

Appendix A
RF Test Data for 2.4G WIFI (Conducted Measurement)
Product Name: Smart Switch 3Way
Trade Mark: EARDATEK
Test Model: ESW-1WAA-US

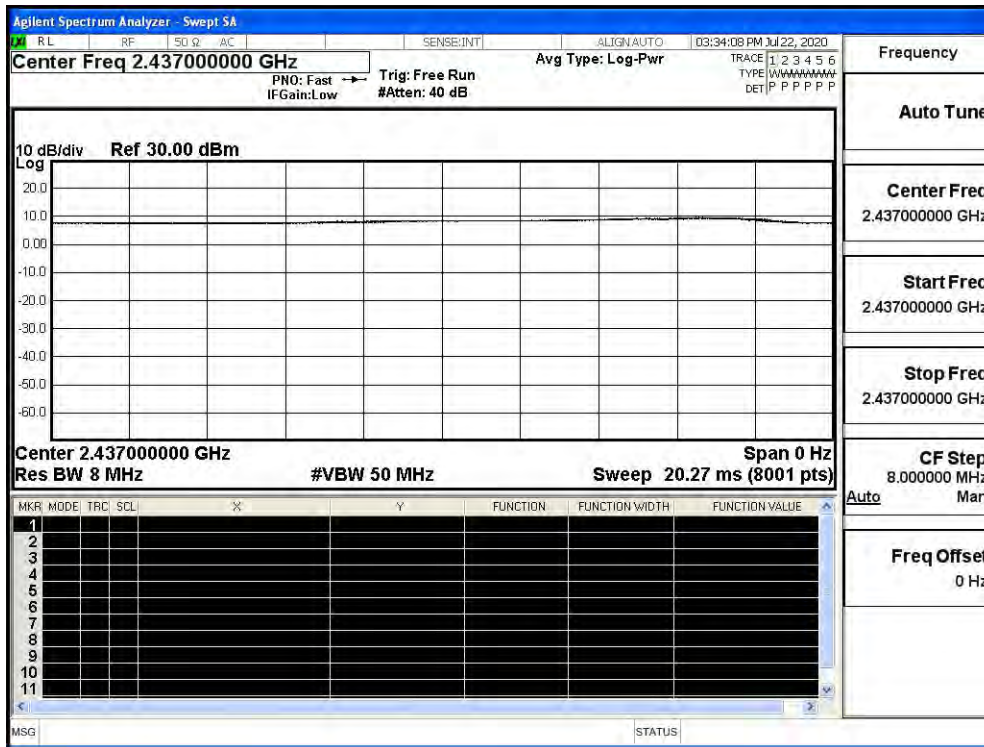
Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

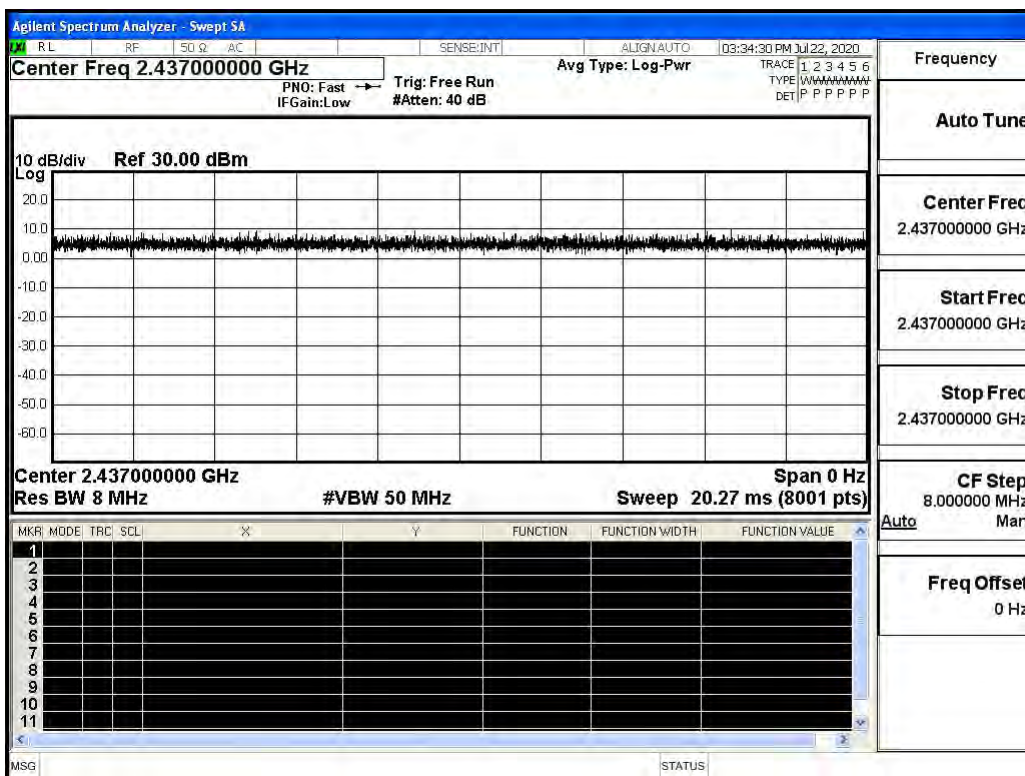
A.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	100	PASS
11G	2437	Ant1	100	PASS
11N20SISO	2437	Ant1	100	PASS
11N40SISO	2437	Ant1	100	PASS

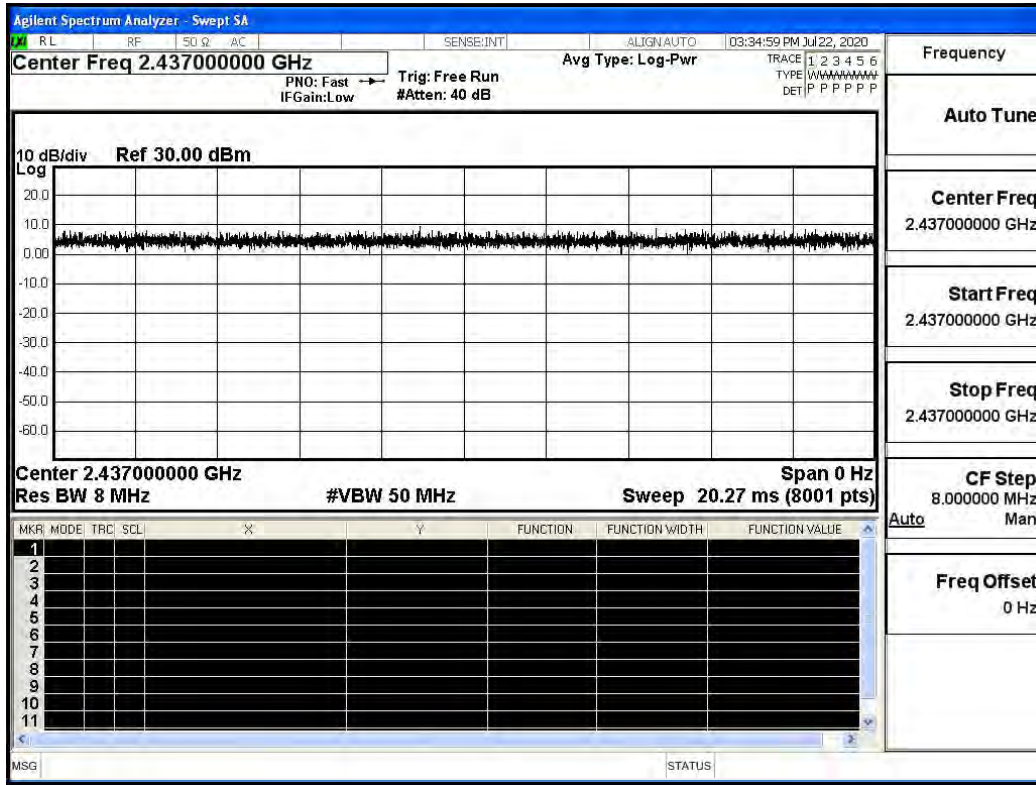
Duty Cycle_11B_2437_Ant1



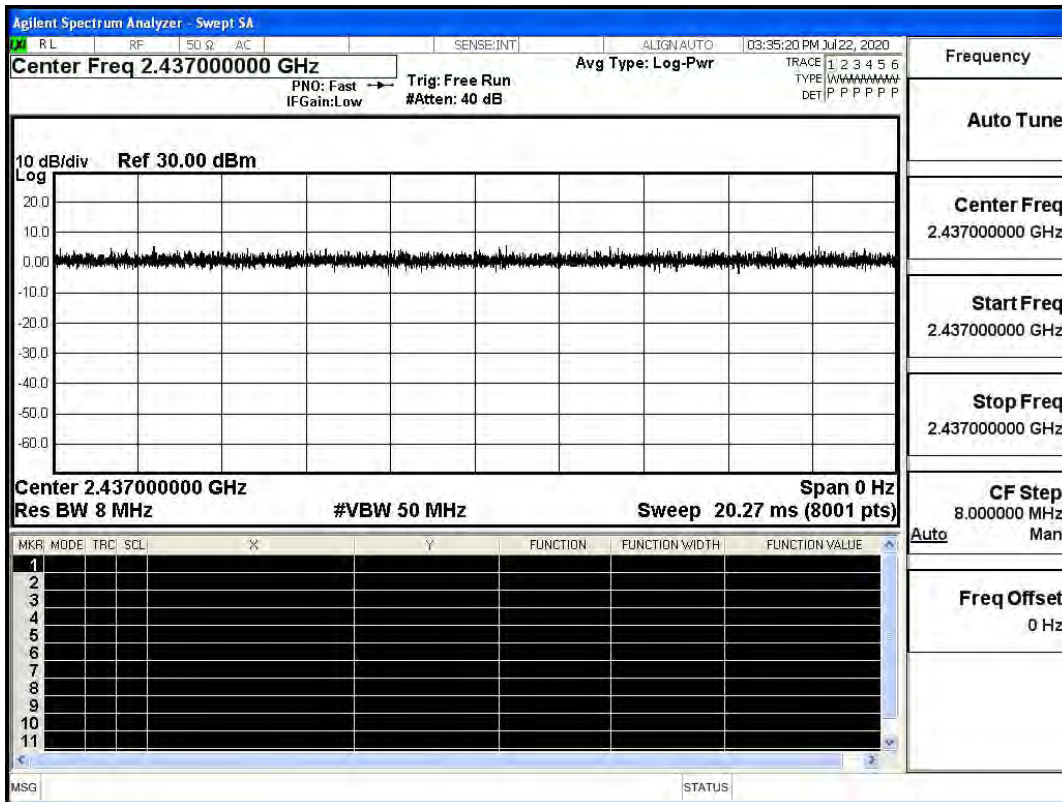
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1

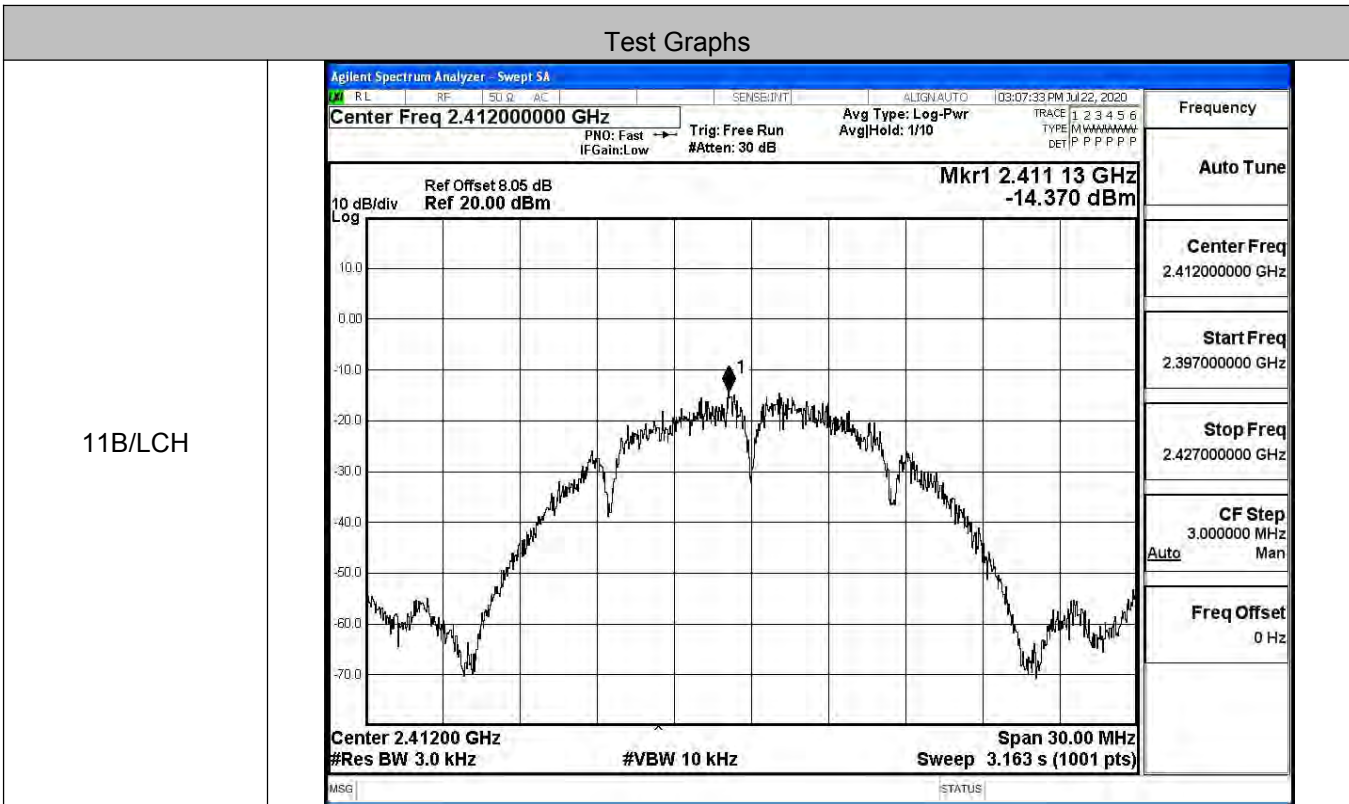


A.2 Maximum Conducted Output Power

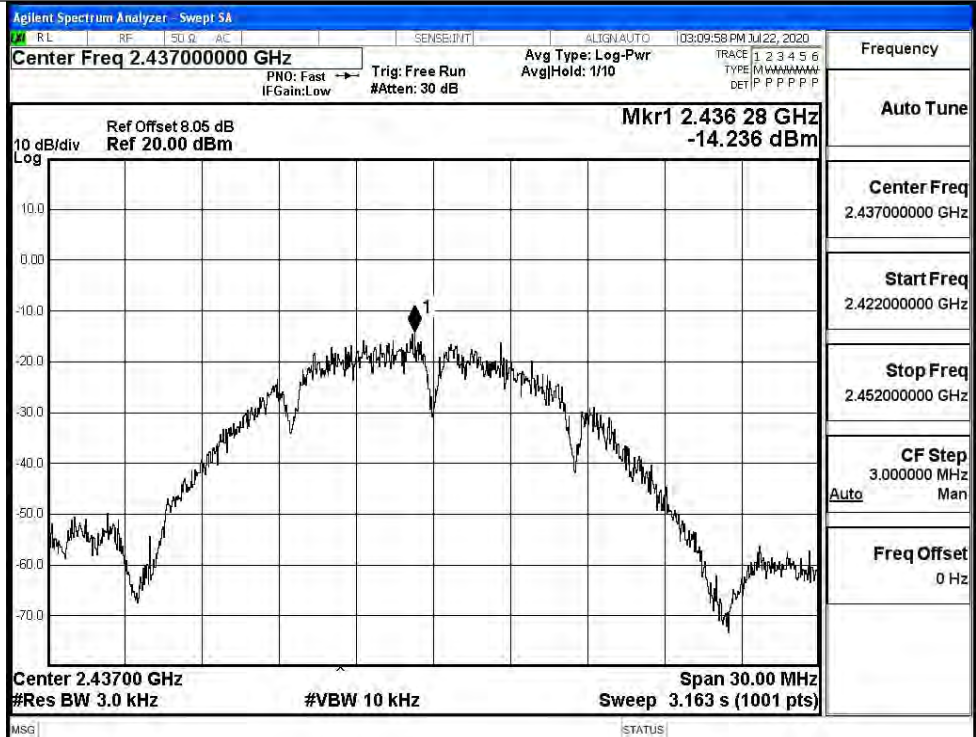
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	11.48	30	PASS
	MCH	10.88	30	PASS
	HCH	11.29	30	PASS
11G	LCH	11.5	30	PASS
	MCH	11.12	30	PASS
	HCH	11.34	30	PASS
11N20SISO	LCH	16.6	30	PASS
	MCH	15.84	30	PASS
	HCH	16.3	30	PASS
11N40SISO	LCH	15.67	30	PASS
	MCH	15.33	30	PASS
	HCH	16.75	30	PASS

A.3 Maximum Power Spectral Density

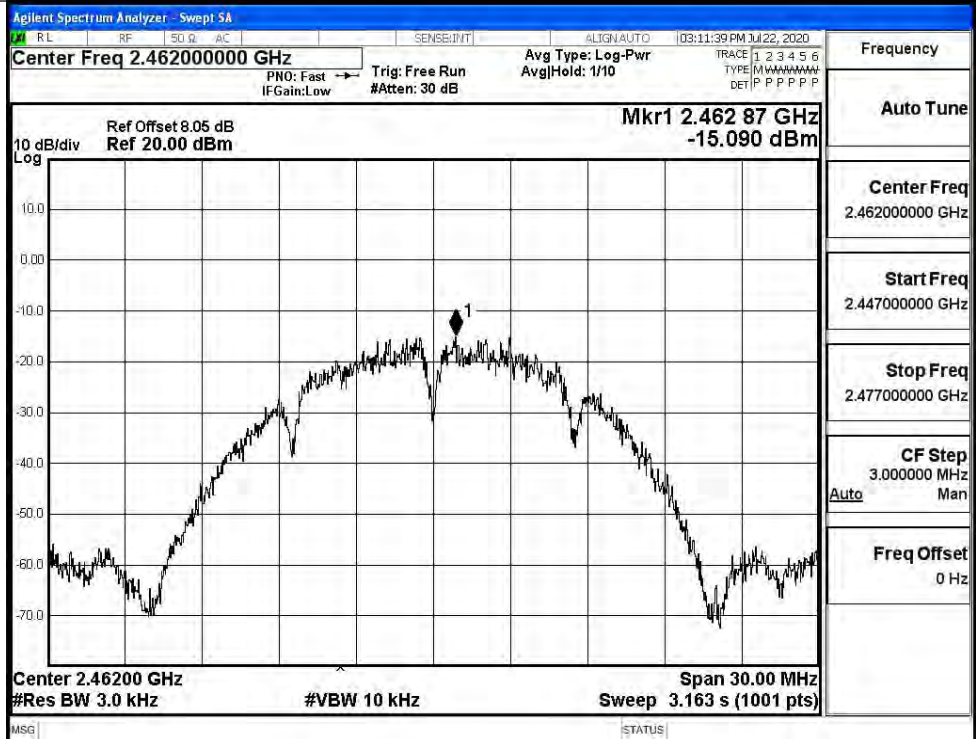
Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-14.370	8	PASS
	MCH	-14.236	8	PASS
	HCH	-15.090	8	PASS
11G	LCH	-13.371	8	PASS
	MCH	-12.988	8	PASS
	HCH	-14.670	8	PASS
11N20SISO	LCH	-16.284	8	PASS
	MCH	-17.367	8	PASS
	HCH	-16.030	8	PASS
11N40SISO	LCH	-20.707	8	PASS
	MCH	-19.770	8	PASS
	HCH	-22.747	8	PASS



