

## Appendix B

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

Product Name: WYZE Sense Hub

Trade Mark: WYZE

Test Model: WSHB1

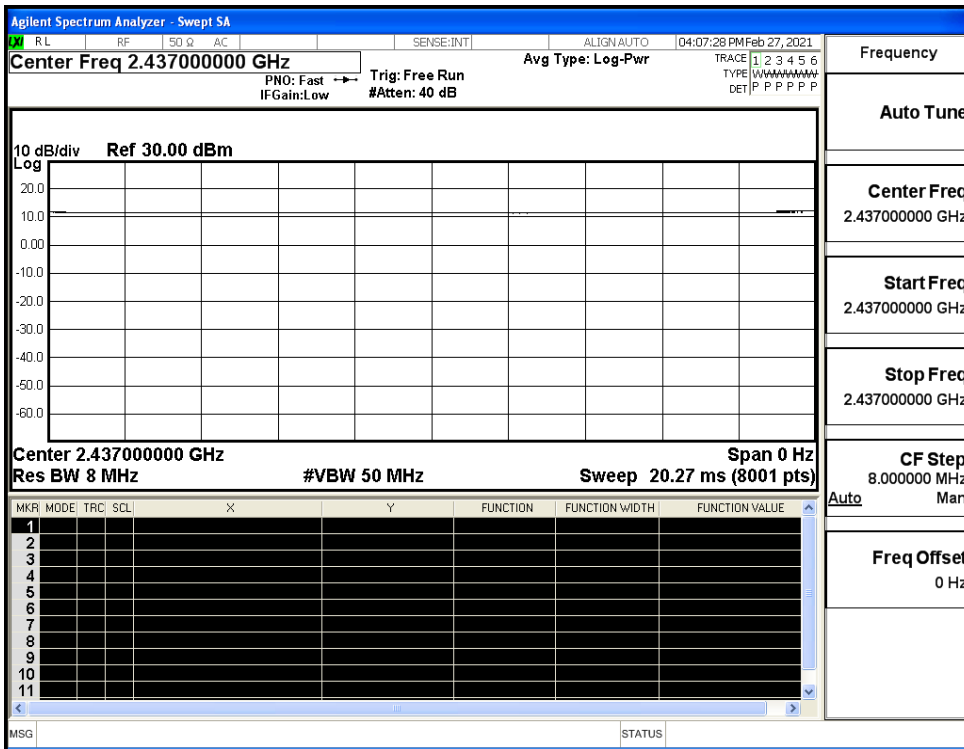
#### Environmental Conditions

Temperature:	23.6 ° C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

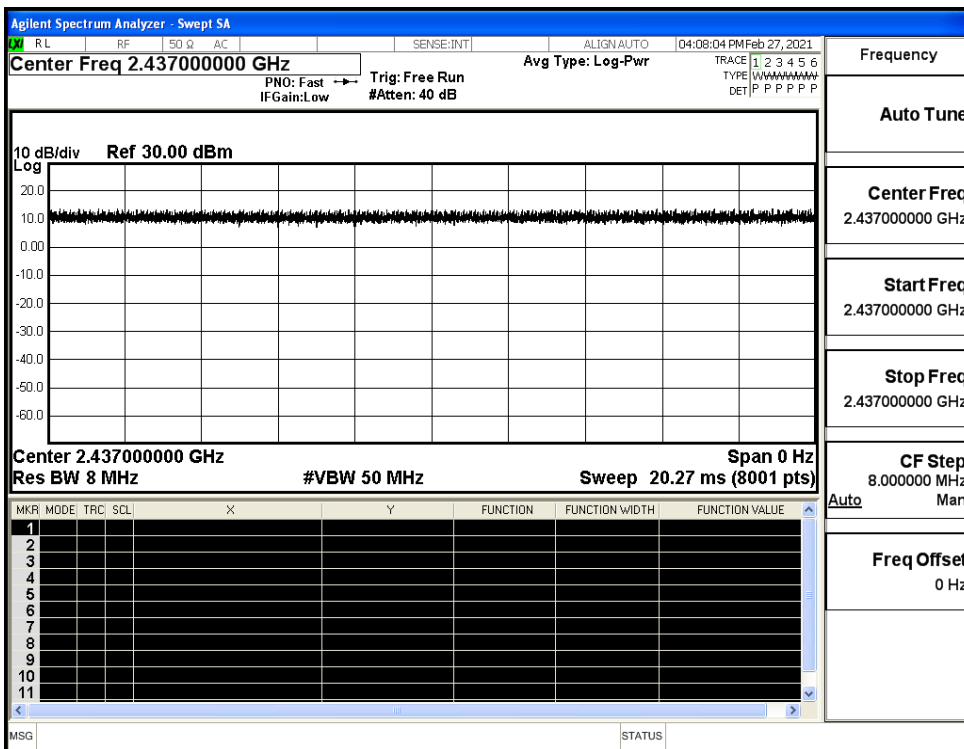
#### B.1 Duty Cycle

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

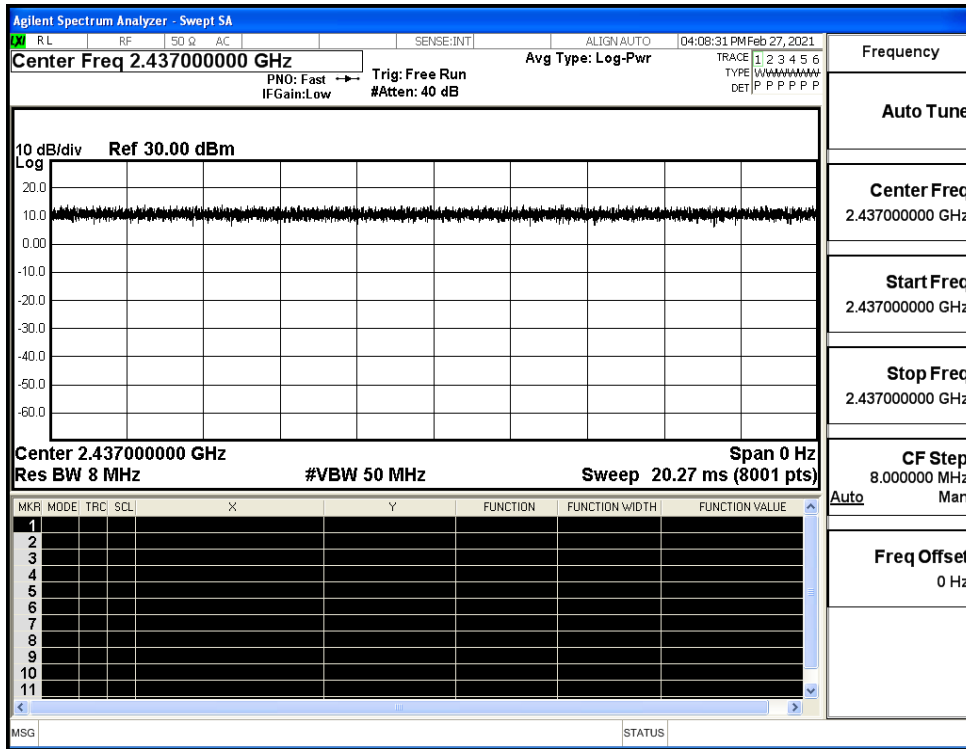
Duty Cycle\_11B\_2437\_Ant1



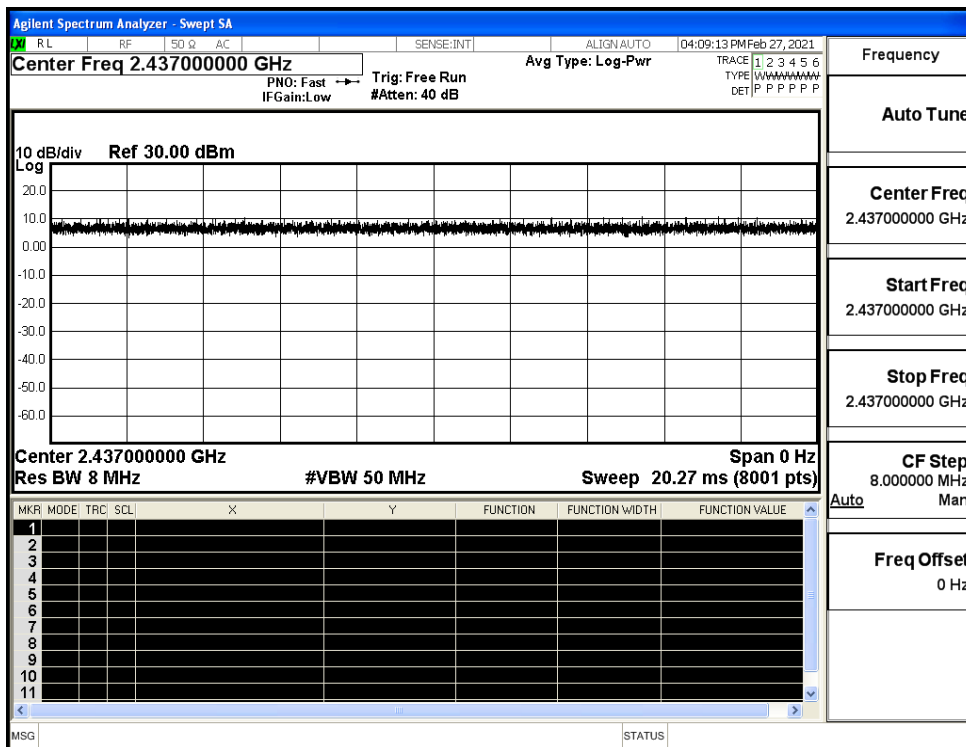
Duty Cycle\_11G\_2437\_Ant1



Duty Cycle\_11N20SISO\_2437\_Ant1



Duty Cycle\_11N40SISO\_2437\_Ant1



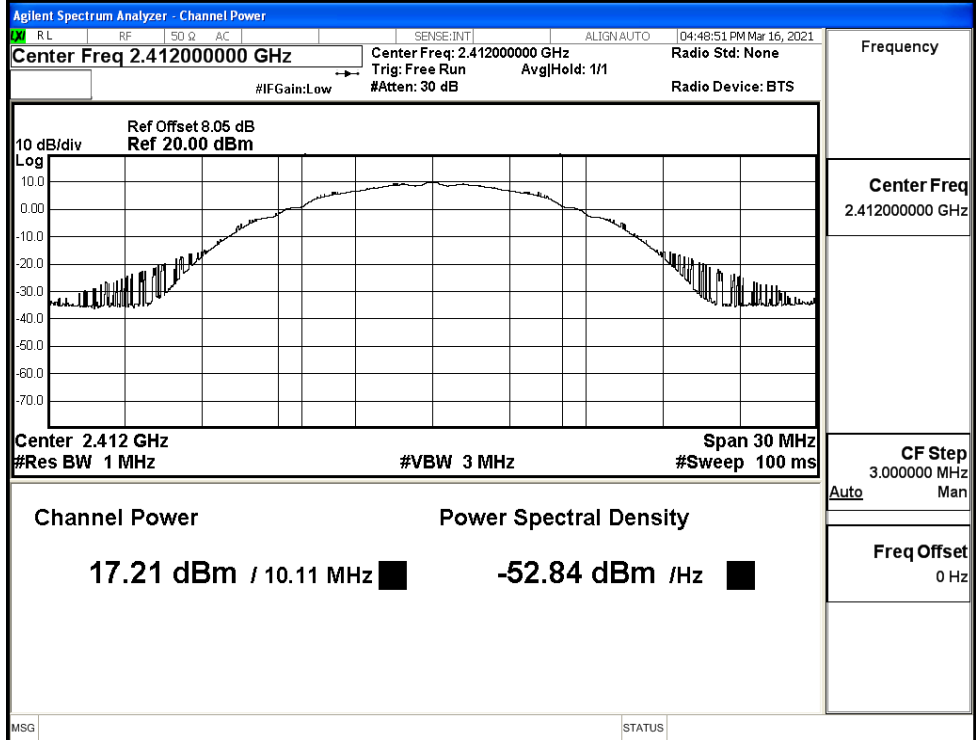
**B.2 Maximum Conducted Output Power**

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	17.21	30	PASS
	MCH	17.14	30	PASS
	HCH	18.01	30	PASS
11G	LCH	19.13	30	PASS
	MCH	19.82	30	PASS
	HCH	18.9	30	PASS
11N20SISO	LCH	18.48	30	PASS
	MCH	18.52	30	PASS
	HCH	18.23	30	PASS
11N40SISO	LCH	17.98	30	PASS
	MCH	18.32	30	PASS
	HCH	18.16	30	PASS

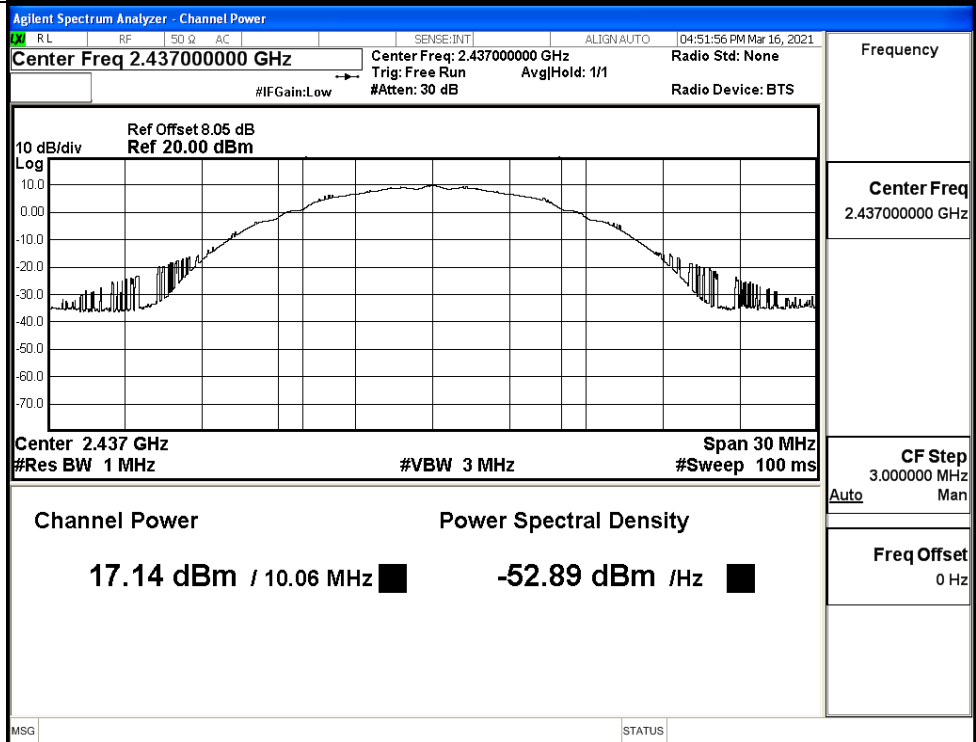
Mode	Channel	Conduct Peak Power[dBm]	Gain [dBi]	e.i.r.p. [dBm]	Limit [dBm]	Verdict
11B	LCH	17.21	1.3	18.51	36	PASS
	MCH	17.14	1.3	18.44	36	PASS
	HCH	18.01	1.3	19.31	36	PASS
11G	LCH	19.13	1.3	20.43	36	PASS
	MCH	19.82	1.3	21.12	36	PASS
	HCH	18.9	1.3	20.20	36	PASS
11N20SISO	LCH	18.48	1.3	19.78	36	PASS
	MCH	18.52	1.3	19.82	36	PASS
	HCH	18.23	1.3	19.53	36	PASS
11N40SISO	LCH	17.98	1.3	19.28	36	PASS
	MCH	18.32	1.3	19.62	36	PASS
	HCH	18.16	1.3	19.46	36	PASS

Test Graphs

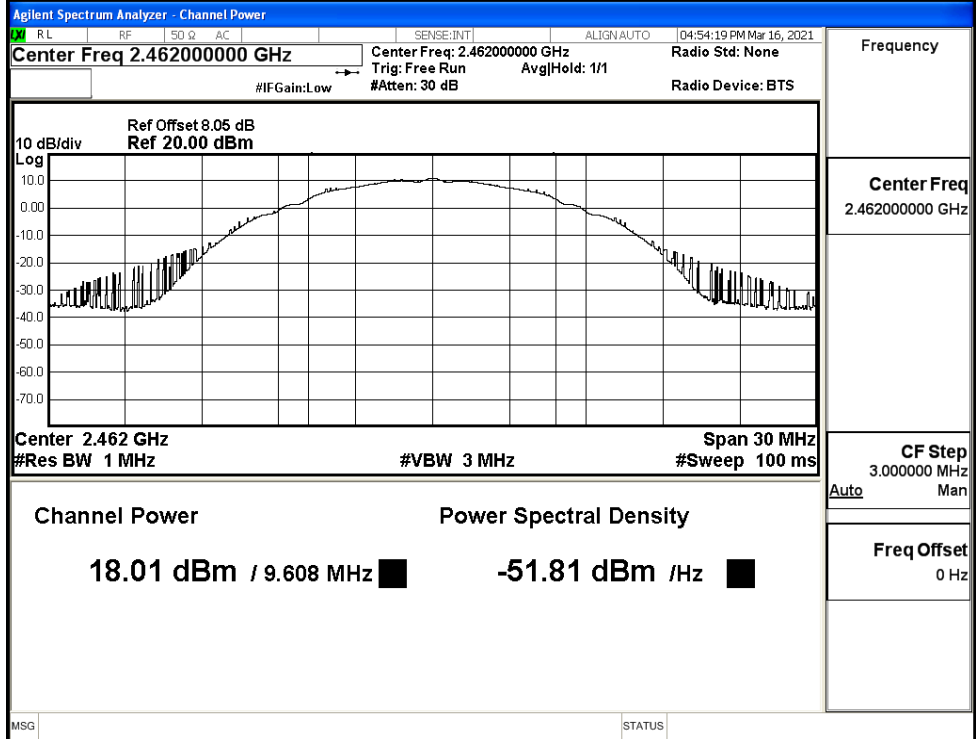
11B/LCH



11B/MCH



11B/HCH



Frequency

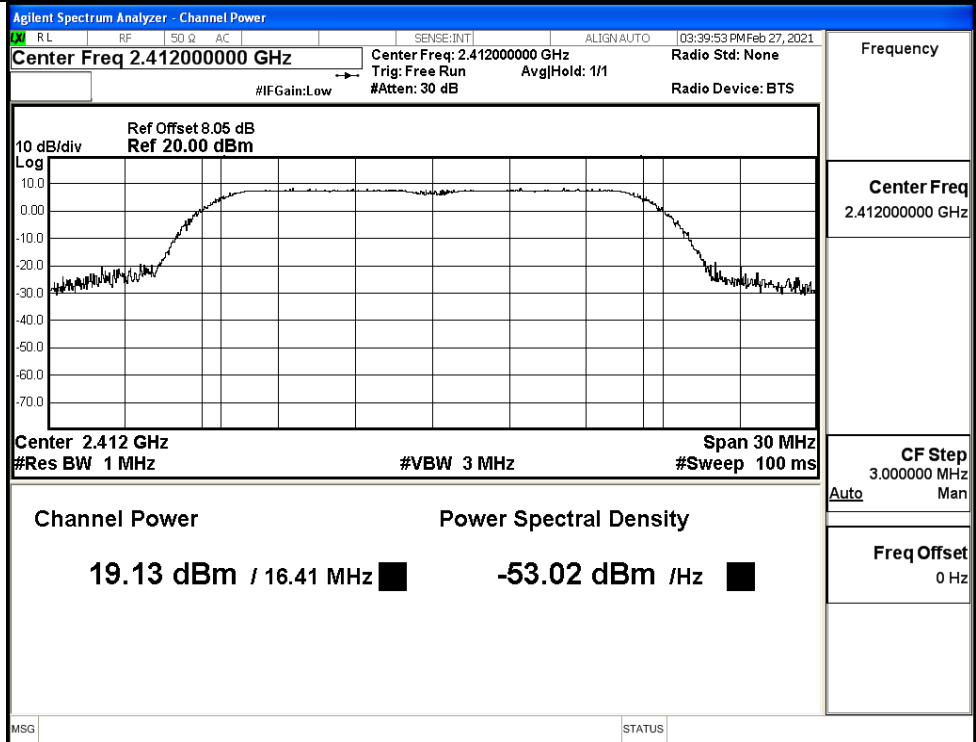
Center Freq  
2.46200000 GHz

CF Step  
3.000000 MHz

Auto Man

Freq Offset  
0 Hz

11G/LCH



Frequency

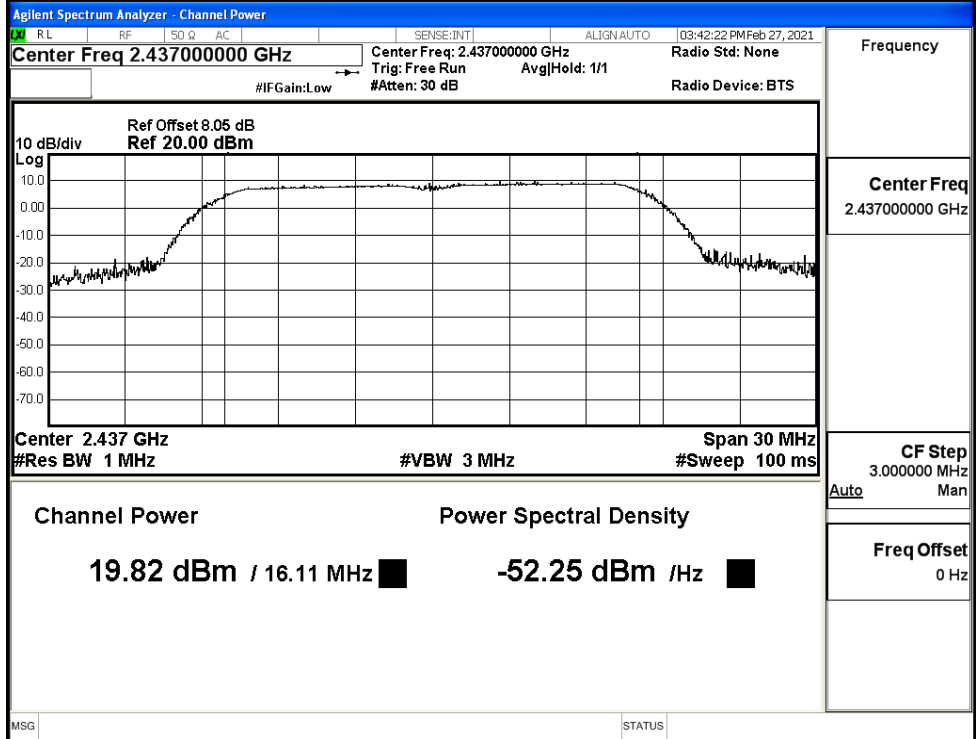
Center Freq  
2.41200000 GHz

CF Step  
3.000000 MHz

Auto Man

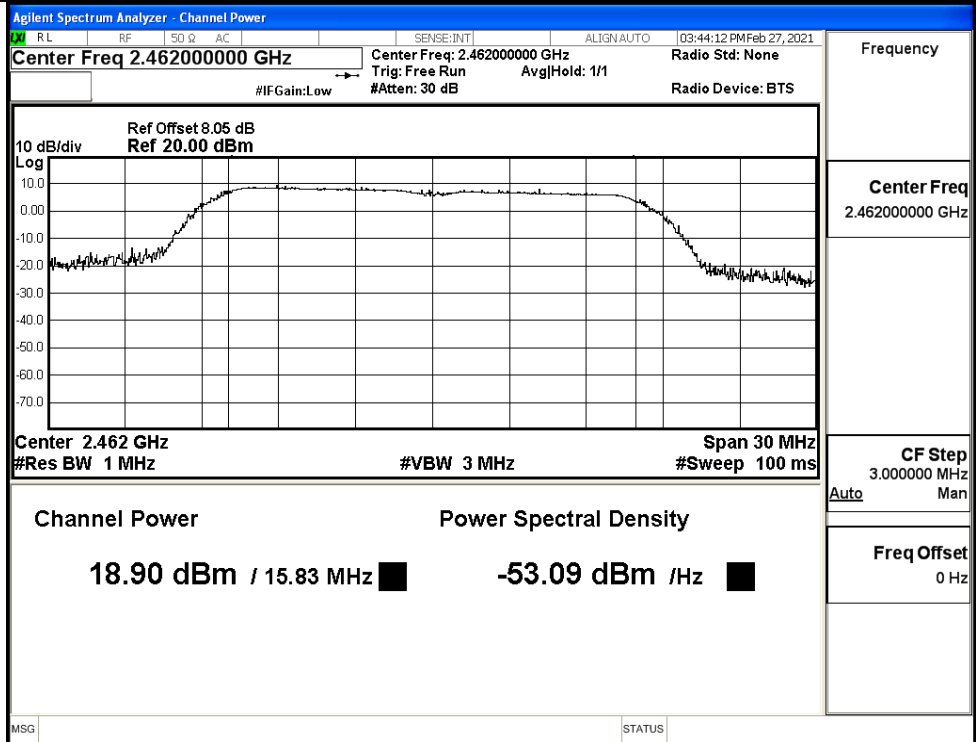
Freq Offset  
0 Hz

11G/MCH



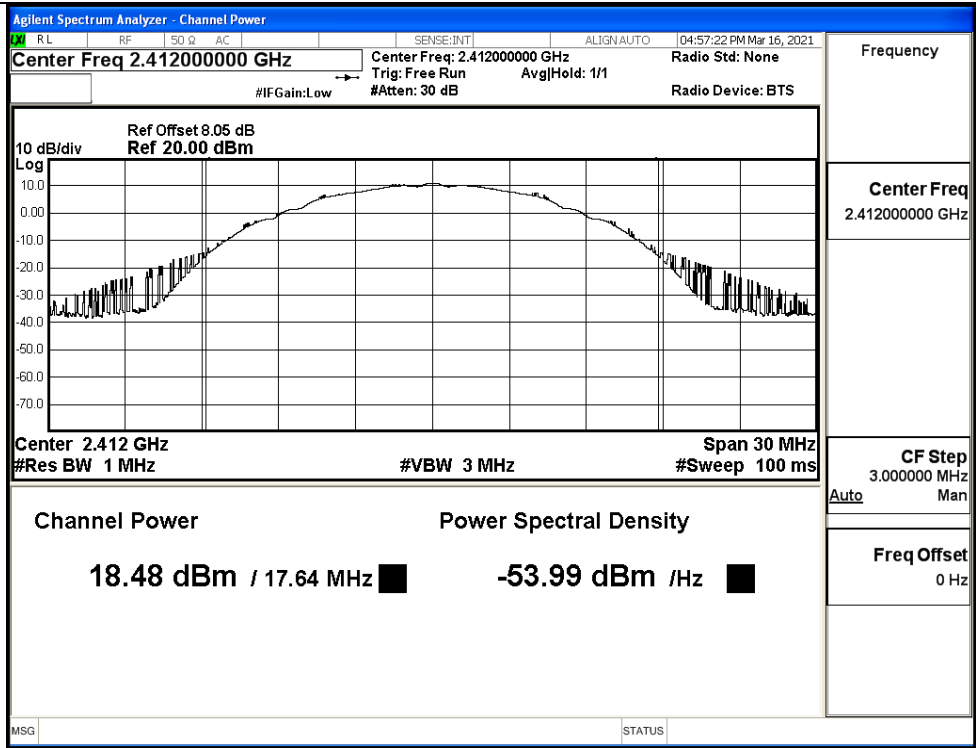
Frequency	2.43700000 GHz
Center Freq	2.43700000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11G/HCH



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

11N20SISO/LCH

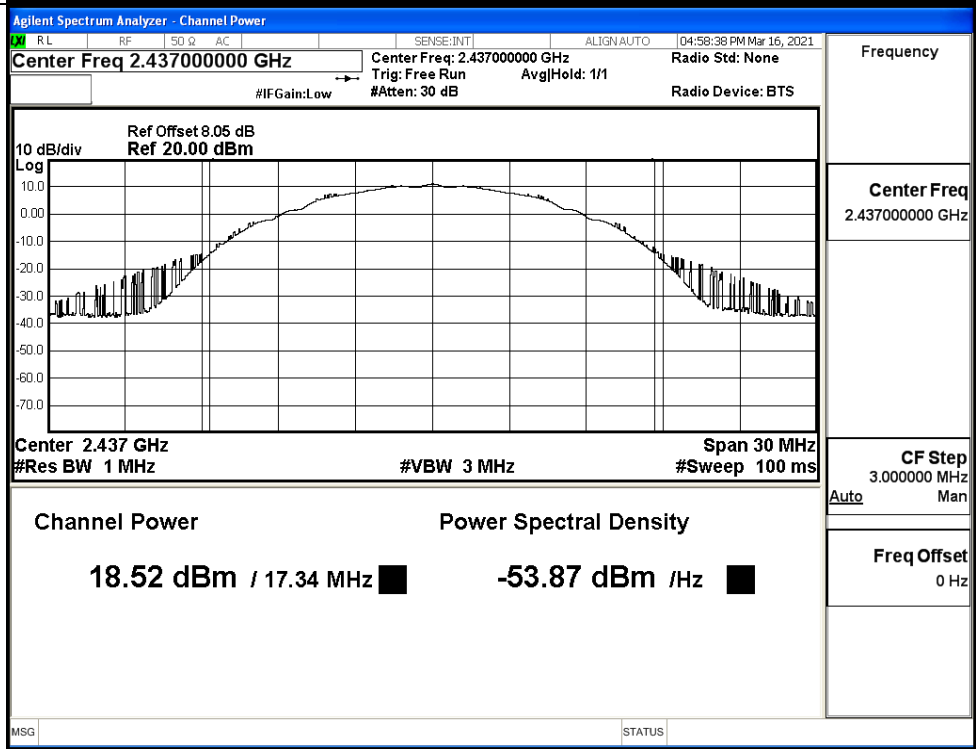


Frequency  
Center Freq  
2.41200000 GHz

CF Step  
3.000000 MHz  
Auto Man

Freq Offset  
0 Hz

11N20SISO/MCH



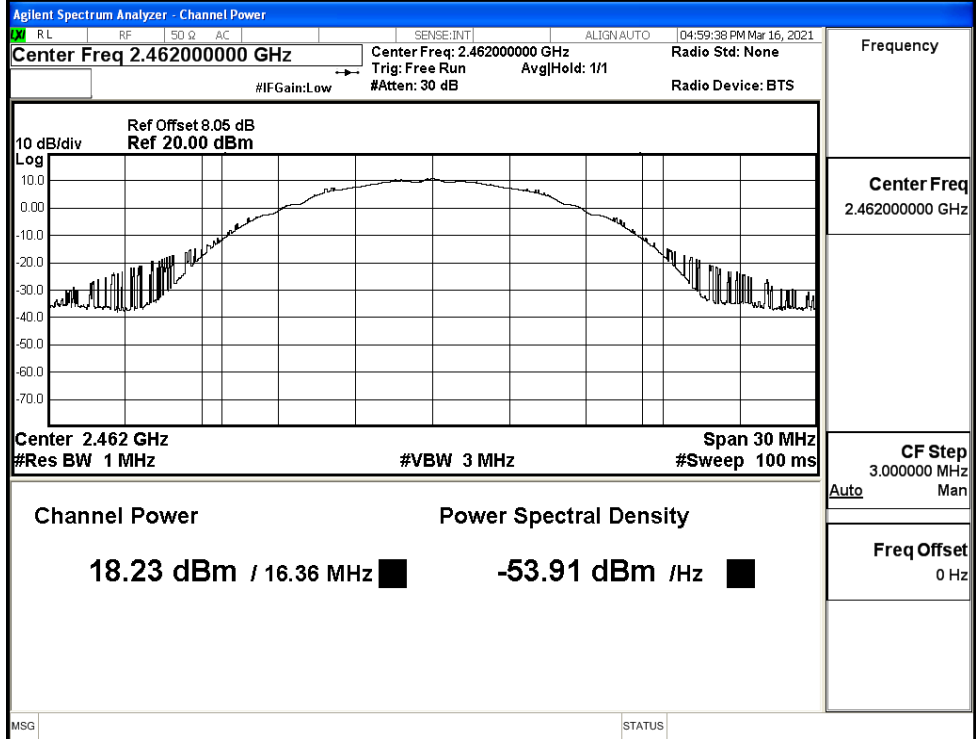
Frequency  
Center Freq  
2.43700000 GHz

