

## Appendix A

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

**Product Name: SPOTTER LR**

**Trade Mark: TACTACAM**

**Test Model: SPOTTER LR**

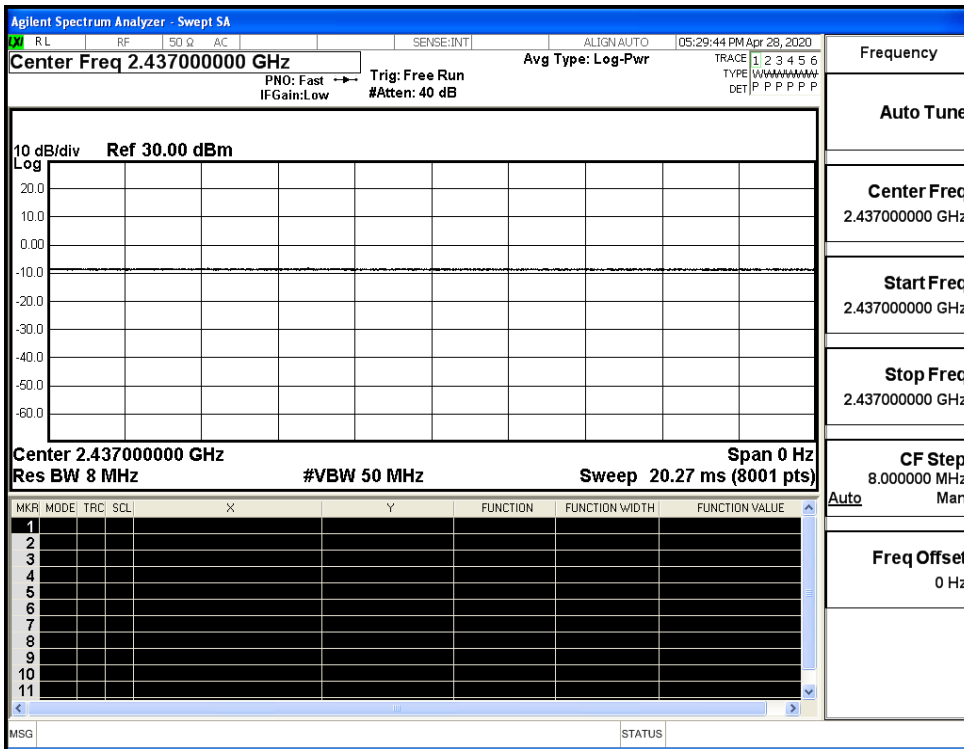
#### Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	53.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Qu Xin
Supervised by:	Li Huan

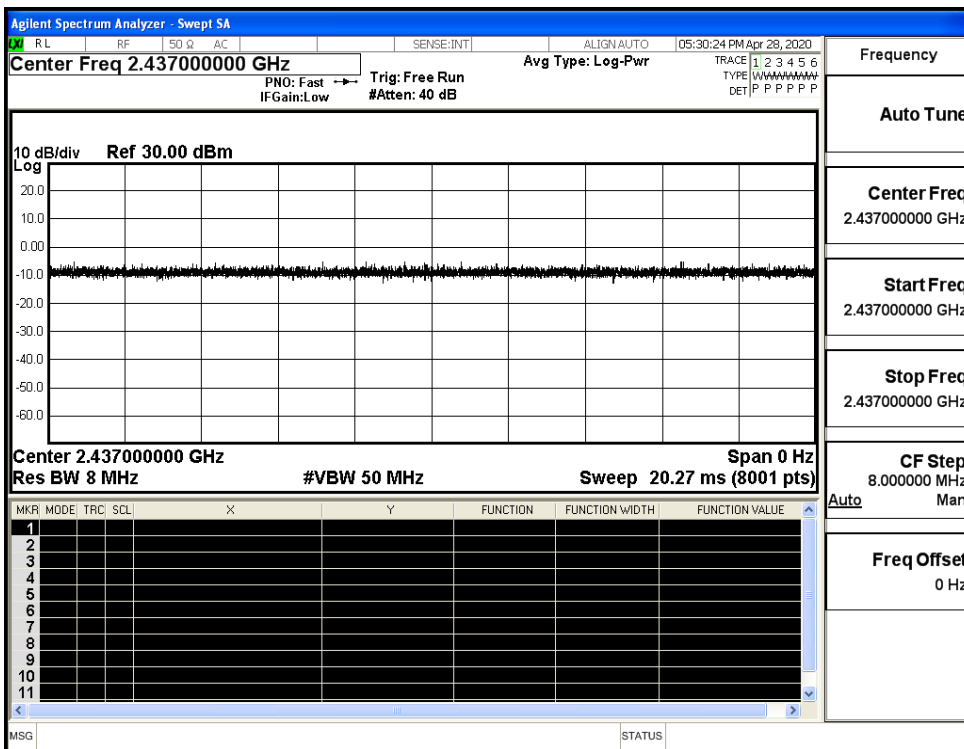
#### A.1 Duty Cycle

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

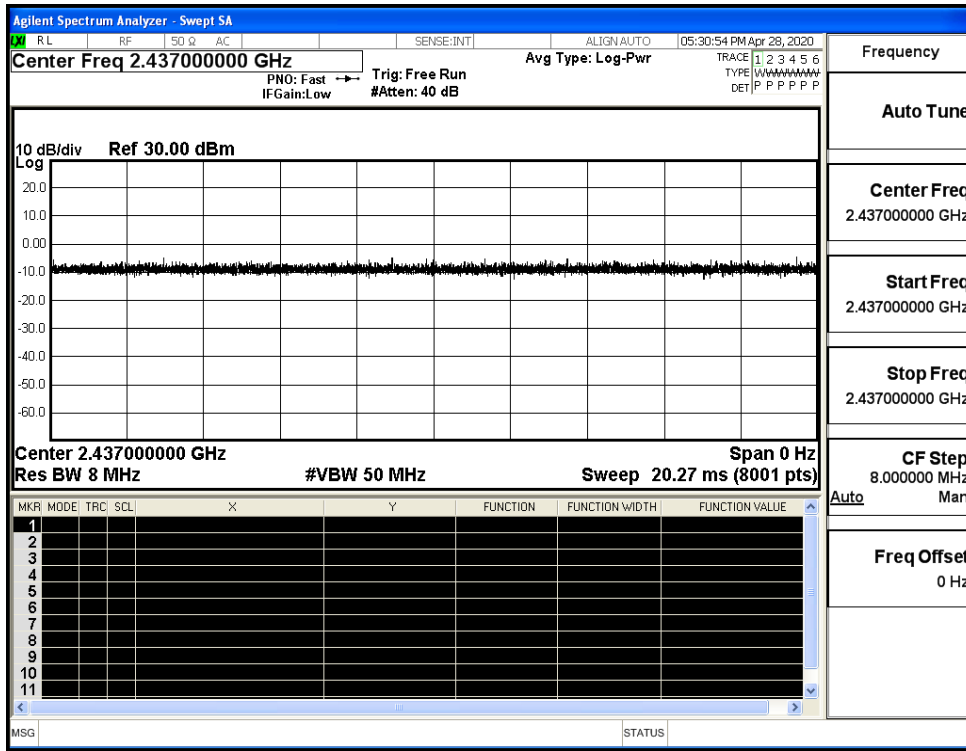
Duty Cycle\_11B\_2437\_Ant1



Duty Cycle\_11G\_2437\_Ant1



Duty Cycle\_11N20SISO\_2437\_Ant1

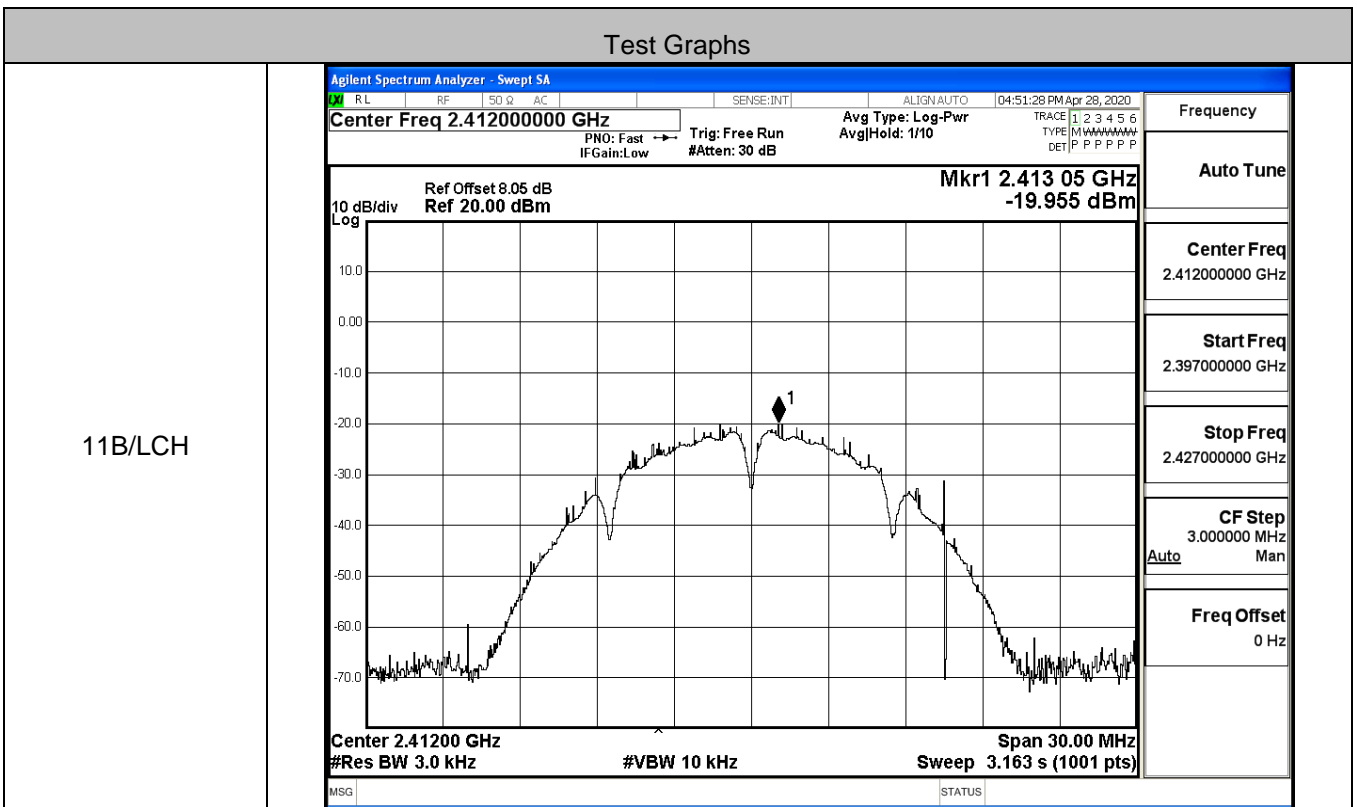


## A.2 Maximum Conducted Output Power

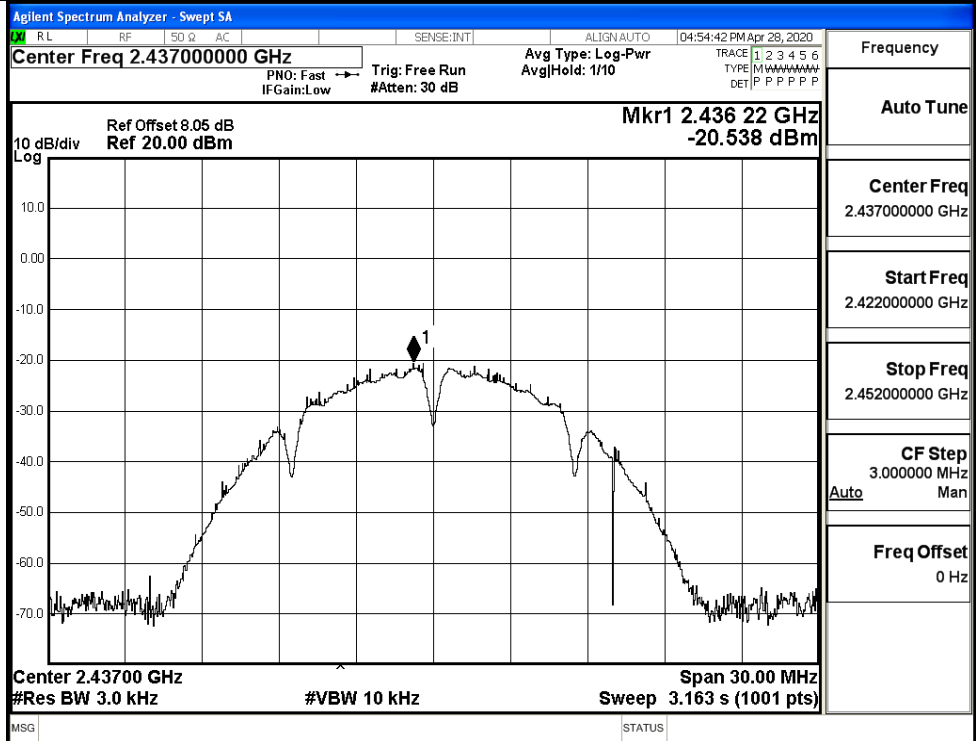
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	8.04	30	PASS
	MCH	8.10	30	PASS
	HCH	8.31	30	PASS
11G	LCH	8.68	30	PASS
	MCH	8.60	30	PASS
	HCH	8.48	30	PASS
11N20SISO	LCH	7.58	30	PASS
	MCH	7.53	30	PASS
	HCH	7.48	30	PASS

### A.3 Maximum Power Spectral Density

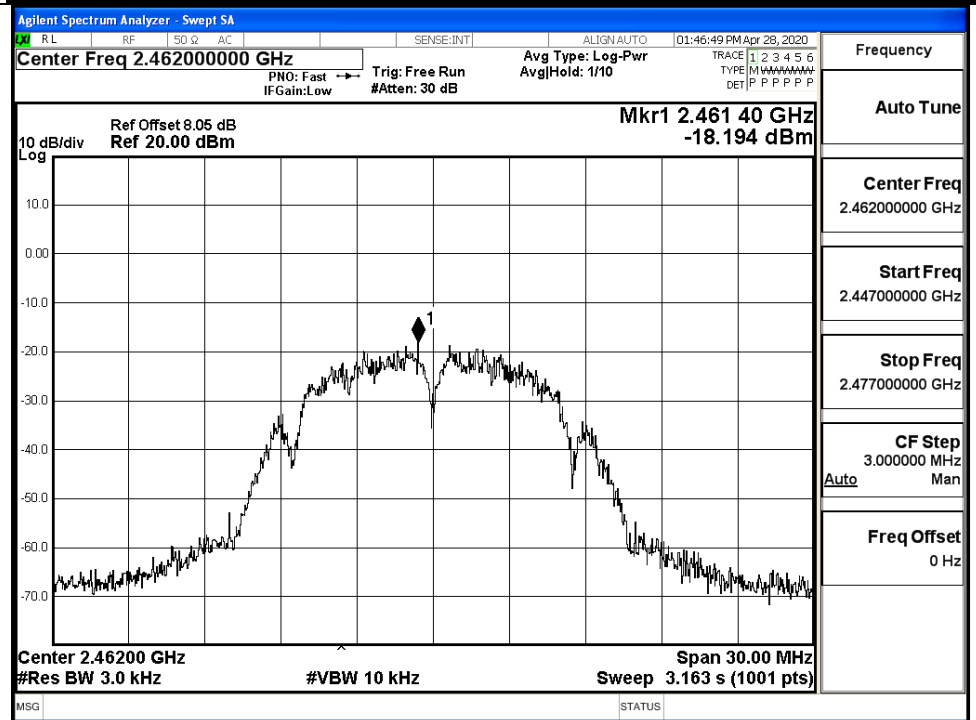
Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-19.955	8	PASS
	MCH	-20.538	8	PASS
	HCH	-18.194	8	PASS
11G	LCH	-22.368	8	PASS
	MCH	-23.923	8	PASS
	HCH	-24.354	8	PASS
11N20SISO	LCH	-23.735	8	PASS
	MCH	-24.351	8	PASS
	HCH	-24.080	8	PASS



