

Appendix A
RF Test Data for 2.4G WIFI (Conducted Measurement)
Product Name: Action Camera
Trade Mark: N/A
Test Model: D68VA

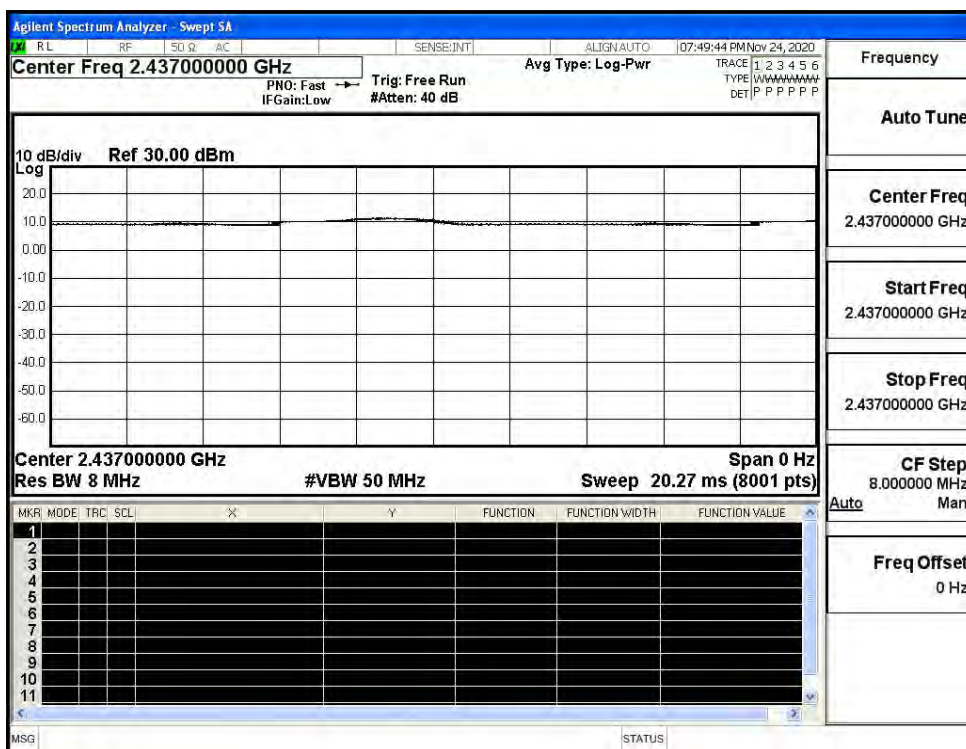
Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

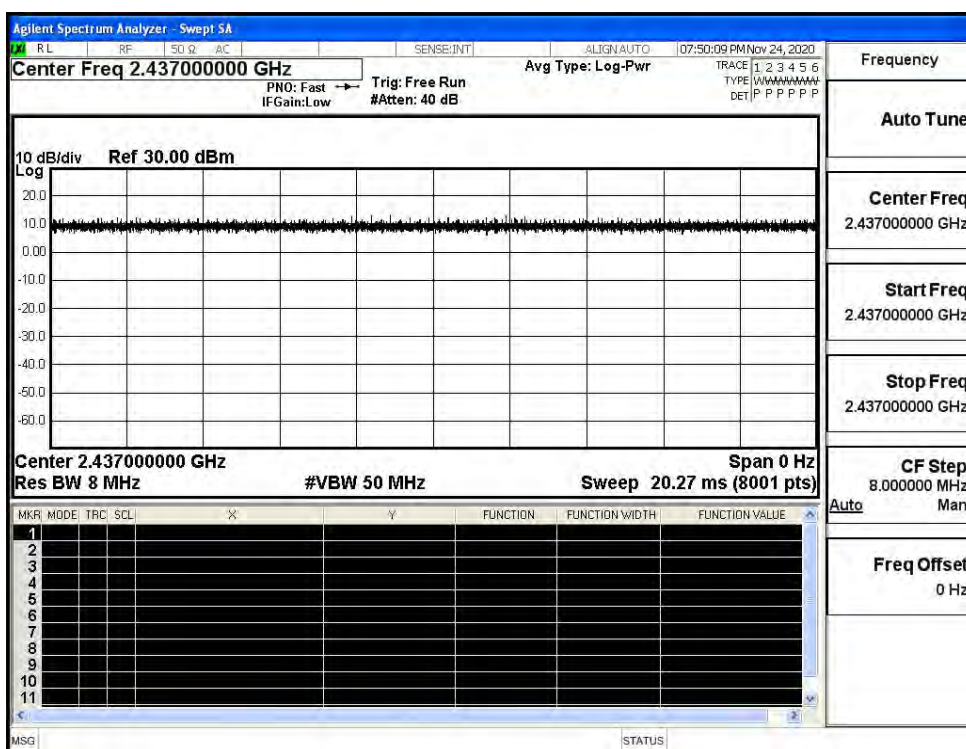
A.1 Duty Cycle

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

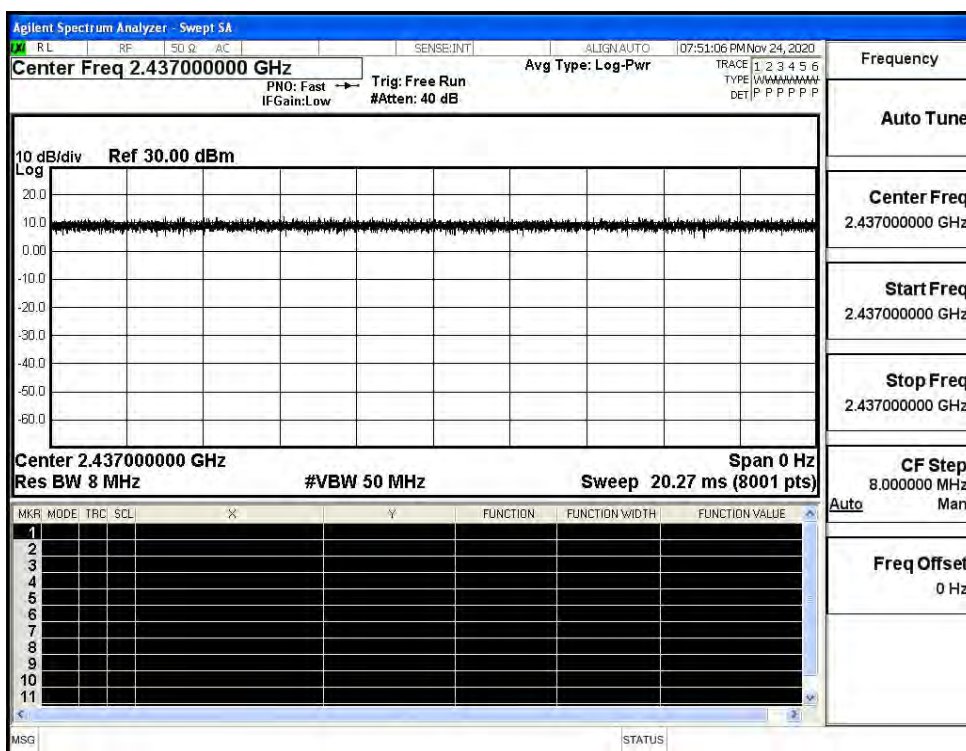
Duty Cycle_11B_2437_Ant1



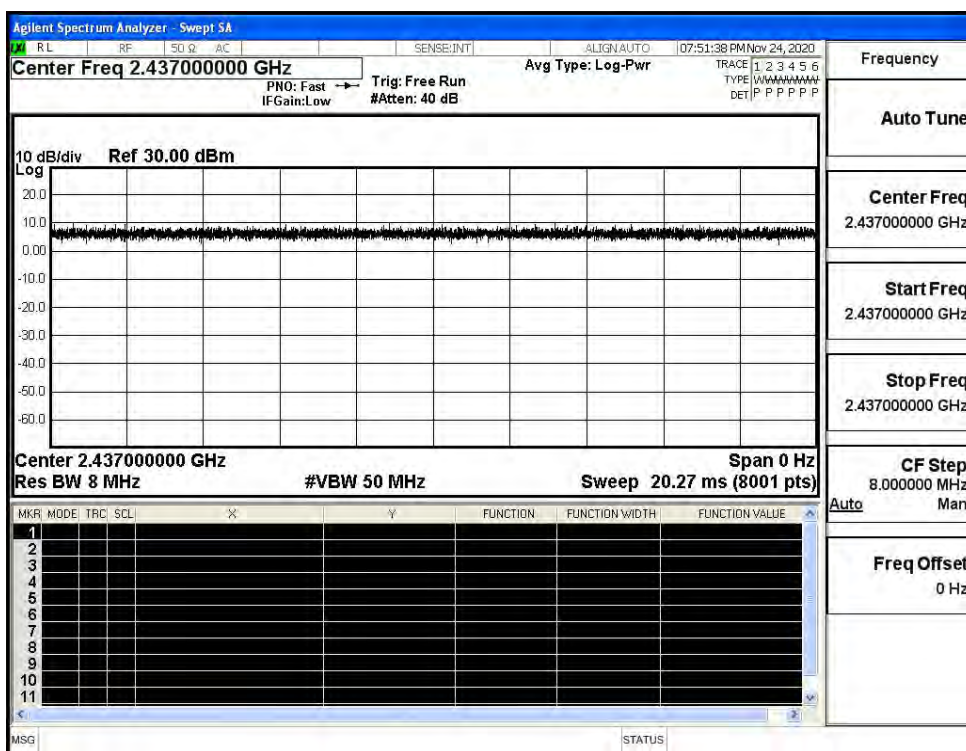
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1



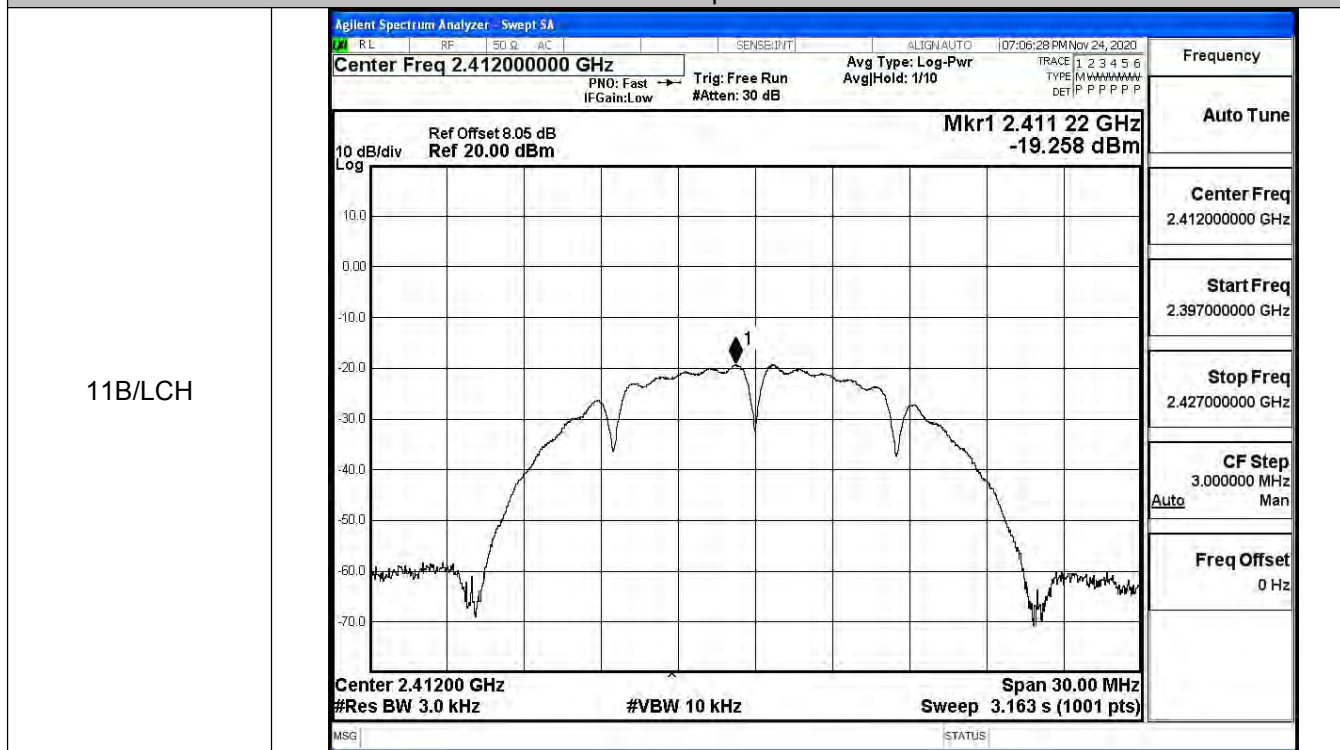
A.2 Maximum Conducted Output Power

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	8.52	30	PASS
	MCH	8.07	30	PASS
	HCH	8.55	30	PASS
11G	LCH	8.42	30	PASS
	MCH	8.26	30	PASS
	HCH	8.57	30	PASS
11N20SISO	LCH	8.00	30	PASS
	MCH	8.36	30	PASS
	HCH	8.80	30	PASS
11N40SISO	LCH	8.04	30	PASS
	MCH	8.13	30	PASS
	HCH	8.04	30	PASS

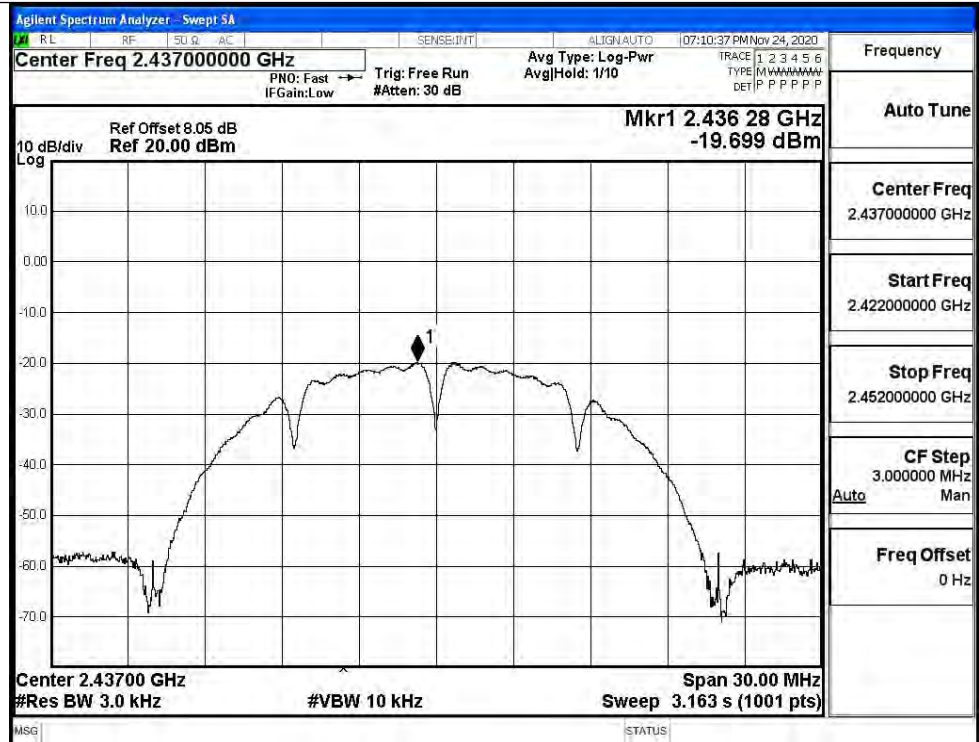
A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-19.258	8	PASS
	MCH	-19.699	8	PASS
	HCH	-19.317	8	PASS
11G	LCH	-22.022	8	PASS
	MCH	-23.718	8	PASS
	HCH	-22.677	8	PASS
11N20SISO	LCH	-21.537	8	PASS
	MCH	-23.596	8	PASS
	HCH	-22.787	8	PASS
11N40SISO	LCH	-24.165	8	PASS
	MCH	-25.366	8	PASS
	HCH	-25.542	8	PASS

