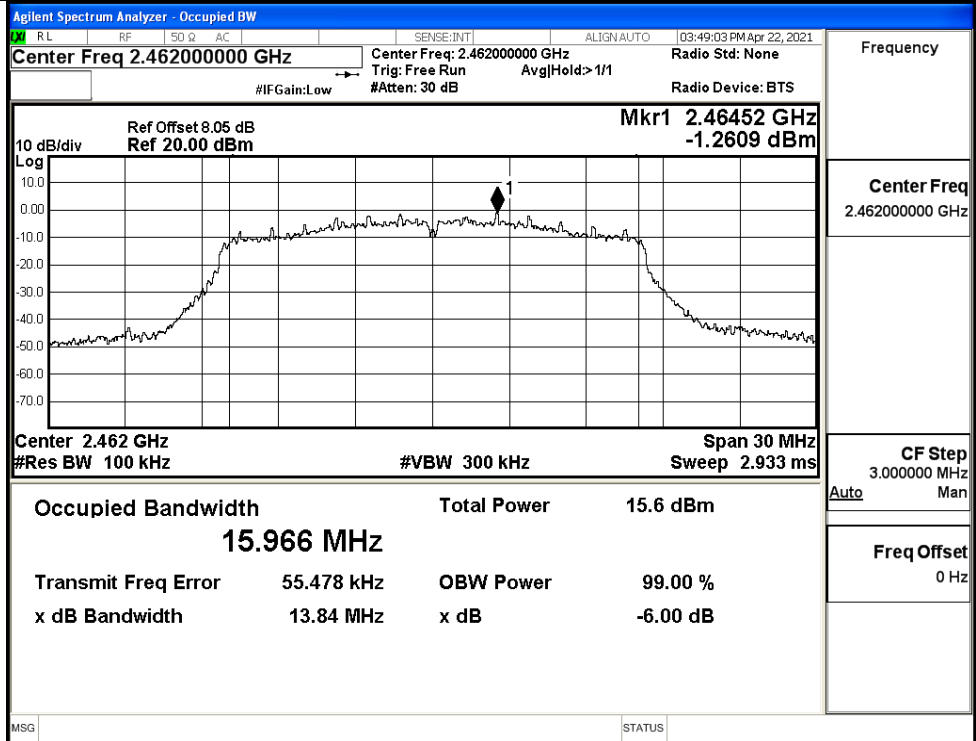
Frequency	2.41200000 GHz
Center Freq	2.41200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11G/MCH

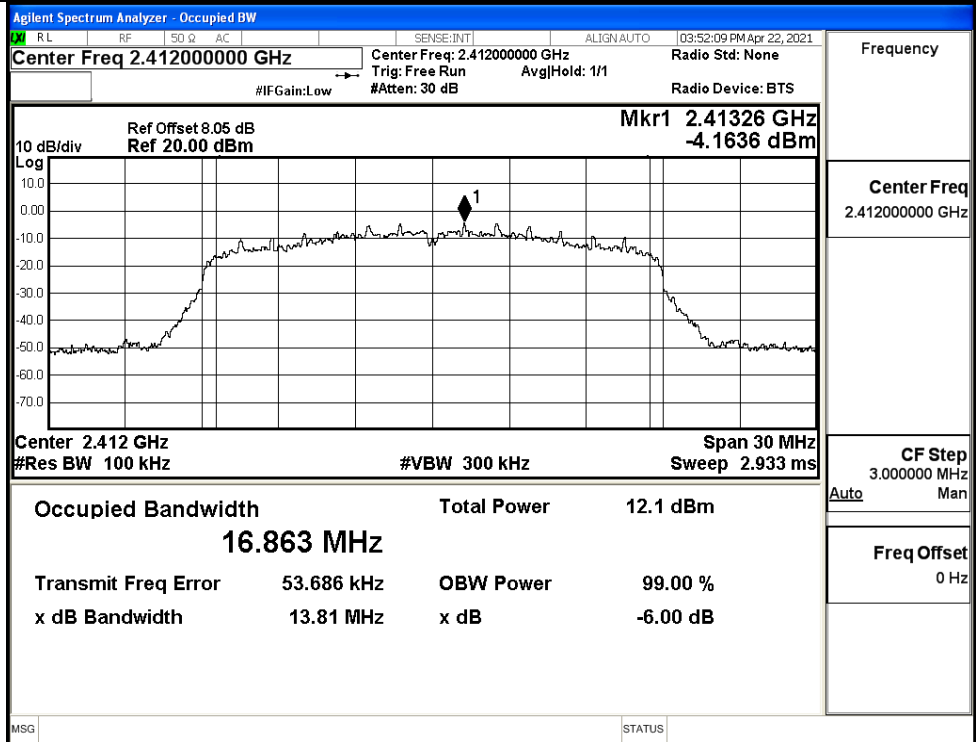


Frequency	2.43700000 GHz
Center Freq	2.43700000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

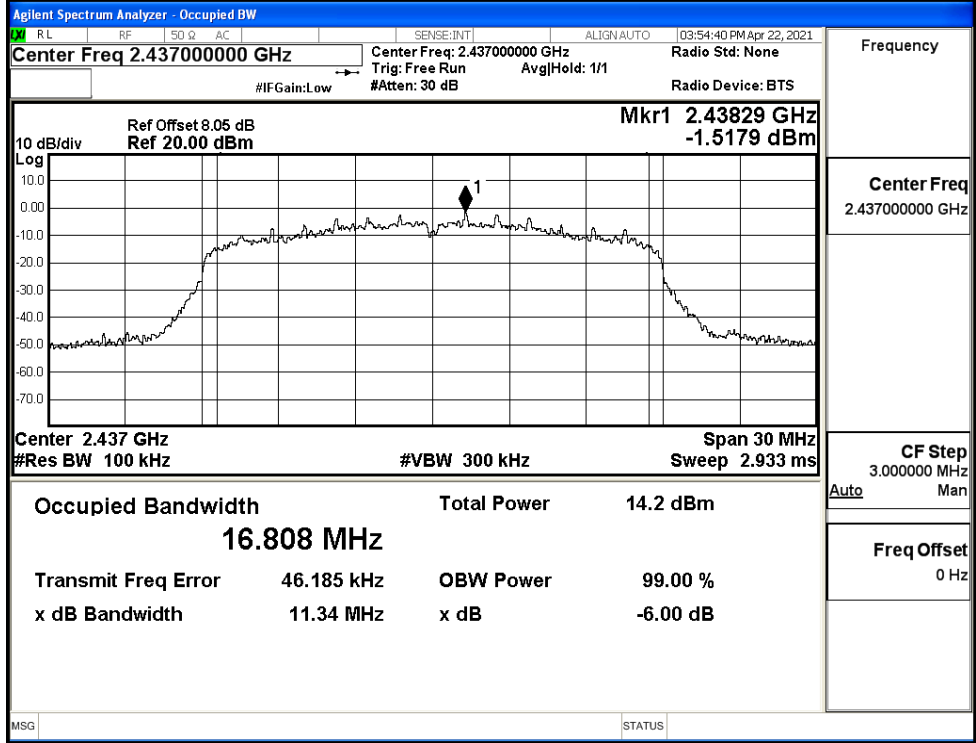
11G/HCH



11N20SISO/LCH

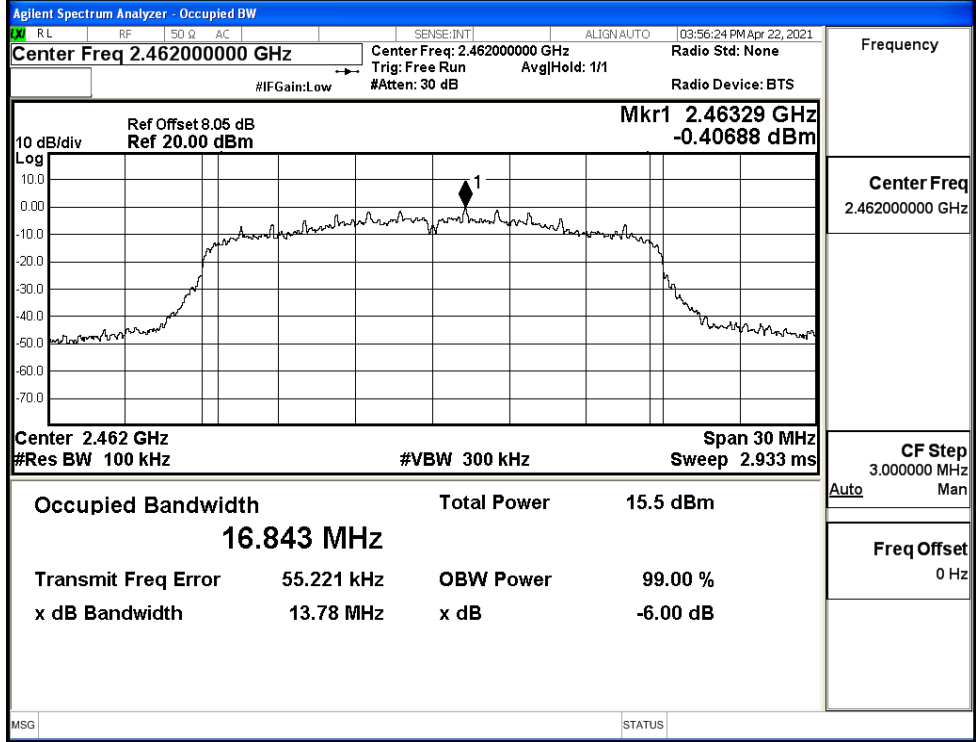


11N20SISO/MCH



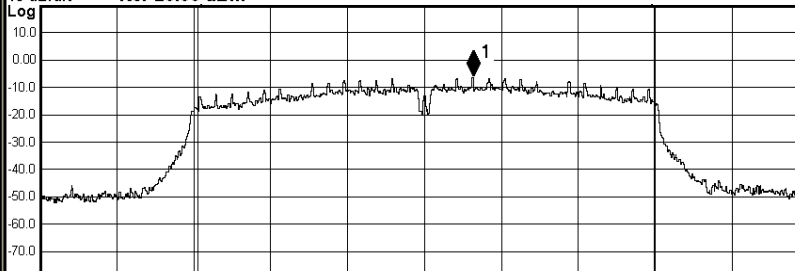
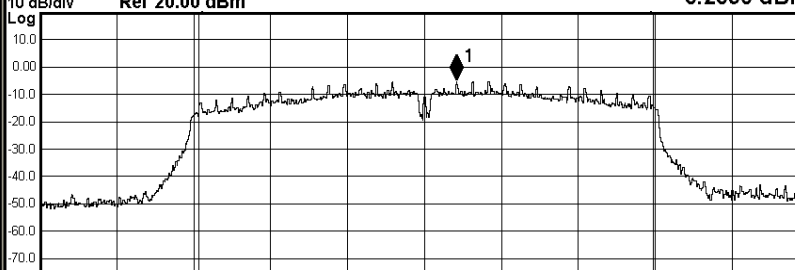
Frequency	2.43700000 GHz
Center Freq	2.43700000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11N20SISO/HCH

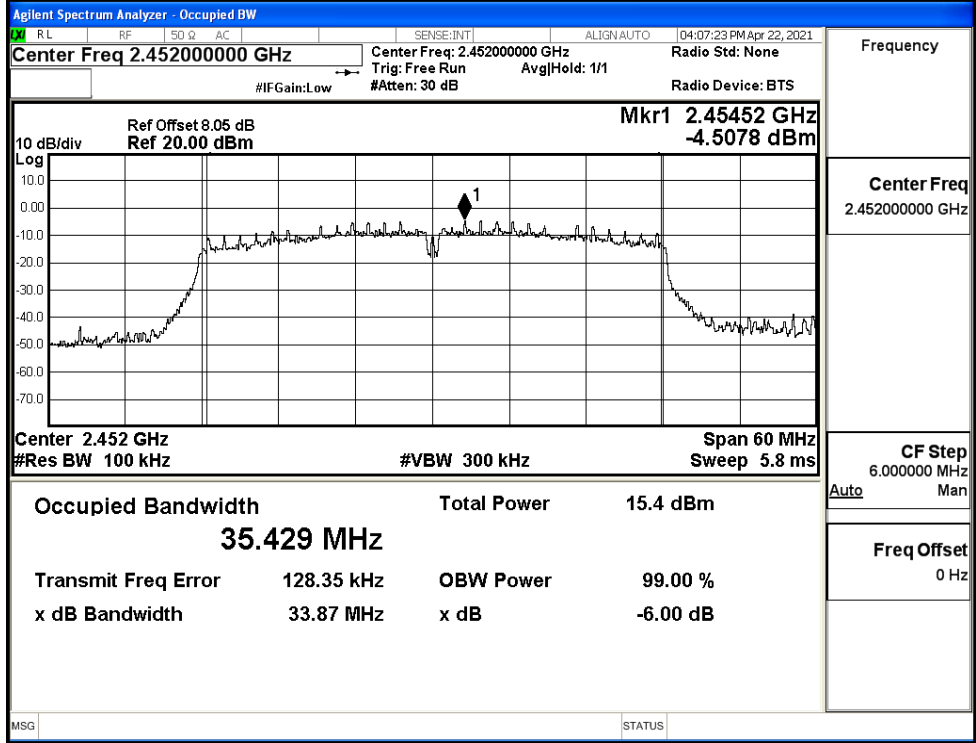


Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz



<p>11N40SISO/LCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>RL RF 50 Ω AC SENSE:INT ALIGN AUTO 03:59:55 PM Apr 22, 2021</p> <p>Center Freq 2.42200000 GHz Center Freq: 2.42200000 GHz Radio Std: None                  Trig: Free Run Avg Hold: 1/1                  #IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <p>10 dB/div Ref Offset 8.05 dB Mkr1 2.42578 GHz                  Ref 20.00 dBm -6.2987 dBm</p>  <p>Center 2.422 GHz Span 60 MHz                  #Res BW 100 kHz #VBW 300 kHz Sweep 5.8 ms</p> <p>Occupied Bandwidth 35.417 MHz Total Power 13.5 dBm</p> <p>Transmit Freq Error 160.97 kHz OBW Power 99.00 %                  x dB Bandwidth 31.31 MHz x dB -6.00 dB</p> <p>MSG STATUS</p>	<p>Frequency</p> <p>Center Freq 2.42200000 GHz</p> <p>CF Step 6.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
	<p>11N40SISO/MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>RL RF 50 Ω AC SENSE:INT ALIGN AUTO 04:03:27 PM Apr 22, 2021</p> <p>Center Freq 2.43700000 GHz Center Freq: 2.43700000 GHz Radio Std: None                  Trig: Free Run Avg Hold: 1/1                  #IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <p>10 dB/div Ref Offset 8.05 dB Mkr1 2.43952 GHz                  Ref 20.00 dBm -5.2590 dBm</p>  <p>Center 2.437 GHz Span 60 MHz                  #Res BW 100 kHz #VBW 300 kHz Sweep 5.8 ms</p> <p>Occupied Bandwidth 35.347 MHz Total Power 14.6 dBm</p> <p>Transmit Freq Error 152.43 kHz OBW Power 99.00 %                  x dB Bandwidth 31.37 MHz x dB -6.00 dB</p> <p>MSG STATUS</p>