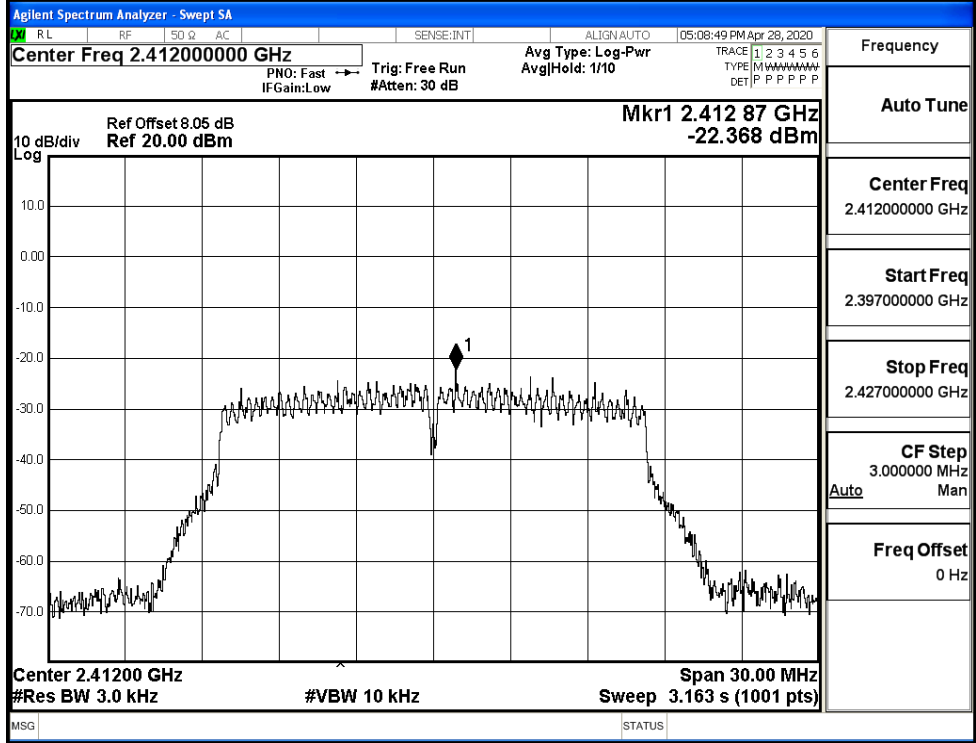
11B/MCH



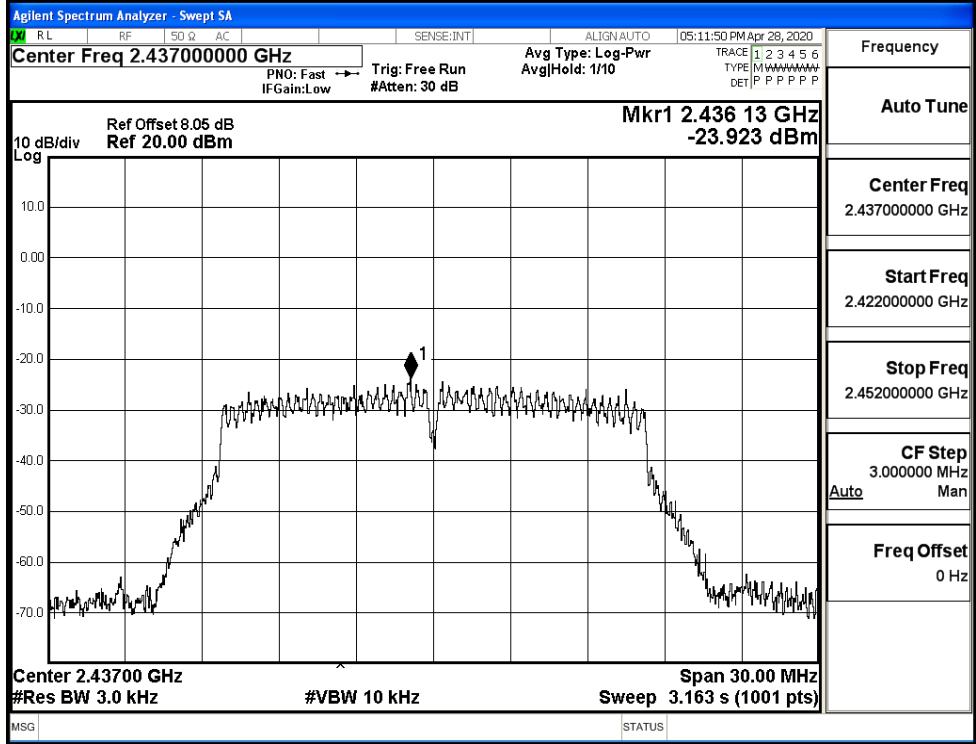
11B/HCH



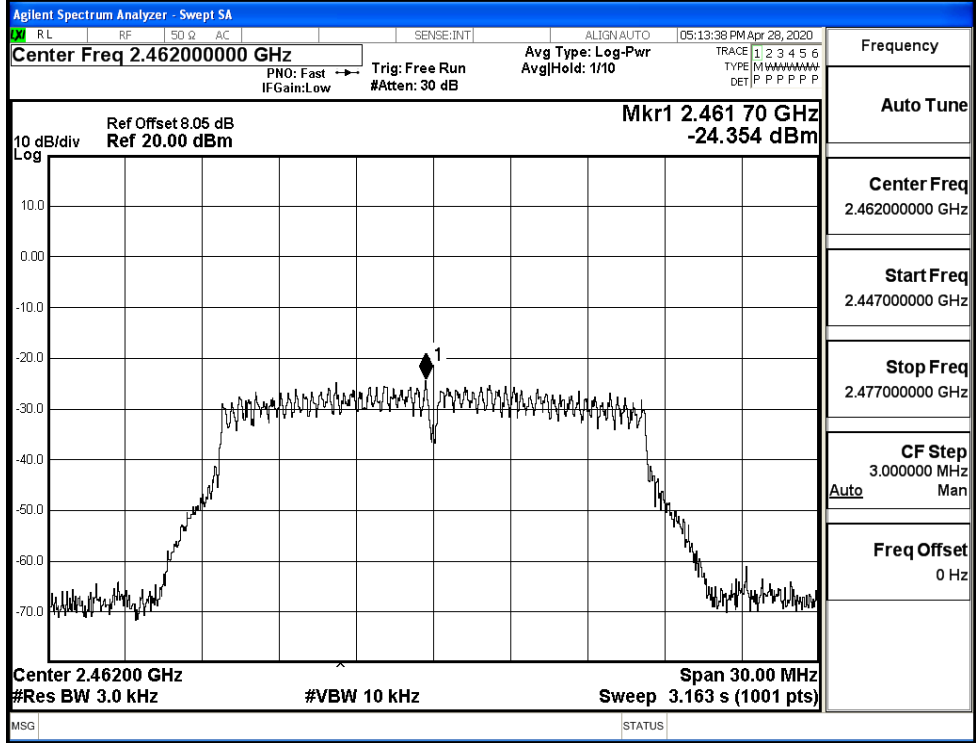
11G/LCH



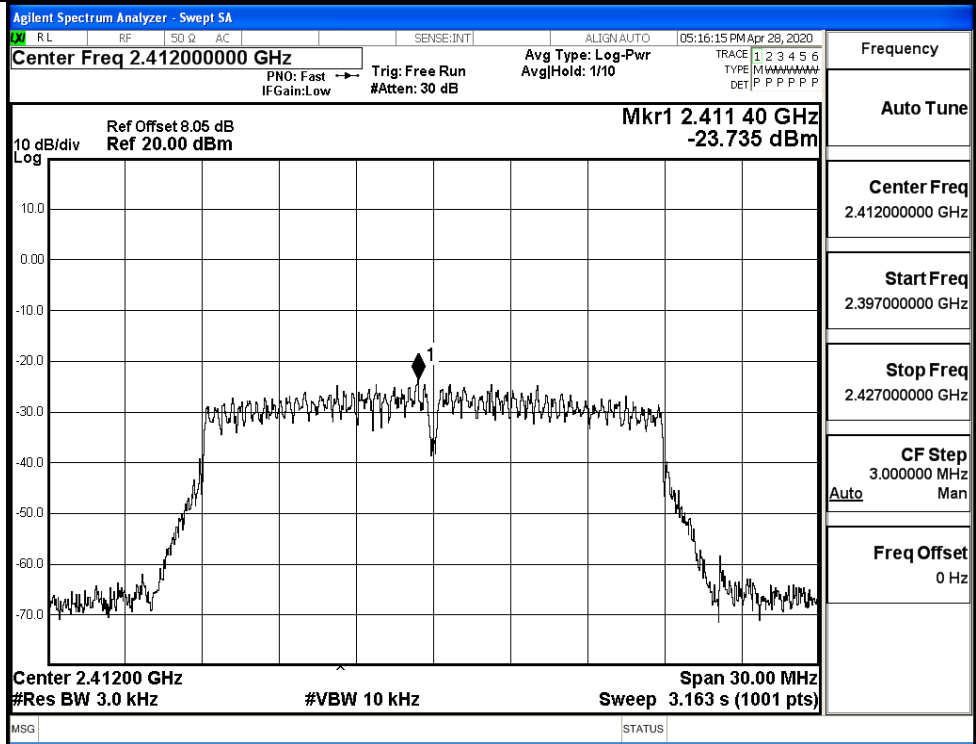
11G/MCH



11G/HCH

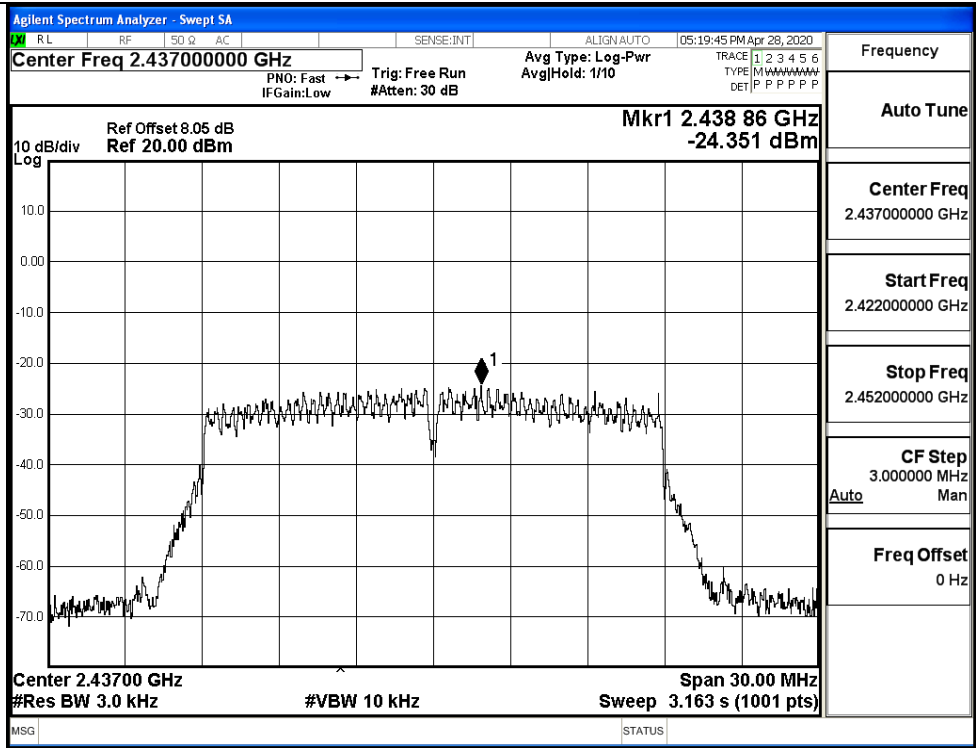


11N20SISO/LCH

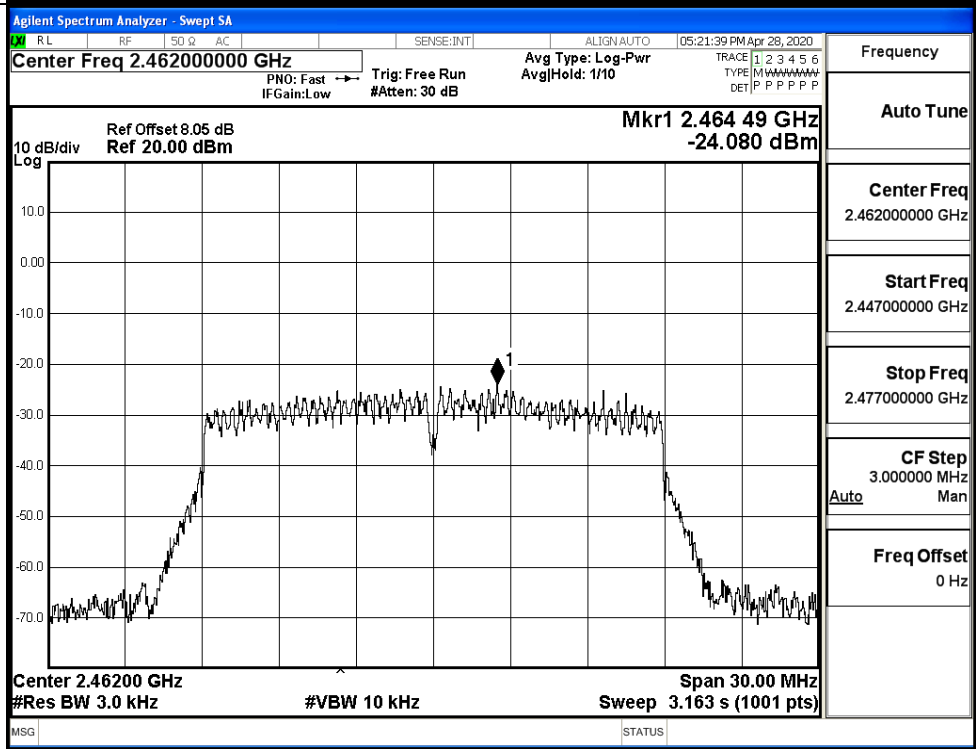




11N20SISO/MCH

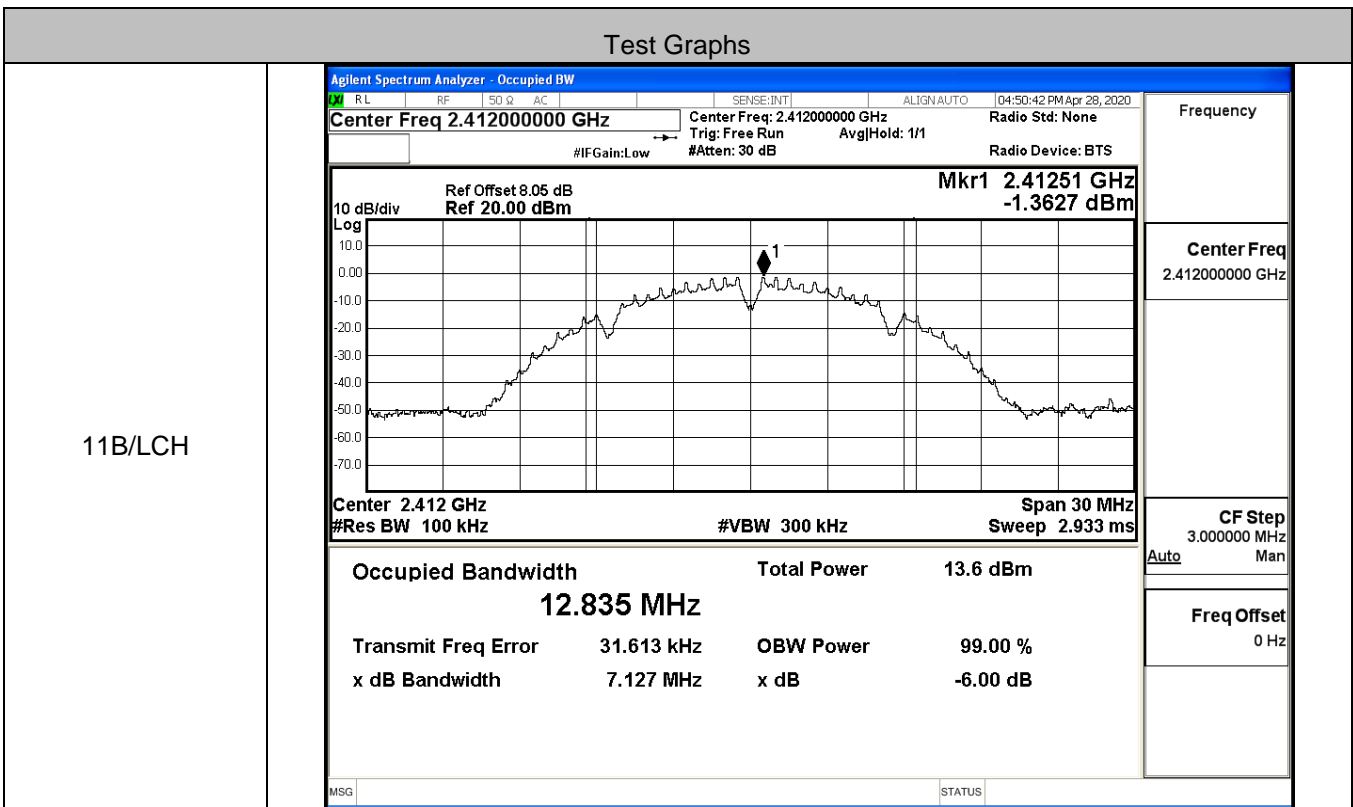


11N20SISO/HCH

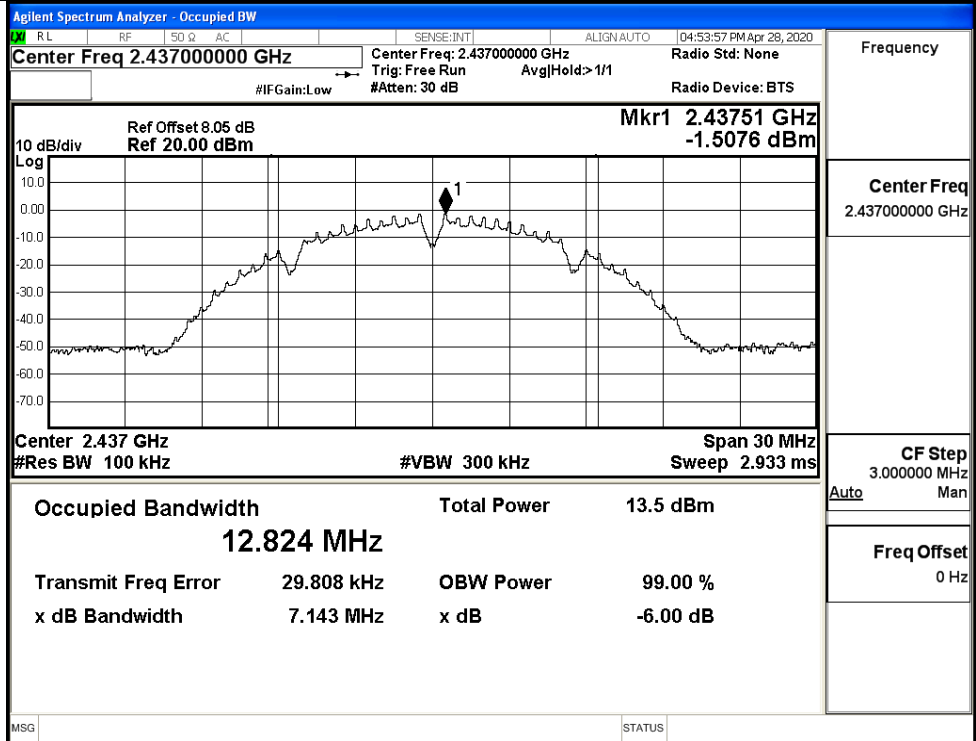


**A.4 6dB Bandwidth**

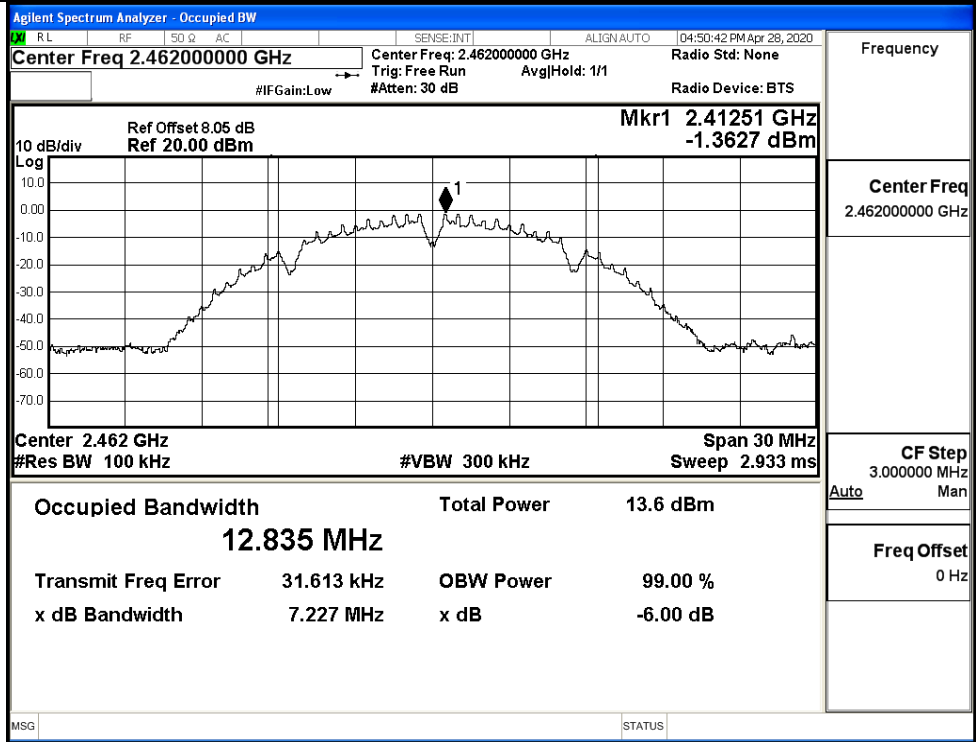
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	7.127	≥0.5	PASS
	MCH	7.143	≥0.5	PASS
	HCH	7.227	≥0.5	PASS
11G	LCH	15.15	≥0.5	PASS
	MCH	15.10	≥0.5	PASS
	HCH	15.11	≥0.5	PASS
11N20SISO	LCH	15.14	≥0.5	PASS
	MCH	15.14	≥0.5	PASS
	HCH	15.14	≥0.5	PASS



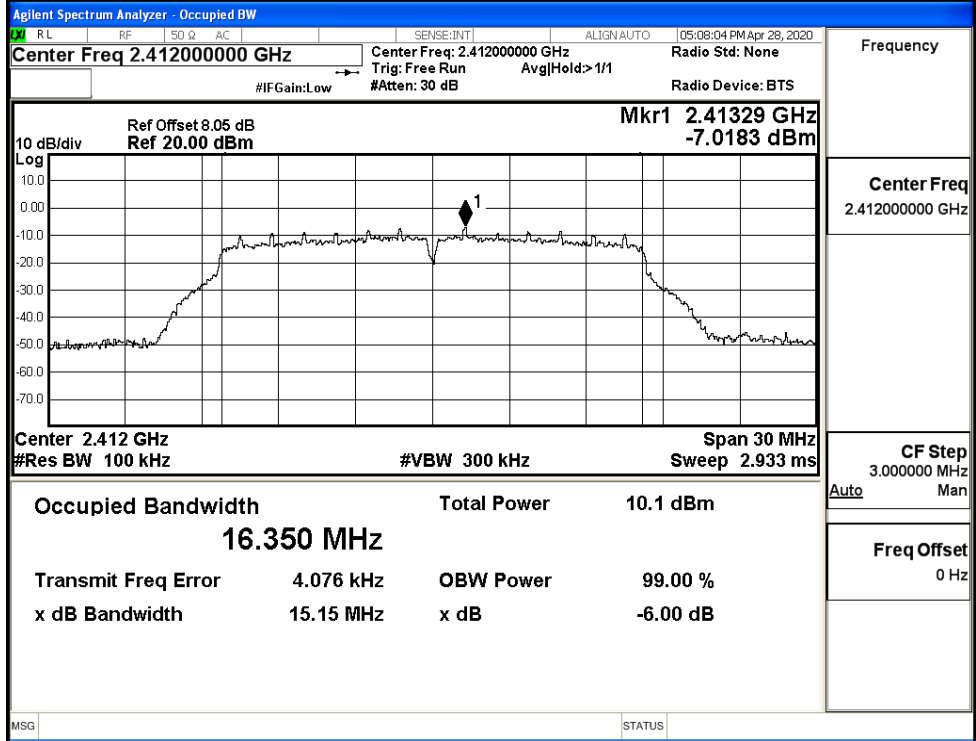
11B/MCH



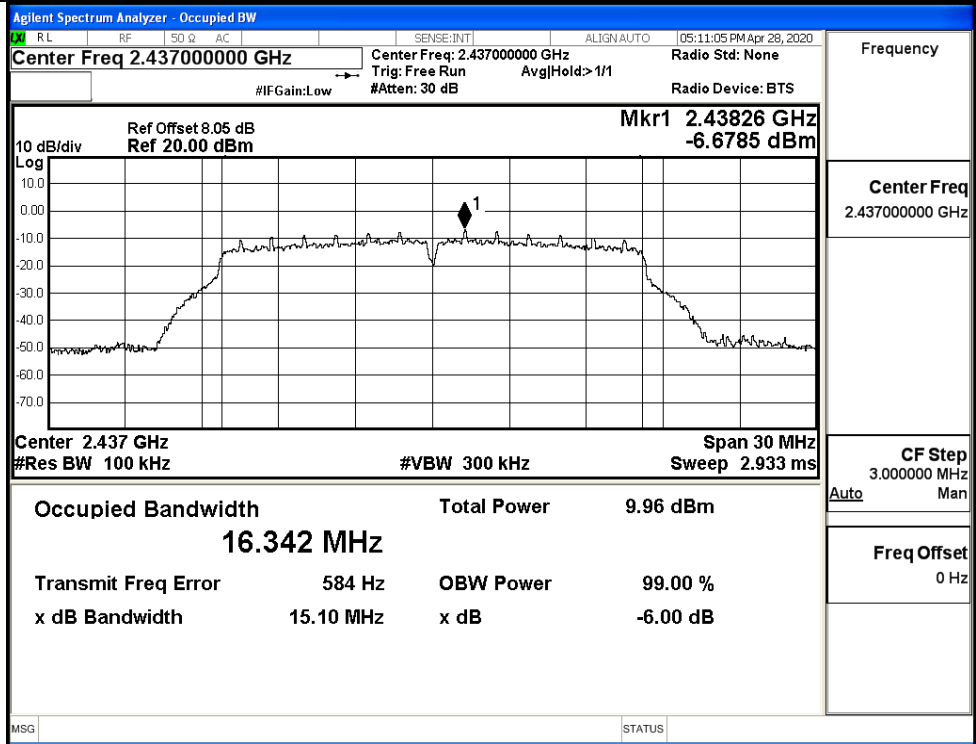
11B/HCH



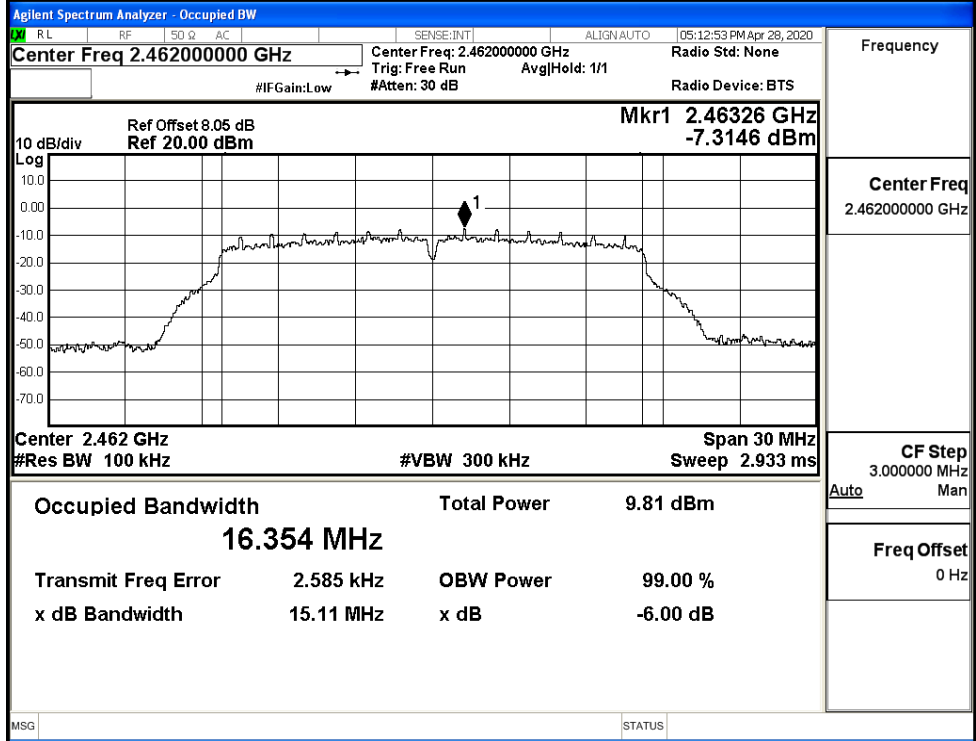
11G/LCH



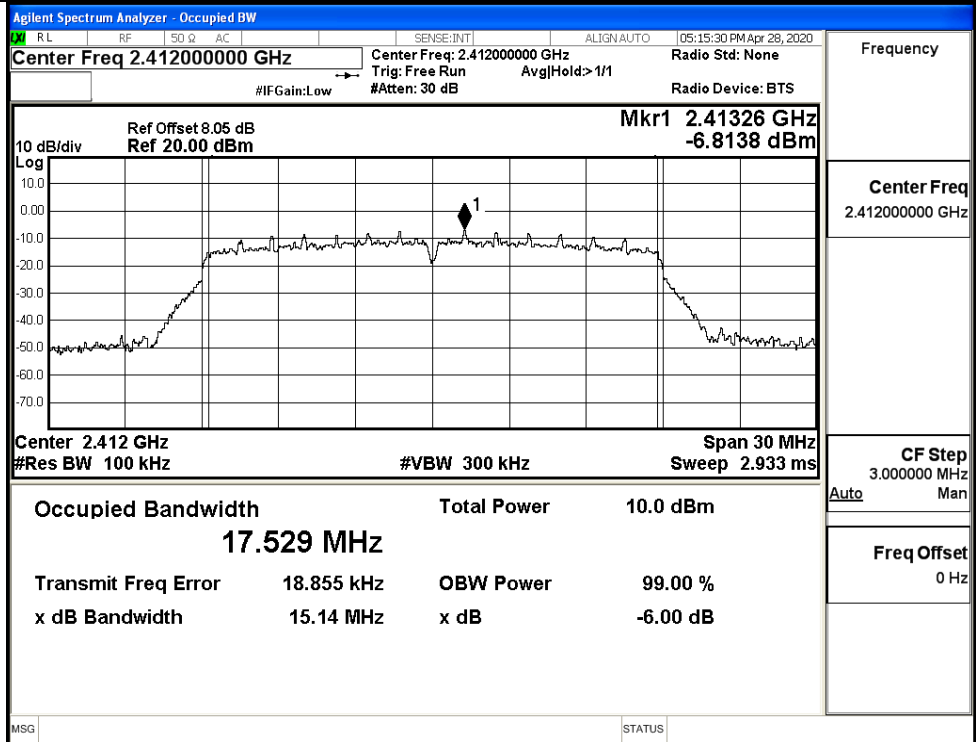
11G/MCH

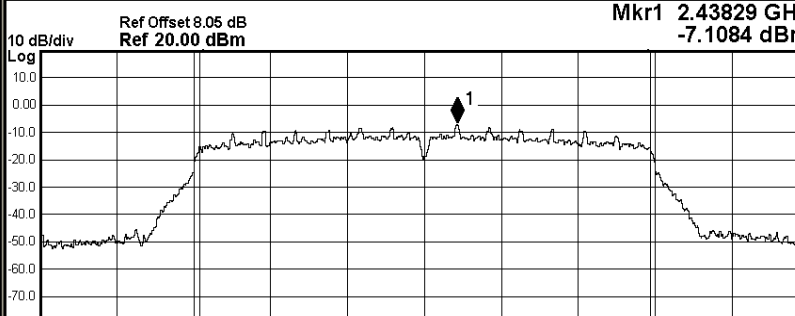
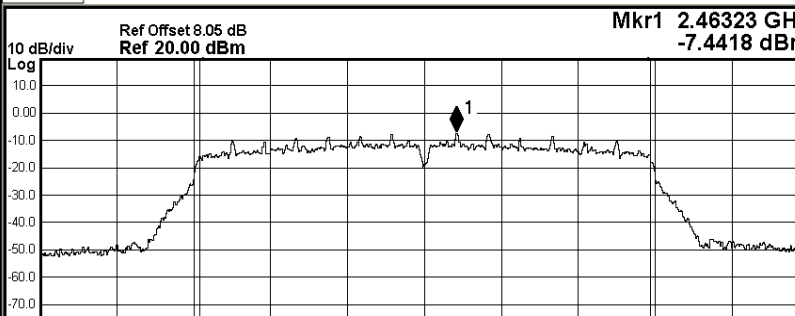


11G/HCH



11N20SISO/LCH



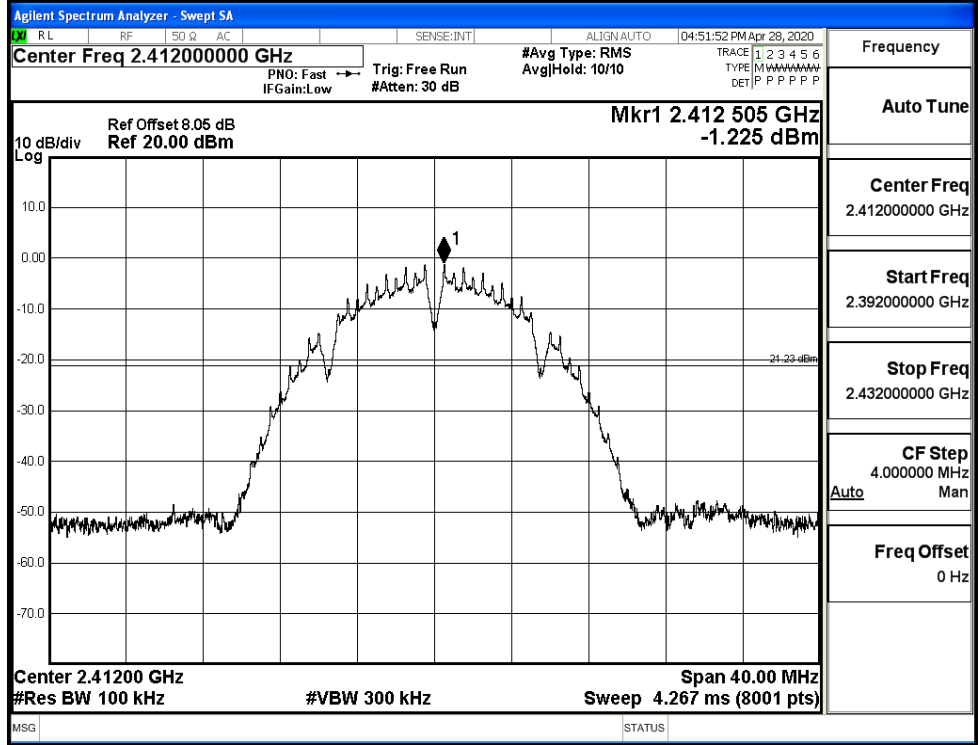
<p>11N20SISO/MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:19:00 PM Apr 28, 2020</p> <p>Center Freq 2.43700000 GHz Center Freq: 2.43700000 GHz Radio Std: None          Trig: Free Run Avg Hold: 