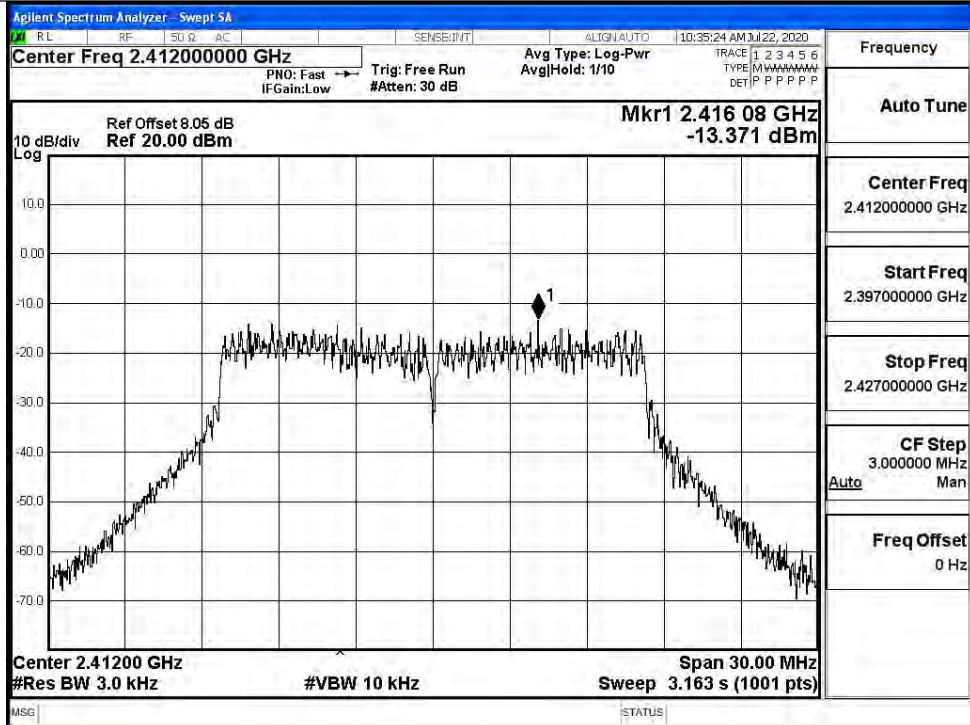
11B/MCH



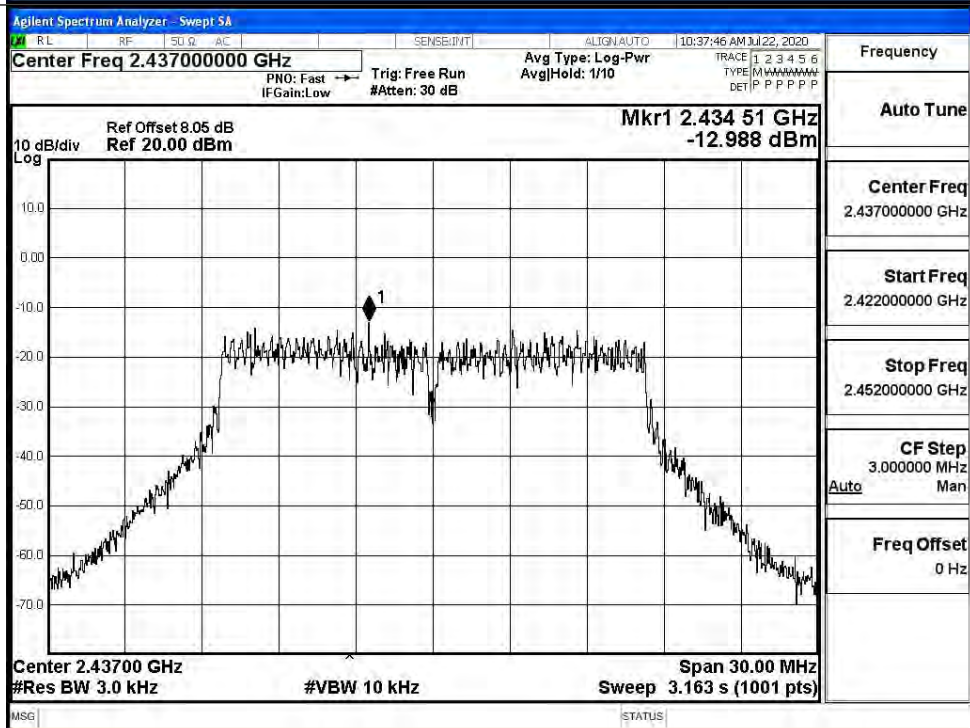
11B/HCH



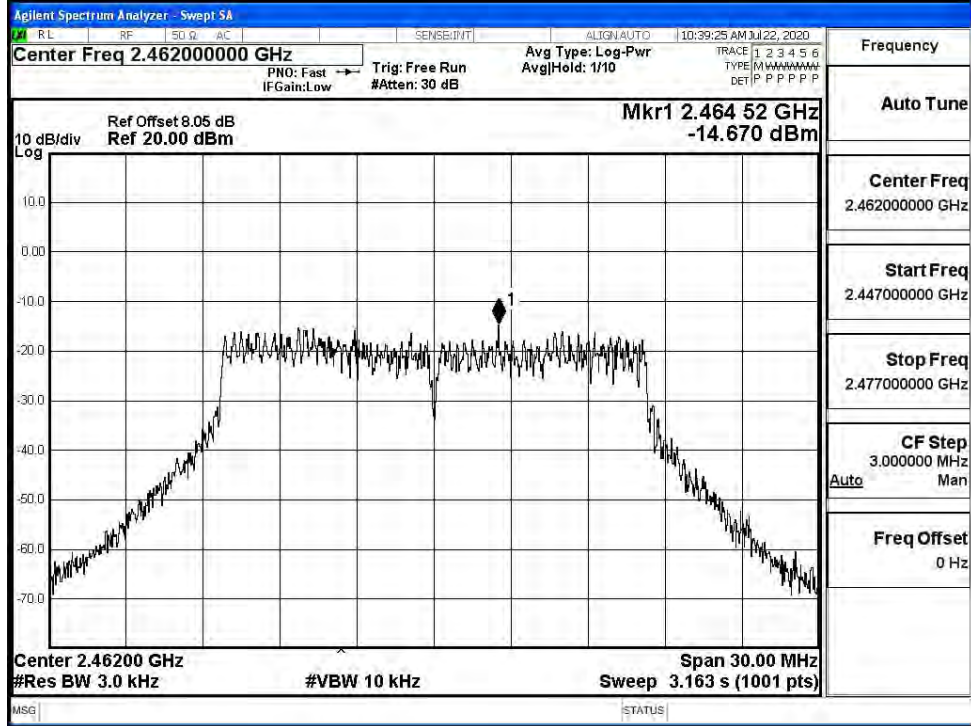
11G/LCH



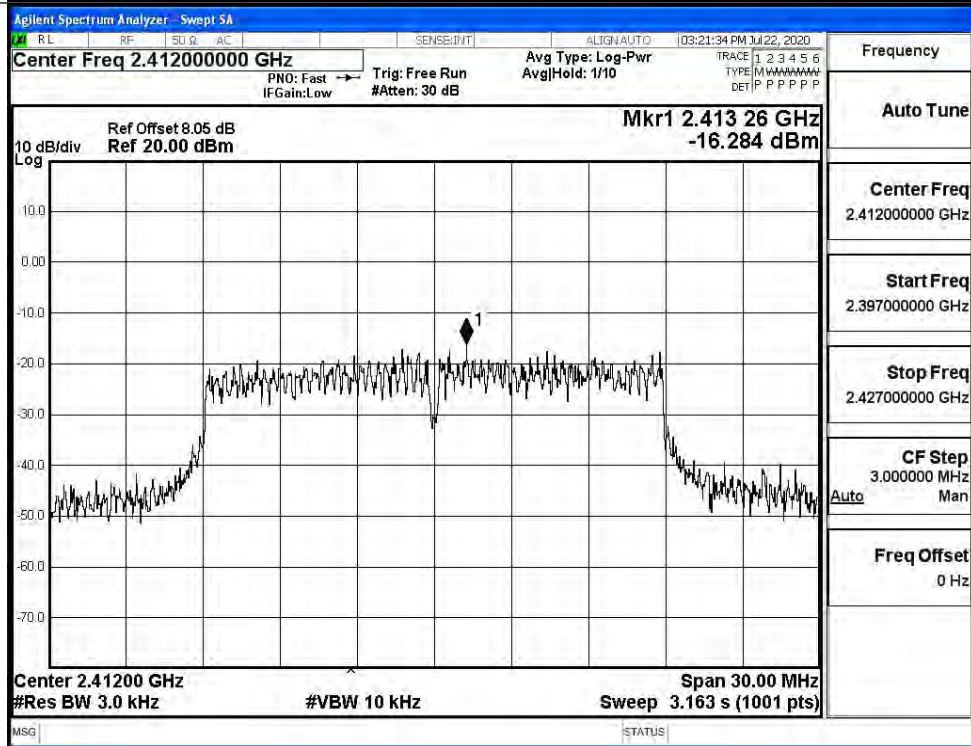
11G/MCH



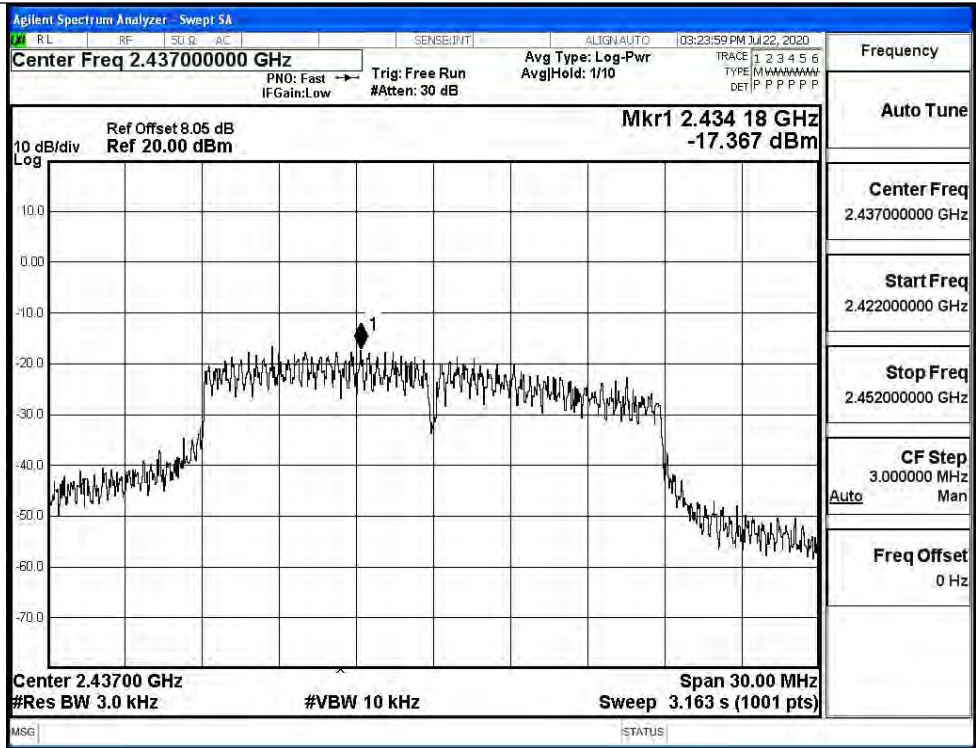
11G/HCH



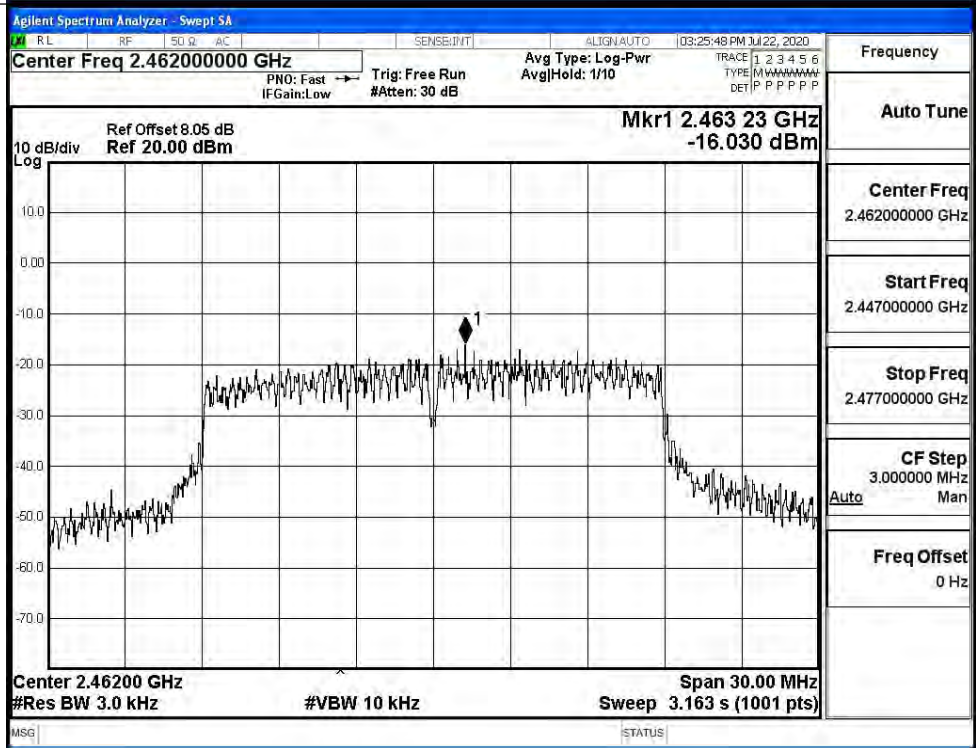
11N20SISO/LCH



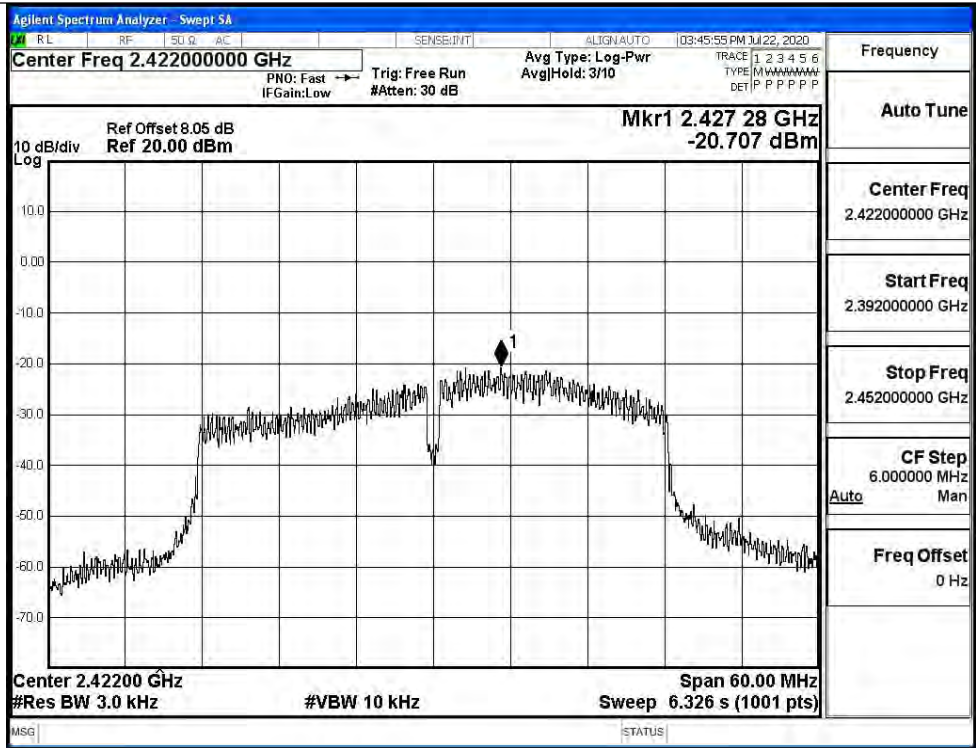
11N20SISO/MCH



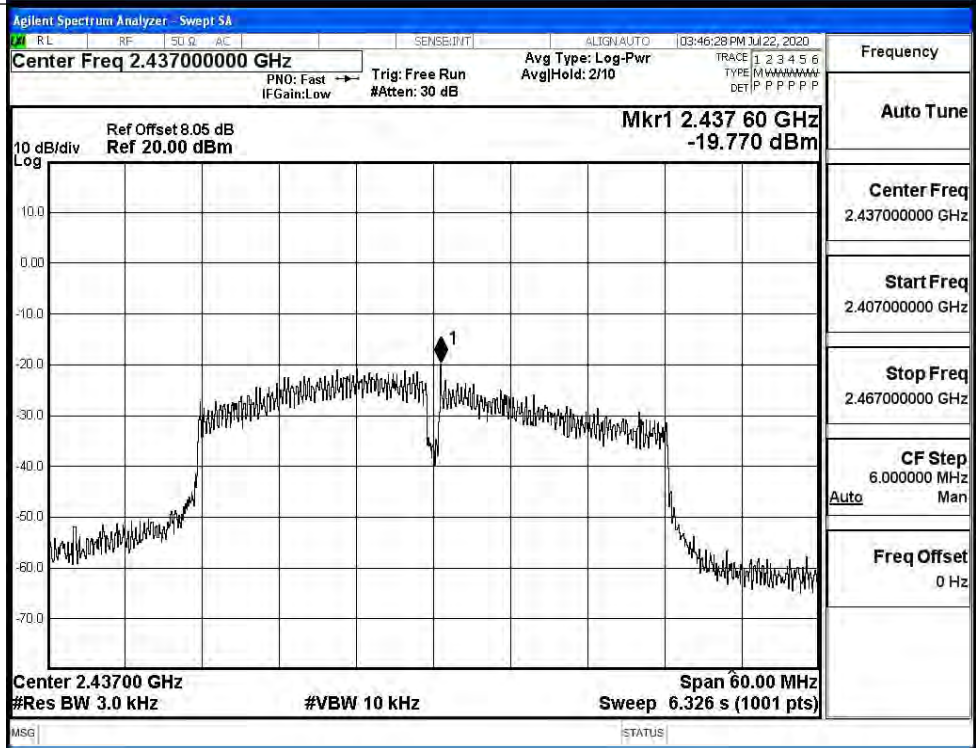
11N20SISO/HCH



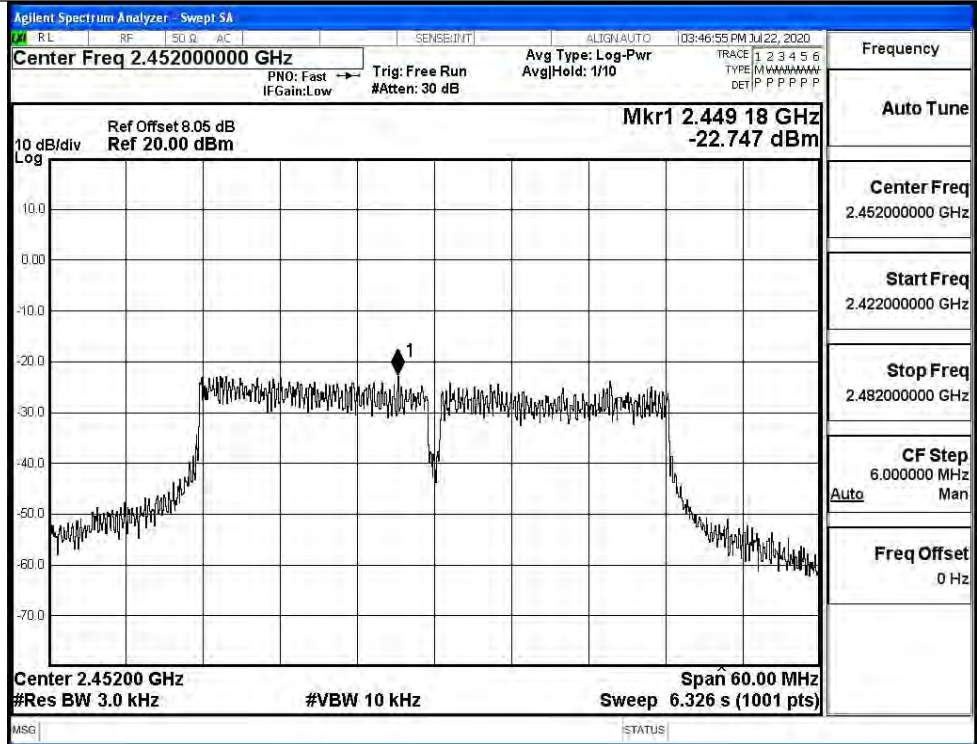
11N40SISO/LCH



11N40SISO/MCH



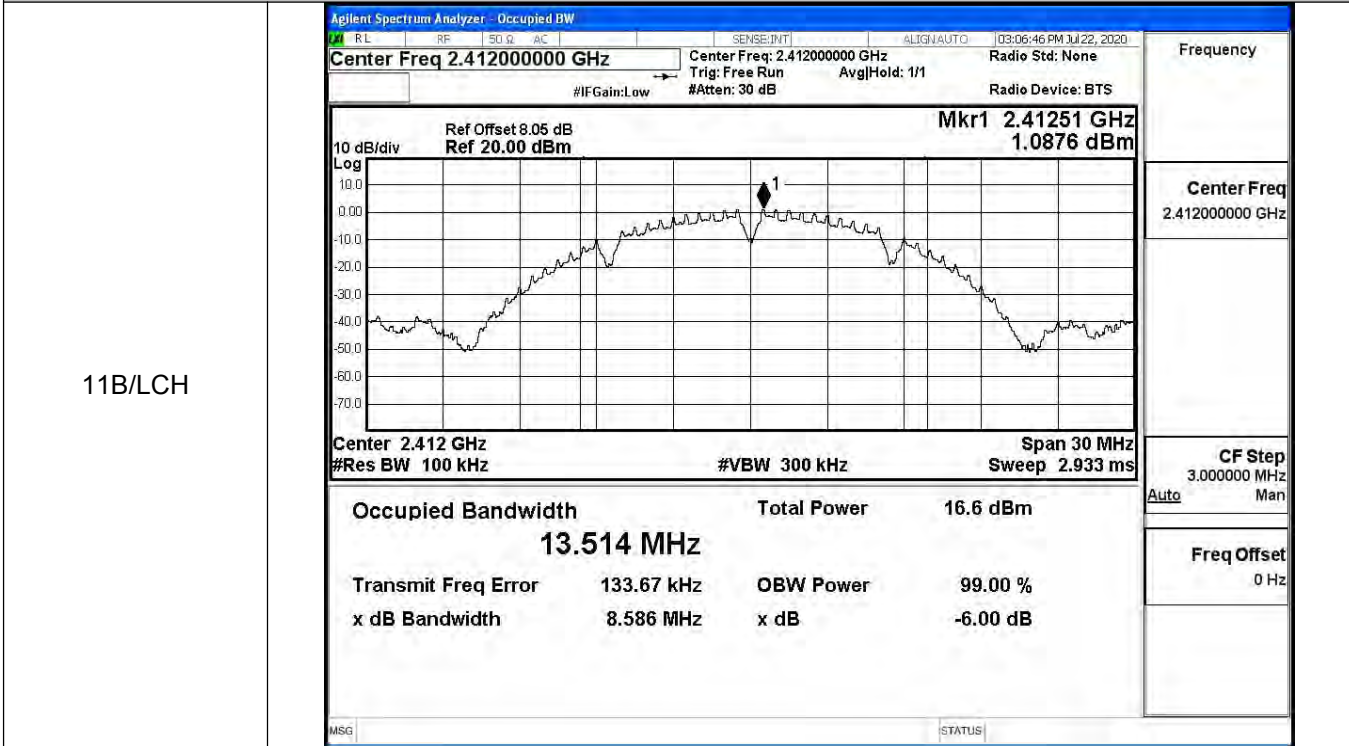
11N40SISO/HCH



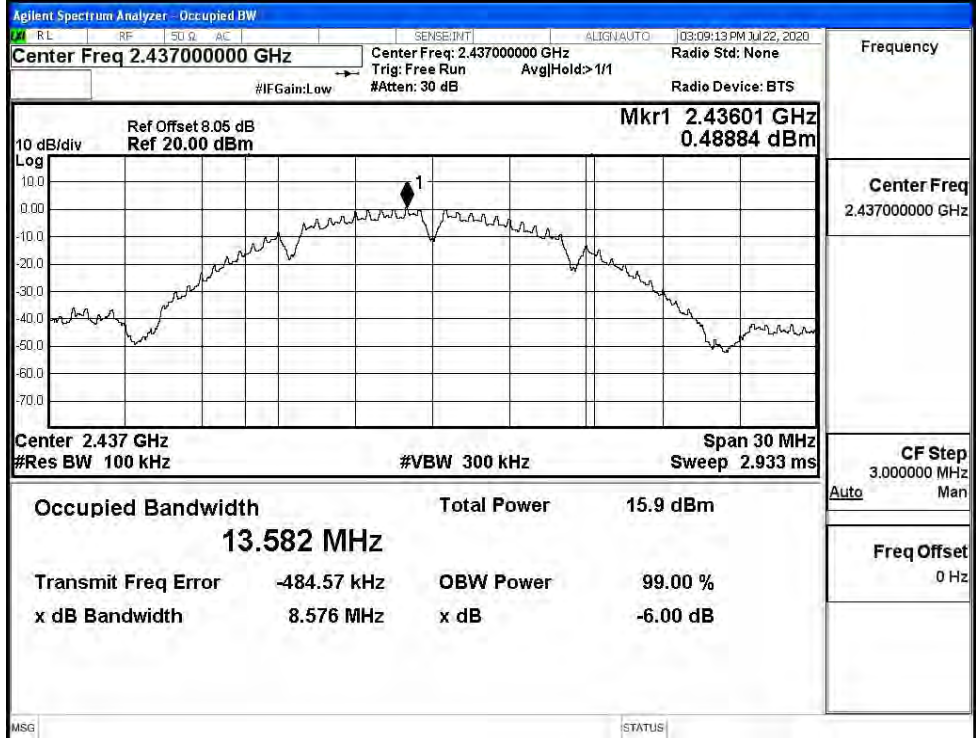
A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.586	≥0.5	PASS
	MCH	8.576	≥0.5	PASS
	HCH	8.590	≥0.5	PASS
11G	LCH	8.600	≥0.5	PASS
	MCH	8.553	≥0.5	PASS
	HCH	9.021	≥0.5	PASS
11N20SISO	LCH	16.37	≥0.5	PASS
	MCH	15.09	≥0.5	PASS
	HCH	16.37	≥0.5	PASS
11N40SISO	LCH	21.30	≥0.5	PASS
	MCH	21.34	≥0.5	PASS
	HCH	35.99	≥0.5	PASS

Test Graphs



11B/MCH



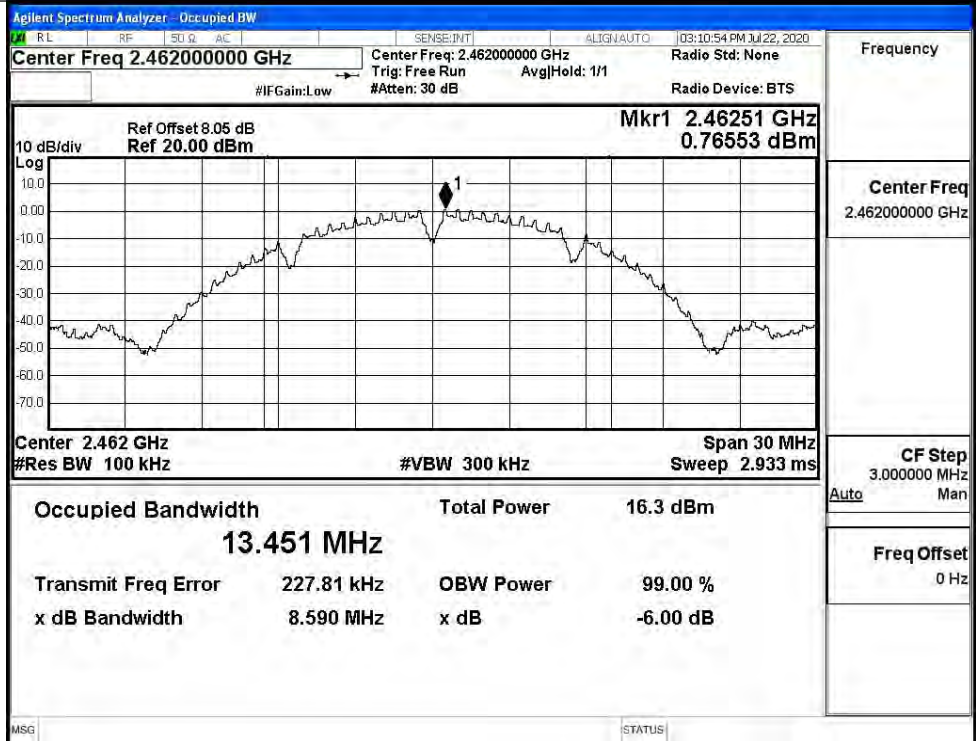
Frequency

Center Freq
2.43700000 GHz

CF Step
3.000000 MHz

Freq Offset
0 Hz

11B/HCH



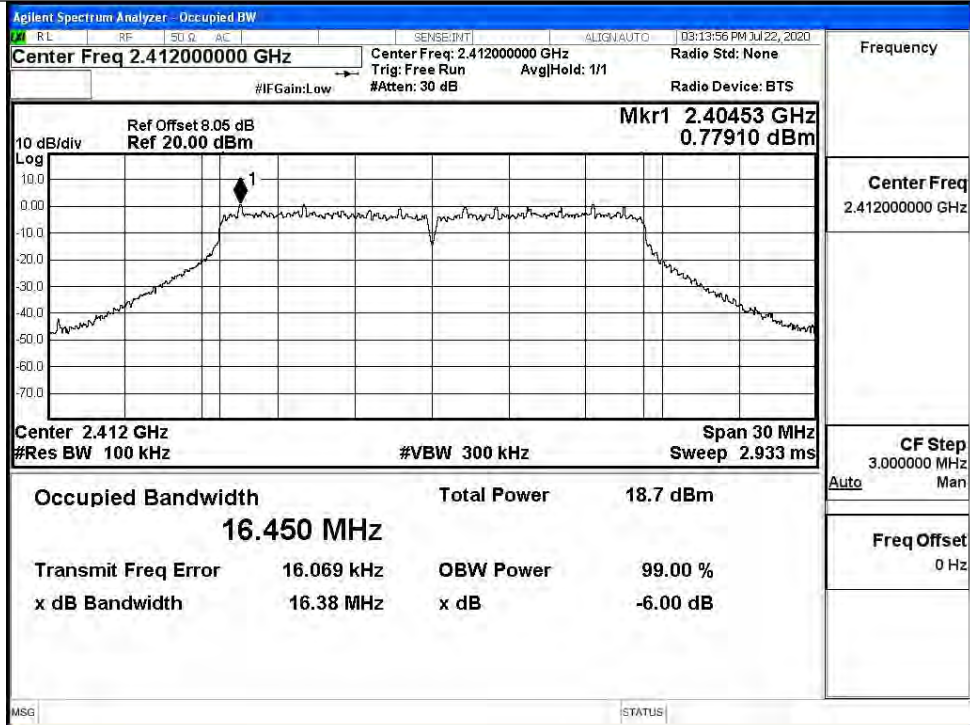
Frequency

Center Freq
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CF Step
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Freq Offset
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11G/LCH