CF Step  
3.000000 MHz  
Auto Man

Freq Offset  
0 Hz

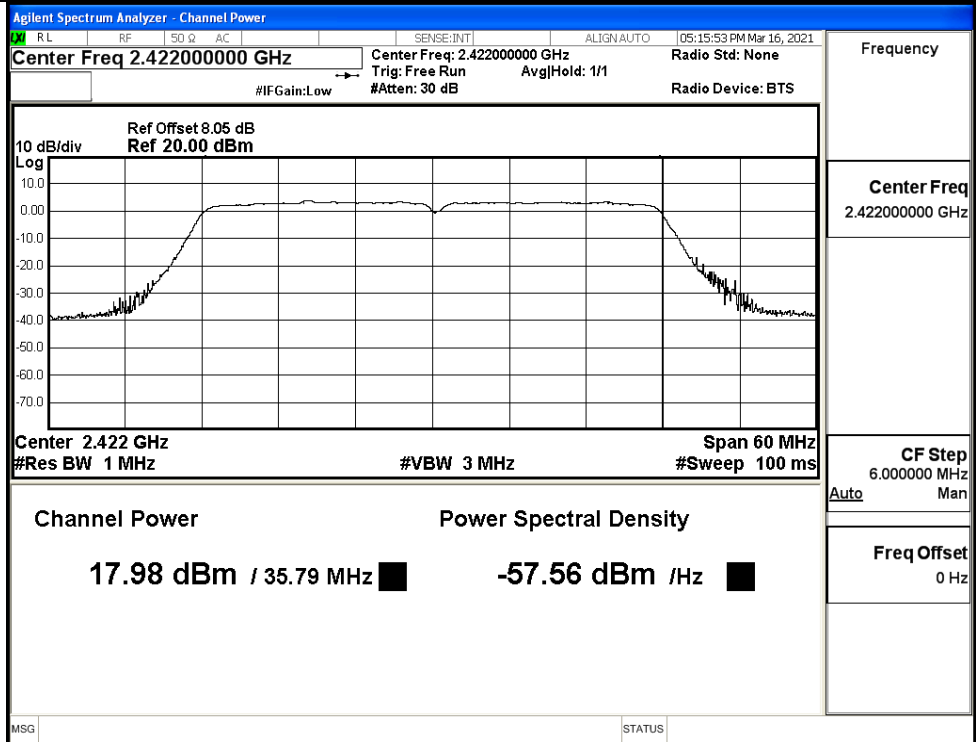


11N20SISO/HCH



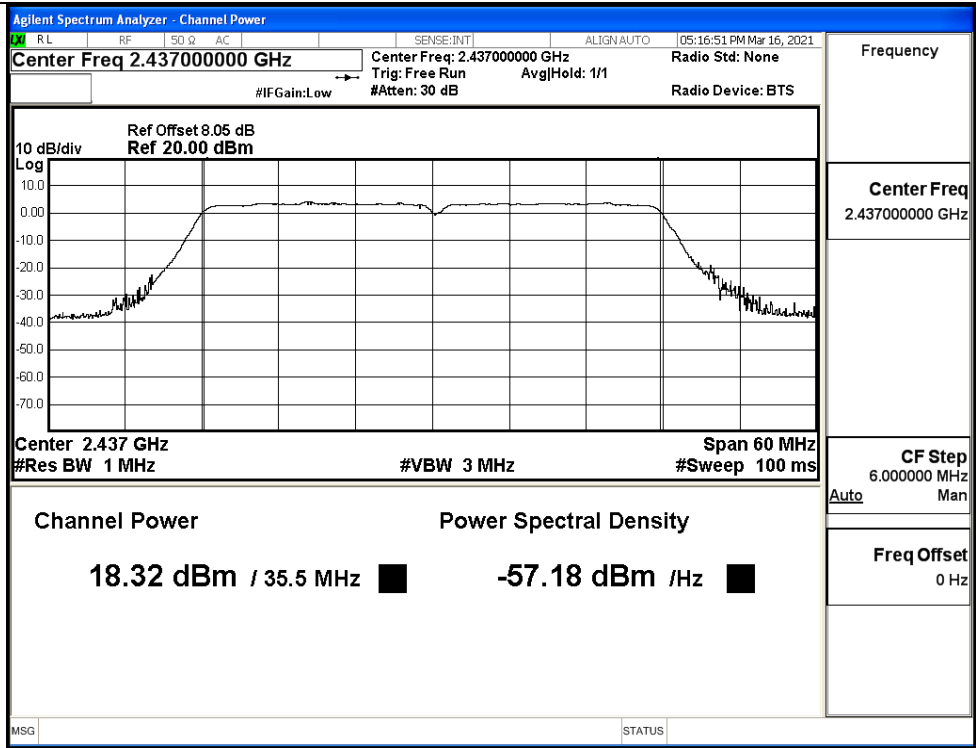
Frequency
Center Freq 2.46200000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

11N40SISO/LCH



Frequency
Center Freq 2.42200000 GHz
CF Step 6.000000 MHz Auto Man
Freq Offset 0 Hz

11N40SISO/MCH

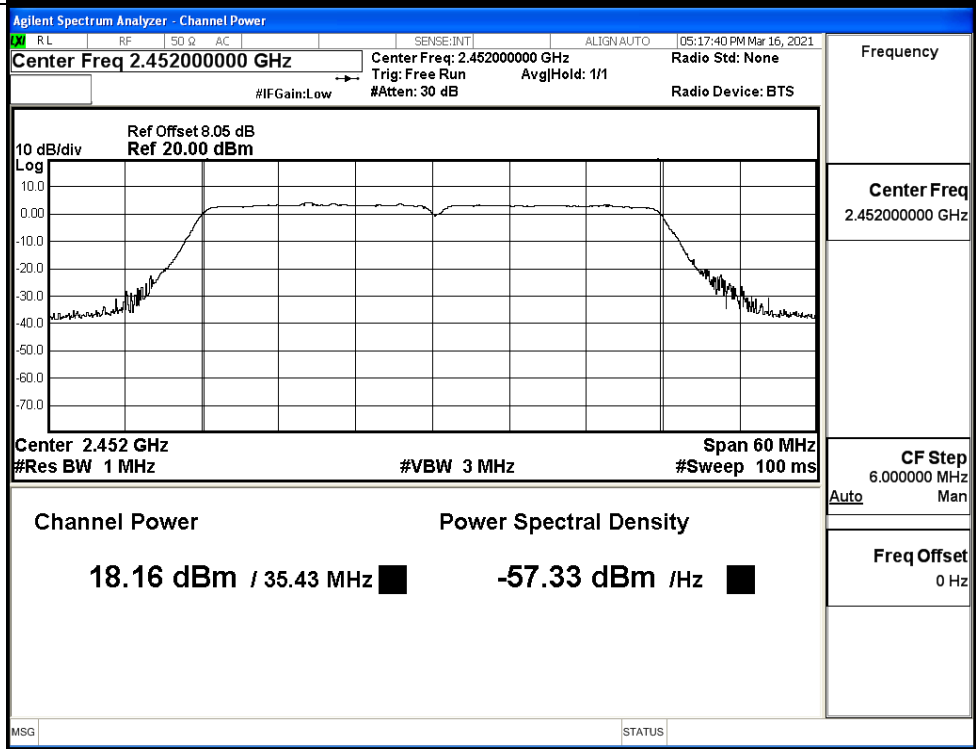


Frequency  
Center Freq  
2.43700000 GHz

CF Step  
6.000000 MHz  
Auto Man

Freq Offset  
0 Hz

11N40SISO/HCH



Frequency  
Center Freq  
2.45200000 GHz

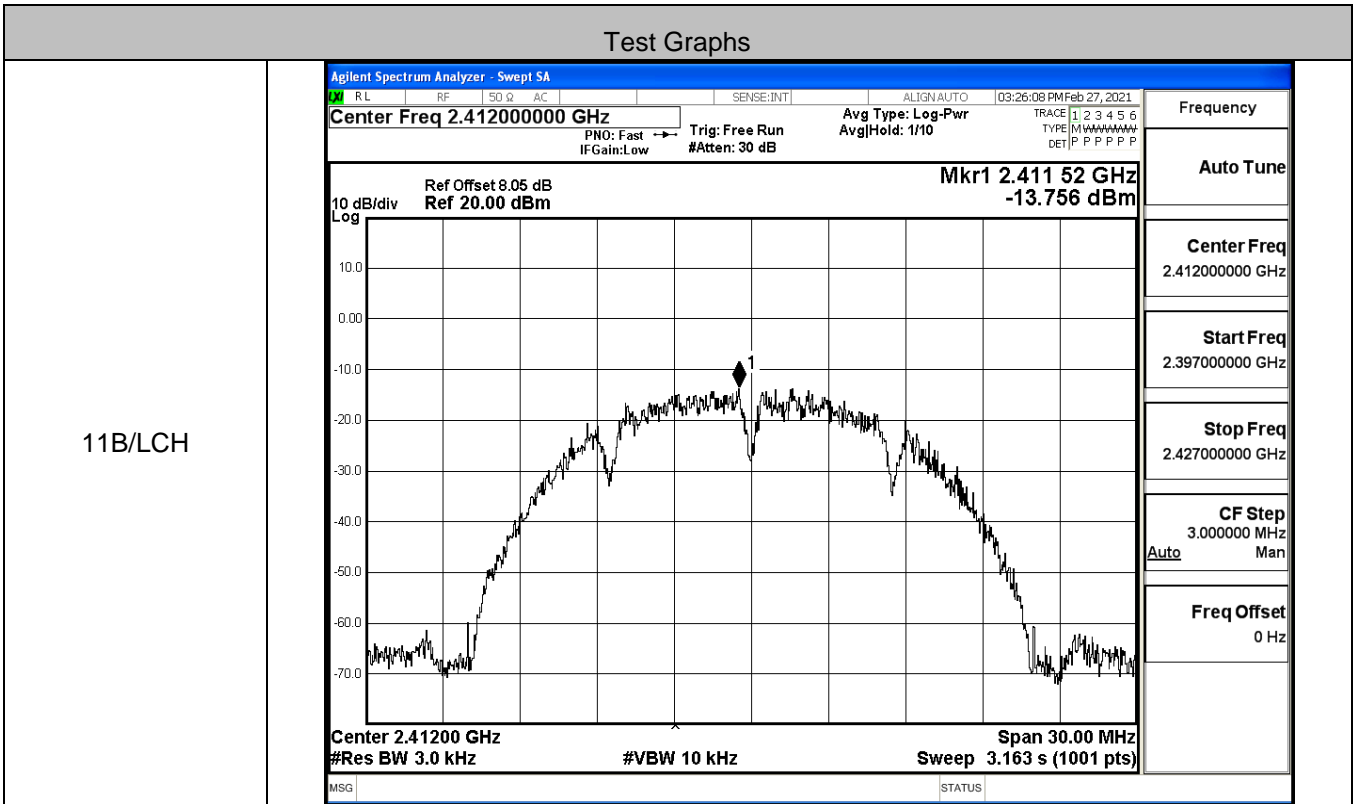
CF Step  
6.000000 MHz  
Auto Man

Freq Offset  
0 Hz

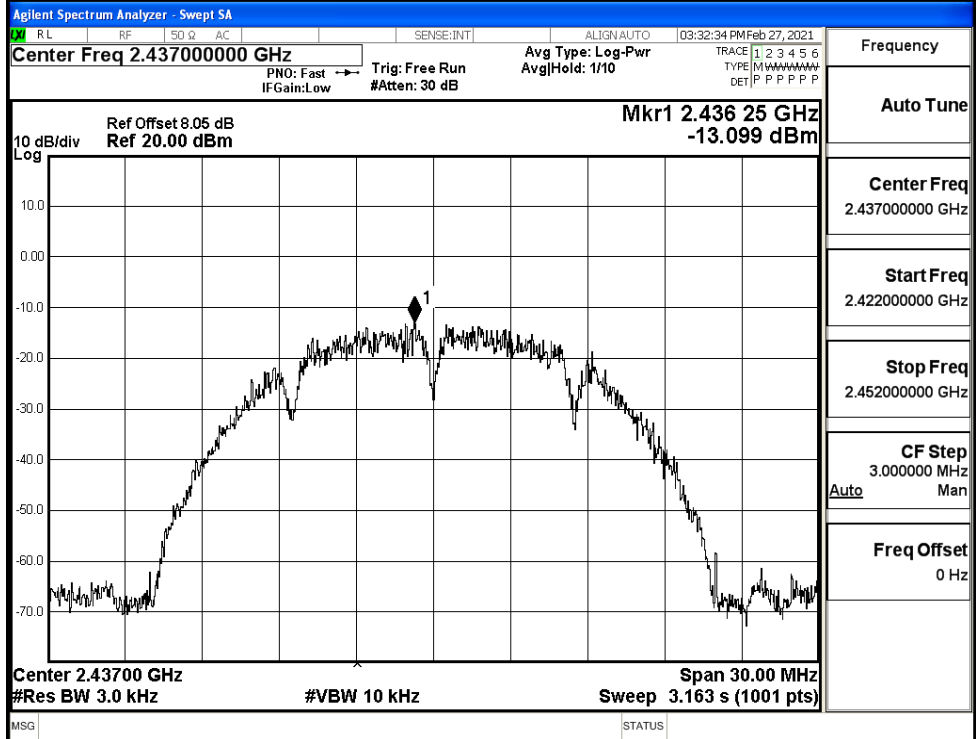
**B.3 Maximum Power Spectral Density**

Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-13.756	8	PASS
	MCH	-13.099	8	PASS
	HCH	-13.013	8	PASS
11G	LCH	-14.324	8	PASS
	MCH	-13.761	8	PASS
	HCH	-12.788	8	PASS
11N20SISO	LCH	-18.761	8	PASS
	MCH	-19.156	8	PASS
	HCH	-18.813	8	PASS
11N40SISO	LCH	-21.845	8	PASS
	MCH	-21.390	8	PASS
	HCH	-20.211	8	PASS

Test Graphs

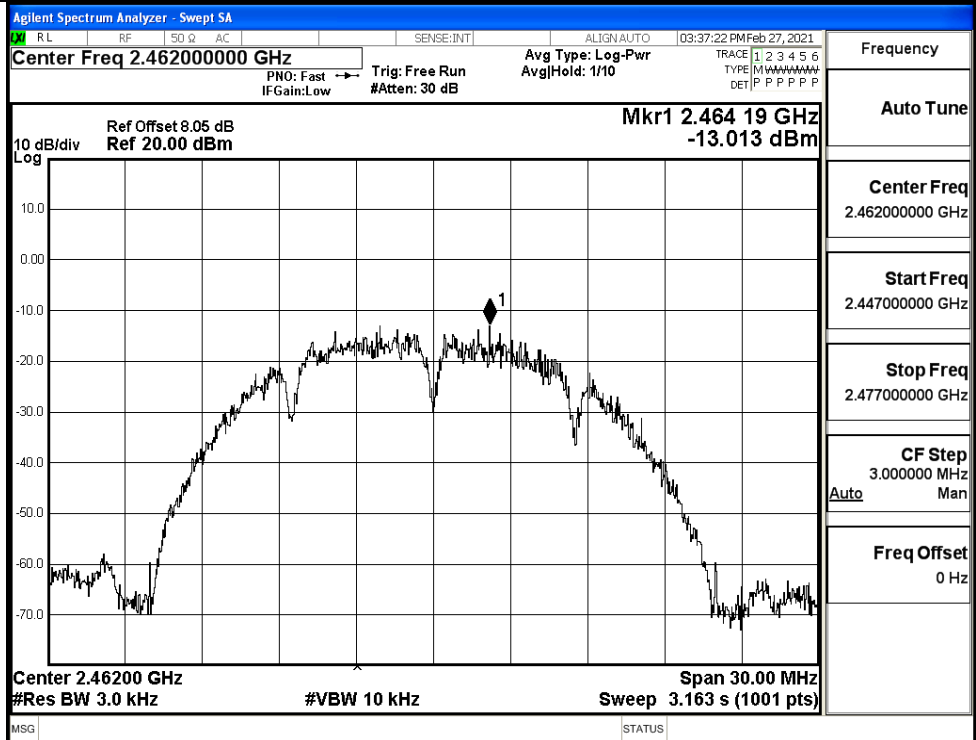


11B/MCH



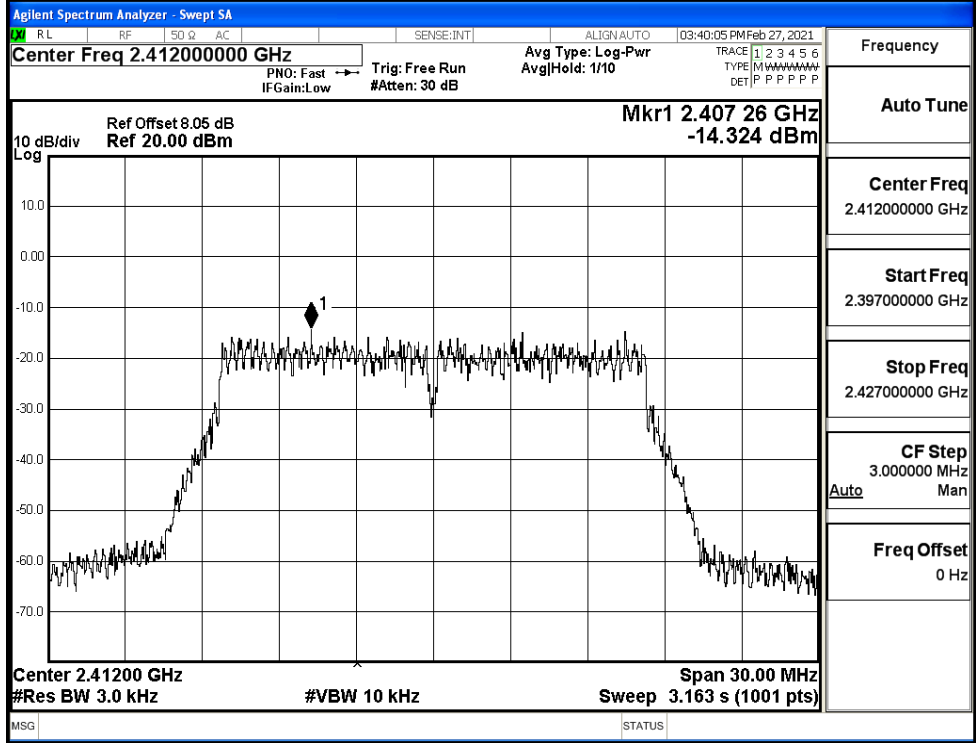
Frequency
Auto Tune
Center Freq 2.437000000 GHz
Start Freq 2.422000000 GHz
Stop Freq 2.452000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

11B/HCH

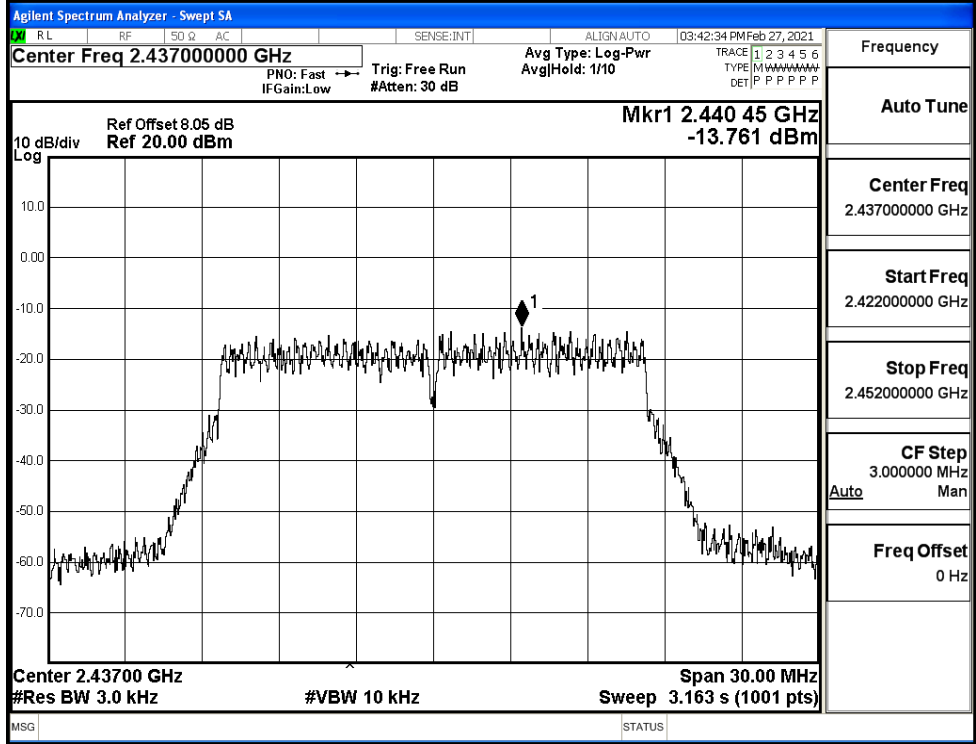


Frequency
Auto Tune
Center Freq 2.462000000 GHz
Start Freq 2.447000000 GHz
Stop Freq 2.477000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