1/1 Radio Device: BTS          #IFGain:Low #Atten: 30 dB</p> <p>10 dB/div Ref Offset 8.05 dB Mkr1 2.43829 GHz          Ref 20.00 dBm -7.1084 dBm</p>  <p>Center 2.437 GHz Span 30 MHz          #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms</p> <p>Occupied Bandwidth Total Power 9.76 dBm  <b>17.532 MHz</b></p> <p>Transmit Freq Error 19.370 kHz OBW Power 99.00 %          x dB Bandwidth 15.14 MHz x dB -6.00 dB</p> <p>MSG STATUS</p>	<p>Frequency</p> <p>Center Freq 2.43700000 GHz</p> <p>CF Step 3.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>11N20SISO/HCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:20:54 PM Apr 28, 2020</p> <p>Center Freq 2.46200000 GHz Center Freq: 2.46200000 GHz Radio Std: None          Trig: Free Run Avg Hold: 1/1 Radio Device: BTS          #IFGain:Low #Atten: 30 dB</p> <p>10 dB/div Ref Offset 8.05 dB Mkr1 2.46323 GHz          Ref 20.00 dBm -7.4418 dBm</p>  <p>Center 2.462 GHz Span 30 MHz          #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms</p> <p>Occupied Bandwidth Total Power 9.65 dBm  <b>17.526 MHz</b></p> <p>Transmit Freq Error 20.806 kHz OBW Power 99.00 %          x dB Bandwidth 15.14 MHz x dB -6.00 dB</p> <p>MSG STATUS</p>	<p>Frequency</p> <p>Center Freq 2.46200000 GHz</p> <p>CF Step 3.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>