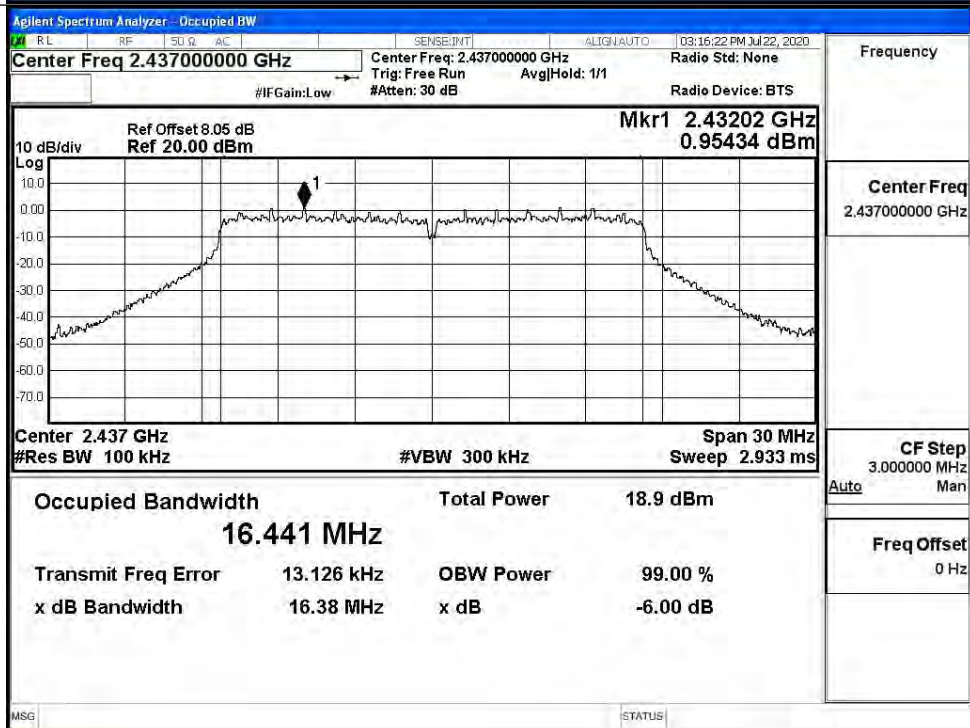
Frequency

Center Freq
2.41200000 GHz

CF Step
3.000000 MHz

Freq Offset
0 Hz

11G/MCH



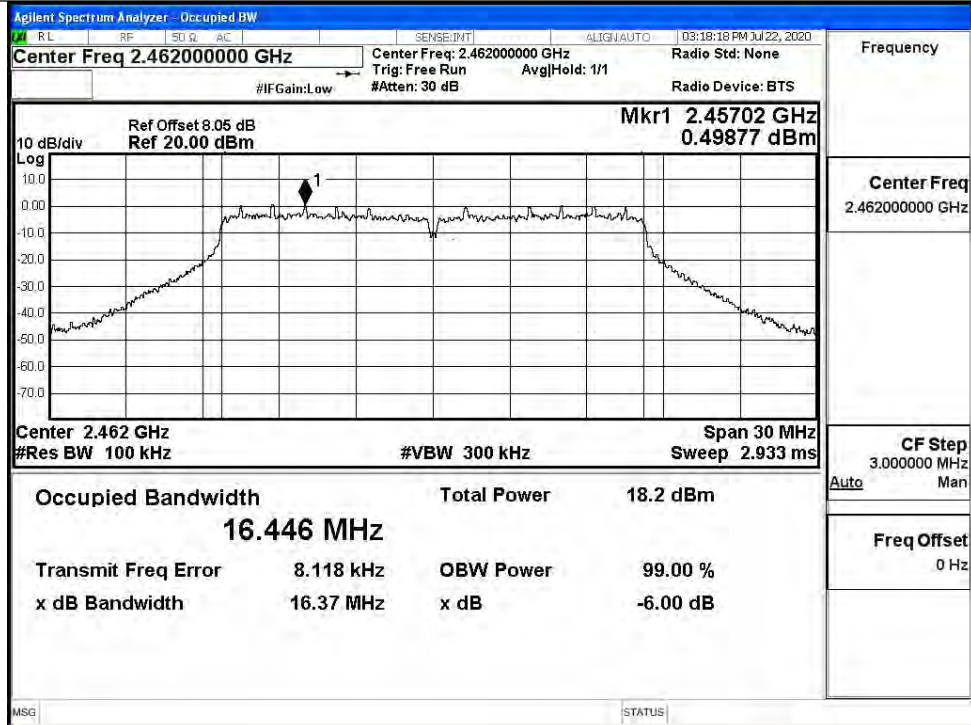
Frequency

Center Freq
2.43700000 GHz

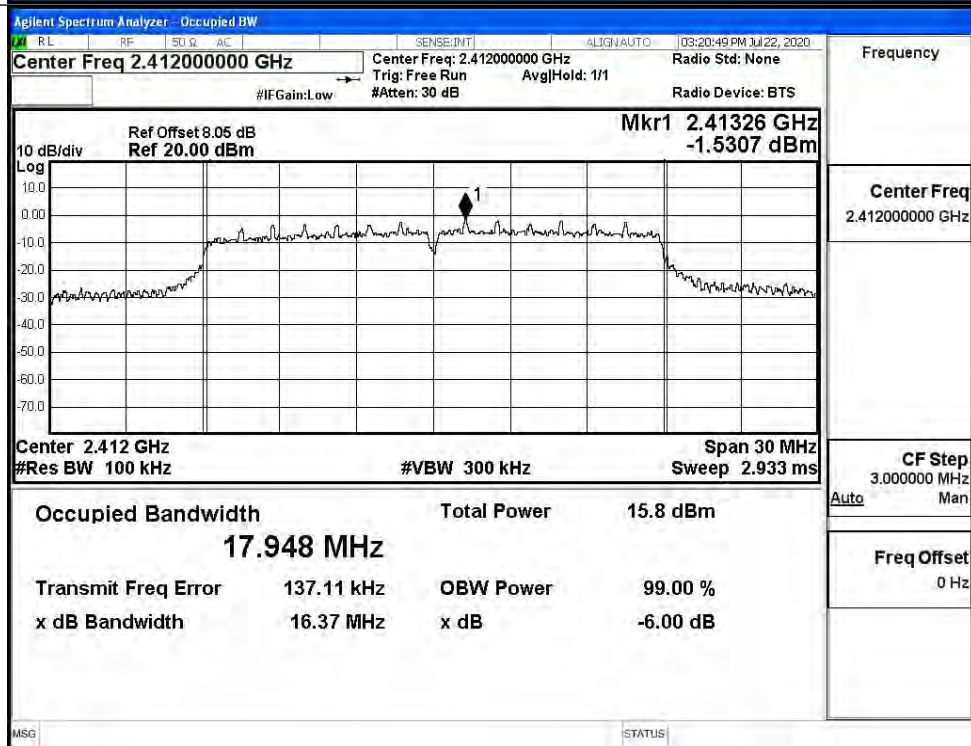
CF Step
3.000000 MHz

Freq Offset
0 Hz

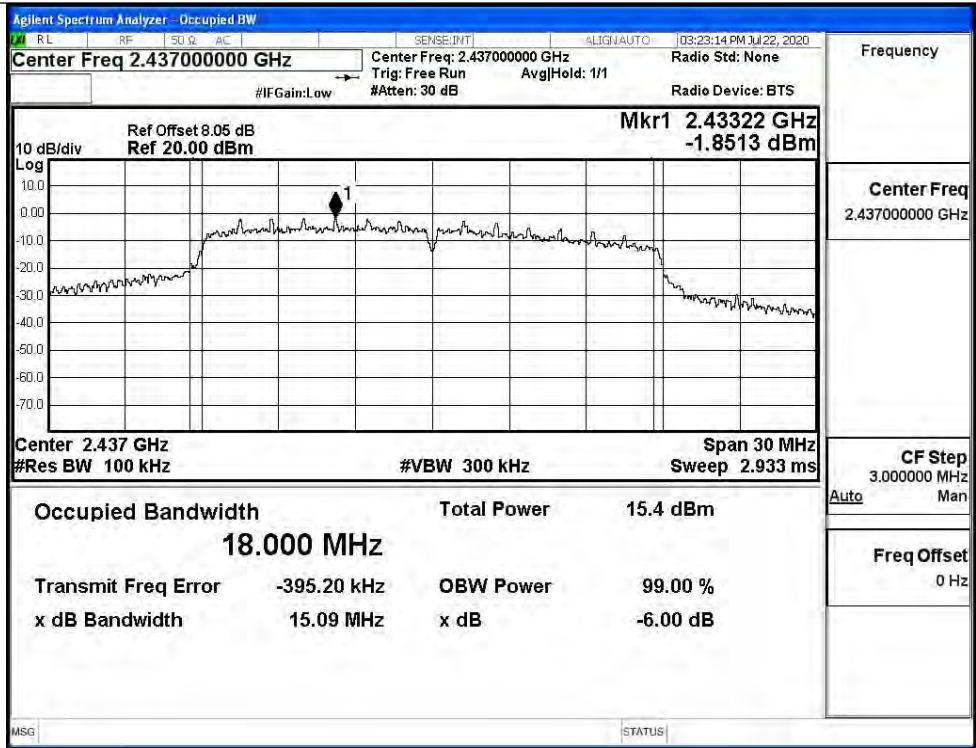
11G/HCH



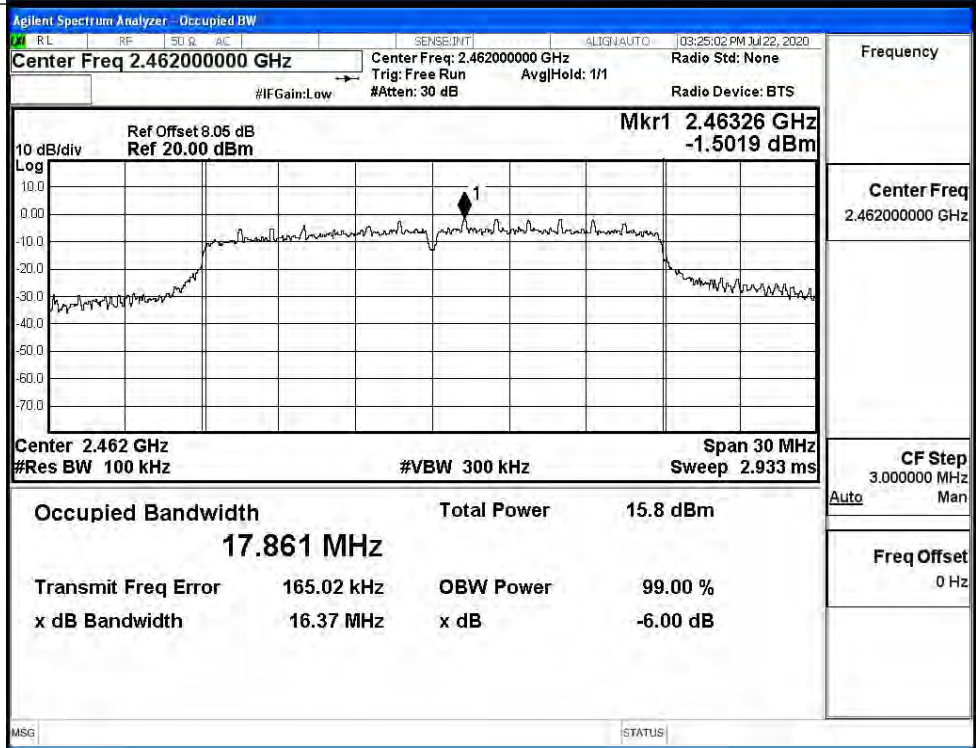
11N20SISO/LCH



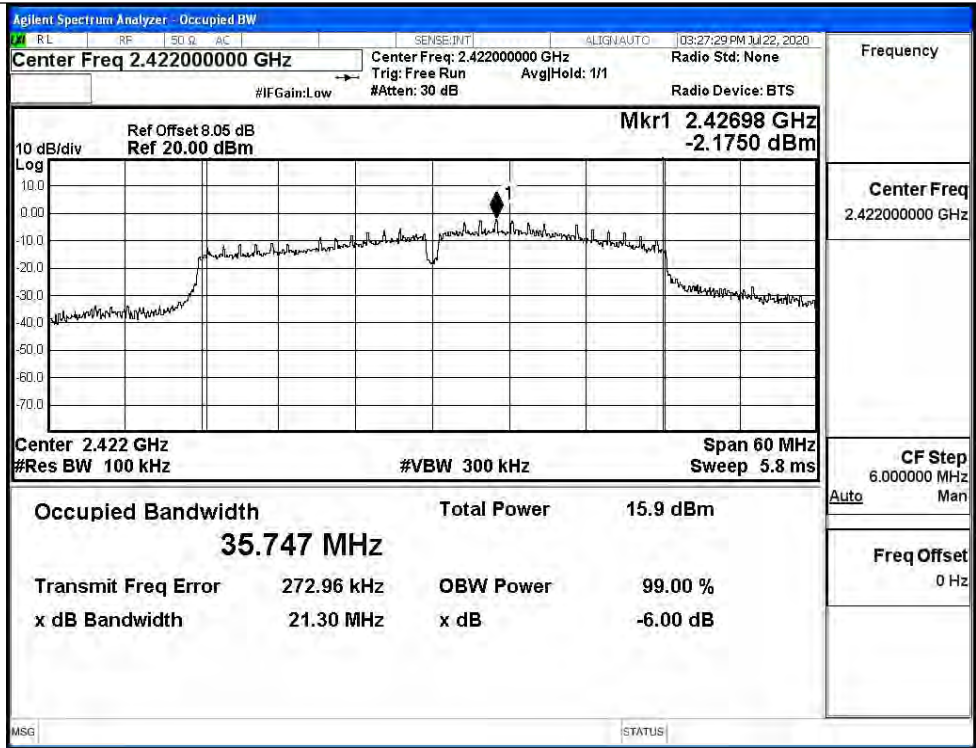
11N20SISO/MCH



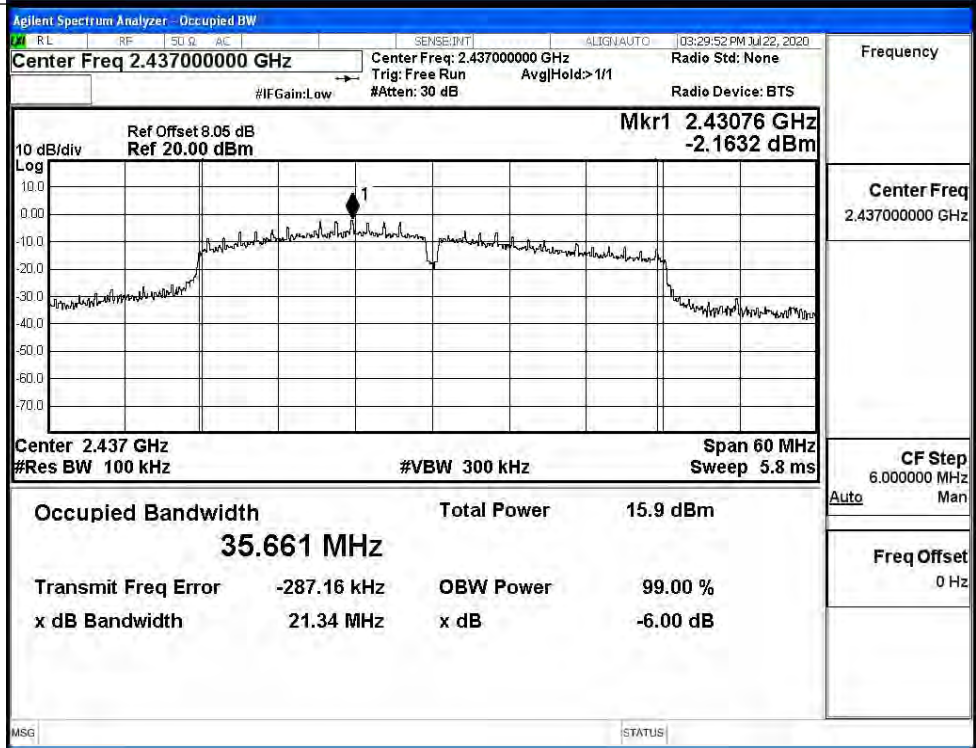
11N20SISO/HCH



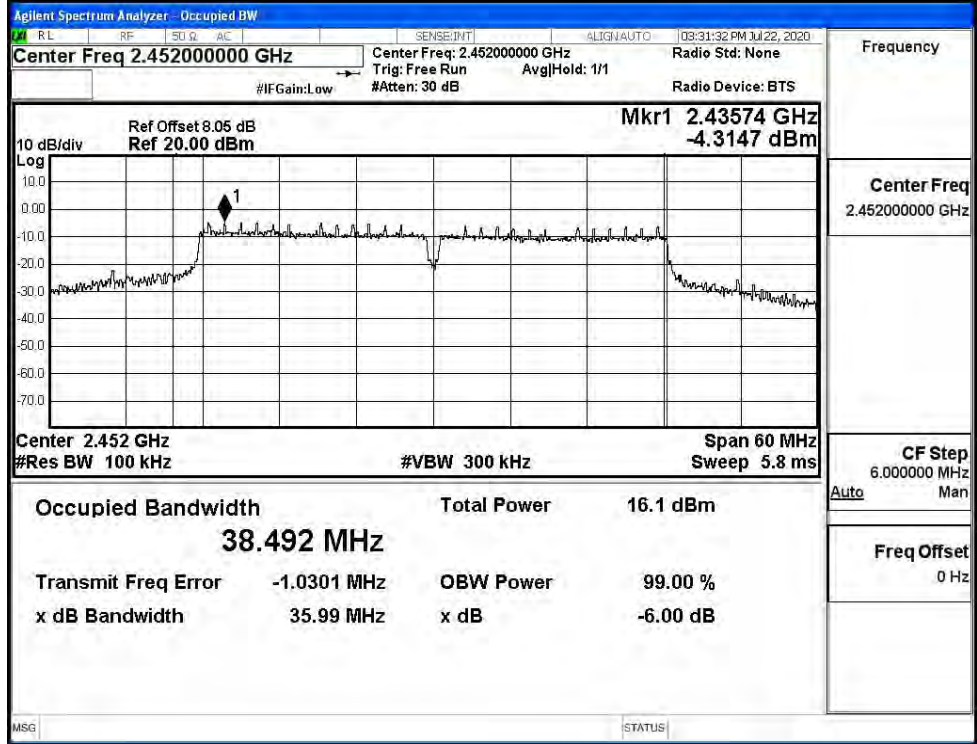
11N40SISO/LCH



11N40SISO/MCH



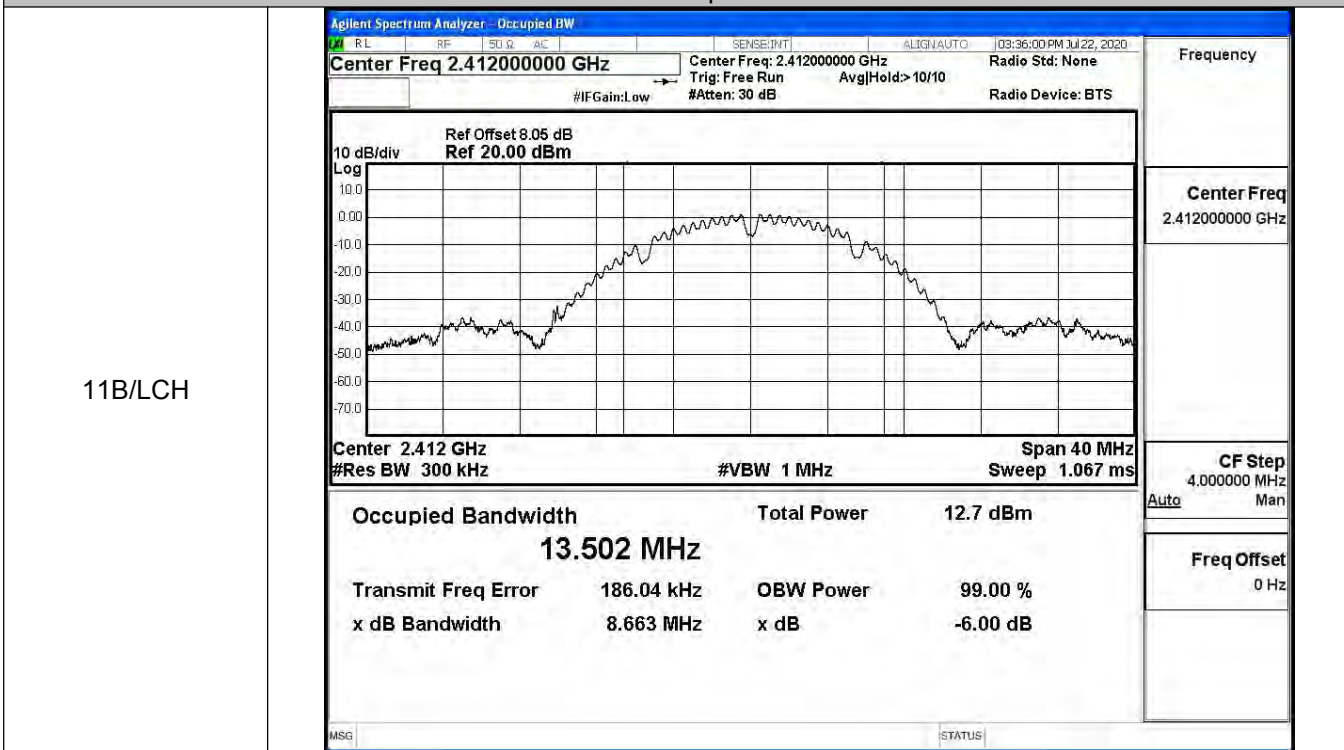
11N40SISO/HCH



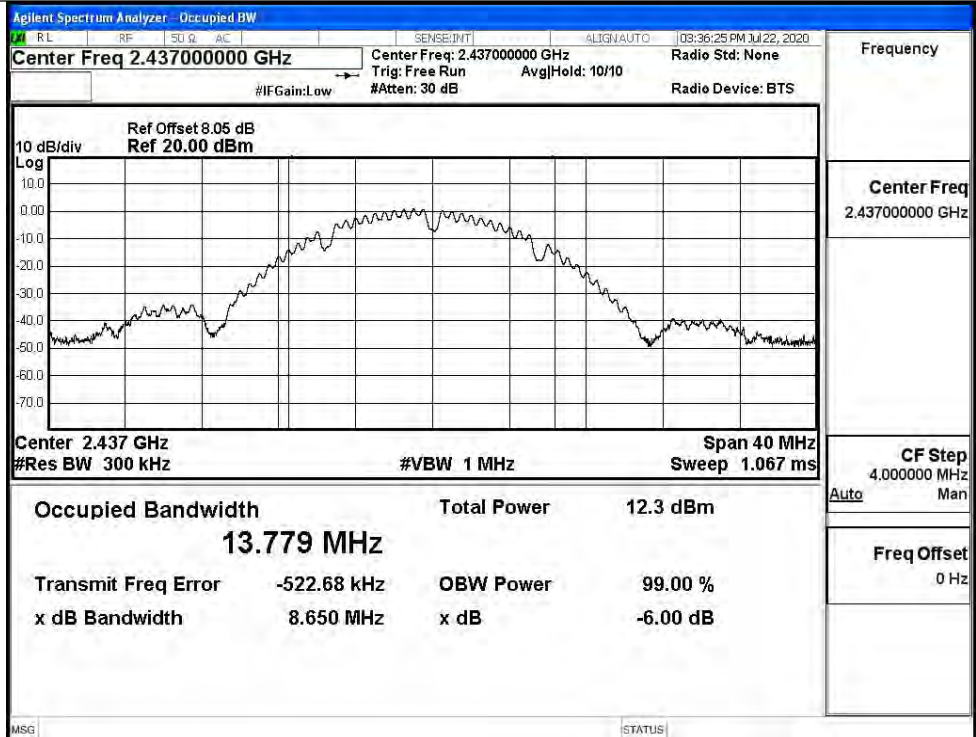
A.5 Occupied Bandwidth

Mode	Channel	Occupied Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	13.502	≥0.5	PASS
	MCH	13.779	≥0.5	PASS
	HCH	13.508	≥0.5	PASS
11G	LCH	13.501	≥0.5	PASS
	MCH	13.771	≥0.5	PASS
	HCH	13.488	≥0.5	PASS
11N20SISO	LCH	18.700	≥0.5	PASS
	MCH	18.966	≥0.5	PASS
	HCH	18.214	≥0.5	PASS
11N40SISO	LCH	36.368	≥0.5	PASS
	MCH	36.143	≥0.5	PASS
	HCH	40.774	≥0.5	PASS