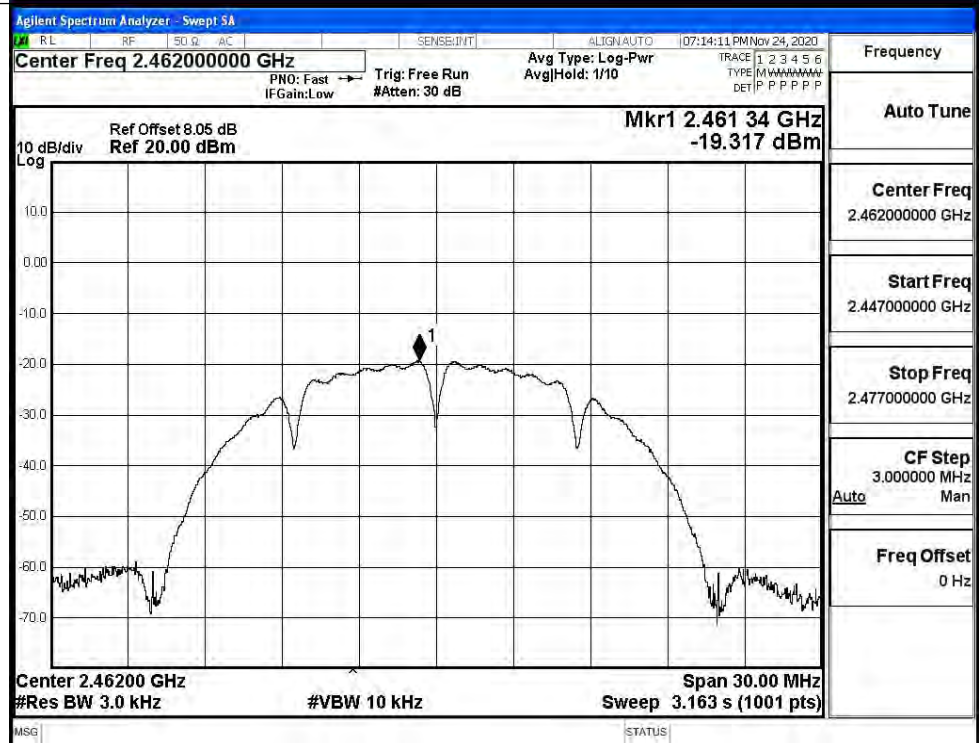
Test Graphs



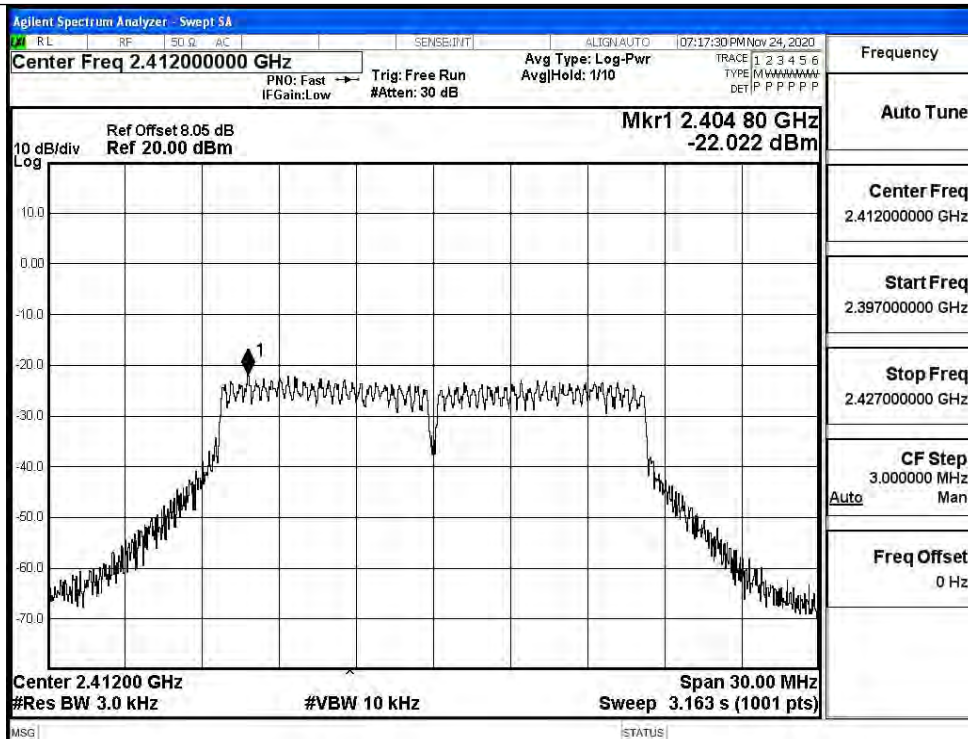
11B/MCH



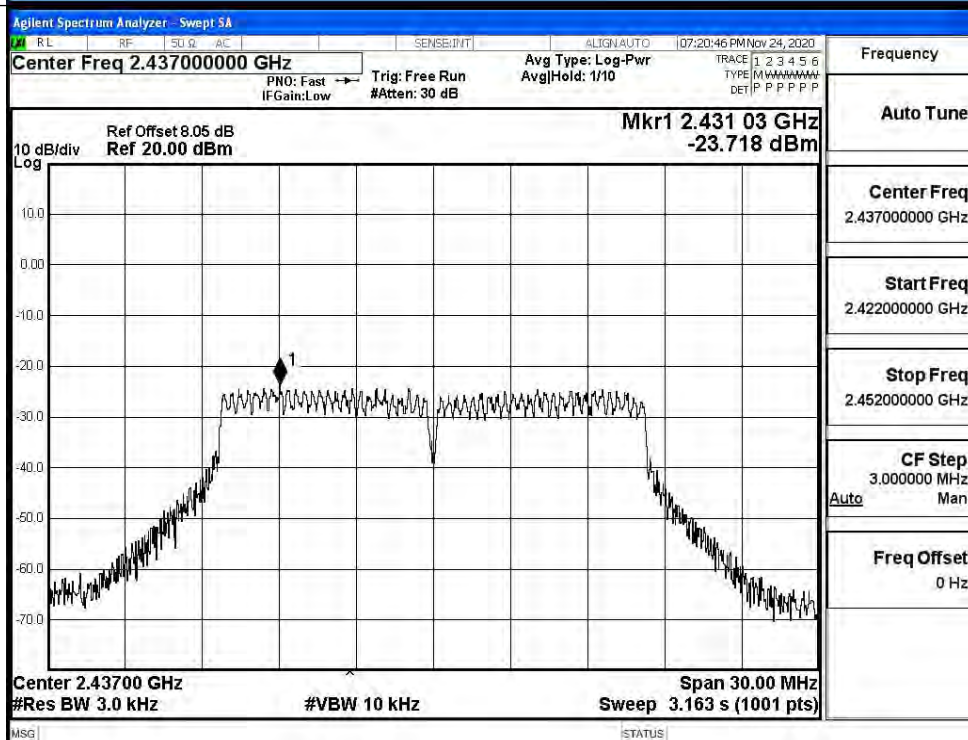
11B/HCH



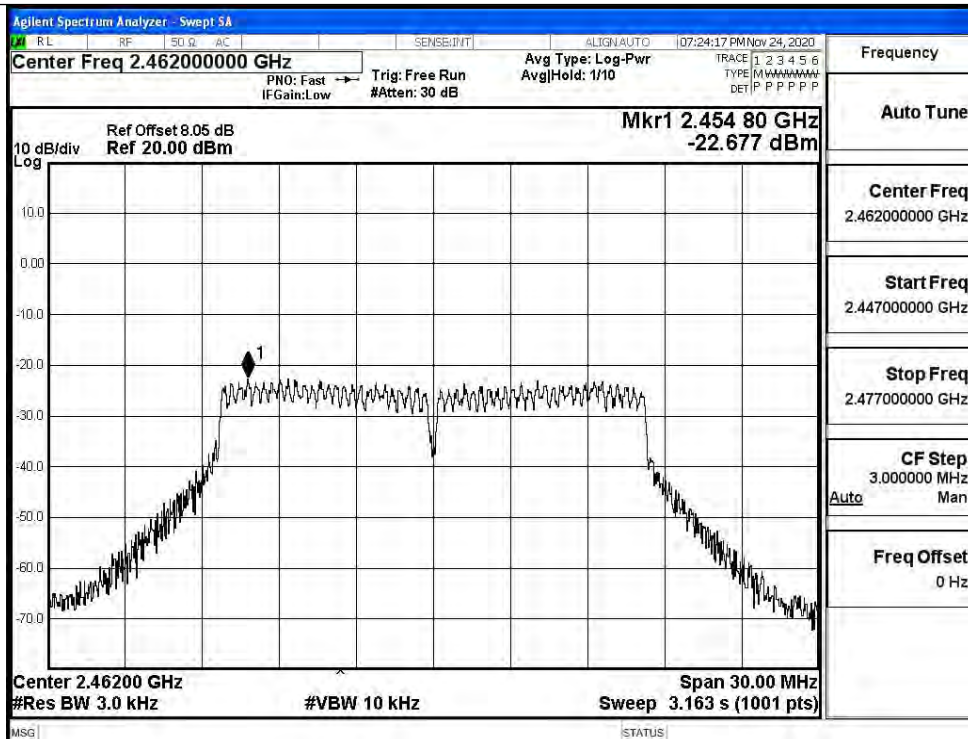
11G/LCH



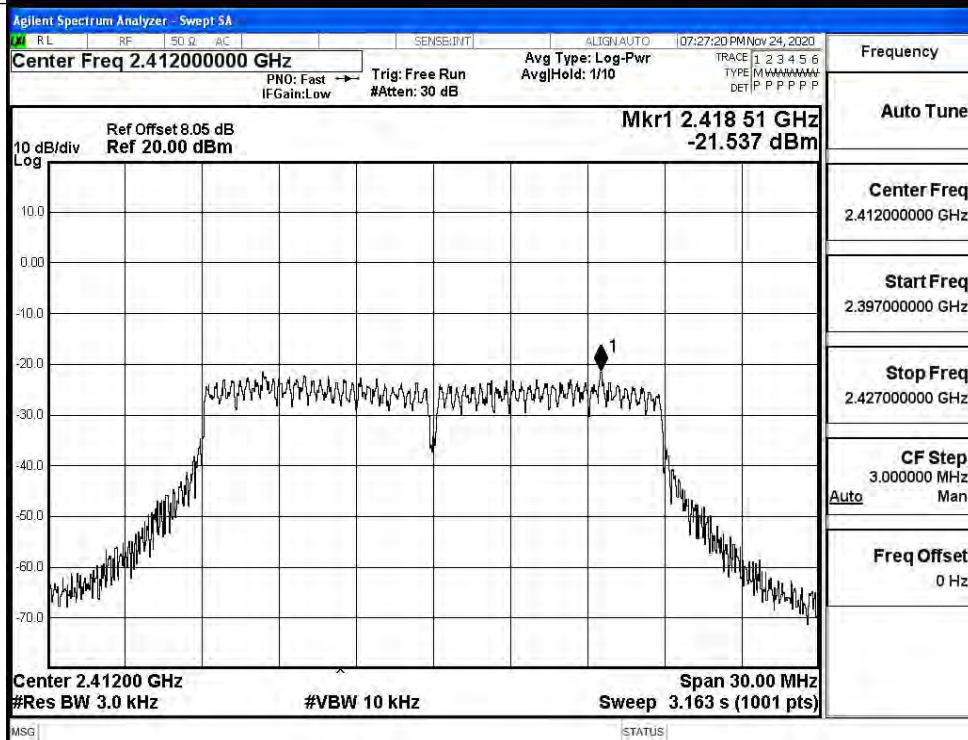
11G/MCH

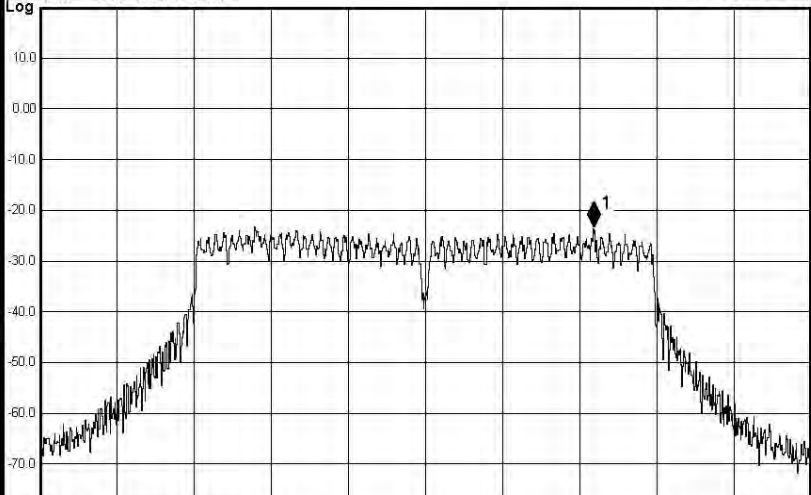
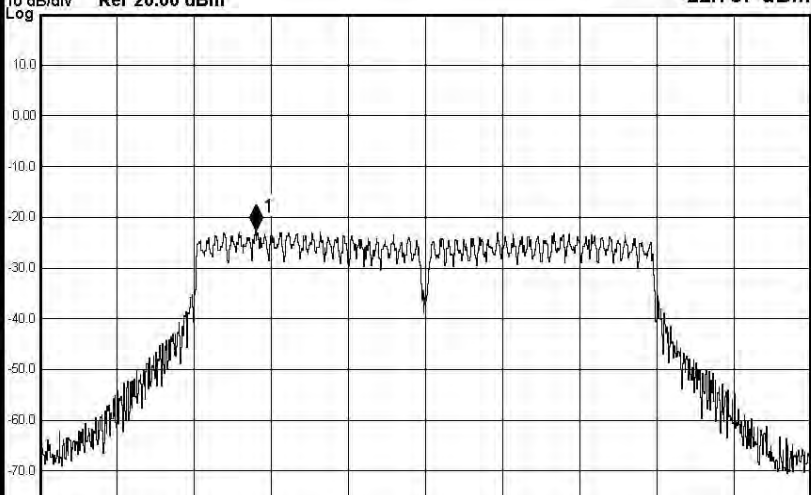


11G/HCH

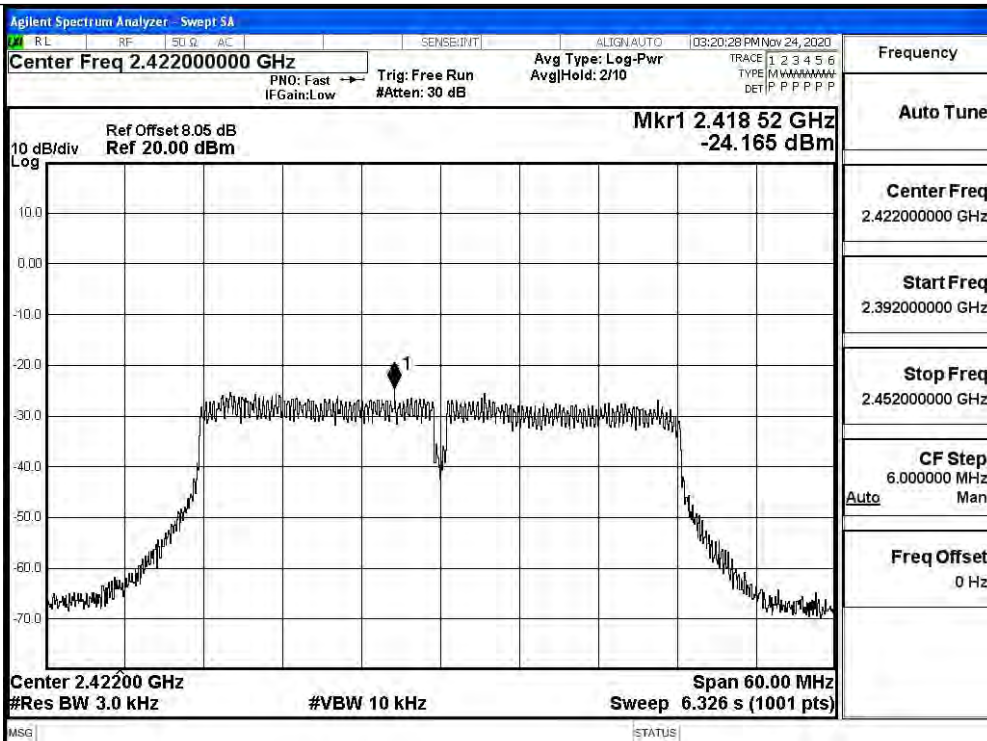


11N20SISO/LCH

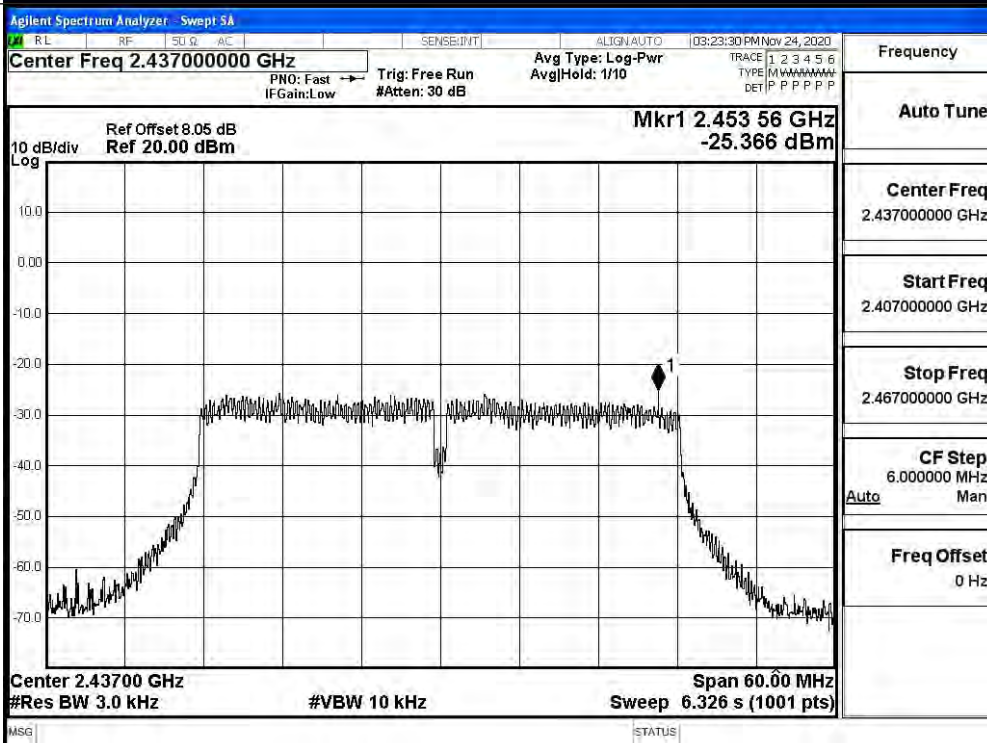


11N20SISO/MCH	Agilent Spectrum Analyzer - Swept SA RL RF SO Q AC SENSE: [IT] ALIGN: AUTO 107:35:05 PM Nov 24, 2020 Center Freq 2.437000000 GHz PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr AvgHold: 1/10 TRACE 1 2 3 4 5 6 TYPE [M] [W] [M] [M] [M] [M] [M] DET [P] [P] [P] [P] [P] [P] [P] Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.443 54 GHz -23.596 dBm  Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Sweep 3.163 s (1001 pts) MSG STATUS	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
11N20SISO/HCH	Agilent Spectrum Analyzer - Swept SA RL RF SO Q AC SENSE: [IT] ALIGN: AUTO 107:36:57 PM Nov 24, 2020 Center Freq 2.462000000 GHz PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr AvgHold: 1/10 TRACE 1 2 3 4 5 6 TYPE [M] [W] [M] [M] [M] [M] [M] DET [P] [P] [P] [P] [P] [P] [P] Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.455 40 GHz -22.787 dBm  Center 2.46200 GHz #Res BW 3.0 kHz #VBW 10 kHz Sweep 3.163 s (1001 pts) MSG STATUS	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

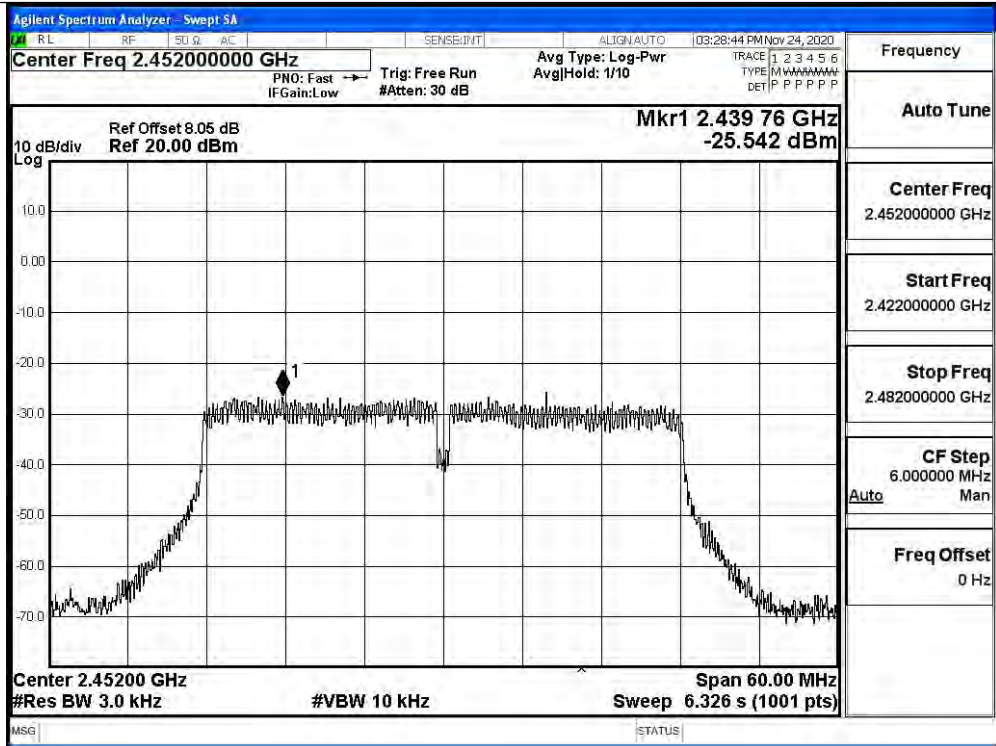
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH

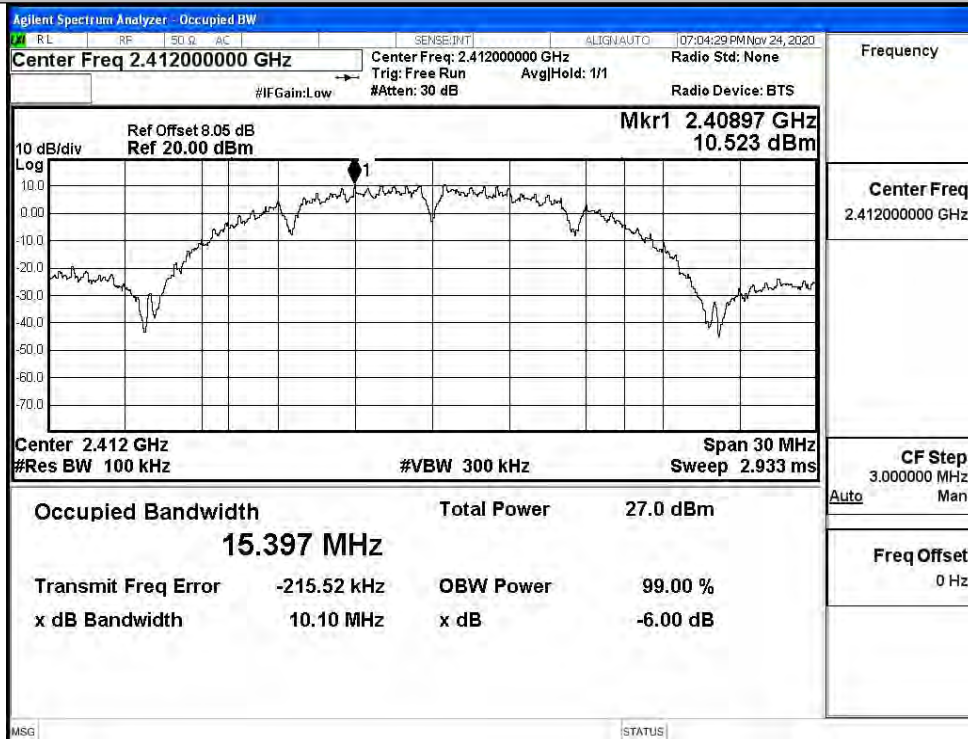


A.4 6dB Bandwidth

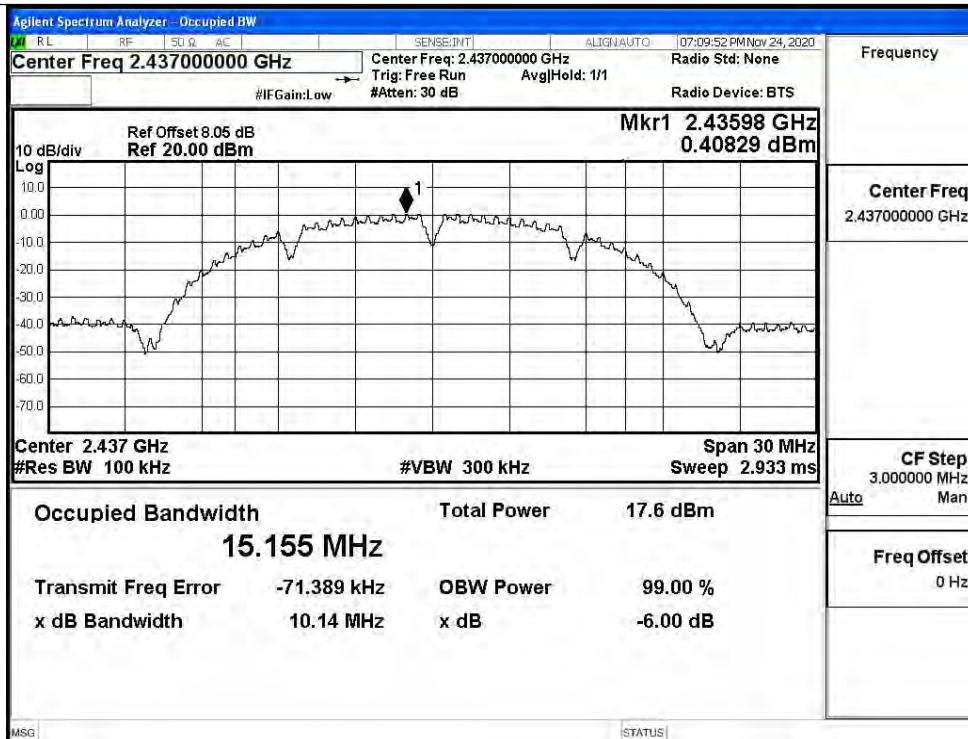
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	10.10	≥ 0.5	PASS
	MCH	10.14	≥ 0.5	PASS
	HCH	10.14	≥ 0.5	PASS
11G	LCH	16.56	≥ 0.5	PASS
	MCH	16.56	≥ 0.5	PASS
	HCH	16.57	≥ 0.5	PASS
11N20SISO	LCH	17.71	≥ 0.5	PASS
	MCH	17.73	≥ 0.5	PASS
	HCH	17.73	≥ 0.5	PASS
11N40SISO	LCH	36.49	≥ 0.5	PASS
	MCH	36.50	≥ 0.5	PASS
	HCH	36.52	≥ 0.5	PASS