### A.5 RF Conducted Spurious Emissions

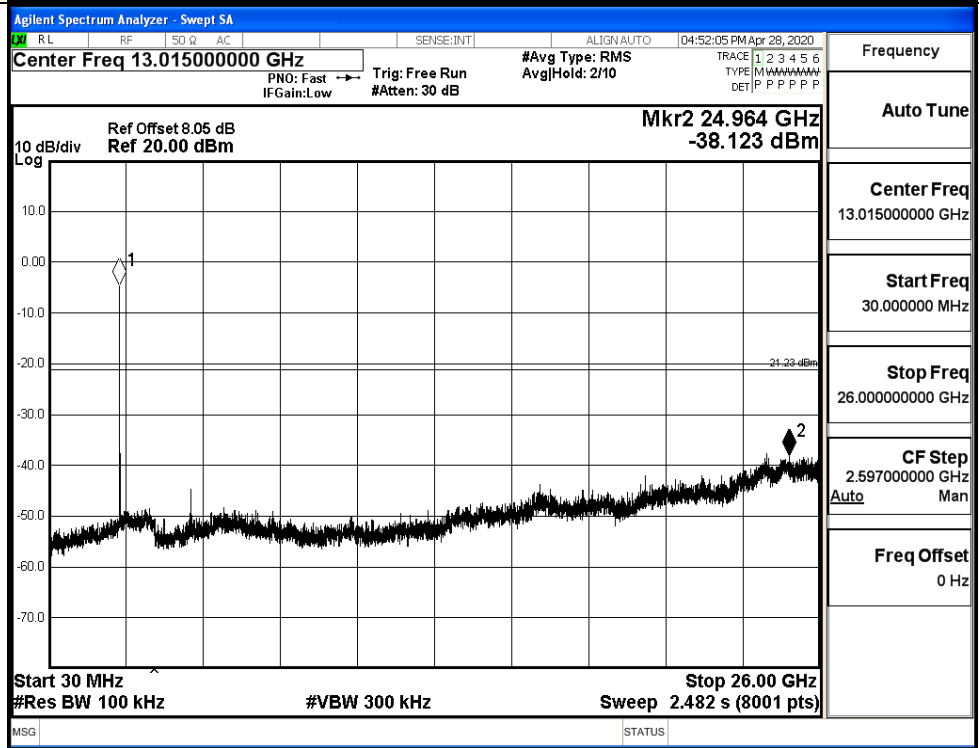
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-1.225	-38.123	-21.225	PASS
	MCH	-1.319	-37.616	-21.319	PASS
	HCH	-3.104	-37.648	-23.104	PASS
11G	LCH	-7.029	-36.873	-27.029	PASS
	MCH	-7.512	-36.150	-27.512	PASS
	HCH	-7.791	-36.446	-27.791	PASS
11N20 SISO	LCH	-6.864	-32.920	-26.864	PASS
	MCH	-7.465	-37.743	-27.465	PASS
	HCH	-7.265	-35.095	-27.265	PASS

11B\_LCH\_Graphs

Pref/11B/LCH

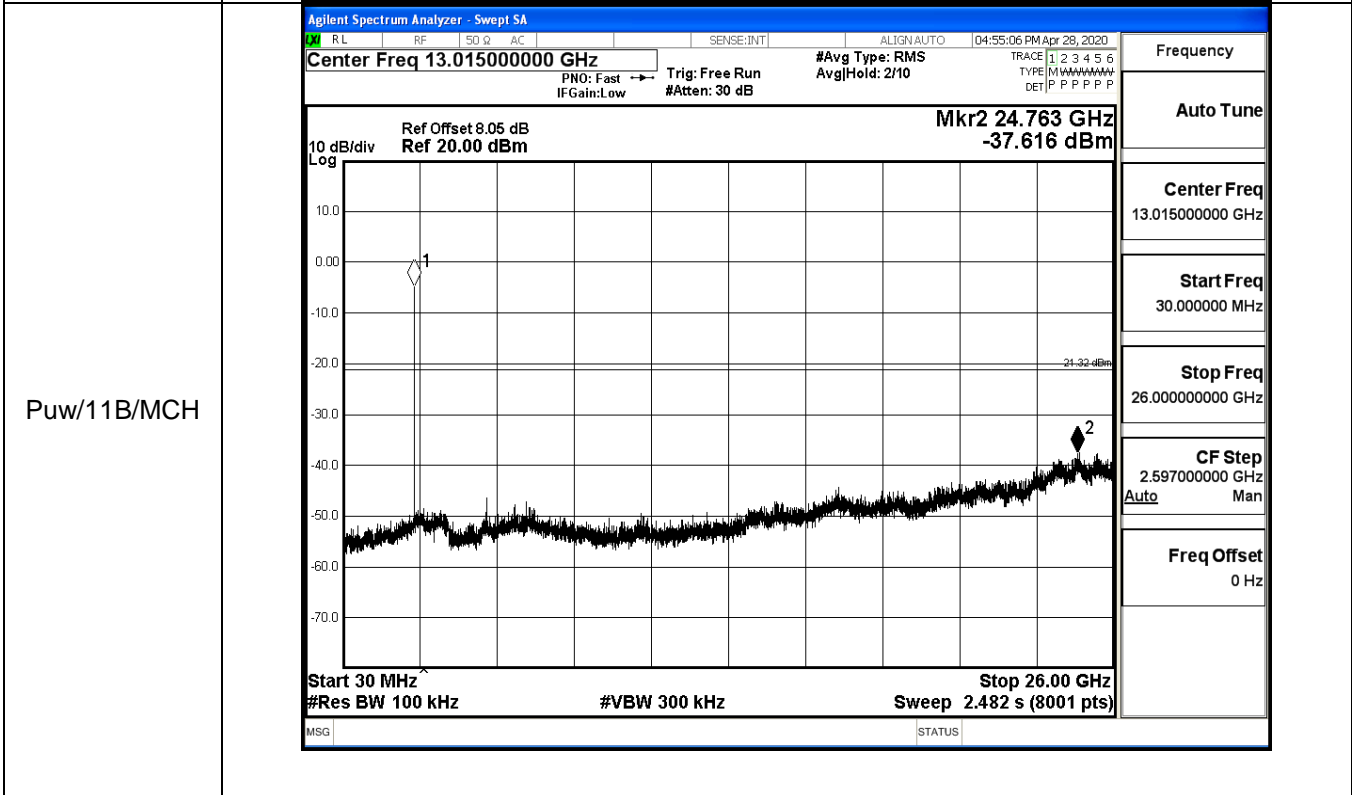
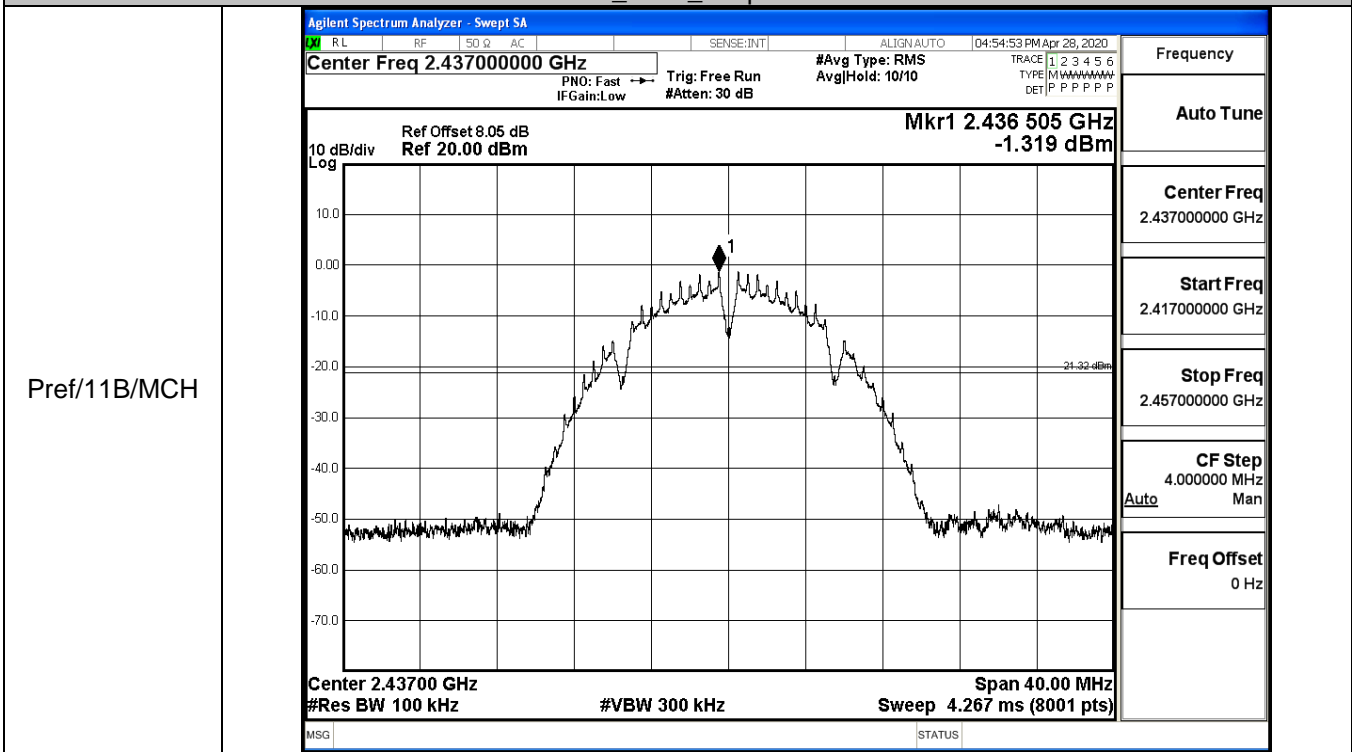