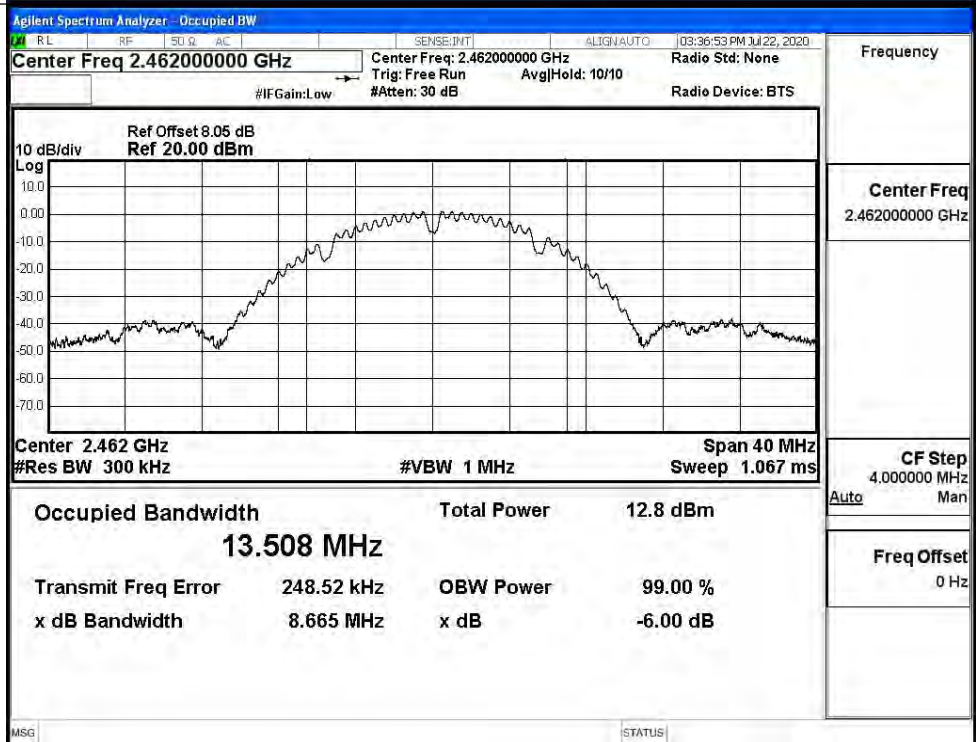
Test Graphs



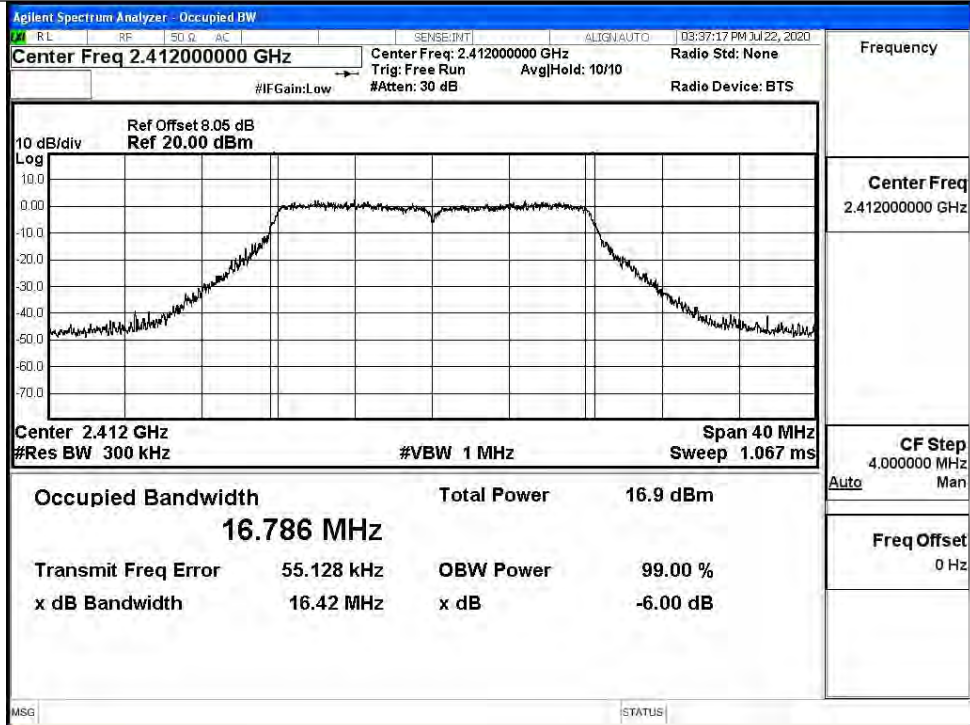
11B/MCH



11B/HCH



11G/LCH



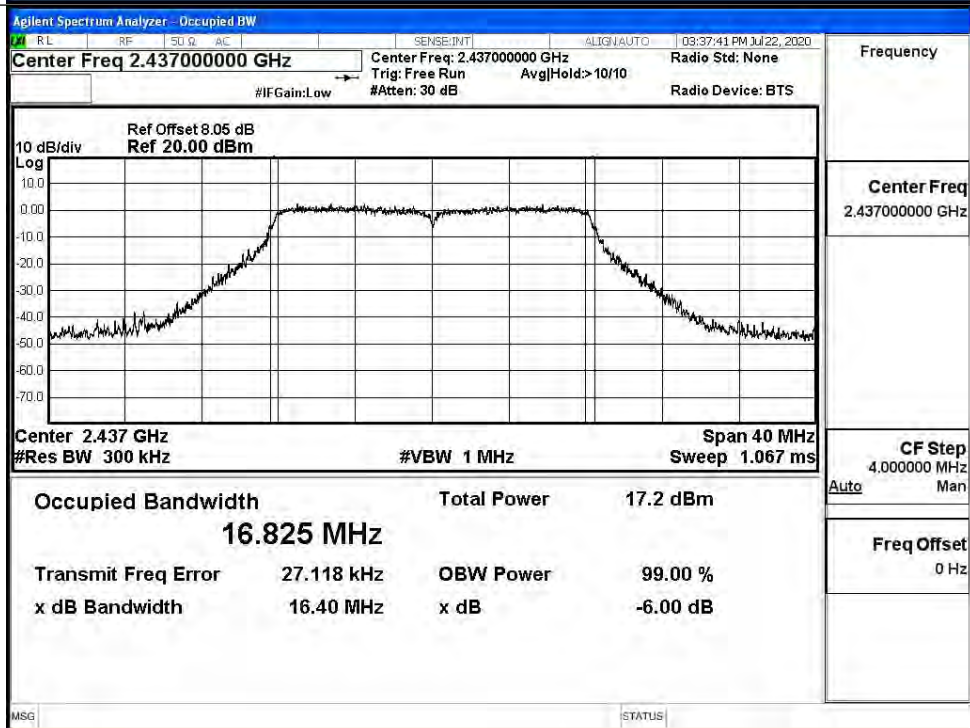
Frequency

Center Freq
2.41200000 GHz

CF Step
4.000000 MHz

Freq Offset
0 Hz

11G/MCH



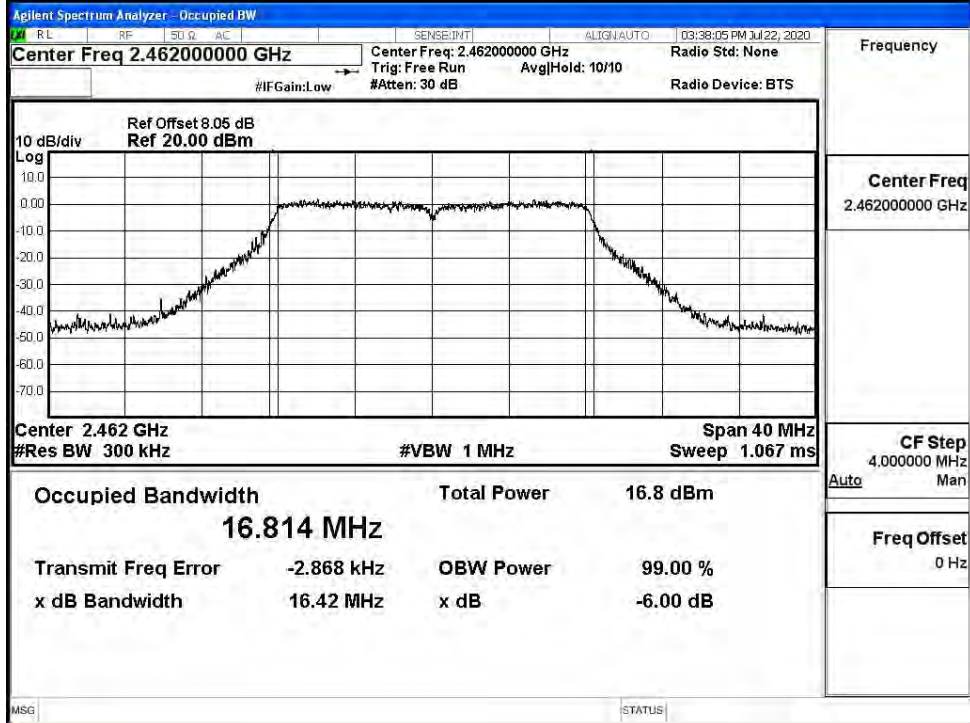
Frequency

Center Freq
2.43700000 GHz

CF Step
4.000000 MHz

Freq Offset
0 Hz

11G/HCH



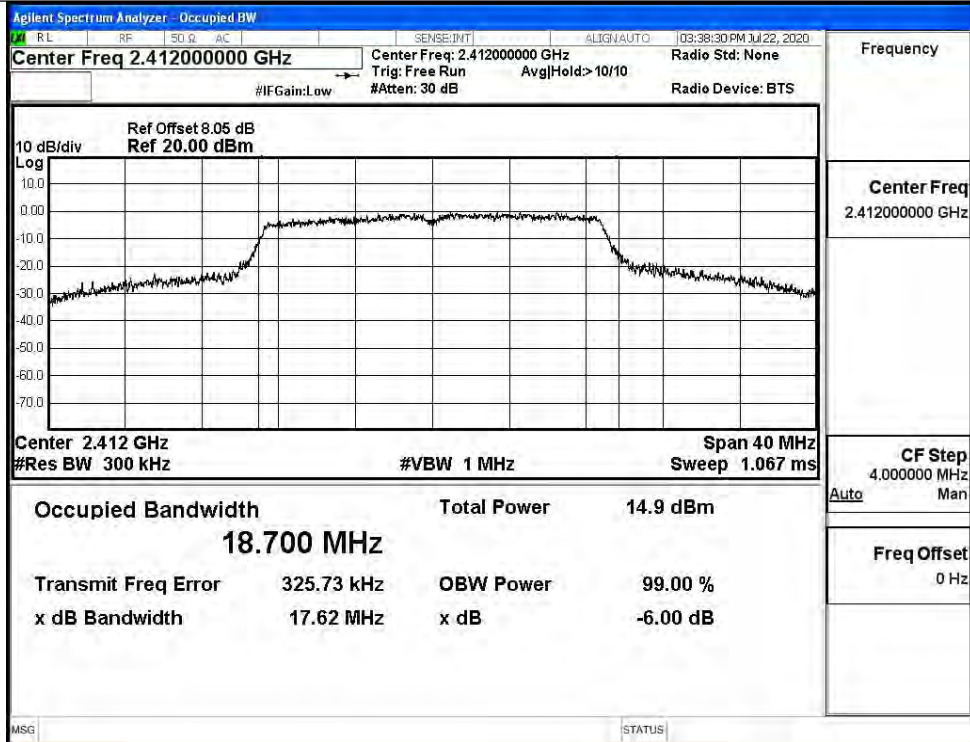
Frequency

Center Freq
2.46200000 GHz

CF Step
4.000000 MHz

Freq Offset
0 Hz

11N20SISO/LCH



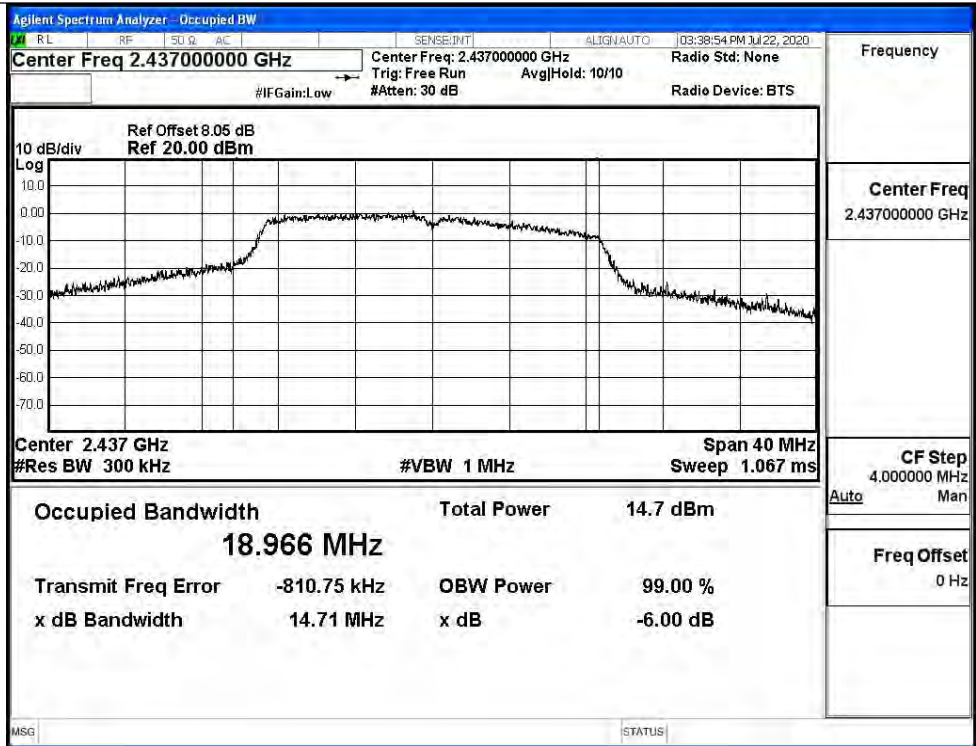
Frequency

Center Freq
2.41200000 GHz

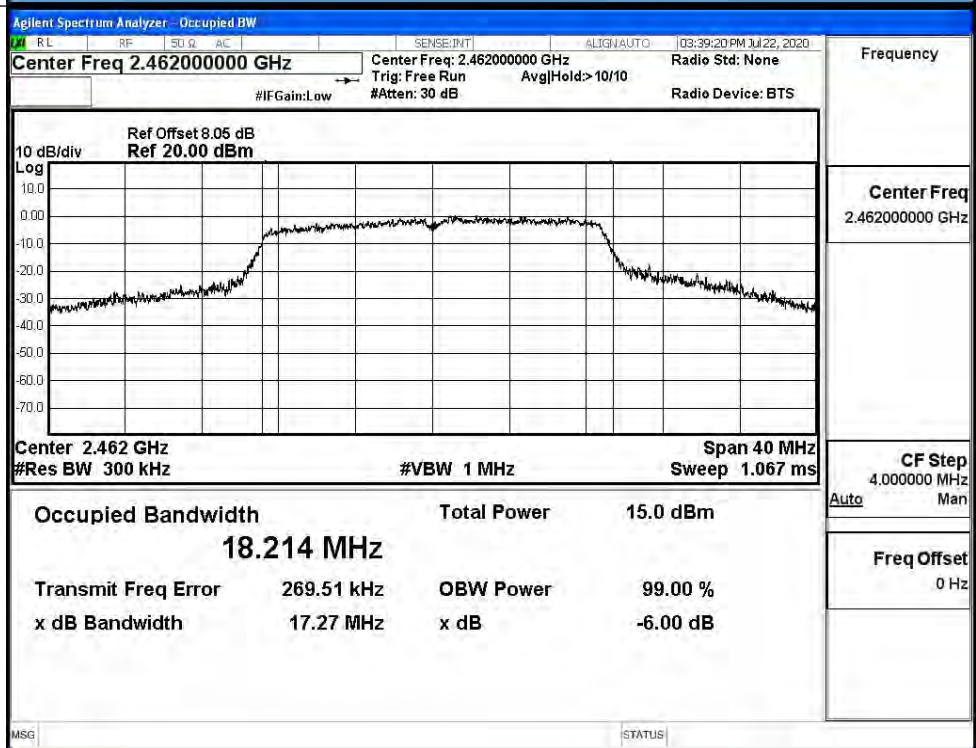
CF Step
4.000000 MHz

Freq Offset
0 Hz

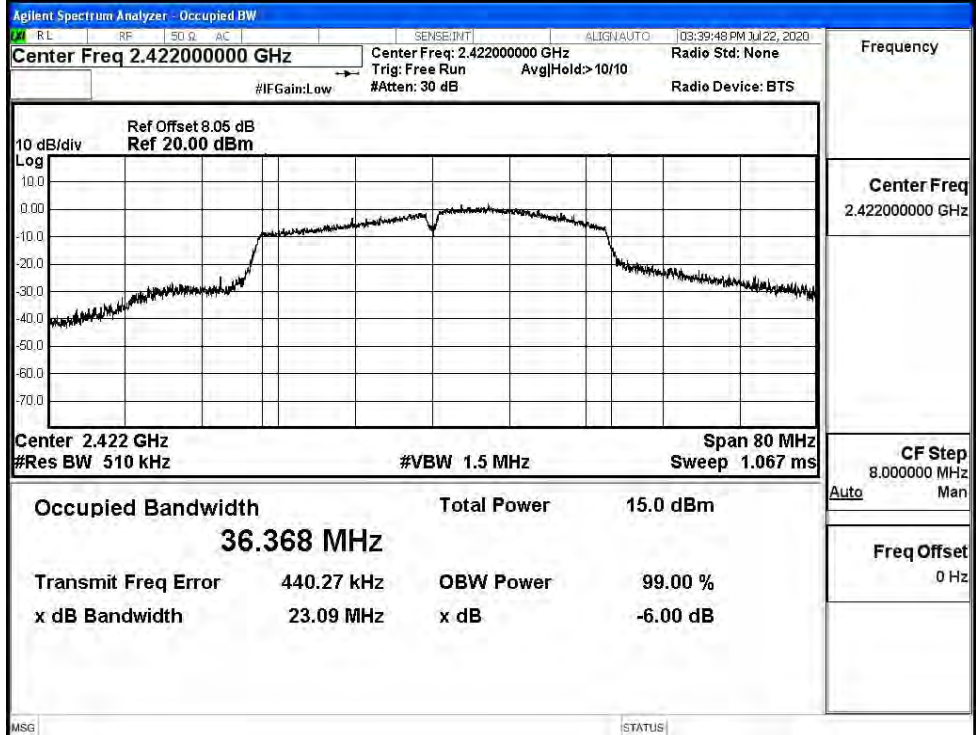
11N20SISO/MCH



11N20SISO/HCH



11N40SISO/LCH



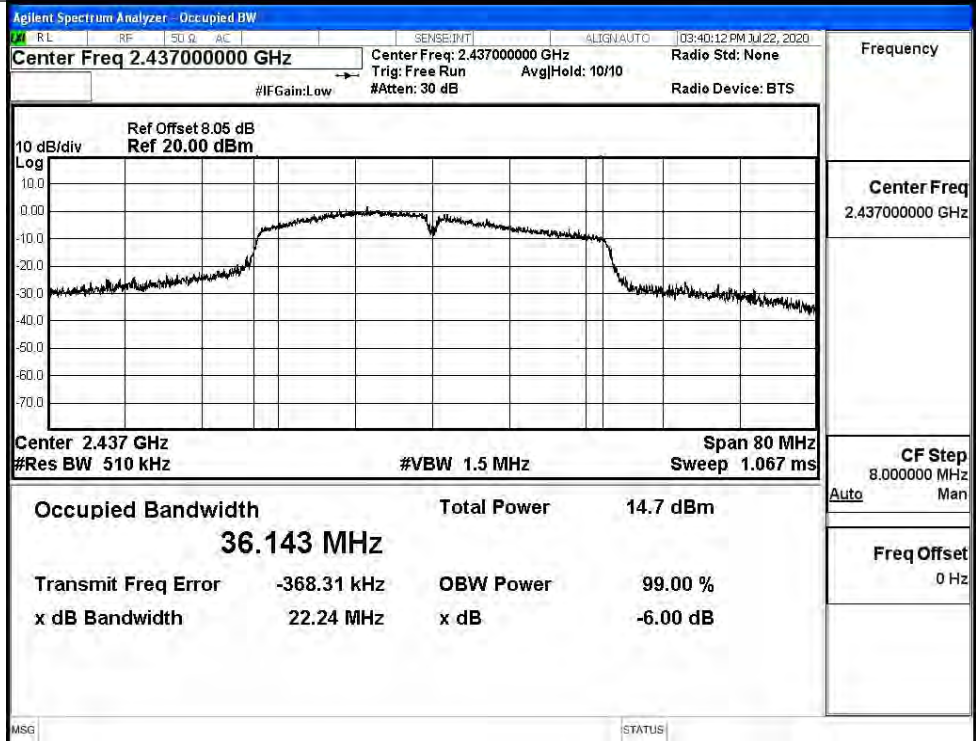
Frequency

Center Freq
2.42200000 GHz

CF Step
8.000000 MHz

Freq Offset
0 Hz

11N40SISO/MCH



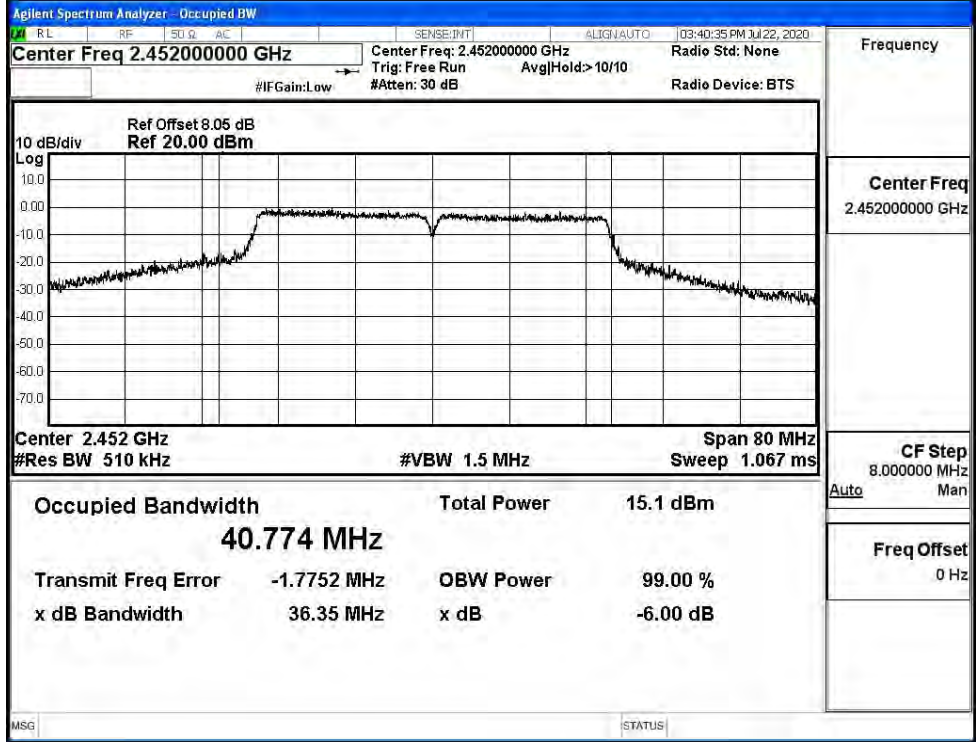
Frequency

Center Freq
2.43700000 GHz

CF Step
8.000000 MHz

Freq Offset
0 Hz

11N40SISO/HCH

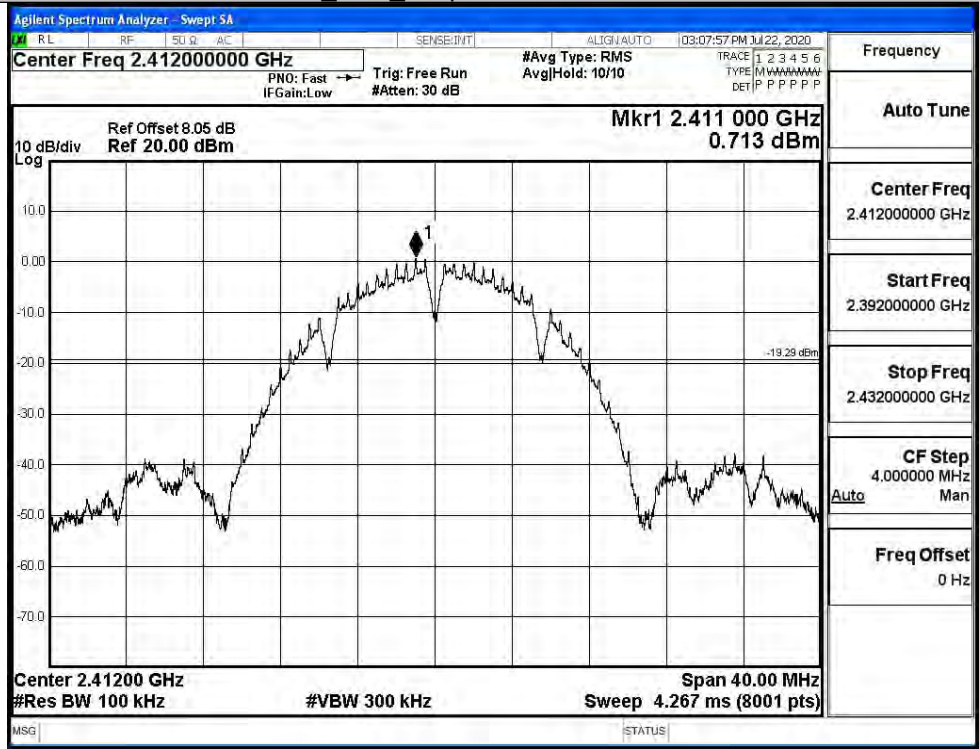


A.6 RF Conducted Spurious Emissions

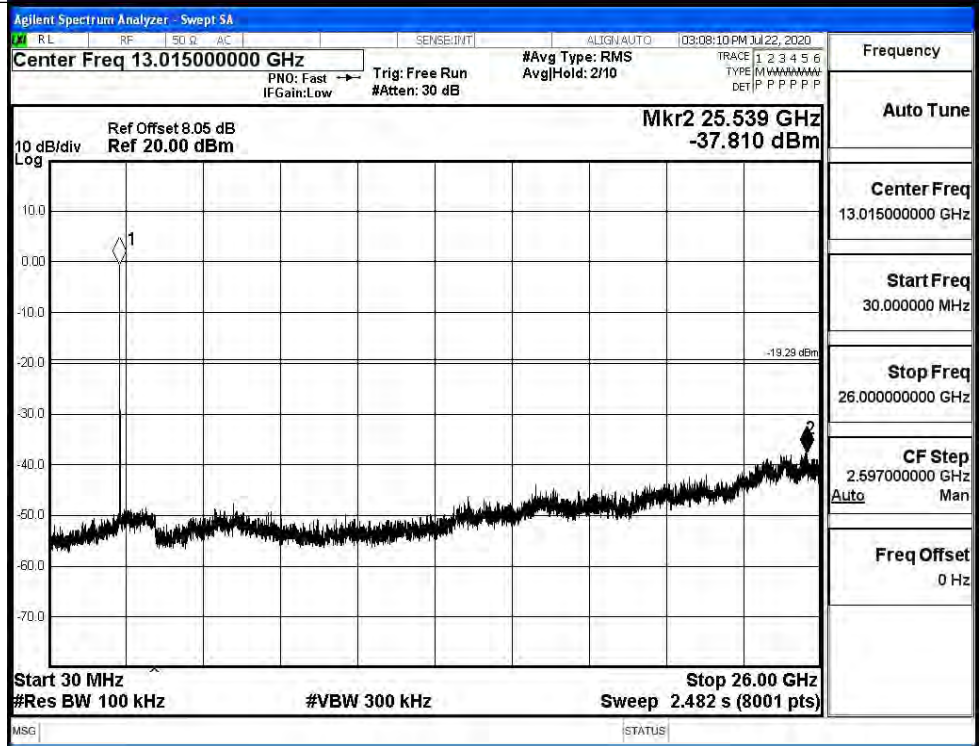
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	0.713	-37.810	-19.287	PASS
	MCH	0.593	-38.027	-19.407	PASS
	HCH	0.359	-37.969	-19.641	PASS
11G	LCH	0.646	-37.629	-19.354	PASS
	MCH	0.82	-37.133	-19.180	PASS
	HCH	0.61	-38.151	-19.390	PASS
11N20 SISO	LCH	-1.909	-36.913	-21.909	PASS
	MCH	-1.616	-37.230	-21.616	PASS
	HCH	-1.731	-37.764	-21.731	PASS
11N40 SISO	LCH	-2.134	-38.045	-22.134	PASS
	MCH	-2.342	-38.065	-22.342	PASS
	HCH	-4.301	-37.920	-24.301	PASS