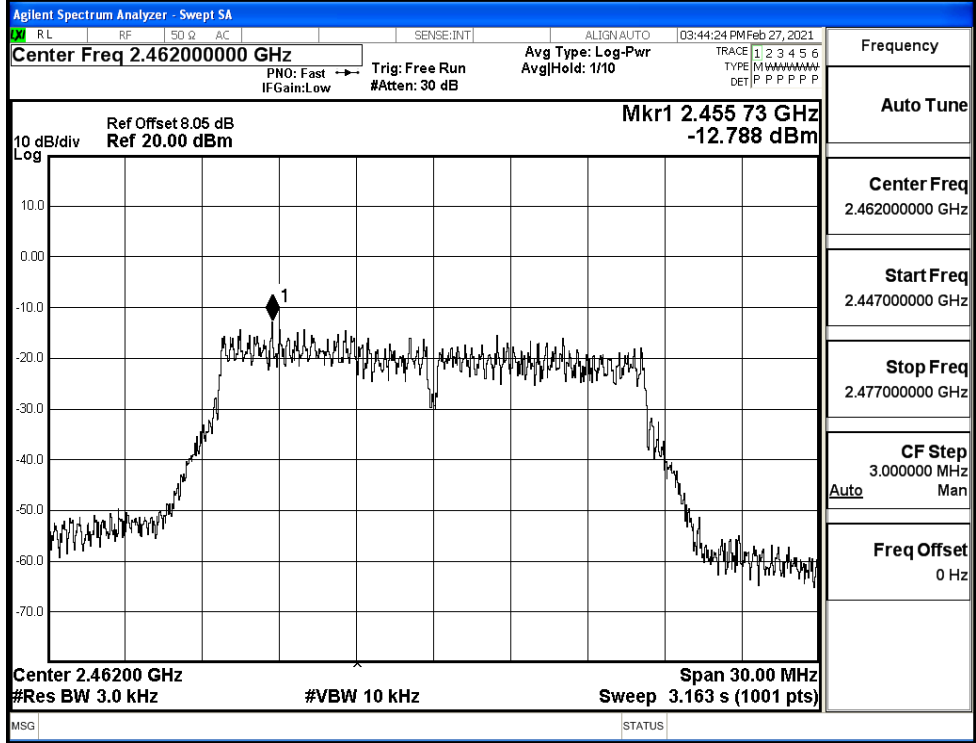
11G/LCH



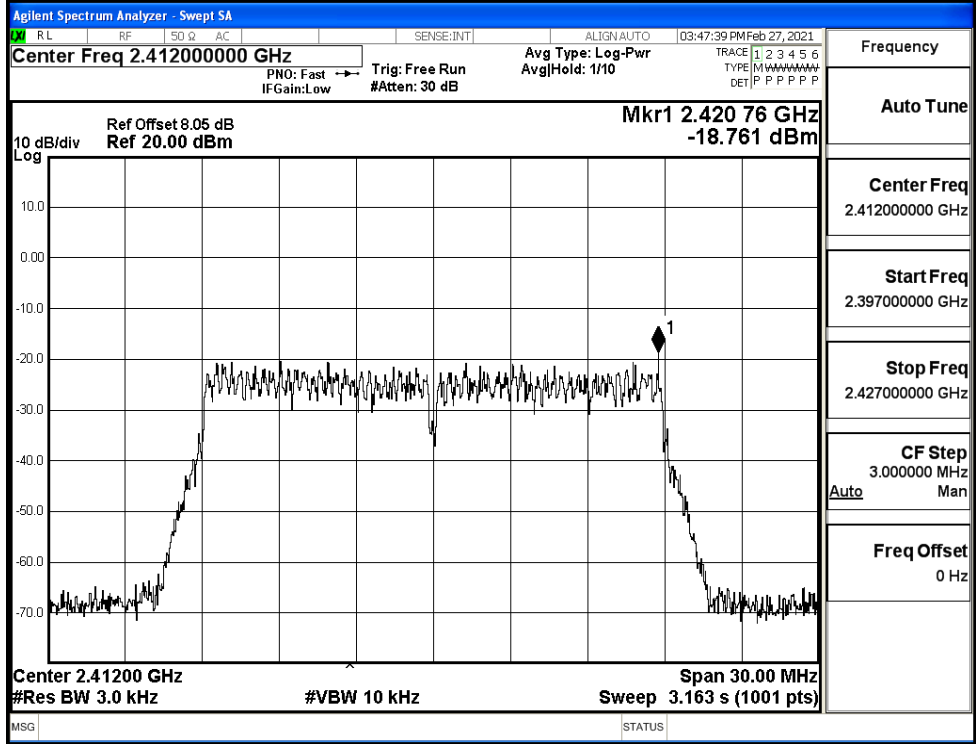
11G/MCH



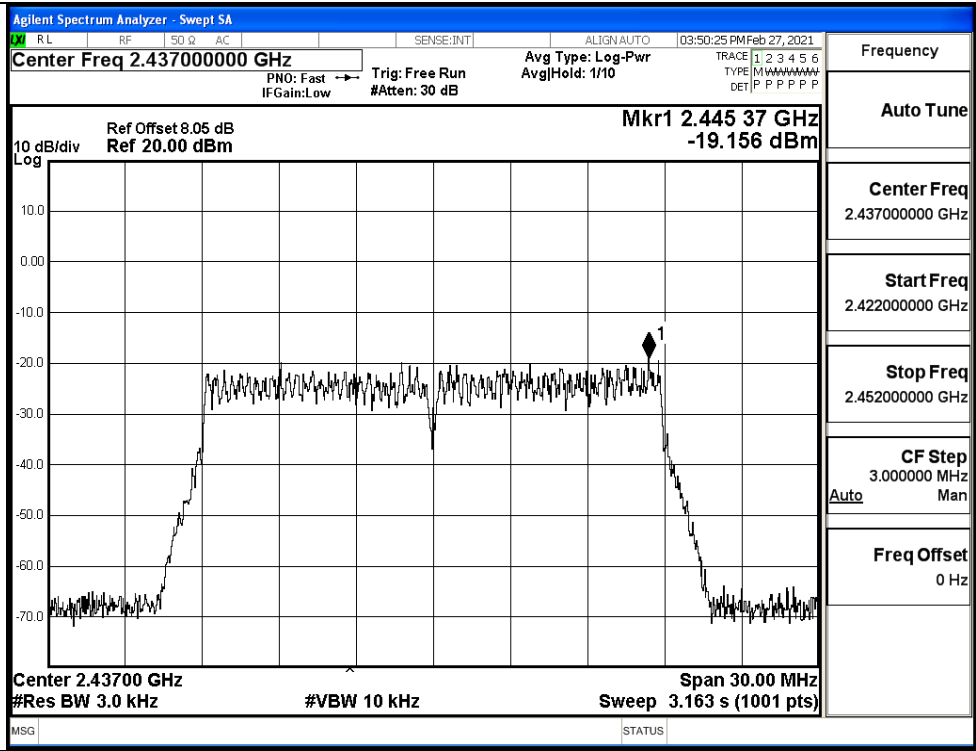
11G/HCH



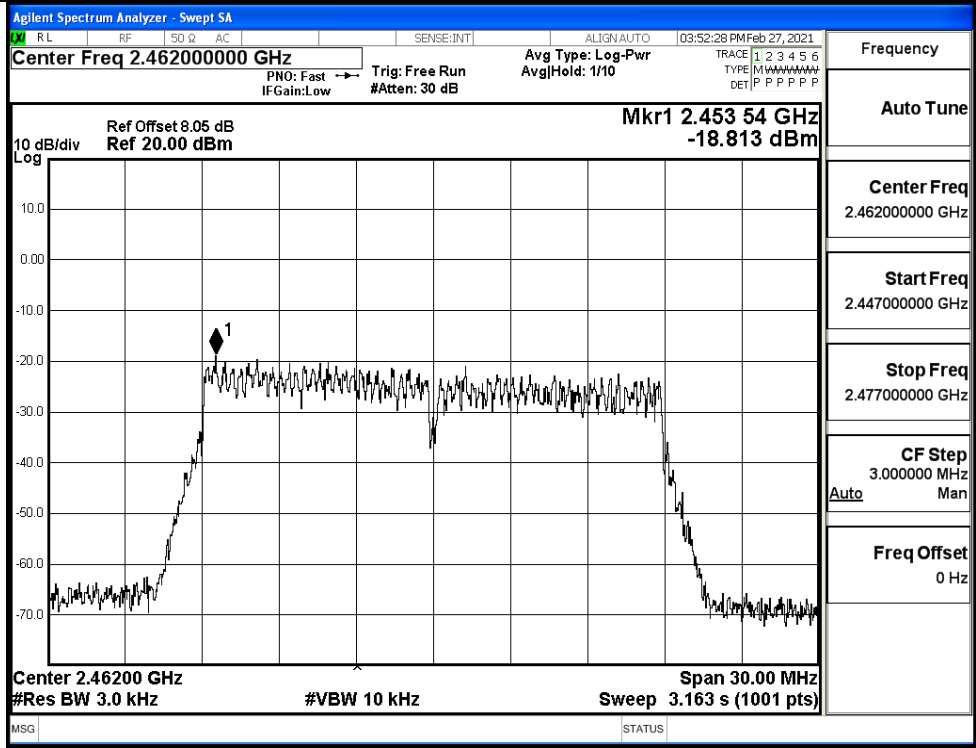
11N20SISO/LCH



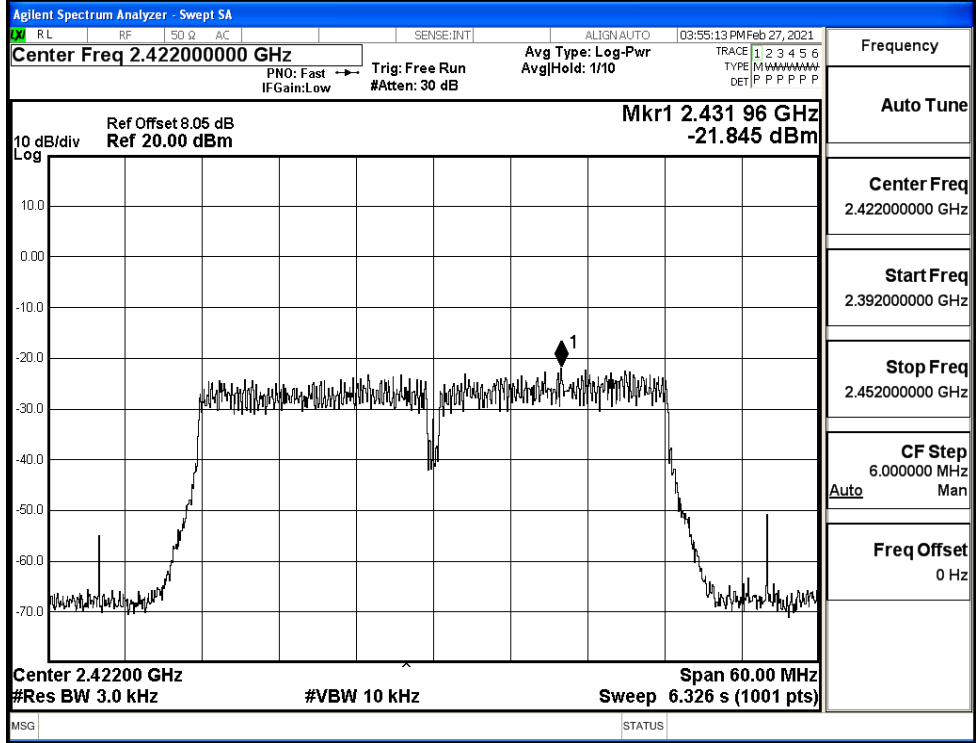
11N20SISO/MCH



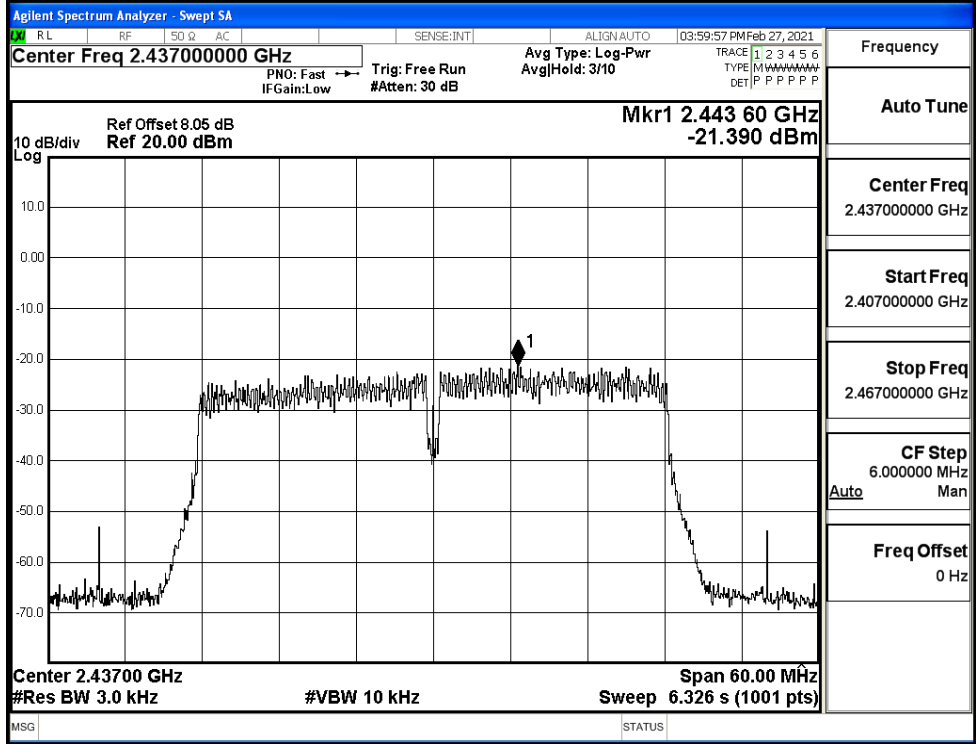
11N20SISO/HCH



11N40SISO/LCH

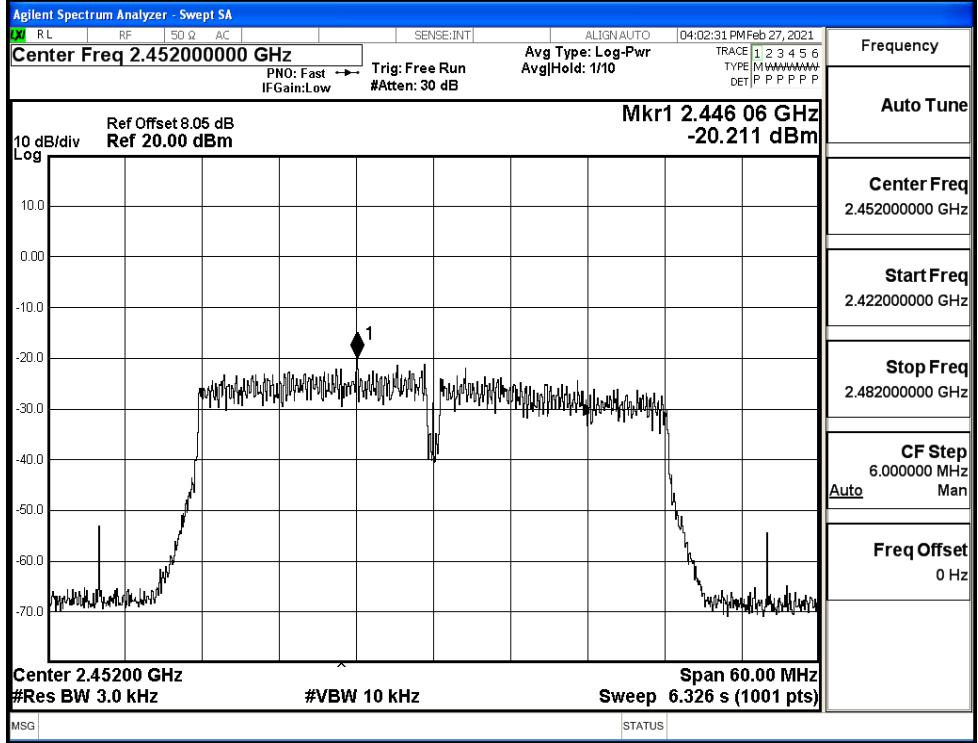


11N40SISO/MCH



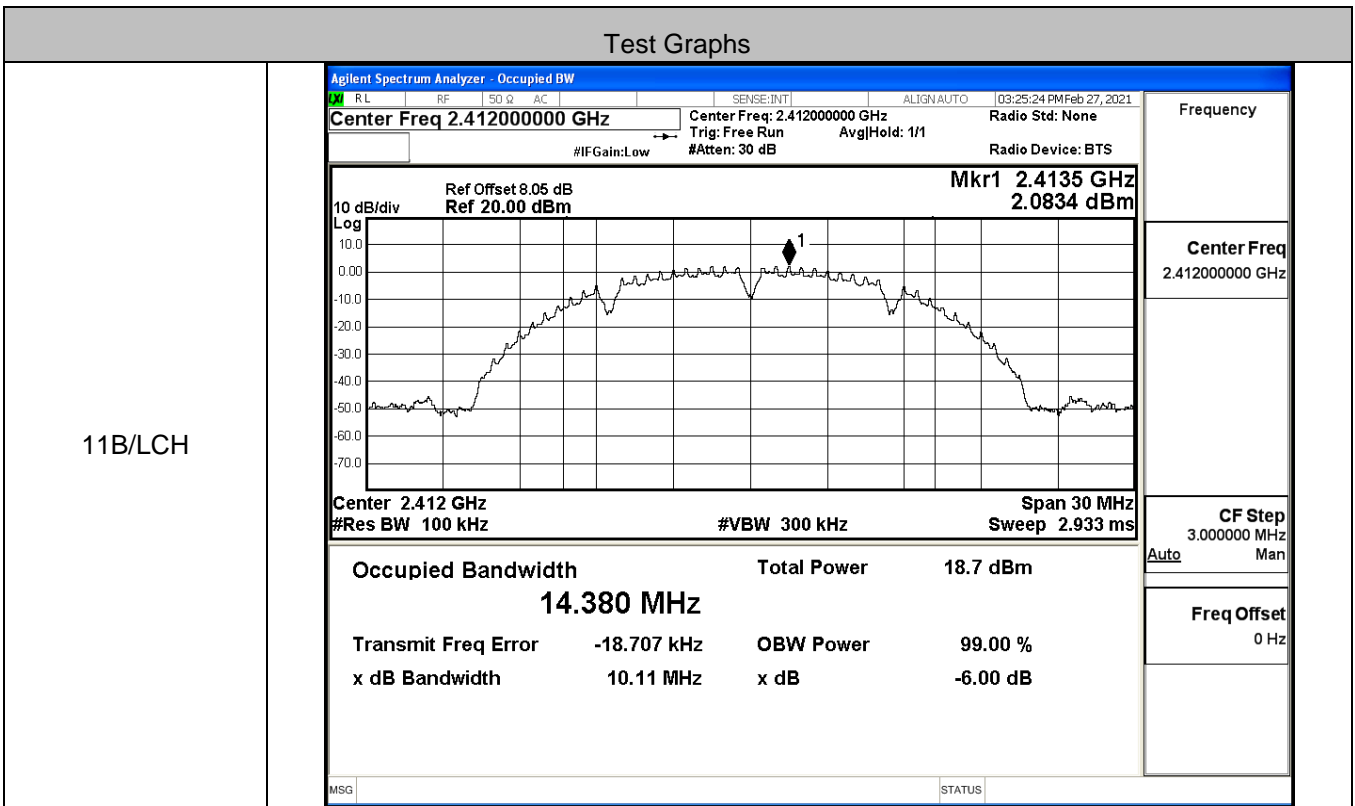


11N40SISO/HCH

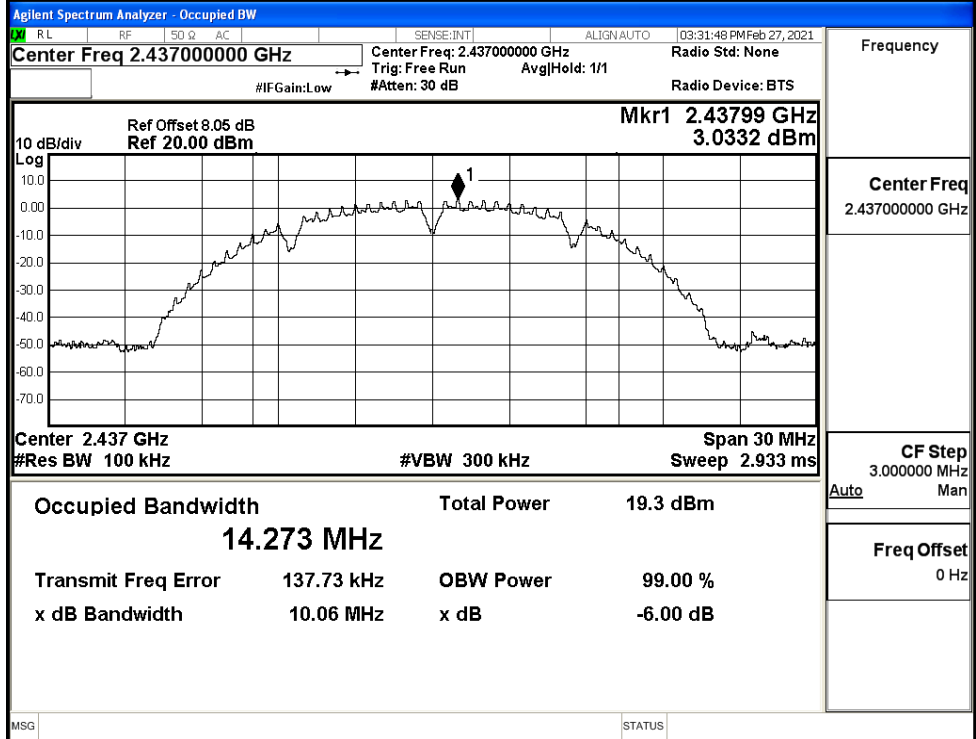


**B.4 6dB Bandwidth**

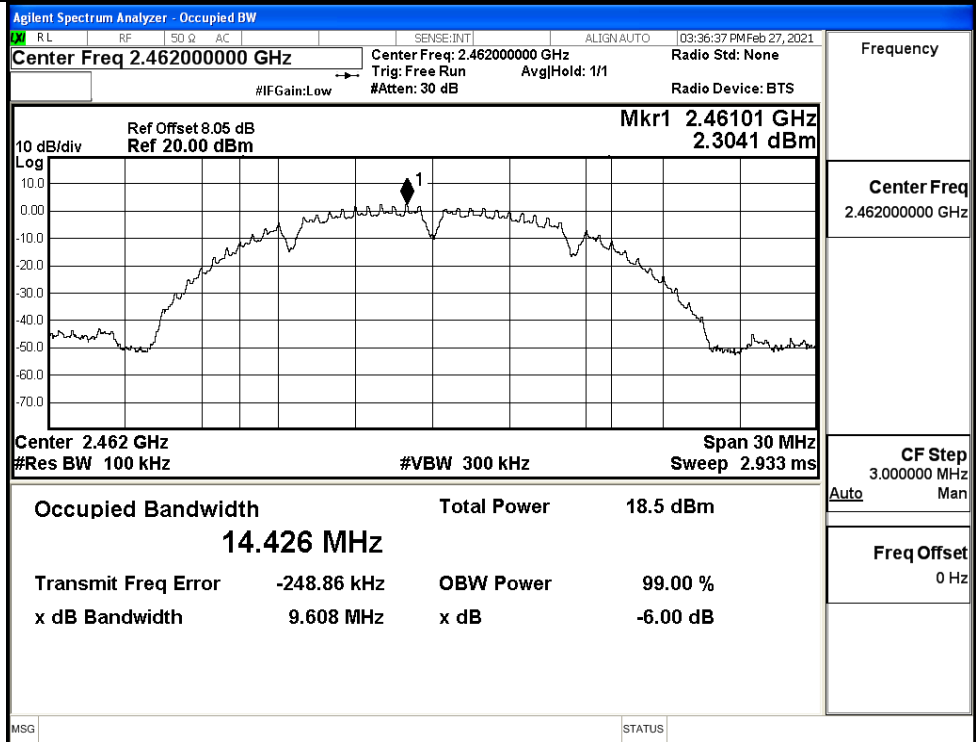
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	10.11	≥0.5	PASS
	MCH	10.06	≥0.5	PASS
	HCH	9.608	≥0.5	PASS
11G	LCH	16.41	≥0.5	PASS
	MCH	16.11	≥0.5	PASS
	HCH	15.83	≥0.5	PASS
11N20SISO	LCH	17.64	≥0.5	PASS
	MCH	17.34	≥0.5	PASS
	HCH	16.36	≥0.5	PASS
11N40SISO	LCH	35.79	≥0.5	PASS
	MCH	35.50	≥0.5	PASS
	HCH	35.43	≥0.5	PASS



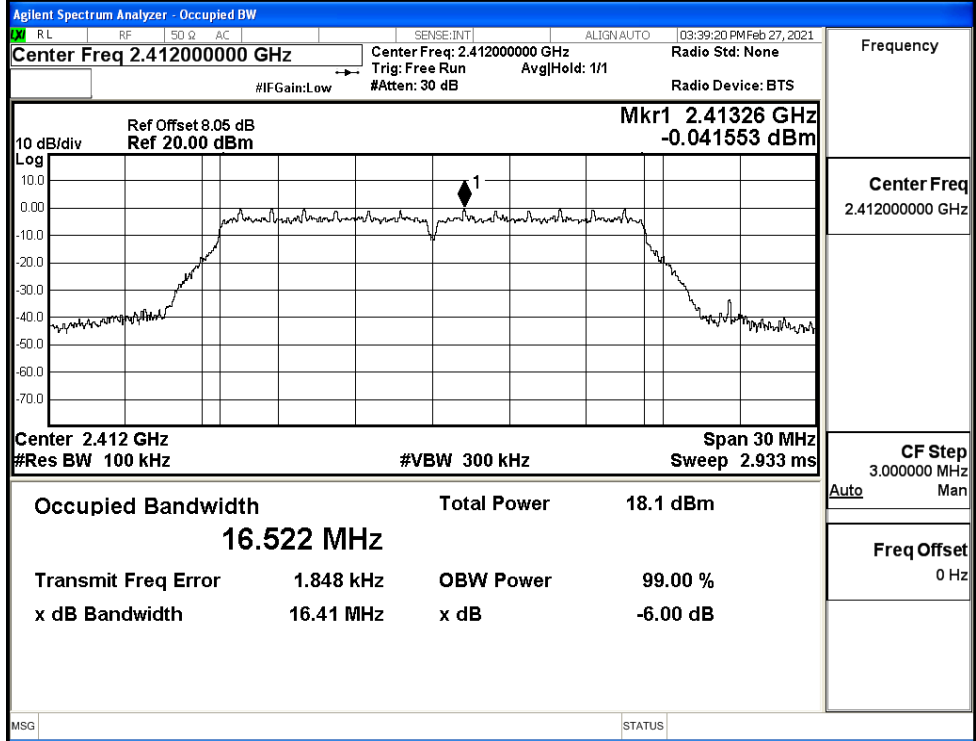
11B/MCH



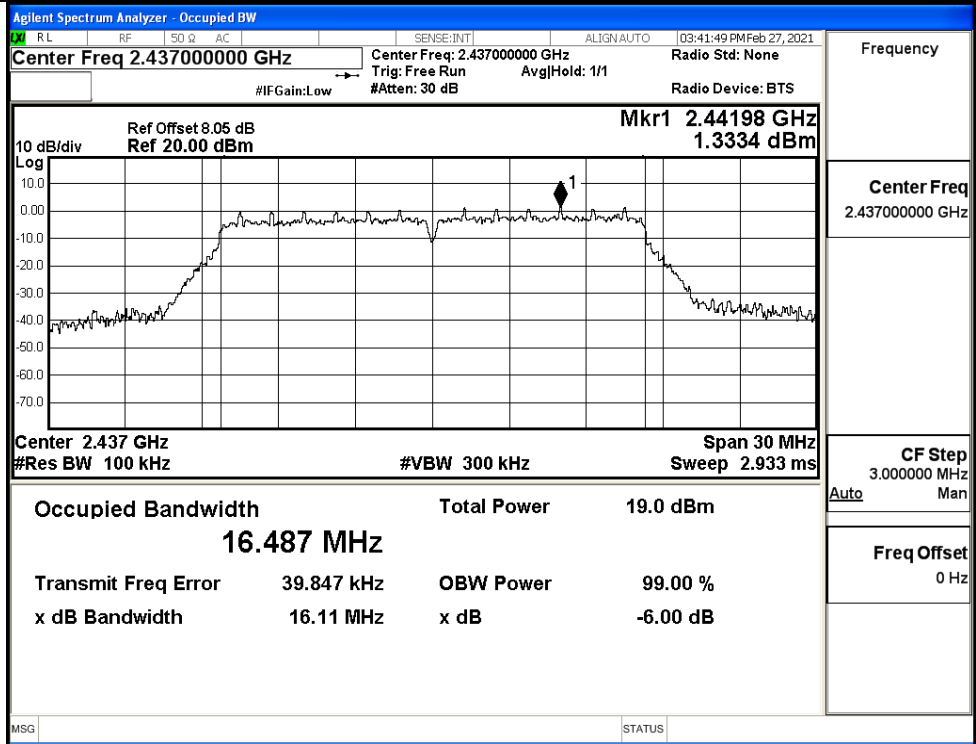
11B/HCH



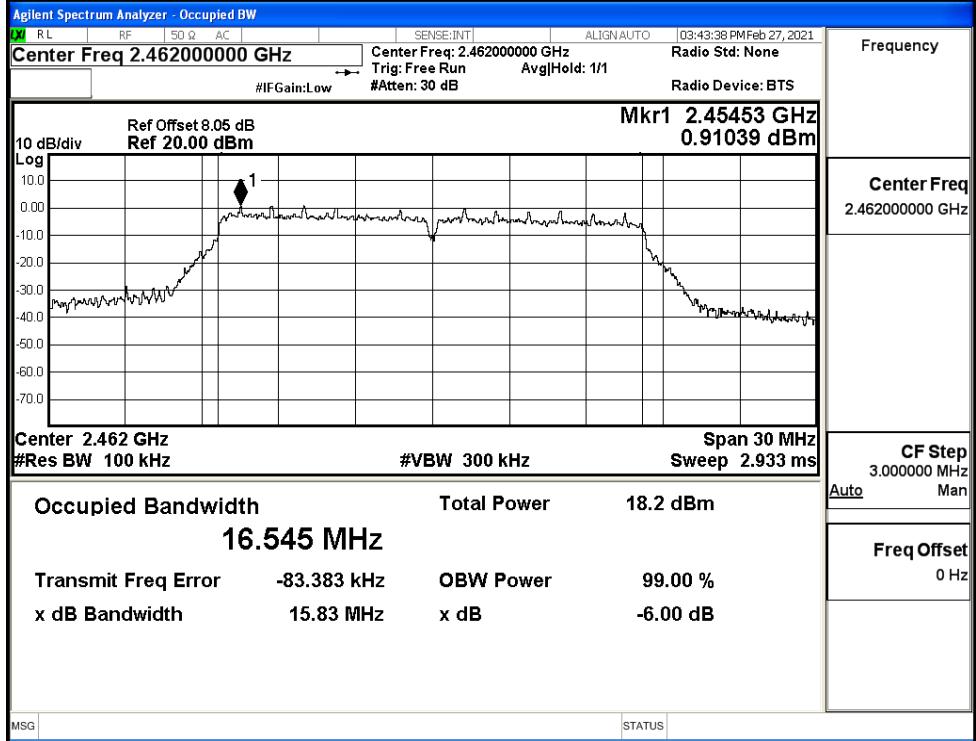
11G/LCH



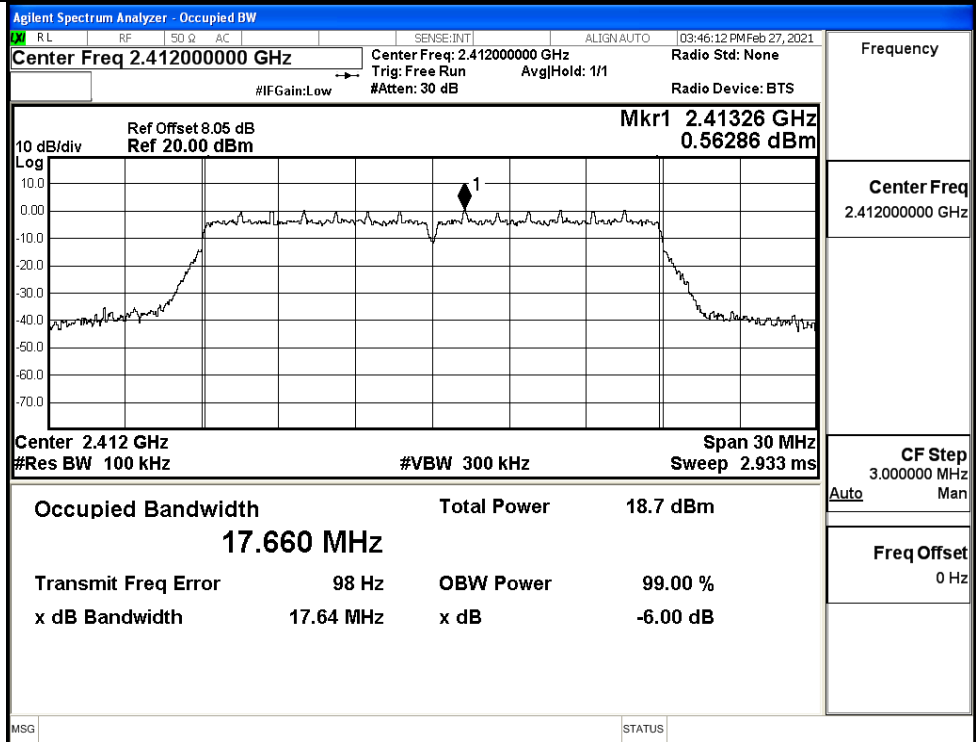
11G/MCH

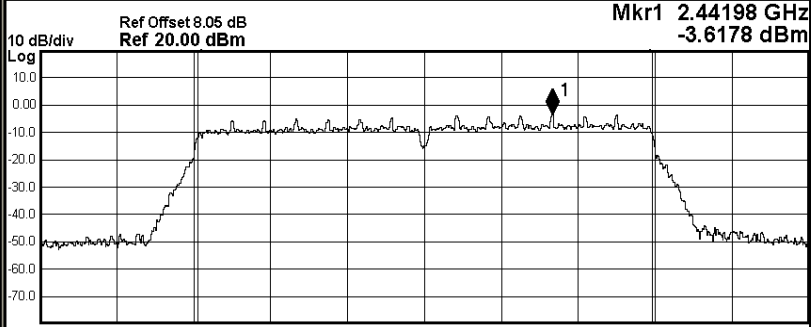
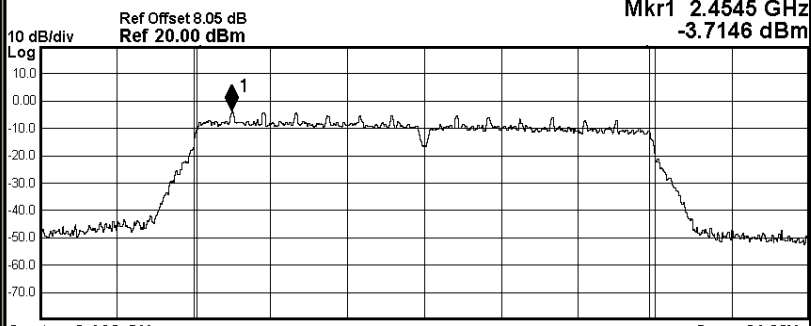