Test Graphs

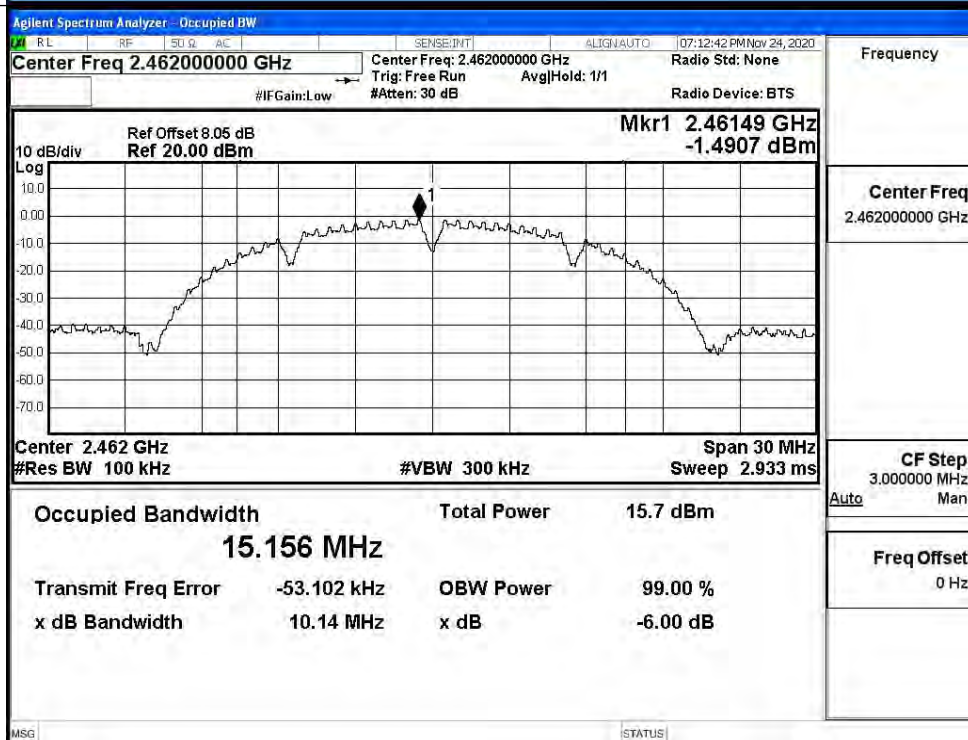
11B/LCH



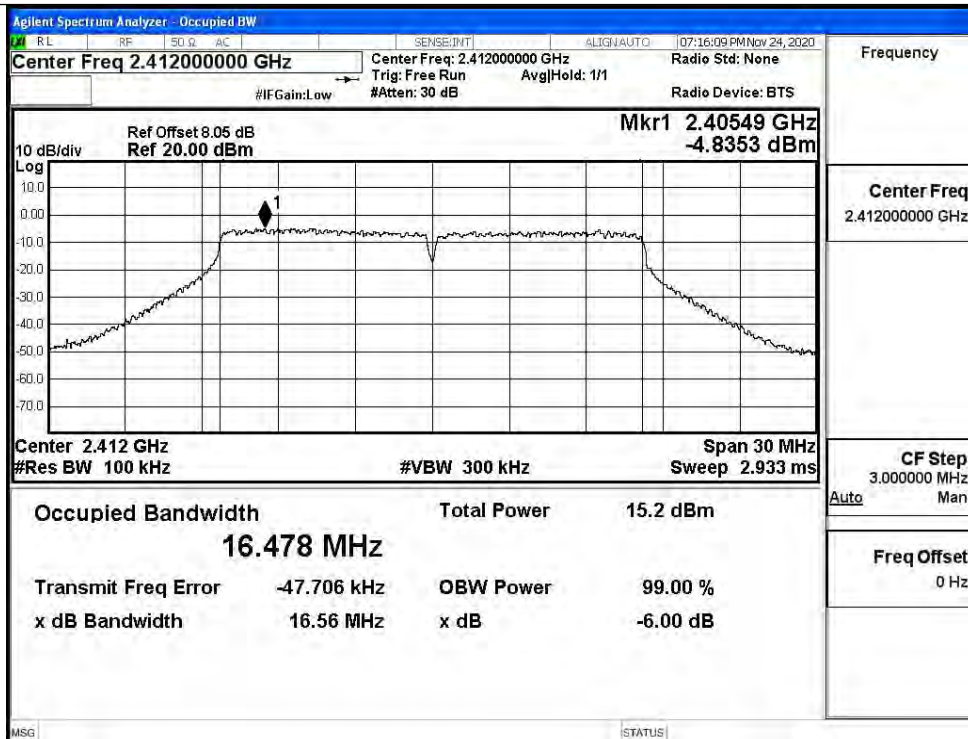
11B/MCH



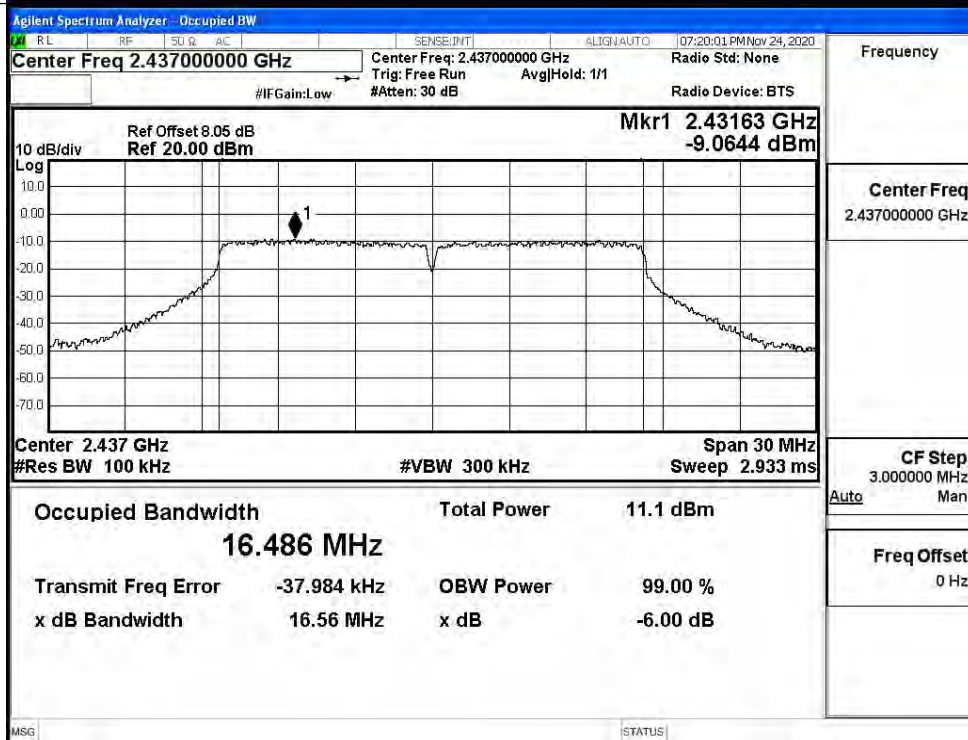
11B/HCH



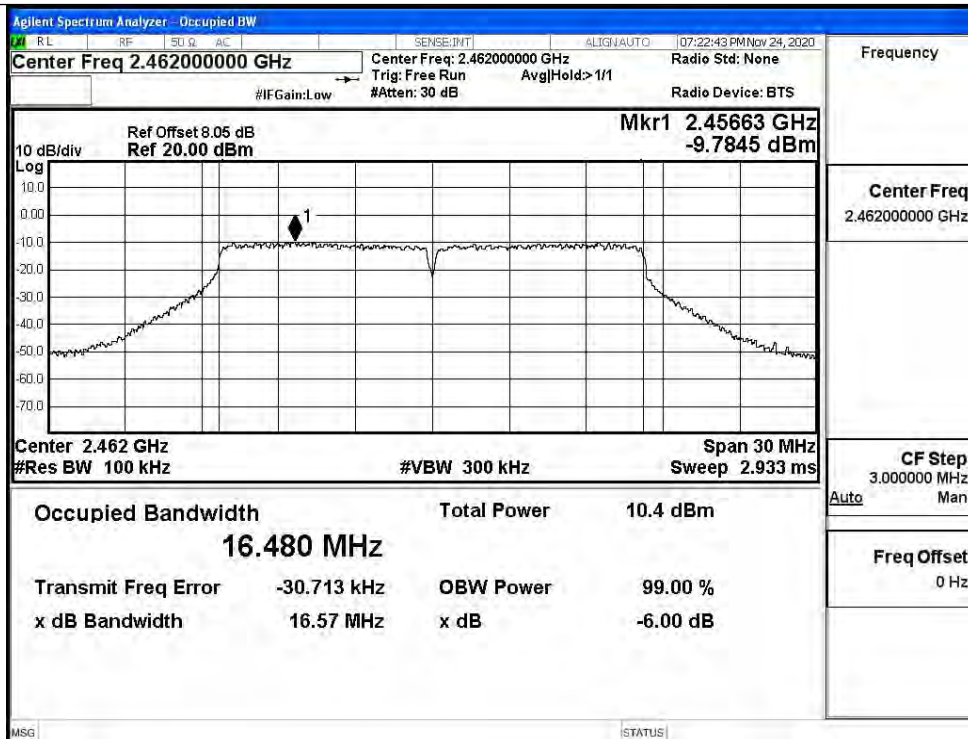
11G/LCH



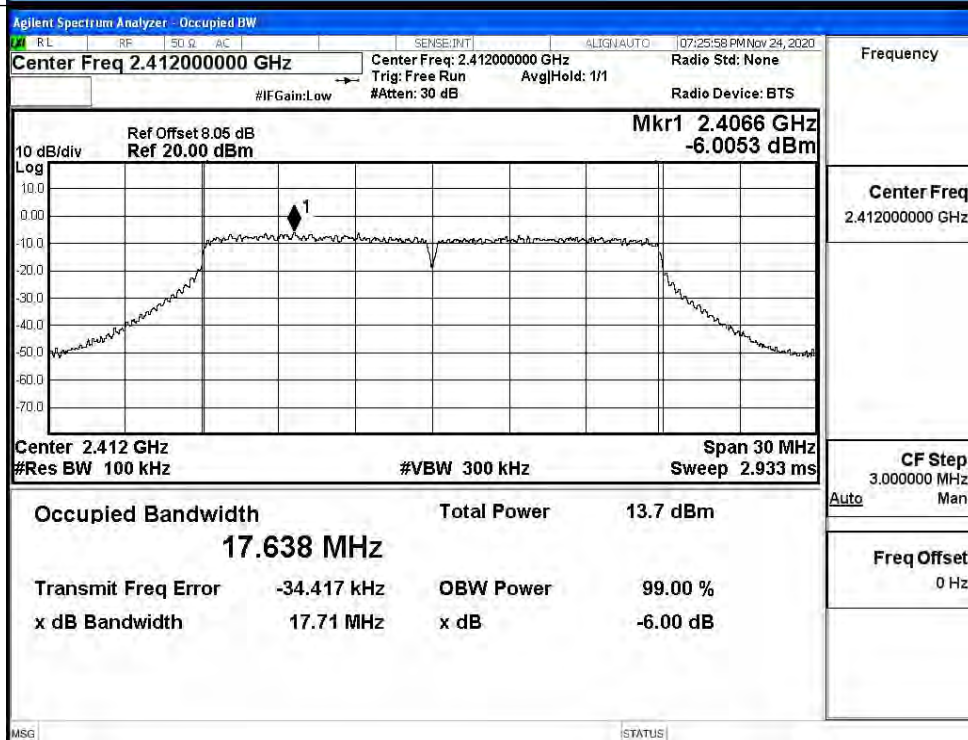
11G/MCH



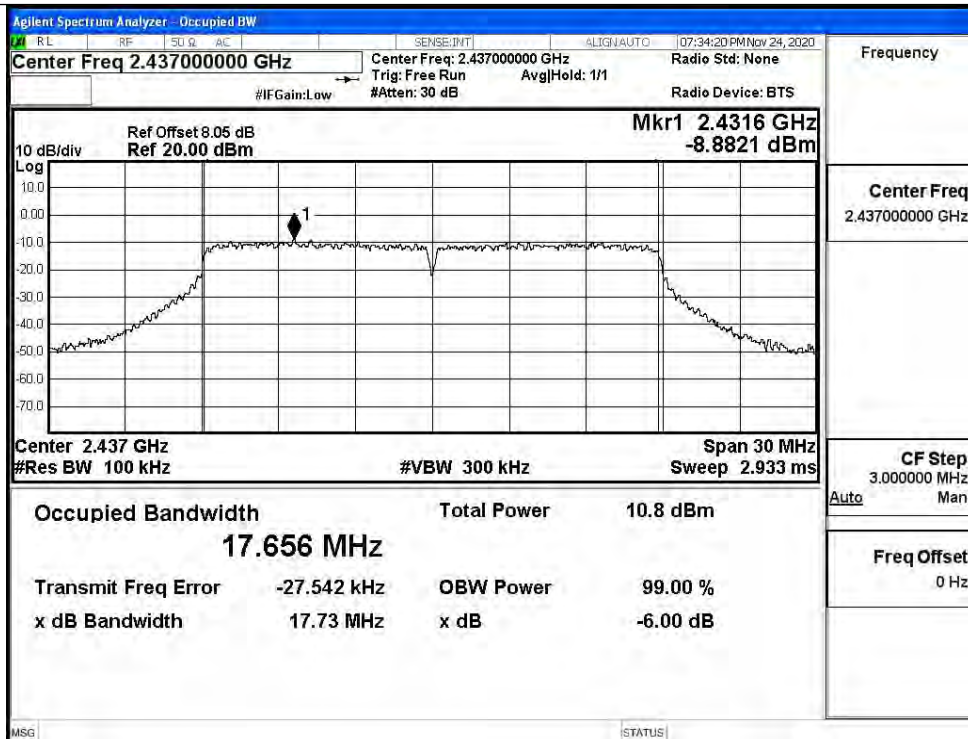
11G/HCH



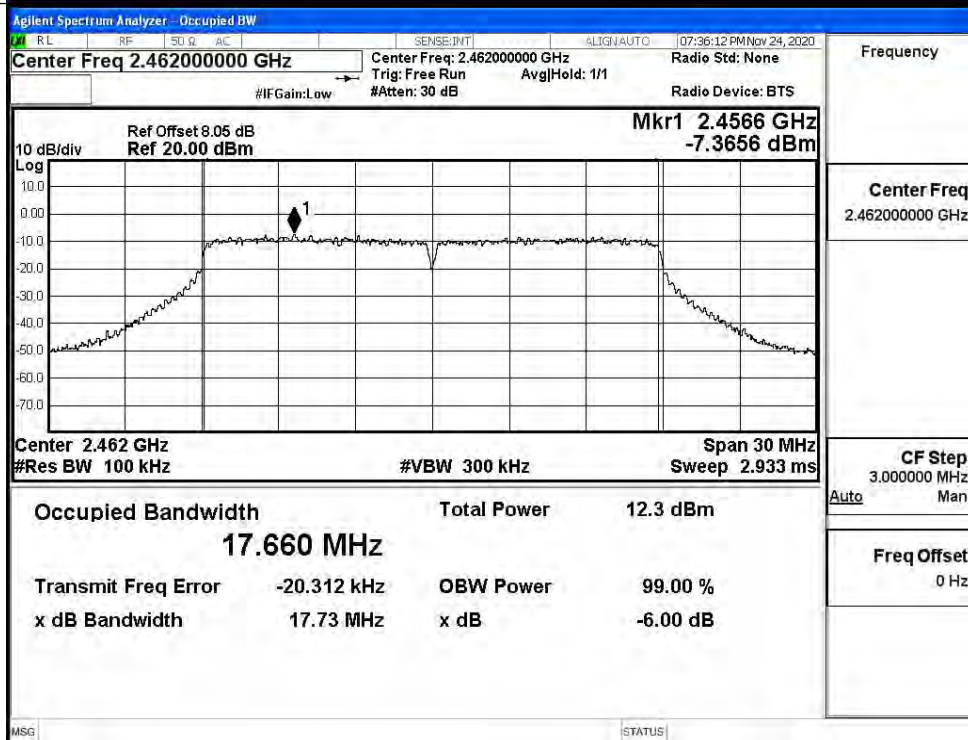
11N20SISO/LCH



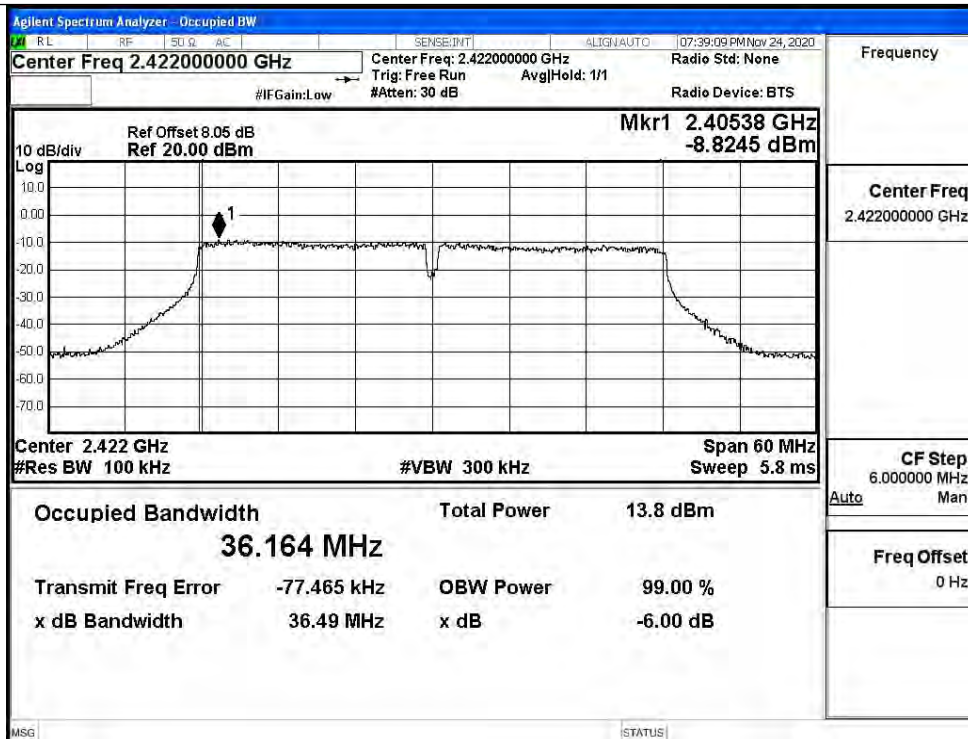
11N20SISO/MCH



11N20SISO/HCH



11N40SISO/LCH



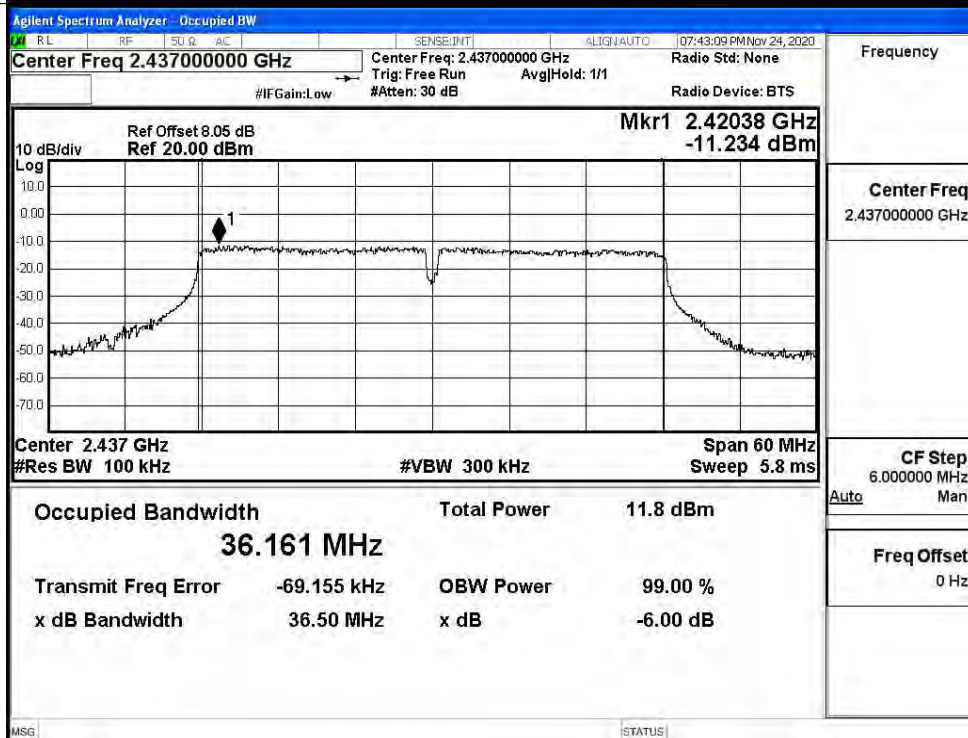
Frequency

Center Freq
2.422000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

11N40SISO/MCH



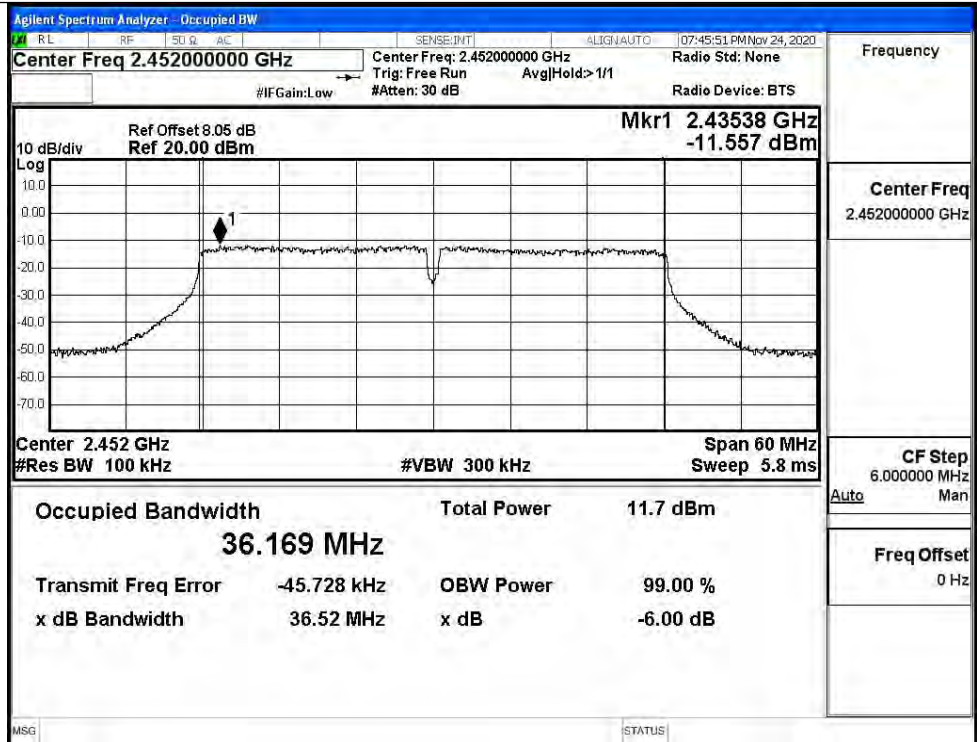
Frequency

Center Freq
2.437000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

11N40SISO/HCH

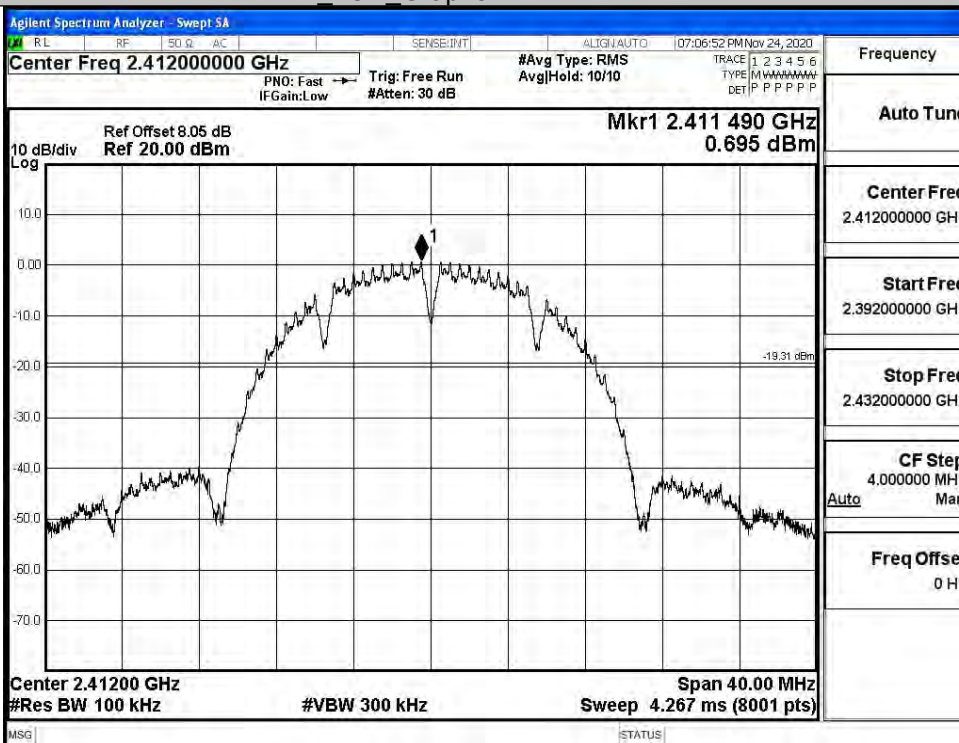


A.5 RF Conducted Spurious Emissions

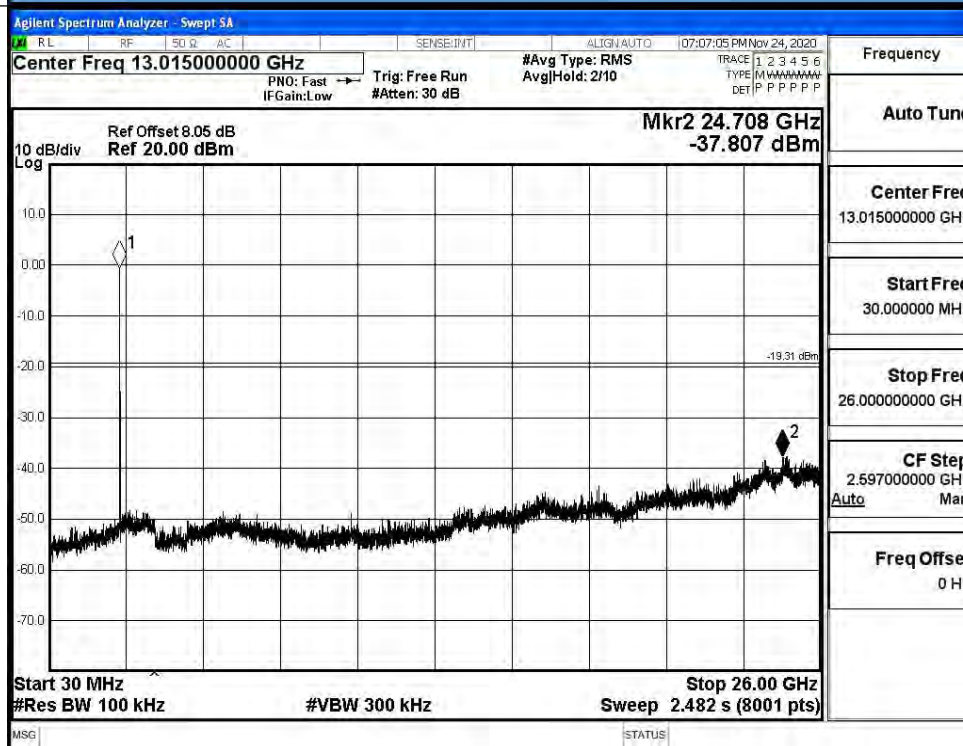
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	0.695	-37.807	-19.305	PASS
	MCH	0.209	-38.429	-19.791	PASS
	HCH	0.694	-37.821	-19.306	PASS
11G	LCH	-7.536	-38.392	-27.536	PASS
	MCH	-9.304	-37.416	-29.304	PASS
	HCH	-8.164	-36.817	-28.164	PASS
11N20 SISO	LCH	-7.414	-37.814	-27.414	PASS
	MCH	-8.665	-37.814	-28.665	PASS
	HCH	-7.364	-38.679	-27.364	PASS
11N40 SISO	LCH	-10.164	-38.128	-30.164	PASS
	MCH	-11.973	-37.406	-31.973	PASS
	HCH	-11.78	-37.916	-31.780	PASS