11B LCH Graphs

Pref/11B/LCH

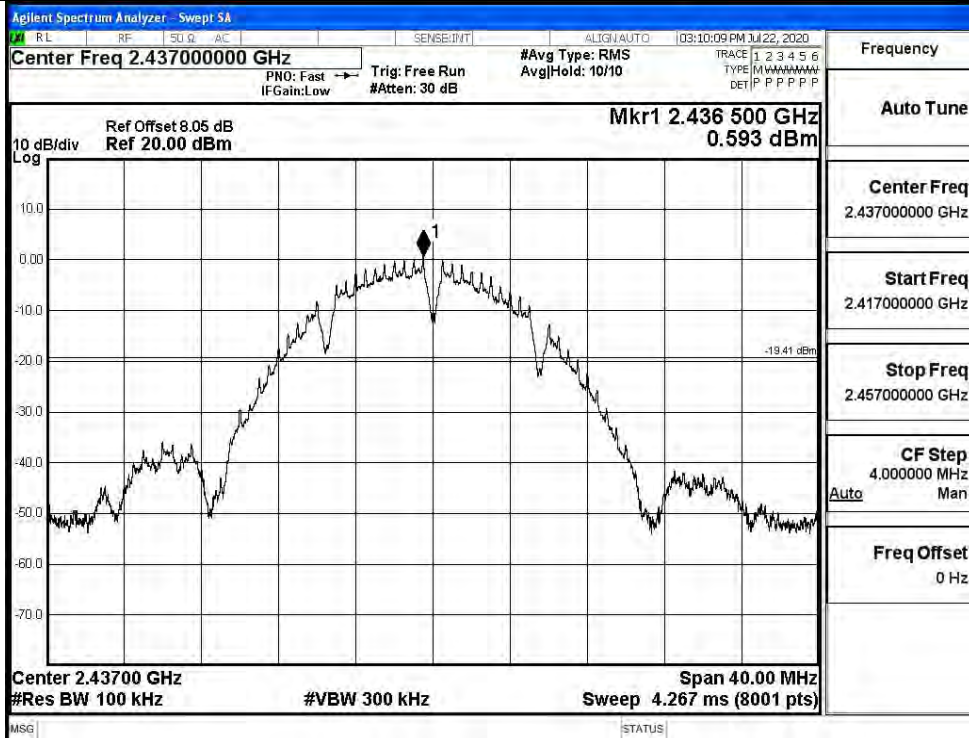


Puw/11B/LCH

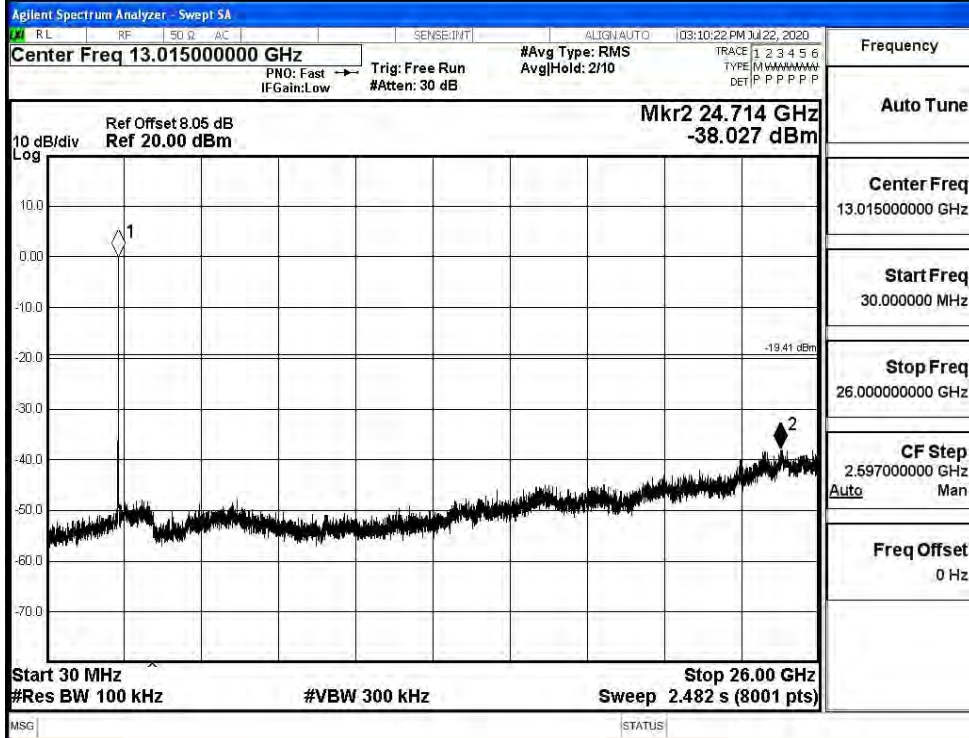


11B_MCH_Graphs

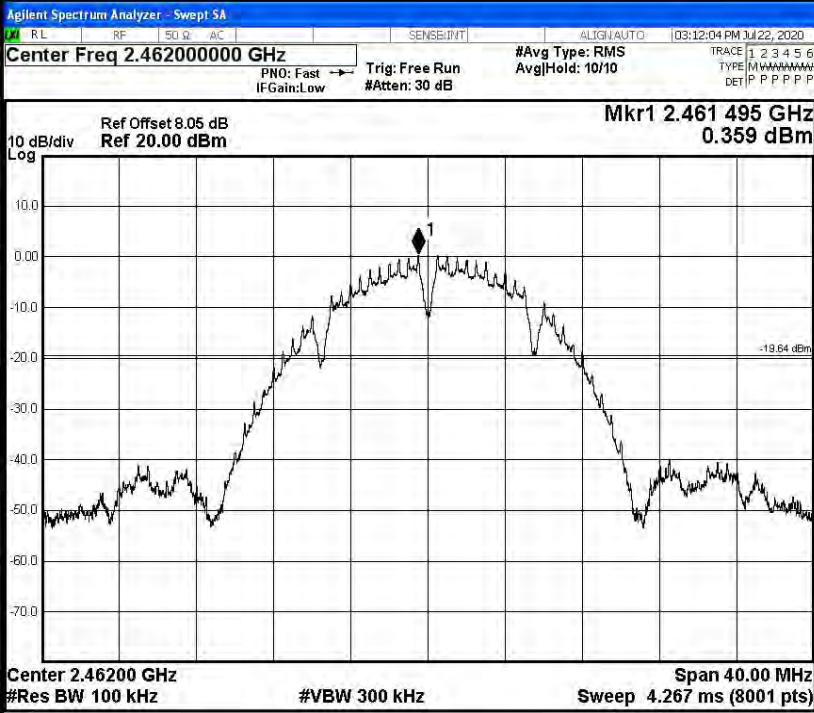
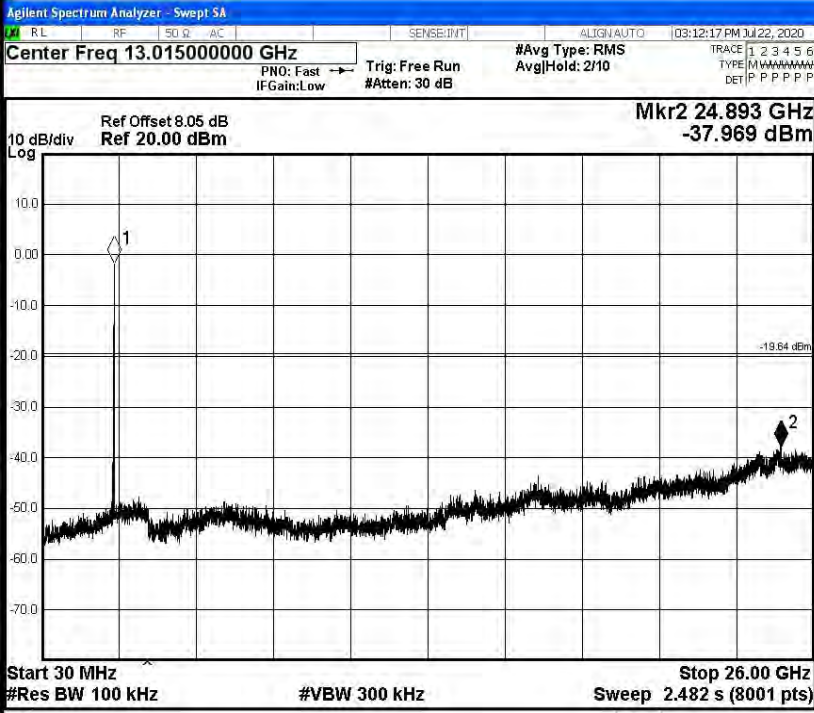
Pref/11B/MCH



Puw/11B/MCH

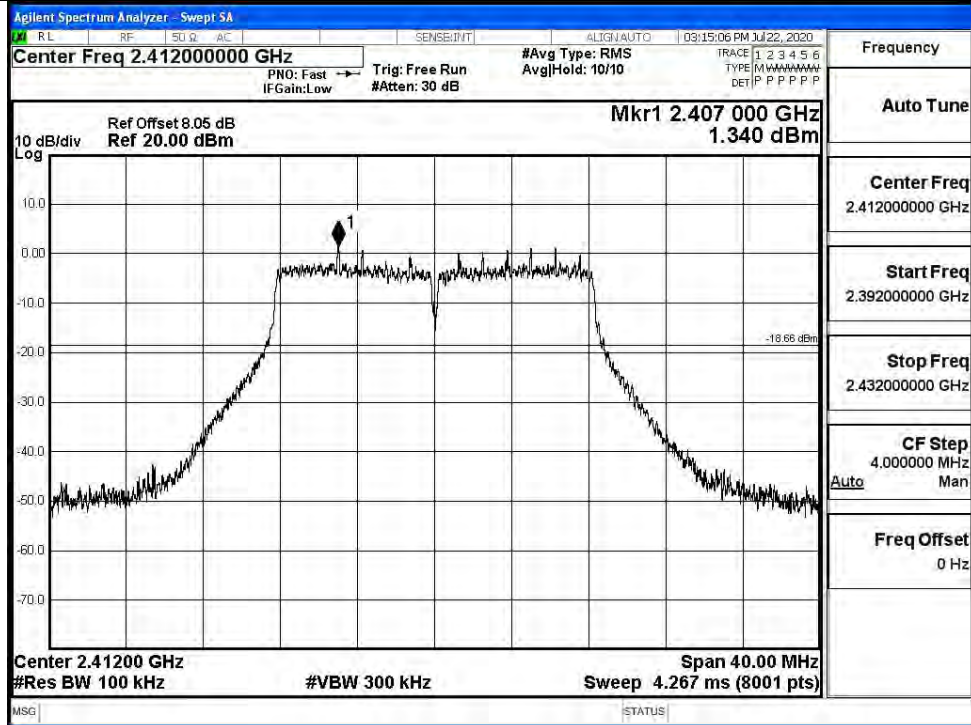


11B HCH Graphs

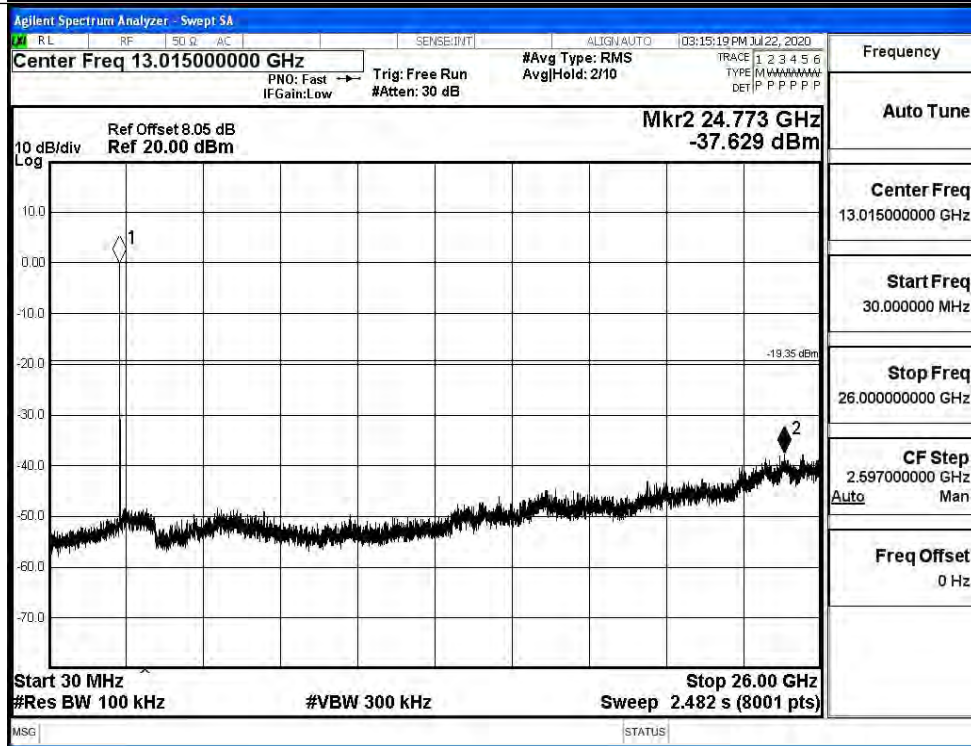
<p>Pref/11B/HCH</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.462000000 GHz</p> <p>Start Freq 2.442000000 GHz</p> <p>Stop Freq 2.482000000 GHz</p> <p>CF Step 4.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>Puw/11B/HCH</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 13.015000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.000000000 GHz</p> <p>CF Step 2.597000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>