Puw/11B/LCH



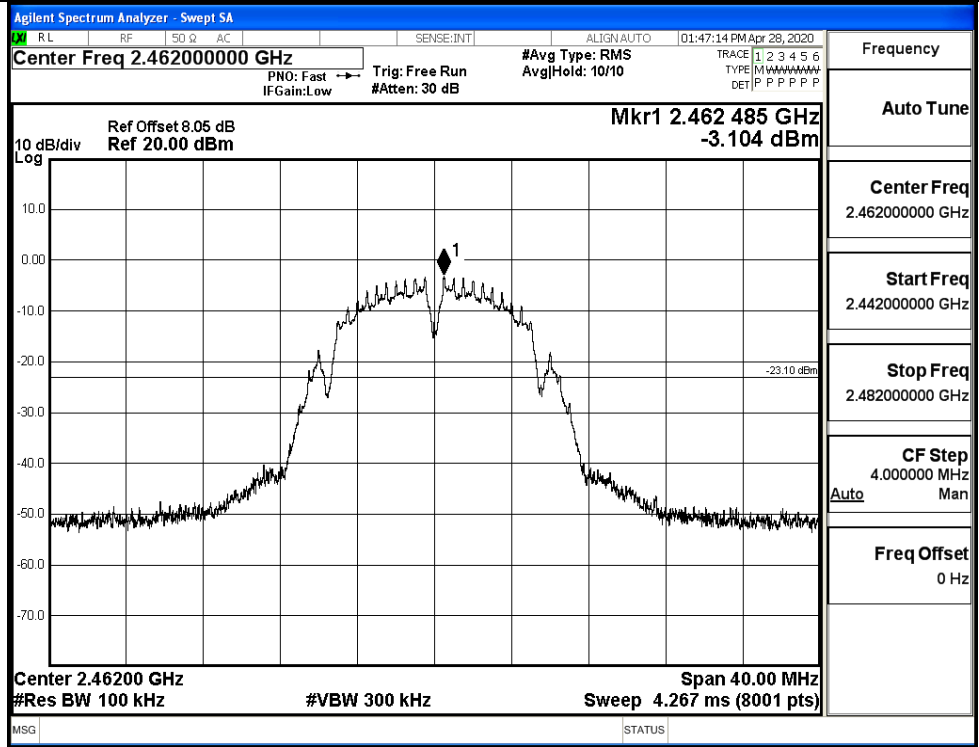


11B\_MCH\_Graphs

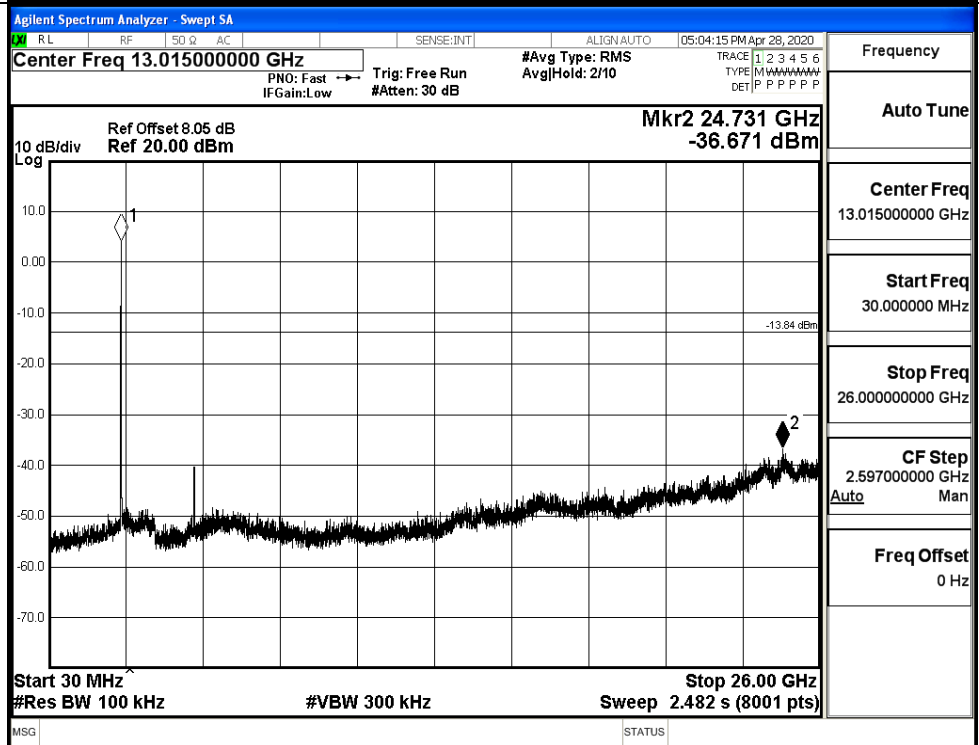


11B\_HCH\_Graphs

Pref/11B/HCH

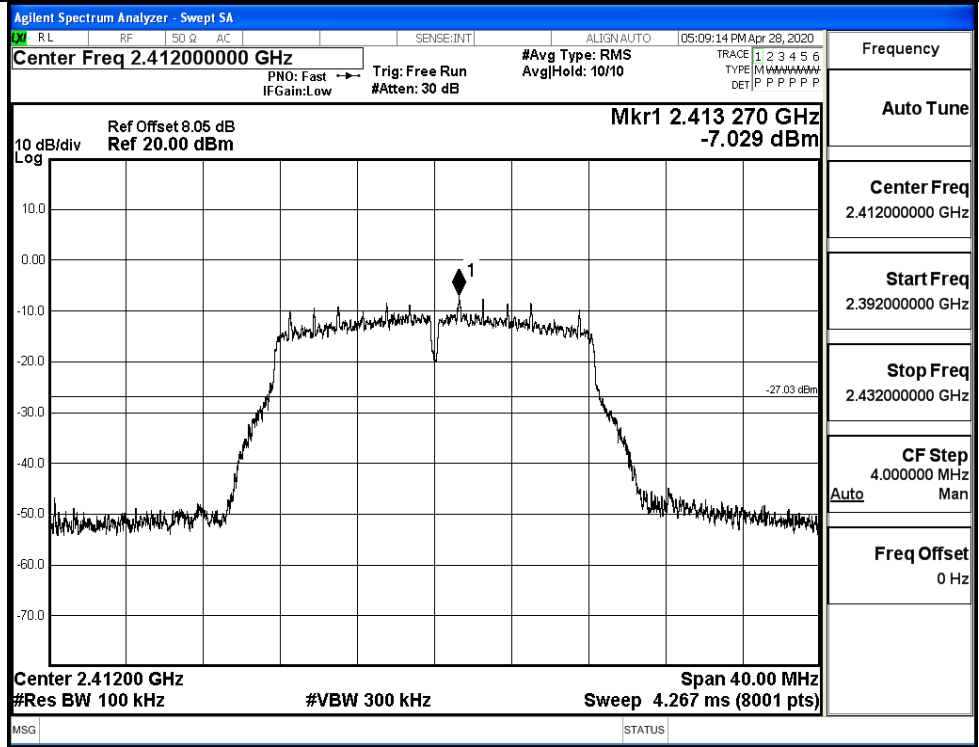


Puw/11B/HCH

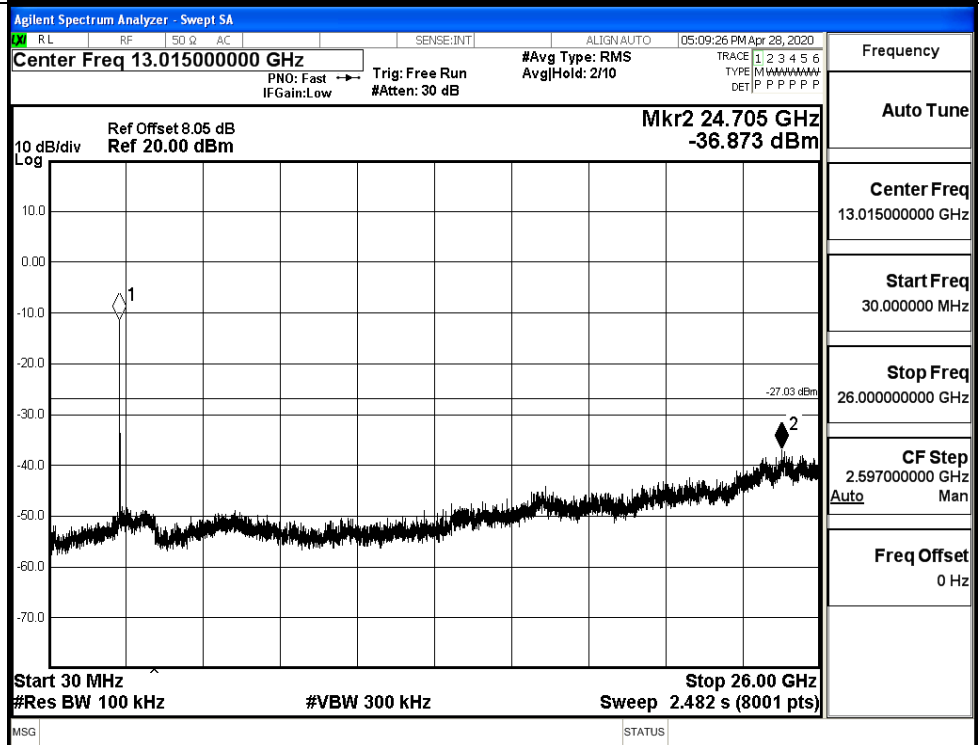


11G\_LCH\_Graphs

Pref/11G/LCH



Puw/11G/LCH

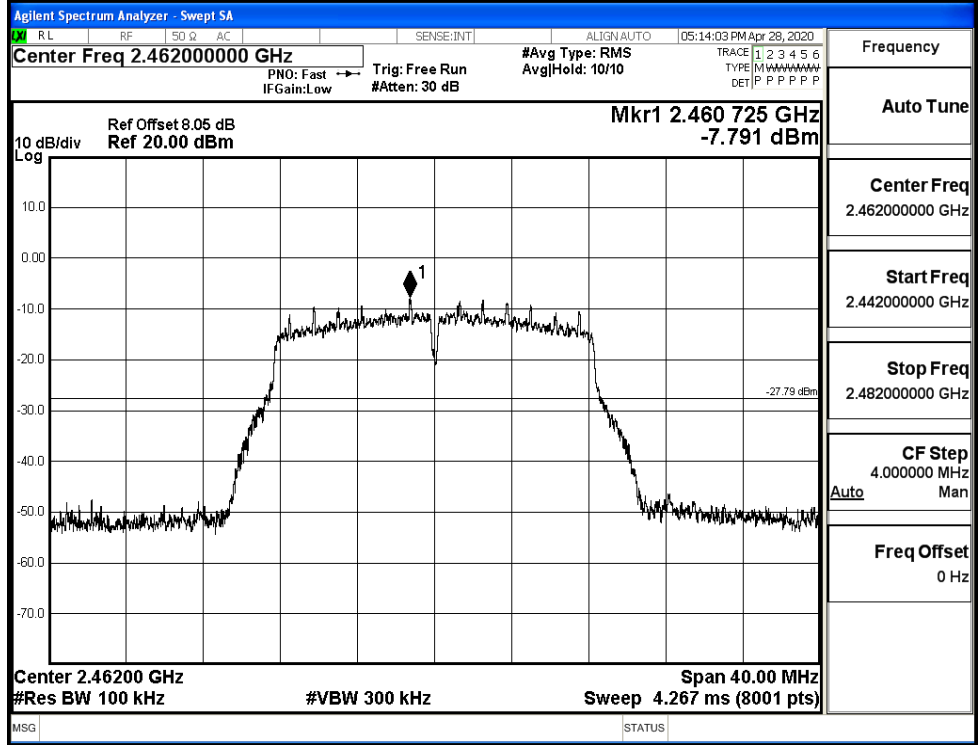


11G\_MCH\_Graphs

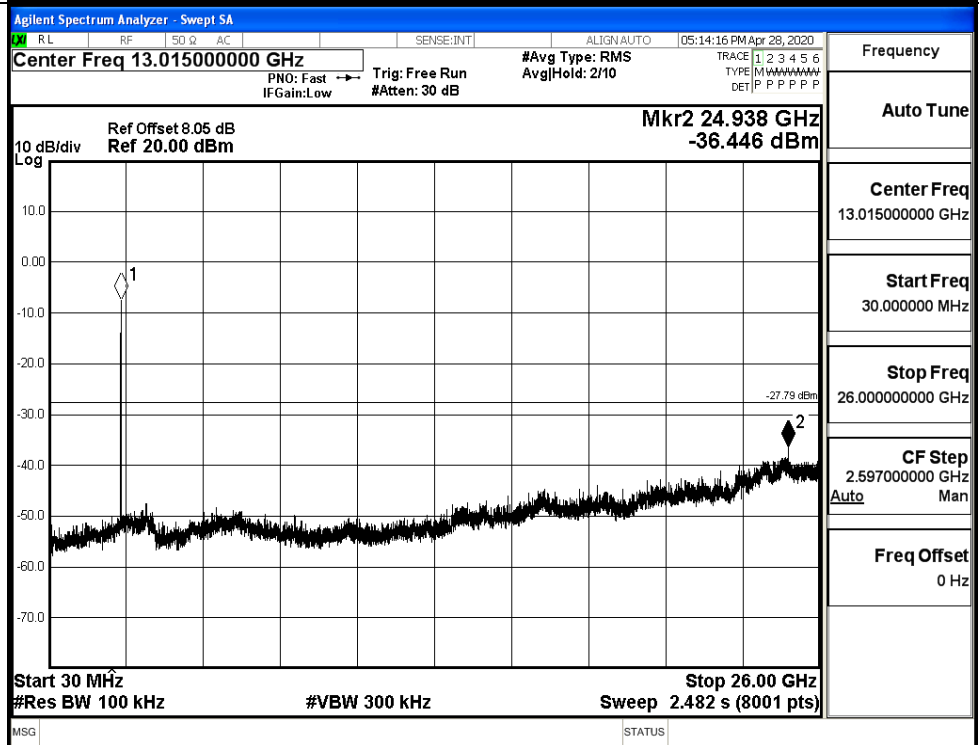
<p>Pref/11G/MCH</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.43700000 GHz</p> <p>Mkr1 2.438 300 GHz -7.512 dBm</p> <p>Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 4.267 ms (8001 pts)</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.437000000 GHz</p> <p>Start Freq 2.417000000 GHz</p> <p>Stop Freq 2.457000000 GHz</p> <p>CF Step 4.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
	<p>Puw/11G/MCH</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 13.01500000 GHz</p> <p>Mkr2 24.779 GHz -36.150 dBm</p> <p>Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.482 s (8001 pts)</p>

11G\_HCH\_Graphs

Pref/11G/HCH

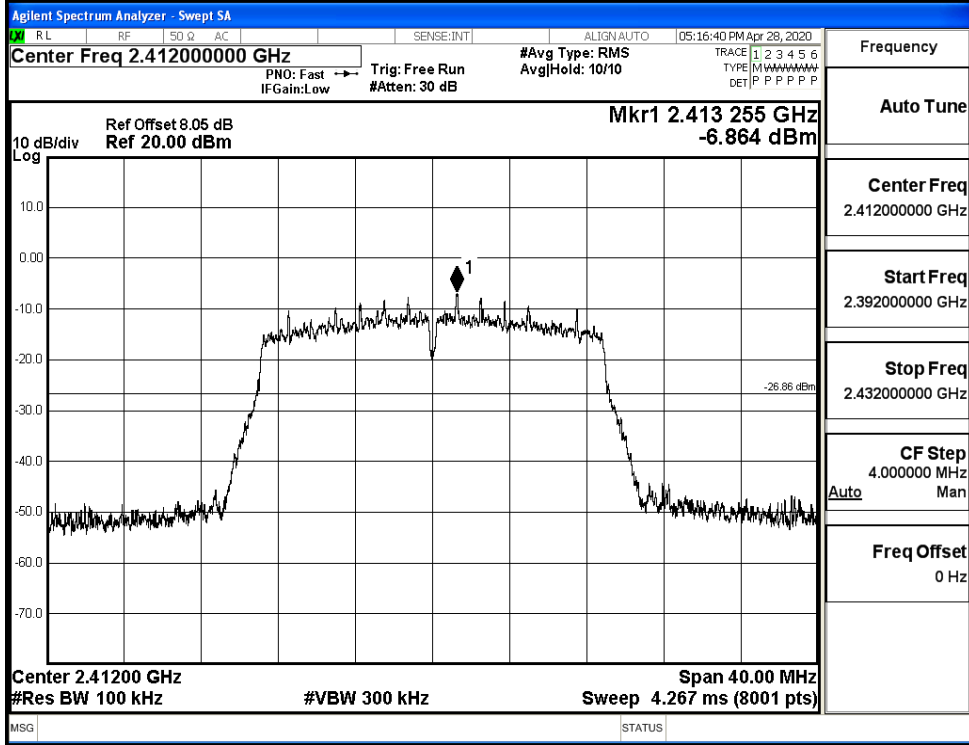


Puw/11G/HCH

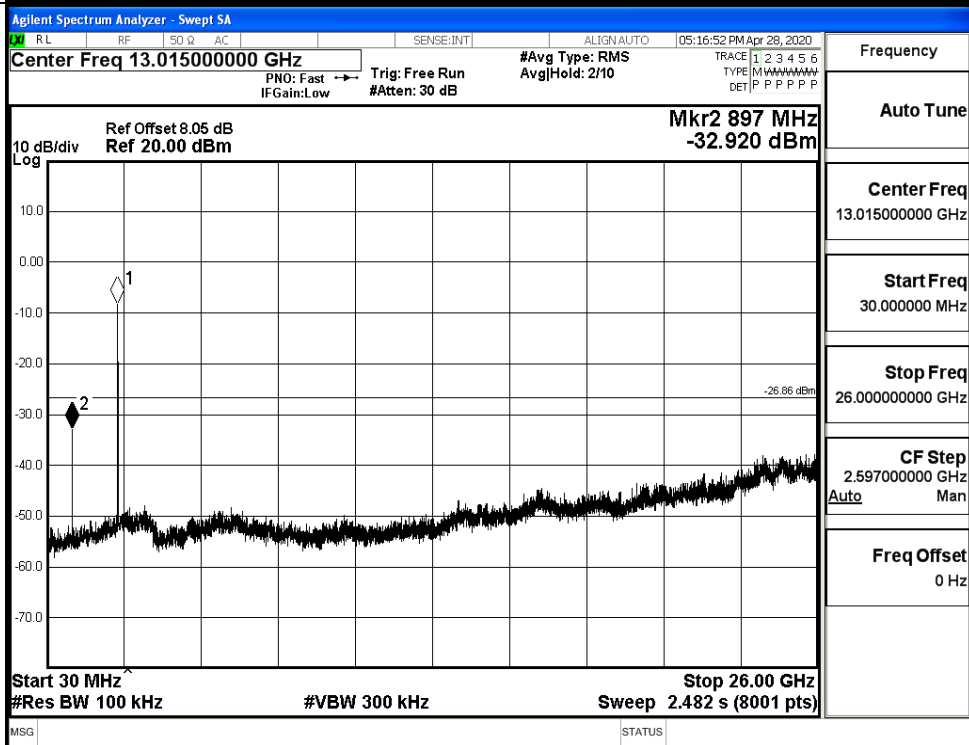


11N20SISO\_LCH\_Graphs

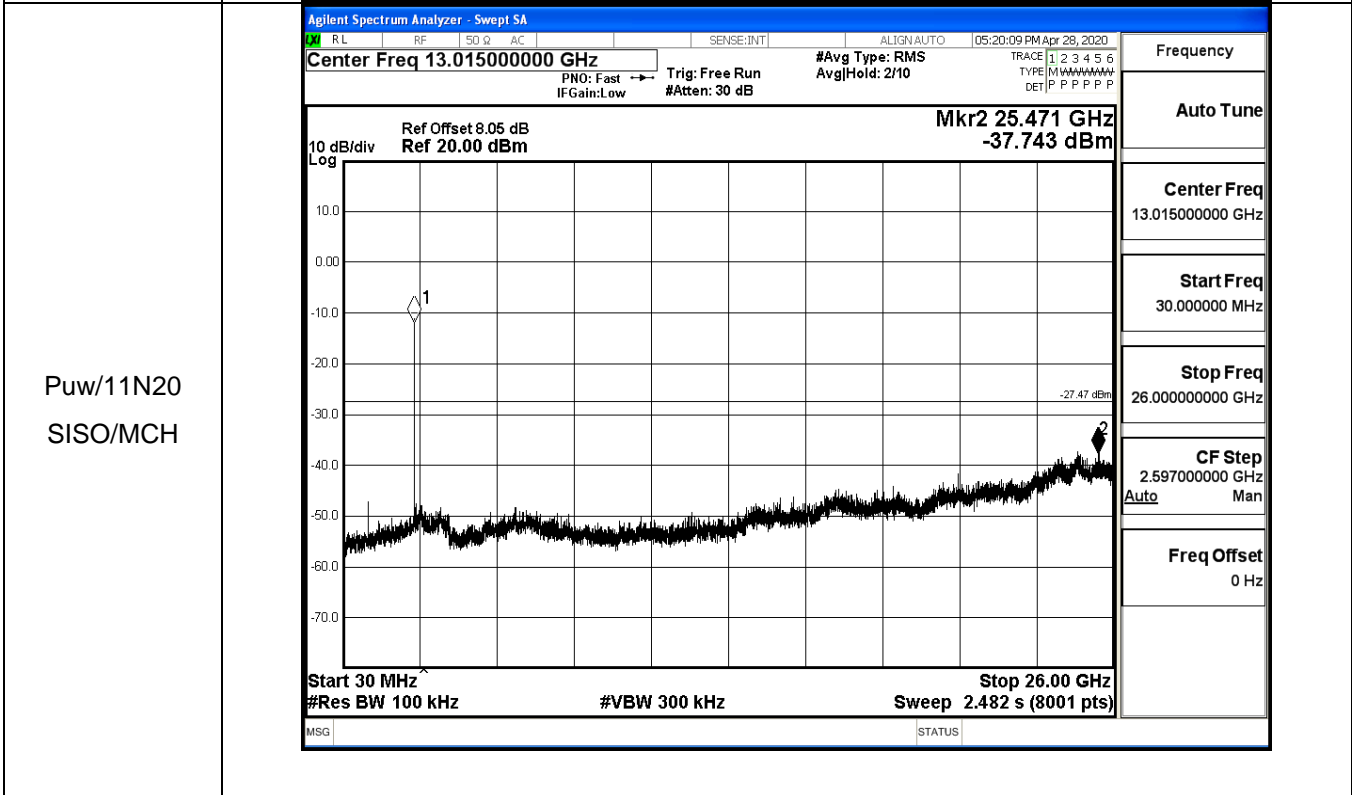
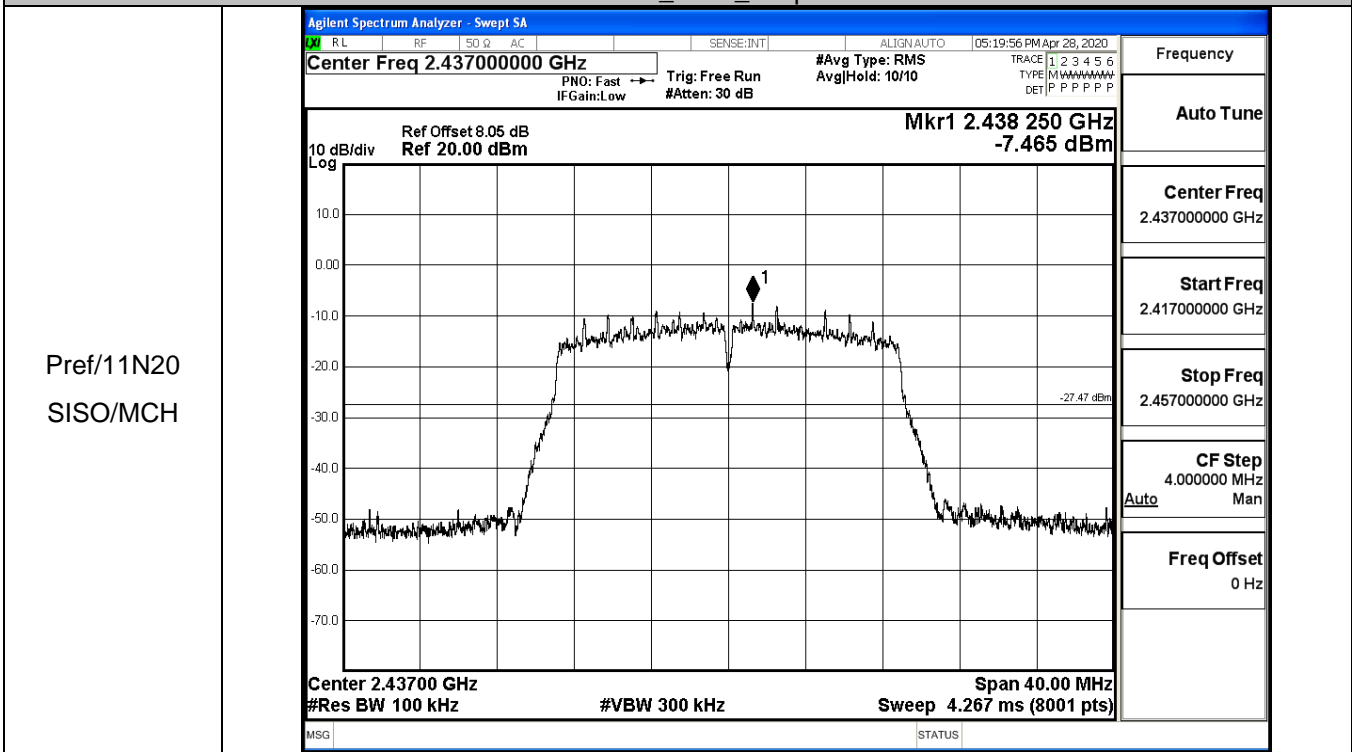
Pref/11N20SIS  
O/LCH