11N40SISO/HCH

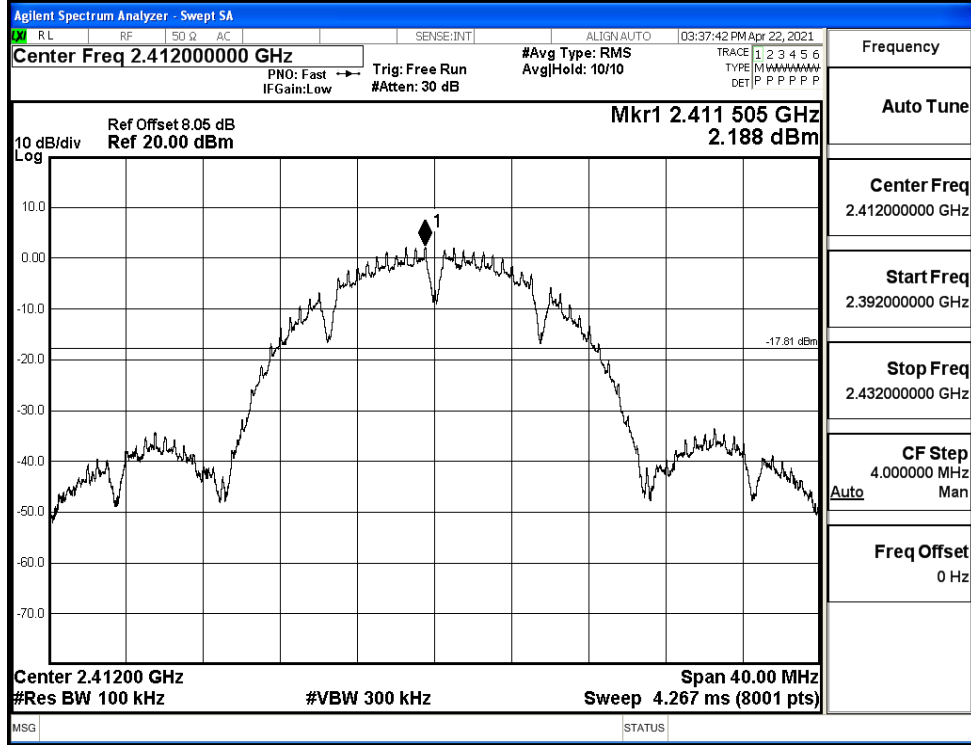


**A.5 RF Conducted Spurious Emissions**

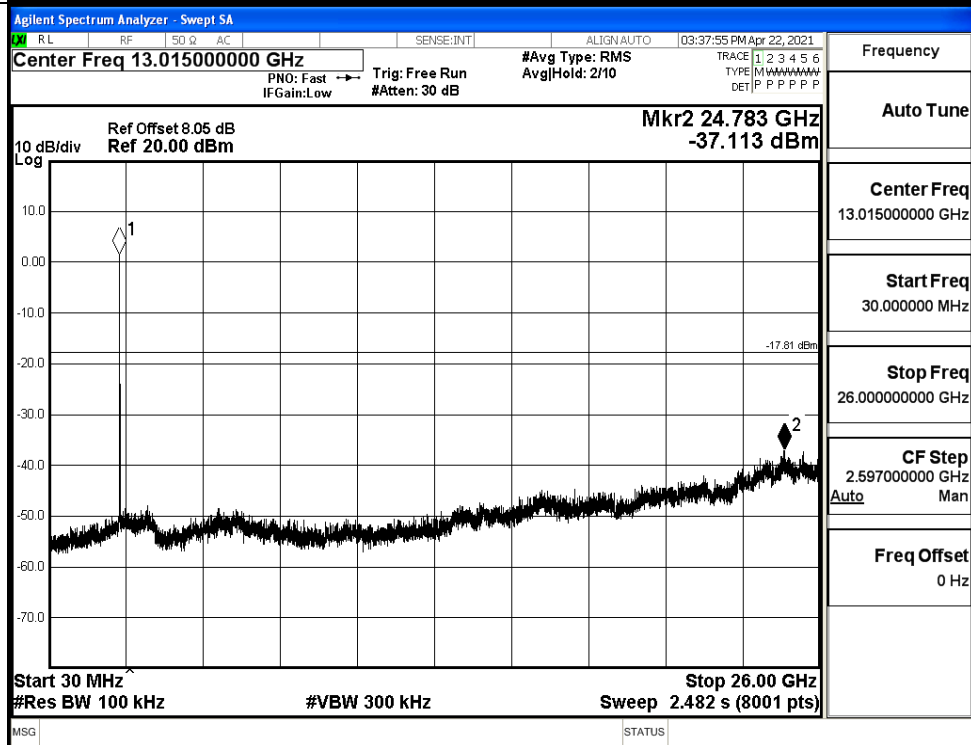
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	2.188	-37.113	-17.812	PASS
	MCH	3.606	-38.260	-16.394	PASS
	HCH	4.102	-38.129	-15.898	PASS
11G	LCH	-3.861	-38.605	-23.861	PASS
	MCH	-2.465	-38.081	-22.465	PASS
	HCH	-1.395	-37.744	-21.395	PASS
11N20 SISO	LCH	-4.711	-37.349	-24.711	PASS
	MCH	-1.71	-37.884	-21.710	PASS
	HCH	-0.547	-37.020	-20.547	PASS
11N40 SISO	LCH	-6.489	-37.975	-26.489	PASS
	MCH	-5.345	-37.806	-25.345	PASS
	HCH	-4.697	-37.702	-24.697	PASS