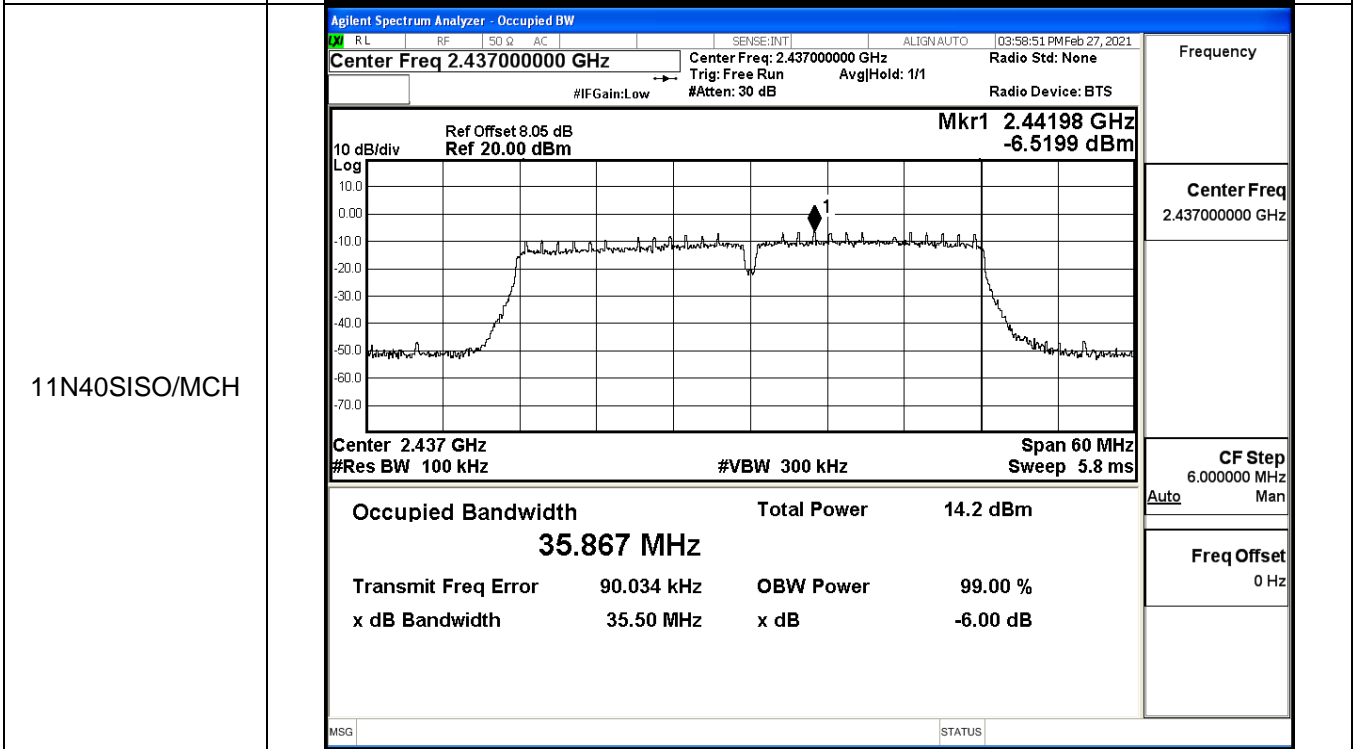
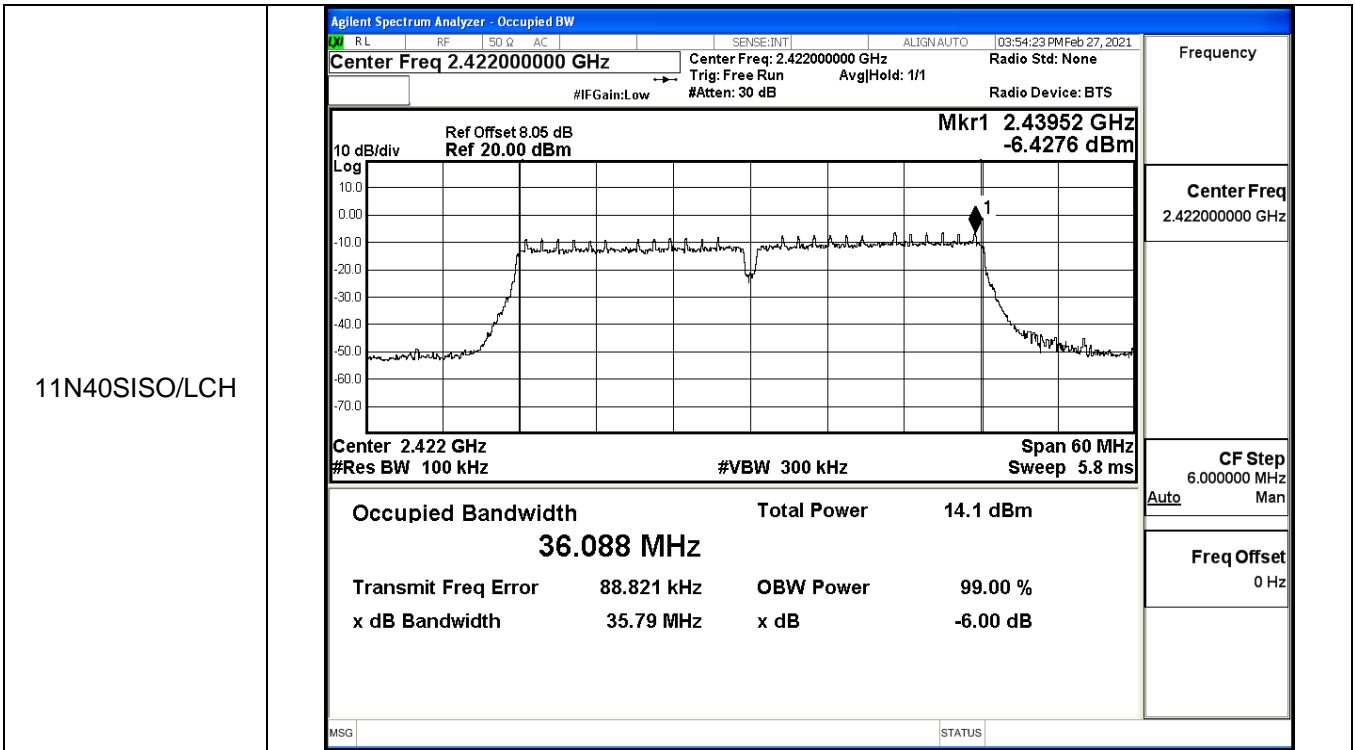
11G/HCH



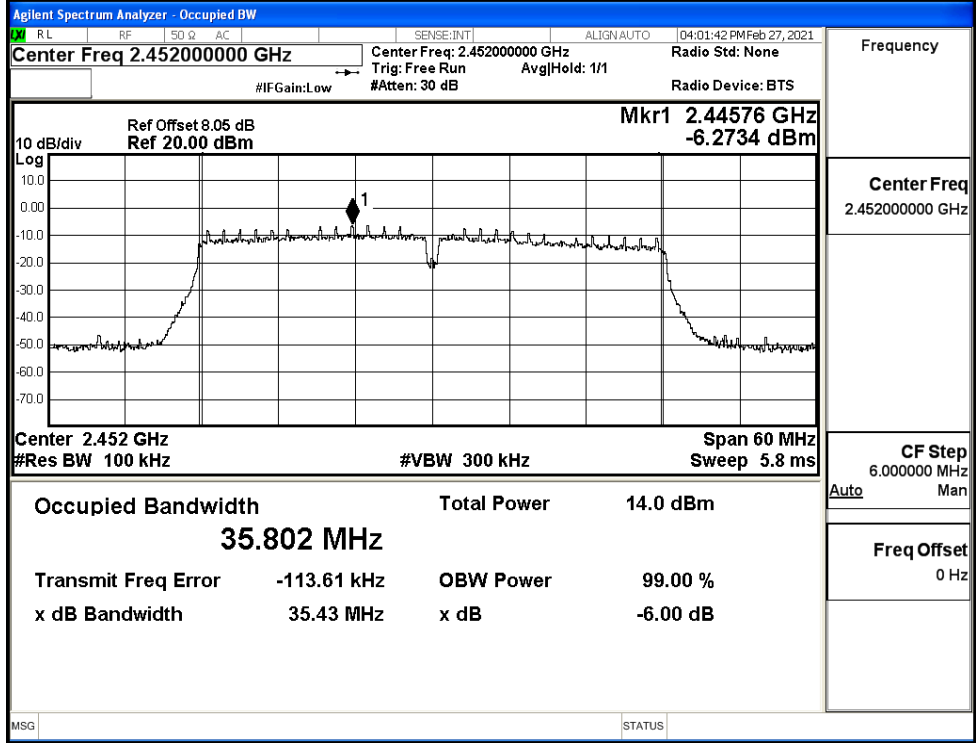
11N20SISO/LCH



<p>11N20SISO/MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>RL RF SO Q AC SENSE:INT ALIGN AUTO 03:49:40 PM Feb 27, 2021</p> <p>Center Freq 2.43700000 GHz Center Freq: 2.43700000 GHz Radio Std: None          Trig: Free Run Avg Hold: &gt;1/1          #IFGain: Low #Atten: 30 dB Radio Device: BTS</p> <p>10 dB/div Ref Offset 8.05 dB Mkr1 2.44198 GHz          Ref 20.00 dBm -3.6178 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 14.1 dBm  <b>17.638 MHz</b></p> <p>Transmit Freq Error 39.404 kHz OBW Power 99.00 %          x dB Bandwidth 17.34 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 SO Q AC SENSE:INT ALIGN AUTO 03:51:43 PM Feb 27, 2021</p> <p>Center Freq 2.46200000 GHz Center Freq: 2.46200000 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 2.4545 GHz          Ref 20.00 dBm -3.7146 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 13.4 dBm  <b>17.646 MHz</b></p> <p>Transmit Freq Error -54.814 kHz OBW Power 99.00 %          x dB Bandwidth 16.36 MHz x dB -6.00 dB</p> <p>MSG STATUS</p>



11N40SISO/HCH





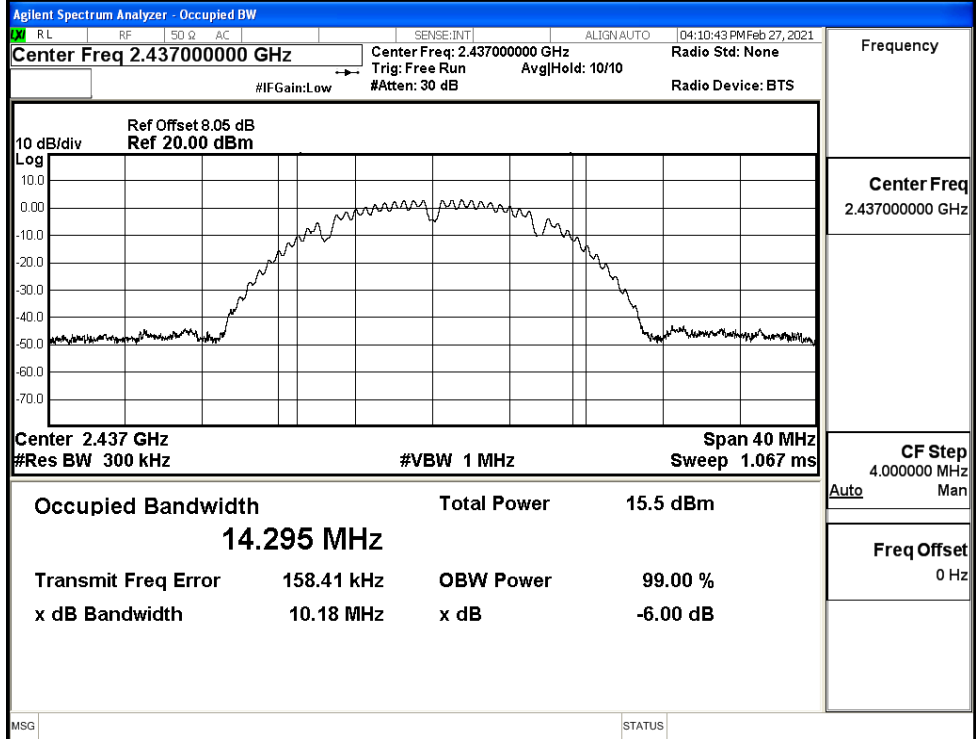
**B.5 Occupied Bandwidth**

Mode	Channel	Occupied Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	14.390	No Limit	PASS
	MCH	14.295	No Limit	PASS
	HCH	14.450	No Limit	PASS
11G	LCH	16.930	No Limit	PASS
	MCH	16.851	No Limit	PASS
	HCH	16.888	No Limit	PASS
11N20SISO	LCH	17.884	No Limit	PASS
	MCH	17.836	No Limit	PASS
	HCH	17.846	No Limit	PASS
11N40SISO	LCH	36.339	No Limit	PASS
	MCH	36.058	No Limit	PASS
	HCH	35.982	No Limit	PASS

**Test Graphs**

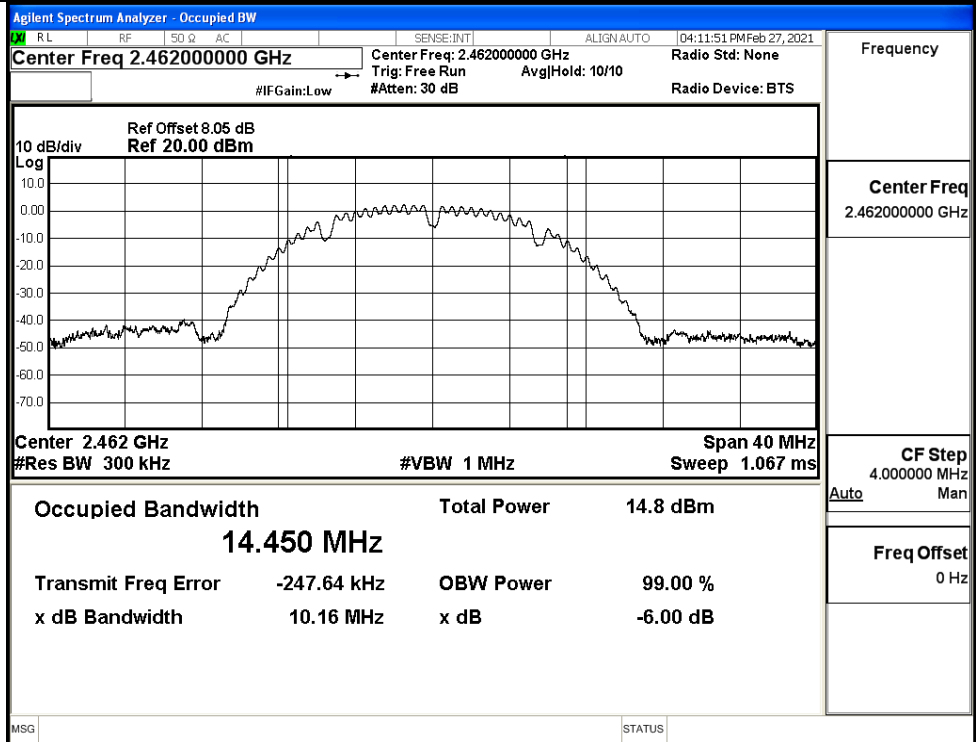
11B/LCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.412000000 GHz</p> <p>Center Freq: 2.412000000 GHz Trig: Free Run #IFGain: Low #Atten: 30 dB</p> <p>Ref Offset 8.05 dB Ref 20.00 dBm</p> <p>Center 2.412 GHz #Res BW 300 kHz #VBW 1 MHz Span 40 MHz Sweep 1.067 ms</p>		<p>Frequency</p> <p>Center Freq 2.412000000 GHz</p>
	<p>Occupied Bandwidth <b>14.390 MHz</b></p> <p>Total Power 15.2 dBm</p> <p>Transmit Freq Error -990 Hz OBW Power 99.00 %</p> <p>x dB Bandwidth 10.21 MHz x dB -6.00 dB</p>		<p>CF Step 4.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>

11B/MCH



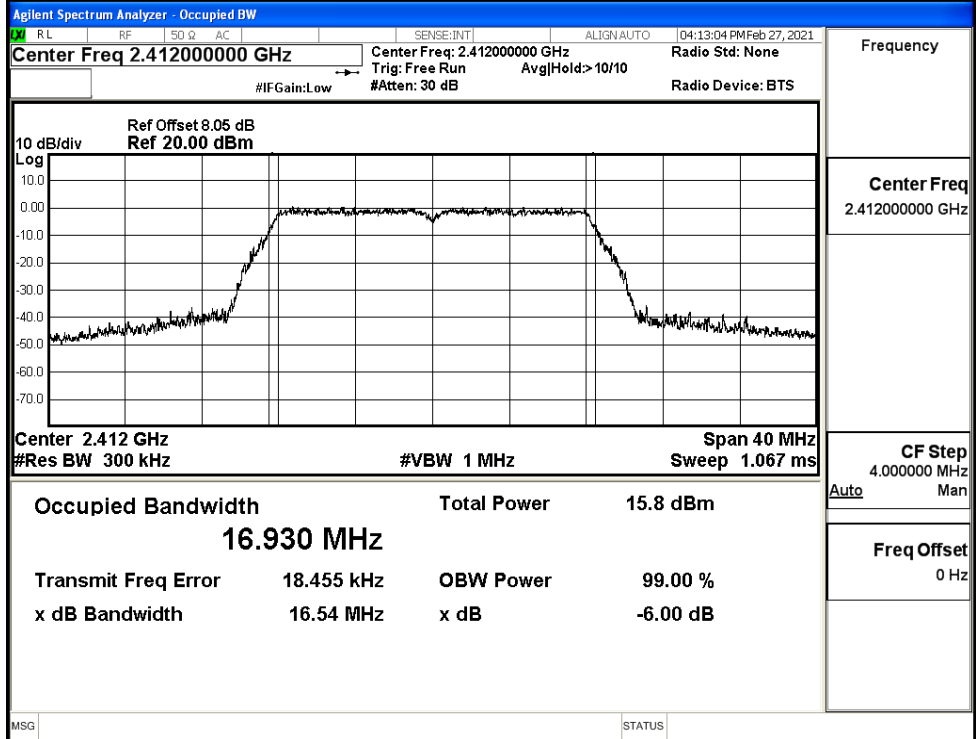
Frequency	2.437000000 GHz
Center Freq	2.437000000 GHz
CF Step	4.000000 MHz
Auto	Man
Freq Offset	0 Hz

11B/HCH



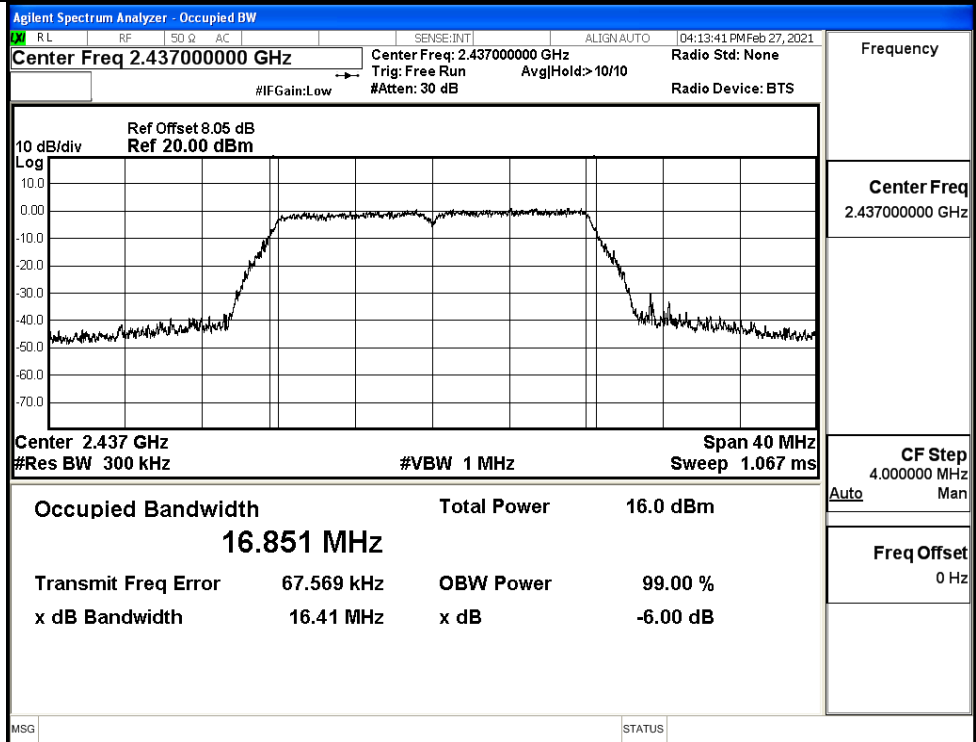
Frequency	2.462000000 GHz
Center Freq	2.462000000 GHz
CF Step	4.000000 MHz
Auto	Man
Freq Offset	0 Hz

11G/LCH



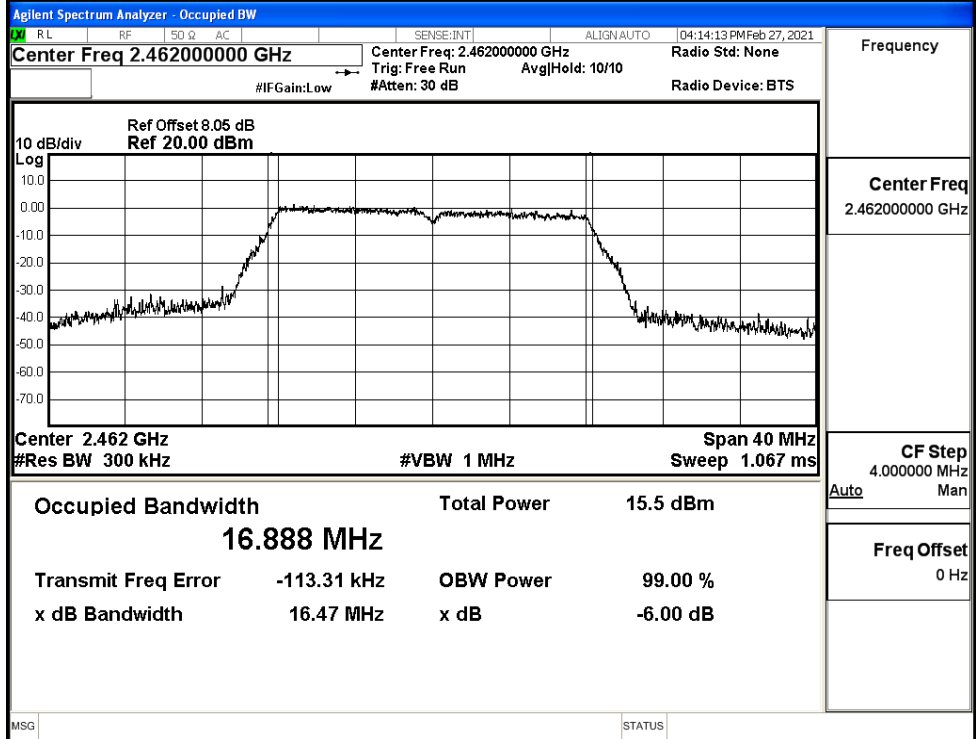
Frequency	2.41200000 GHz
Center Freq	2.41200000 GHz
CF Step	4.000000 MHz
Auto	Man
Freq Offset	0 Hz

11G/MCH



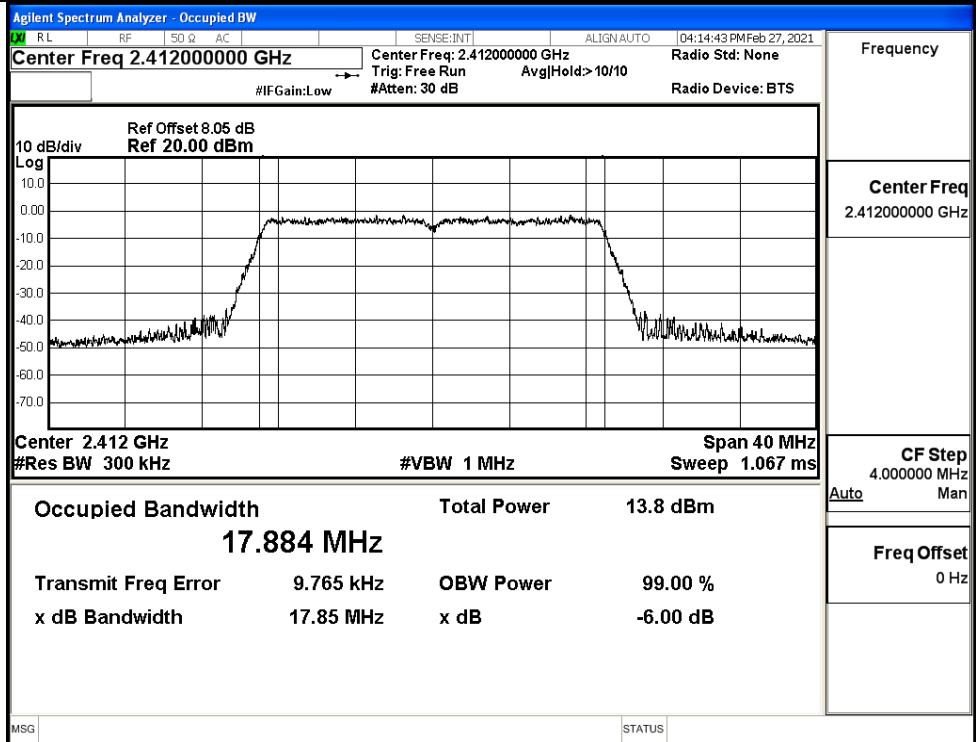
Frequency	2.43700000 GHz
Center Freq	2.43700000 GHz
CF Step	4.000000 MHz
Auto	Man
Freq Offset	0 Hz

11G/HCH



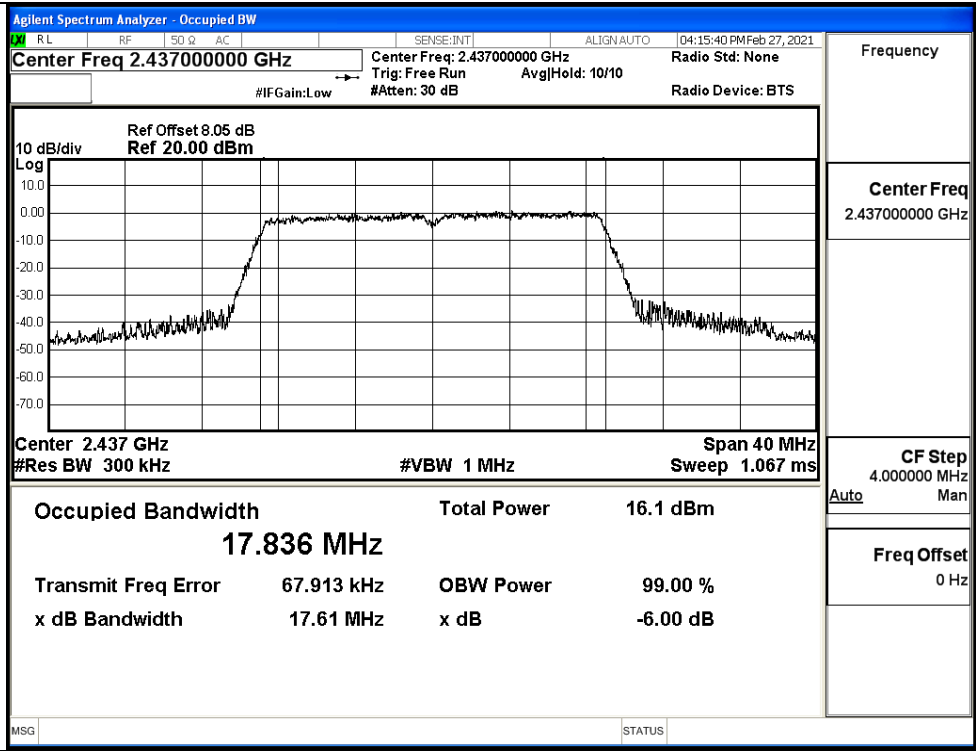
Frequency	2.46200000 GHz
CF Step	4.000000 MHz
Freq Offset	0 Hz