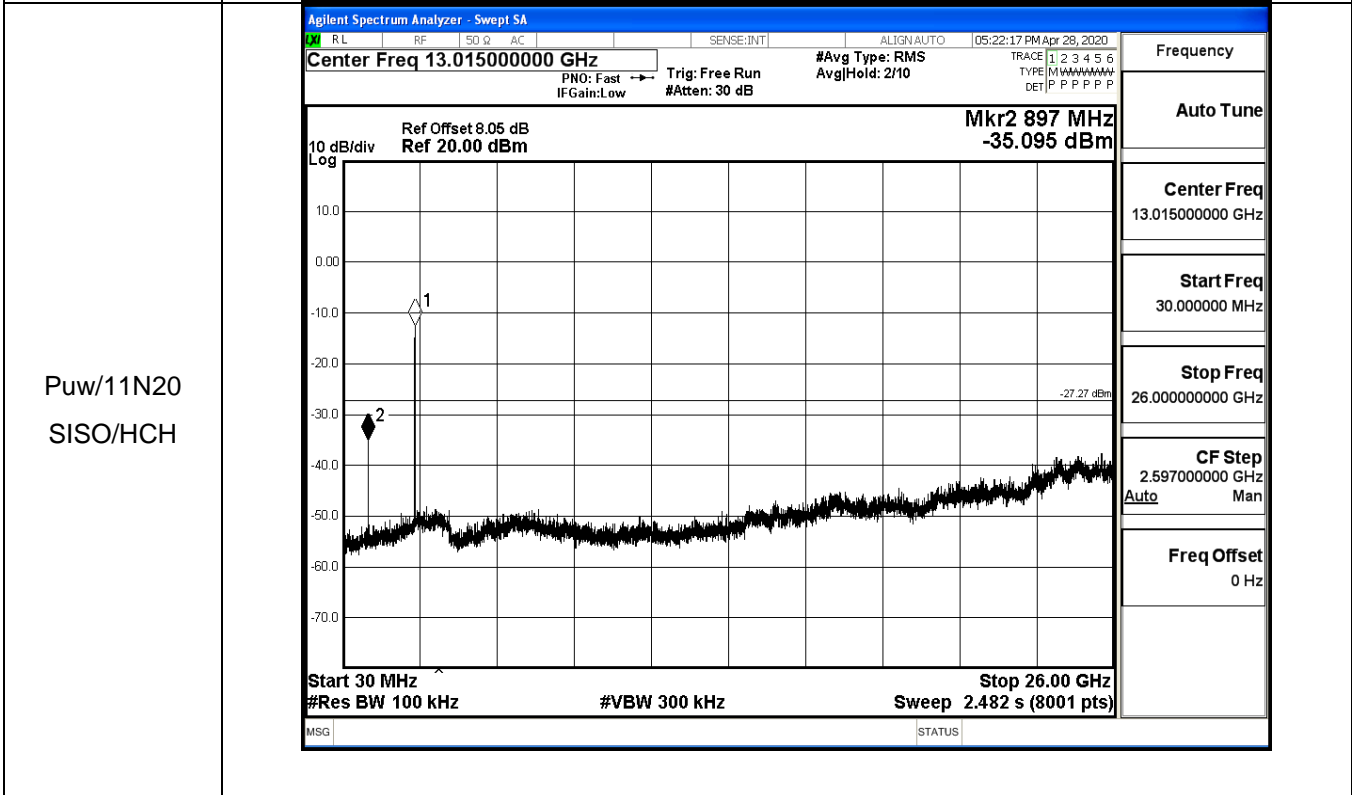
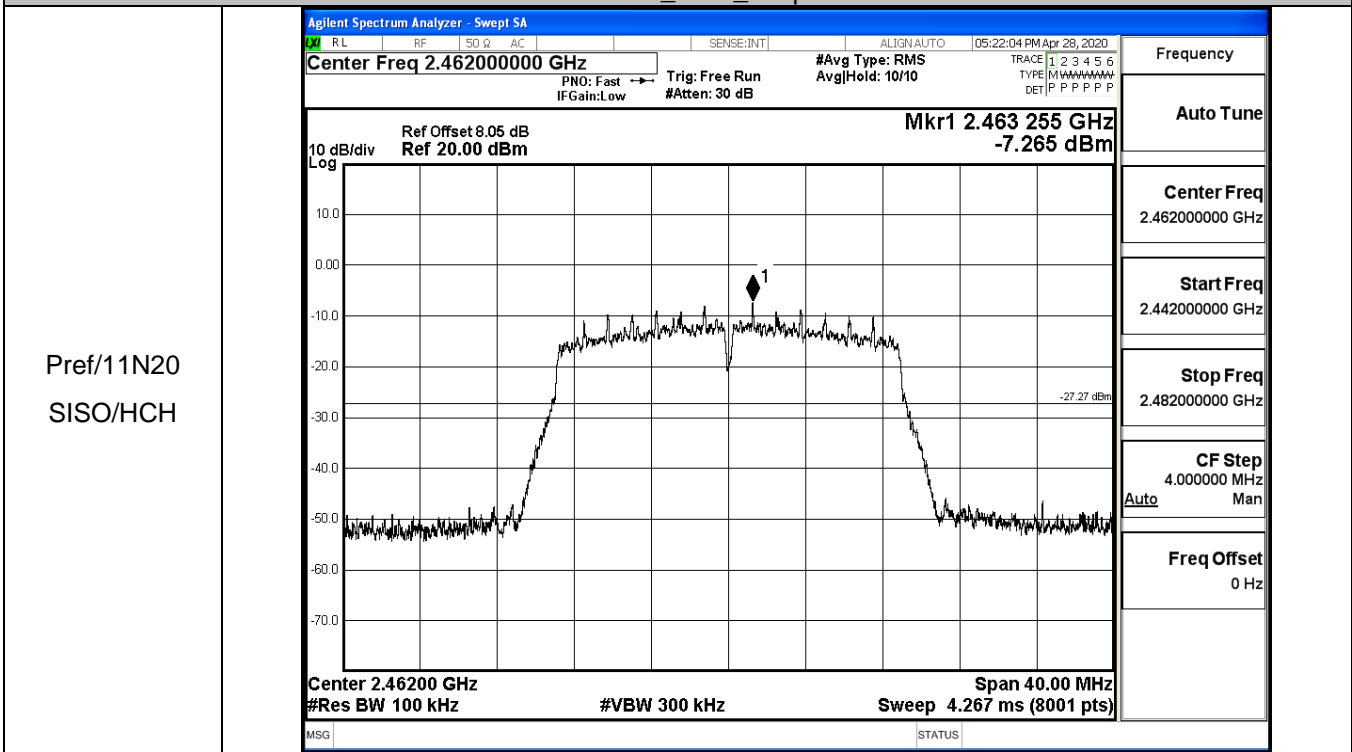
Puw/11N20  
SISO/LCH



11N20SISO\_MCH\_Graphs



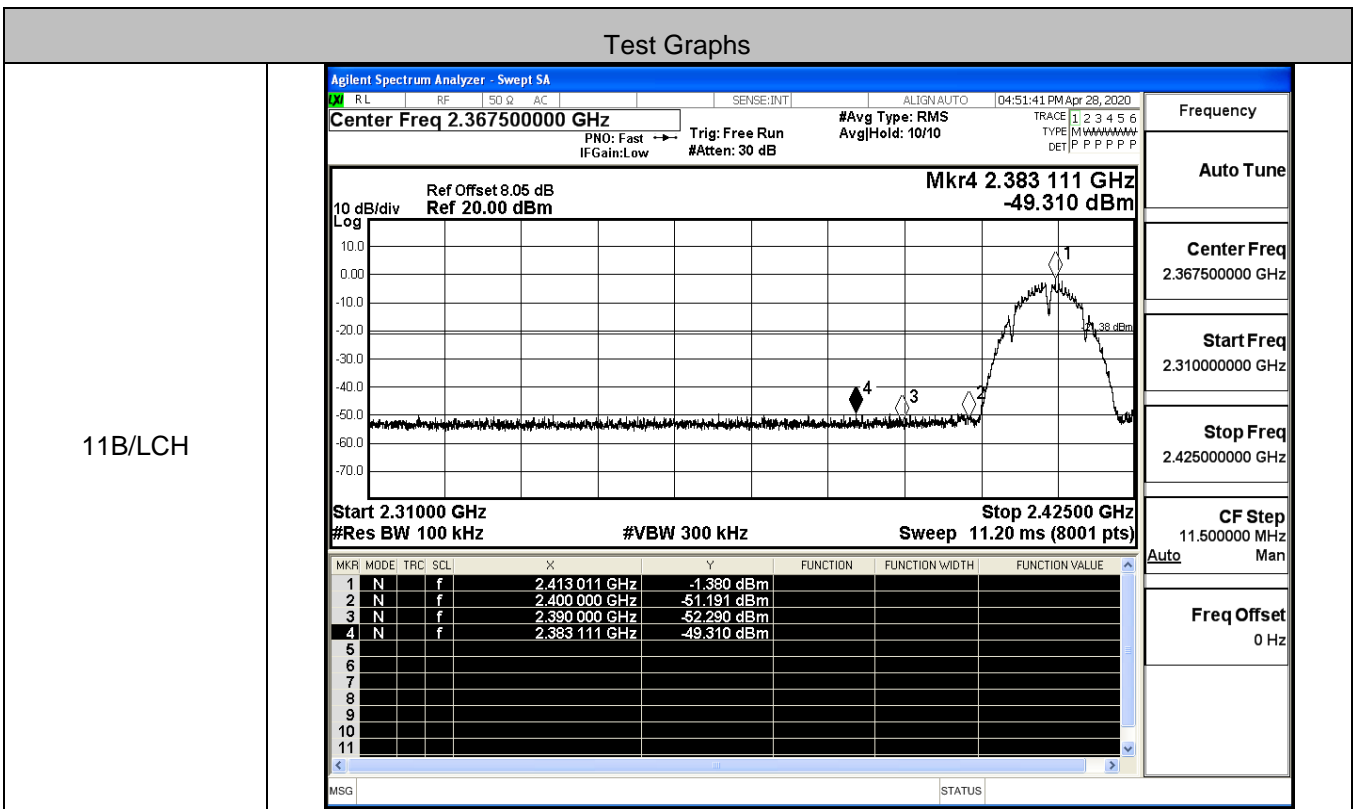
11N20SISO\_HCH\_Graphs



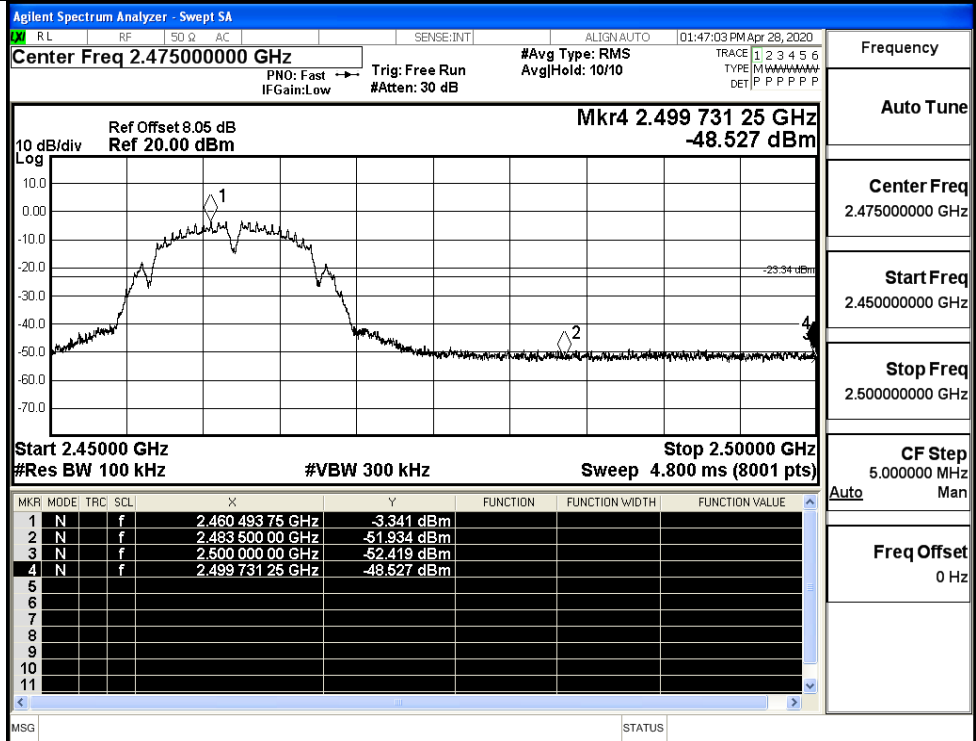


### A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-1.380	-49.310	-21.38	PASS
	HCH	-3.341	-48.527	-23.34	PASS
11G	LCH	-7.099	-47.397	-27.1	PASS
	HCH	-8.225	-48.025	-28.23	PASS
11N20SISO	LCH	-7.159	-48.240	-27.16	PASS
	HCH	-7.556	-47.513	-27.56	PASS