11B LCH Graphs

Pref/11B/LCH

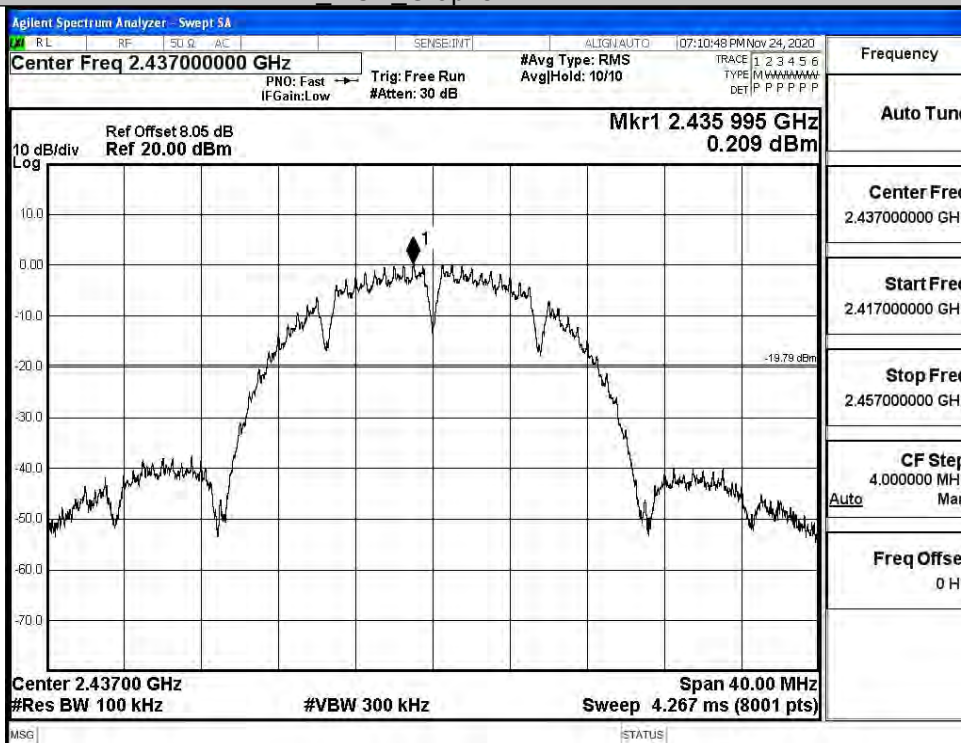


Puw/11B/LCH

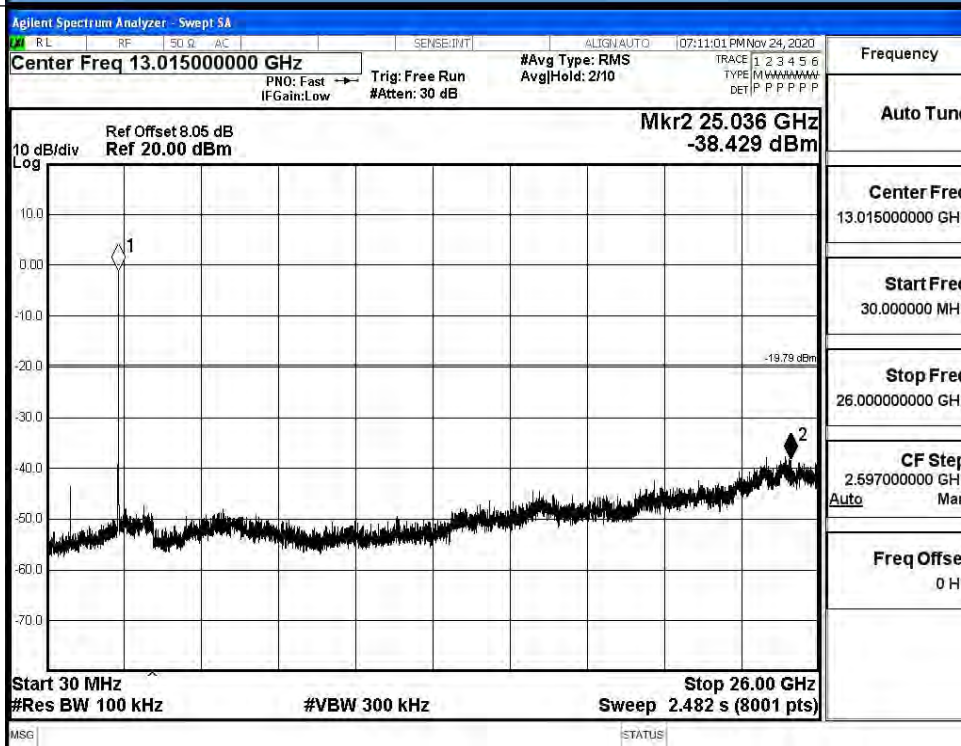


11B MCH Graphs

Pref/11B/MCH

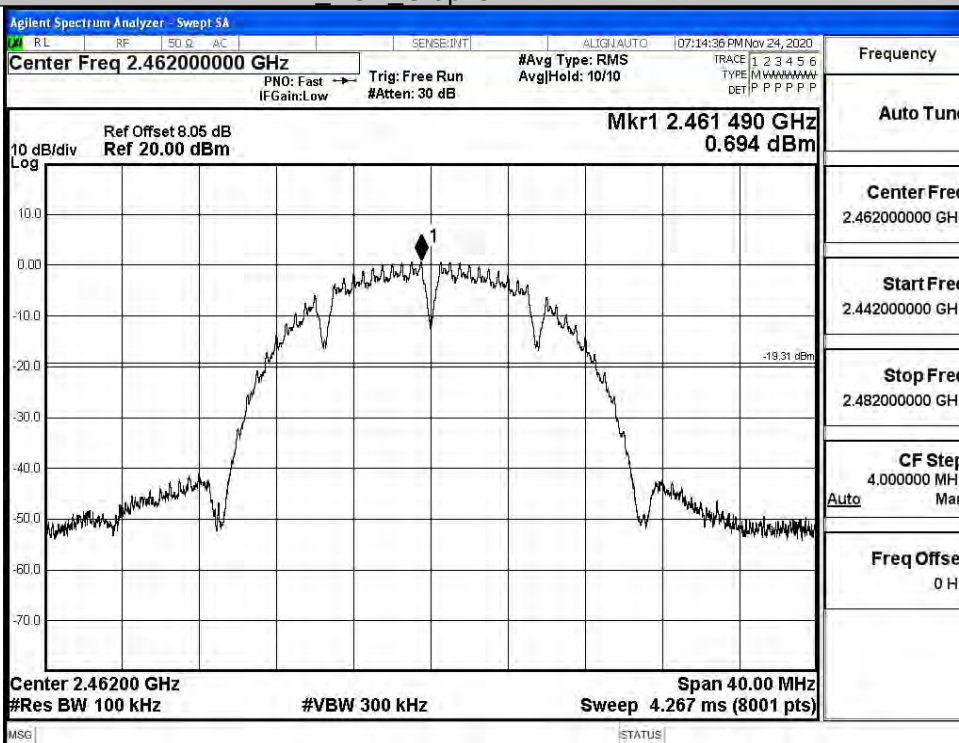


Puw/11B/MCH

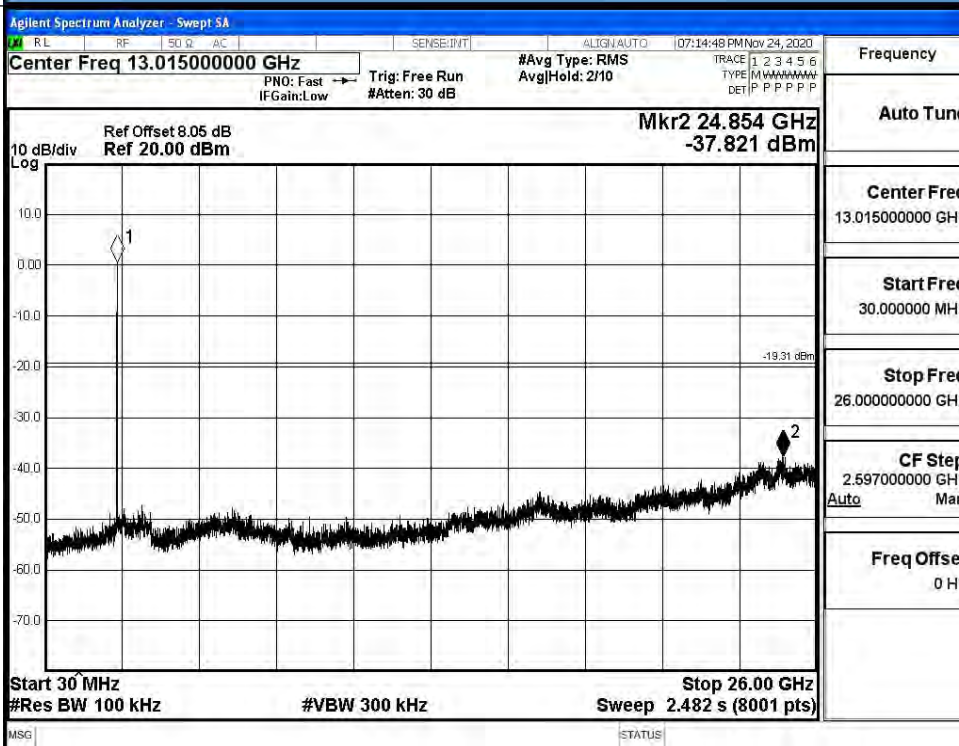


11B HCH Graphs

Pref/11B/HCH

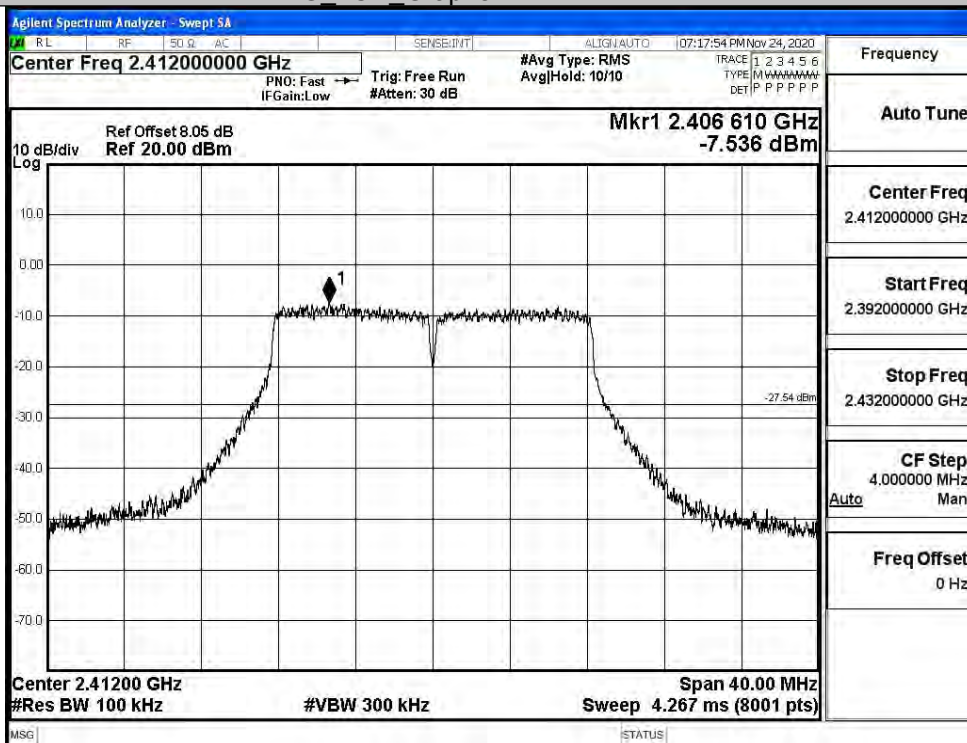


Puw/11B/HCH

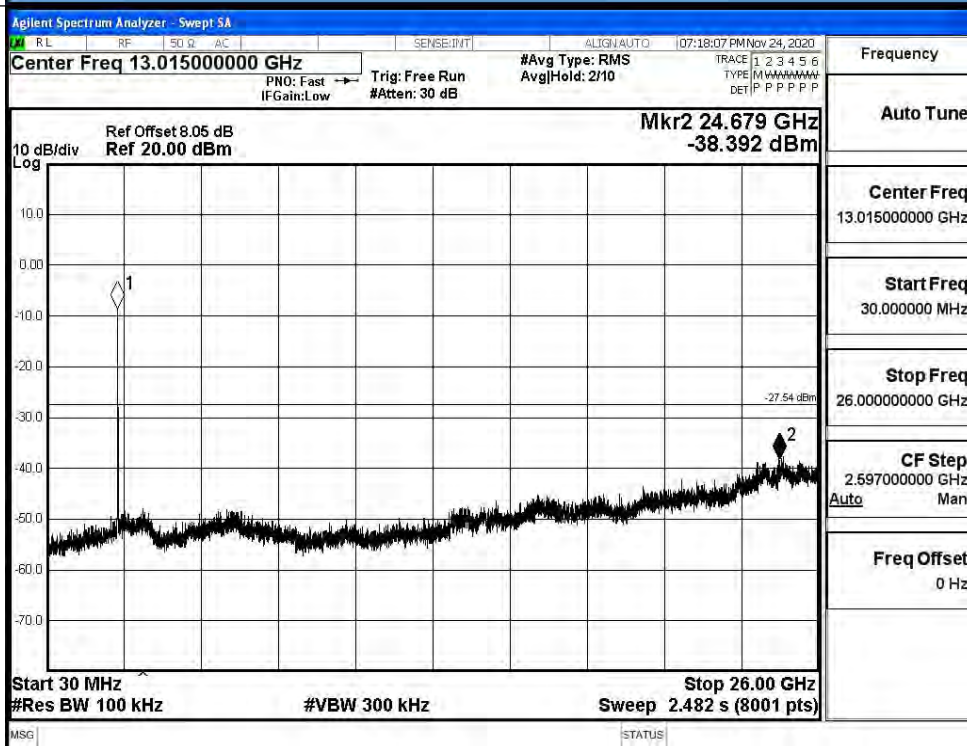


11G LCH Graphs

Pref/11G/LCH

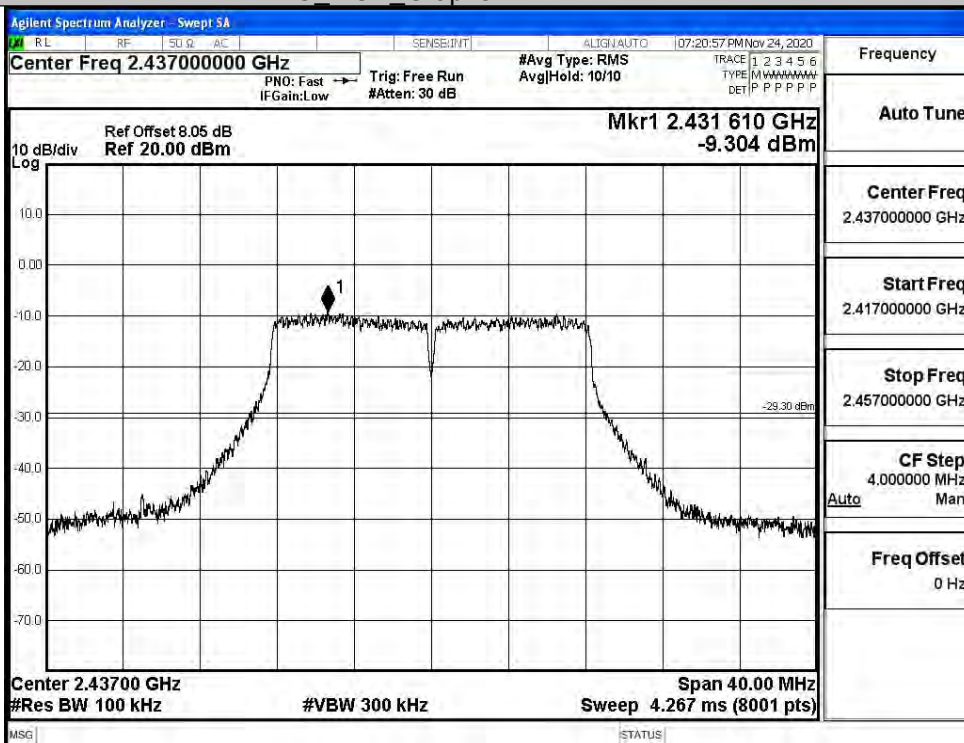


Puw/11G/LCH

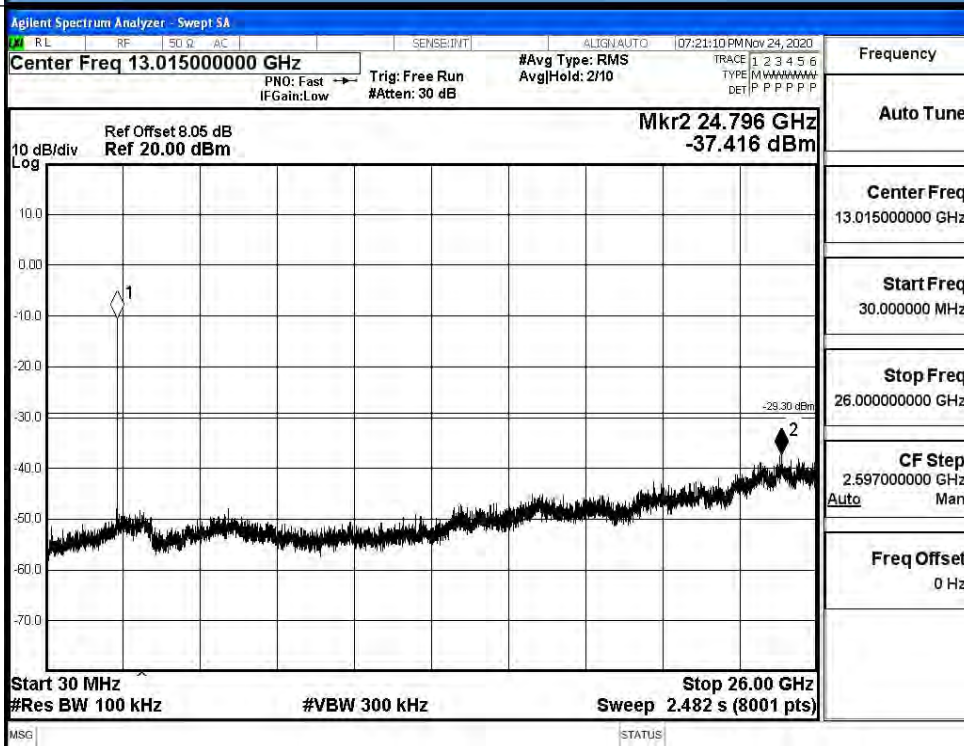


11G MCH Graphs

Pref/11G/MCH

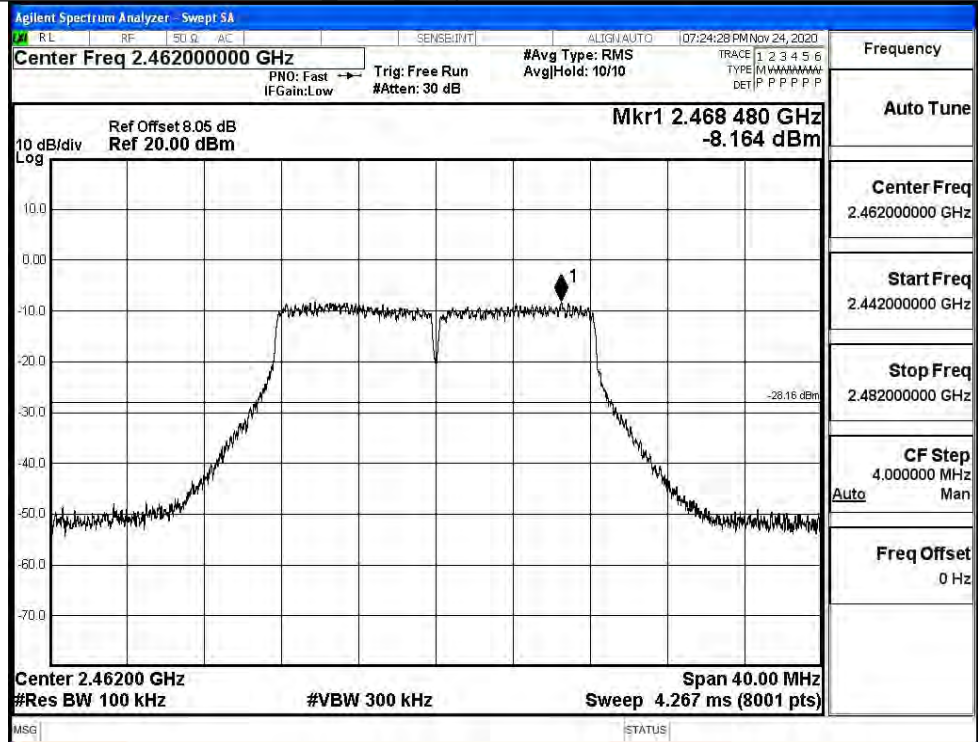


Puw/11G/MCH

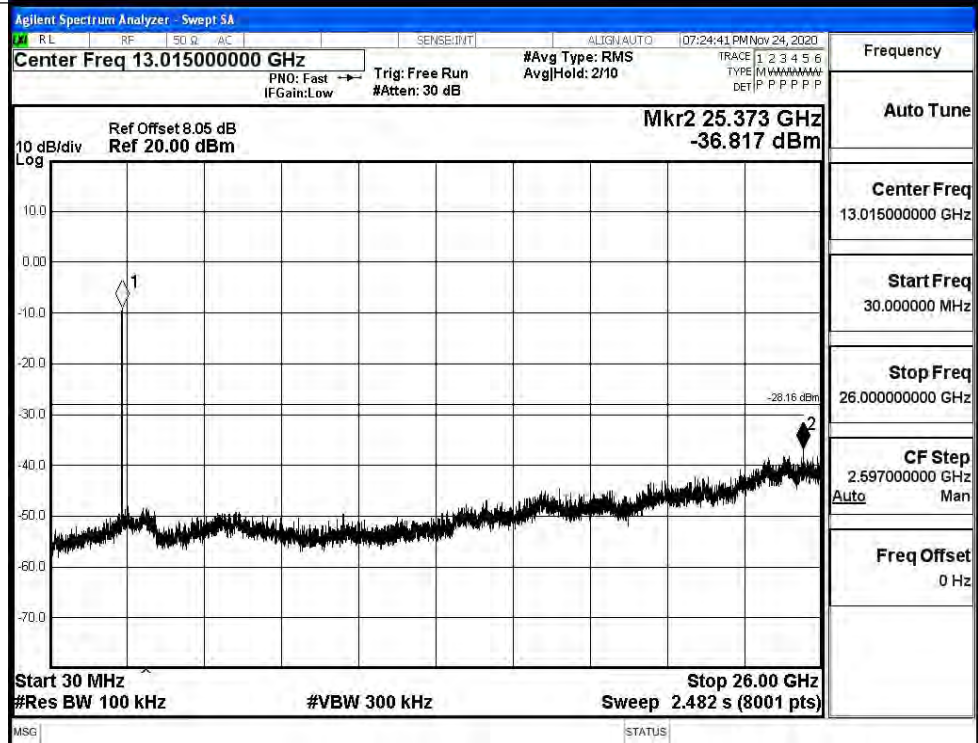


11G HCH Graphs

Pref/11G/HCH