11N20SISO/LCH

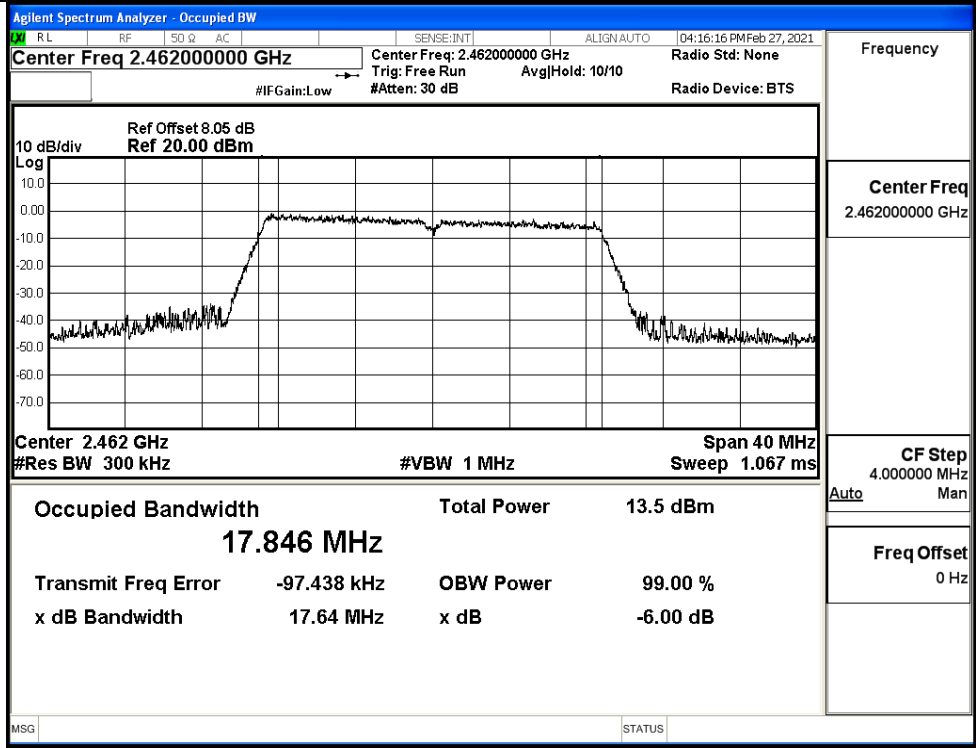


Frequency	2.41200000 GHz
CF Step	4.000000 MHz
Freq Offset	0 Hz

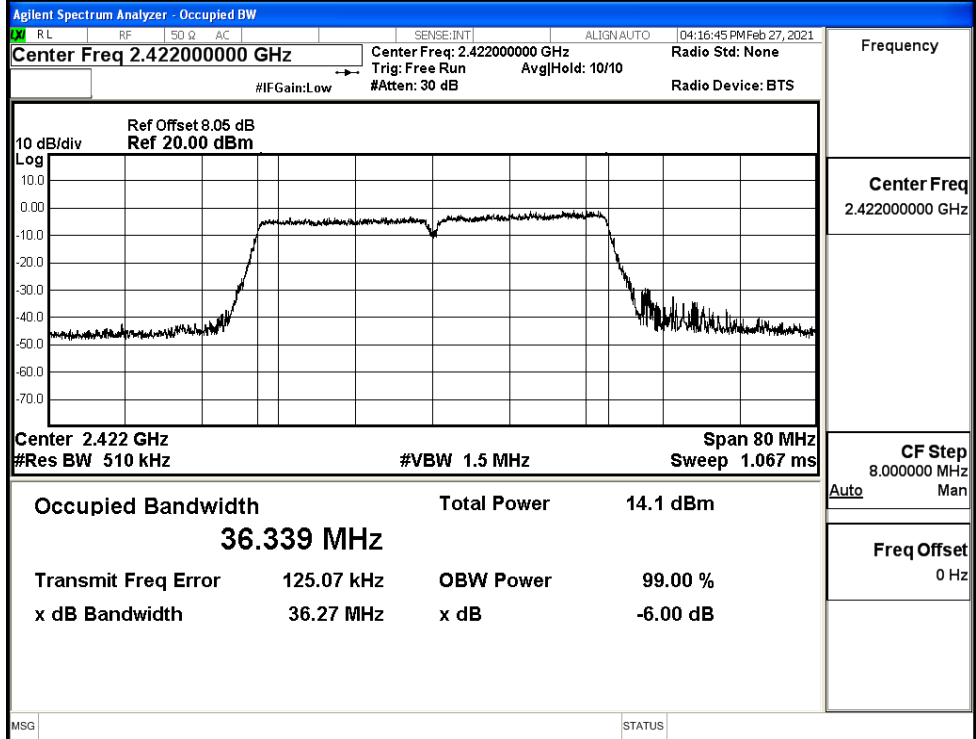
11N20SISO/MCH



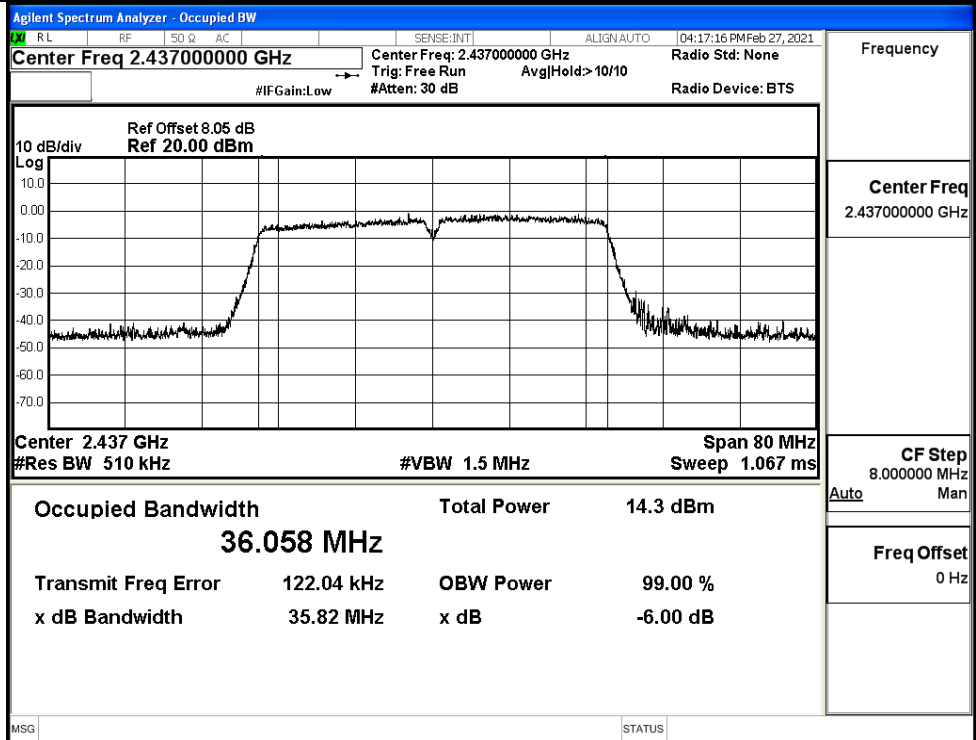
11N20SISO/HCH



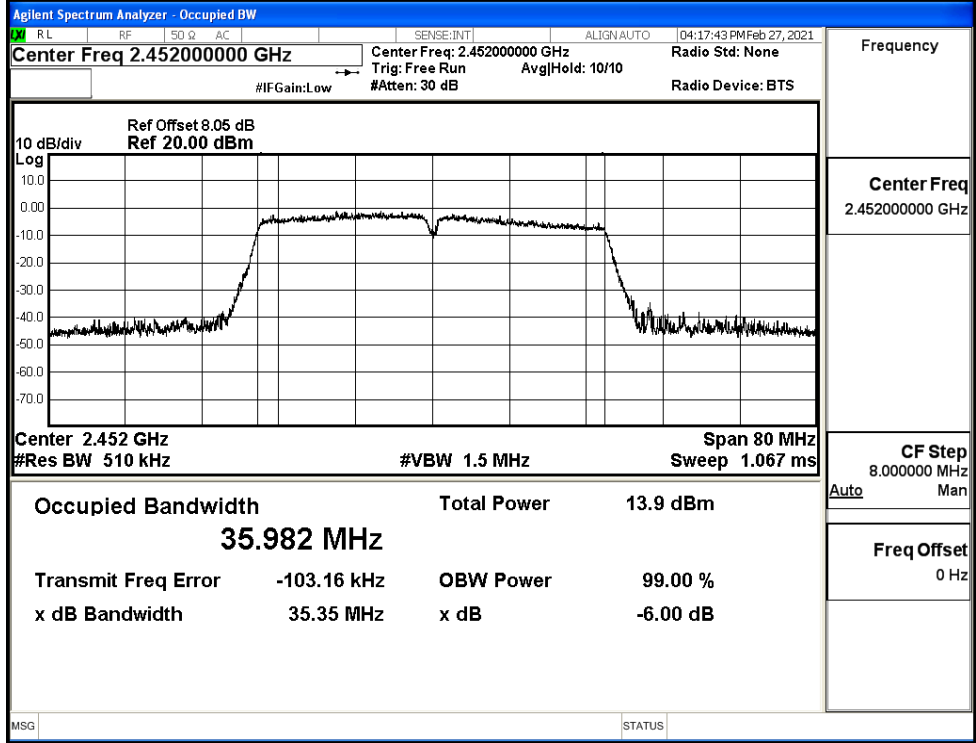
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH



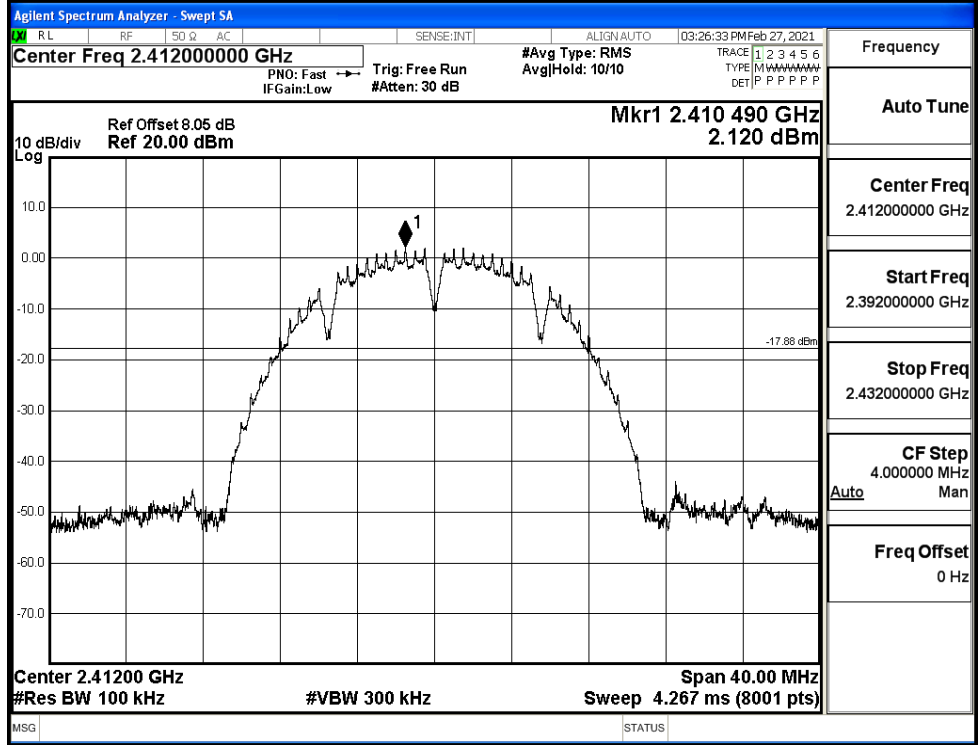
**B.6 RF Conducted Spurious Emissions**

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	2.12	-38.446	-17.880	PASS
	MCH	3.032	-37.674	-16.968	PASS
	HCH	1.887	-38.036	-18.113	PASS
11G	LCH	0.205	-38.120	-19.795	PASS
	MCH	1.104	-38.069	-18.896	PASS
	HCH	1.069	-38.054	-18.931	PASS
11N20 SISO	LCH	-5.111	-38.389	-25.111	PASS
	MCH	-3.689	-37.690	-23.689	PASS
	HCH	-4.237	-38.144	-24.237	PASS
11N40 SISO	LCH	-6.551	-37.256	-26.551	PASS
	MCH	-6.601	-37.553	-26.601	PASS
	HCH	-6.518	-38.198	-26.518	PASS