11B\_LCH\_Graphs

Pref/11B/LCH

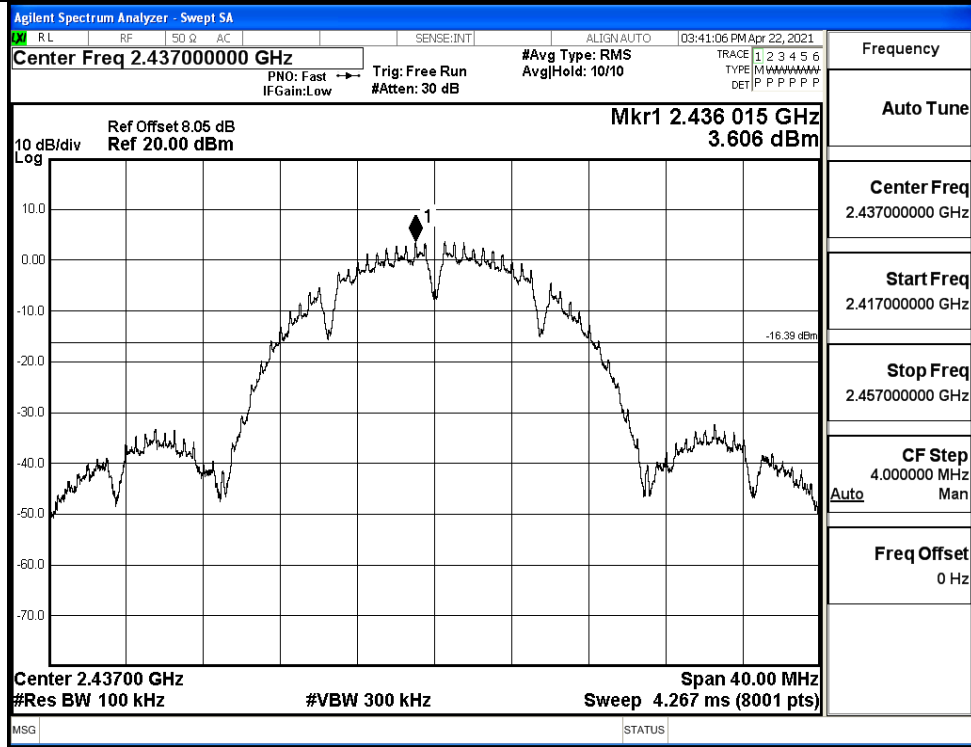


Puw/11B/LCH

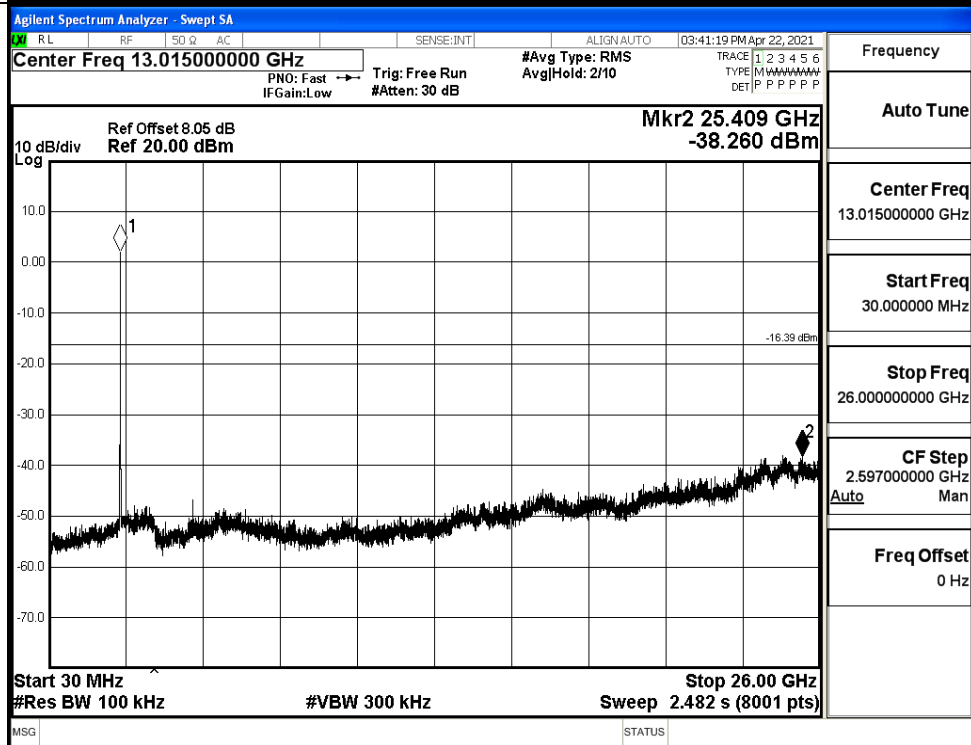


11B\_MCH\_Graphs

Pref/11B/MCH

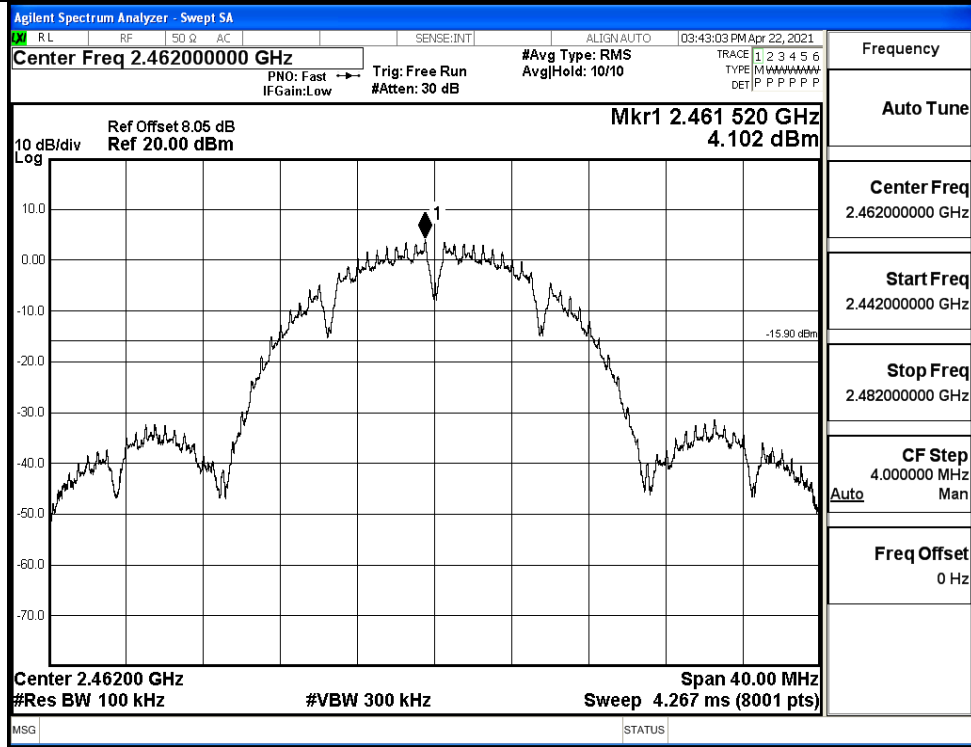


Puw/11B/MCH

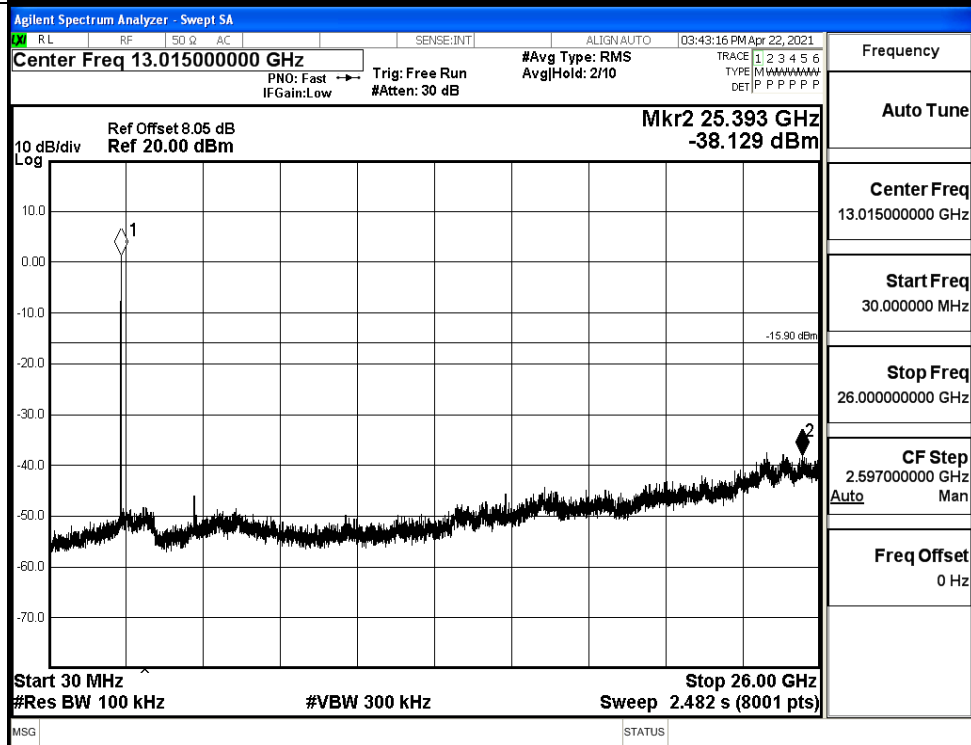


11B\_HCH\_Graphs

Pref/11B/HCH

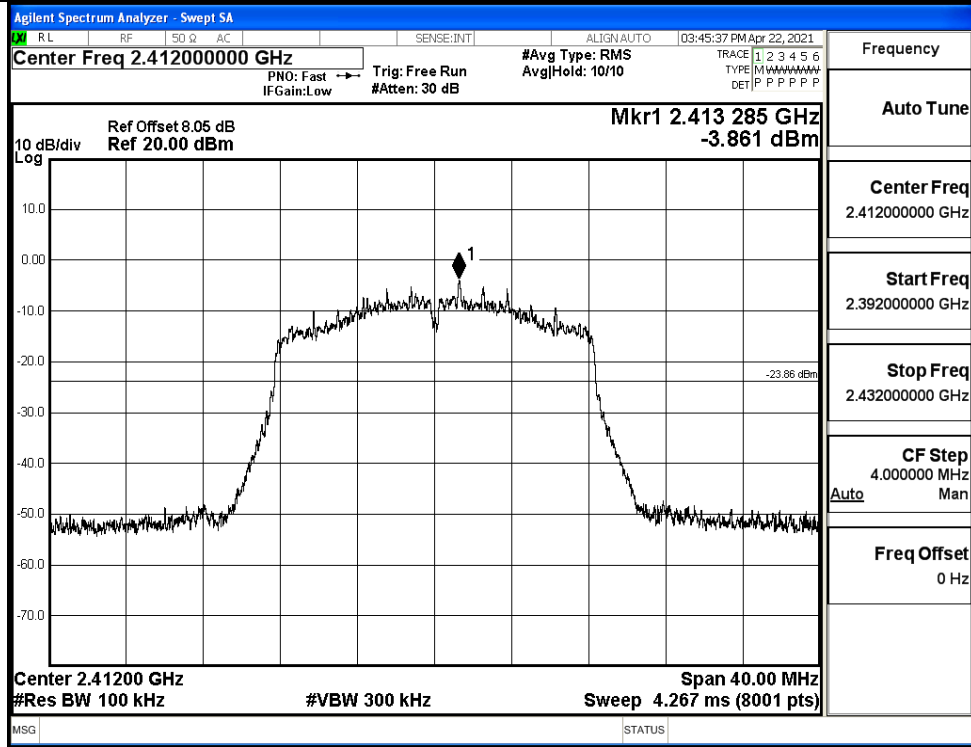


Puw/11B/HCH

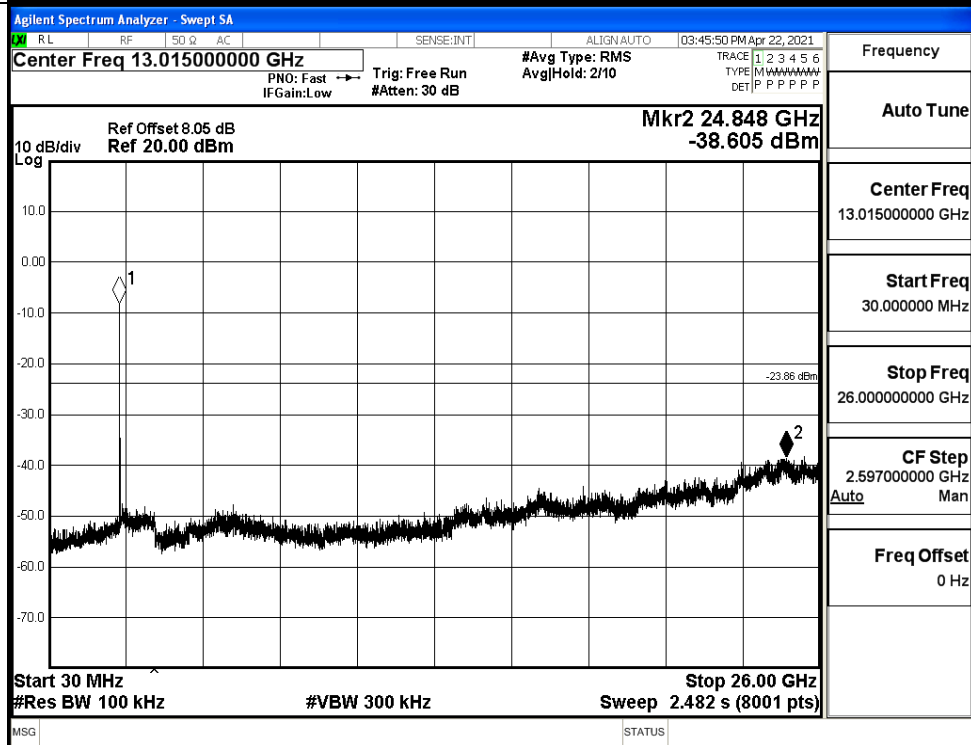


11G\_LCH\_Graphs

Pref/11G/LCH

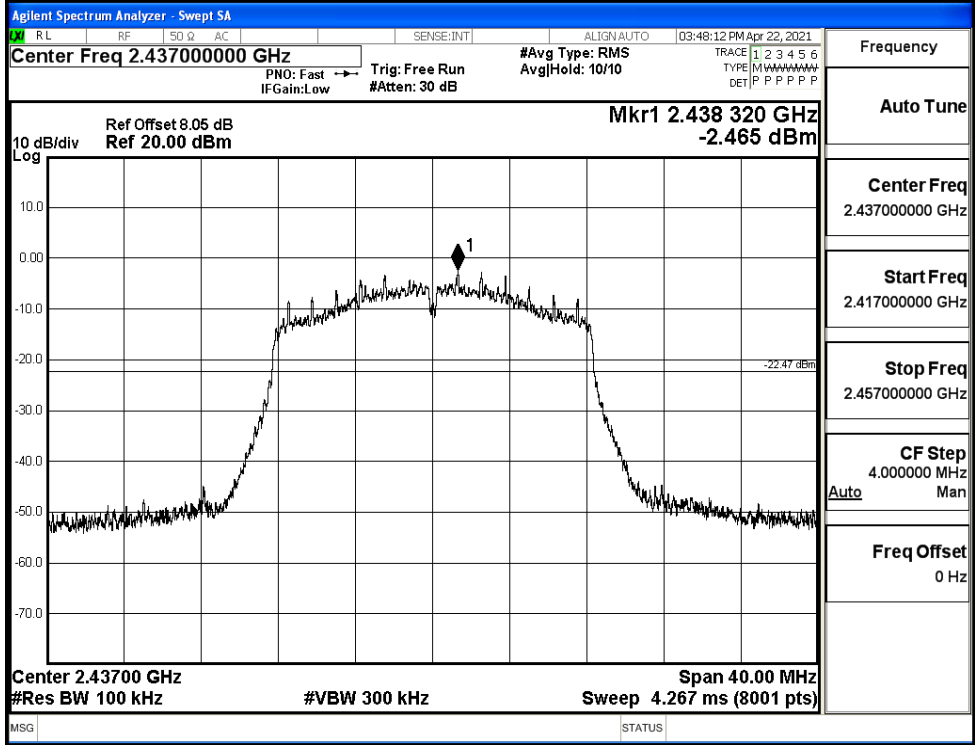


Puw/11G/LCH

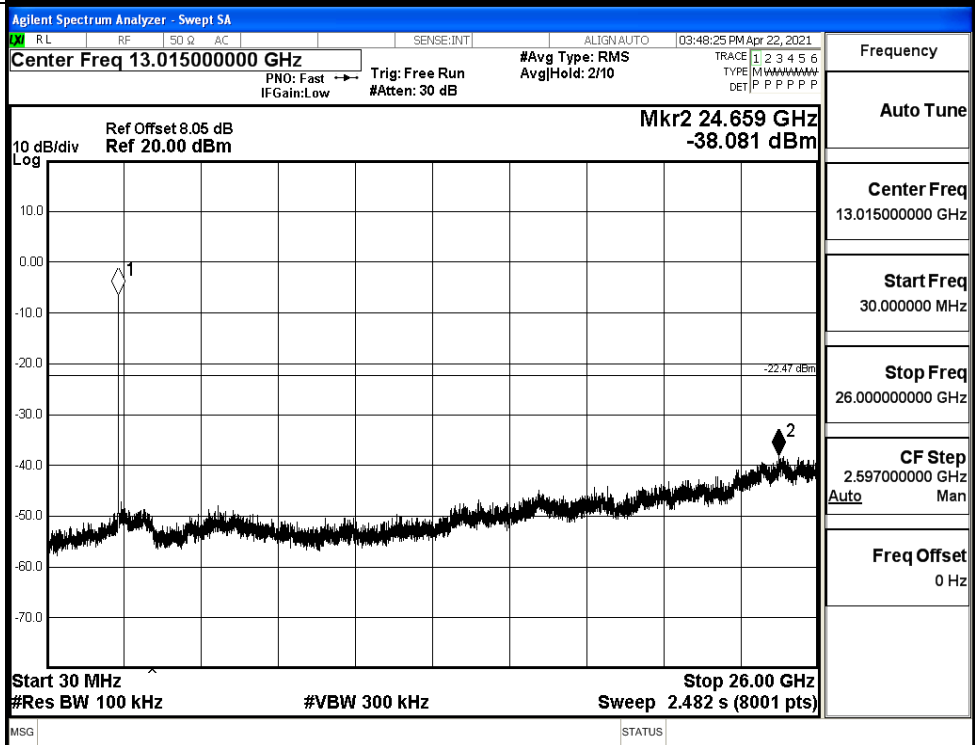


11G\_MCH\_Graphs

Pref/11G/MCH



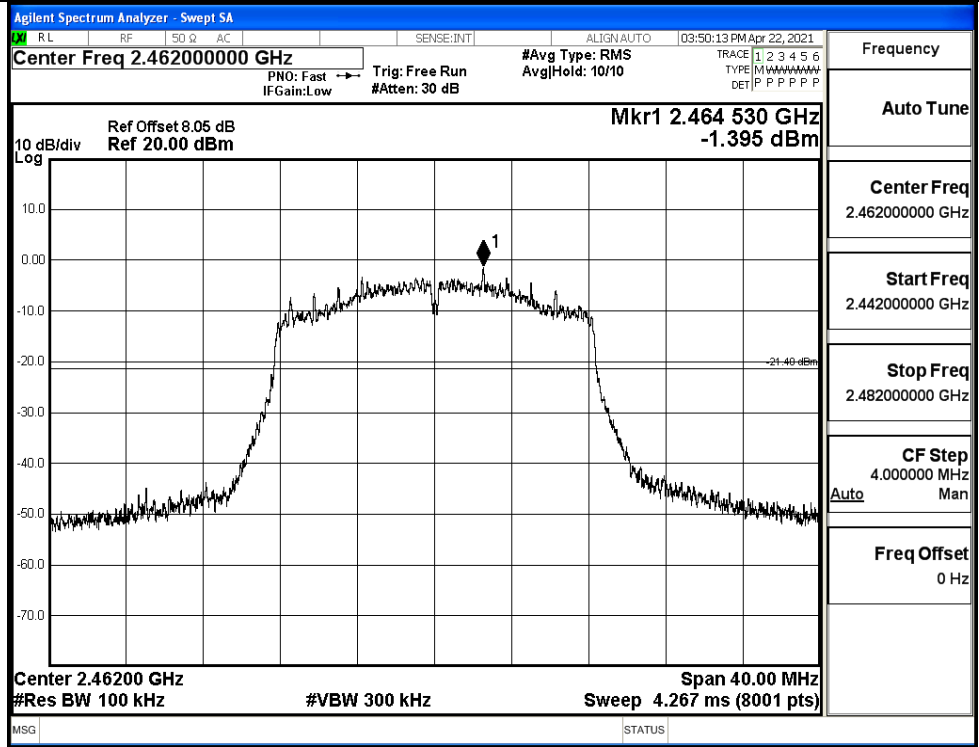
Puw/11G/MCH



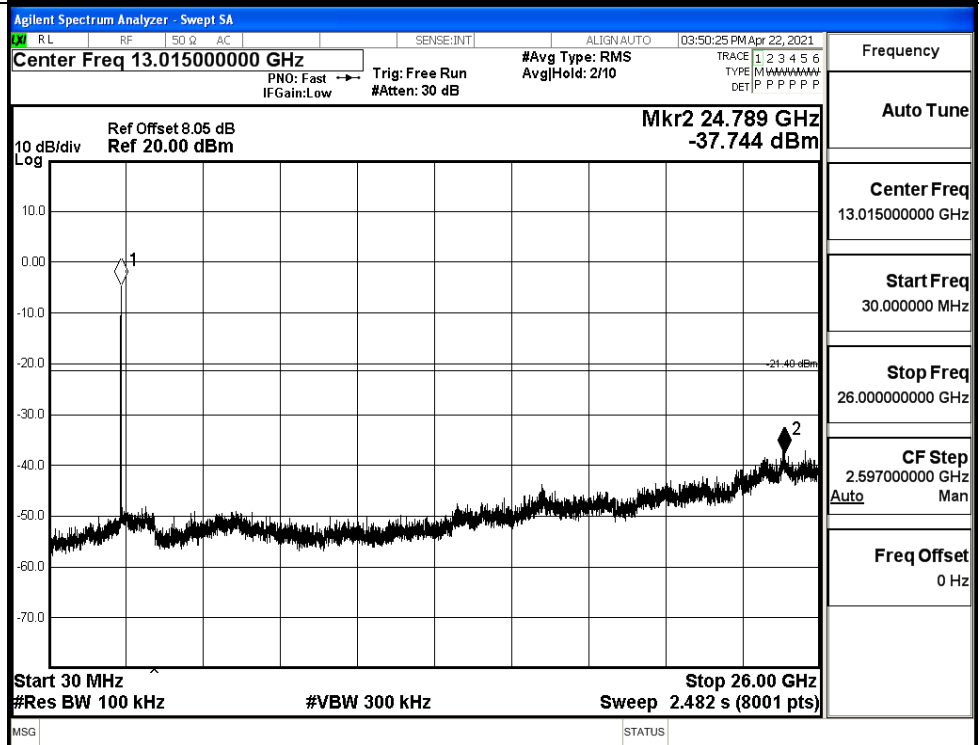


11G\_HCH\_Graphs

Pref/11G/HCH