11G_LCH_Graphs

Pref/11G/LCH

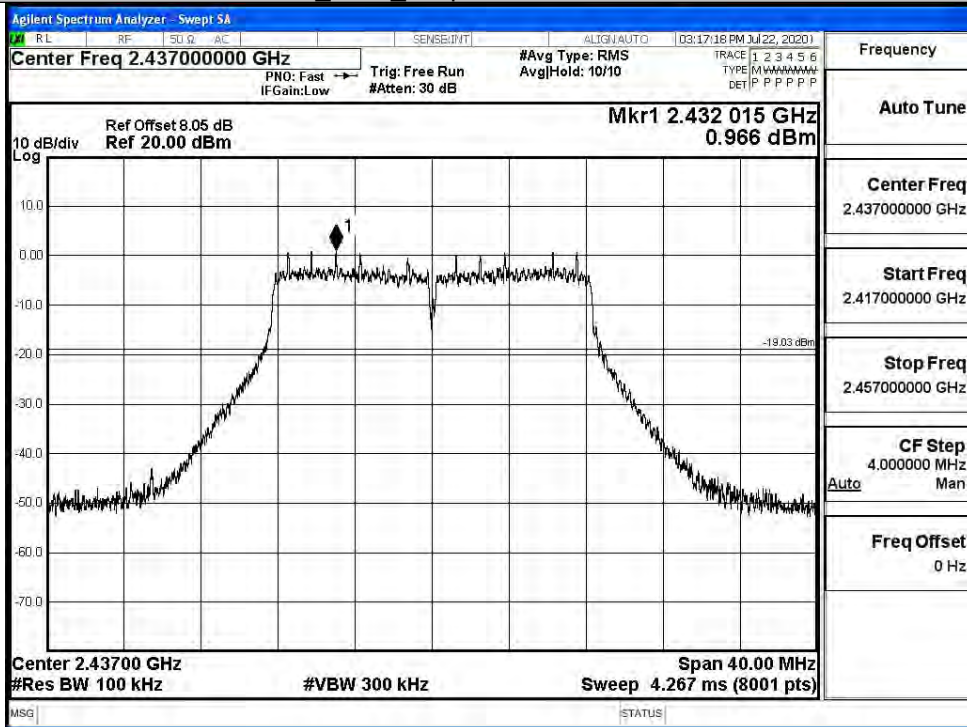


Puw/11G/LCH

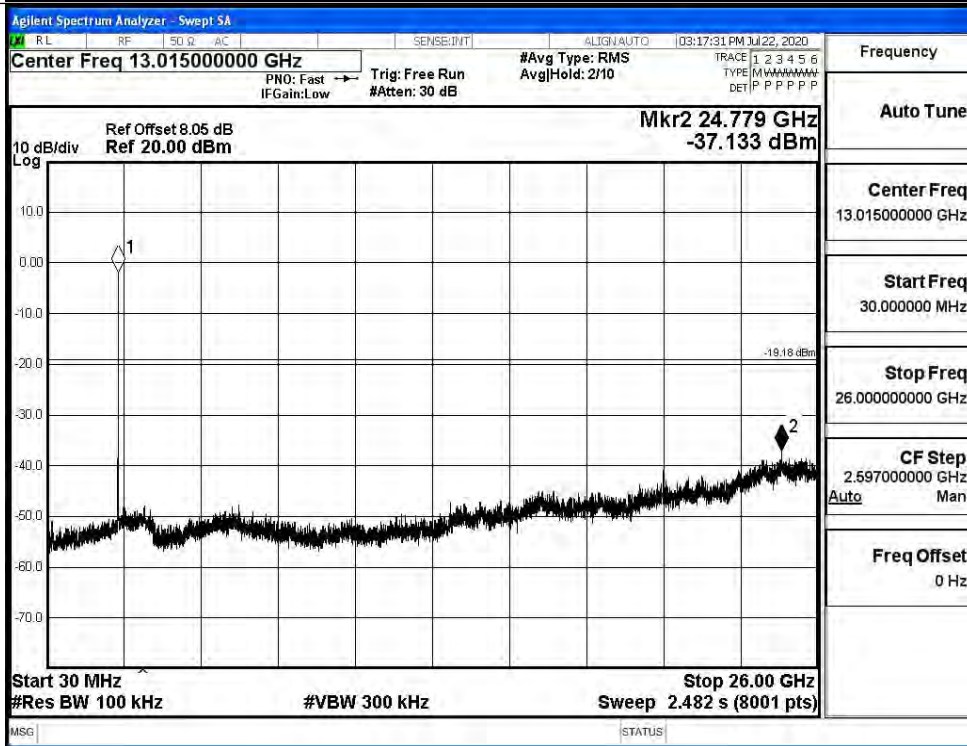


11G MCH Graphs

Pref/11G/MCH

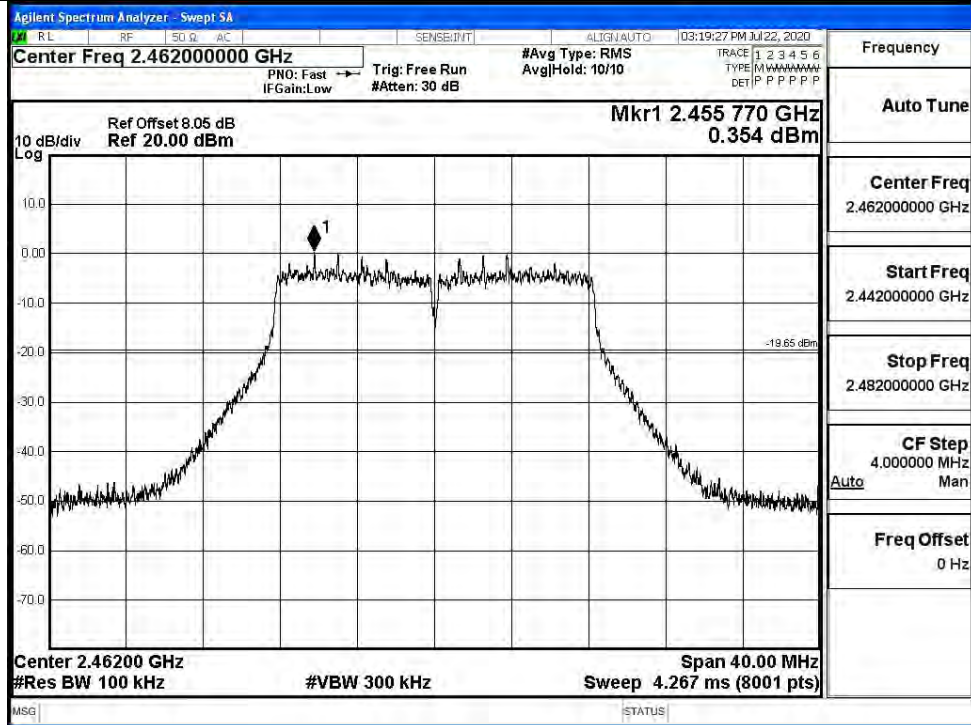


Puw/11G/MCH



11G_HCH_Graphs

Pref/11G/HCH

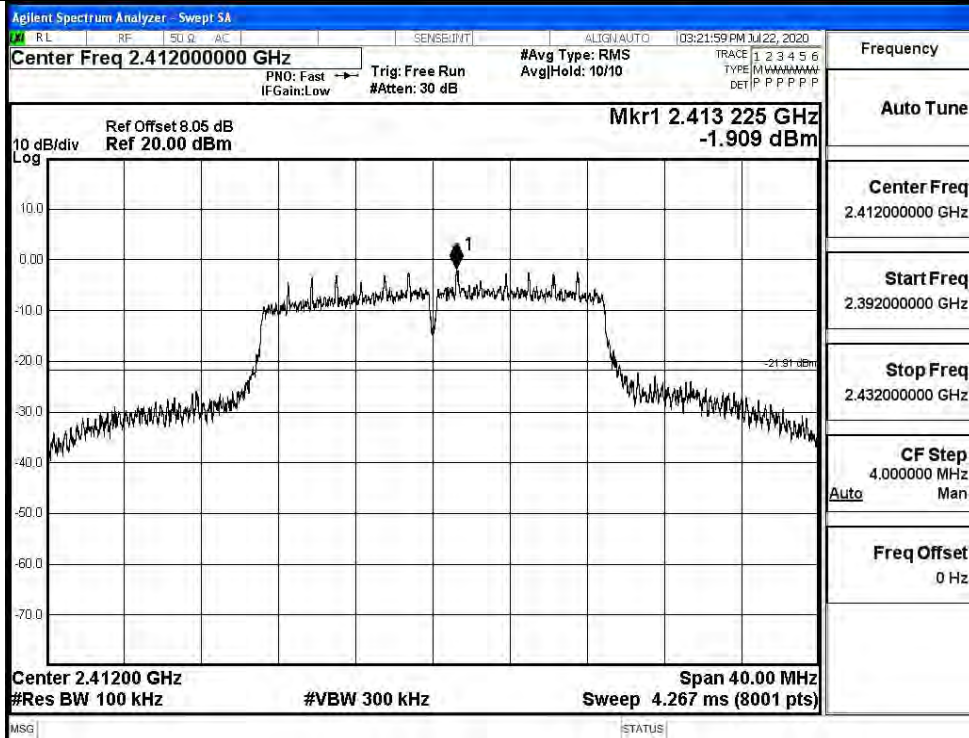


Puw/11G/HCH

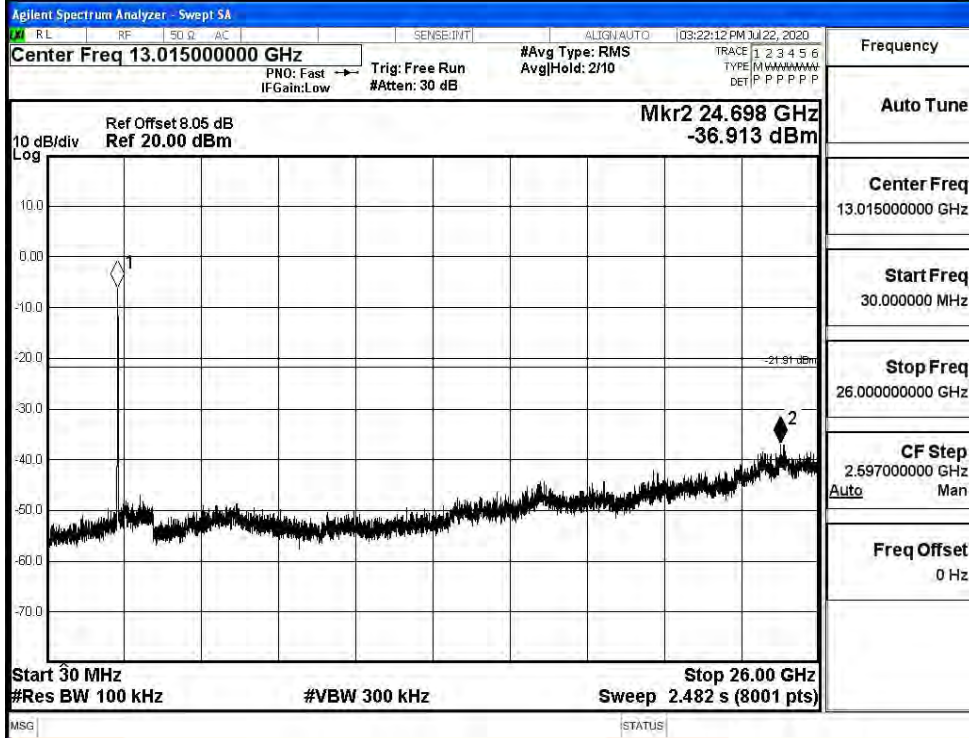


11N20SISO_LCH_Graphs

Pref/11N20SIS
O/LCH

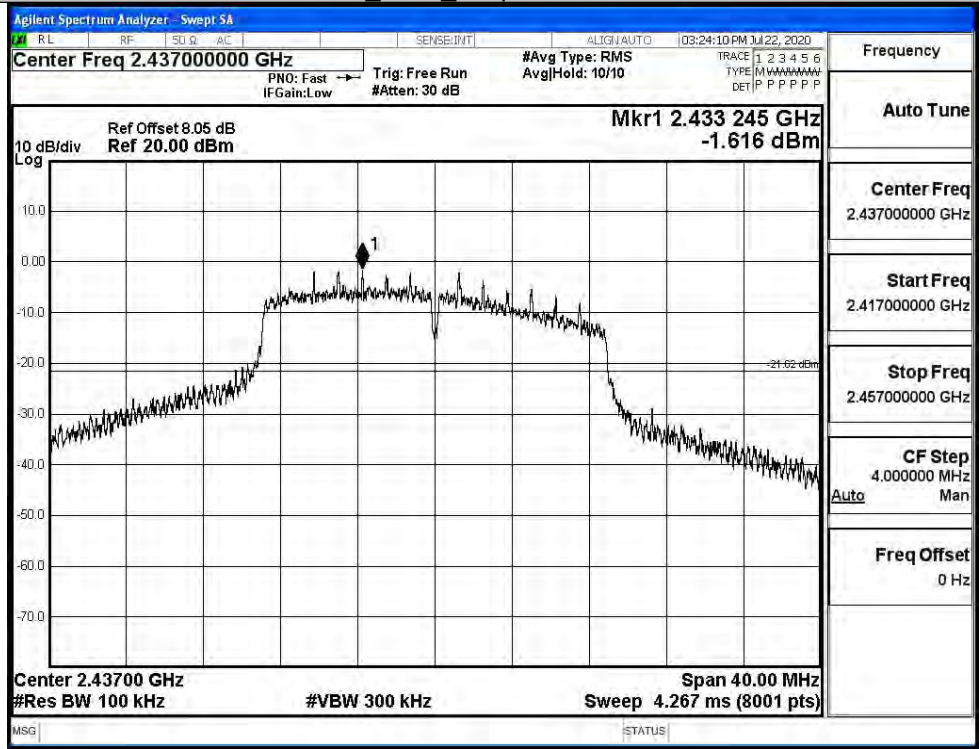


Puw/11N20
SISO/LCH

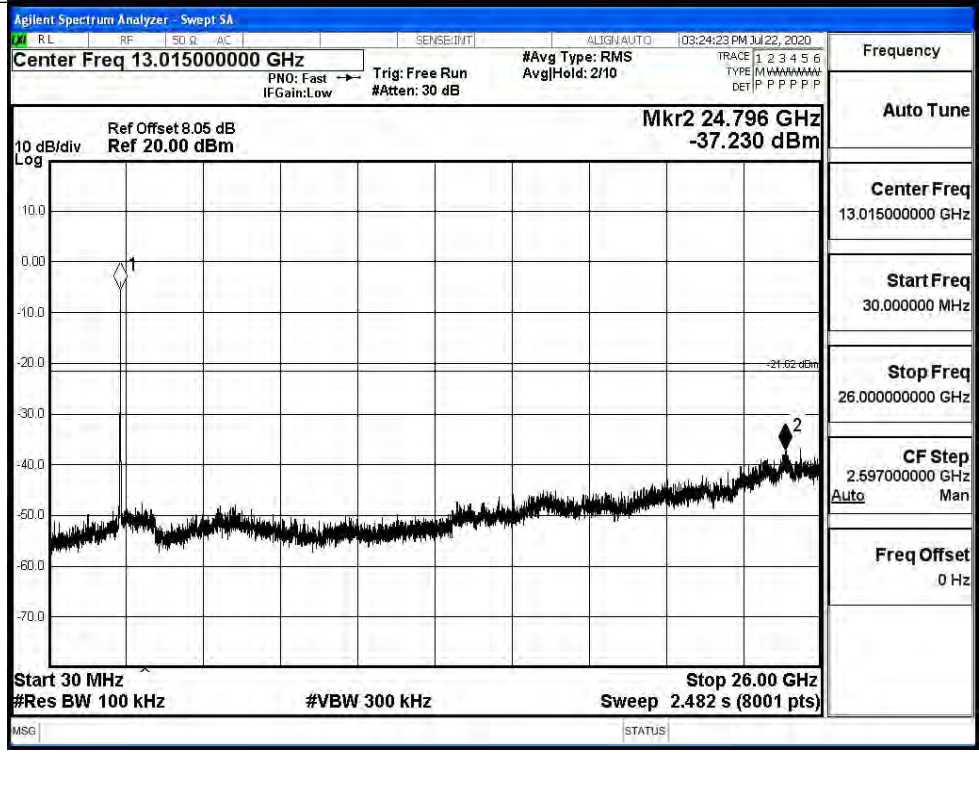


11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCH

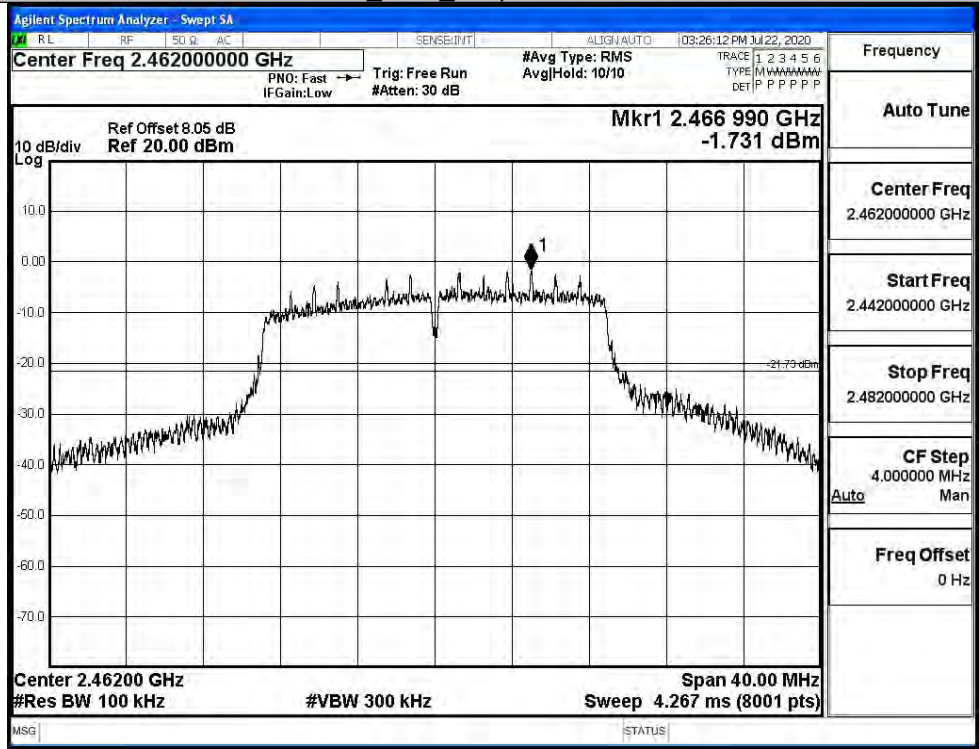


Puw/11N20
SISO/MCH

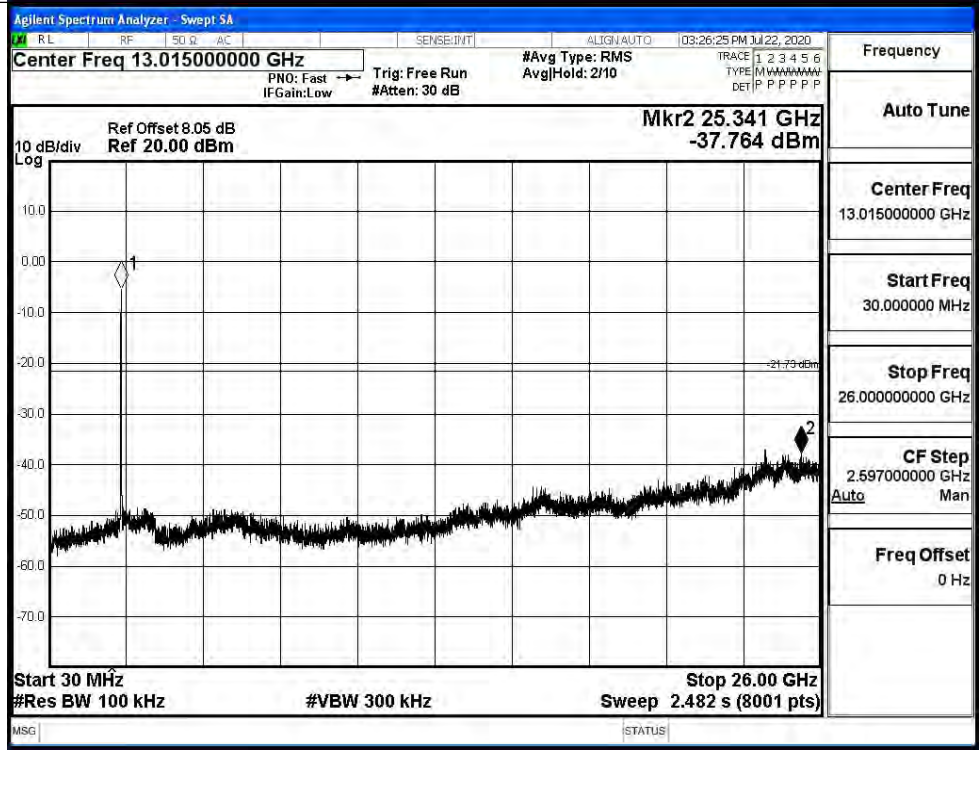


11N20SISO HCH Graphs

Pref/11N20
SISO/HCH

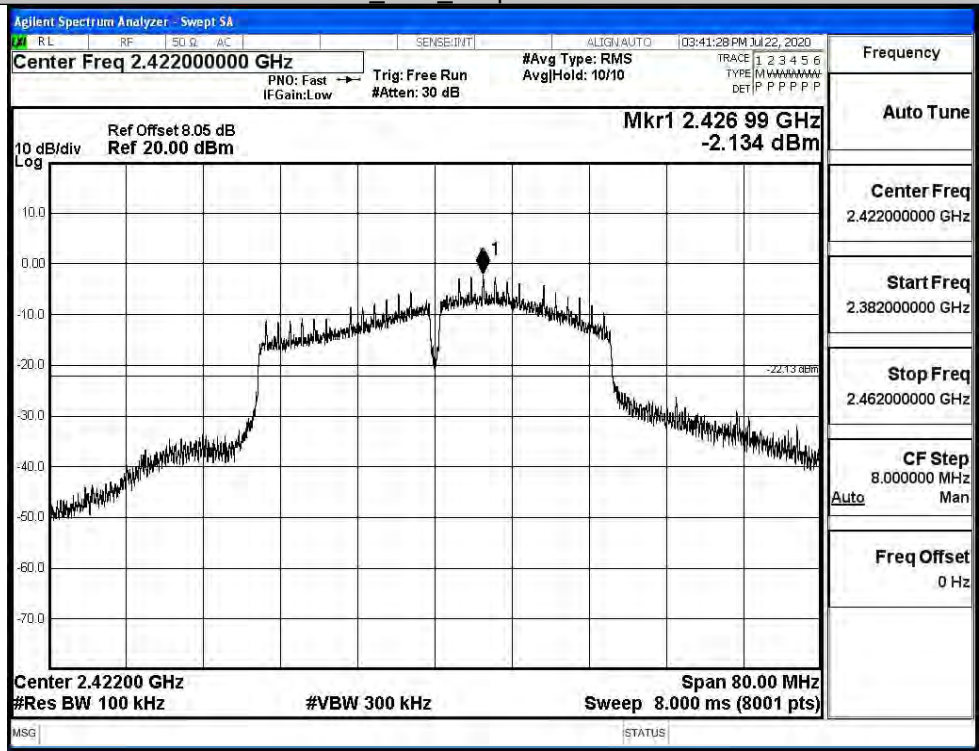


Puw/11N20
SISO/HCH

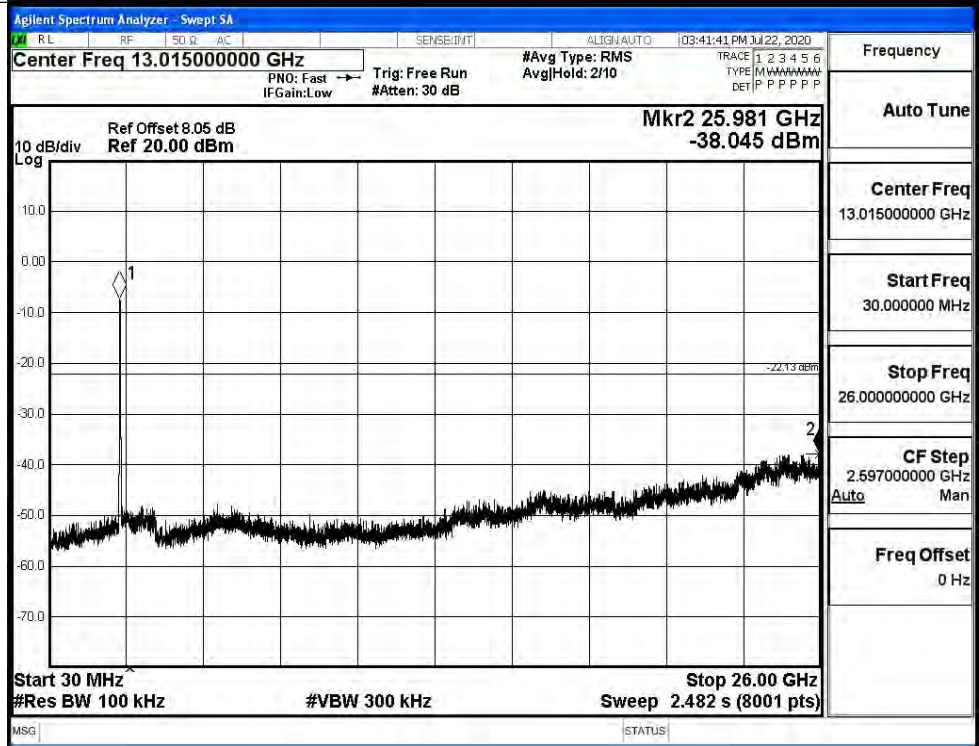


11N40SISO_LCH_Graphs

Pref/11N40
SISO/LCH

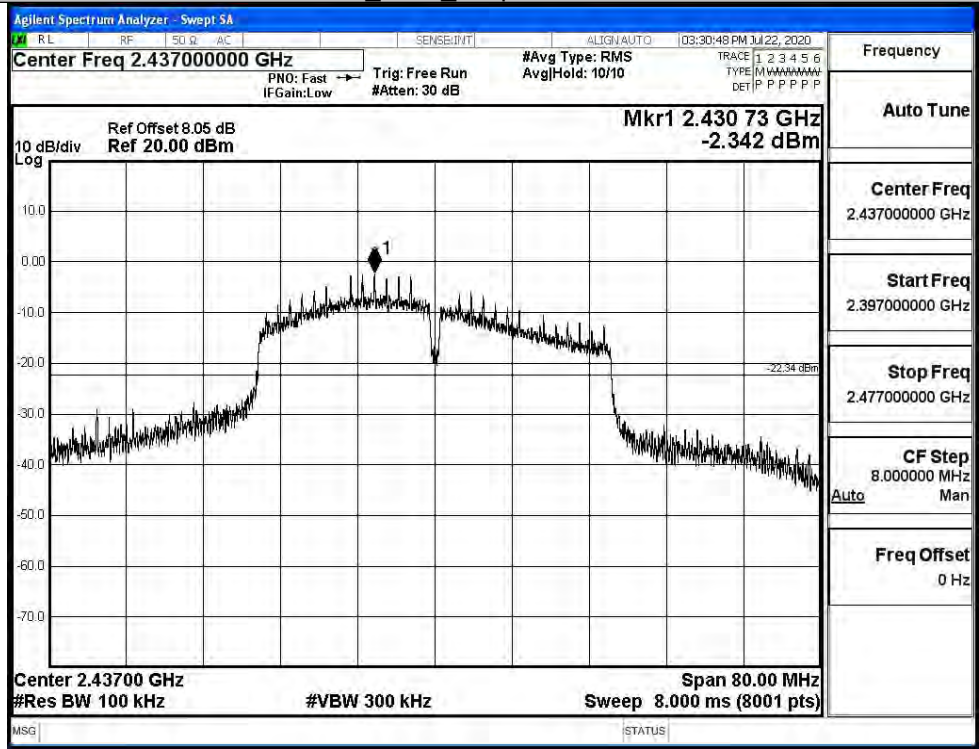


Puw/11N40
SISO/LCH



11N40SISO_MCH_Graphs

Pref/11N40
SISO/MCH

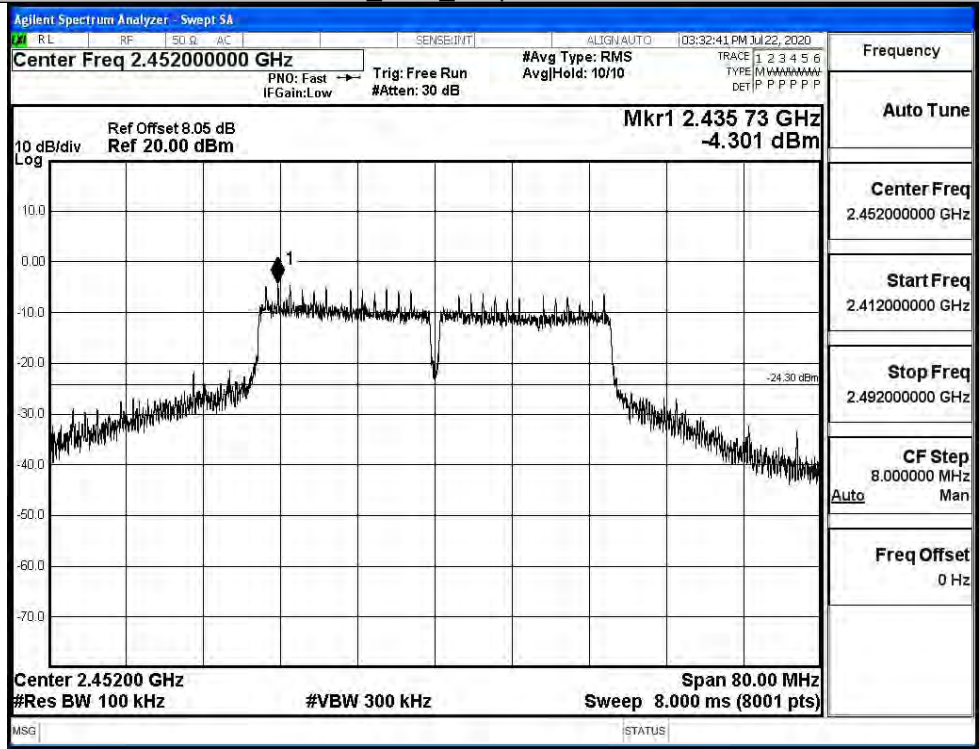


Puw/11N40
SISO/MCH

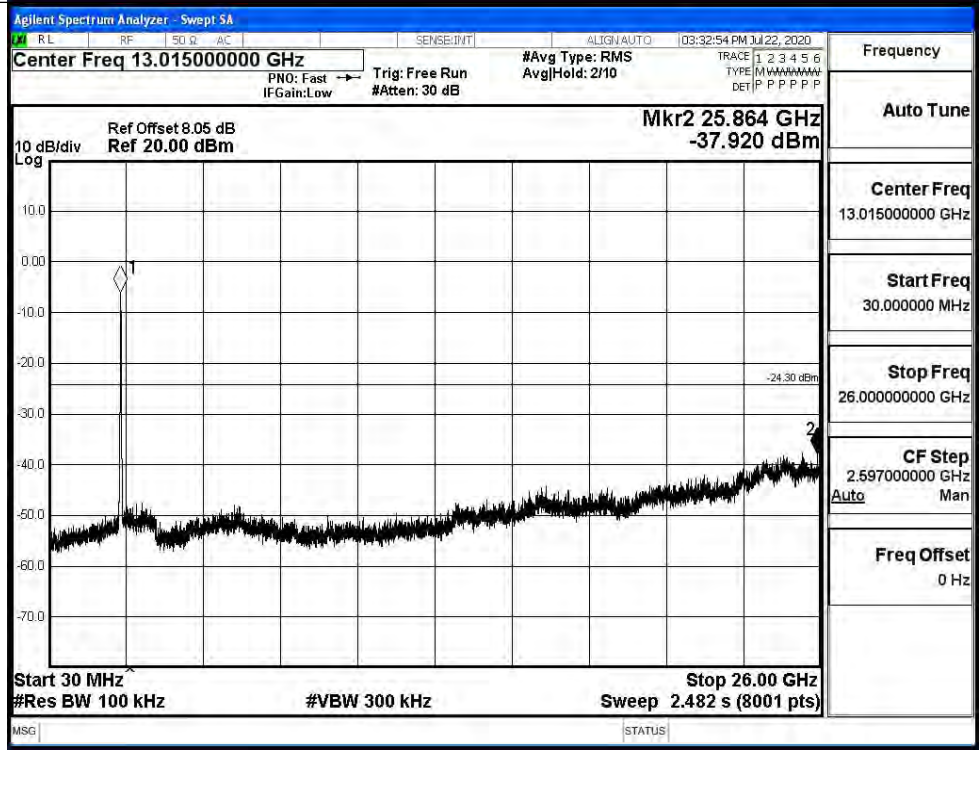


11N40SISO_HCH_Graphs

Pref/11N40
SISO/HCH

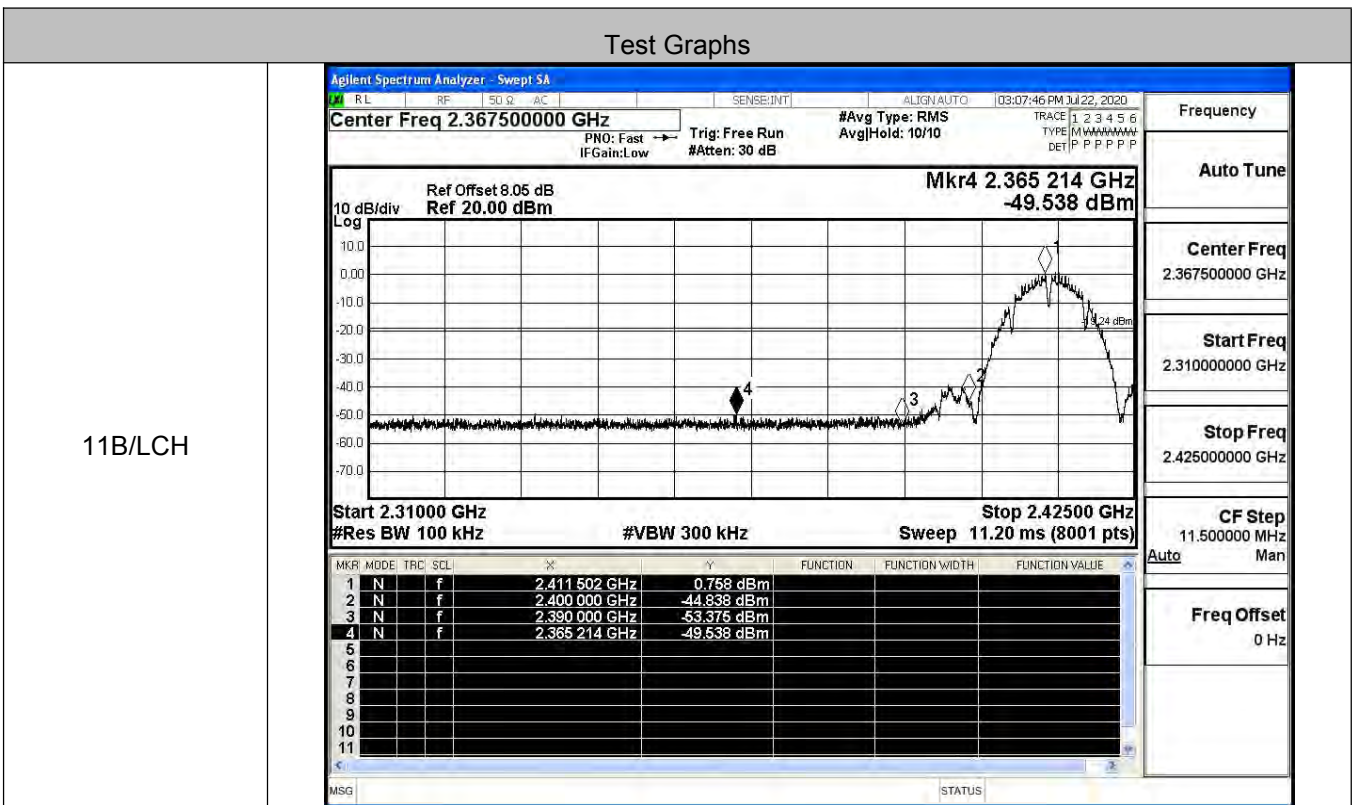


Puw/11N40
SISO/HCH

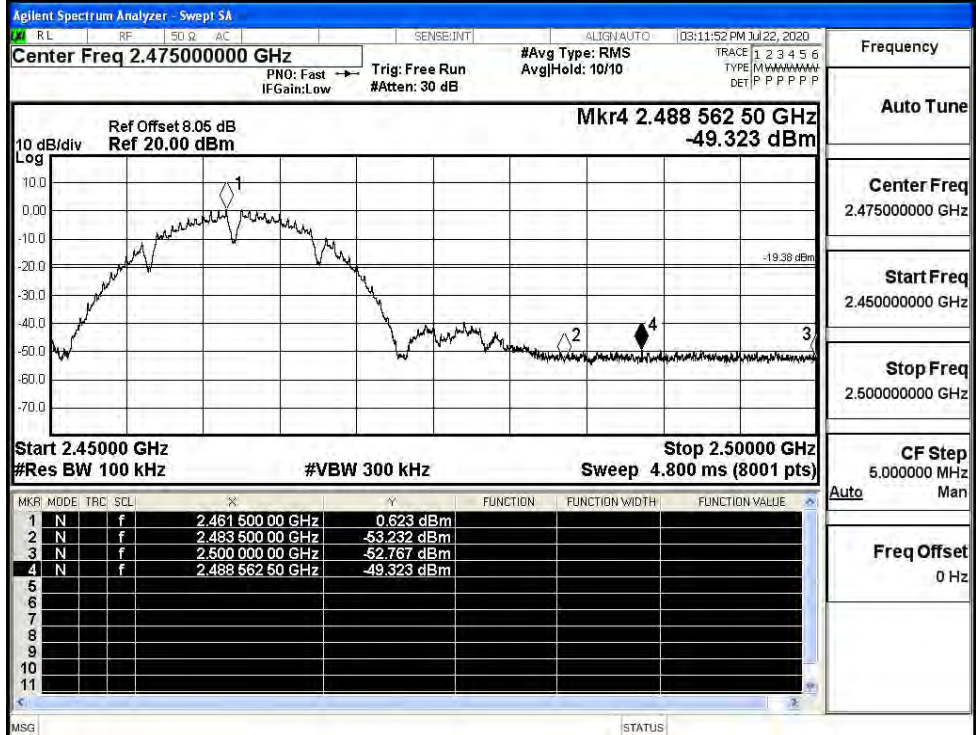


A.7 Band-edge for RF Conducted Emissions

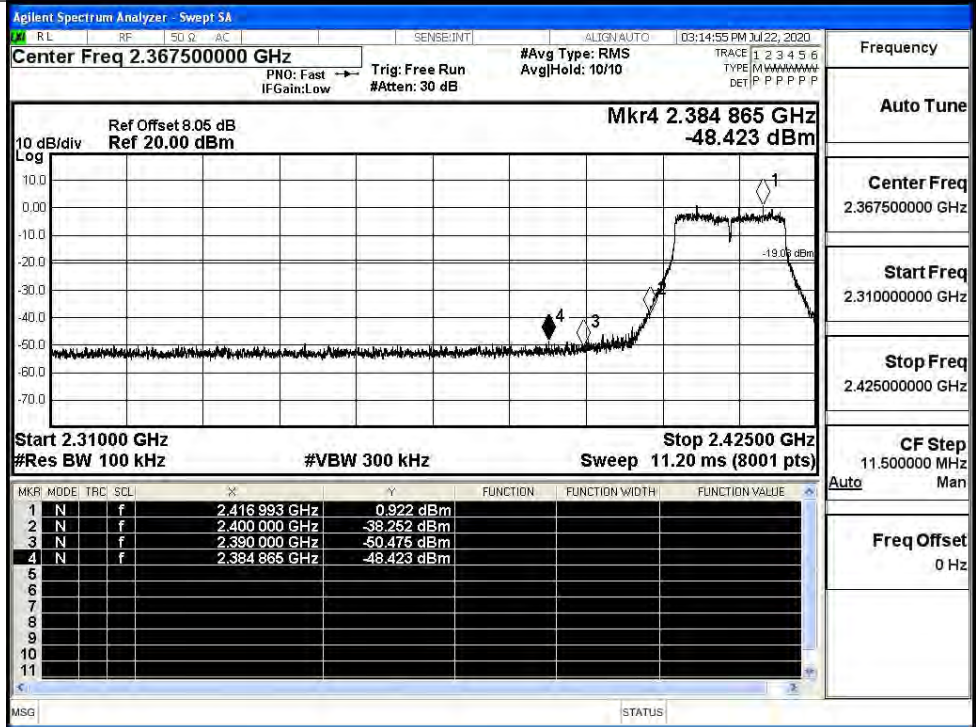
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	0.758	-49.538	-19.24	PASS
	HCH	0.623	-49.323	-19.38	PASS
11G	LCH	0.927	-49.179	-19.07	PASS
	HCH	0.704	-48.619	-19.3	PASS
11N20SISO	LCH	-1.337	-40.829	-21.34	PASS
	HCH	-1.590	-40.332	-21.59	PASS
11N40SISO	LCH	-2.526	-42.224	-22.53	PASS
	HCH	-4.533	-32.955	-24.53	PASS