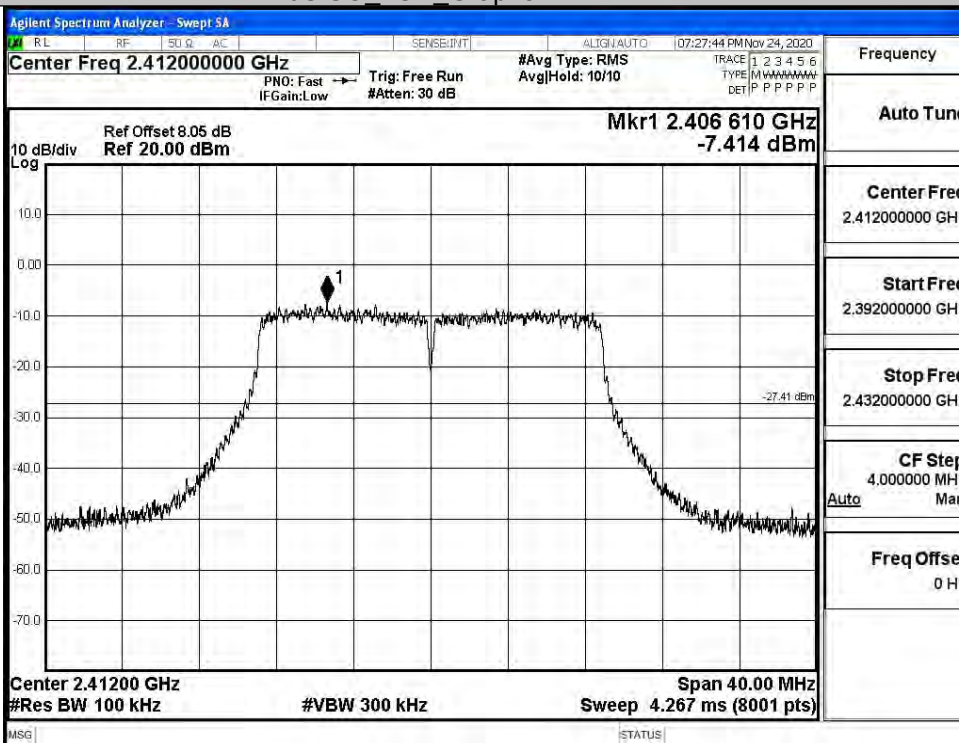


Puw/11G/HCH

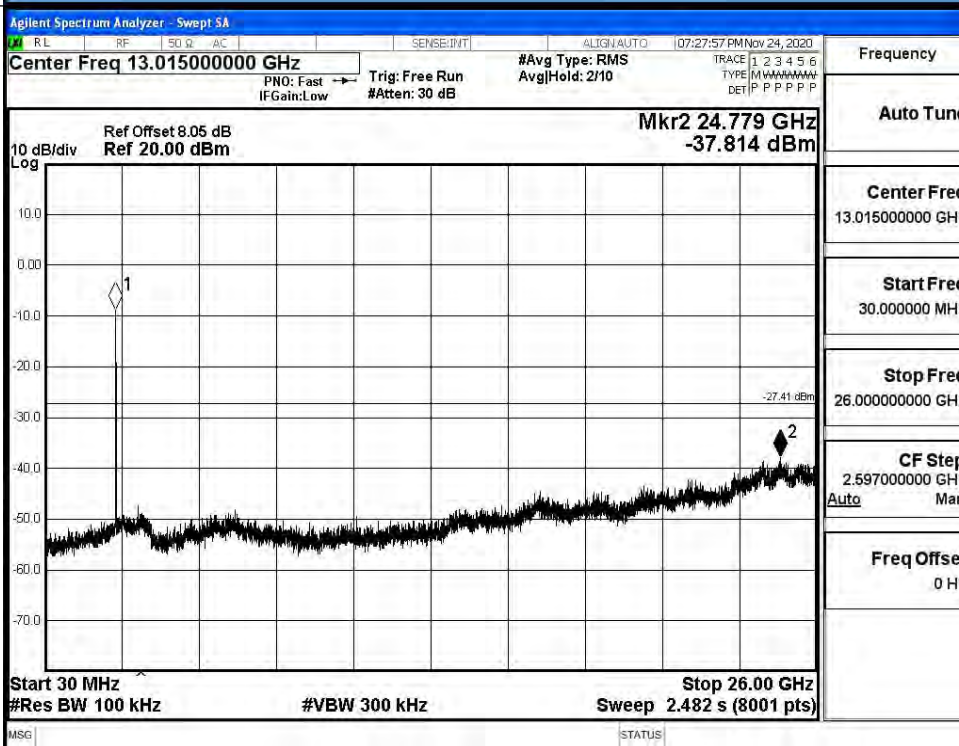


11N20SISO LCH Graphs

Pref/11N20SIS
O/LCH

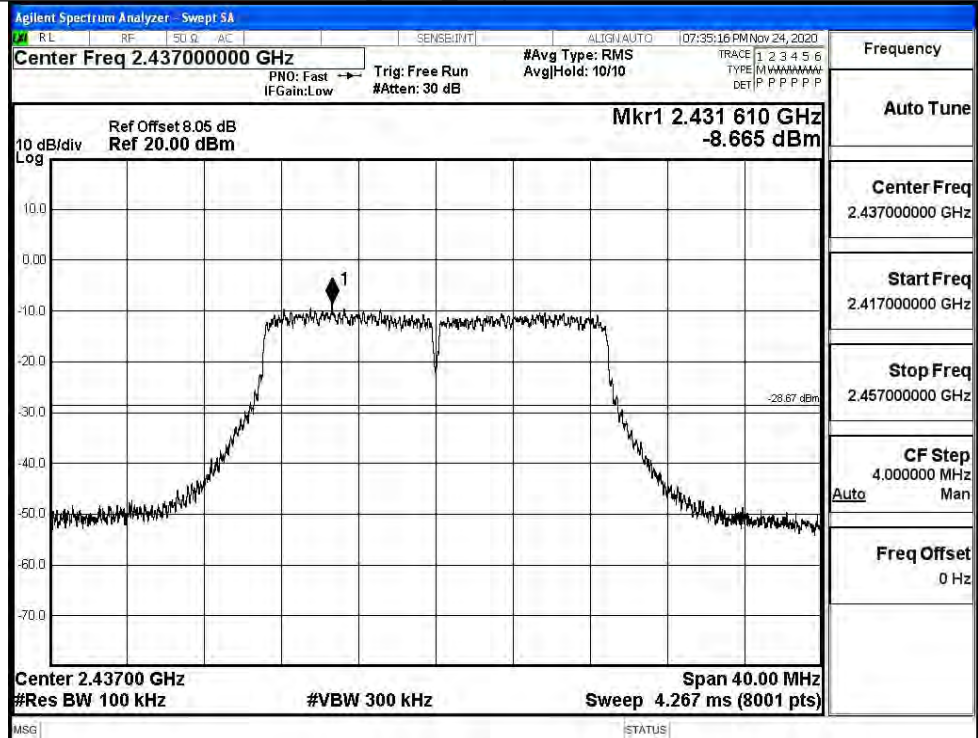


Puw/11N20
SISO/LCH

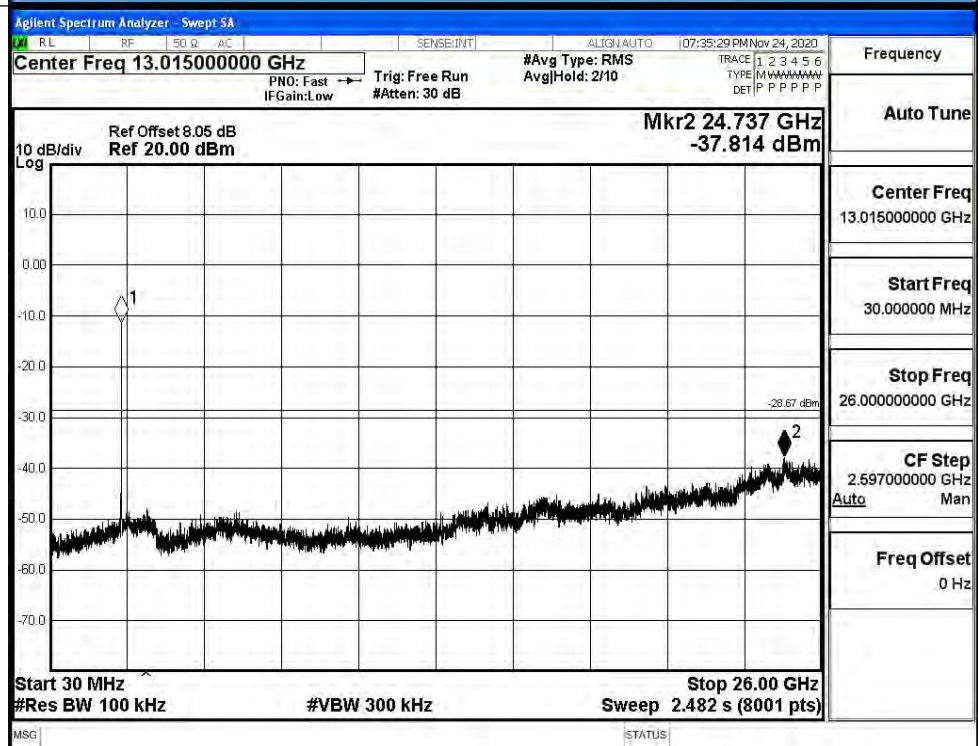


11N20SISO MCH_Graphs

Pref/11N20
SISO/MCH

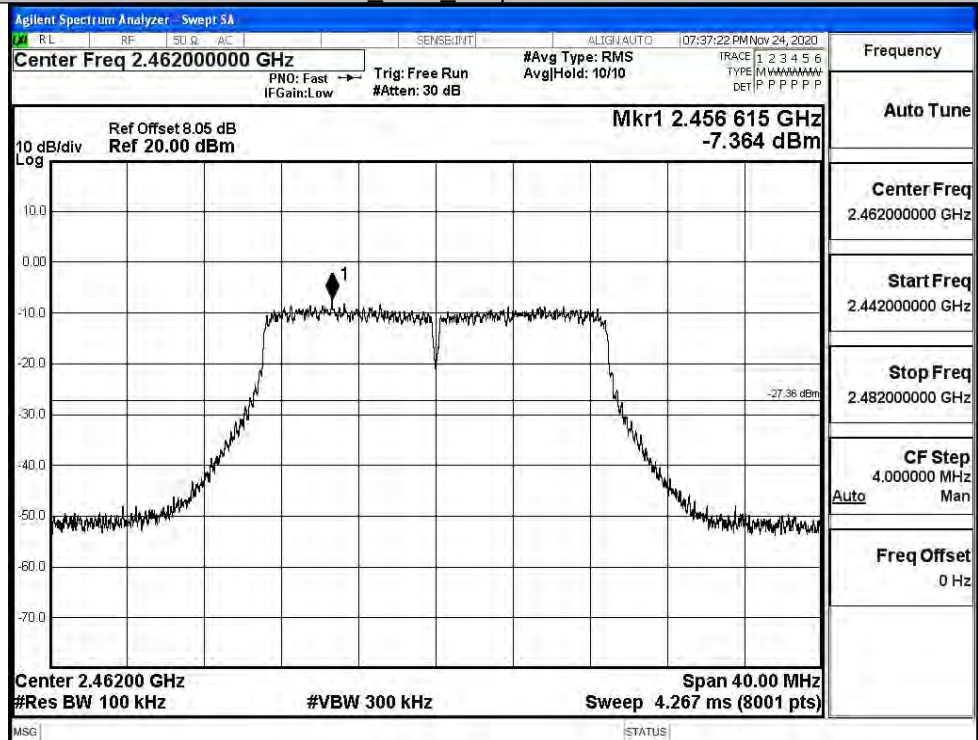


Puw/11N20
SISO/MCH

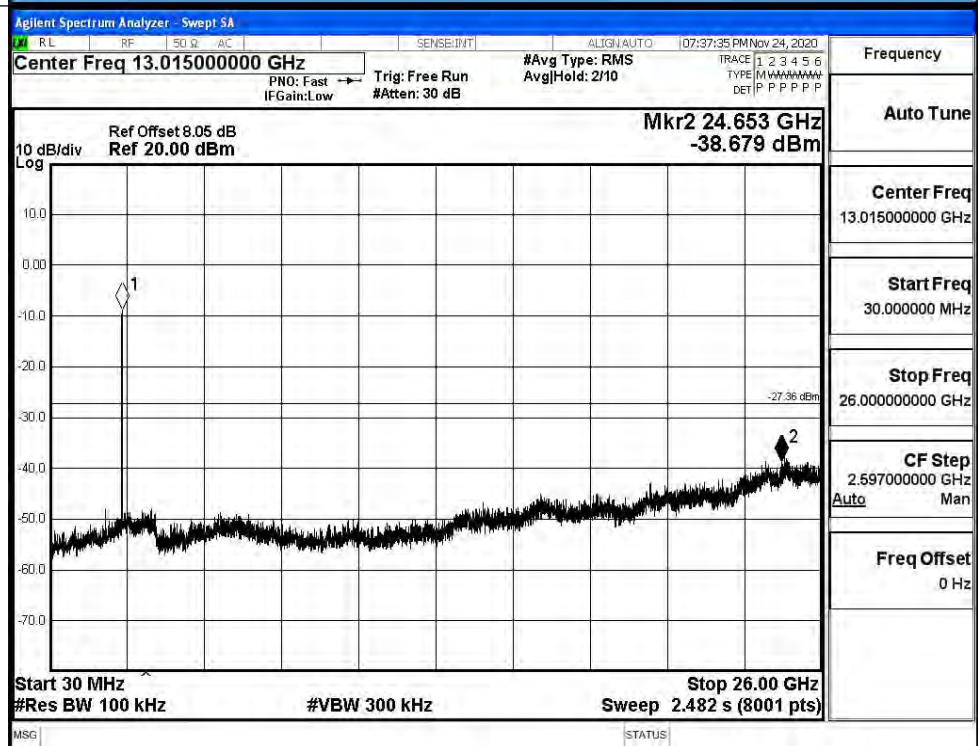


11N20SISO HCH Graphs

Pref/11N20
SISO/HCH

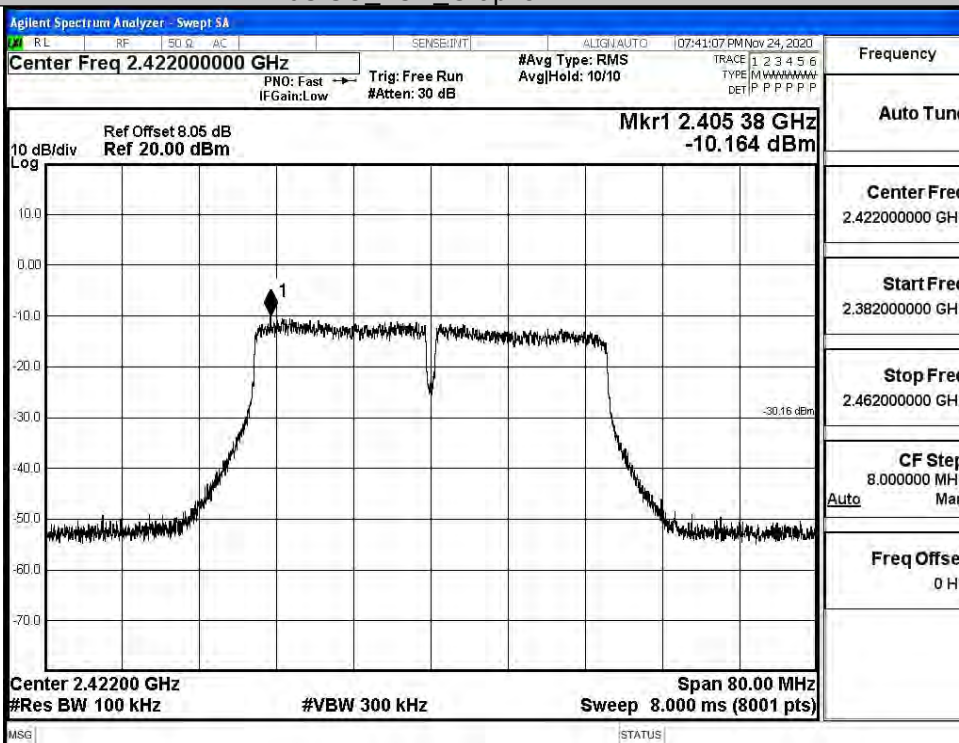


Puw/11N20
SISO/HCH

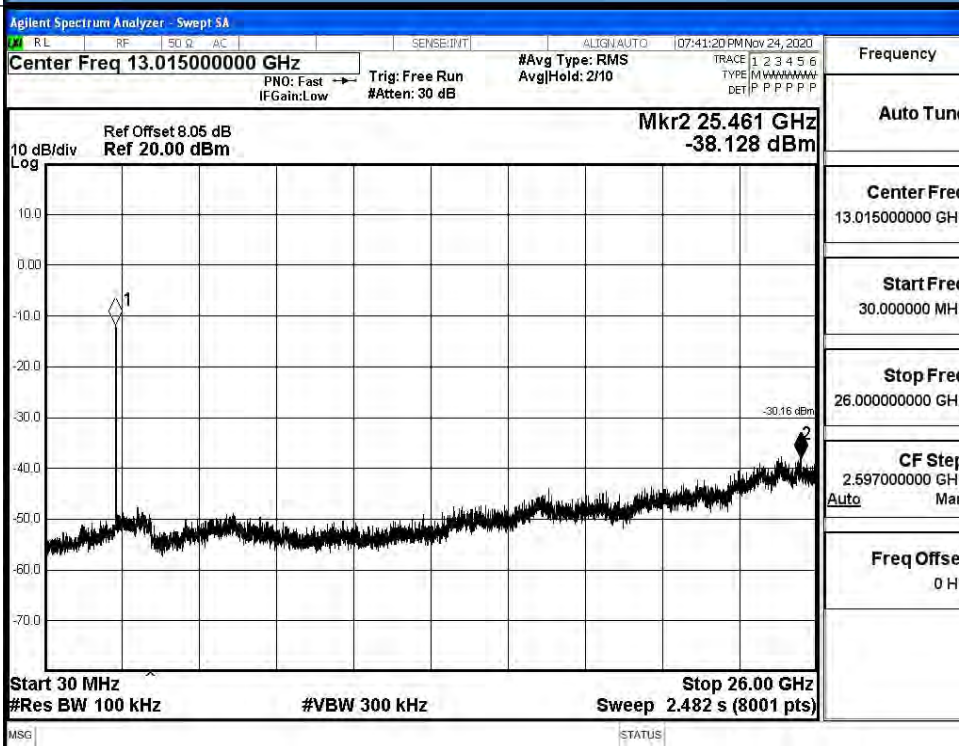


11N40SISO LCH Graphs

Pref/11N40
SISO/LCH

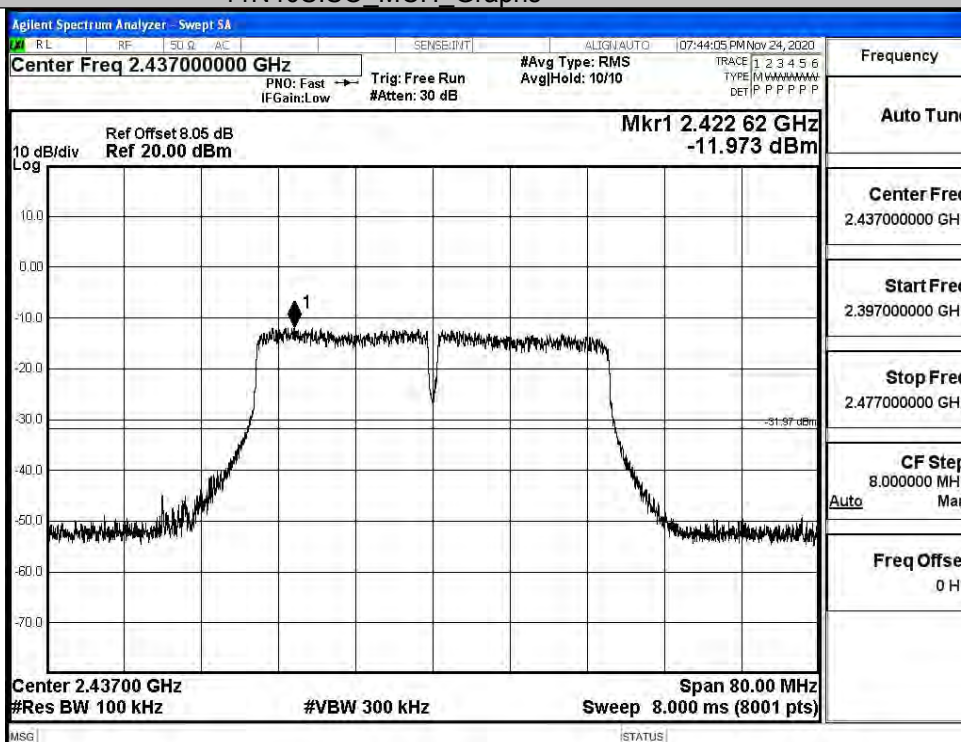


Puw/11N40
SISO/LCH

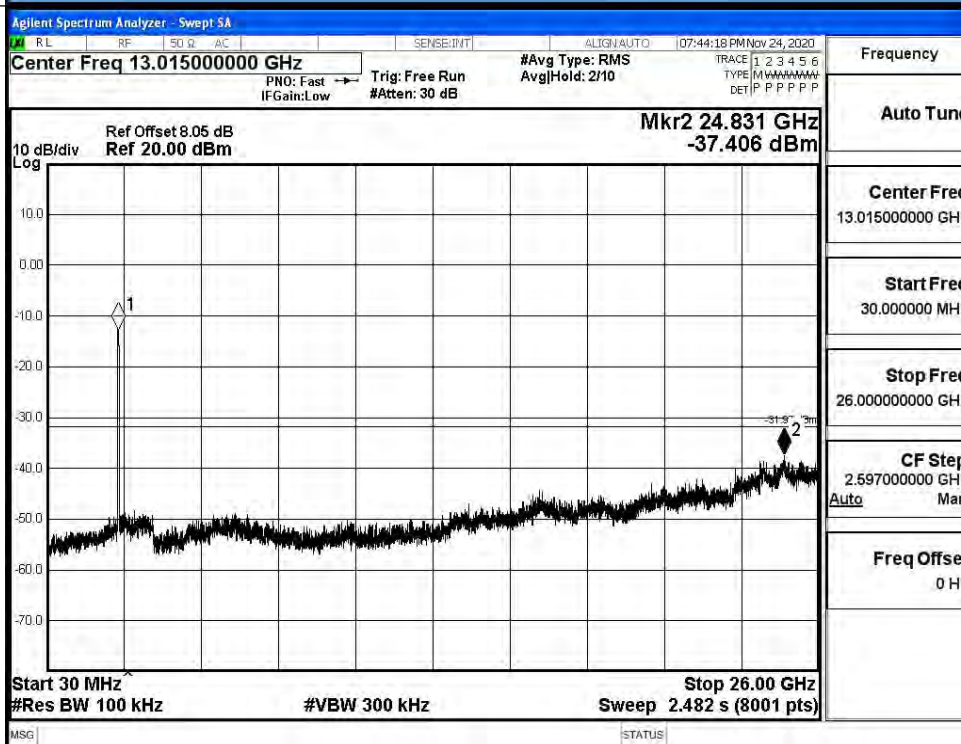