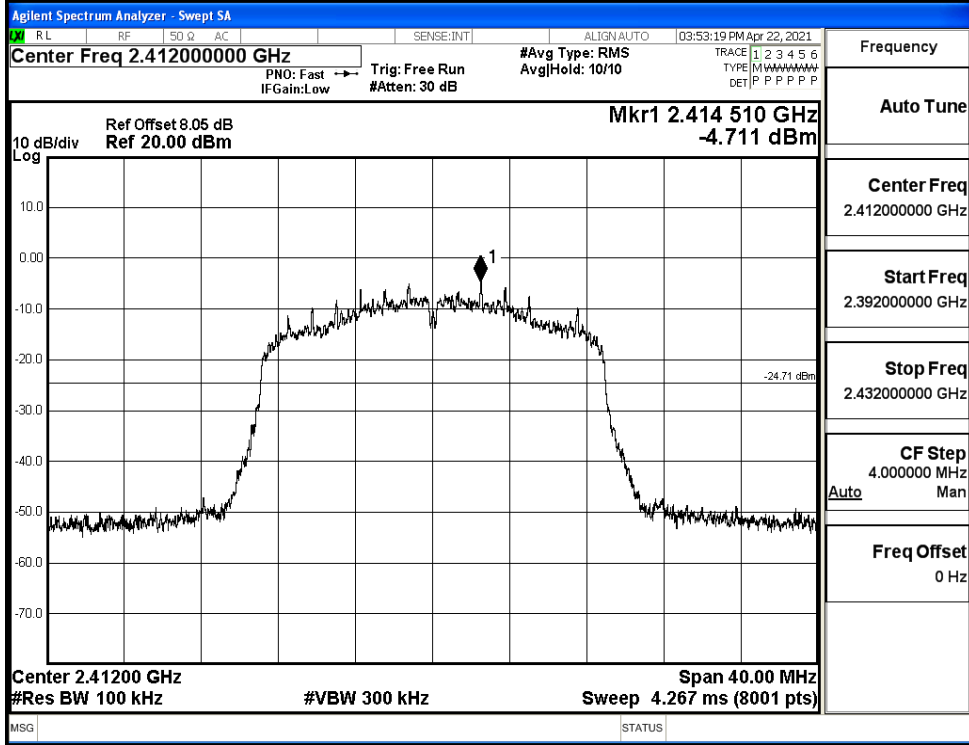


Puw/11G/HCH

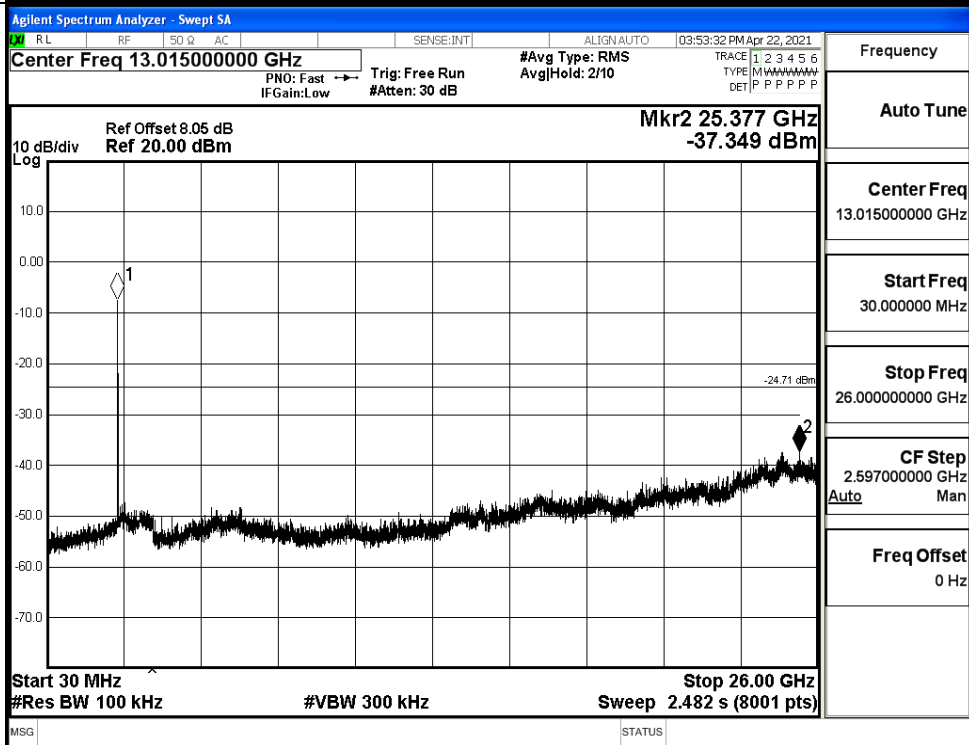


11N20SISO\_LCH\_Graphs

Pref/11N20SIS  
O/LCH

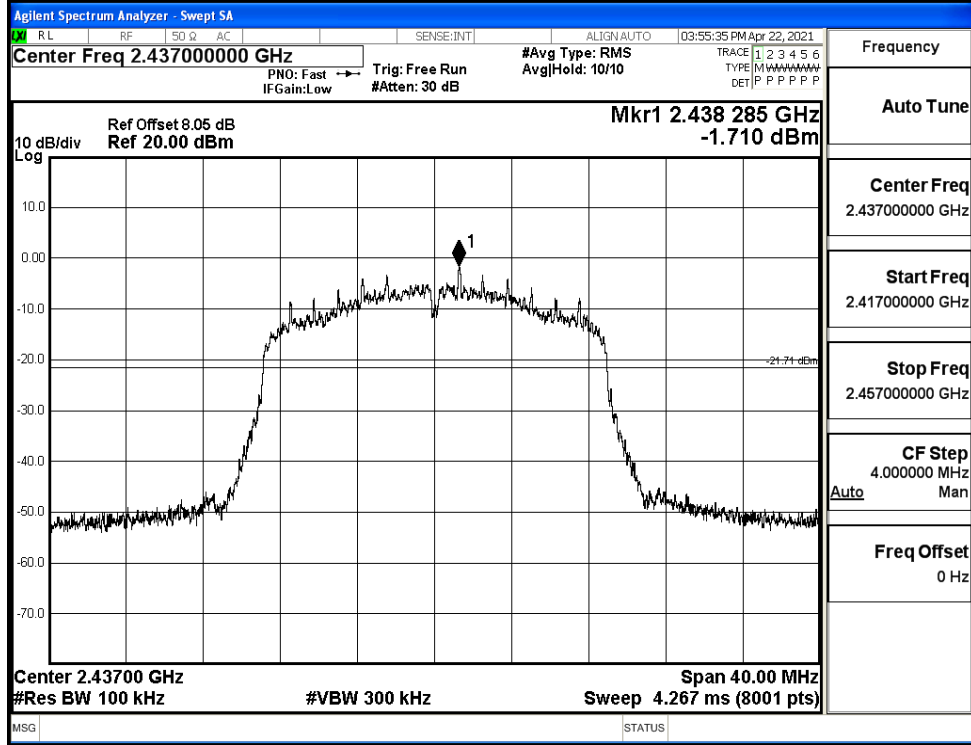


Puw/11N20  
SISO/LCH

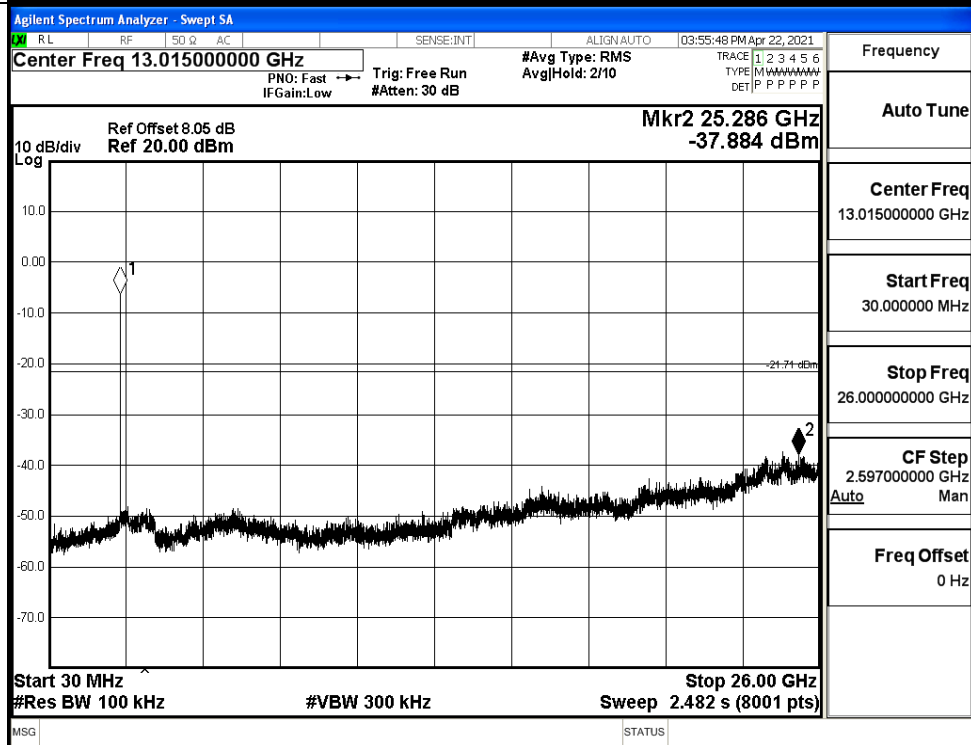


11N20SISO\_MCH\_Graphs

Pref/11N20  
SISO/MCH

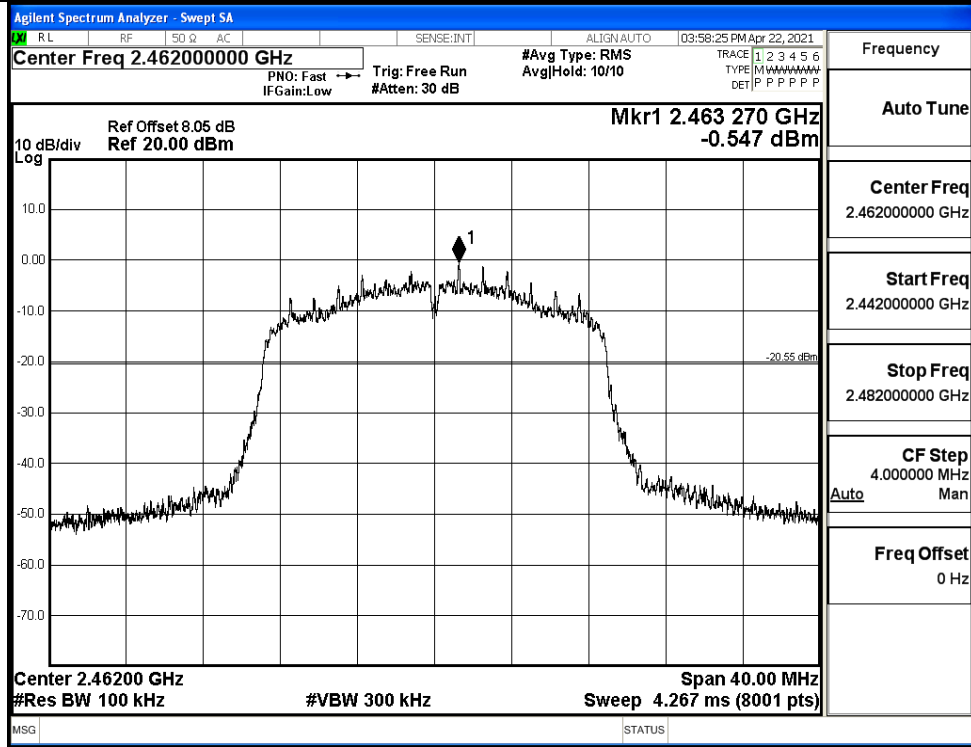


Puw/11N20  
SISO/MCH

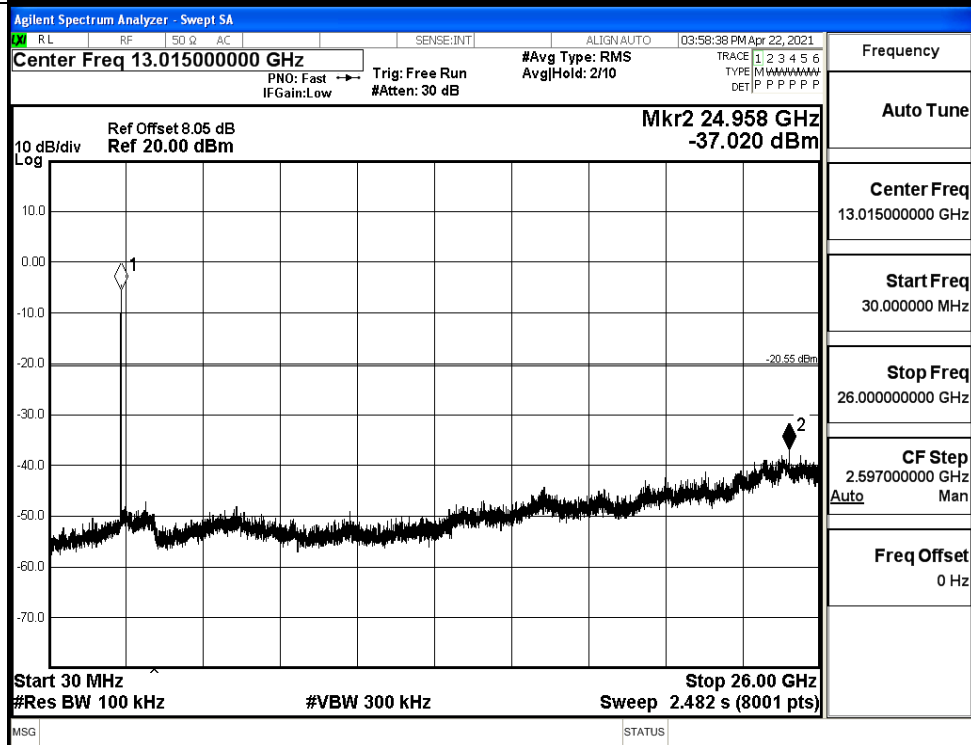


11N20SISO\_HCH\_Graphs

Pref/11N20  
SISO/HCH

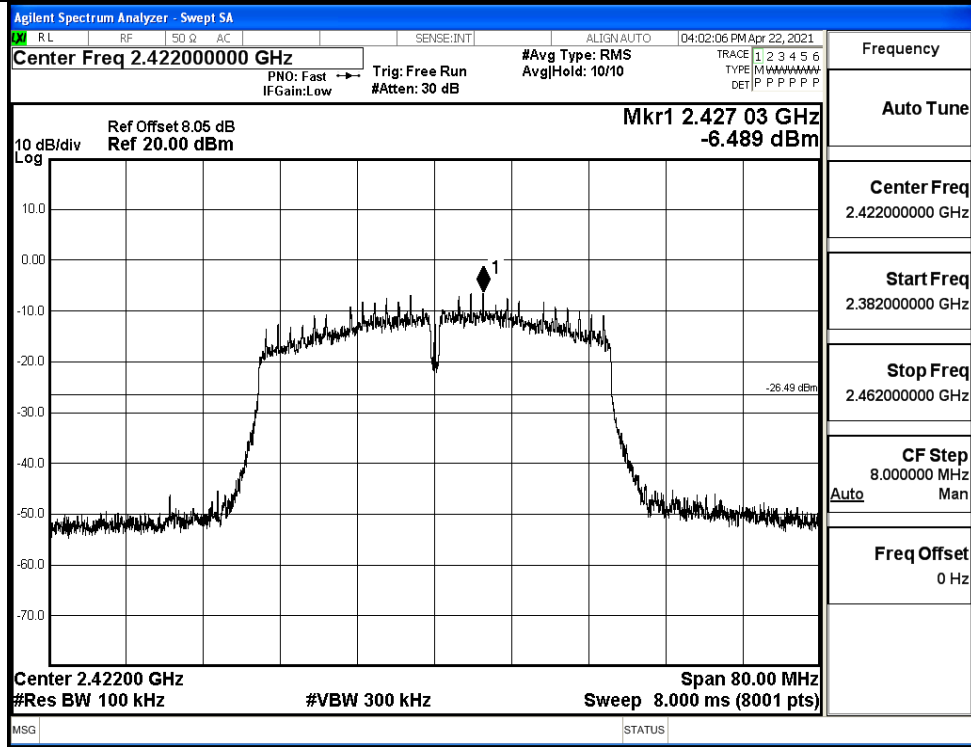


Puw/11N20  
SISO/HCH

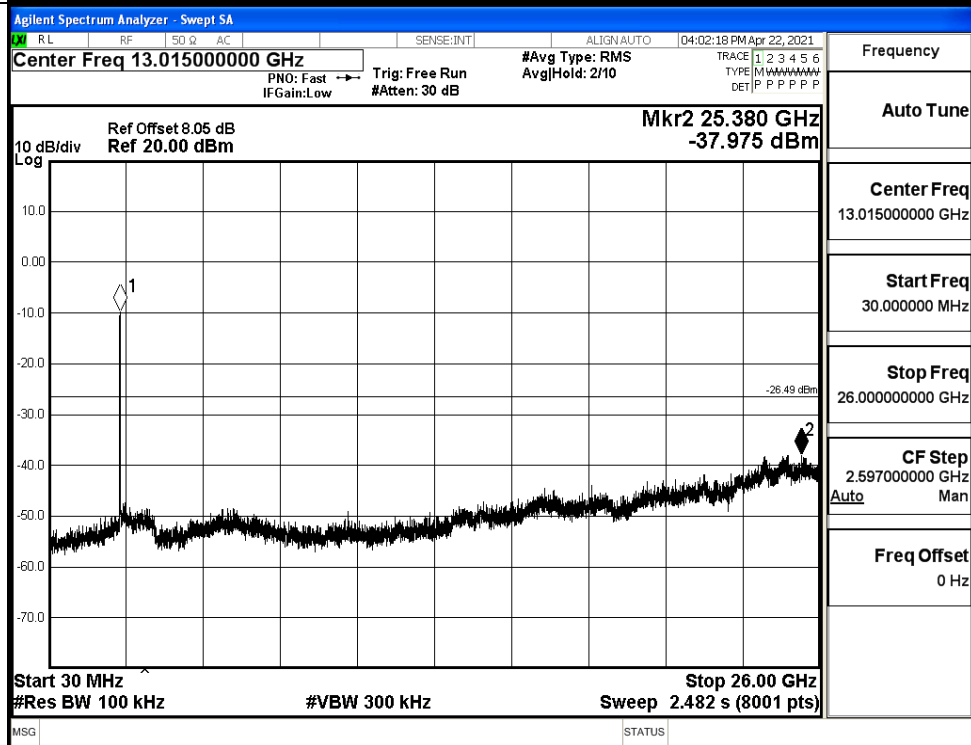


11N40SISO\_LCH\_Graphs

Pref/11N40  
SISO/LCH

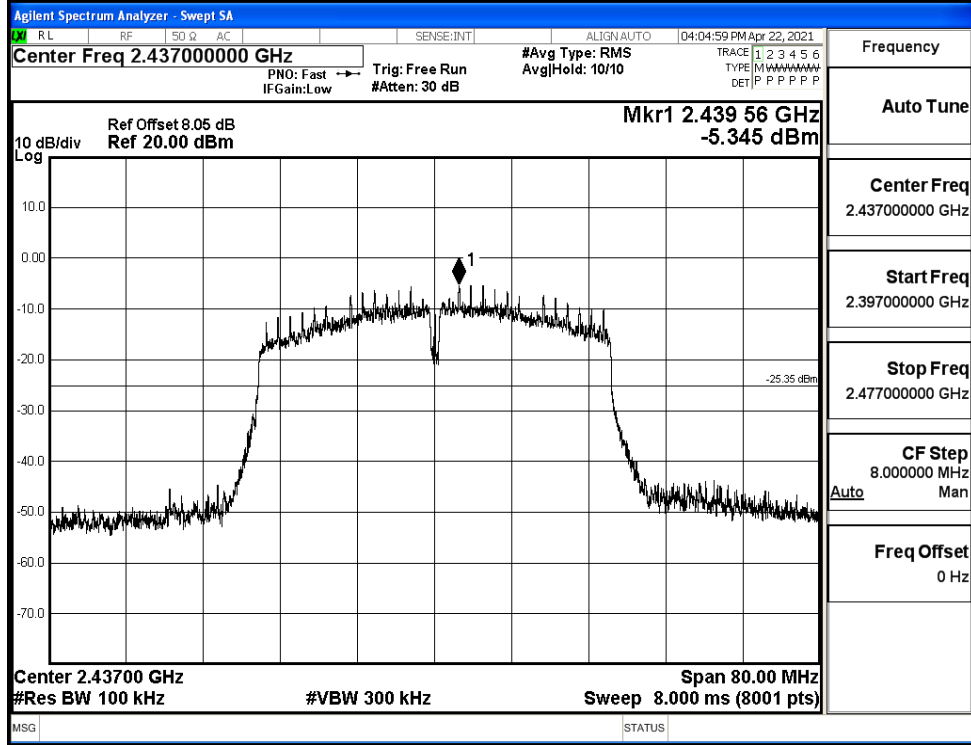


Puw/11N40  
SISO/LCH