11B/HCH



Frequency

Auto Tune

Center Freq  
2.47500000 GHz

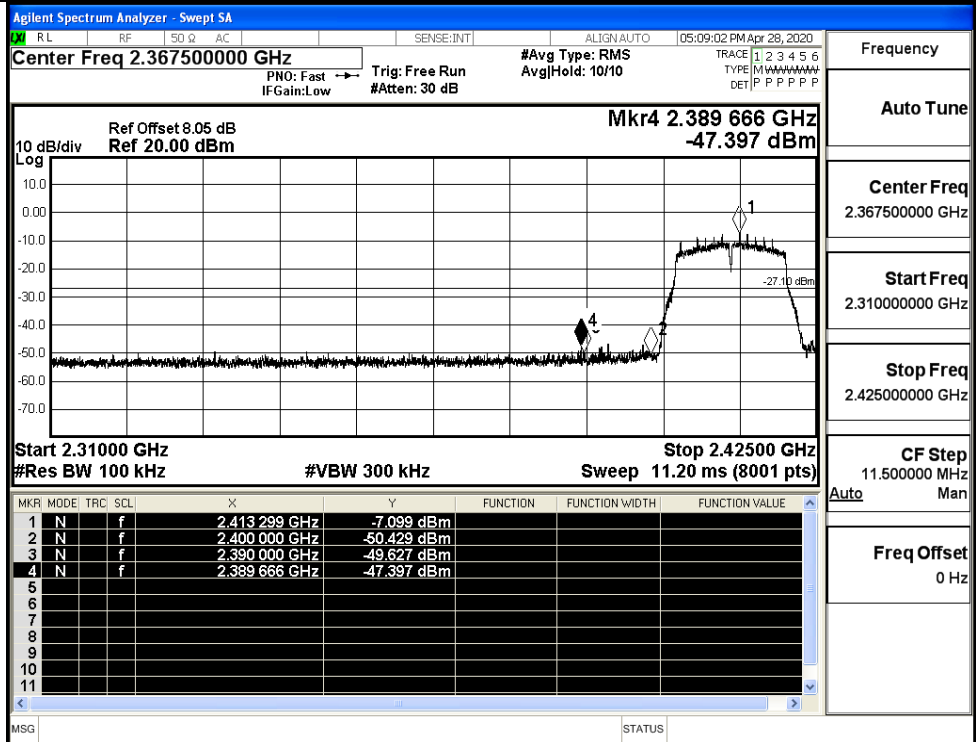
Start Freq  
2.45000000 GHz

Stop Freq  
2.50000000 GHz

CF Step  
5.000000 MHz

Freq Offset  
0 Hz

11G/LCH



Frequency

Auto Tune

Center Freq  
2.36750000 GHz

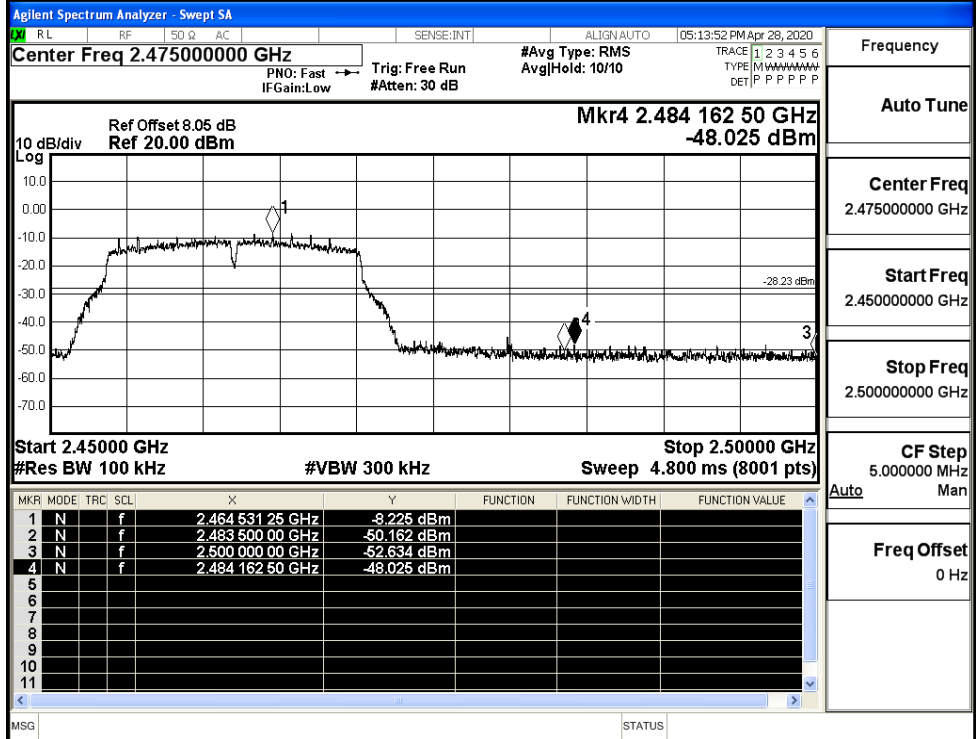
Start Freq  
2.31000000 GHz

Stop Freq  
2.42500000 GHz

CF Step  
11.500000 MHz

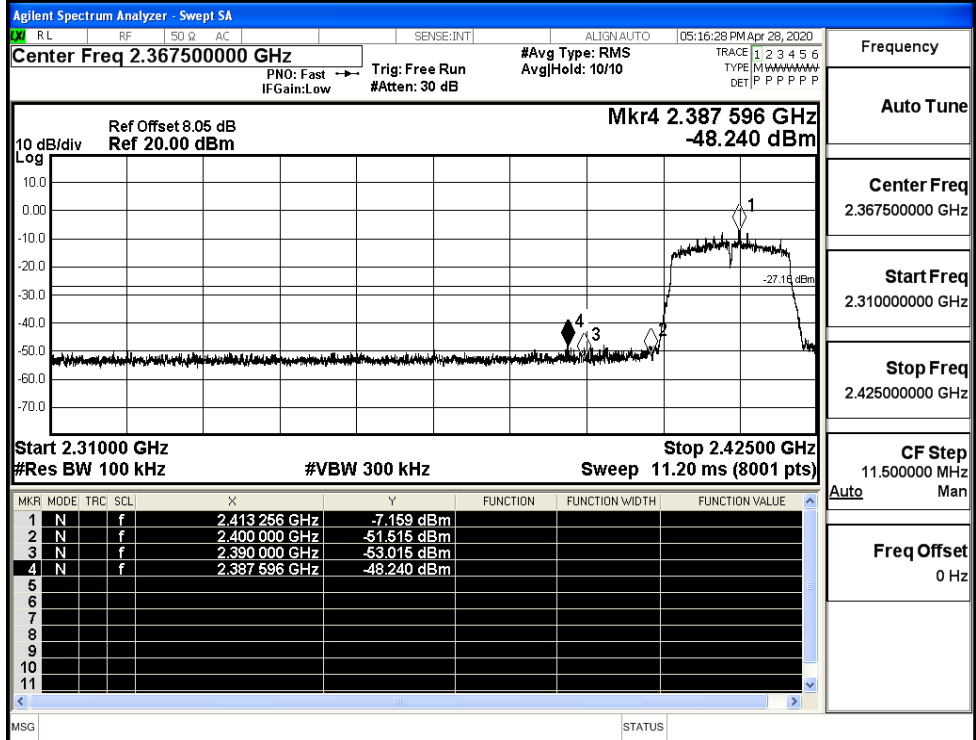
Freq Offset  
0 Hz

11G/HCH



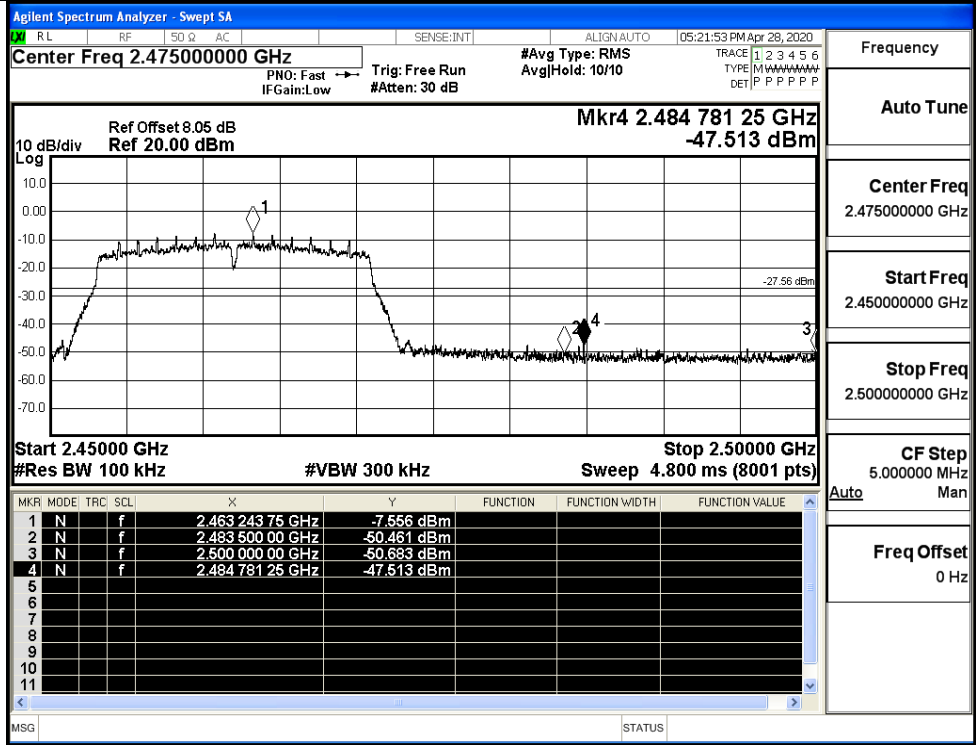
Frequency	2.47500000 GHz
Auto Tune	
Center Freq	2.47500000 GHz
Start Freq	2.45000000 GHz
Stop Freq	2.50000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N20SISO/LCH



Frequency	2.36750000 GHz
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

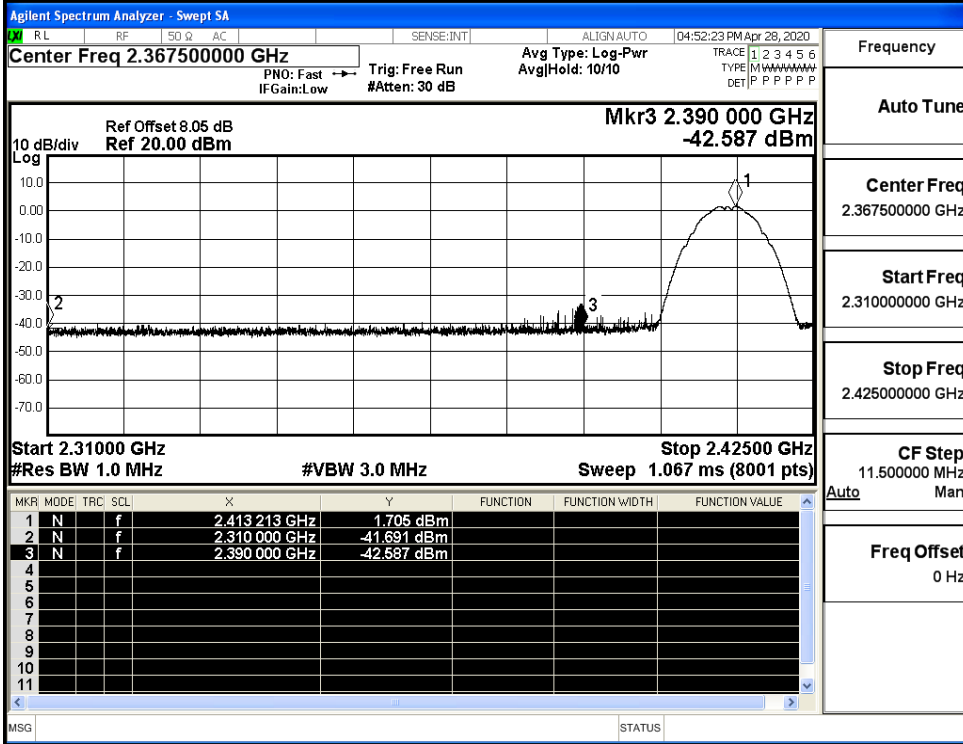
11N20SISO/HCH



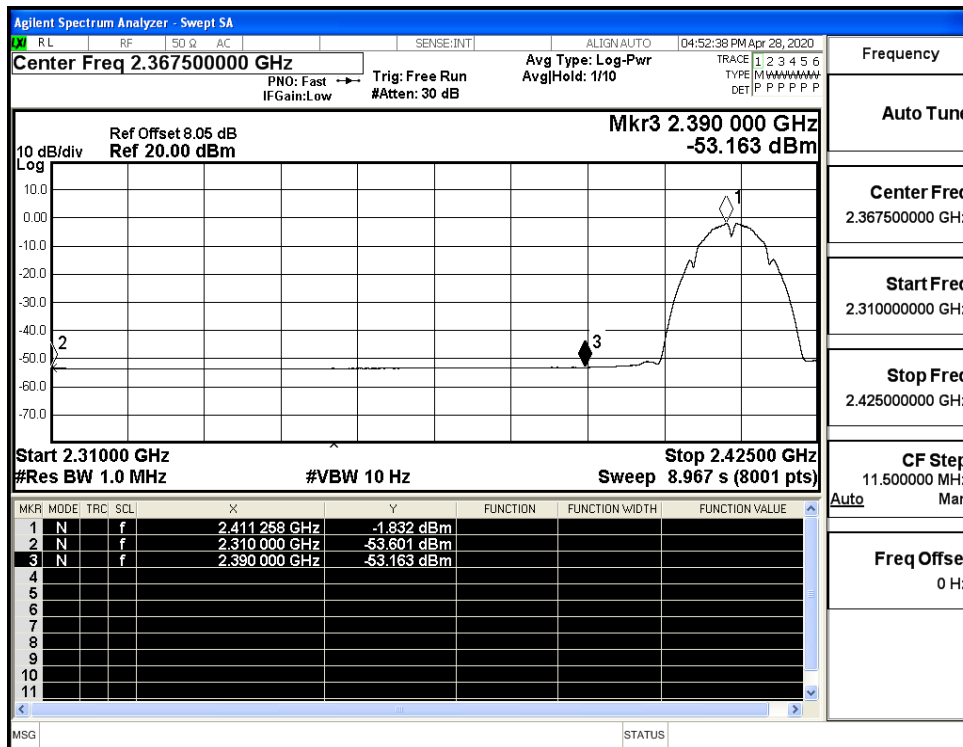
### A.7 Restrict-band band-edge measurements

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	-41.69	3	0	56.54	PEAK	74	PASS
	2412	Ant1	2310.0	-53.60	3	0	44.63	AV	54	PASS
	2412	Ant1	2390.0	-42.59	3	0	55.64	PEAK	74	PASS
	2412	Ant1	2390.0	-53.16	3	0	45.07	AV	54	PASS
	2462	Ant1	2483.5	-40.34	3	0	57.89	PEAK	74	PASS
	2462	Ant1	2483.5	-51.67	3	0	46.56	AV	54	PASS
	2462	Ant1	2500.0	-40.77	3	0	57.46	PEAK	74	PASS
	2462	Ant1	2500.0	-51.62	3	0	46.61	AV	54	PASS
11G	2412	Ant1	2310.0	-44.41	3	0	53.82	PEAK	74	PASS
	2412	Ant1	2310.0	-53.56	3	0	44.67	AV	54	PASS
	2412	Ant1	2390.0	-40.29	3	0	57.94	PEAK	74	PASS
	2412	Ant1	2390.0	-52.96	3	0	45.27	AV	54	PASS
	2462	Ant1	2483.5	-40.81	3	0	57.42	PEAK	74	PASS
	2462	Ant1	2483.5	-52.49	3	0	45.74	AV	54	PASS
	2462	Ant1	2500.0	-41.44	3	0	56.79	PEAK	74	PASS
	2462	Ant1	2500.0	-52.44	3	0	45.79	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-44.04	3	0	54.19	PEAK	74	PASS
	2412	Ant1	2310.0	-53.52	3	0	44.71	AV	54	PASS
	2412	Ant1	2390.0	-38.03	3	0	60.20	PEAK	74	PASS
	2412	Ant1	2390.0	-52.99	3	0	45.24	AV	54	PASS
	2462	Ant1	2483.5	-41.73	3	0	56.50	PEAK	74	PASS
	2462	Ant1	2483.5	-52.33	3	0	45.90	AV	54	PASS
	2462	Ant1	2500.0	-39.28	3	0	58.95	PEAK	74	PASS
	2462	Ant1	2500.0	-52.41	3	0	45.82	AV	54	PASS

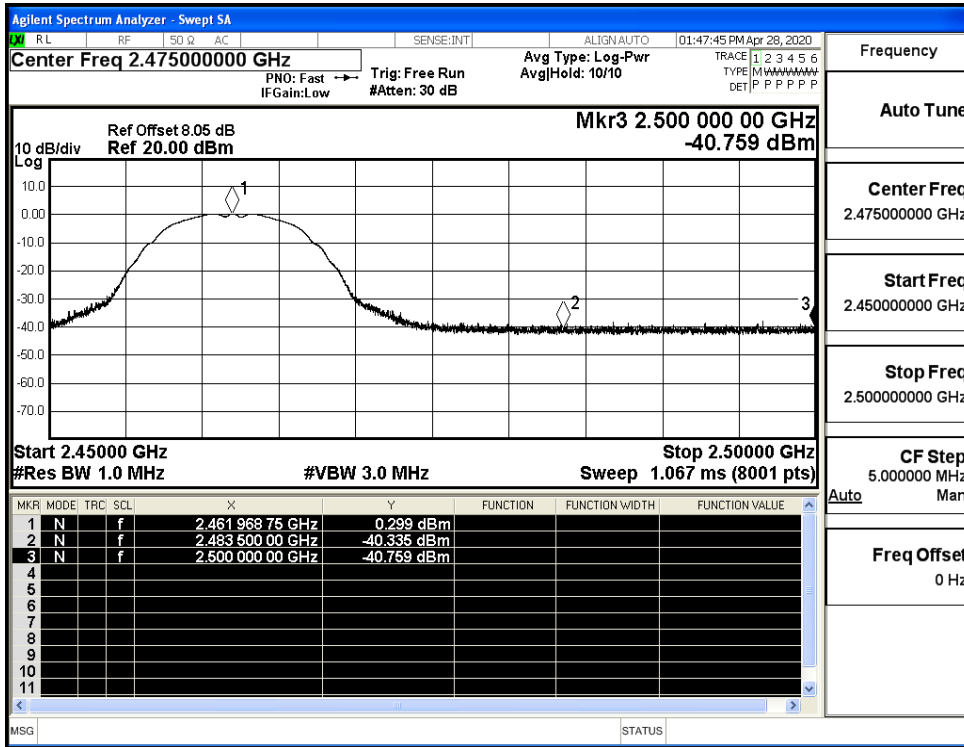
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