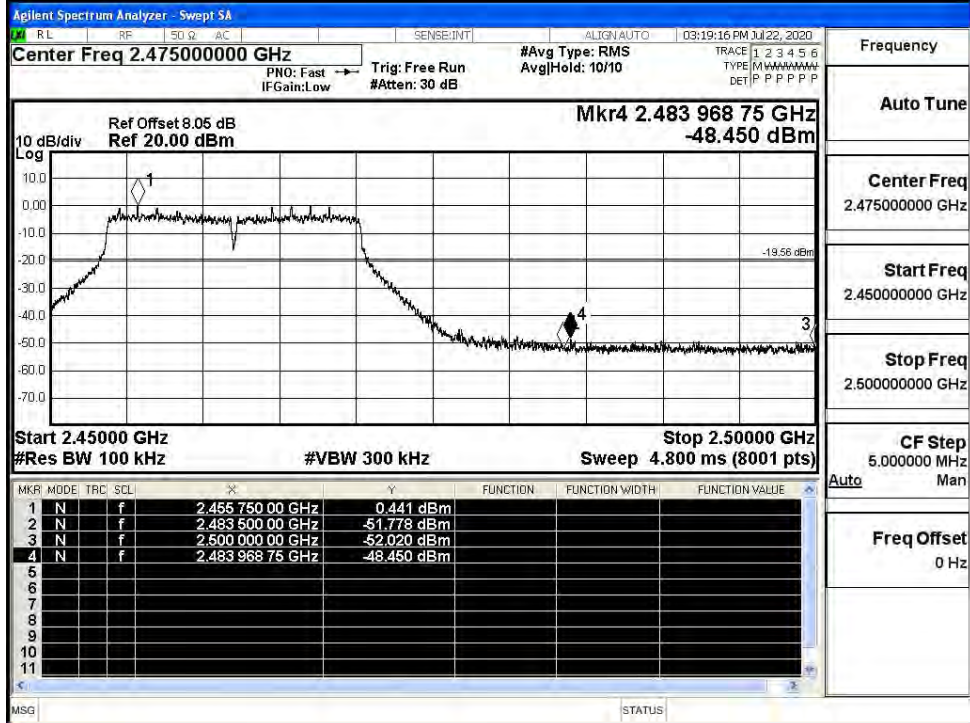
11B/HCH



11G/LCH



11G/HCH



Frequency

Auto Tune

Center Freq
2.47500000 GHz

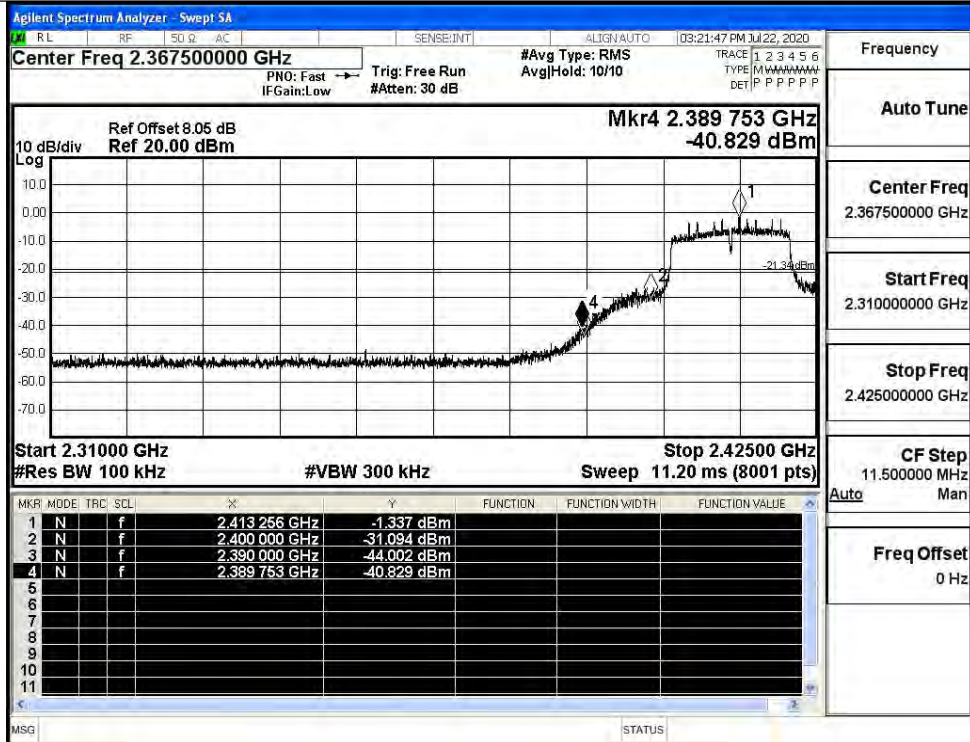
Start Freq
2.45000000 GHz

Stop Freq
2.50000000 GHz

CF Step
5.000000 MHz
Man

Freq Offset
0 Hz

11N20SISO/LCH



Frequency

Auto Tune

Center Freq
2.36750000 GHz

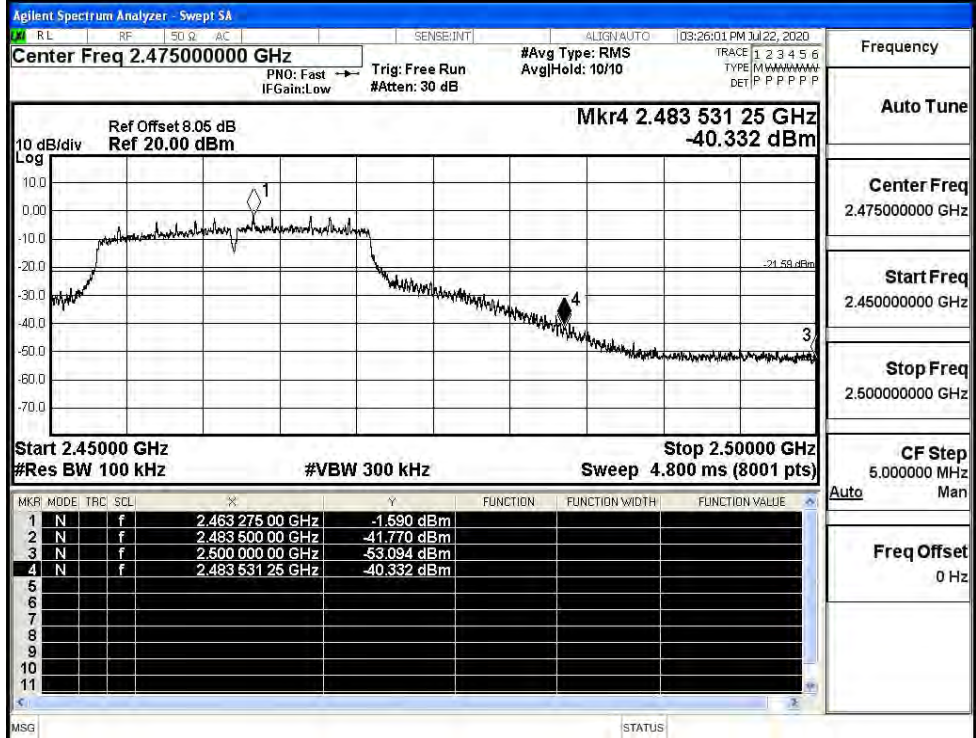
Start Freq
2.31000000 GHz

Stop Freq
2.42500000 GHz

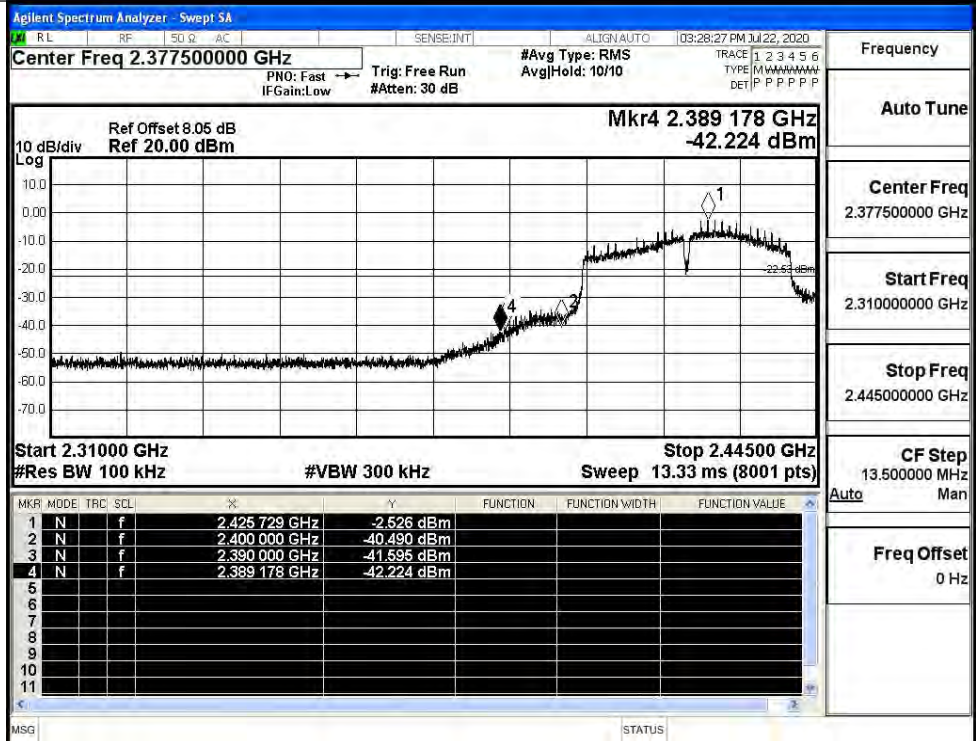
CF Step
11.500000 MHz
Man

Freq Offset
0 Hz

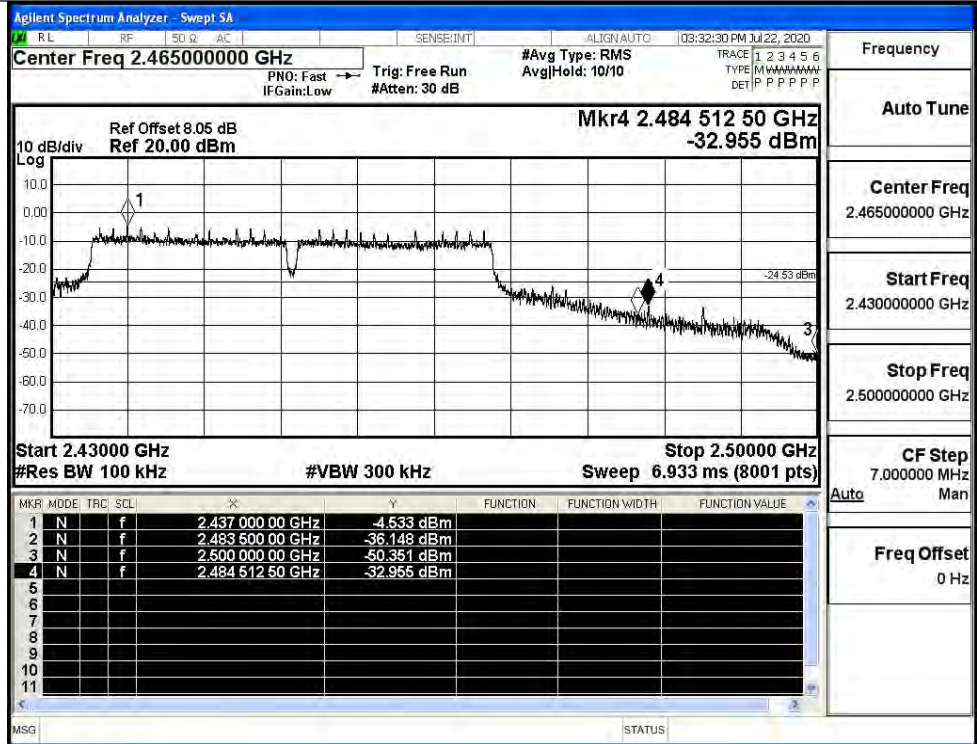
11N20SISO/HCH



11N40SISO/LCH



11N40SISO/HCH

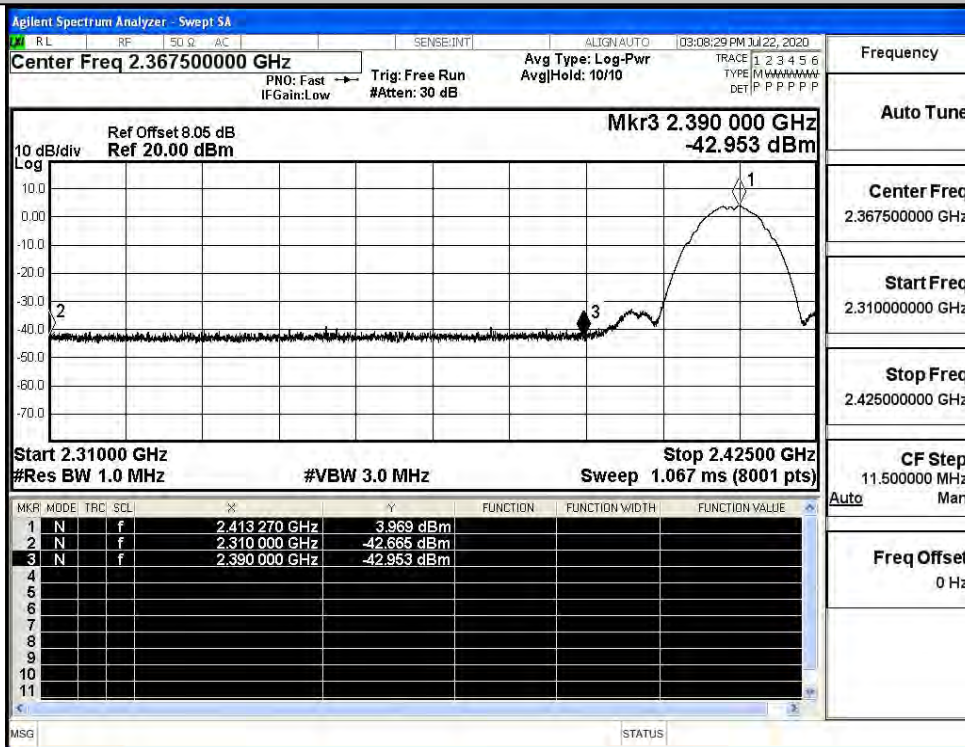


A.8 Restrict-band band-edge measurements

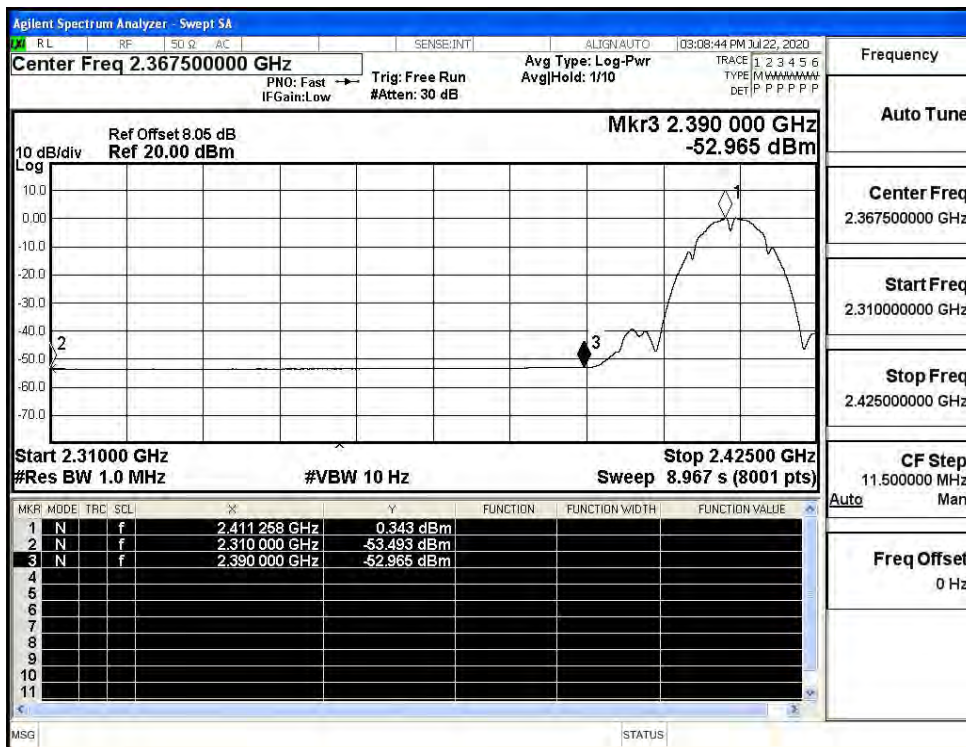
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-42.67	2.0	0	54.56	PEAK	74	PASS
	2412	Ant1	2310.0	-53.49	2.0	0	43.74	AV	54	PASS
	2412	Ant1	2390.0	-42.95	2.0	0	54.28	PEAK	74	PASS
	2412	Ant1	2390.0	-52.97	2.0	0	44.26	AV	54	PASS
	2462	Ant1	2483.5	-42.11	2.0	0	55.12	PEAK	74	PASS
	2462	Ant1	2483.5	-52.25	2.0	0	44.98	AV	54	PASS
	2462	Ant1	2500.0	-40.97	2.0	0	56.26	PEAK	74	PASS
	2462	Ant1	2500.0	-52.53	2.0	0	44.70	AV	54	PASS
11G	2412	Ant1	2310.0	-43.38	2.0	0	53.85	PEAK	74	PASS
	2412	Ant1	2310.0	-53.49	2.0	0	43.74	AV	54	PASS
	2412	Ant1	2390.0	-41.70	2.0	0	55.53	PEAK	74	PASS
	2412	Ant1	2390.0	-52.97	2.0	0	44.26	AV	54	PASS
	2462	Ant1	2483.5	-41.51	2.0	0	55.72	PEAK	74	PASS
	2462	Ant1	2483.5	-52.25	2.0	0	44.98	AV	54	PASS
	2462	Ant1	2500.0	-41.90	2.0	0	55.33	PEAK	74	PASS
	2462	Ant1	2500.0	-52.49	2.0	0	44.74	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.32	2.0	0	53.91	PEAK	74	PASS
	2412	Ant1	2310.0	-53.50	2.0	0	43.73	AV	54	PASS
	2412	Ant1	2390.0	-28.52	2.0	0	68.71	PEAK	74	PASS
	2412	Ant1	2390.0	-44.47	2.0	0	52.76	AV	54	PASS
	2462	Ant1	2483.5	-30.93	2.0	0	66.30	PEAK	74	PASS
	2462	Ant1	2483.5	-44.76	2.0	0	52.47	AV	54	PASS
	2462	Ant1	2500.0	-42.36	2.0	0	54.87	PEAK	74	PASS
	2462	Ant1	2500.0	-52.50	2.0	0	44.73	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-43.09	2.0	0	54.14	PEAK	74	PASS
	2422	Ant1	2310.0	-53.48	2.0	0	43.75	AV	54	PASS

	2422	Ant1	2390.0	-32.06	2.0	0	65.17	PEAK	74	PASS
	2422	Ant1	2390.0	-44.92	2.0	0	52.31	AV	54	PASS
	2452	Ant1	2483.5	-30.81	2.0	0	66.42	PEAK	74	PASS
	2452	Ant1	2483.5	-46.76	2.0	0	50.47	AV	54	PASS
	2452	Ant1	2500.0	-41.65	2.0	0	55.58	PEAK	74	PASS
	2452	Ant1	2500.0	-52.41	2.0	0	44.82	AV	54	PASS

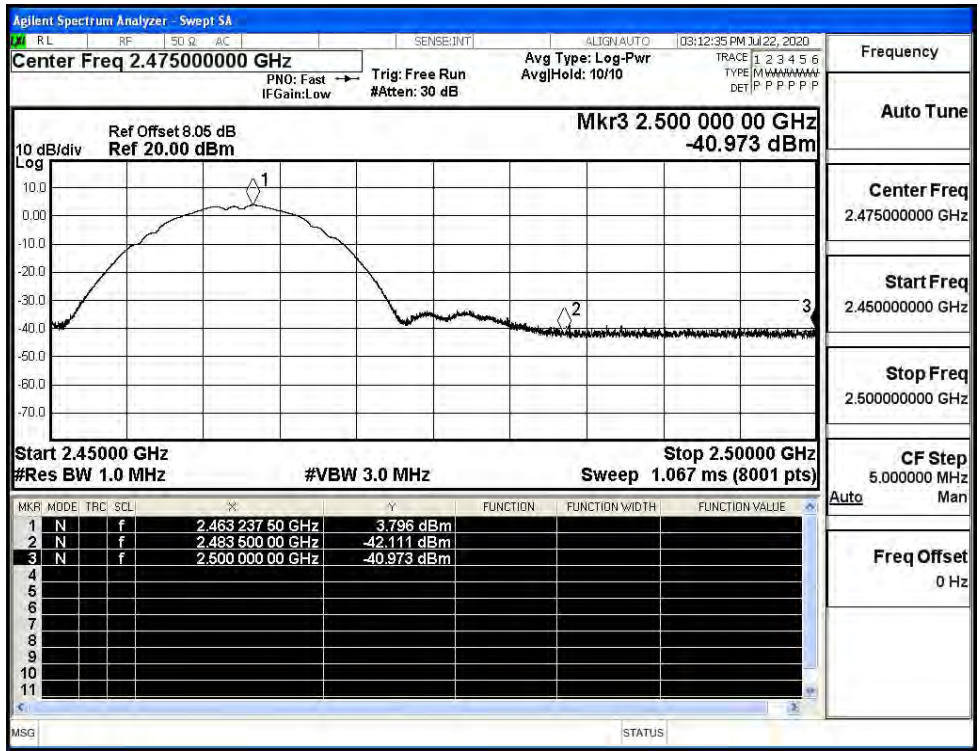
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



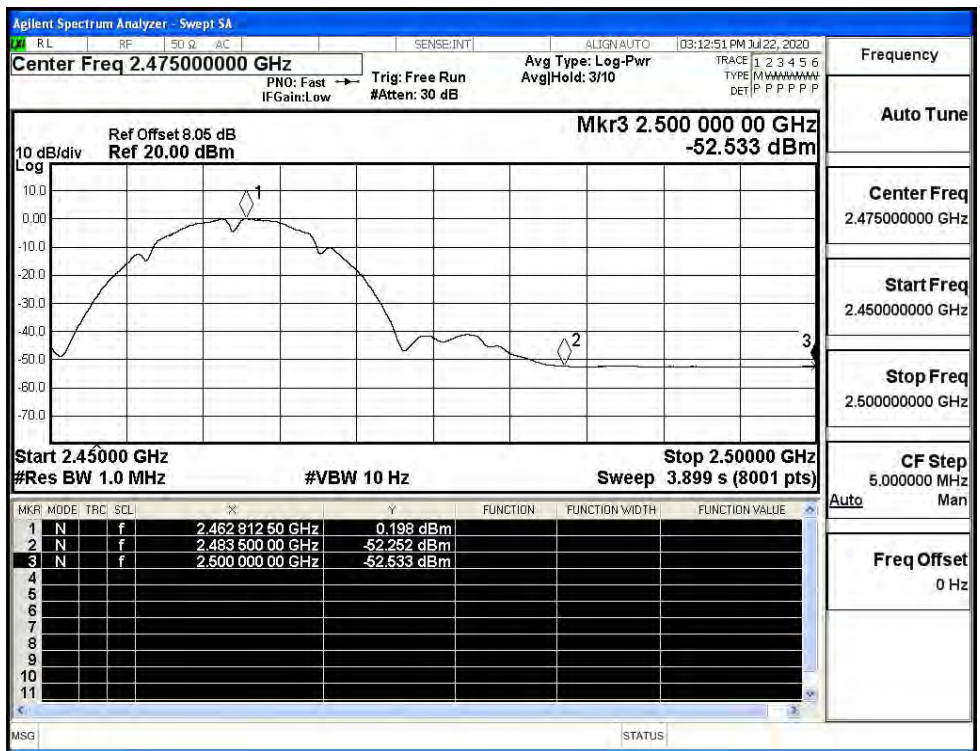
Restrict-band band-edge measurements_11B_2412_Ant1_AV