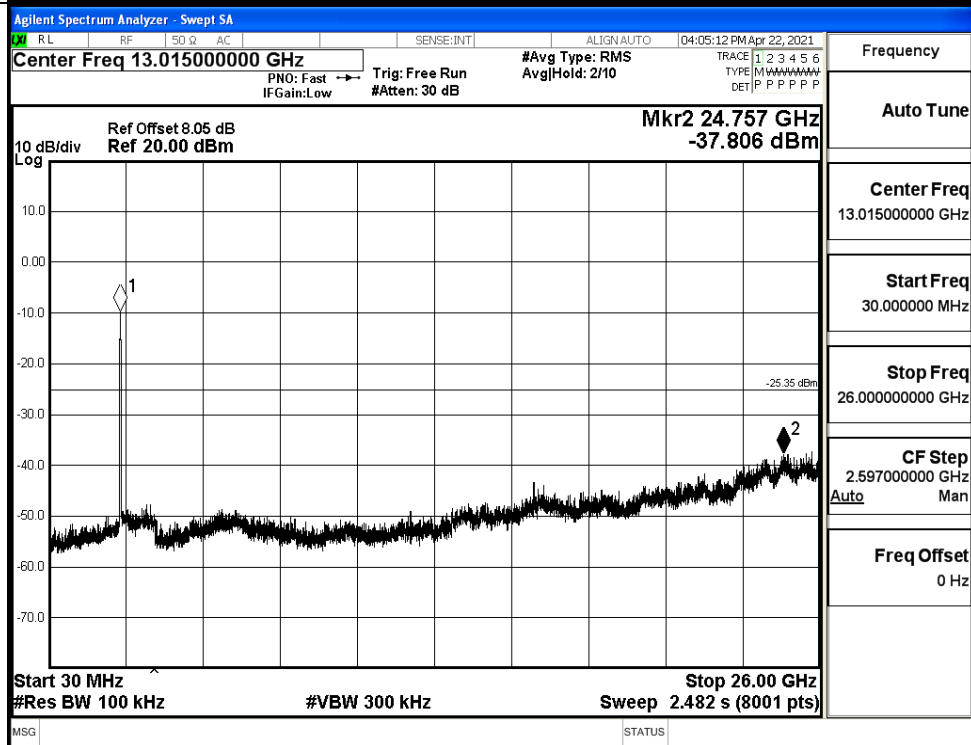


11N40SISO\_MCH\_Graphs

Pref/11N40  
SISO/MCH

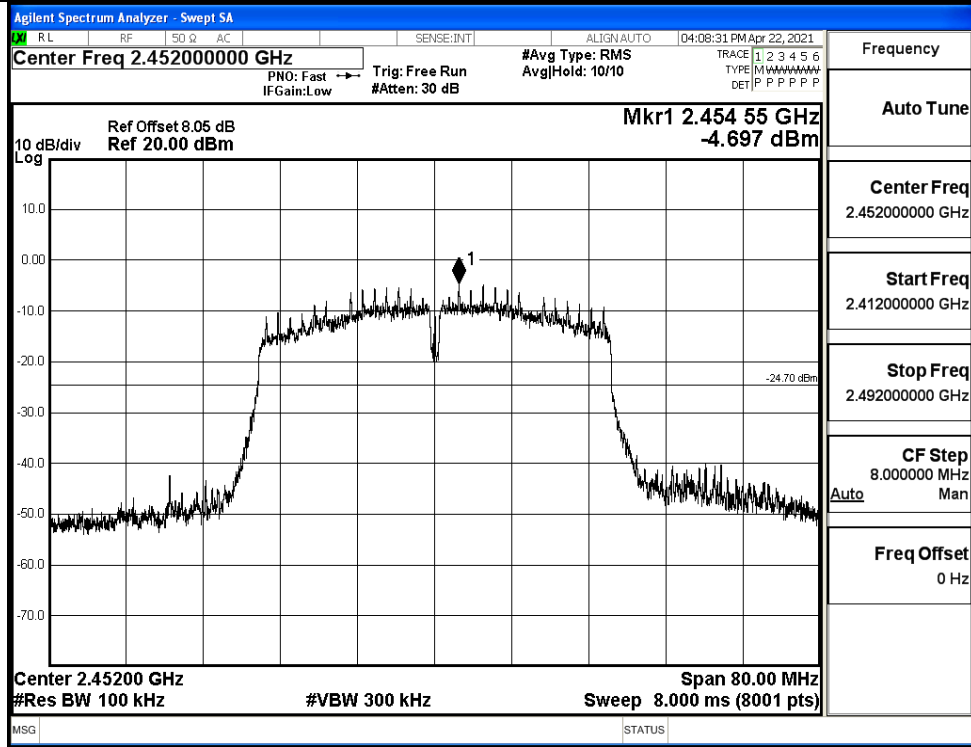


Puw/11N40  
SISO/MCH

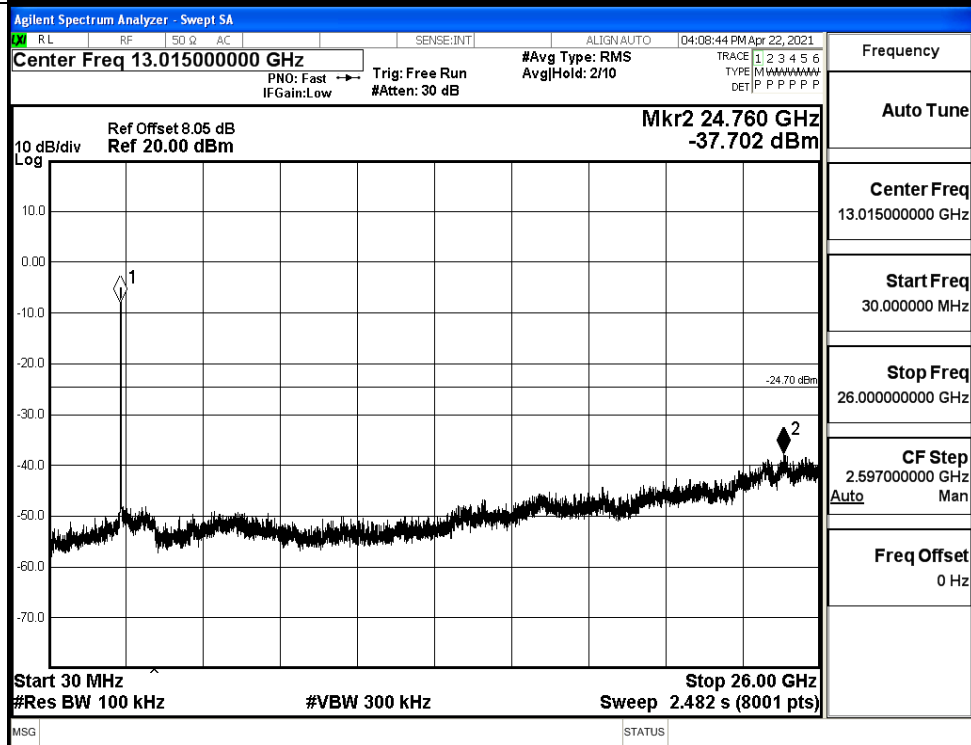


11N40SISO\_HCH\_Graphs

Pref/11N40  
SISO/HCH

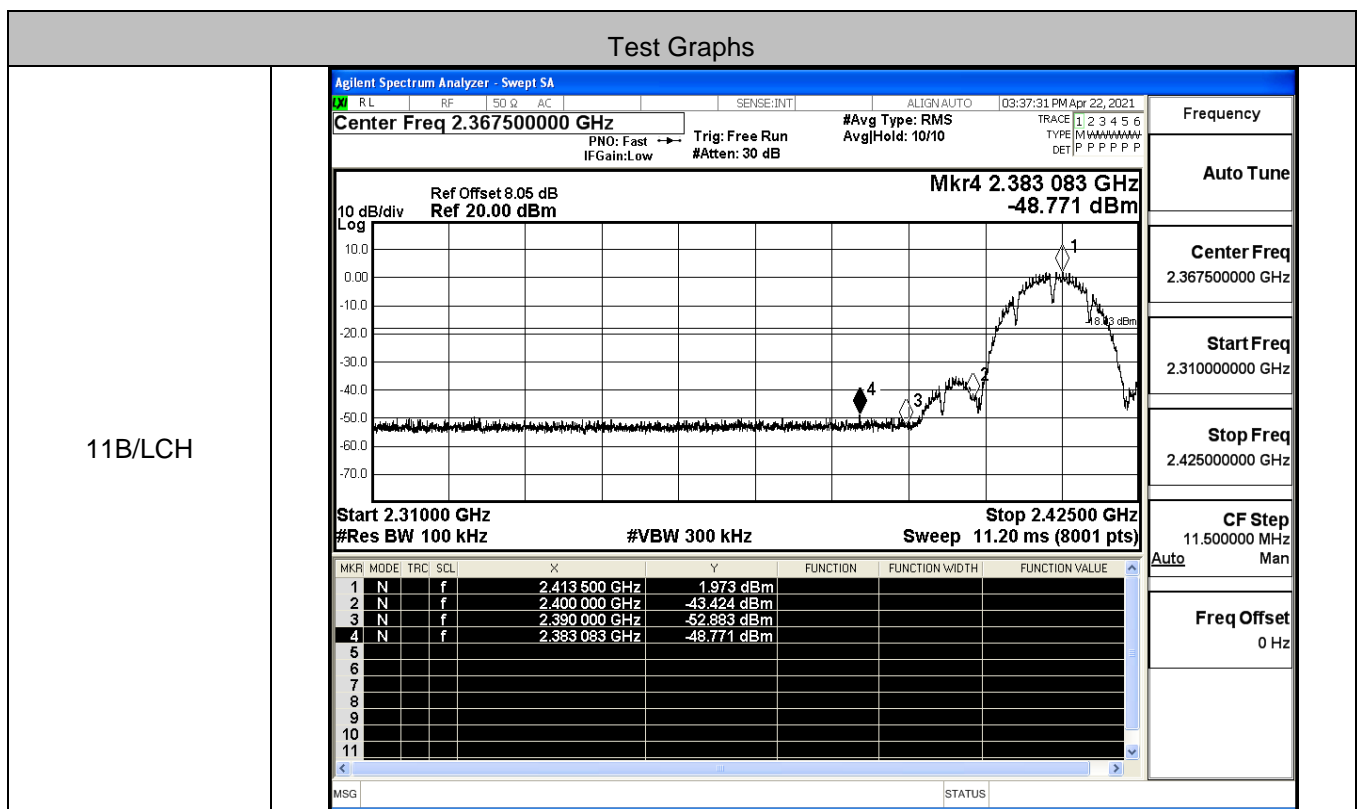


Puw/11N40  
SISO/HCH



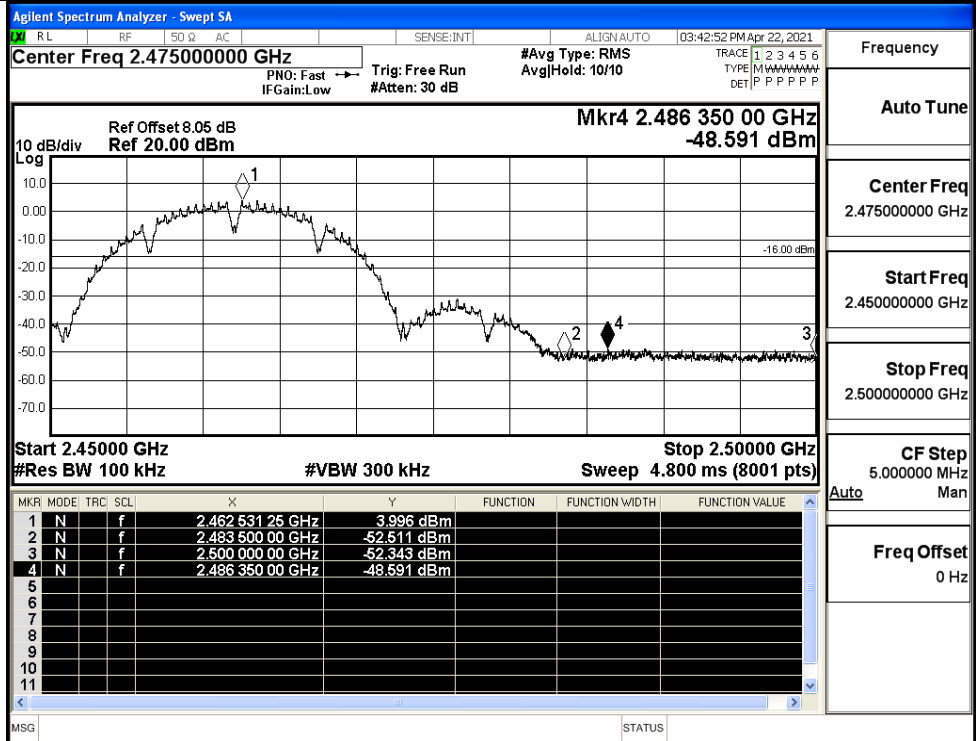
### A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	1.973	-48.771	-18.03	PASS
	HCH	3.996	-48.591	-16	PASS
11G	LCH	-4.690	-49.039	-24.69	PASS
	HCH	-0.577	-48.356	-20.58	PASS
11N20SISO	LCH	-3.783	-49.758	-23.78	PASS
	HCH	-0.424	-48.282	-20.42	PASS
11N40SISO	LCH	-6.917	-49.137	-26.92	PASS
	HCH	-4.820	-42.924	-24.82	PASS