11N40SISO MCH_Graphs

Pref/11N40
SISO/MCH

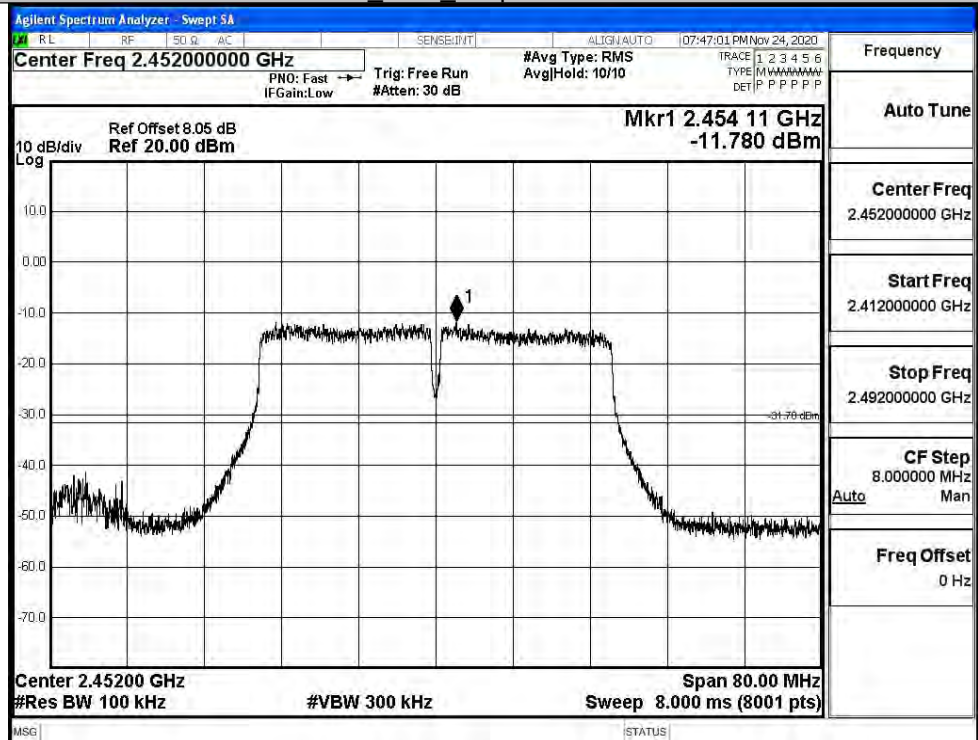


Puw/11N40
SISO/MCH

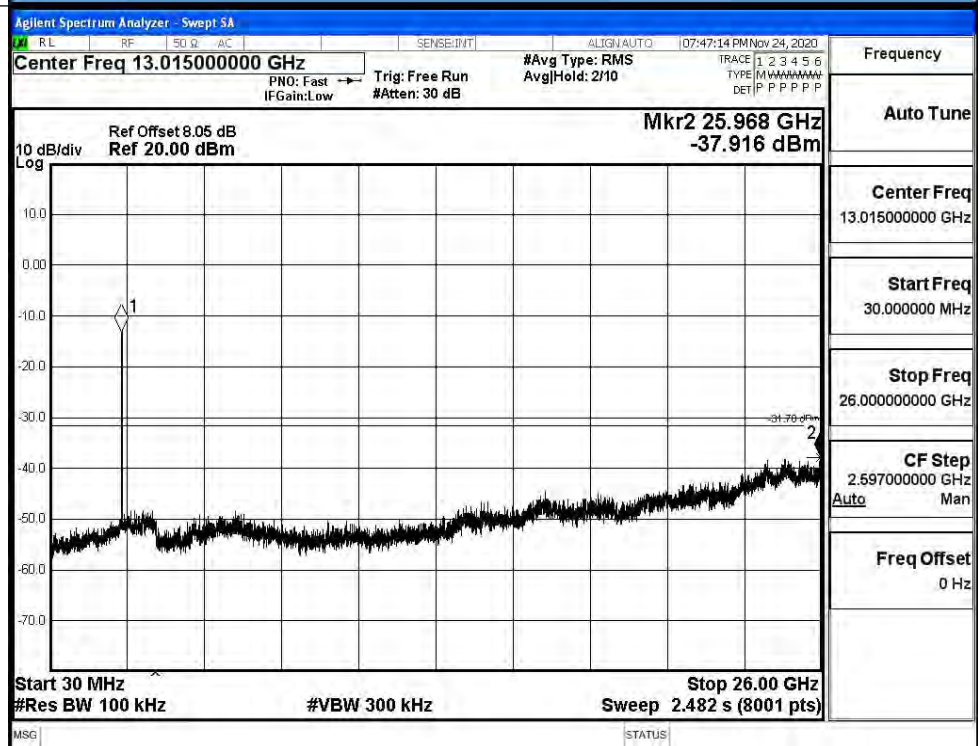


11N40SISO HCH Graphs

Pref/11N40
SISO/HCH



Puw/11N40
SISO/HCH

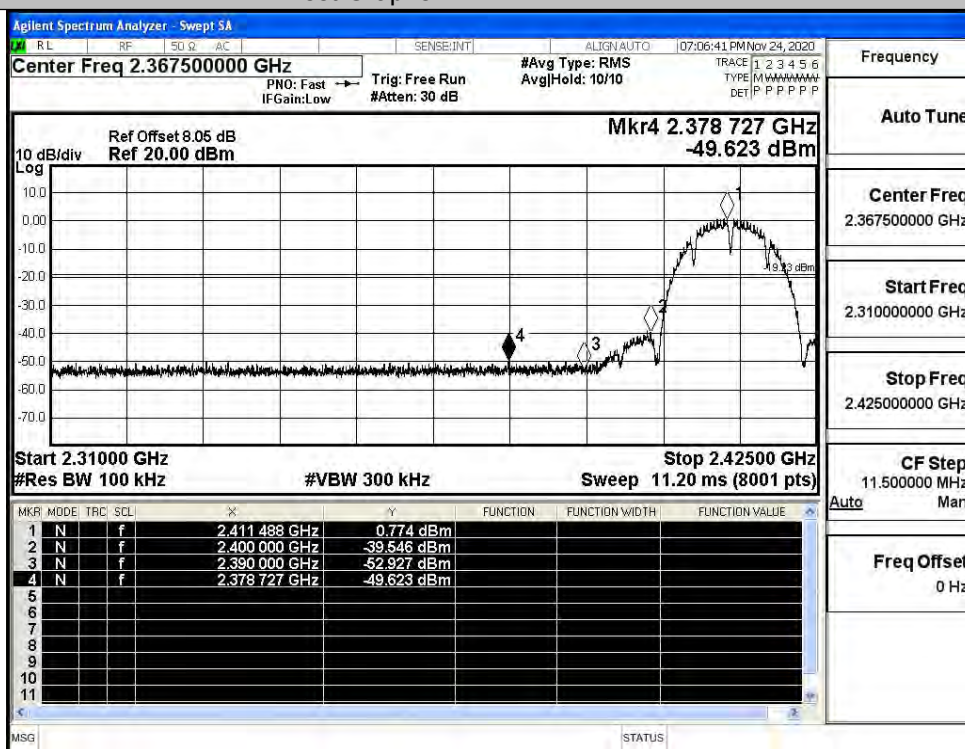


A.6 Band-edge for RF Conducted Emissions

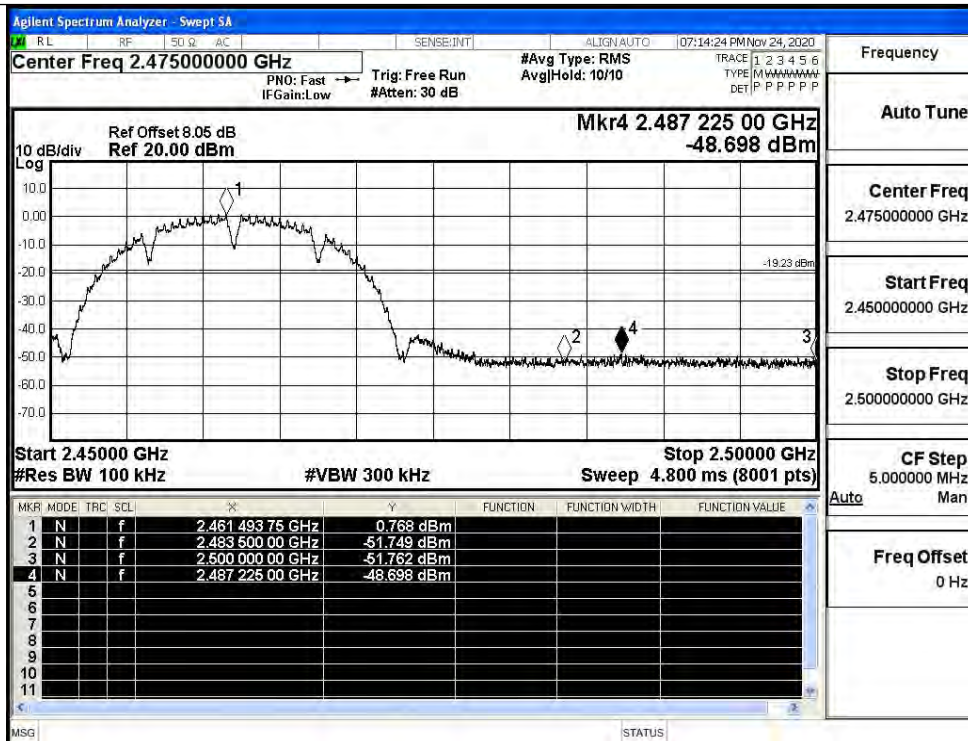
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	0.774	-49.623	-19.23	PASS
	HCH	0.768	-48.698	-19.23	PASS
11G	LCH	-7.645	-49.657	-27.65	PASS
	HCH	-8.002	-49.506	-28	PASS
11N20SISO	LCH	-6.940	-49.953	-26.94	PASS
	HCH	-7.375	-49.331	-27.38	PASS
11N40SISO	LCH	-10.671	-50.094	-30.67	PASS
	HCH	-11.830	-48.594	-31.83	PASS