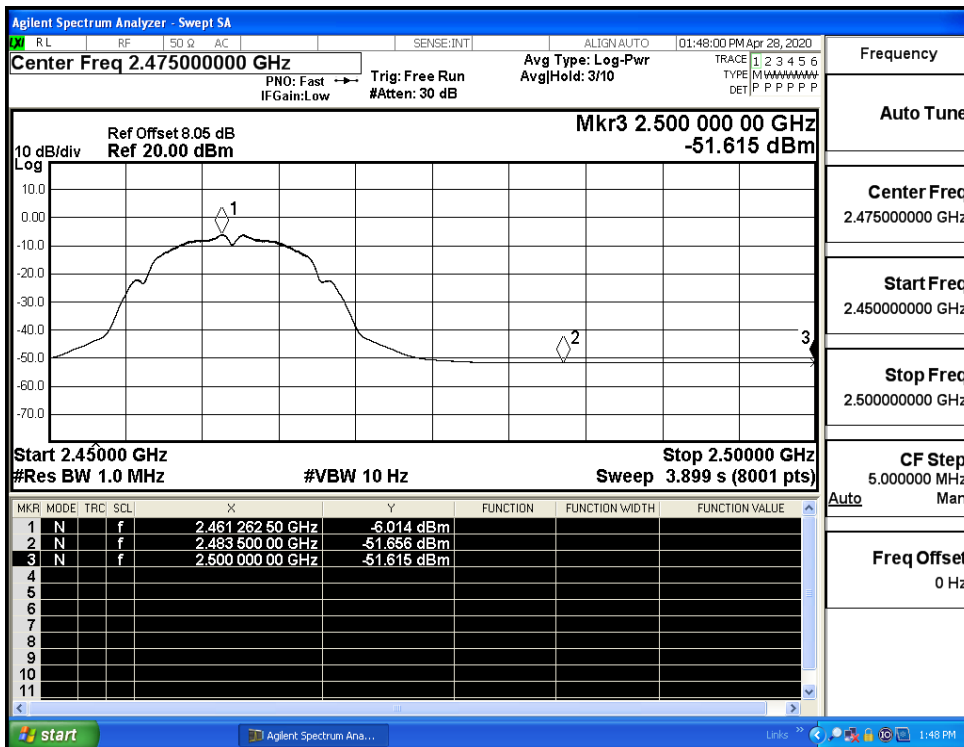
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



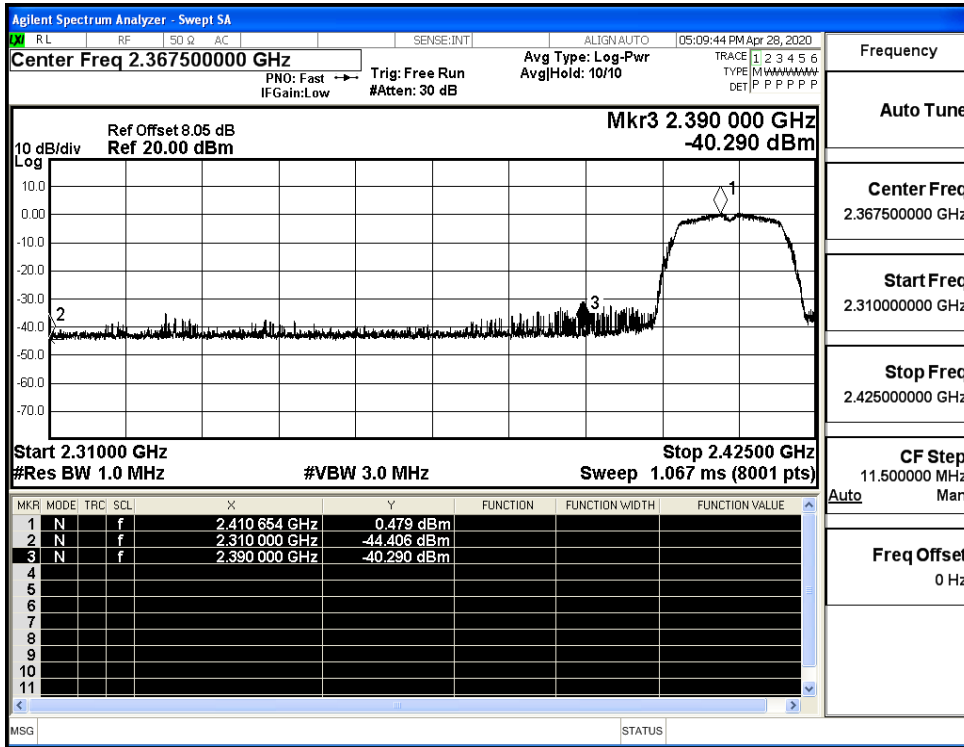
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_PEAK



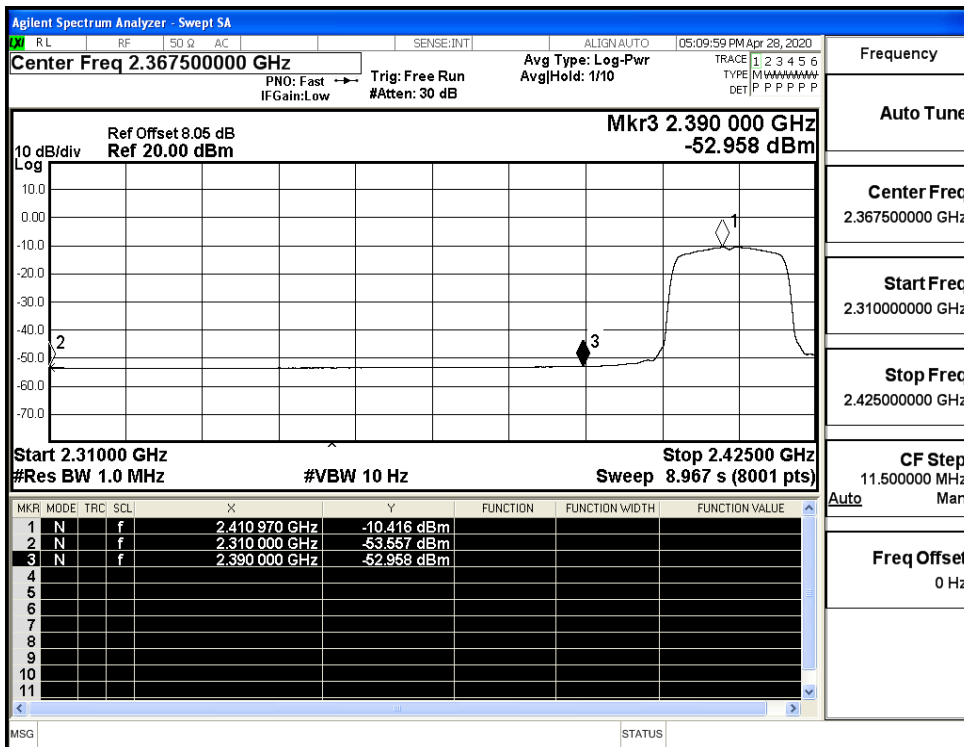
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV



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

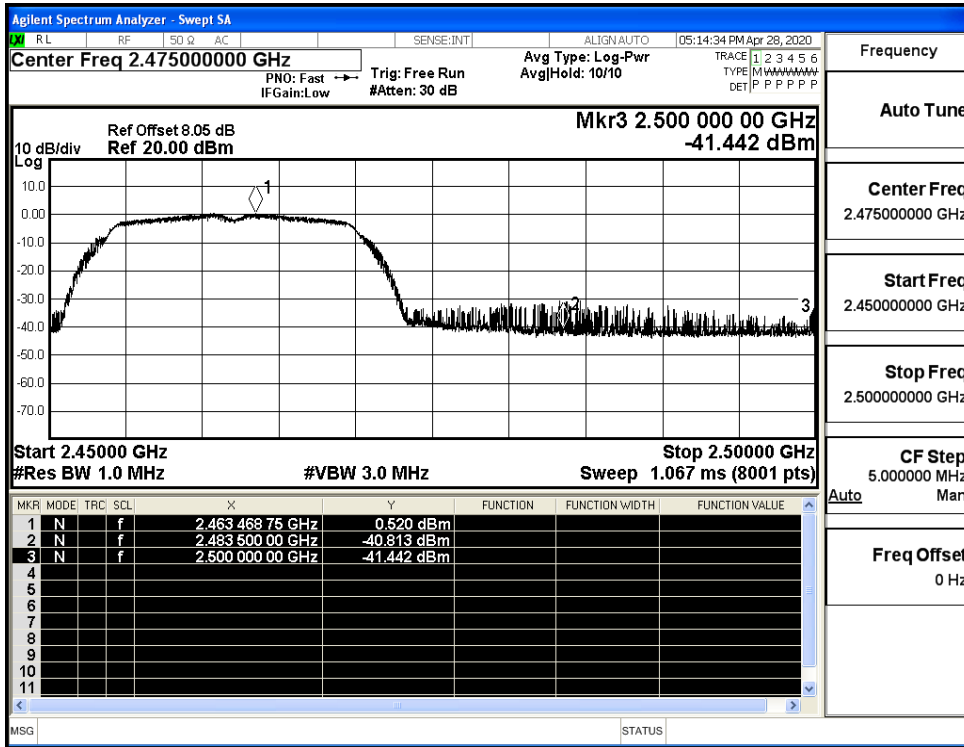


Restrict-band band-edge measurements\_11G\_2412\_Ant1\_AV

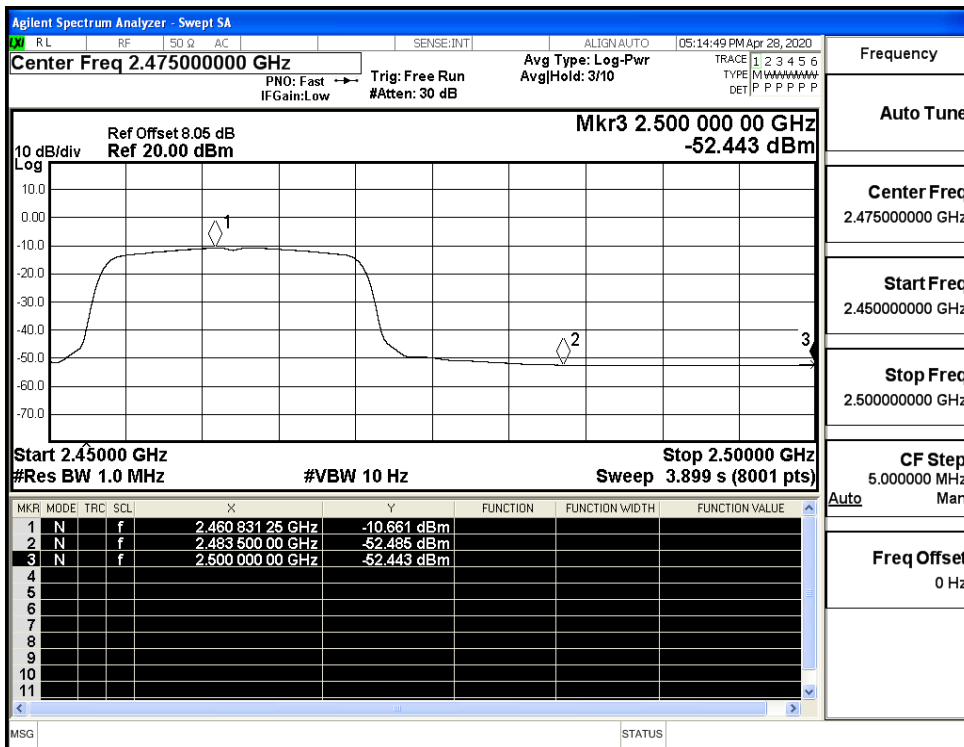




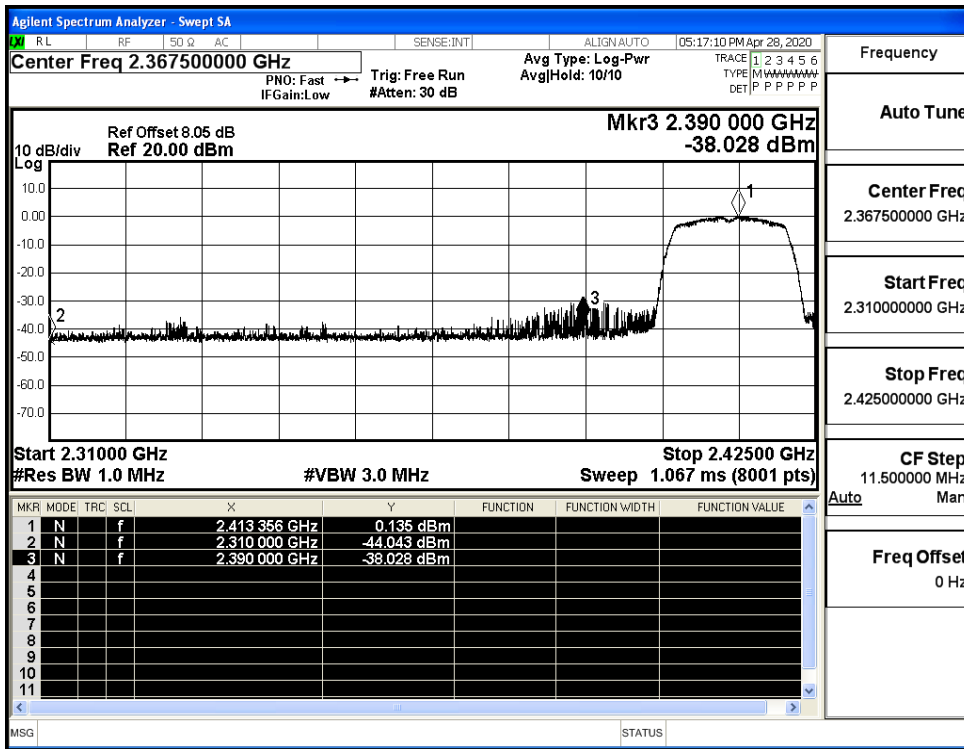
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK



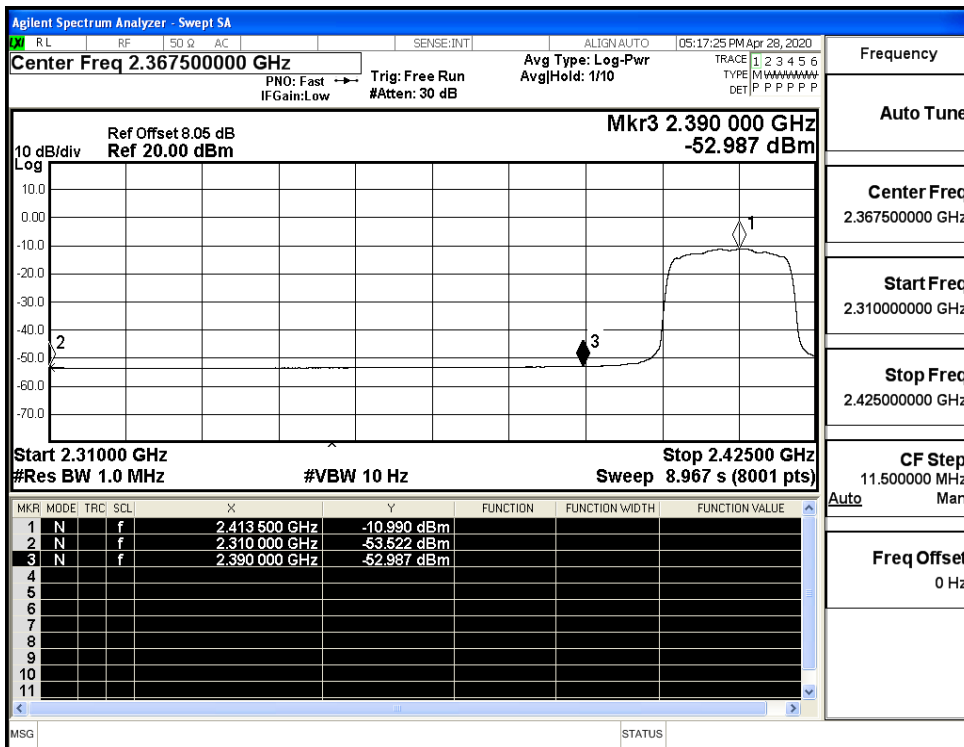
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV



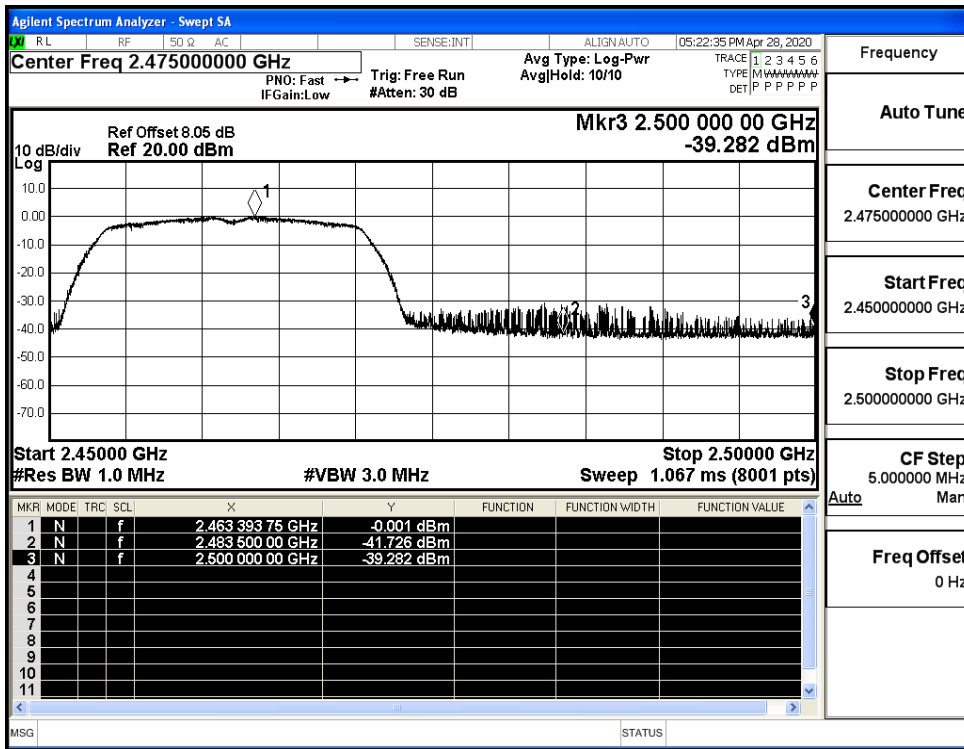
Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_PEAK



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