11B/HCH



Frequency

Auto Tune

Center Freq  
2.47500000 GHz

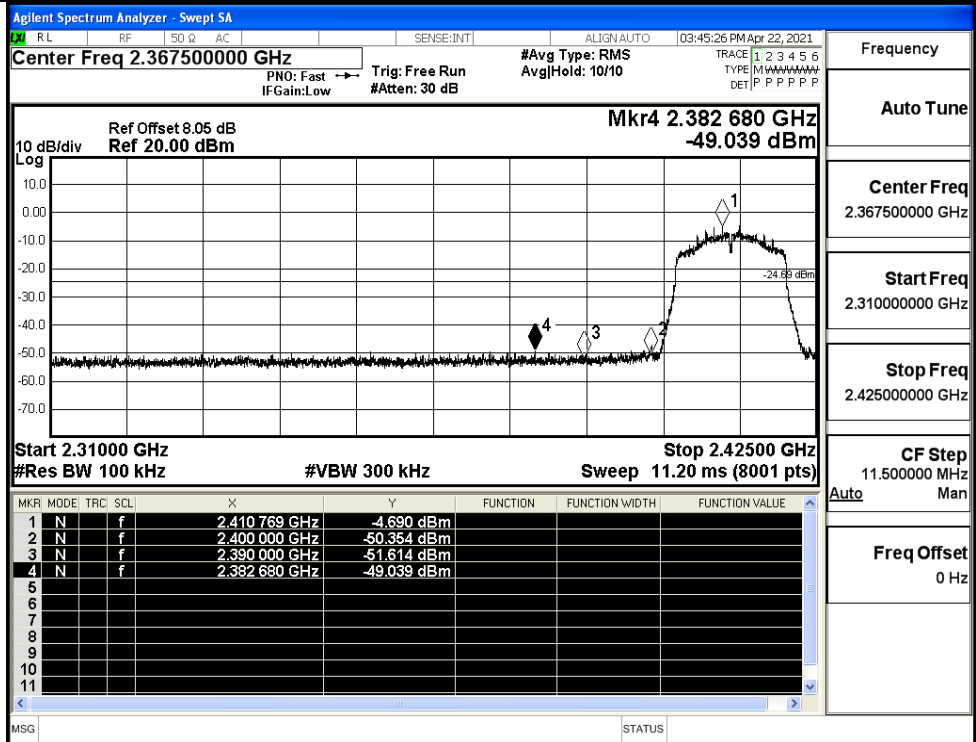
Start Freq  
2.45000000 GHz

Stop Freq  
2.50000000 GHz

CF Step  
5.000000 MHz

Freq Offset  
0 Hz

11G/LCH



Frequency

Auto Tune

Center Freq  
2.36750000 GHz

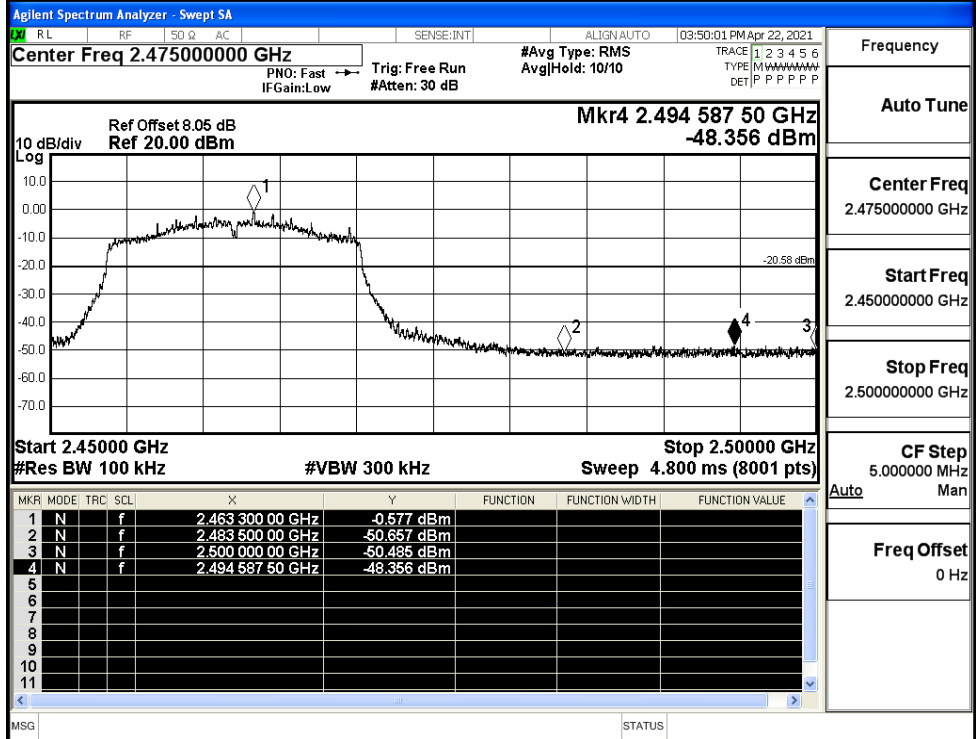
Start Freq  
2.31000000 GHz

Stop Freq  
2.42500000 GHz

CF Step  
11.500000 MHz

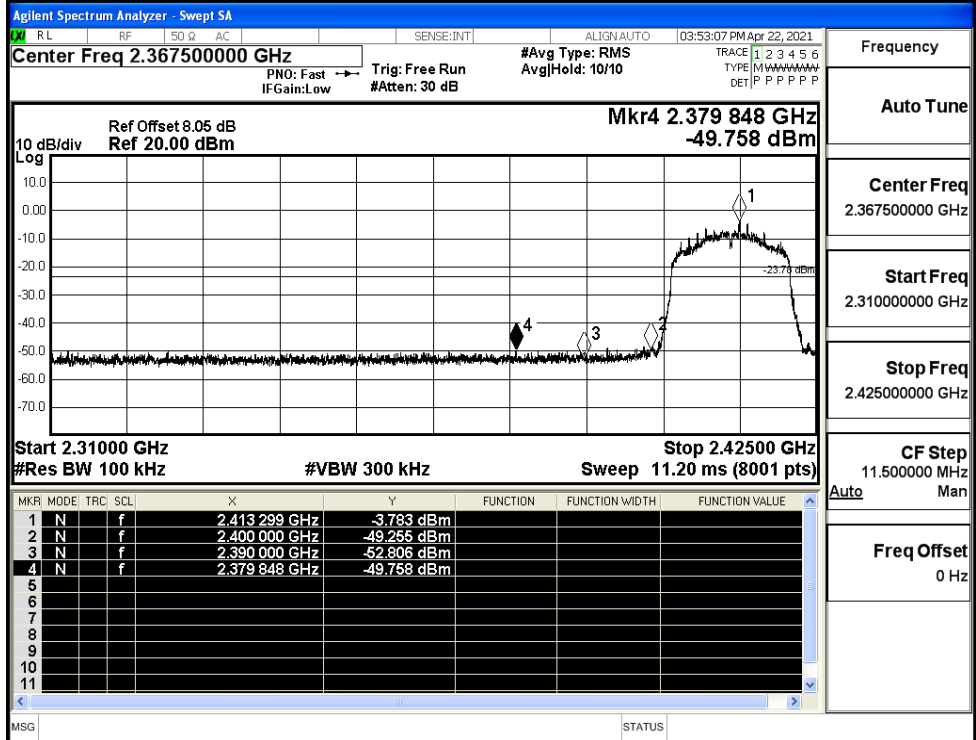
Freq Offset  
0 Hz

11G/HCH



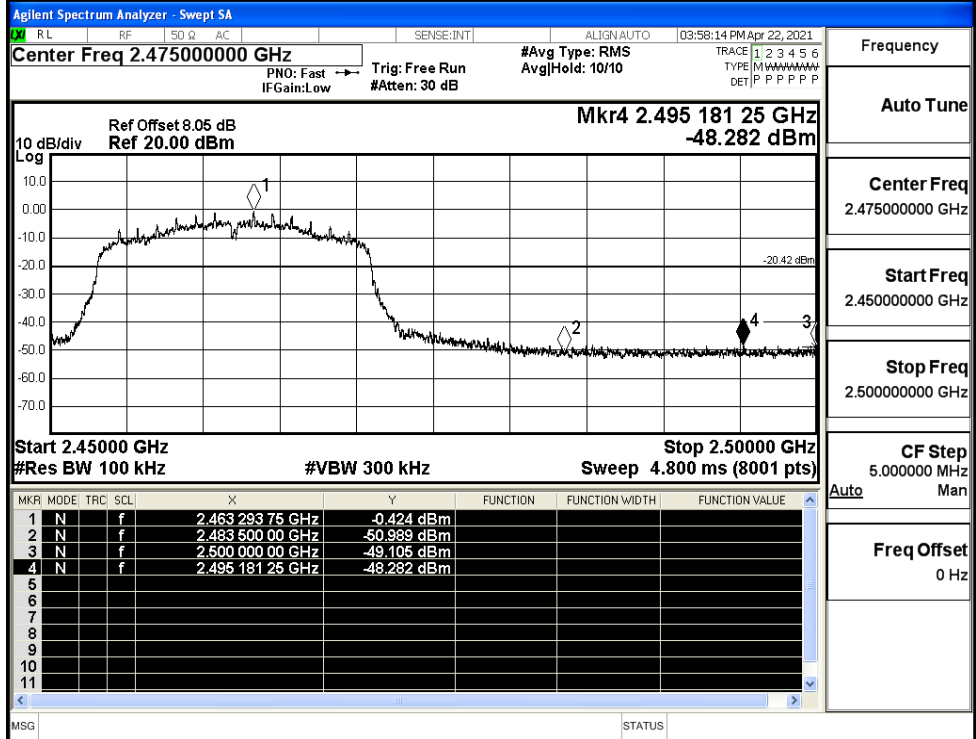
Frequency	Auto Tune
Center Freq	2.47500000 GHz
Start Freq	2.45000000 GHz
Stop Freq	2.50000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N20SISO/LCH



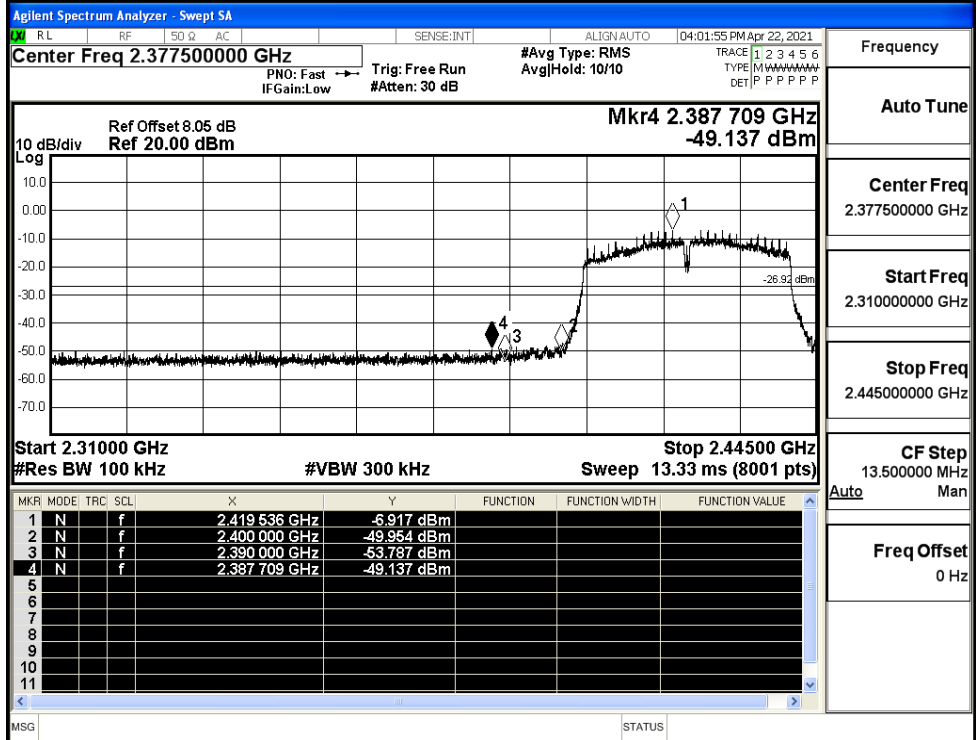
Frequency	Auto Tune
Center Freq	2.36750000 GHz
Start Freq	2.31000000 GHz
Stop Freq	2.42500000 GHz
CF Step	11.500000 MHz
Freq Offset	0 Hz

11N20SISO/HCH



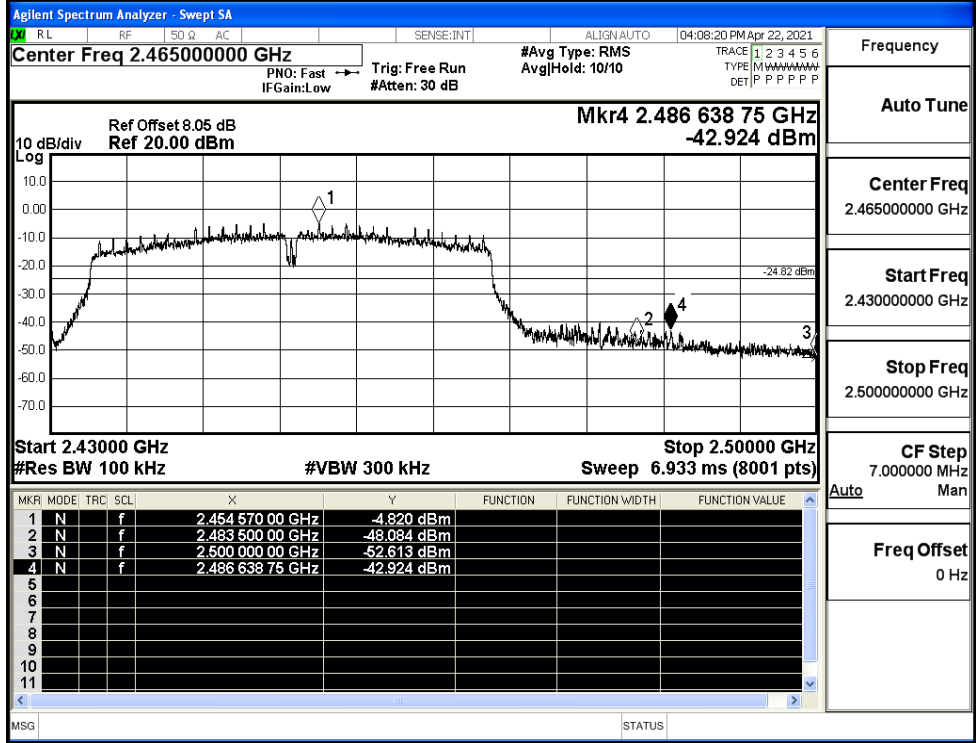
Frequency	
Auto Tune	
Center Freq	2.47500000 GHz
Start Freq	2.45000000 GHz
Stop Freq	2.50000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N40SISO/LCH



Frequency	
Auto Tune	
Center Freq	2.37750000 GHz
Start Freq	2.31000000 GHz
Stop Freq	2.44500000 GHz
CF Step	13.500000 MHz
Freq Offset	0 Hz

11N40SISO/HCH

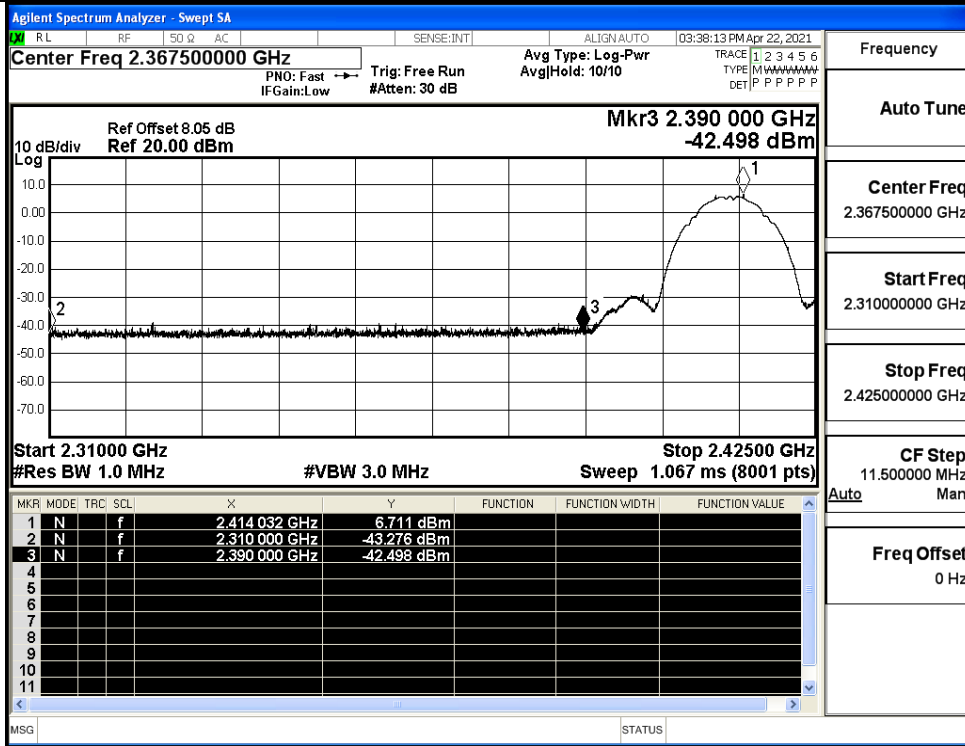


## A.7 Restrict-band band-edge measurements

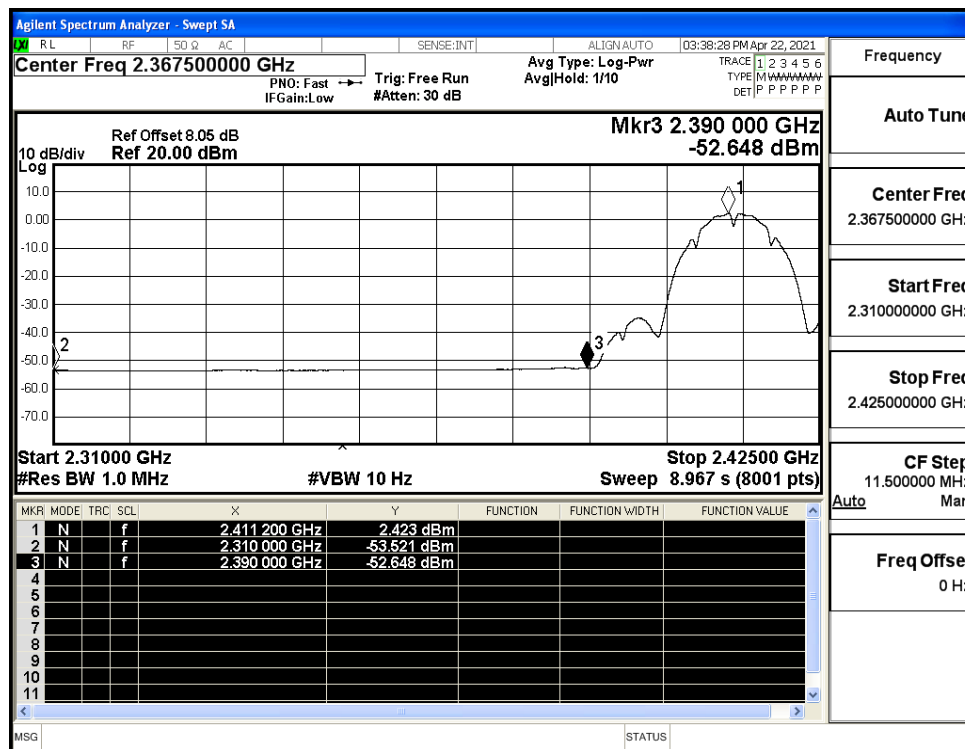
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-43.28	2.0	0	53.98	PEAK	74	PASS
	2412	Ant1	2310.0	-53.52	2.0	0	43.74	AV	54	PASS
	2412	Ant1	2390.0	-42.50	2.0	0	54.76	PEAK	74	PASS
	2412	Ant1	2390.0	-52.65	2.0	0	44.61	AV	54	PASS
	2462	Ant1	2483.5	-41.48	2.0	0	55.78	PEAK	74	PASS
	2462	Ant1	2483.5	-51.81	2.0	0	45.45	AV	54	PASS
	2462	Ant1	2500.0	-42.27	2.0	0	54.99	PEAK	74	PASS
	2462	Ant1	2500.0	-52.06	2.0	0	45.2	AV	54	PASS
11G	2412	Ant1	2310.0	-43.05	2.0	0	54.21	PEAK	74	PASS
	2412	Ant1	2310.0	-53.45	2.0	0	43.81	AV	54	PASS
	2412	Ant1	2390.0	-42.66	2.0	0	54.6	PEAK	74	PASS
	2412	Ant1	2390.0	-52.77	2.0	0	44.49	AV	54	PASS
	2462	Ant1	2483.5	-40.66	2.0	0	56.6	PEAK	74	PASS
	2462	Ant1	2483.5	-51.17	2.0	0	46.09	AV	54	PASS
	2462	Ant1	2500.0	-40.15	2.0	0	57.11	PEAK	74	PASS
	2462	Ant1	2500.0	-50.96	2.0	0	46.3	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.52	2.0	0	53.74	PEAK	74	PASS
	2412	Ant1	2310.0	-53.44	2.0	0	43.82	AV	54	PASS
	2412	Ant1	2390.0	-41.85	2.0	0	55.41	PEAK	74	PASS
	2412	Ant1	2390.0	-52.83	2.0	0	44.43	AV	54	PASS
	2462	Ant1	2483.5	-40.21	2.0	0	57.05	PEAK	74	PASS
	2462	Ant1	2483.5	-51.15	2.0	0	46.11	AV	54	PASS
	2462	Ant1	2500.0	-40.62	2.0	0	56.64	PEAK	74	PASS
	2462	Ant1	2500.0	-50.97	2.0	0	46.29	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-43.60	2.0	0	53.66	PEAK	74	PASS
	2422	Ant1	2310.0	-53.41	2.0	0	43.85	AV	54	PASS