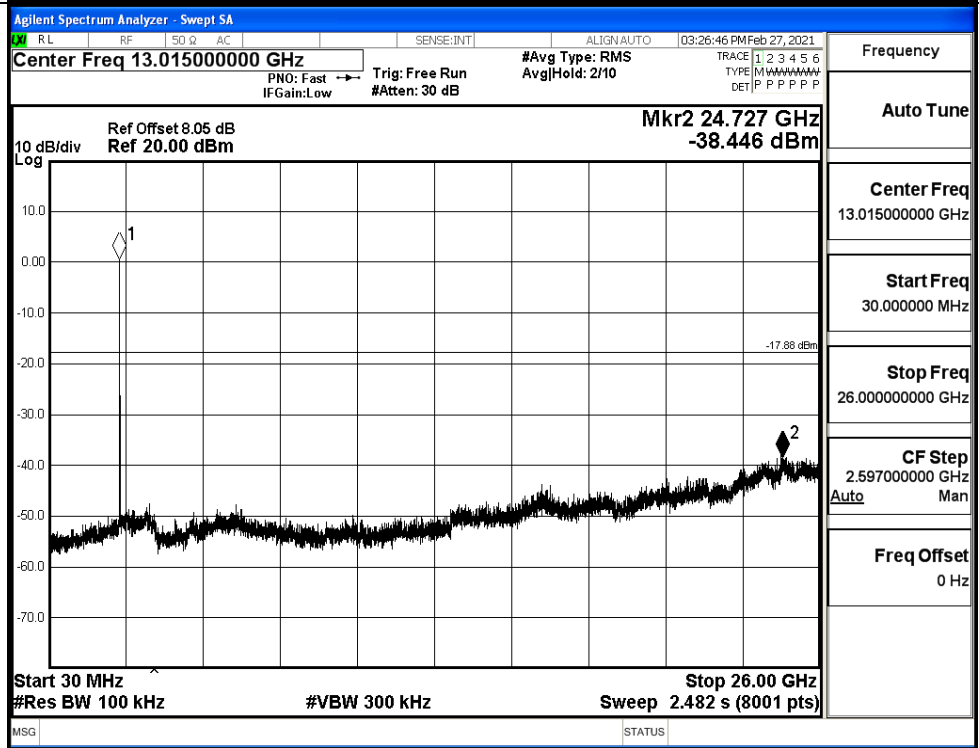


11B\_LCH\_Graphs

Pref/11B/LCH

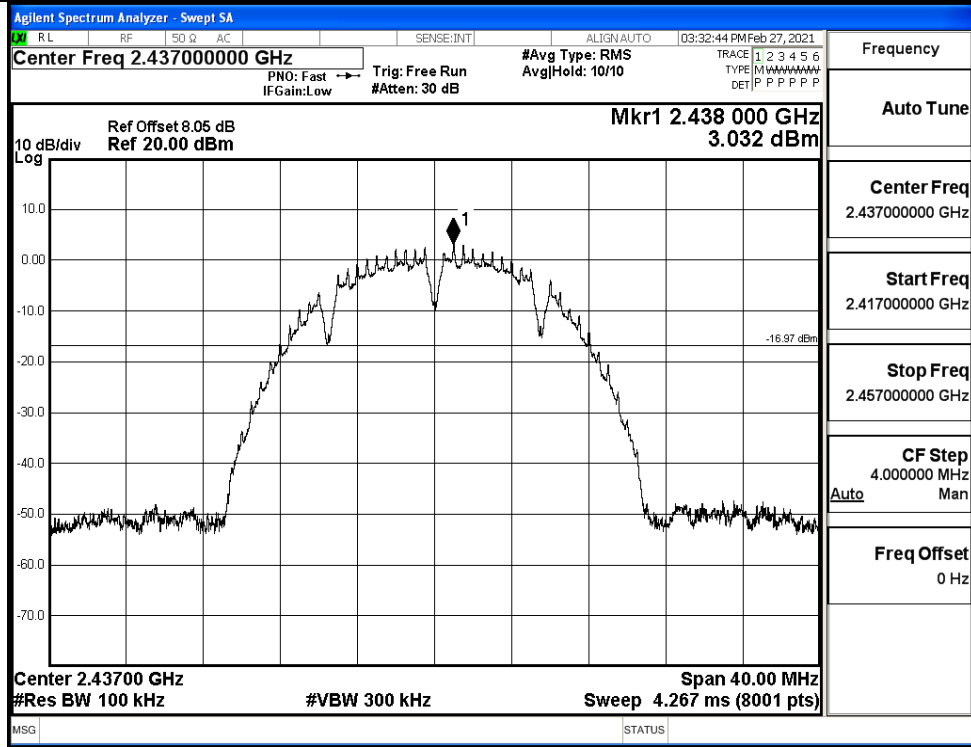


Puw/11B/LCH

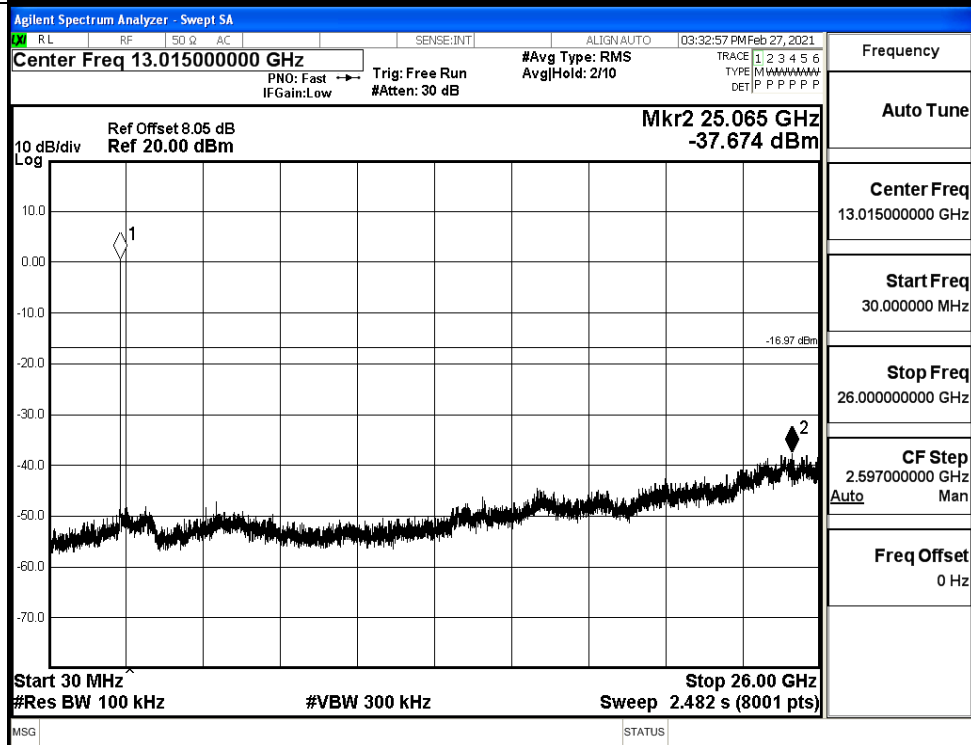


11B\_MCH\_Graphs

Pref/11B/MCH

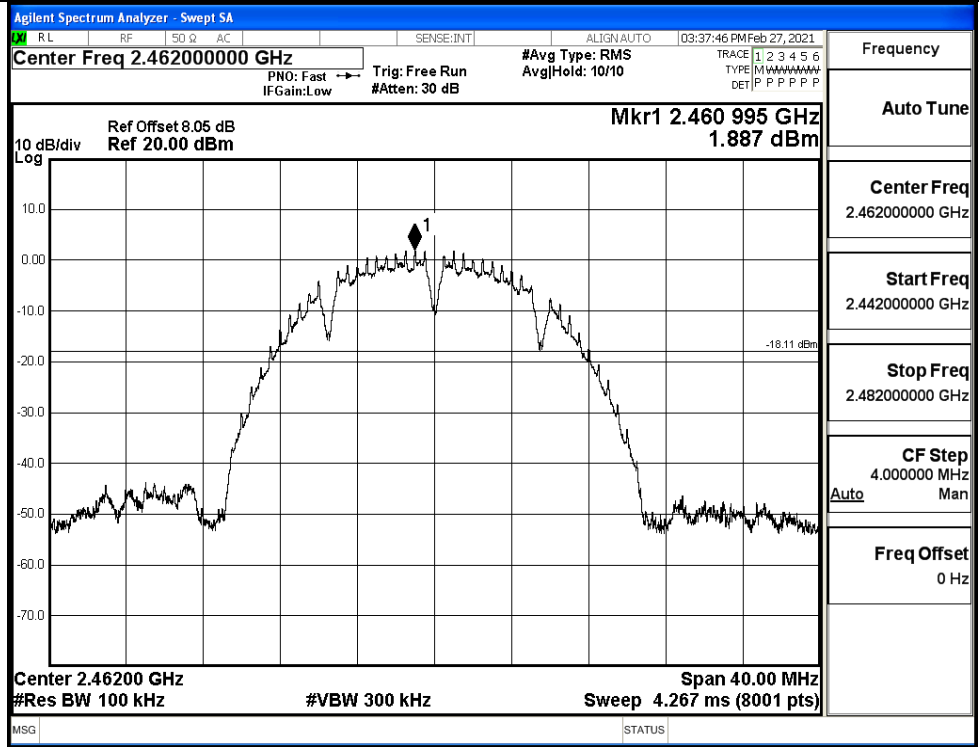


Puw/11B/MCH

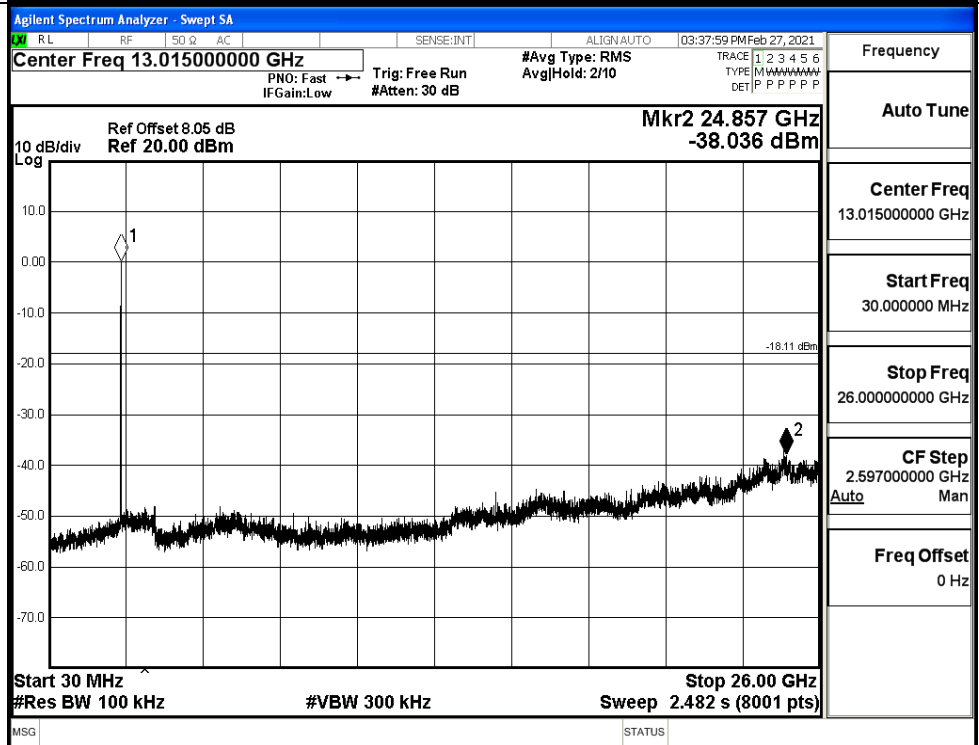


11B\_HCH\_Graphs

Pref/11B/HCH

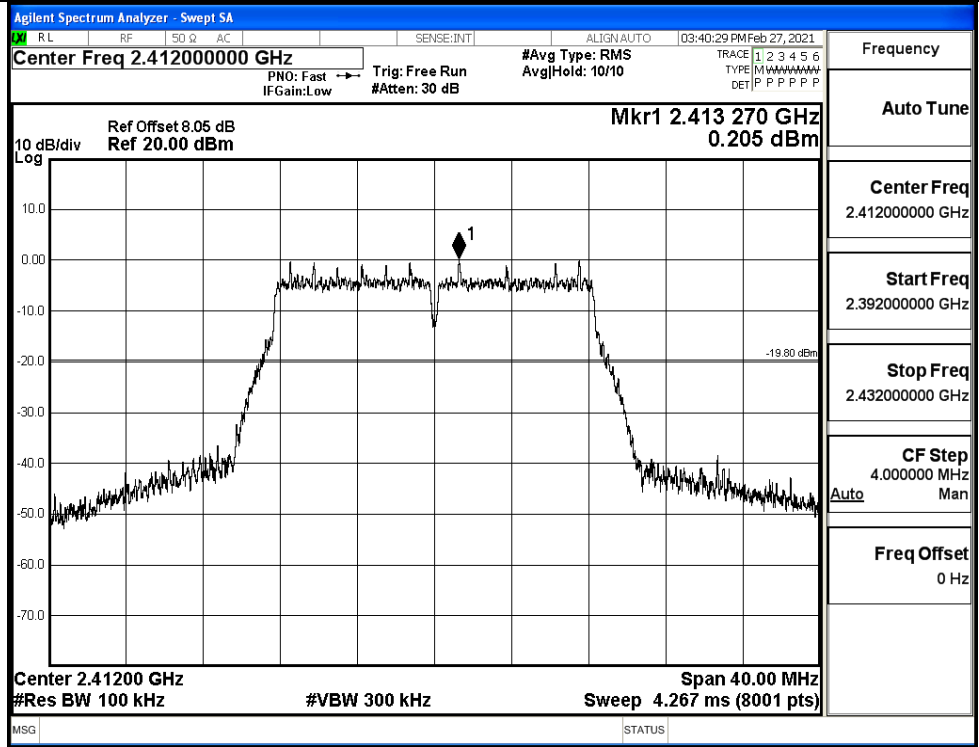


Puw/11B/HCH

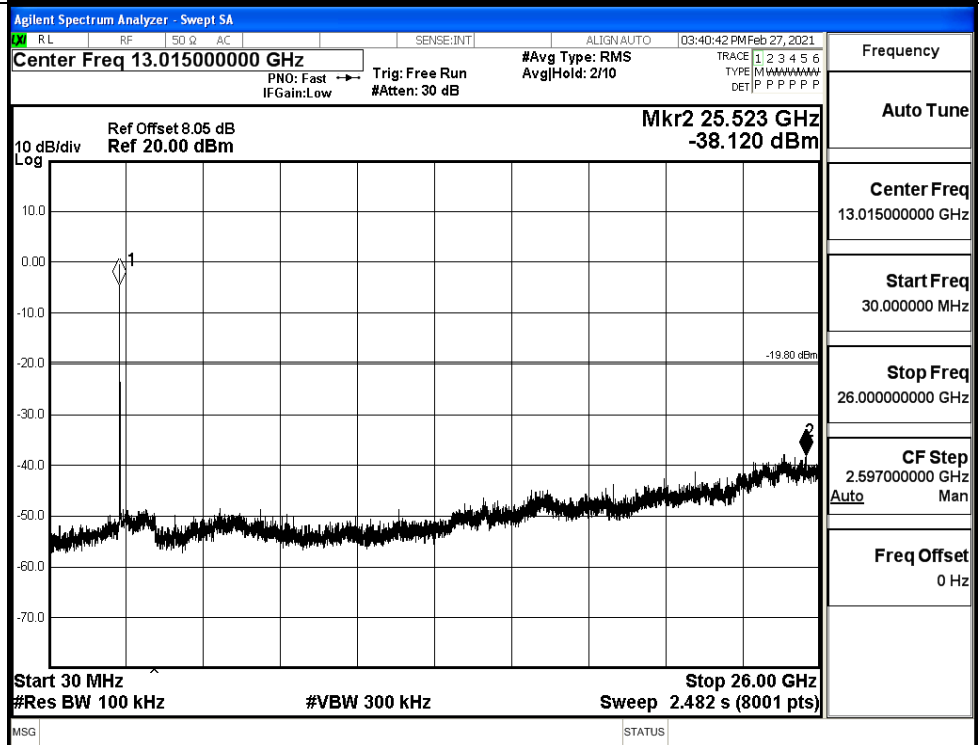


11G\_LCH\_Graphs

Pref/11G/LCH

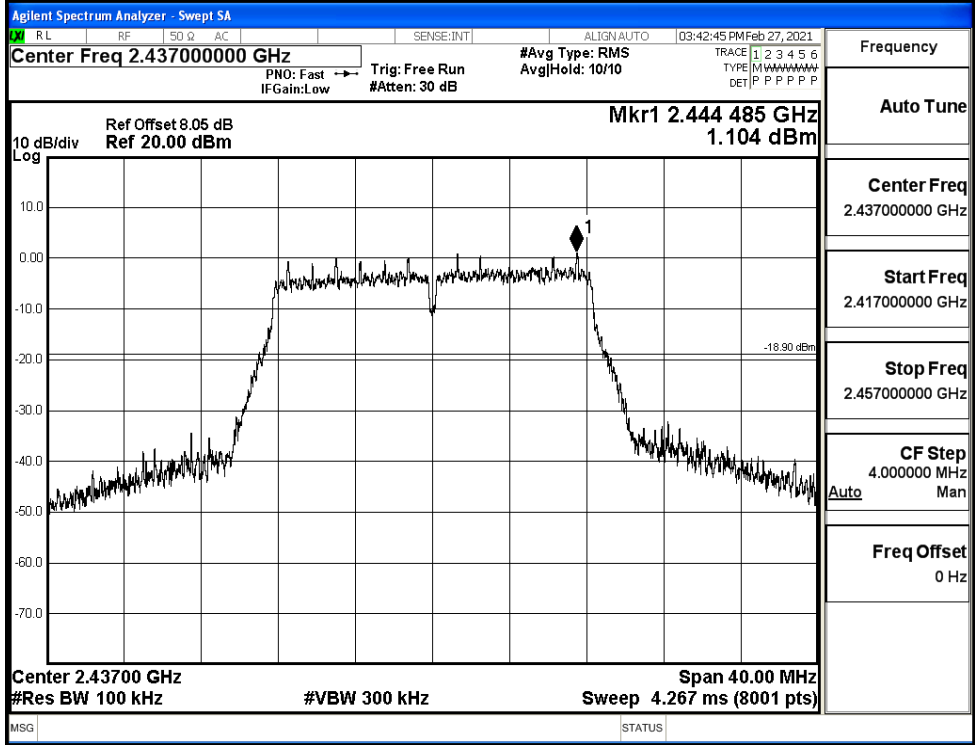


Puw/11G/LCH

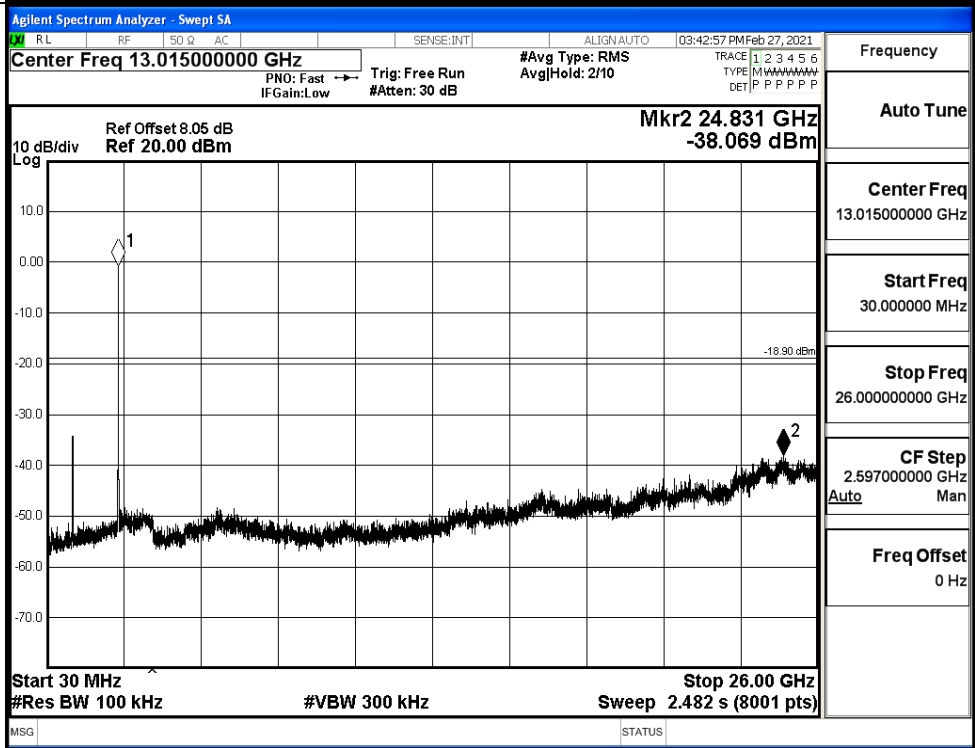


11G\_MCH\_Graphs

Pref/11G/MCH

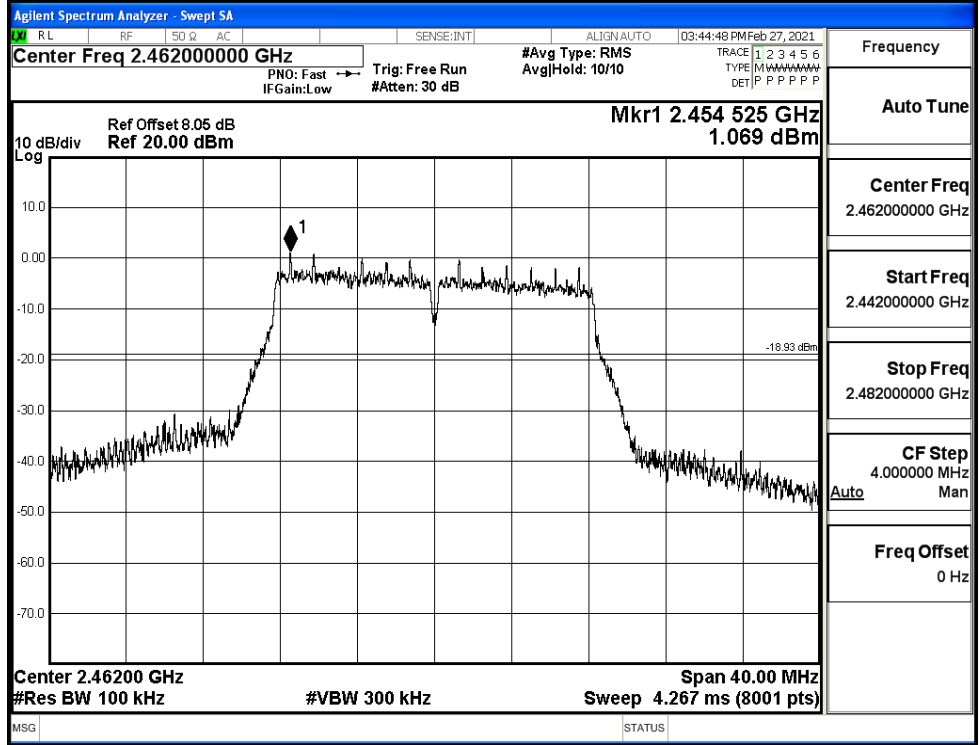


Puw/11G/MCH

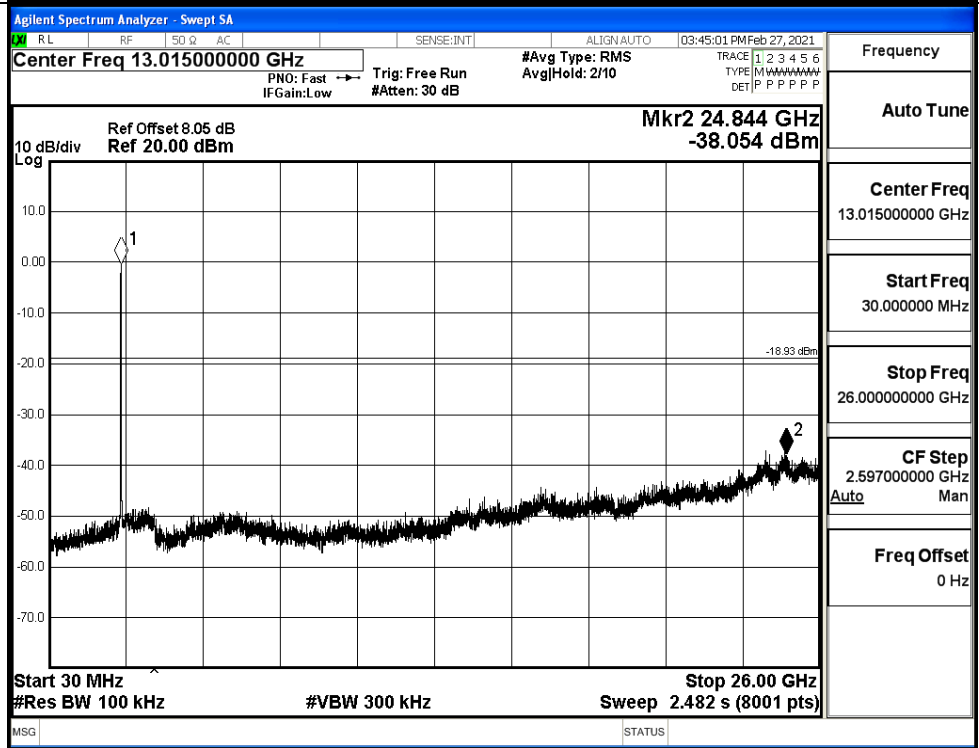


11G\_HCH\_Graphs

Pref/11G/HCH

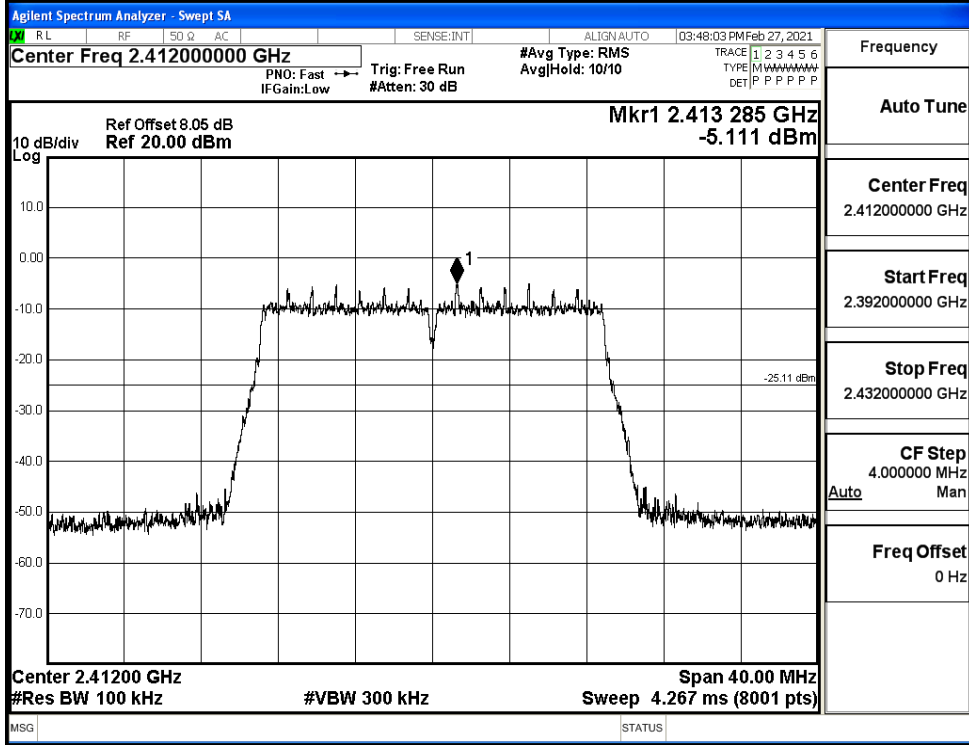


Puw/11G/HCH

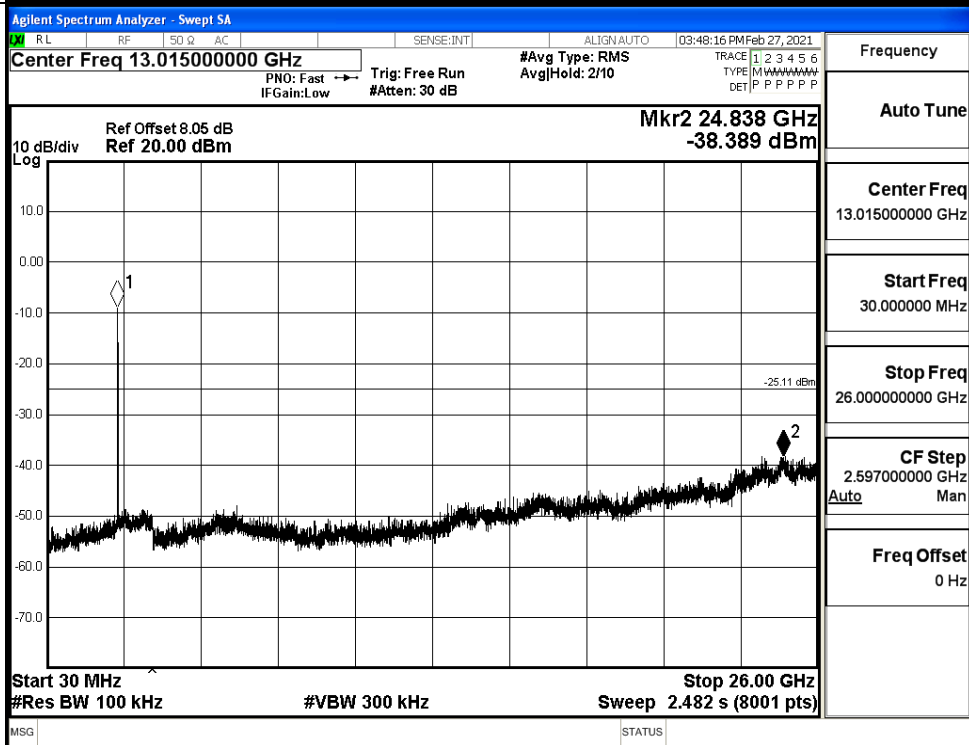


11N20SISO\_LCH\_Graphs

Pref/11N20SIS  
O/LCH

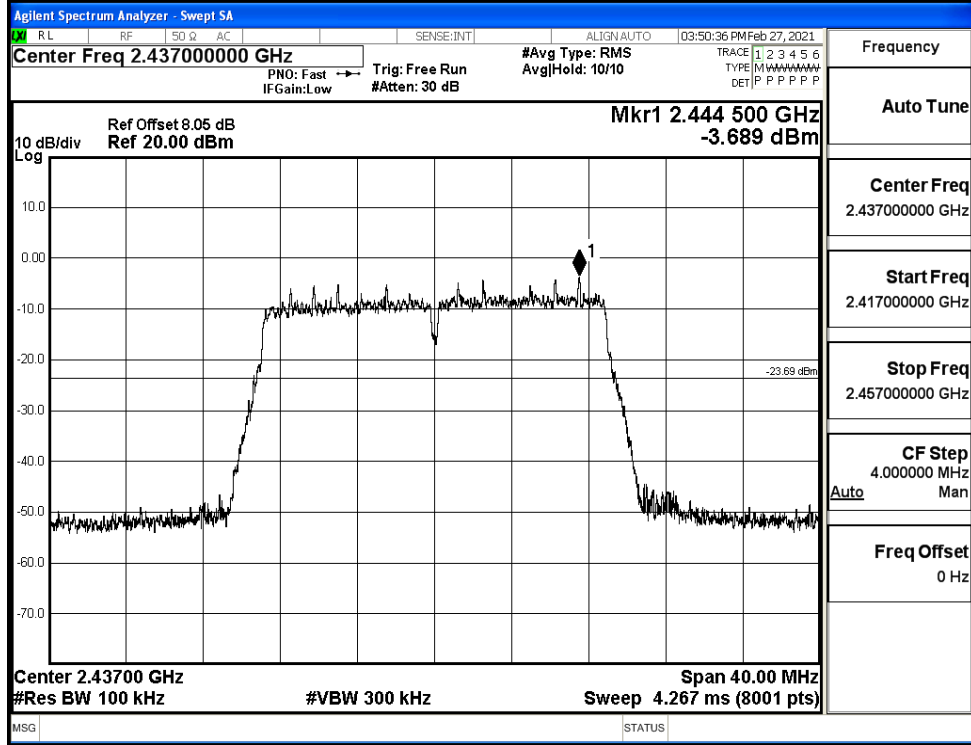


Puw/11N20  
SISO/LCH

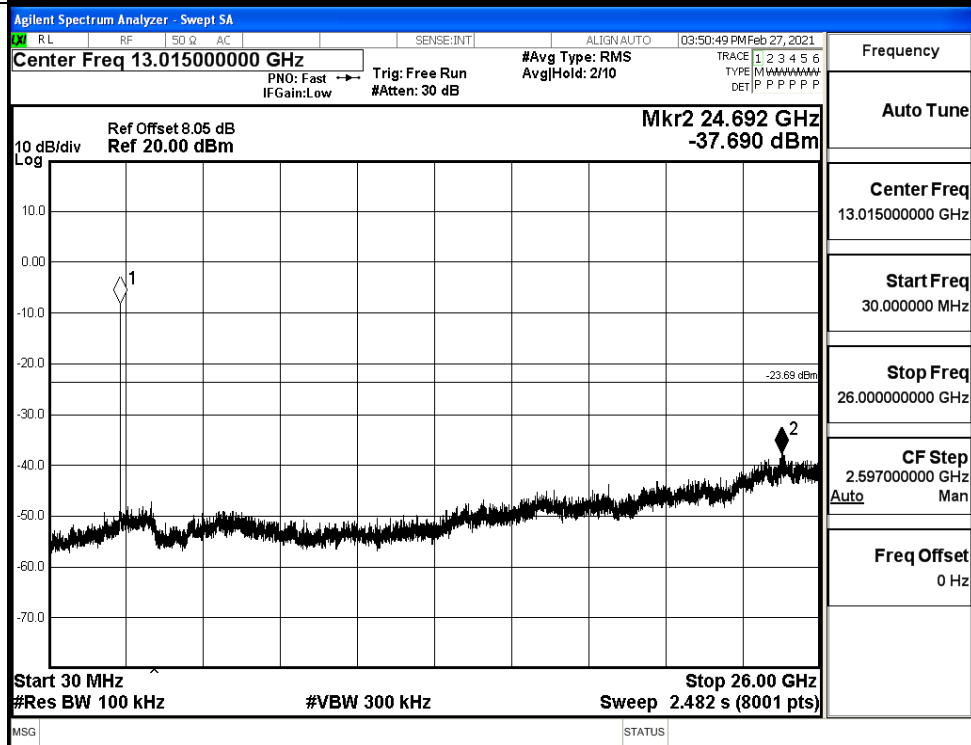


11N20SISO\_MCH\_Graphs

Pref/11N20  
SISO/MCH



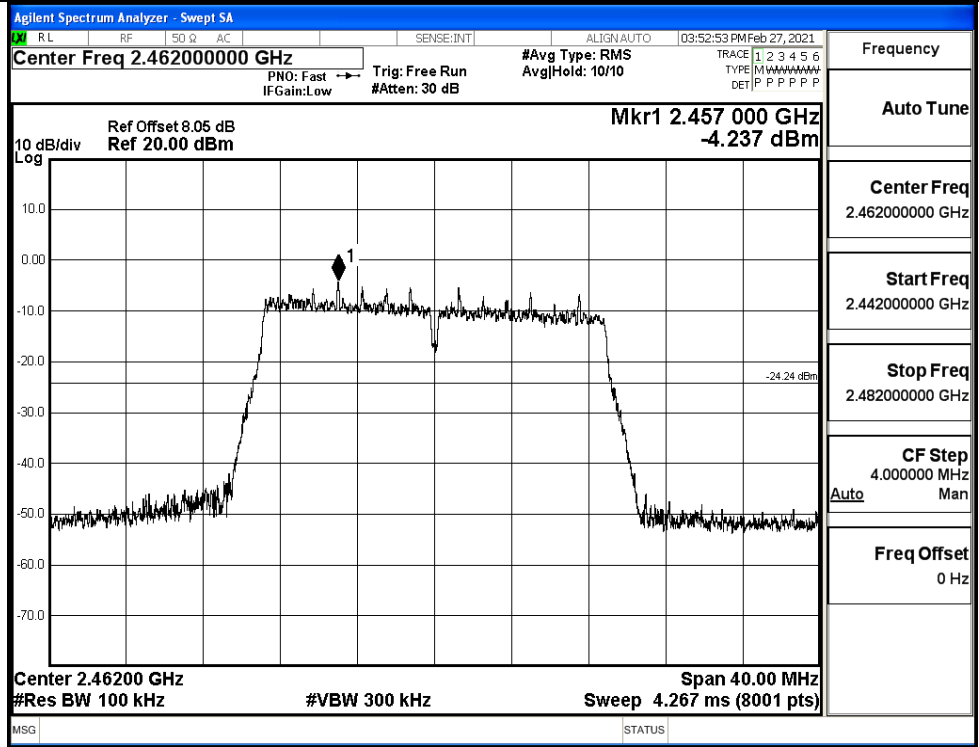
Puw/11N20  
SISO/MCH



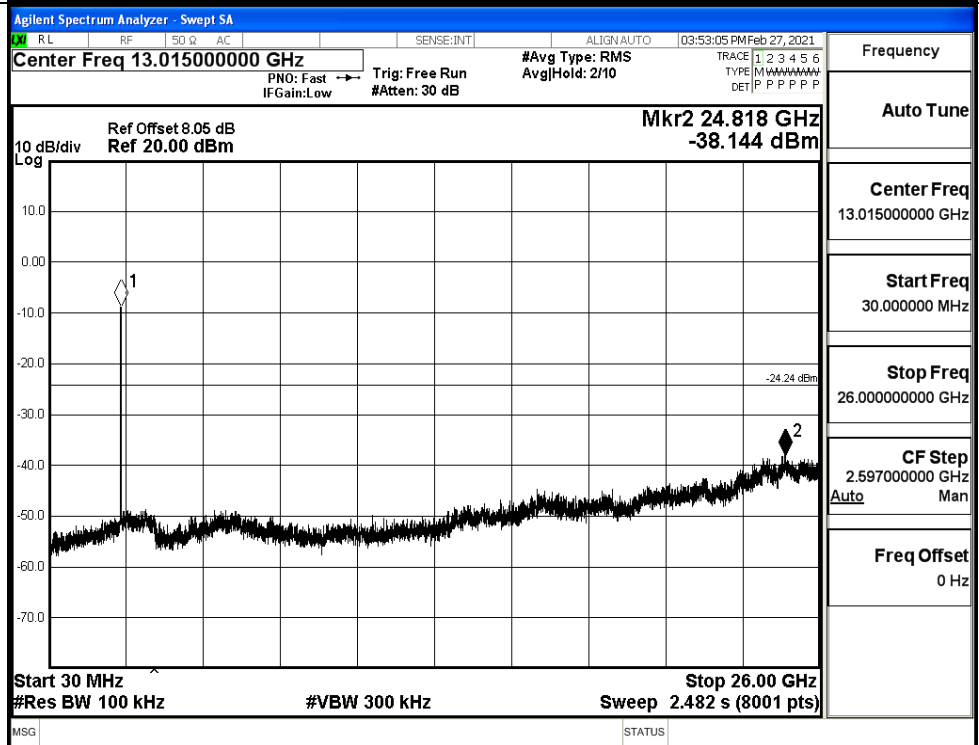


11N20SISO\_HCH\_Graphs

Pref/11N20  
SISO/HCH

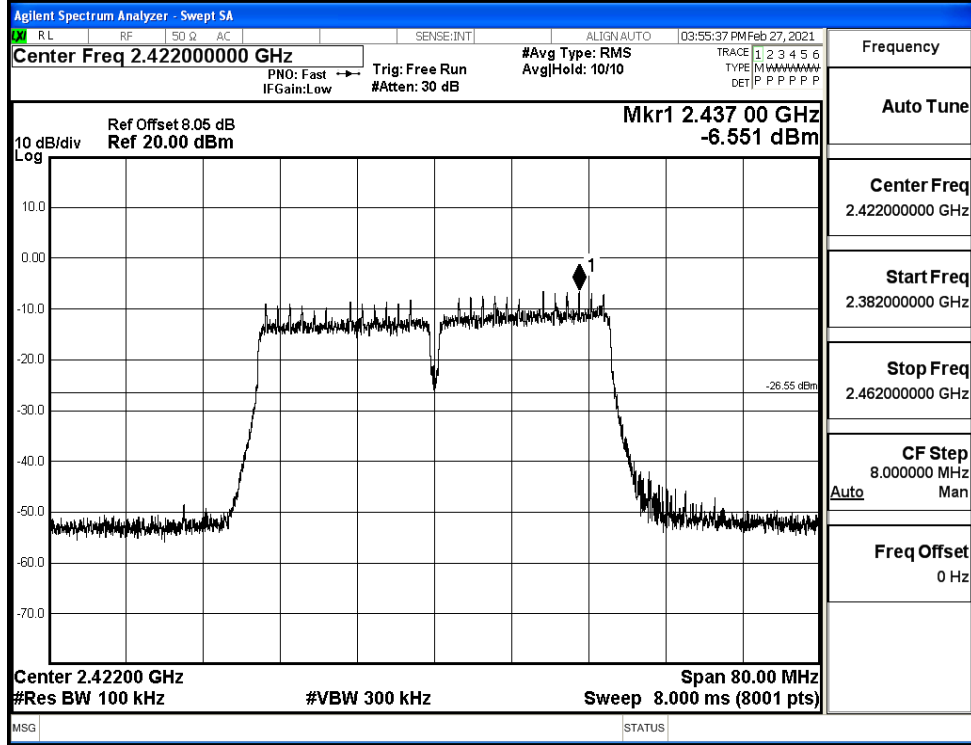


Puw/11N20  
SISO/HCH

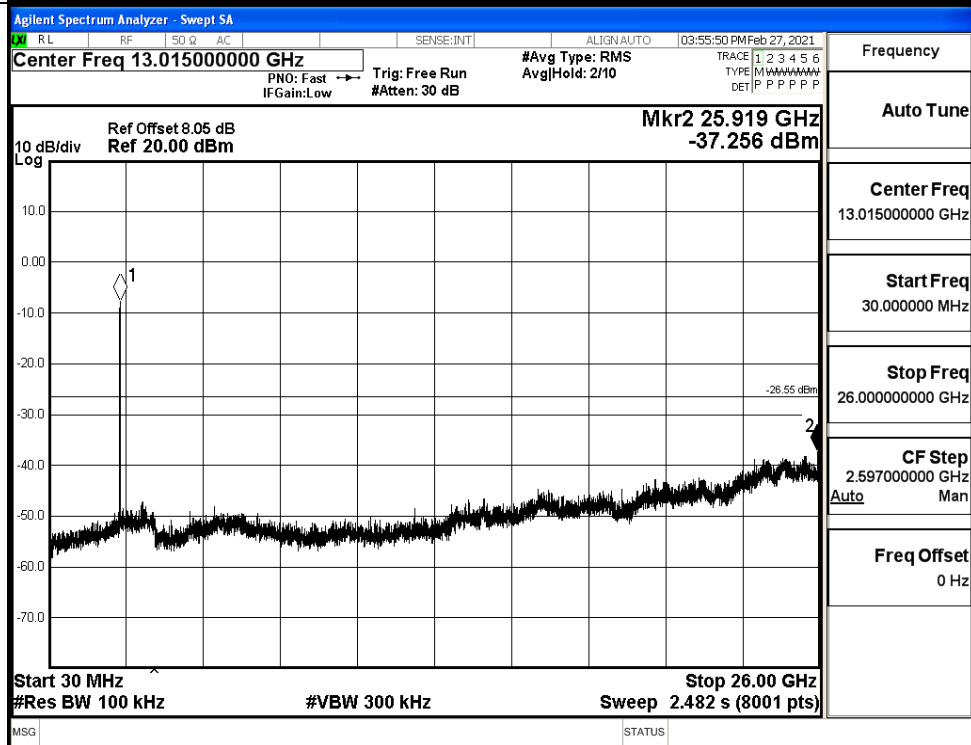


11N40SISO\_LCH\_Graphs

Pref/11N40  
SISO/LCH

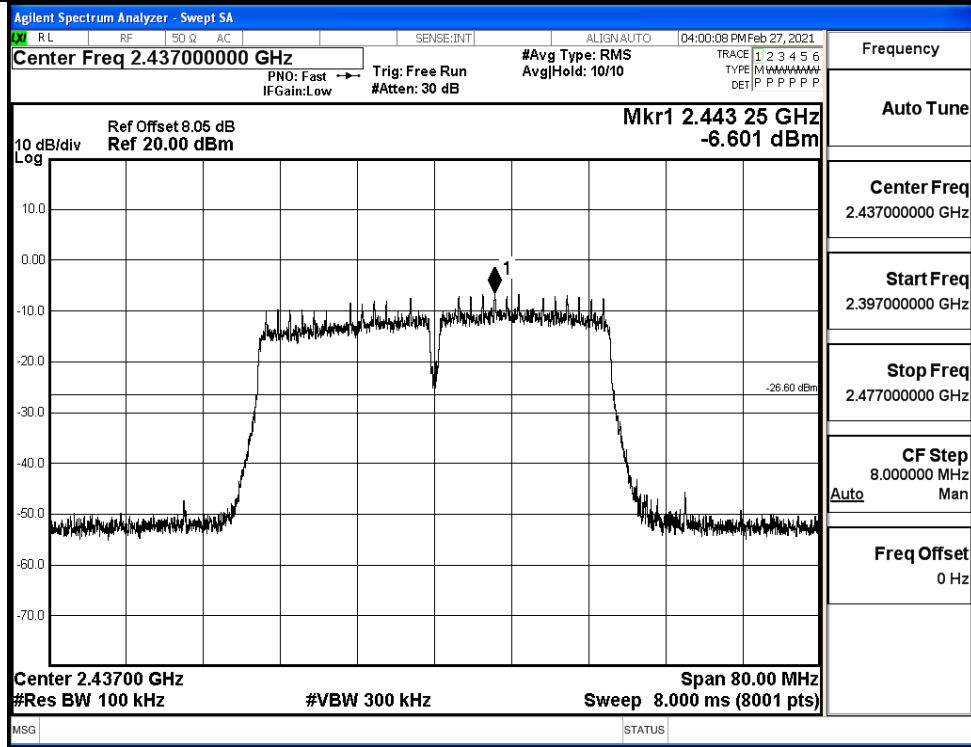


Puw/11N40  
SISO/LCH

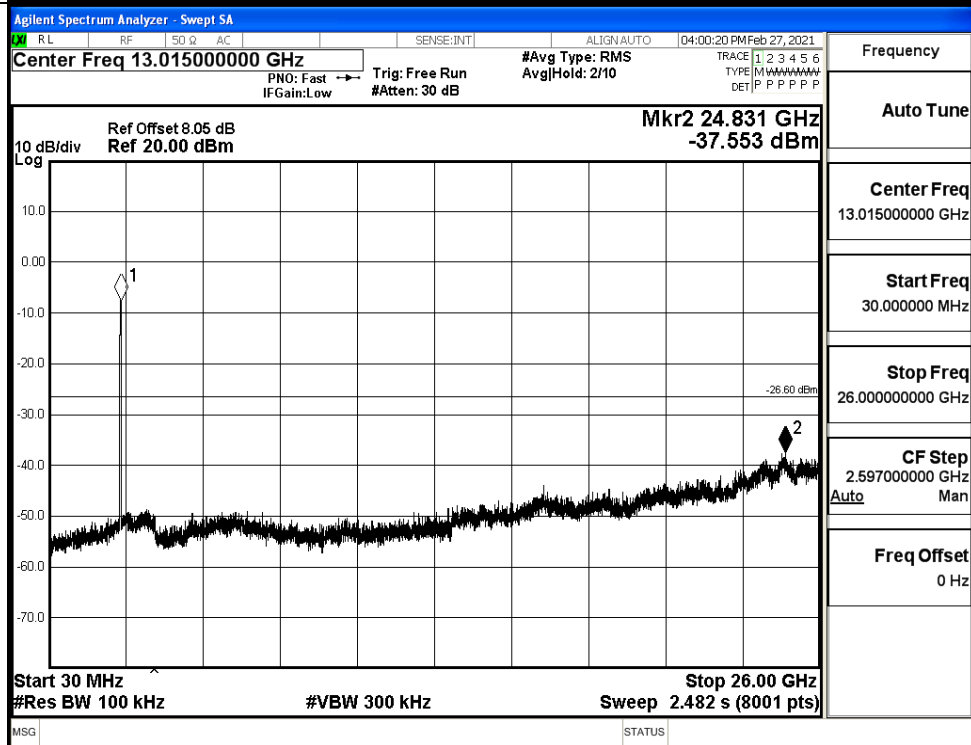


11N40SISO\_MCH\_Graphs

Pref/11N40  
SISO/MCH

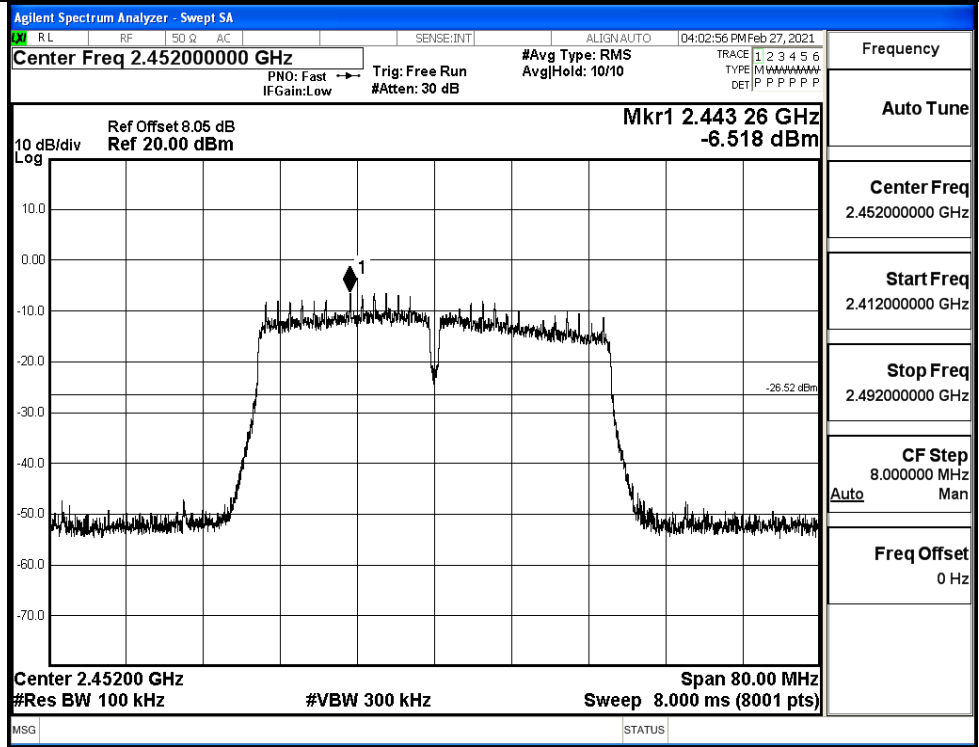


Puw/11N40  
SISO/MCH

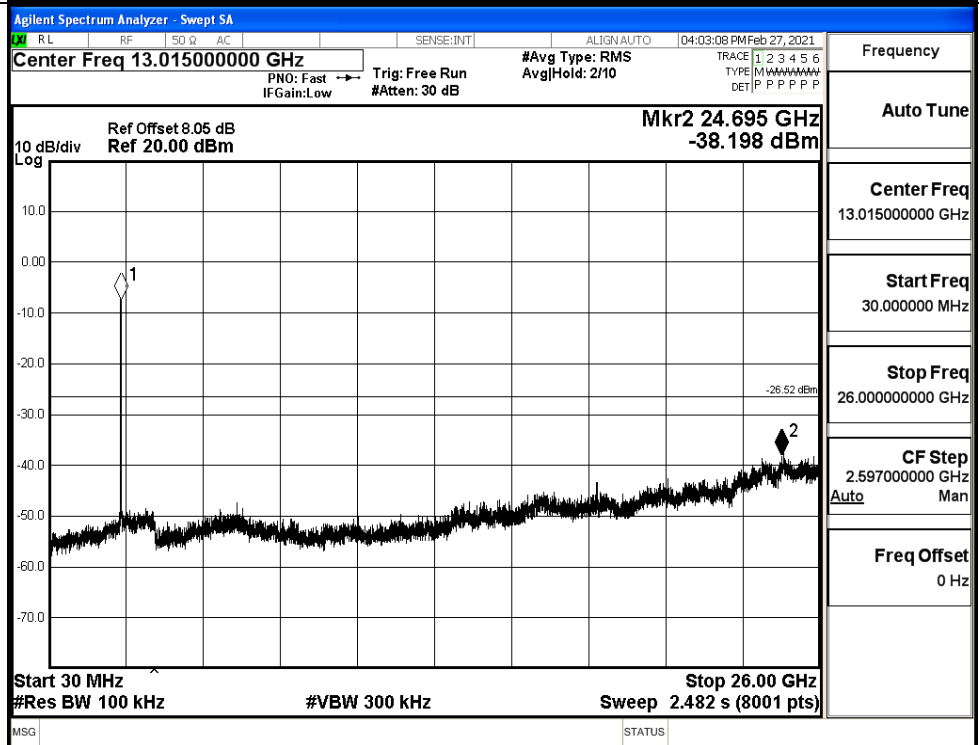


11N40SISO\_HCH\_Graphs

Pref/11N40  
SISO/HCH

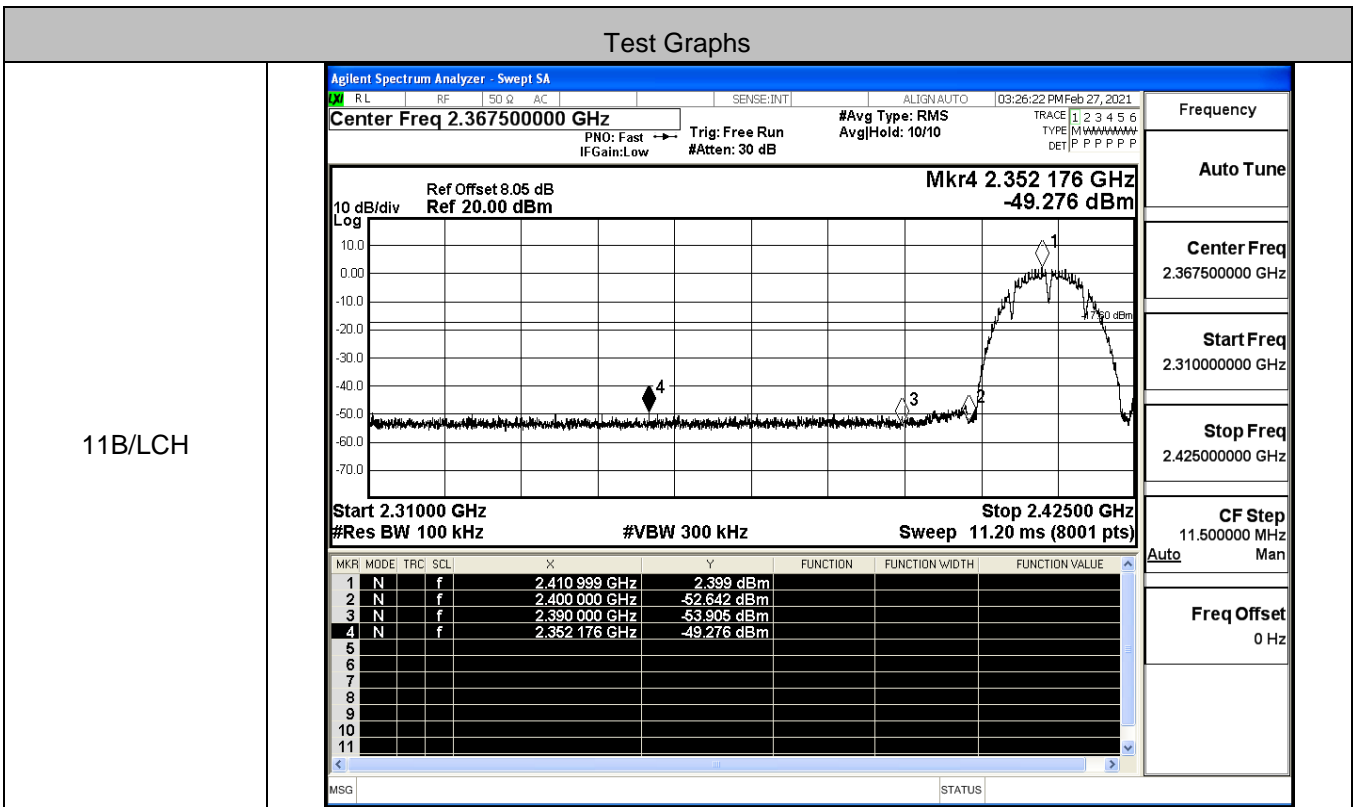


Puw/11N40  
SISO/HCH

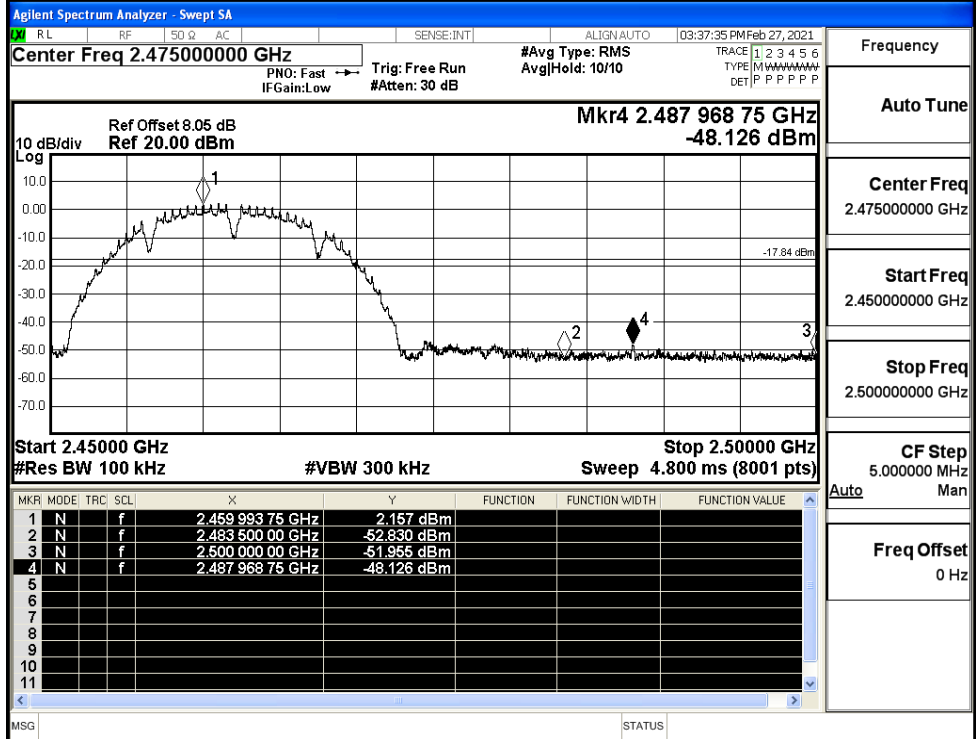


**B.7 Band-edge for RF Conducted Emissions**

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	2.399	-49.276	-17.6	PASS
	HCH	2.157	-48.126	-17.84	PASS
11G	LCH	0.000	-49.986	-20	PASS
	HCH	1.047	-42.359	-18.95	PASS
11N20SISO	LCH	-4.834	-49.781	-24.83	PASS
	HCH	-4.223	-45.743	-24.22	PASS
11N40SISO	LCH	-6.335	-50.052	-26.34	PASS
	HCH	-6.170	-49.718	-26.17	PASS

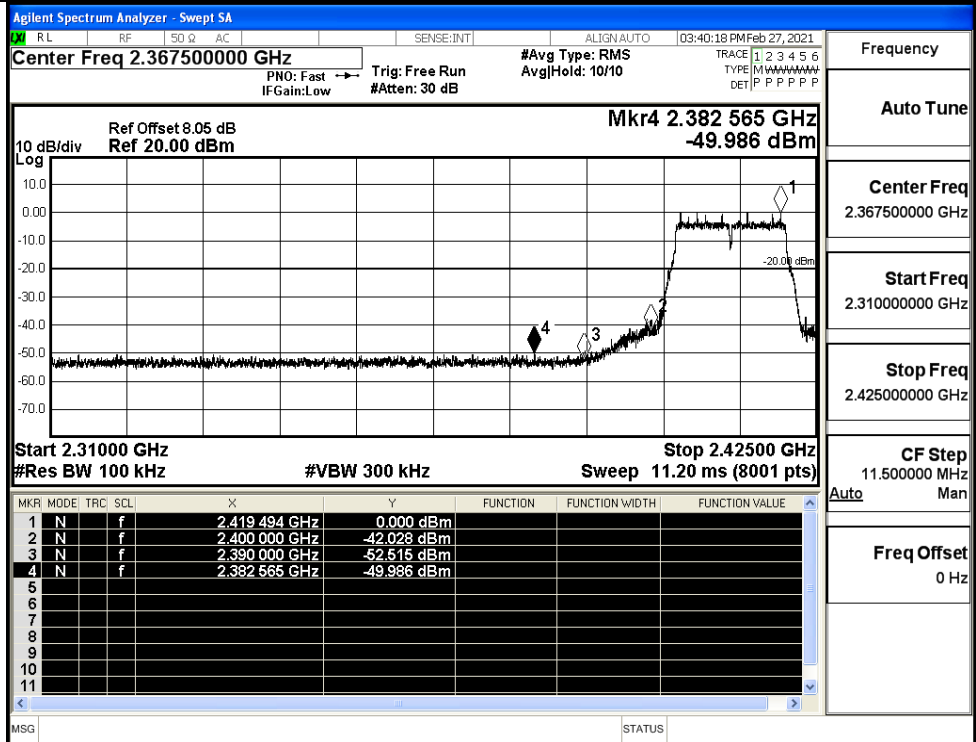


11B/HCH



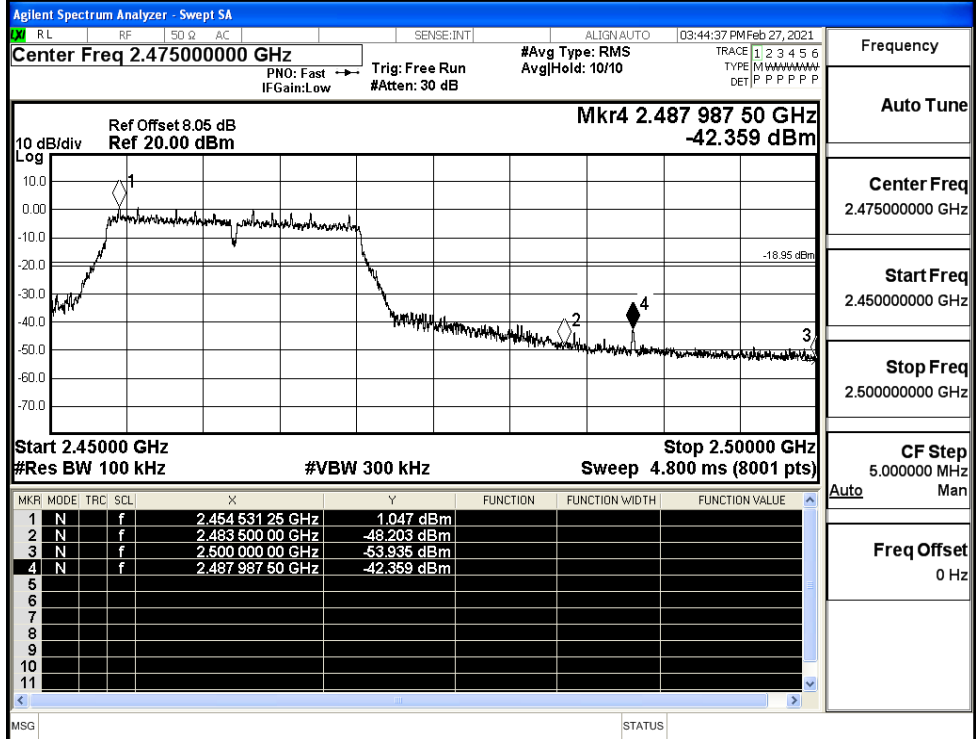
Frequency	2.475000000 GHz
Auto Tune	
Center Freq	2.475000000 GHz
Start Freq	2.450000000 GHz
Stop Freq	2.500000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11G/LCH



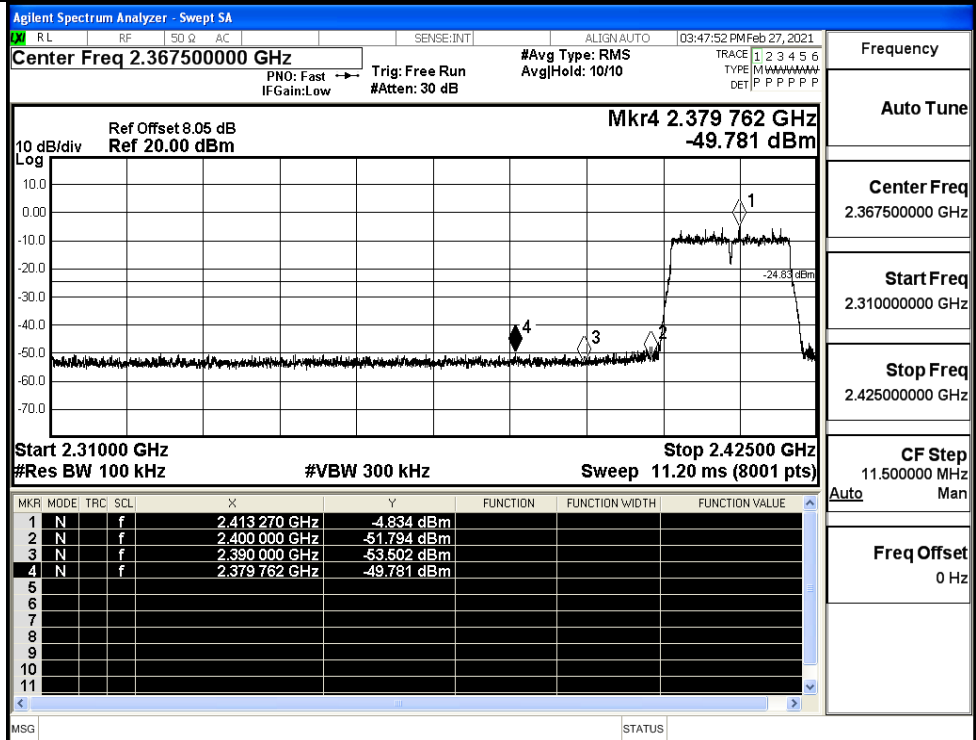
Frequency	2.367500000 GHz