Test Graphs

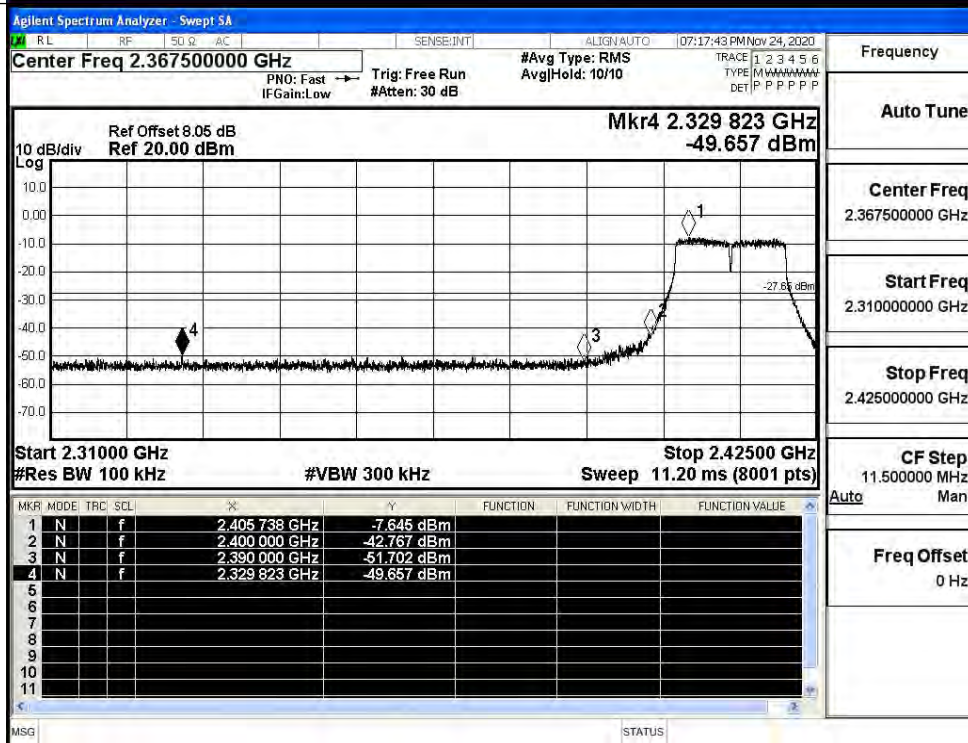
11B/LCH



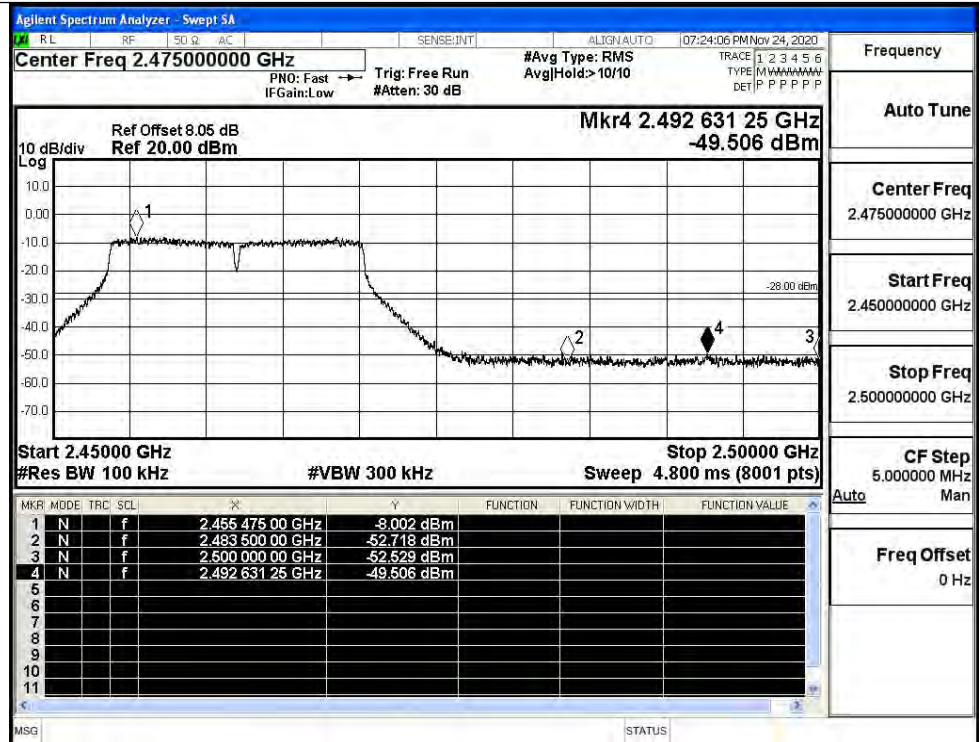
11B/HCH



11G/LCH



11G/HCH



Frequency

Auto Tune

Center Freq
2.475000000 GHz

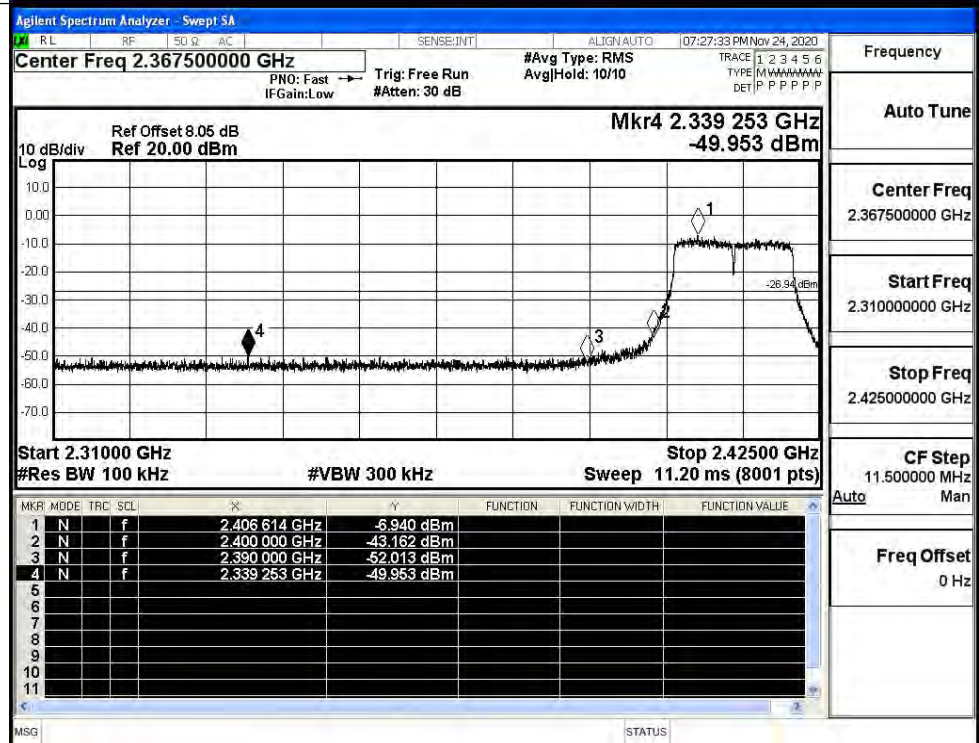
Start Freq
2.450000000 GHz

Stop Freq
2.500000000 GHz

CF Step
5.000000 MHz

Freq Offset
0 Hz

11N20SISO/LCH



Frequency

Auto Tune

Center Freq
2.367500000 GHz

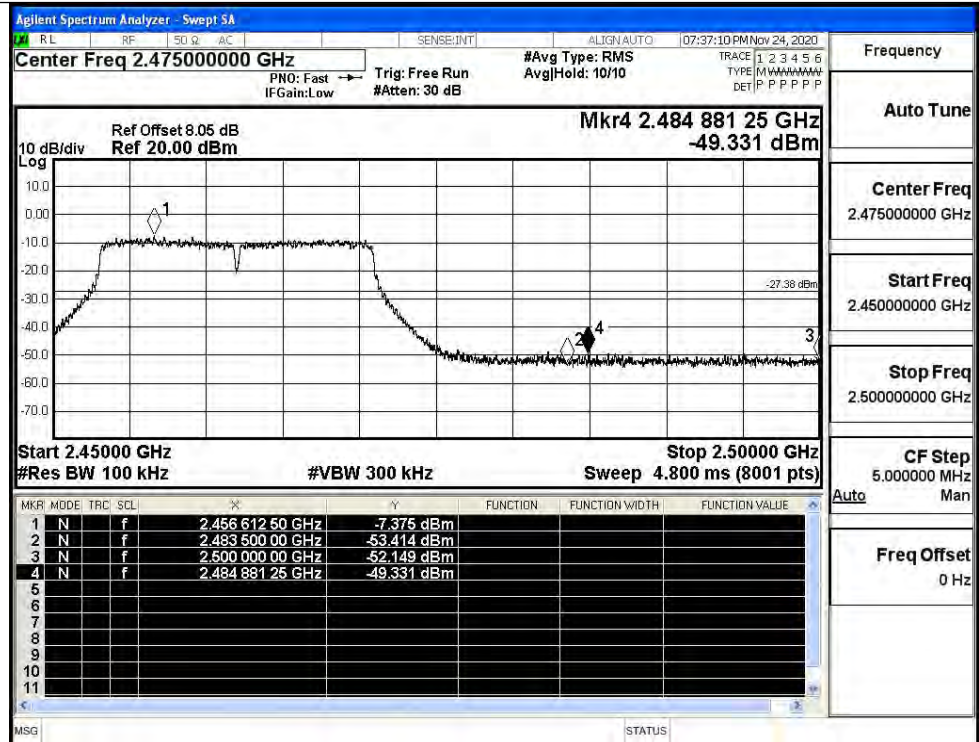
Start Freq
2.310000000 GHz

Stop Freq
2.425000000 GHz

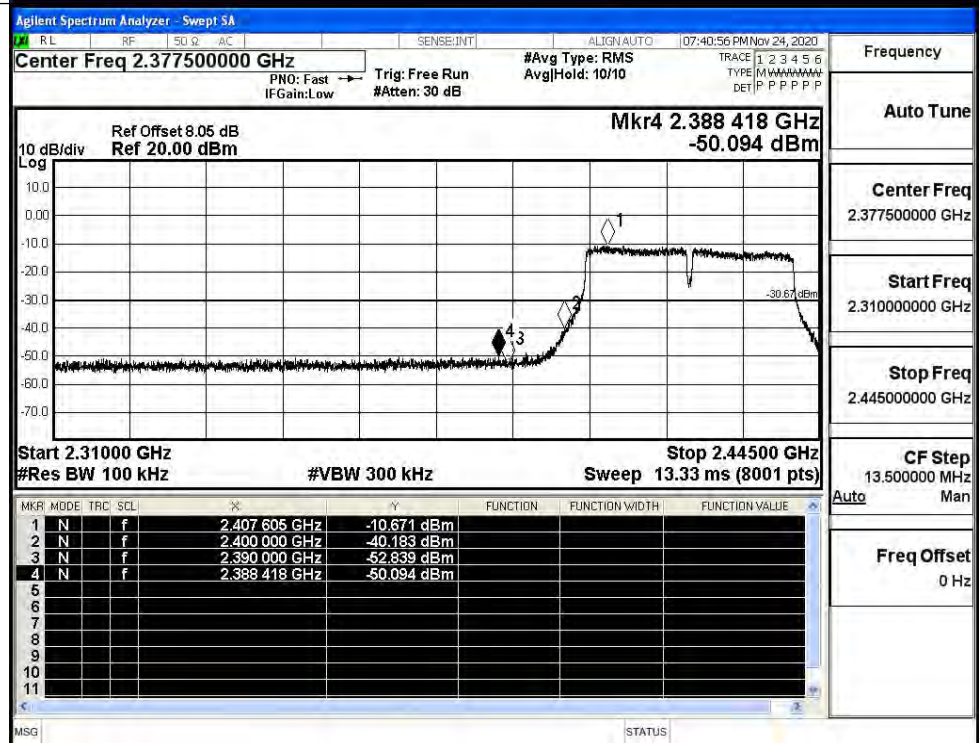
CF Step
11.500000 MHz

Freq Offset
0 Hz

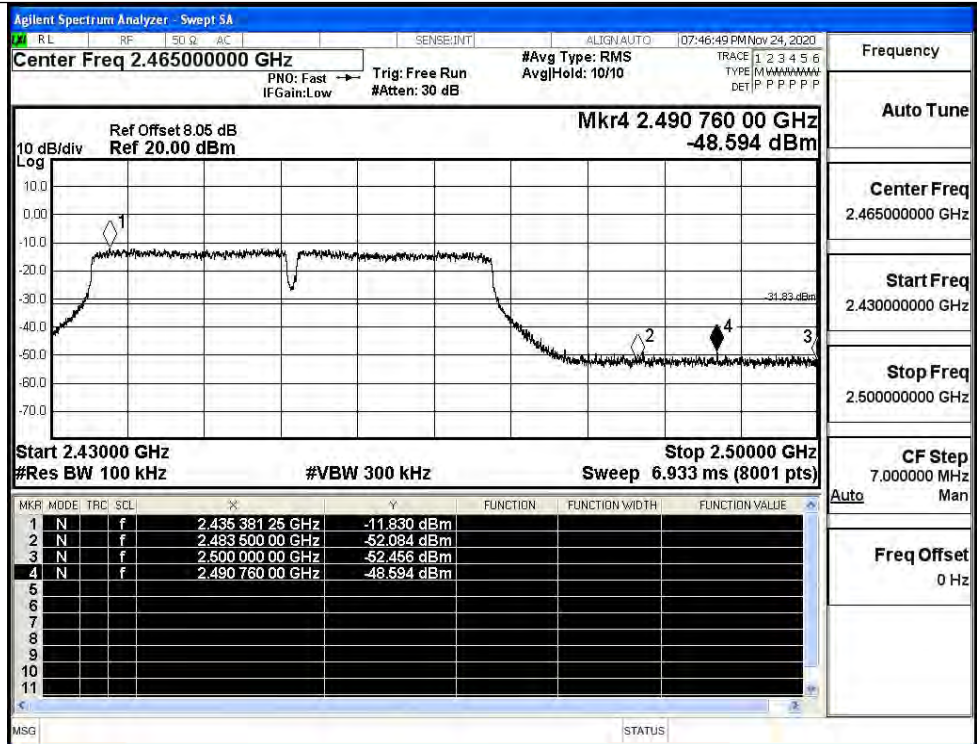
11N20SISO/HCH



11N40SISO/LCH



11N40SISO/HCH

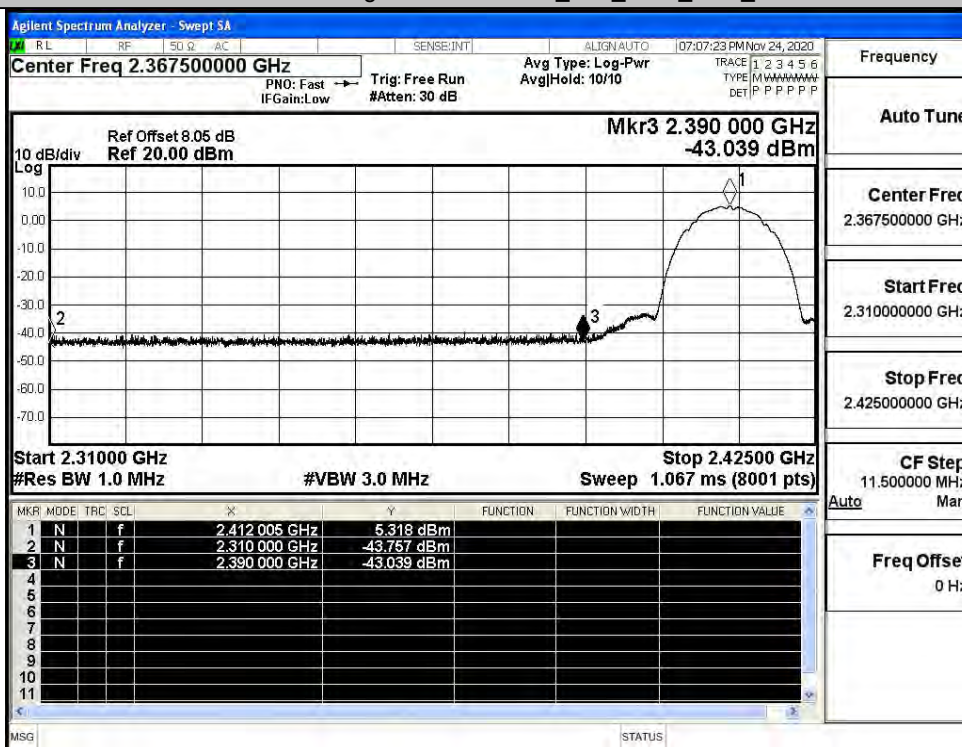


A.7 Restrict-band band-edge measurements

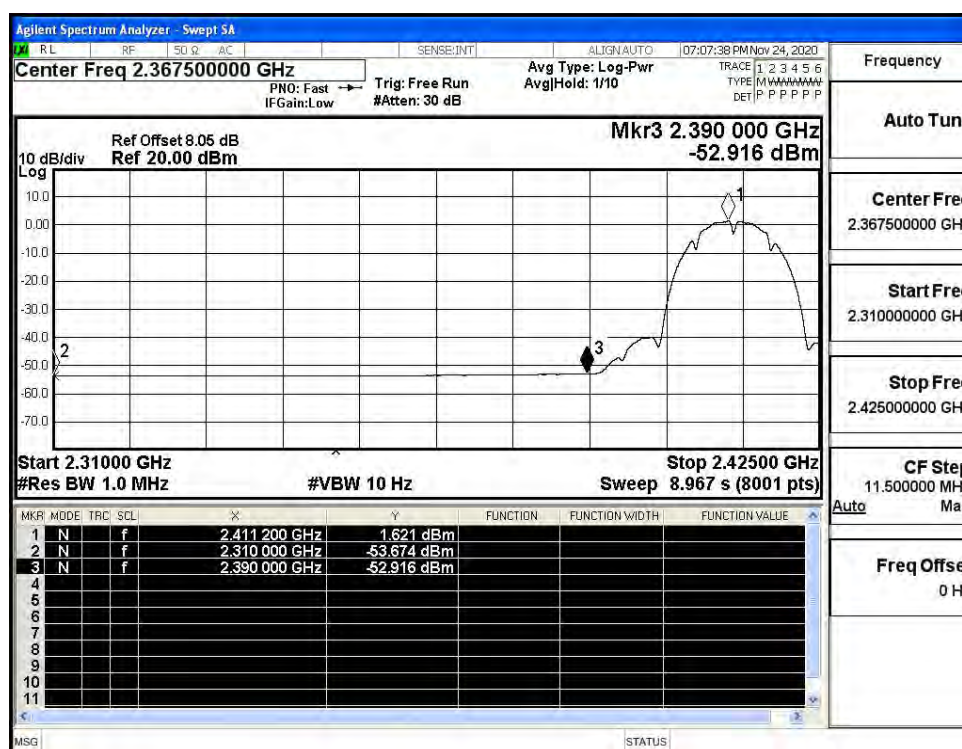
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-43.76	2.0	0	53.47	PEAK	74	PASS
	2412	Ant1	2310.0	-53.67	2.0	0	43.56	AV	54	PASS
	2412	Ant1	2390.0	-43.04	2.0	0	54.19	PEAK	74	PASS
	2412	Ant1	2390.0	-52.92	2.0	0	44.31	AV	54	PASS
	2462	Ant1	2483.5	-40.87	2.0	0	56.36	PEAK	74	PASS
	2462	Ant1	2483.5	-52.28	2.0	0	44.95	AV	54	PASS
	2462	Ant1	2500.0	-42.94	2.0	0	54.29	PEAK	74	PASS
	2462	Ant1	2500.0	-52.50	2.0	0	44.73	AV	54	PASS
11G	2412	Ant1	2310.0	-43.98	2.0	0	53.25	PEAK	74	PASS
	2412	Ant1	2310.0	-53.72	2.0	0	43.51	AV	54	PASS
	2412	Ant1	2390.0	-43.16	2.0	0	54.07	PEAK	74	PASS
	2412	Ant1	2390.0	-52.74	2.0	0	44.49	AV	54	PASS
	2462	Ant1	2483.5	-40.80	2.0	0	56.43	PEAK	74	PASS
	2462	Ant1	2483.5	-52.44	2.0	0	44.79	AV	54	PASS
	2462	Ant1	2500.0	-41.96	2.0	0	55.27	PEAK	74	PASS
	2462	Ant1	2500.0	-52.55	2.0	0	44.68	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-42.59	2.0	0	54.64	PEAK	74	PASS
	2412	Ant1	2310.0	-53.70	2.0	0	43.53	AV	54	PASS
	2412	Ant1	2390.0	-41.06	2.0	0	56.17	PEAK	74	PASS
	2412	Ant1	2390.0	-52.40	2.0	0	44.83	AV	54	PASS
	2462	Ant1	2483.5	-41.33	2.0	0	55.90	PEAK	74	PASS
	2462	Ant1	2483.5	-52.29	2.0	0	44.94	AV	54	PASS
	2462	Ant1	2500.0	-43.02	2.0	0	54.21	PEAK	74	PASS
	2462	Ant1	2500.0	-52.47	2.0	0	44.76	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-42.38	2.0	0	54.85	PEAK	74	PASS
	2422	Ant1	2310.0	-53.55	2.0	0	43.68	AV	54	PASS
	2422	Ant1	2390.0	-41.10	2.0	0	56.13	PEAK	74	PASS

	2422	Ant1	2390.0	-52.43	2.0	0	44.80	AV	54	PASS
	2452	Ant1	2483.5	-41.41	2.0	0	55.82	PEAK	74	PASS
	2452	Ant1	2483.5	-52.37	2.0	0	44.86	AV	54	PASS
	2452	Ant1	2500.0	-42.34	2.0	0	54.89	PEAK	74	PASS
	2452	Ant1	2500.0	-52.39	2.0	0	44.84	AV	54	PASS

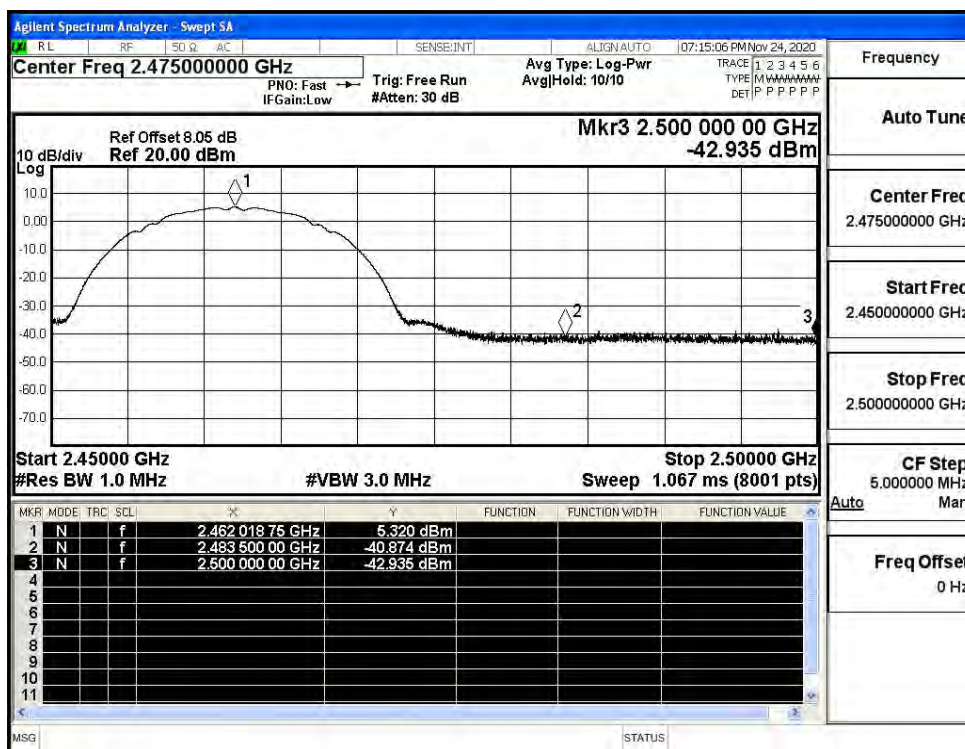
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



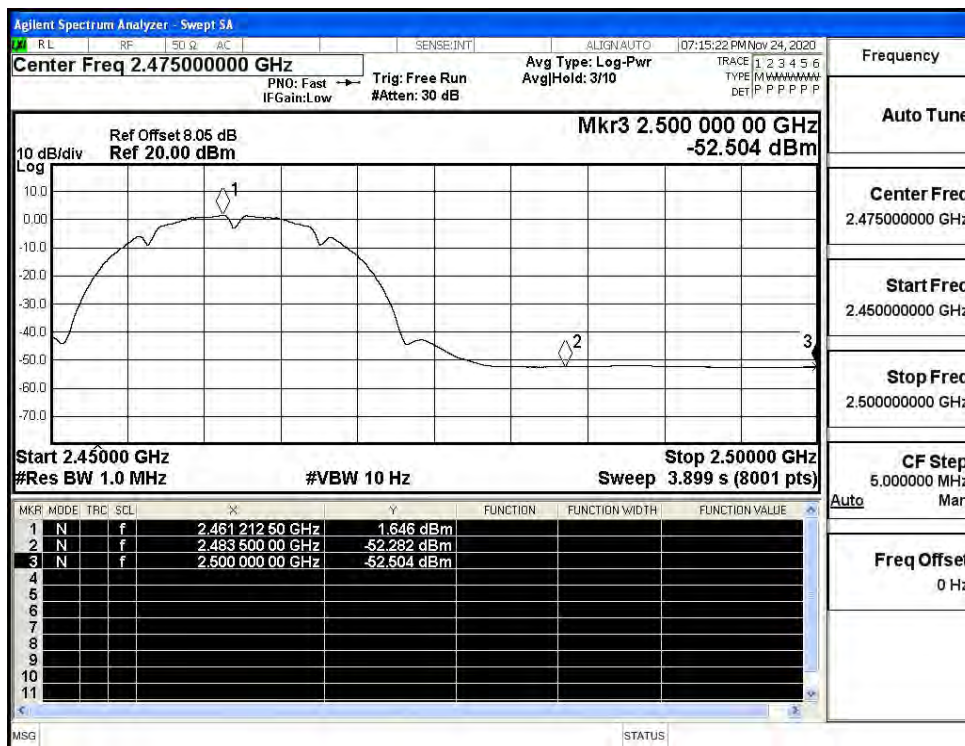
Restrict-band band-edge measurements_11B_2412_Ant1_AV