	2422	Ant1	2390.0	-40.87	2.0	0	56.39	PEAK	74	PASS
	2422	Ant1	2390.0	-51.90	2.0	0	45.36	AV	54	PASS
	2452	Ant1	2483.5	-33.75	2.0	0	63.51	PEAK	74	PASS
	2452	Ant1	2483.5	-47.77	2.0	0	49.49	AV	54	PASS
	2452	Ant1	2500.0	-40.30	2.0	0	56.96	PEAK	74	PASS
	2452	Ant1	2500.0	-50.95	2.0	0	46.31	AV	54	PASS

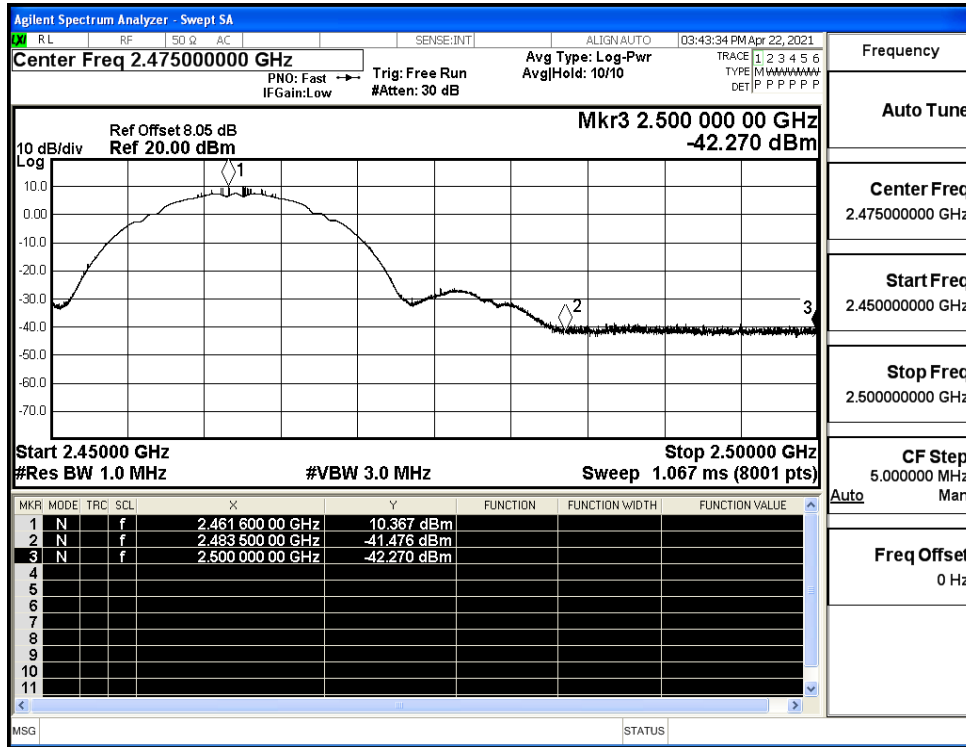
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



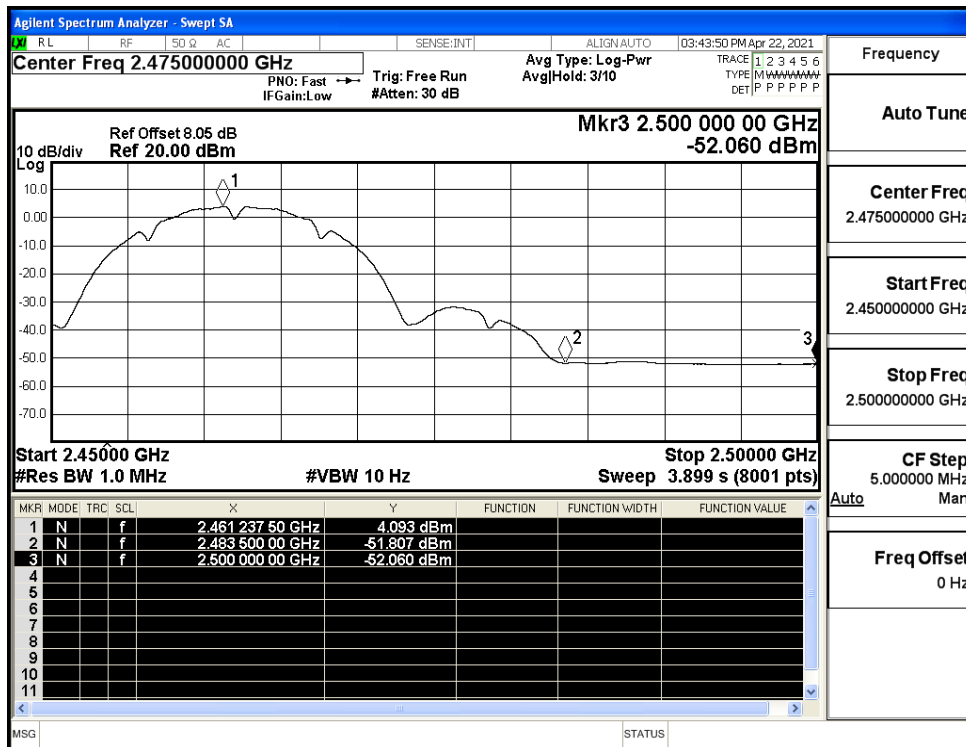
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



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

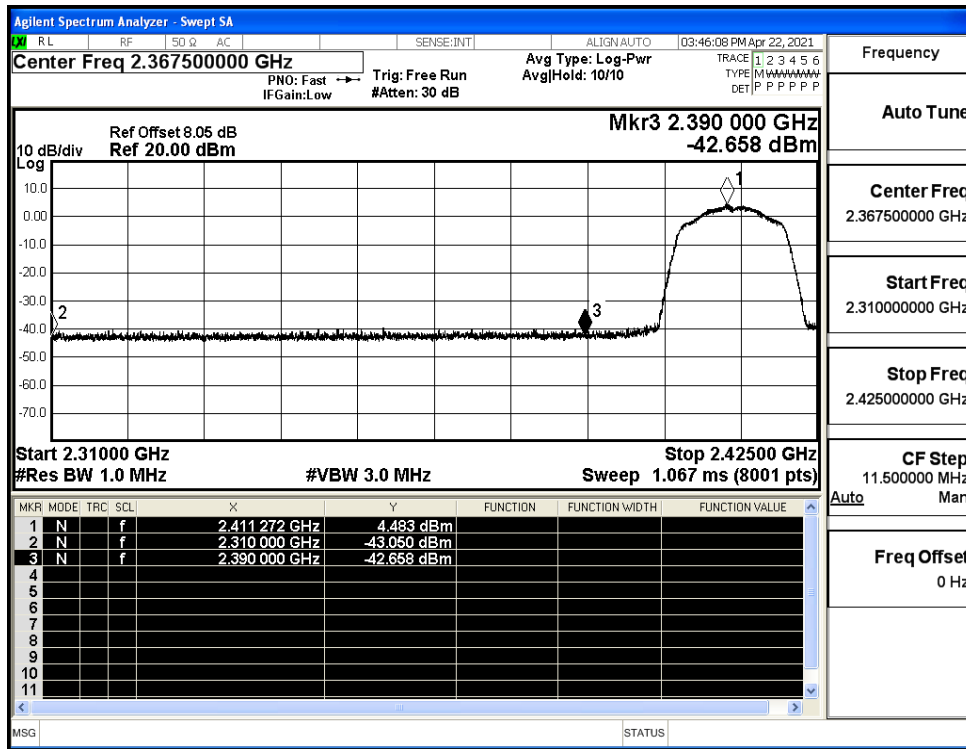


Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV

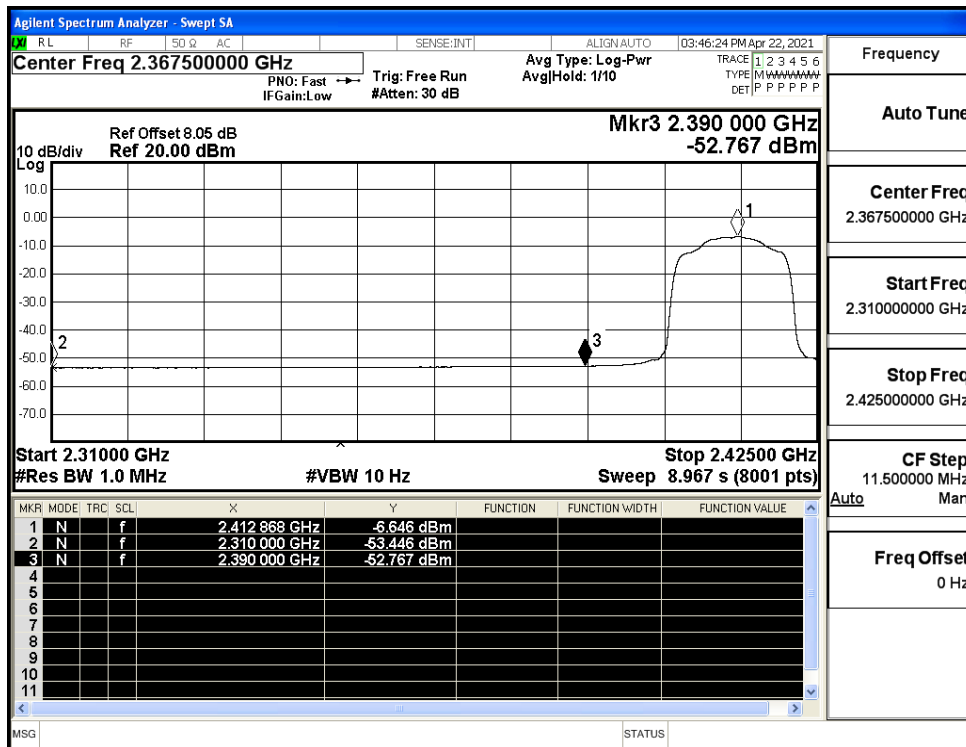




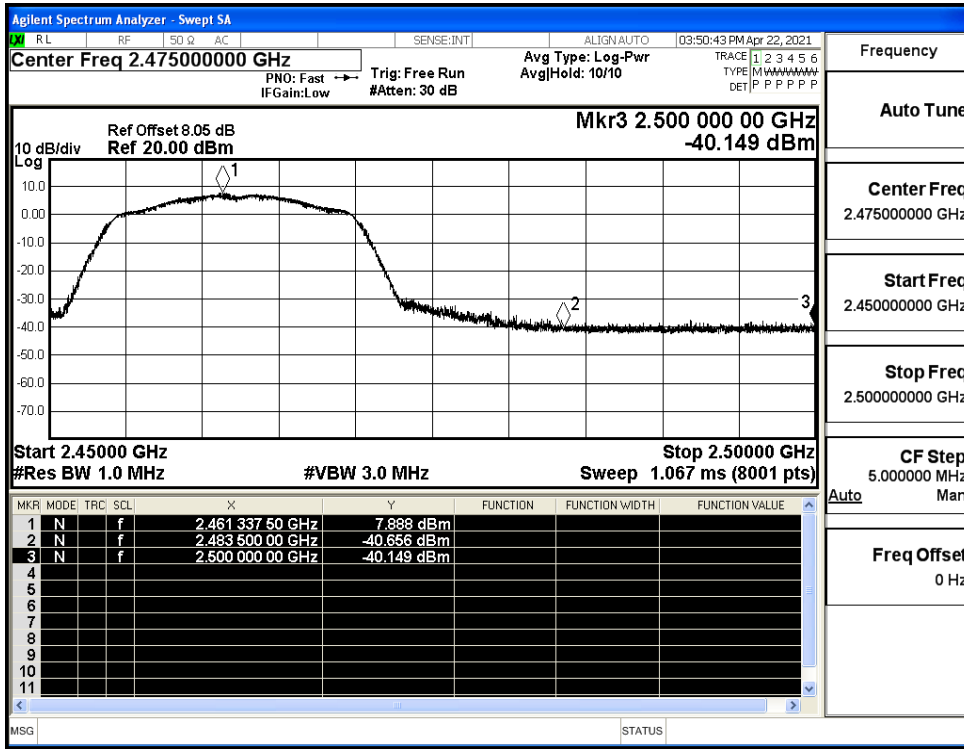
Restrict-band band-edge measurements\_11G\_2412\_Ant1\_PEAK



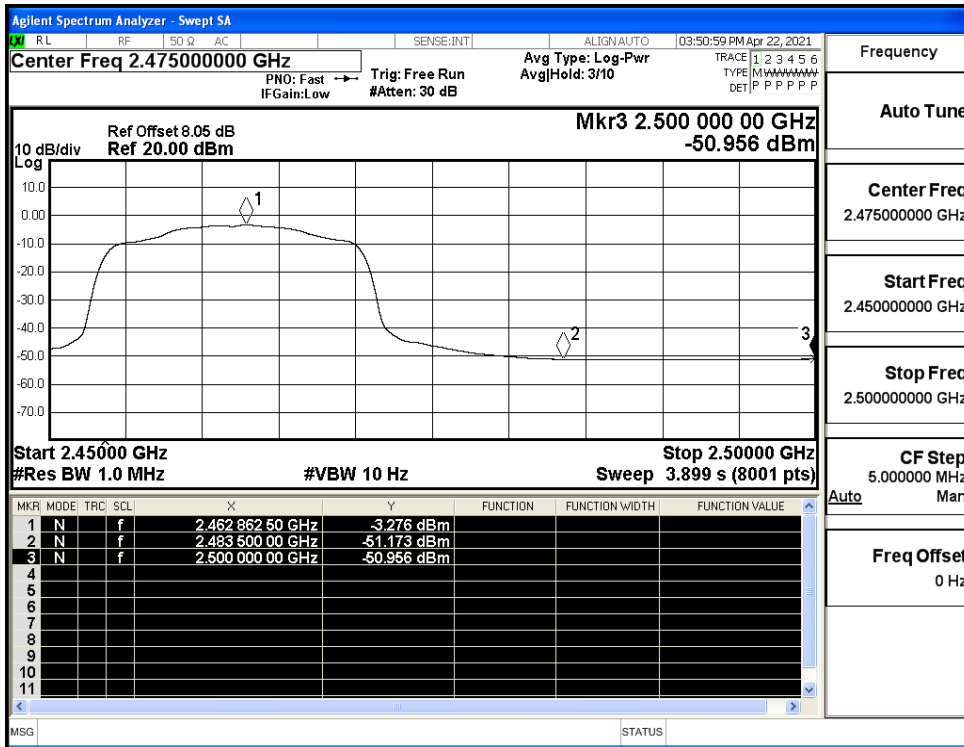
Restrict-band band-edge measurements\_11G\_2412\_Ant1\_AV