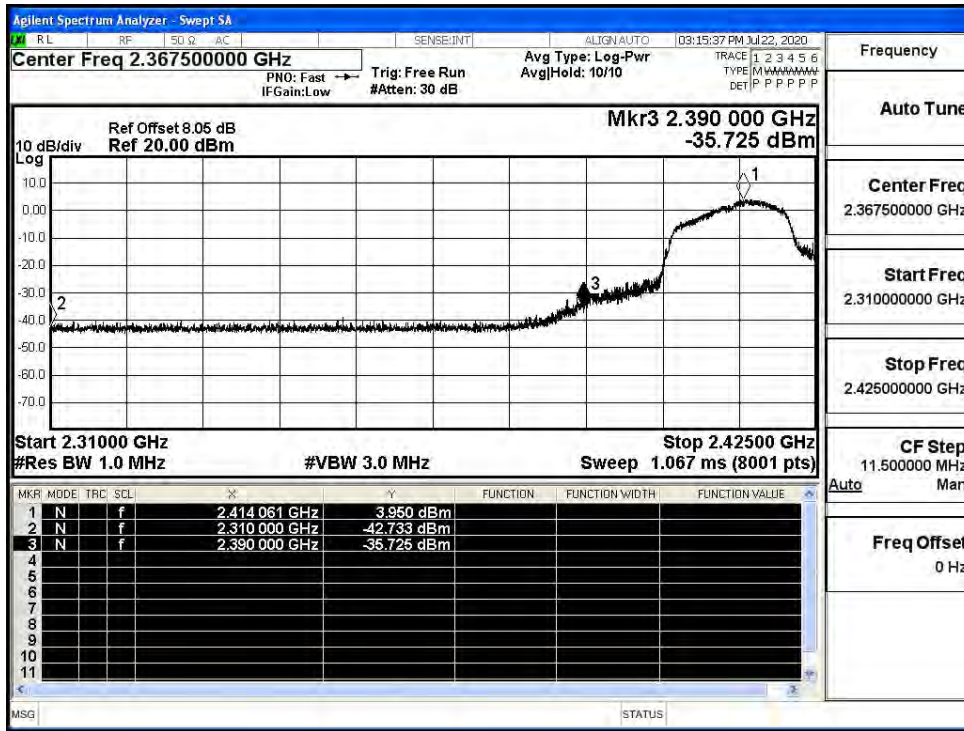
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



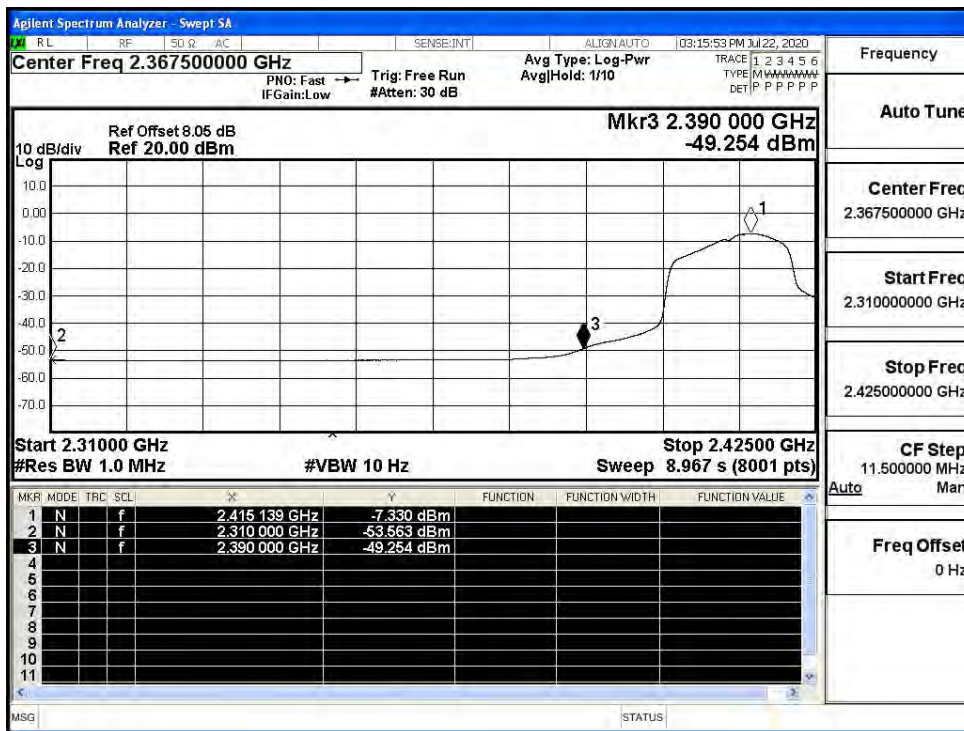
Restrict-band band-edge measurements_11B_2462_Ant1_AV



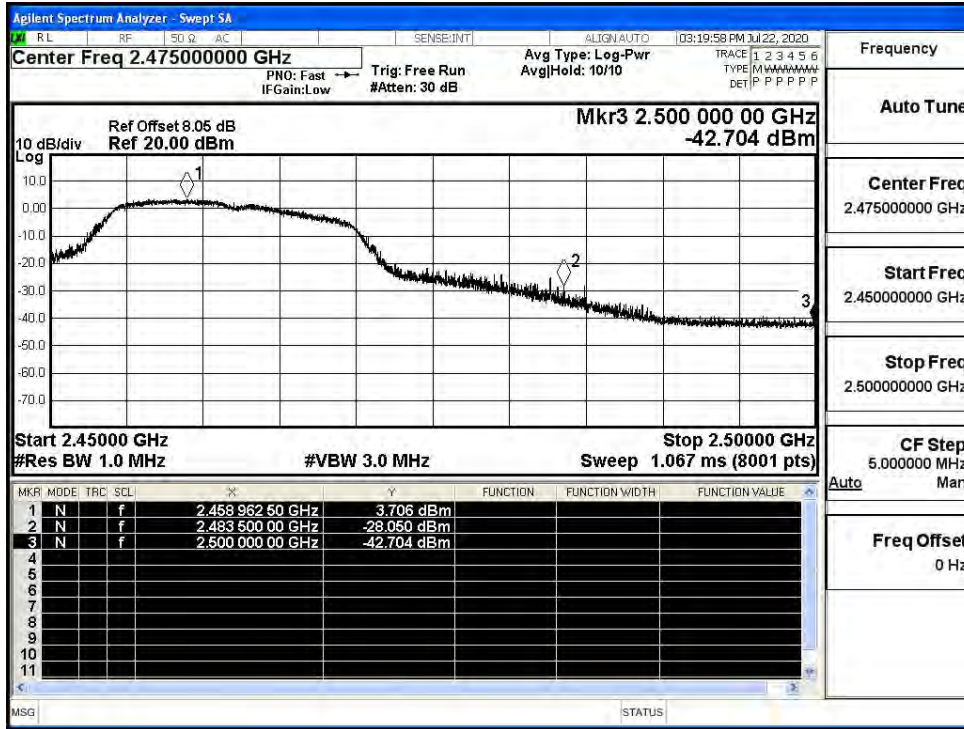
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



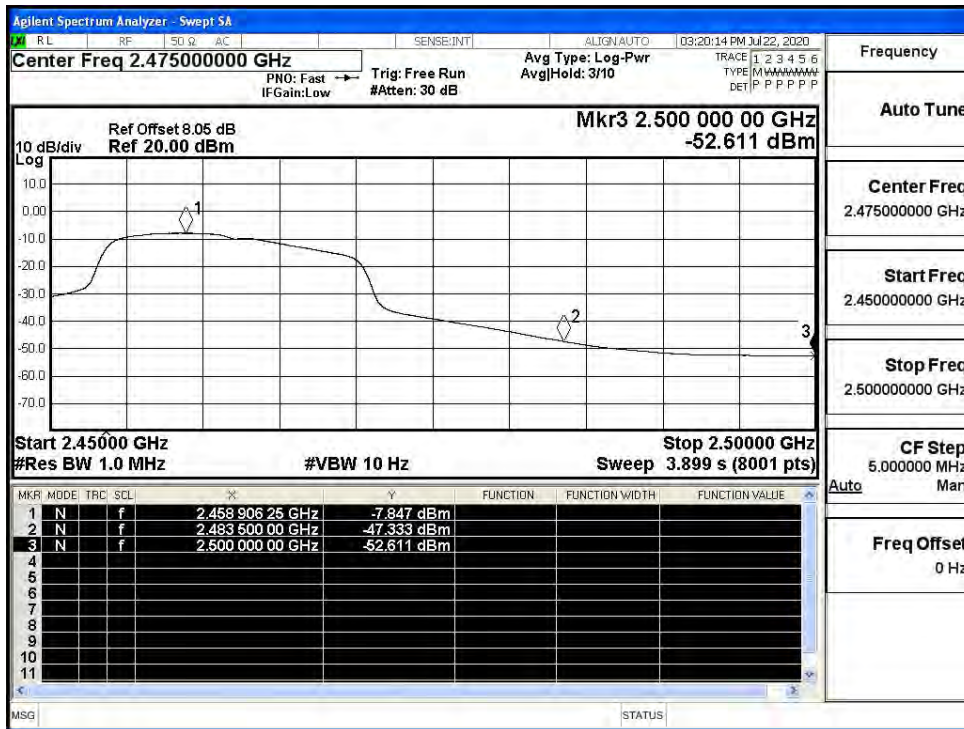
Restrict-band band-edge measurements_11G_2412_Ant1_AV



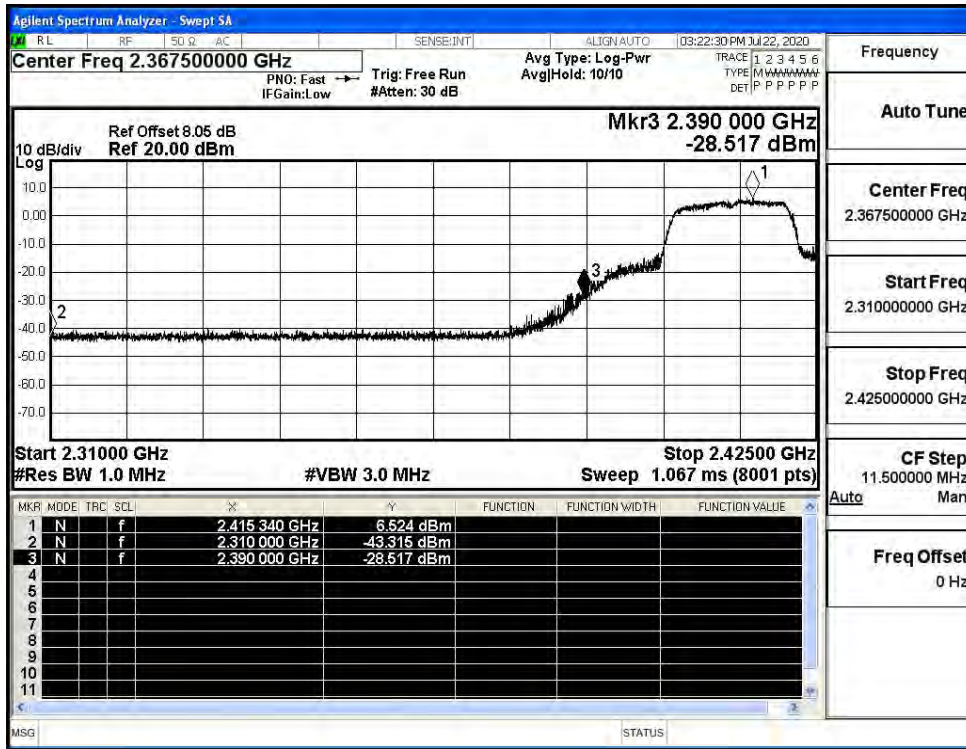
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



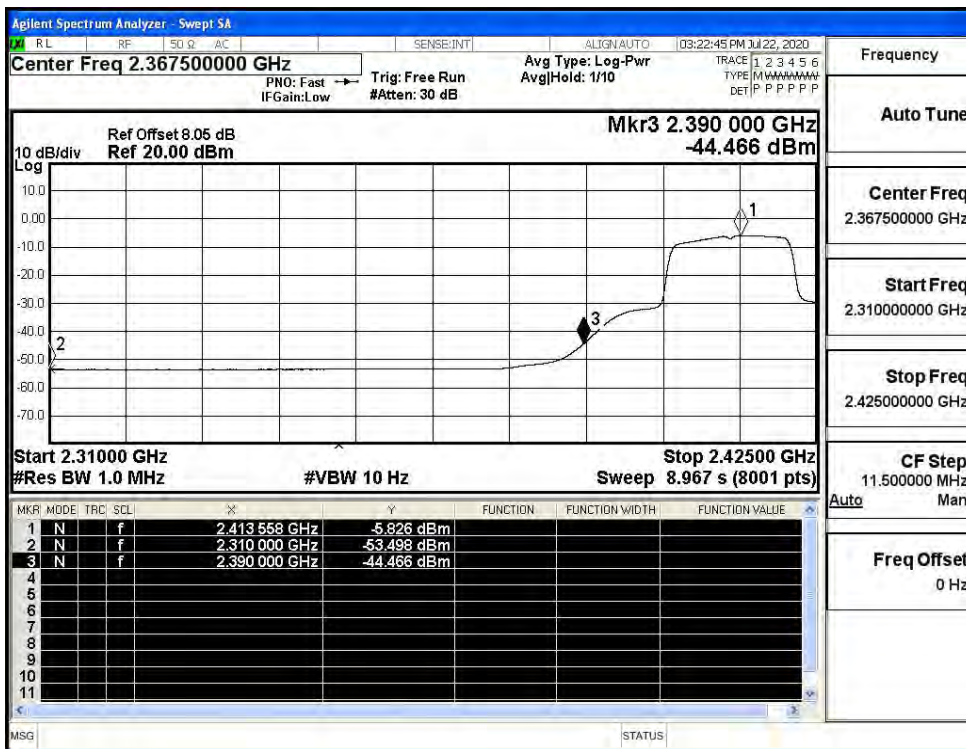
Restrict-band band-edge measurements_11G_2462_Ant1_AV



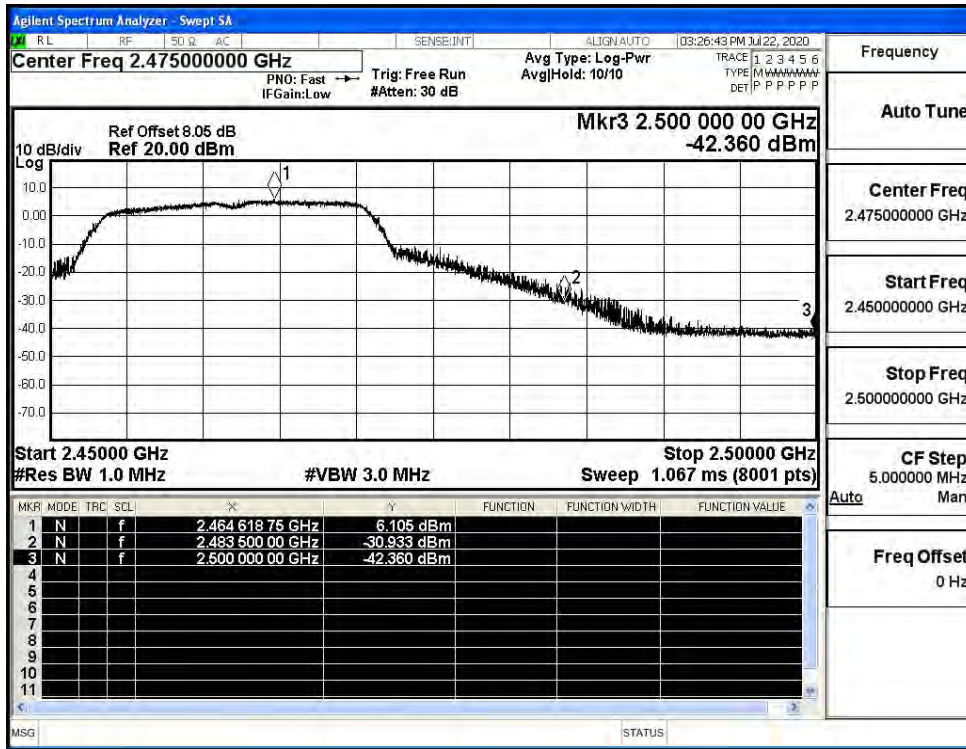
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



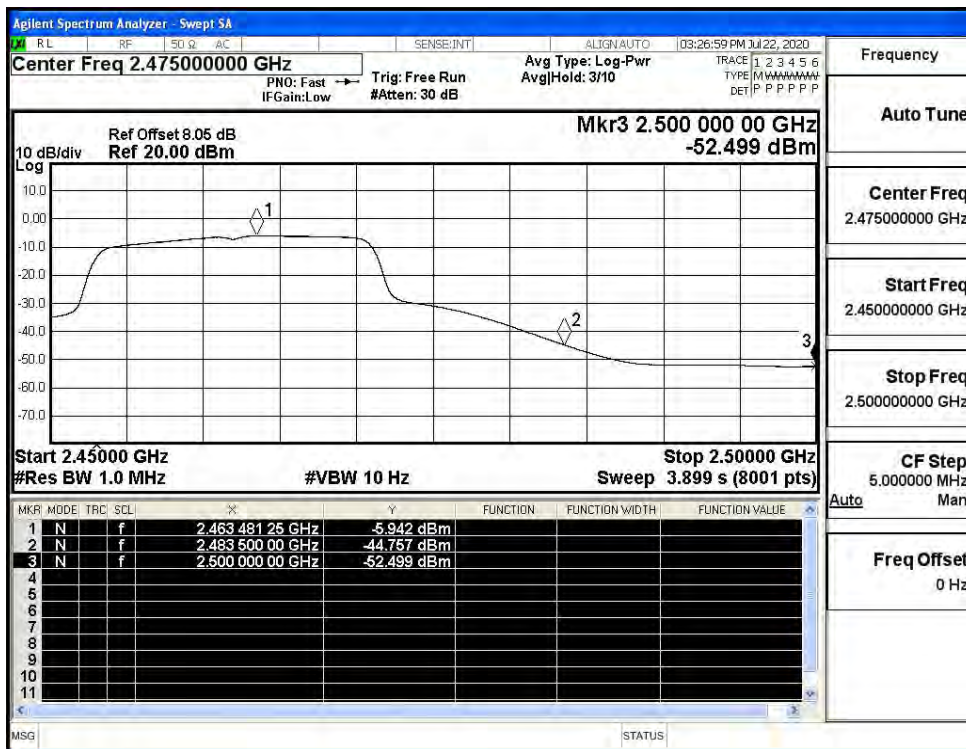
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



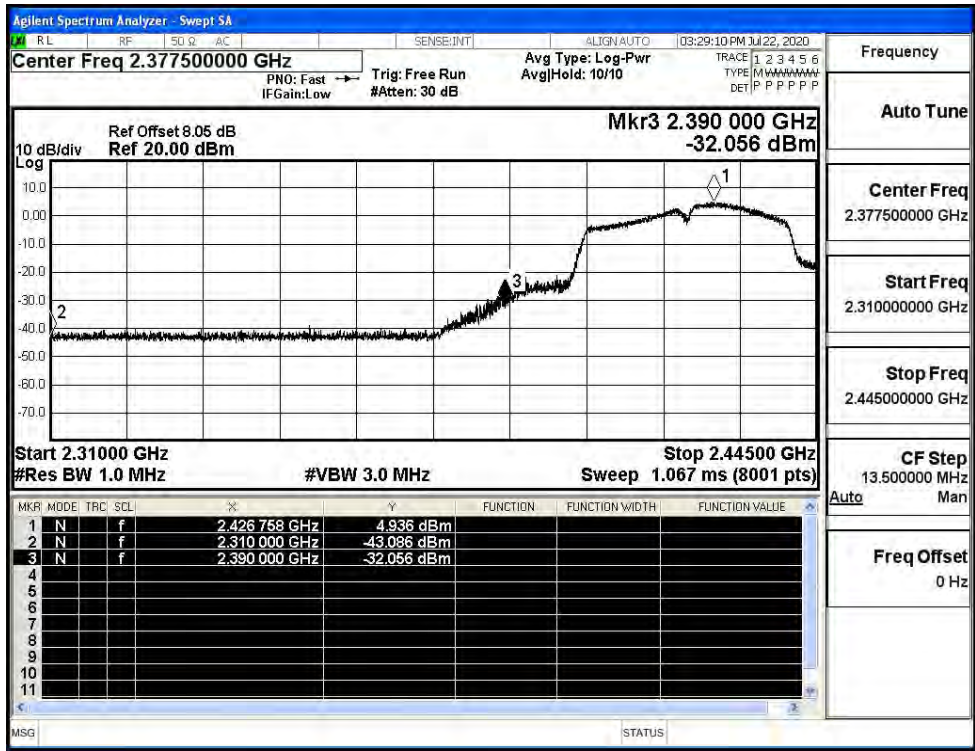
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



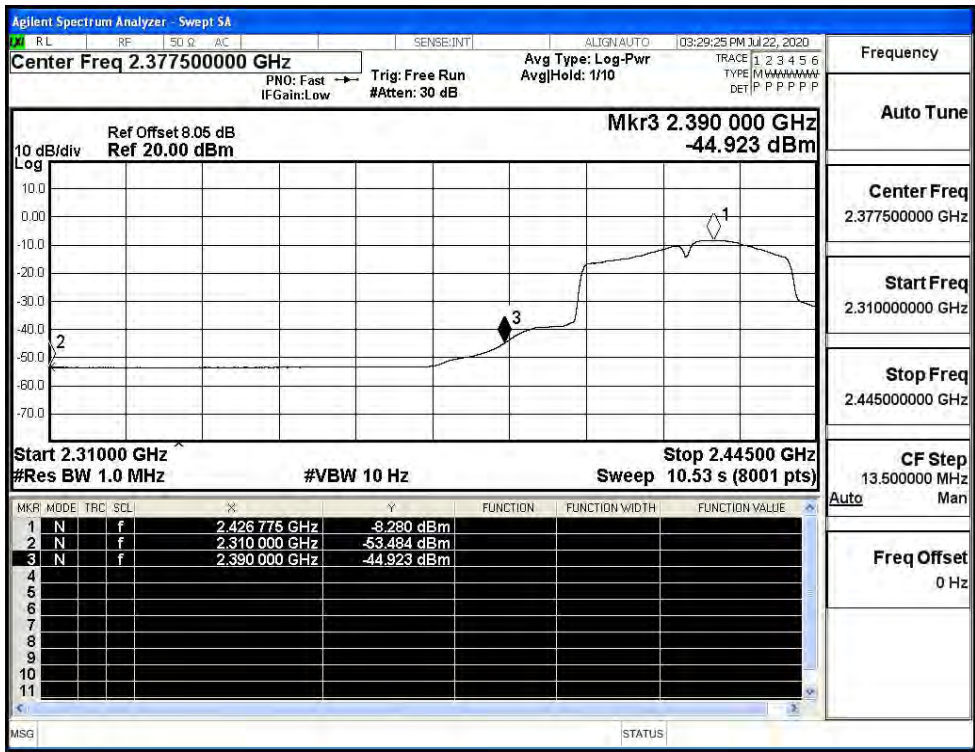
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_AV



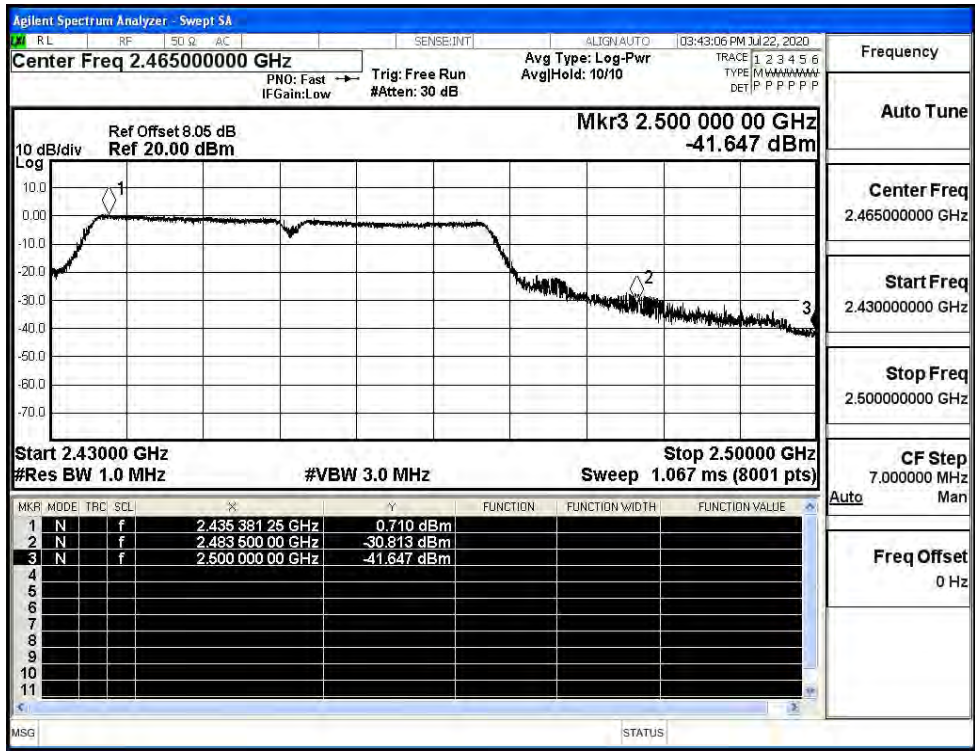
Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



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