Auto Tune	
Center Freq	2.367500000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.425000000 GHz
CF Step	11.500000 MHz
Freq Offset	0 Hz

11G/HCH



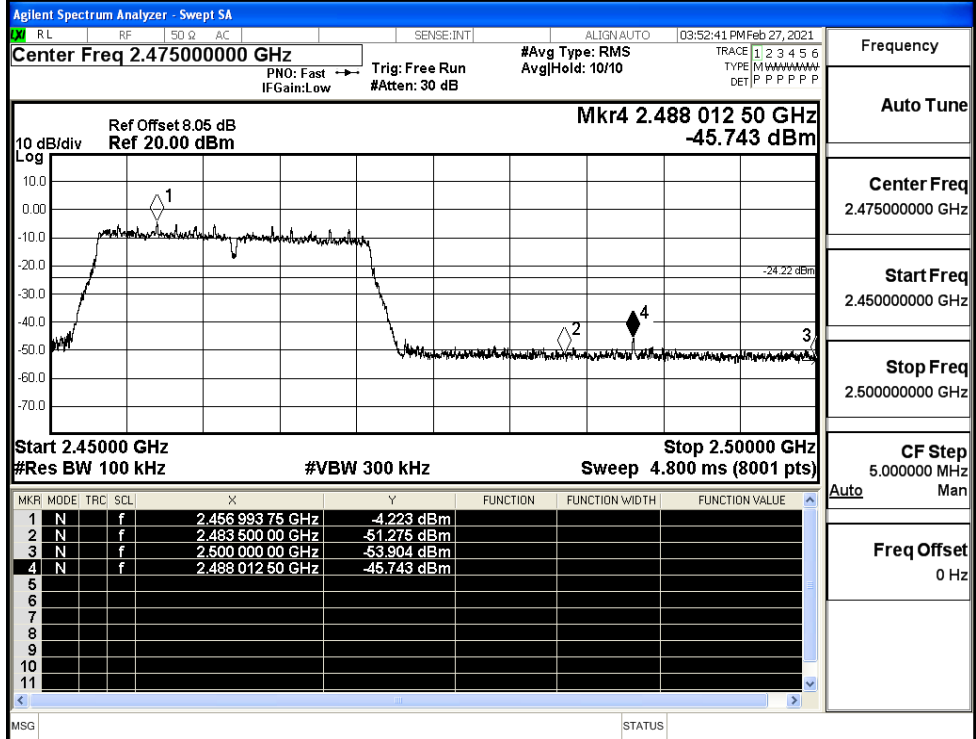
Frequency	2.47500000 GHz
Auto Tune	
Center Freq	2.47500000 GHz
Start Freq	2.45000000 GHz
Stop Freq	2.50000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N20SISO/LCH

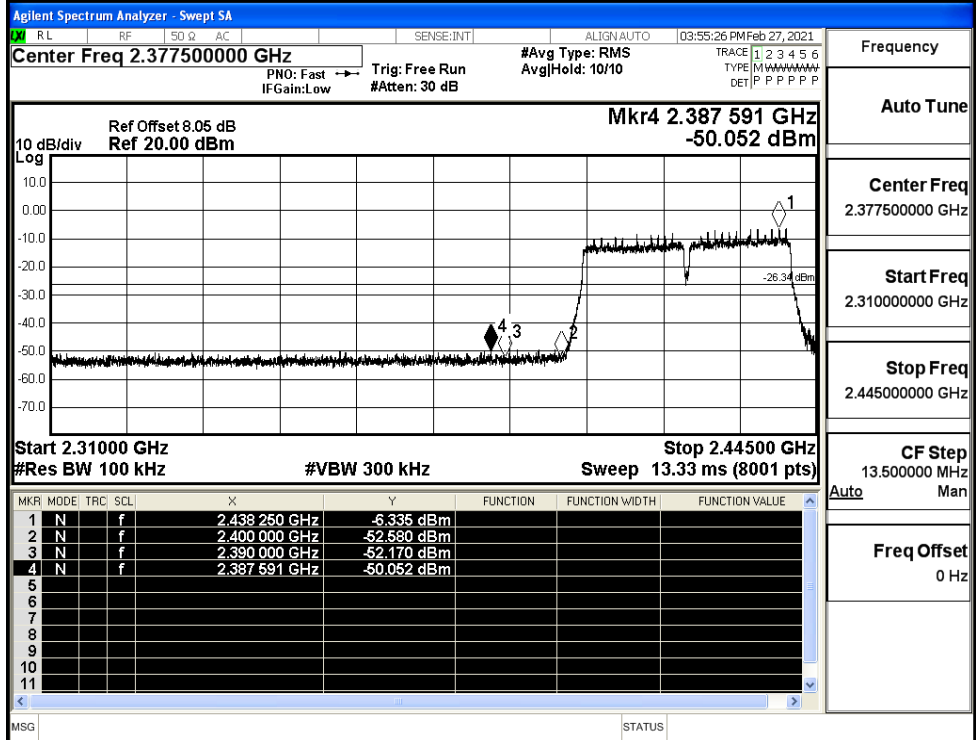


Frequency	2.36750000 GHz
Auto Tune	
Center Freq	2.36750000 GHz
Start Freq	2.31000000 GHz
Stop Freq	2.42500000 GHz
CF Step	11.500000 MHz
Freq Offset	0 Hz

11N20SISO/HCH

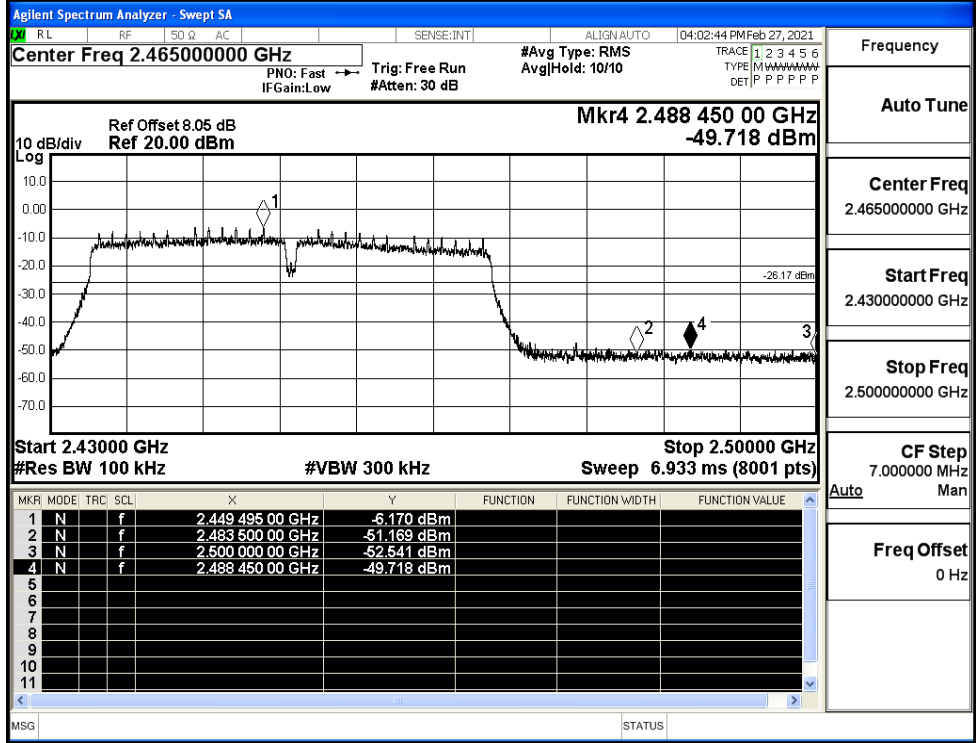


11N40SISO/LCH





11N40SISO/HCH

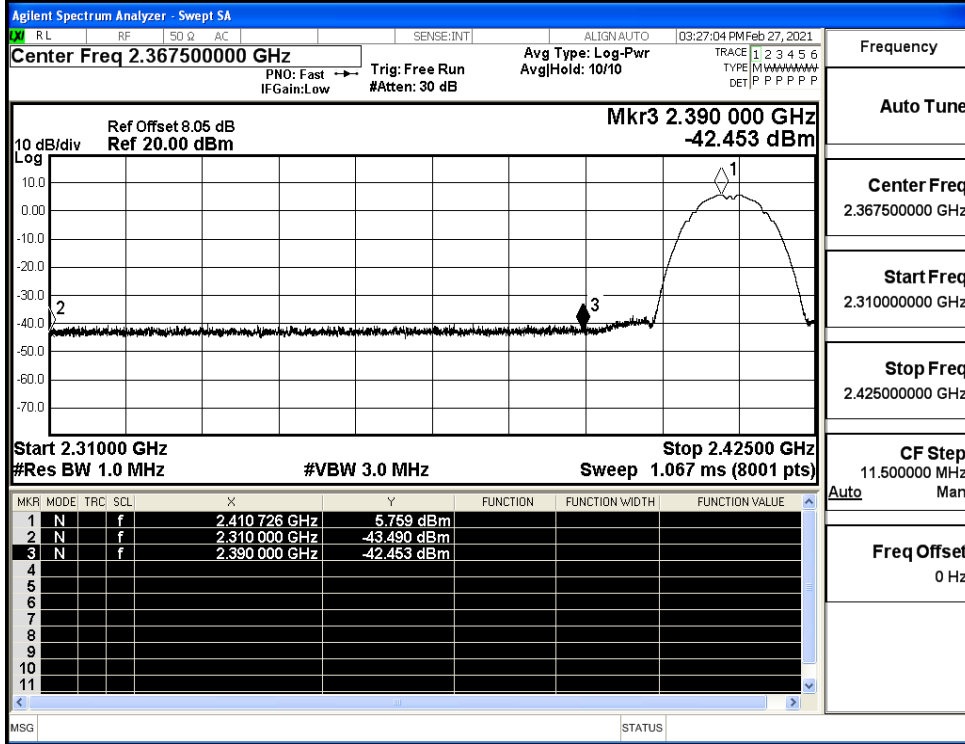


## B.8 Restrict-band band-edge measurements

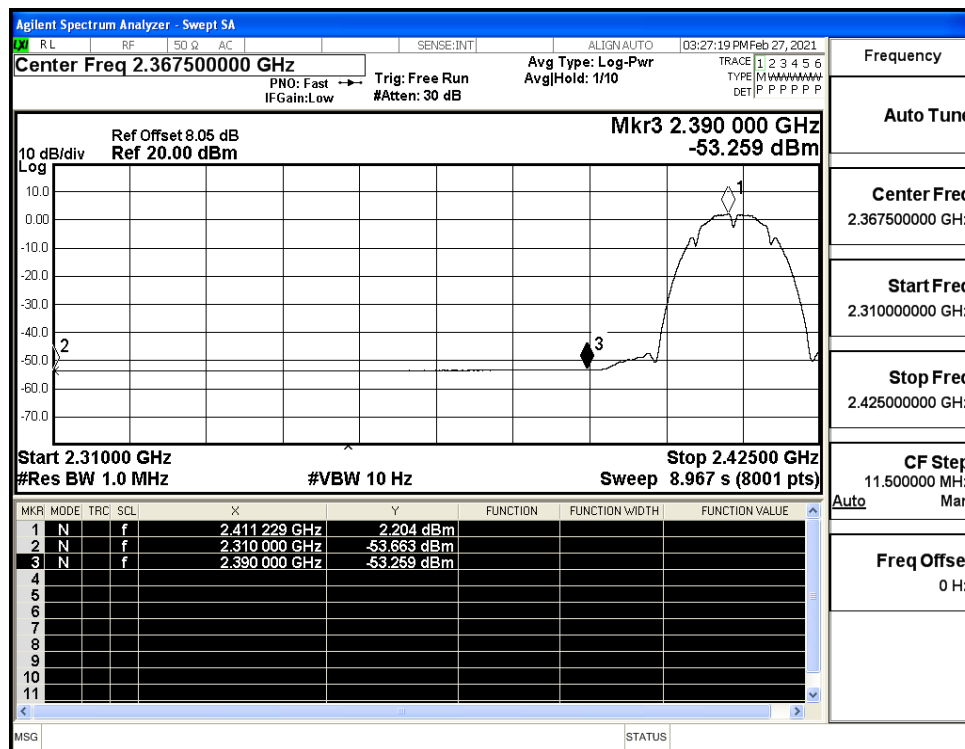
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-43.49	2.0	0	51.77	PEAK	74	PASS
	2412	Ant1	2310.0	-53.66	2.0	0	41.59	AV	54	PASS
	2412	Ant1	2390.0	-42.45	2.0	0	52.80	PEAK	74	PASS
	2412	Ant1	2390.0	-53.26	2.0	0	42.00	AV	54	PASS
	2462	Ant1	2483.5	-41.55	2.0	0	53.71	PEAK	74	PASS
	2462	Ant1	2483.5	-52.54	2.0	0	42.71	AV	54	PASS
	2462	Ant1	2500.0	-42.15	2.0	0	53.11	PEAK	74	PASS
	2462	Ant1	2500.0	-52.70	2.0	0	42.56	AV	54	PASS
11G	2412	Ant1	2310.0	-43.12	2.0	0	52.14	PEAK	74	PASS
	2412	Ant1	2310.0	-53.67	2.0	0	41.59	AV	54	PASS
	2412	Ant1	2390.0	-41.59	2.0	0	53.67	PEAK	74	PASS
	2412	Ant1	2390.0	-52.76	2.0	0	42.50	AV	54	PASS
	2462	Ant1	2483.5	-36.76	2.0	0	58.50	PEAK	74	PASS
	2462	Ant1	2483.5	-49.32	2.0	0	45.94	AV	54	PASS
	2462	Ant1	2500.0	-41.87	2.0	0	53.38	PEAK	74	PASS
	2462	Ant1	2500.0	-52.71	2.0	0	42.55	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.21	2.0	0	52.04	PEAK	74	PASS
	2412	Ant1	2310.0	-53.67	2.0	0	41.59	AV	54	PASS
	2412	Ant1	2390.0	-42.57	2.0	0	52.69	PEAK	74	PASS
	2412	Ant1	2390.0	-53.18	2.0	0	42.07	AV	54	PASS
	2462	Ant1	2483.5	-41.57	2.0	0	53.69	PEAK	74	PASS
	2462	Ant1	2483.5	-52.22	2.0	0	43.04	AV	54	PASS
	2462	Ant1	2500.0	-41.92	2.0	0	53.33	PEAK	74	PASS
	2462	Ant1	2500.0	-52.70	2.0	0	42.56	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-43.39	2.0	0	51.87	PEAK	74	PASS
	2422	Ant1	2310.0	-53.67	2.0	0	41.59	AV	54	PASS

	2422	Ant1	2390.0	-42.58	2.0	0	52.68	PEAK	74	PASS
	2422	Ant1	2390.0	-53.27	2.0	0	41.99	AV	54	PASS
	2452	Ant1	2483.5	-40.08	2.0	0	55.18	PEAK	74	PASS
	2452	Ant1	2483.5	-52.24	2.0	0	43.02	AV	54	PASS
	2452	Ant1	2500.0	-41.44	2.0	0	53.82	PEAK	74	PASS
	2452	Ant1	2500.0	-52.73	2.0	0	42.53	AV	54	PASS