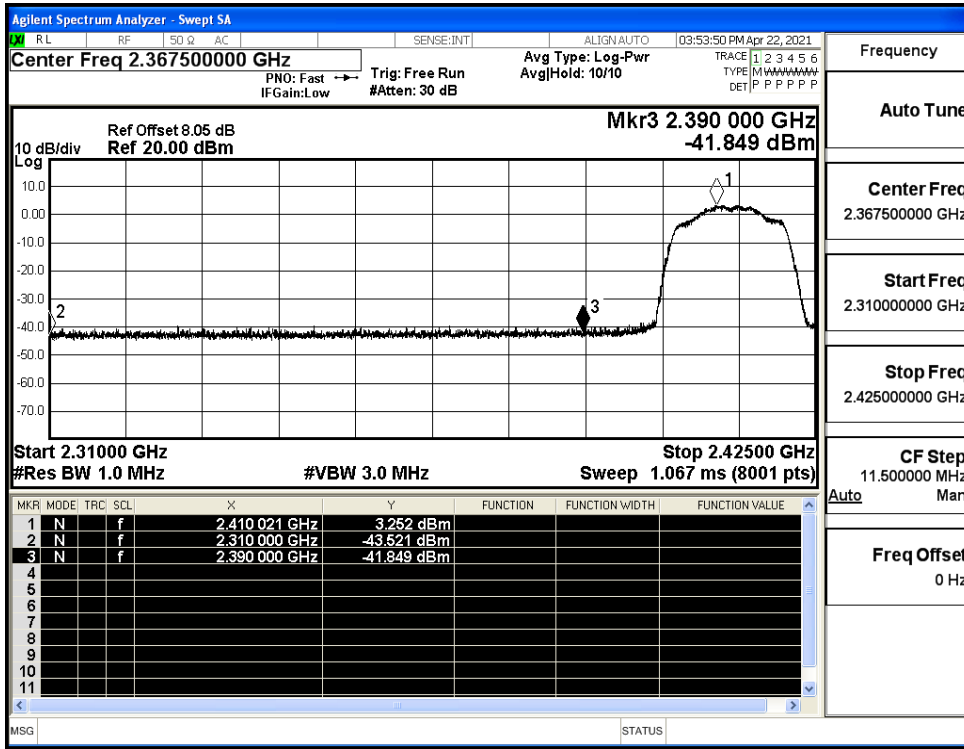
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK



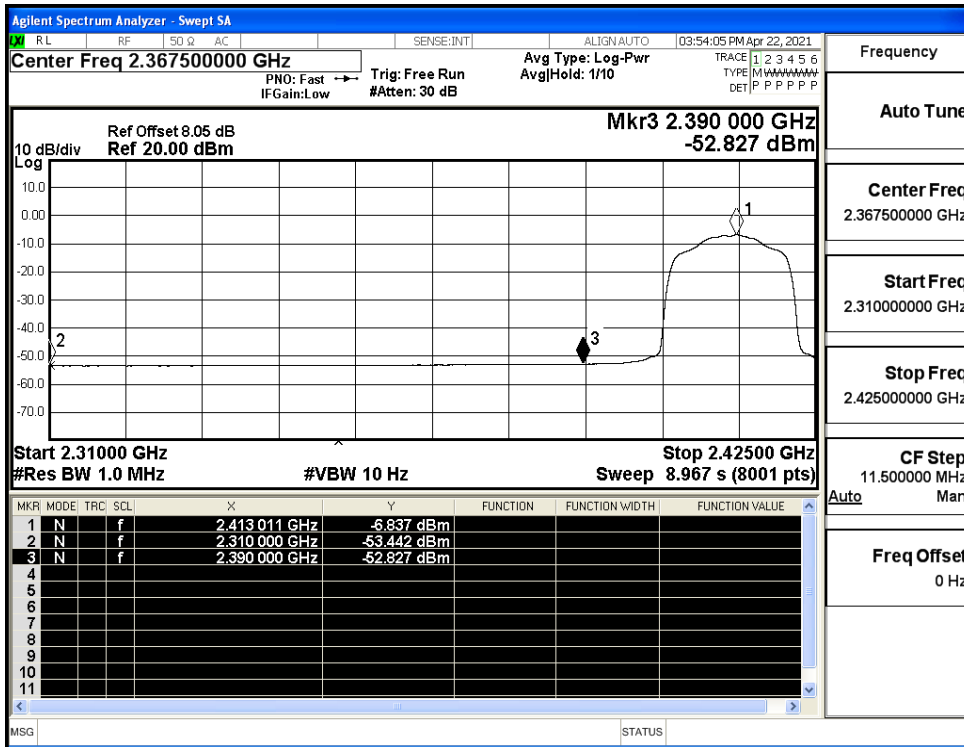
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV



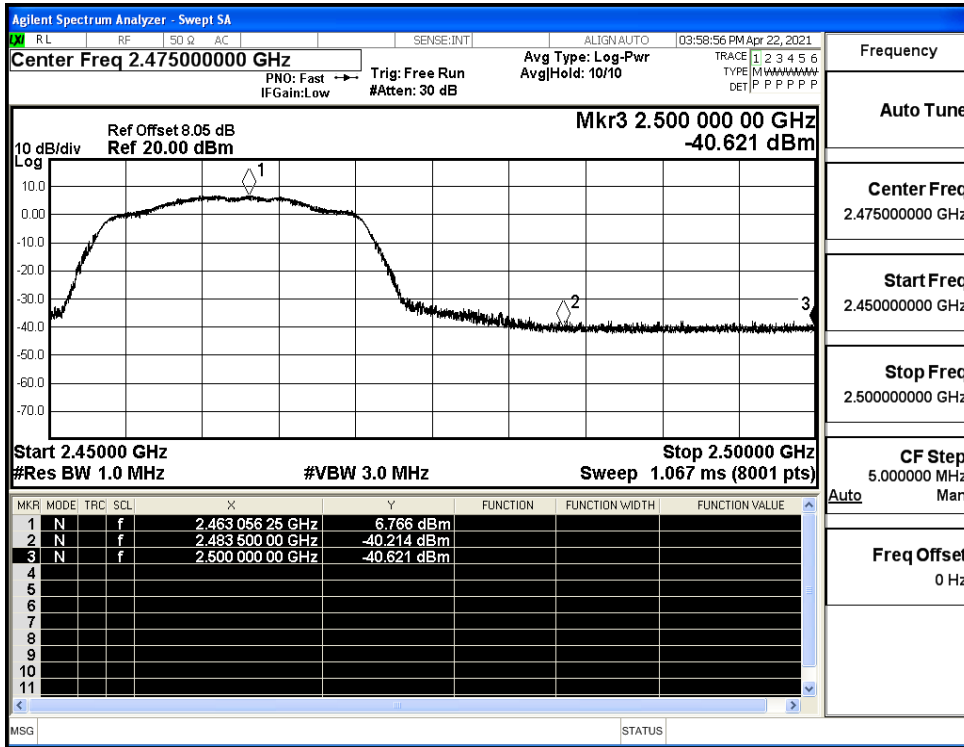
Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_PEAK



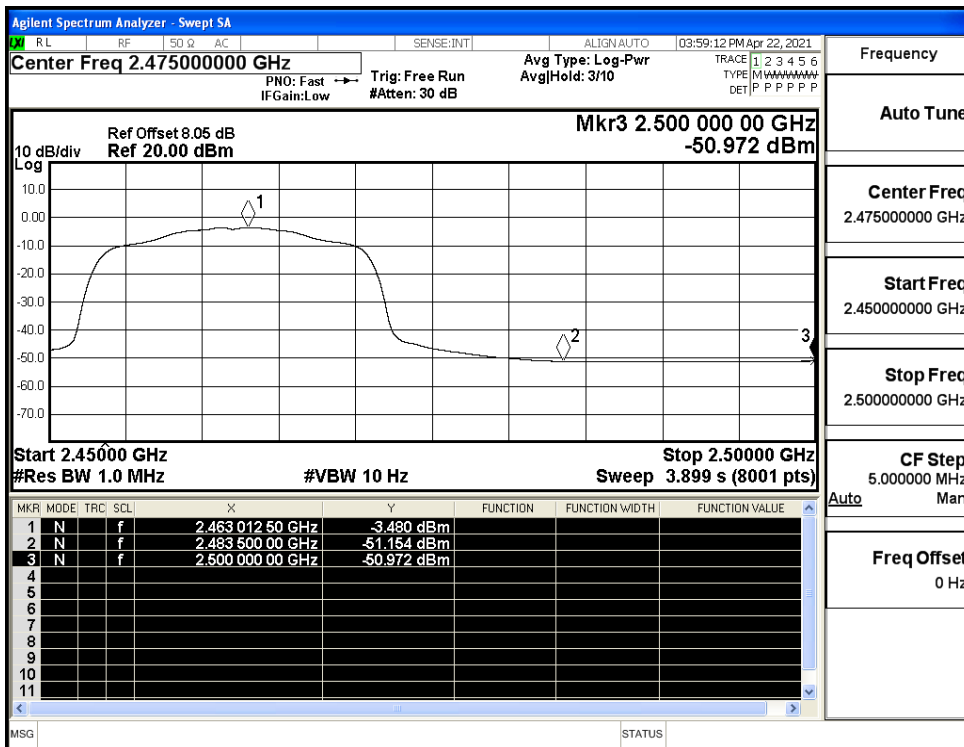
Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_AV



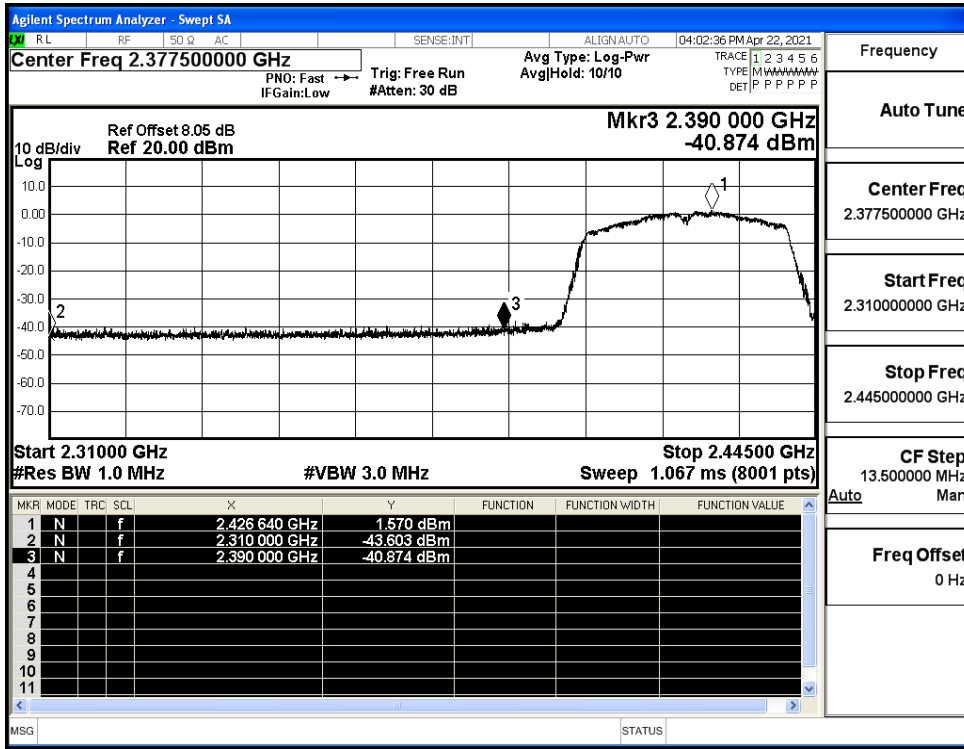
Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_PEAK



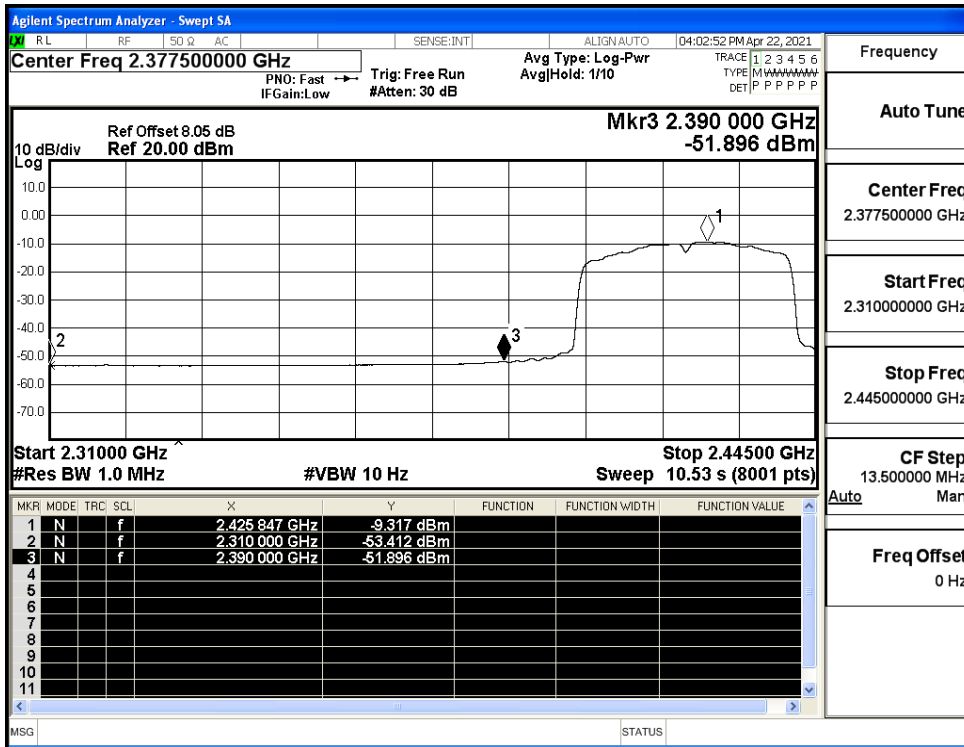
Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_AV



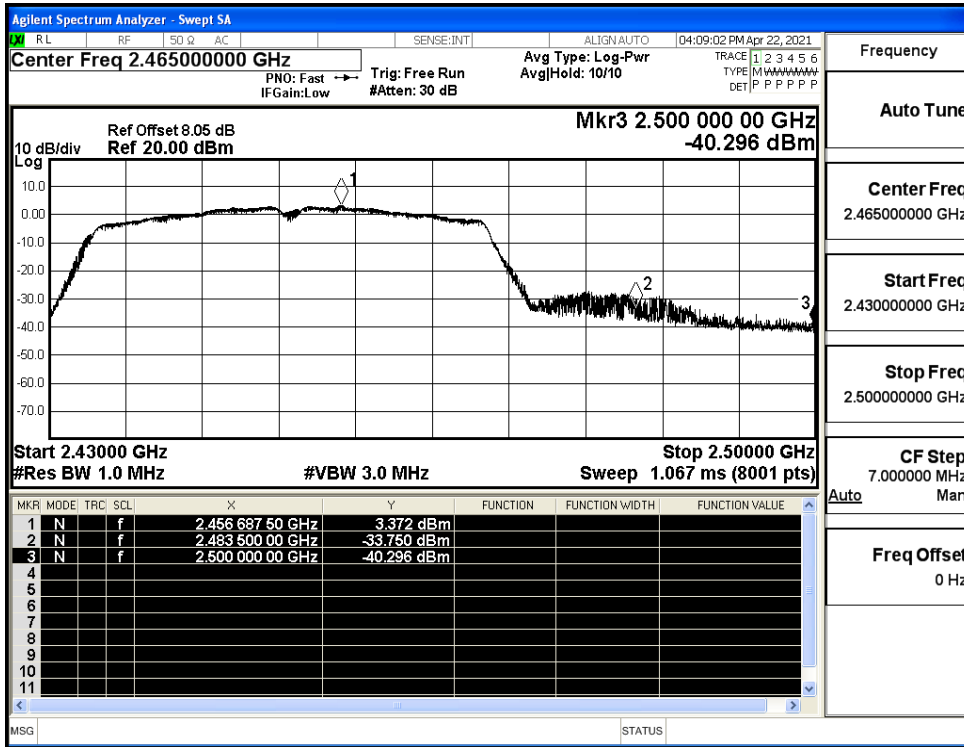
Restrict-band band-edge measurements\_11N40SISO\_2422\_Ant1\_PEAK



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