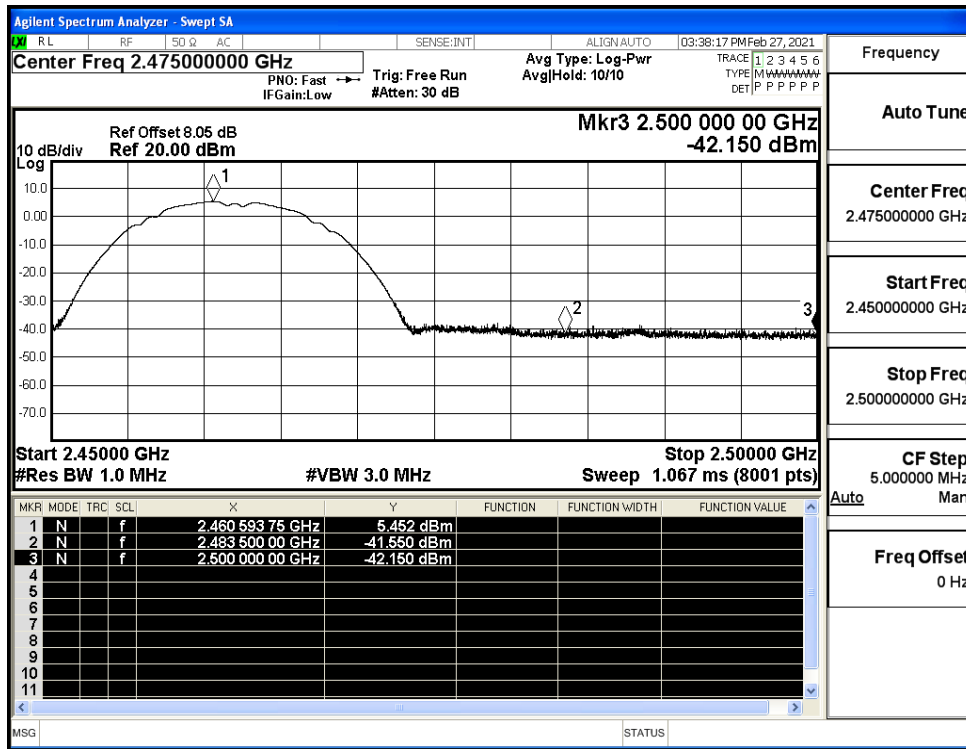
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_PEAK



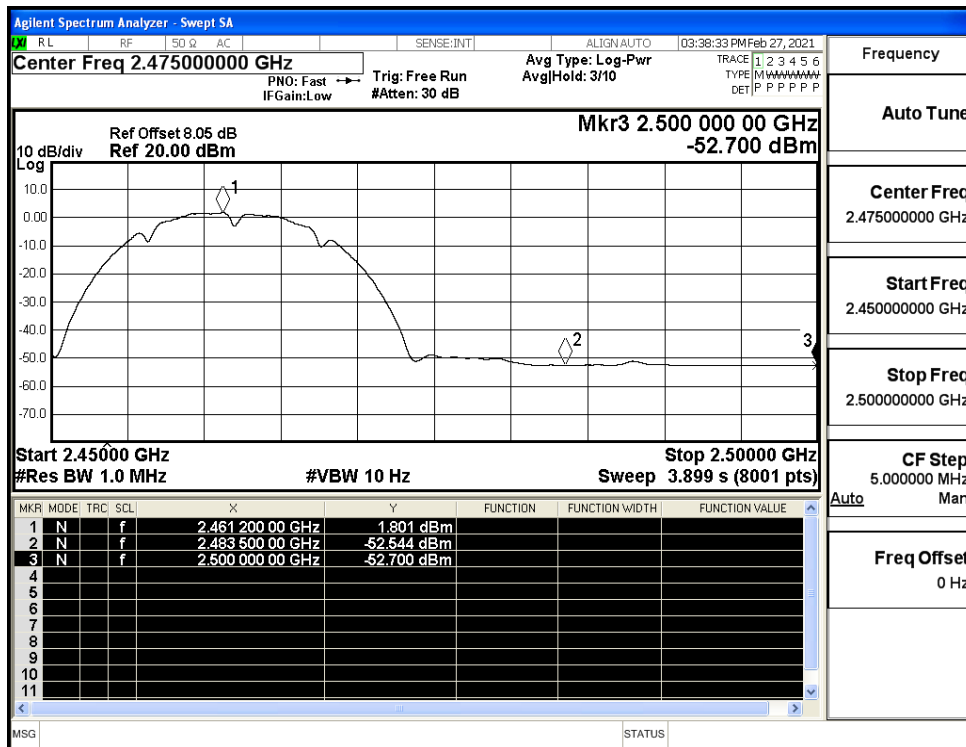
Restrict-band band-edge measurements\_11B\_2412\_Ant1\_AV



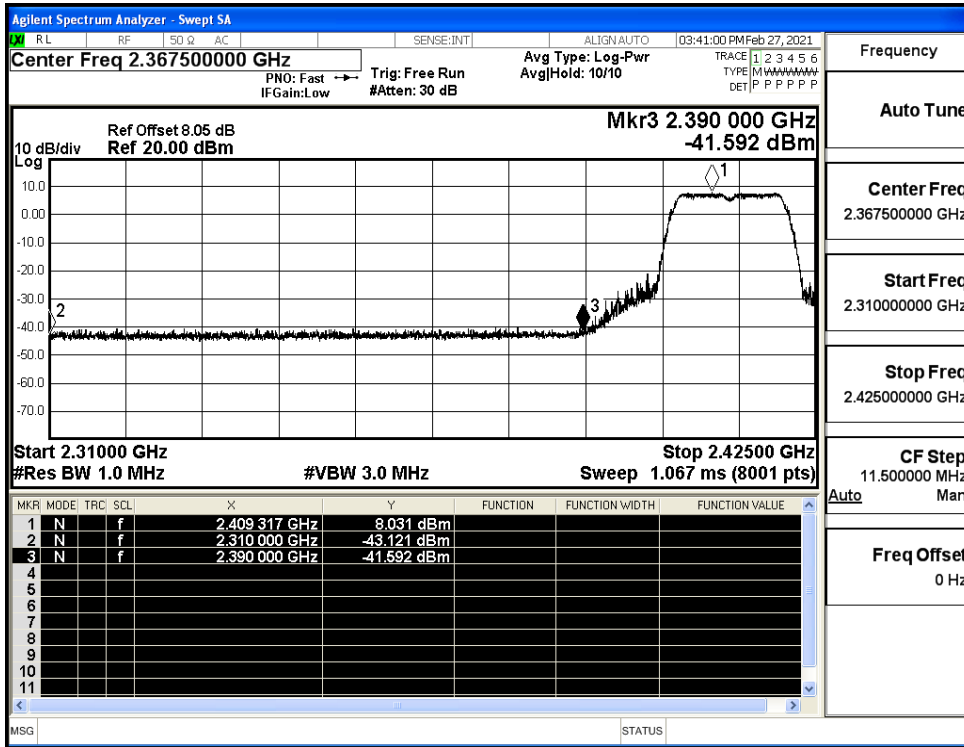
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_PEAK



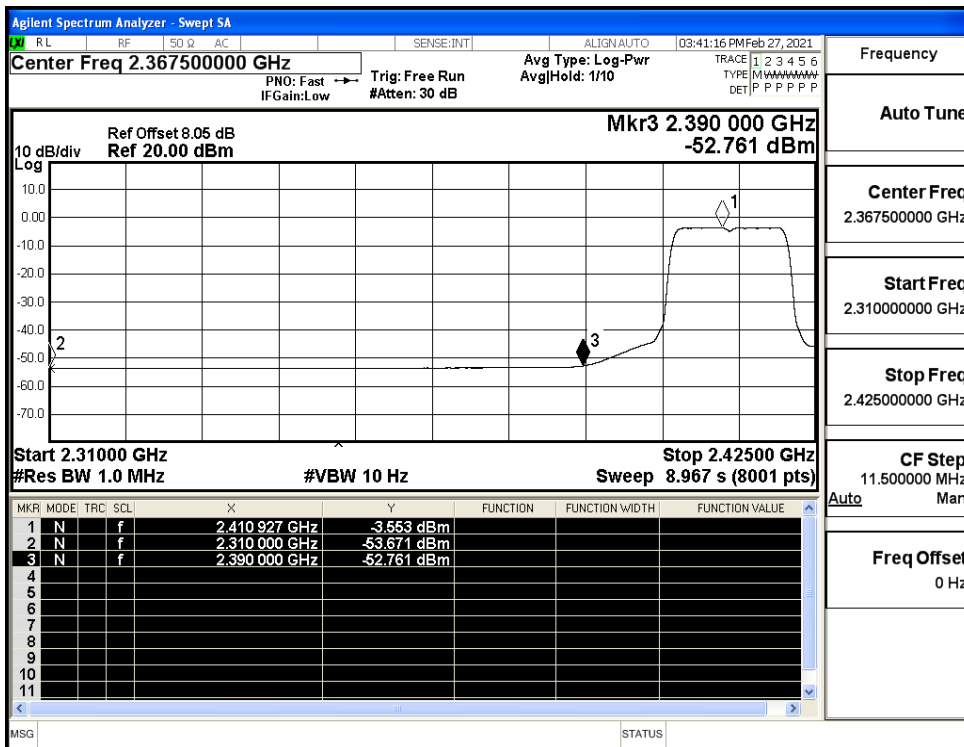
Restrict-band band-edge measurements\_11B\_2462\_Ant1\_AV



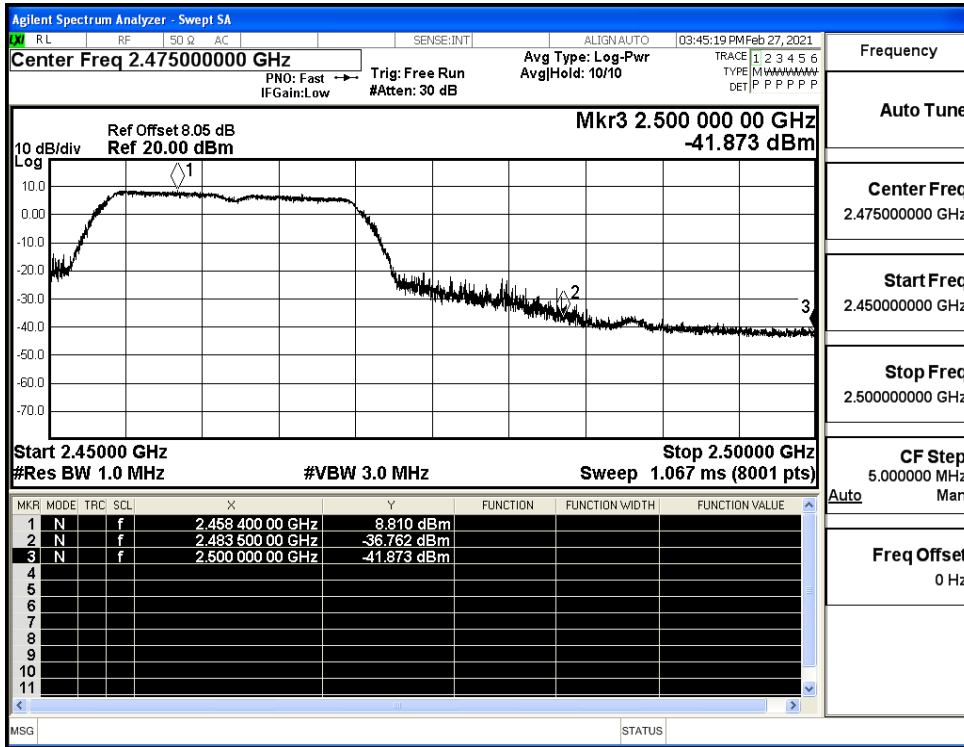
Restrict-band band-edge measurements\_11G\_2412\_Ant1\_PEAK



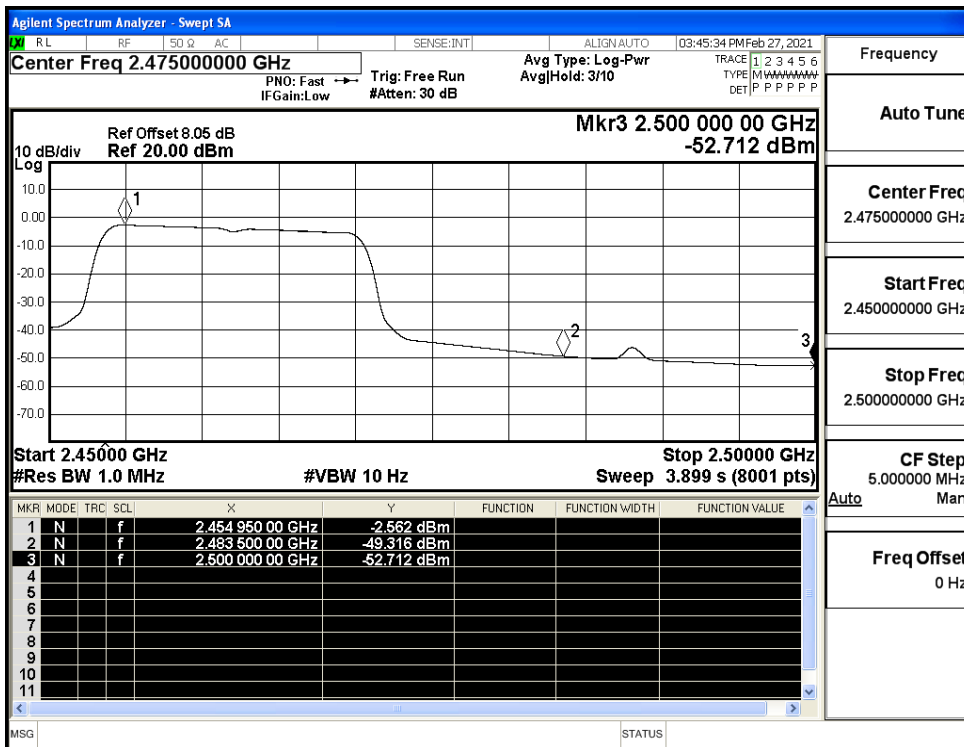
Restrict-band band-edge measurements\_11G\_2412\_Ant1\_AV



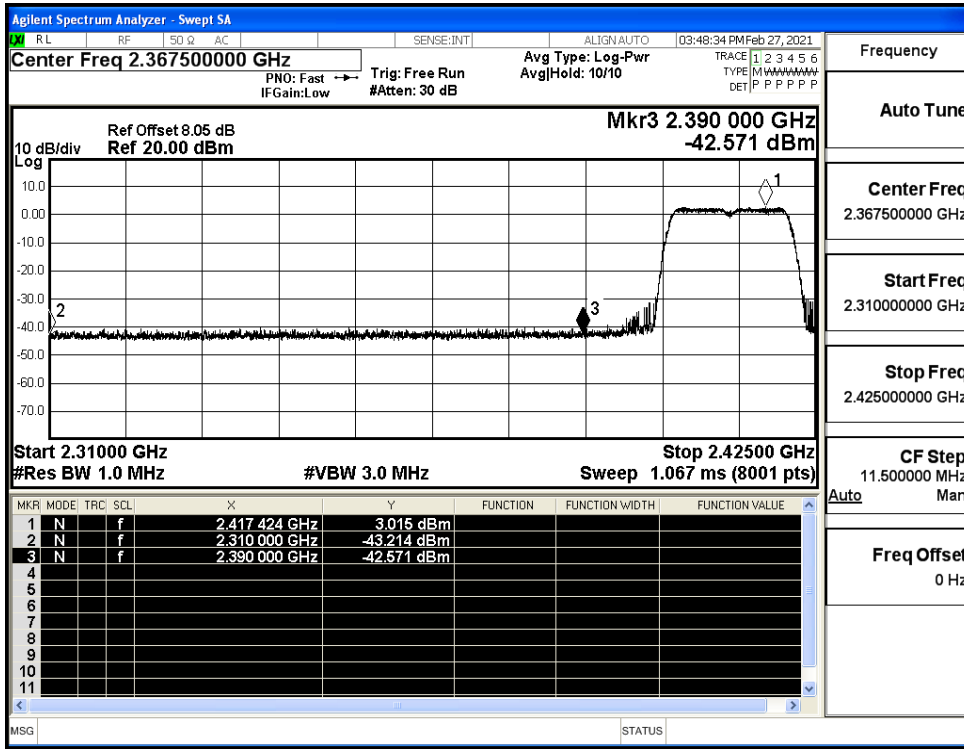
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_PEAK



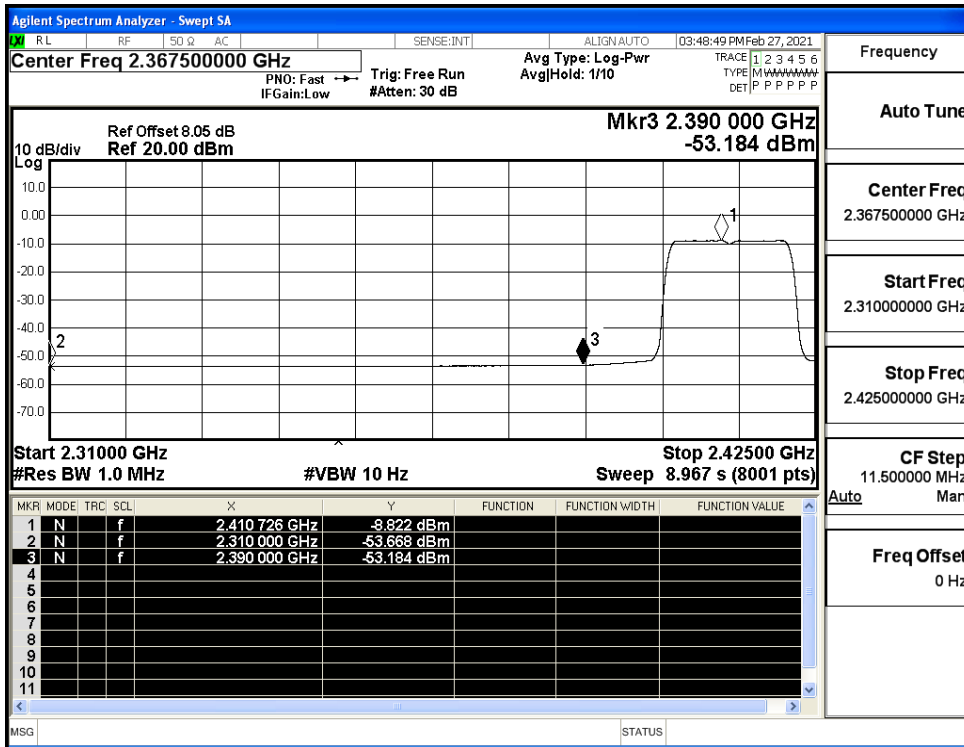
Restrict-band band-edge measurements\_11G\_2462\_Ant1\_AV



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

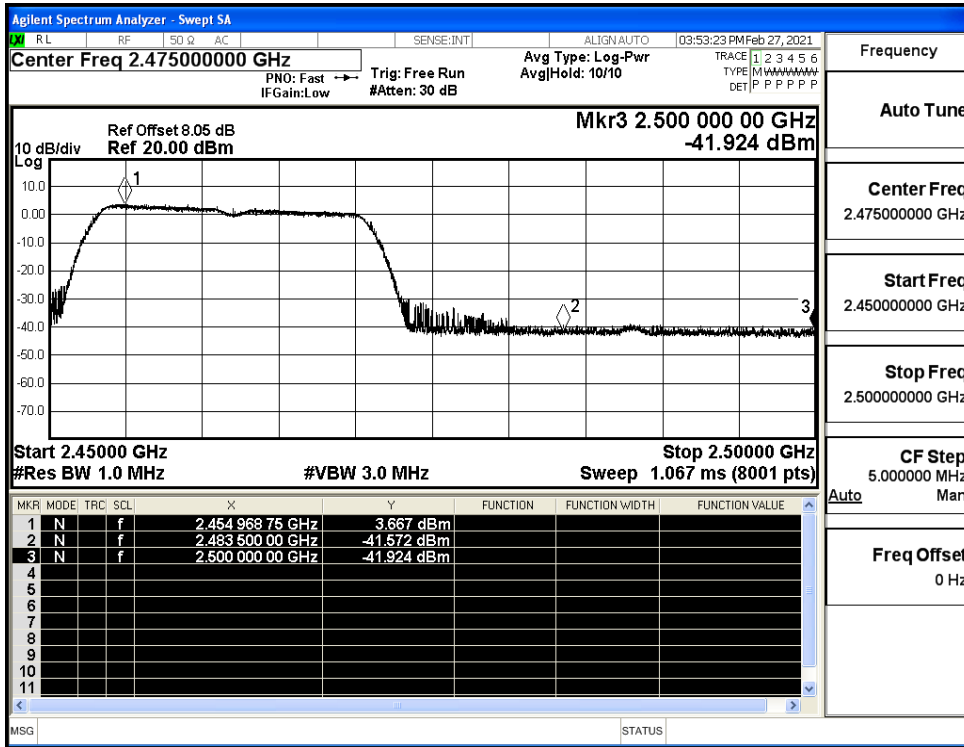


Restrict-band band-edge measurements\_11N20SISO\_2412\_Ant1\_AV

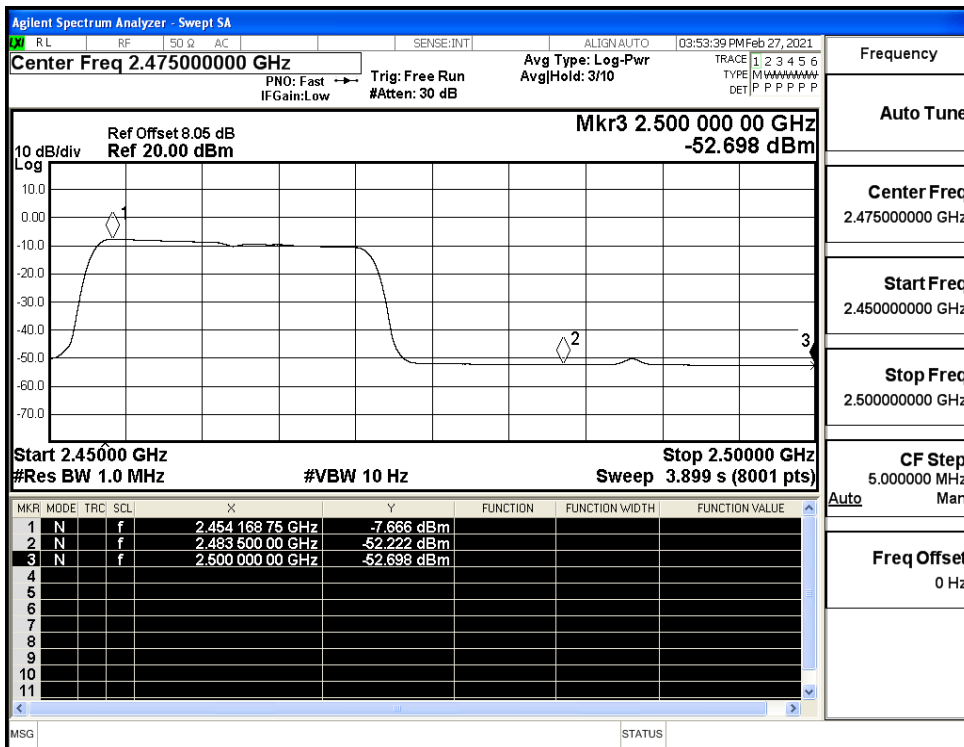




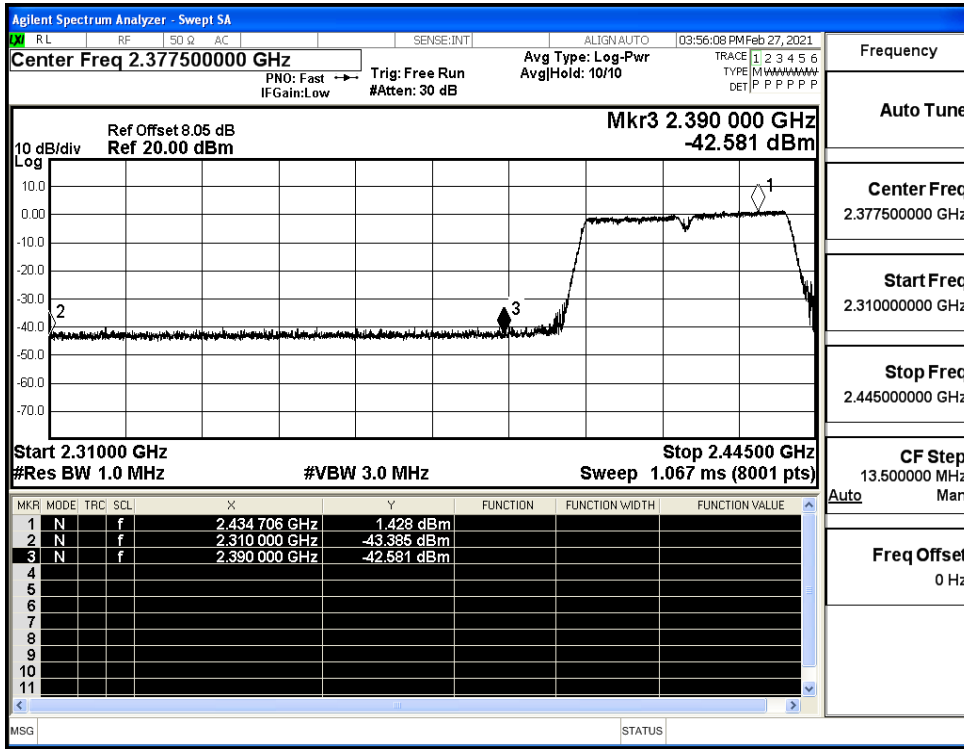
Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_PEAK



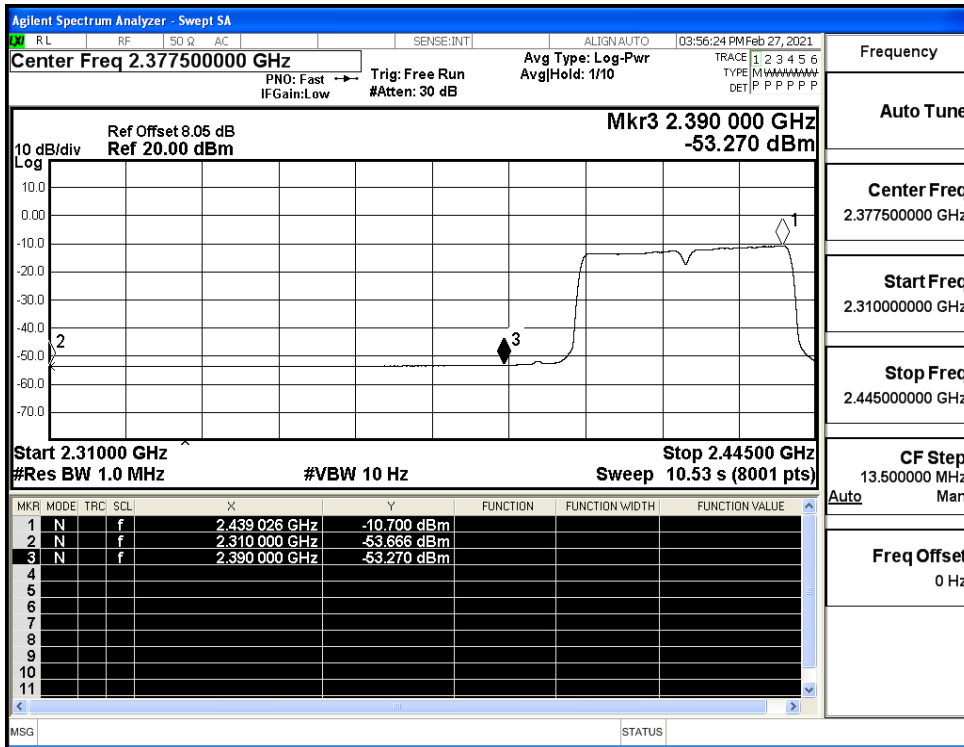
Restrict-band band-edge measurements\_11N20SISO\_2462\_Ant1\_AV



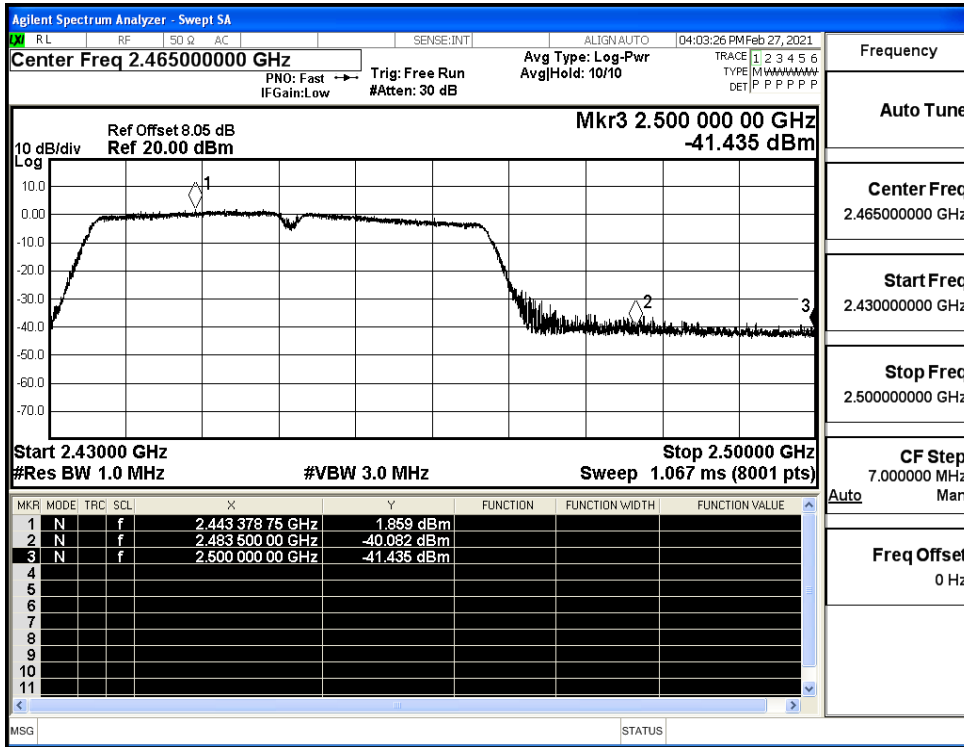
Restrict-band band-edge measurements\_11N40SISO\_2422\_Ant1\_PEAK



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