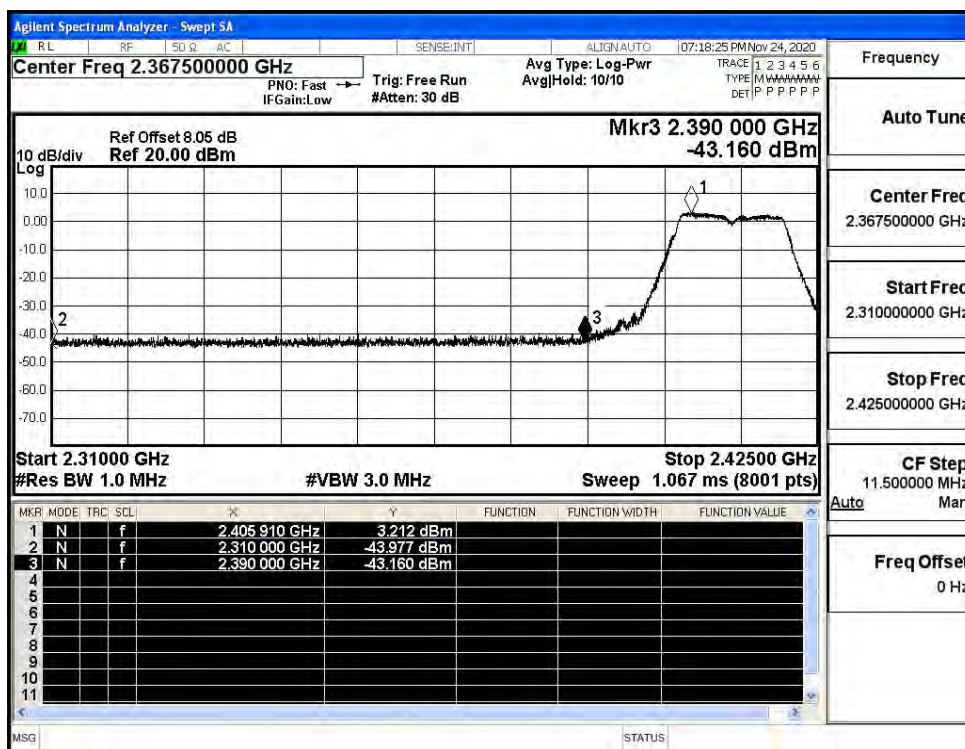
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



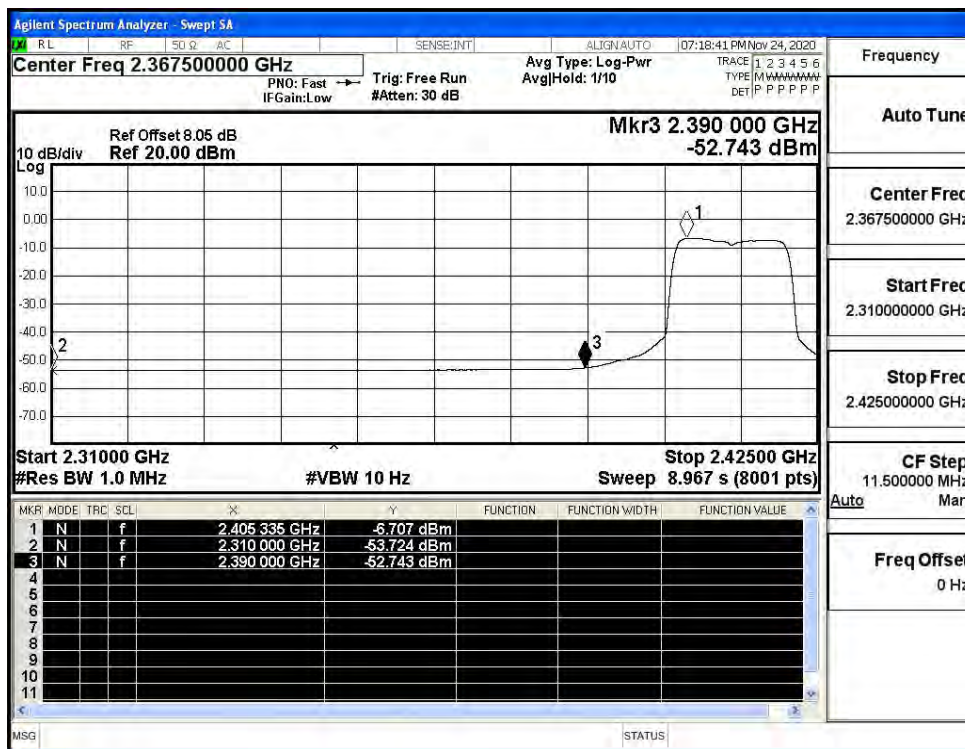
Restrict-band band-edge measurements_11B_2462_Ant1_AV



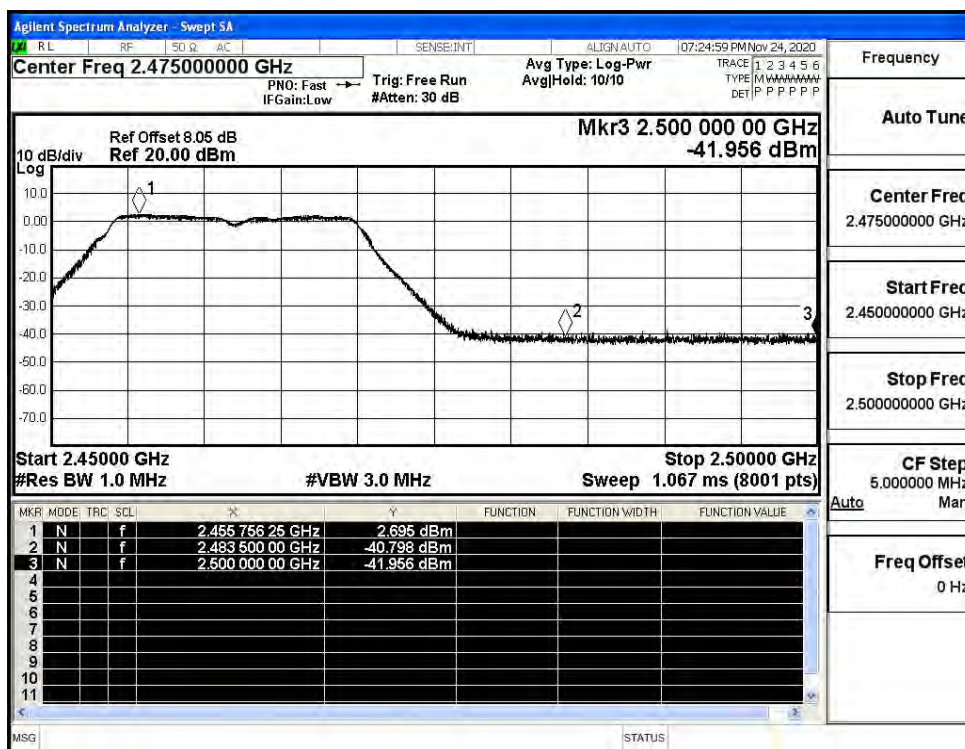
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



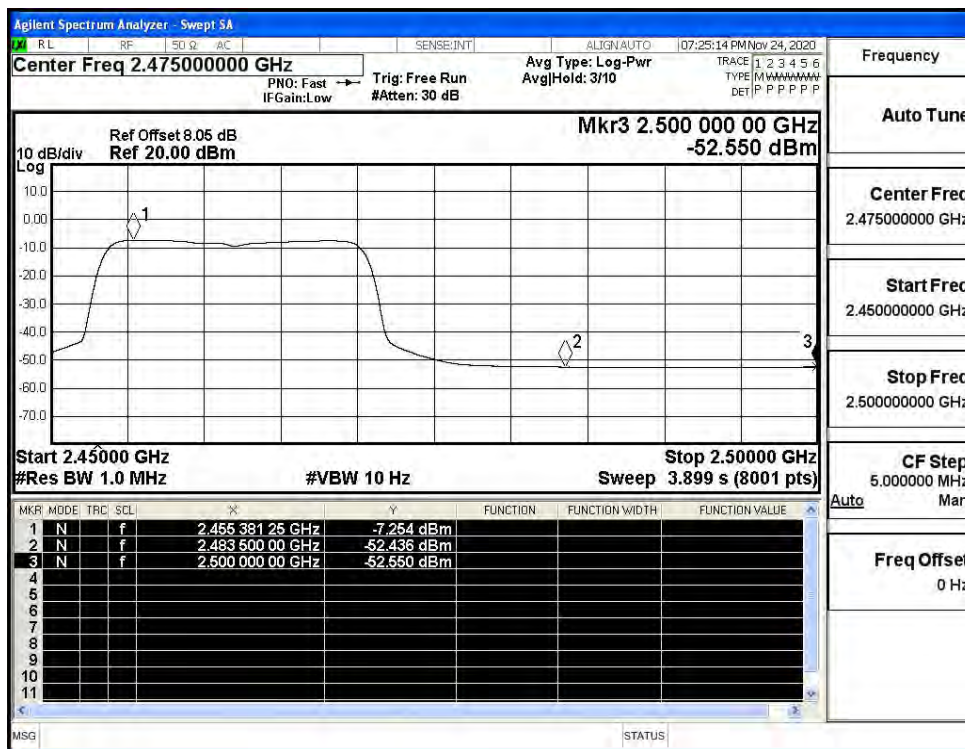
Restrict-band band-edge measurements_11G_2412_Ant1_AV



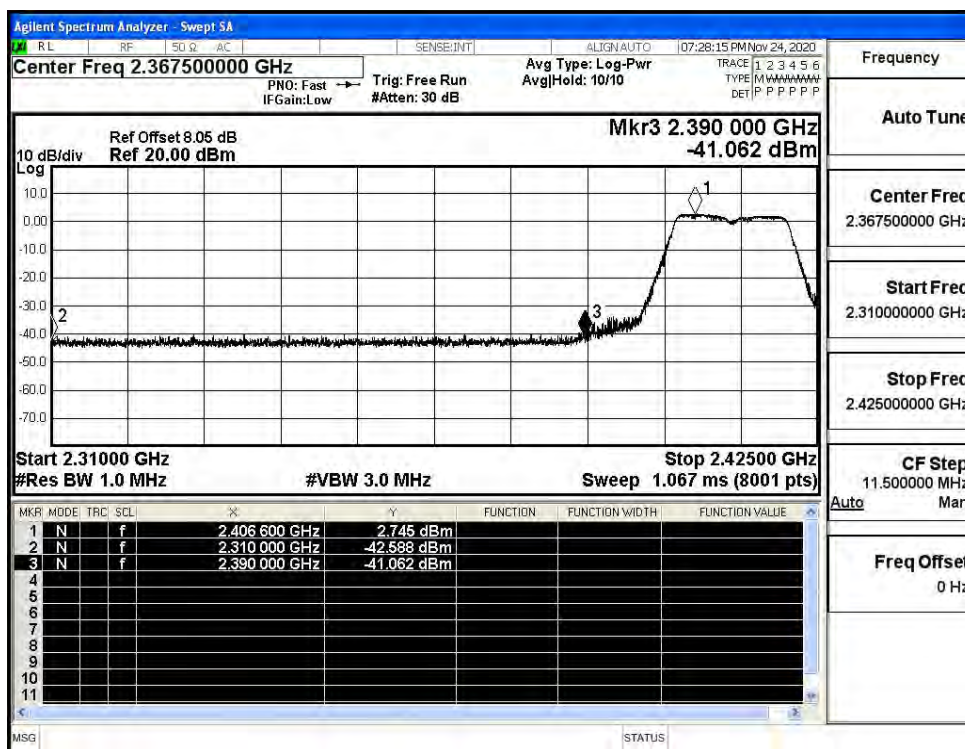
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



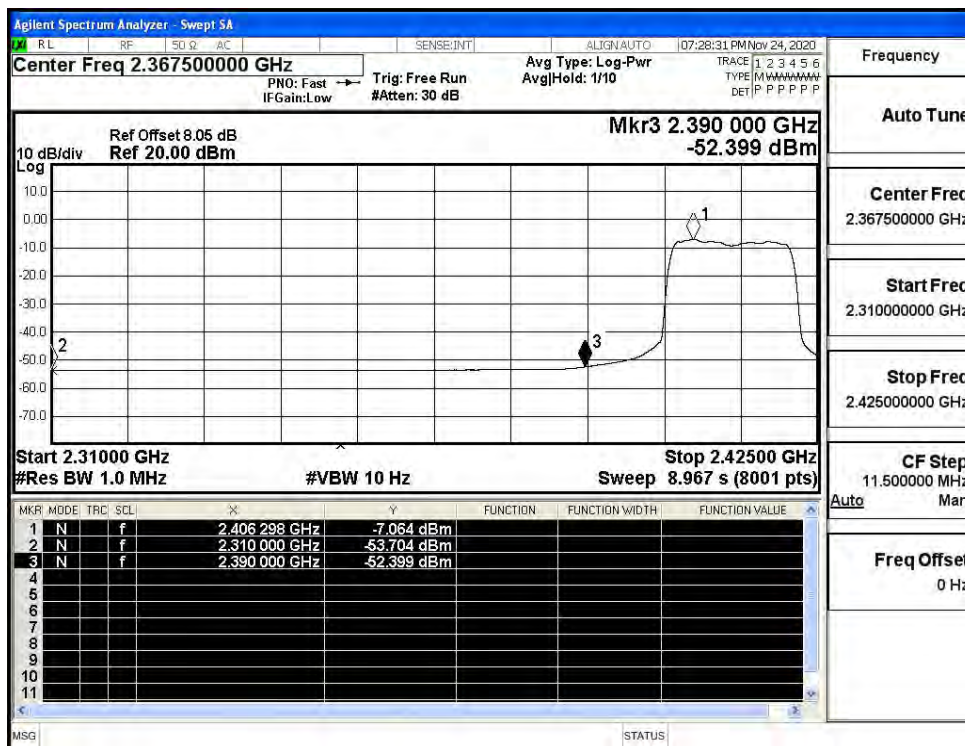
Restrict-band band-edge measurements_11G_2462_Ant1_AV



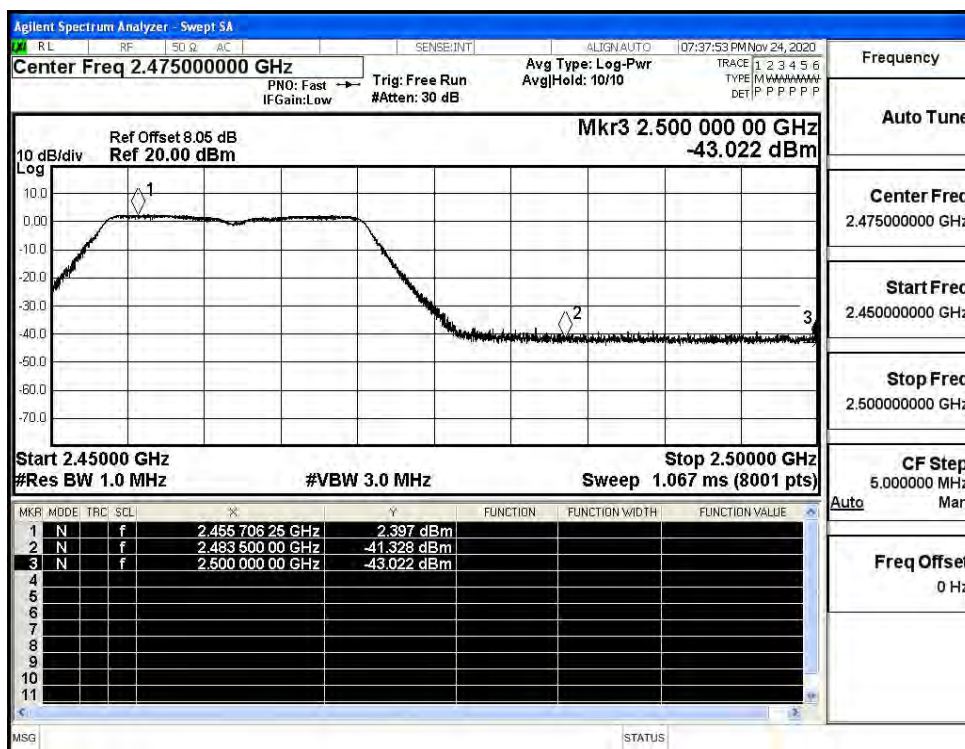
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



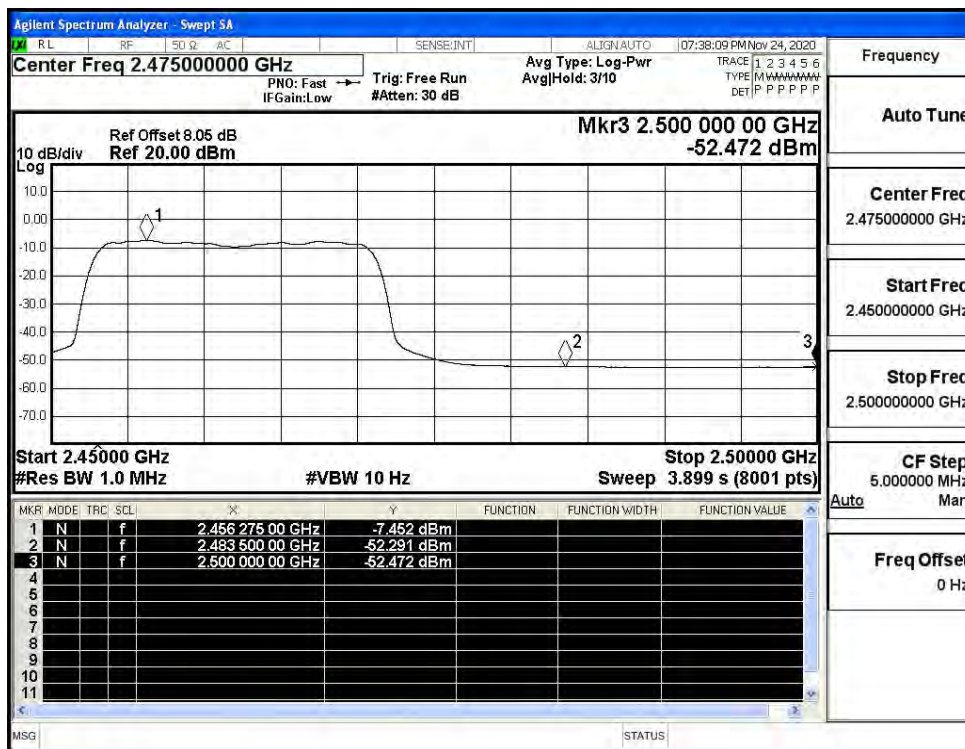
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



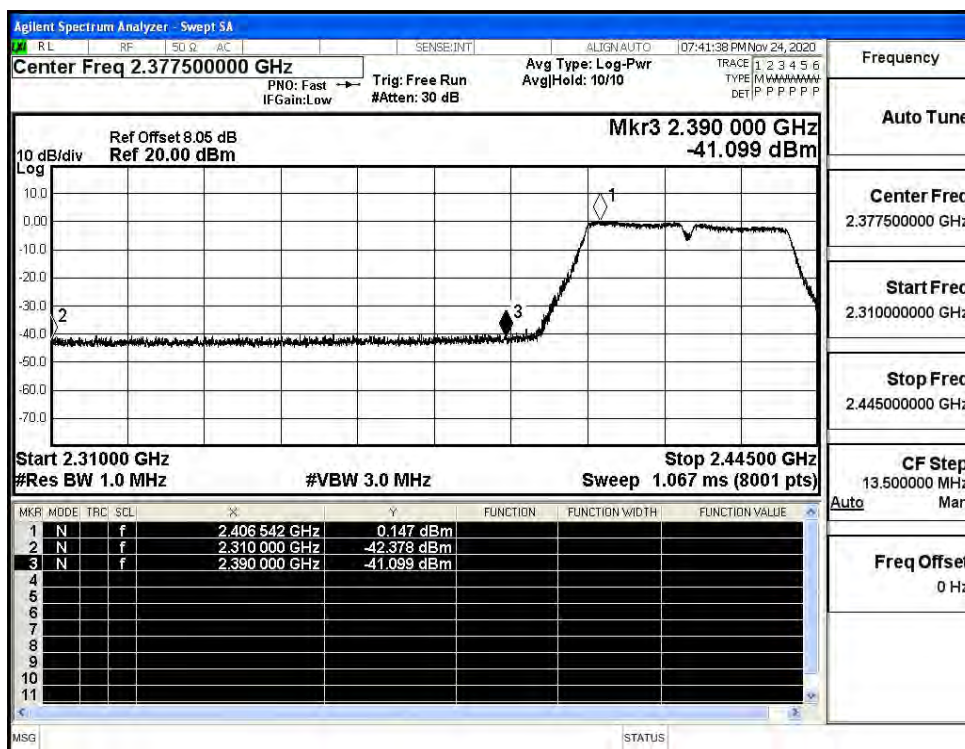
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



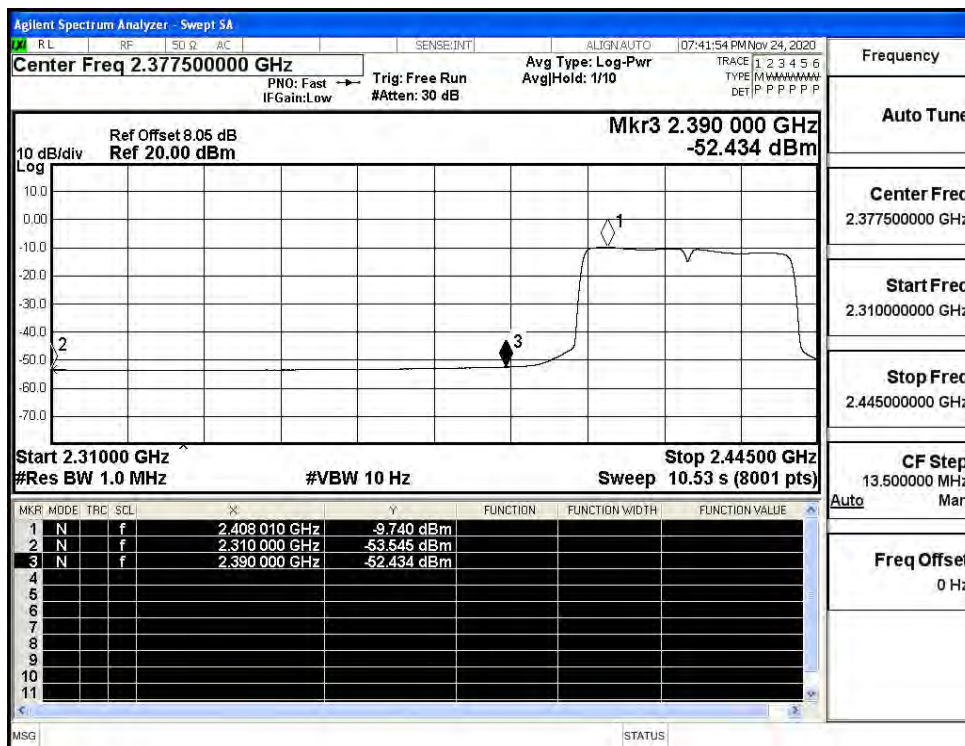
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_AV



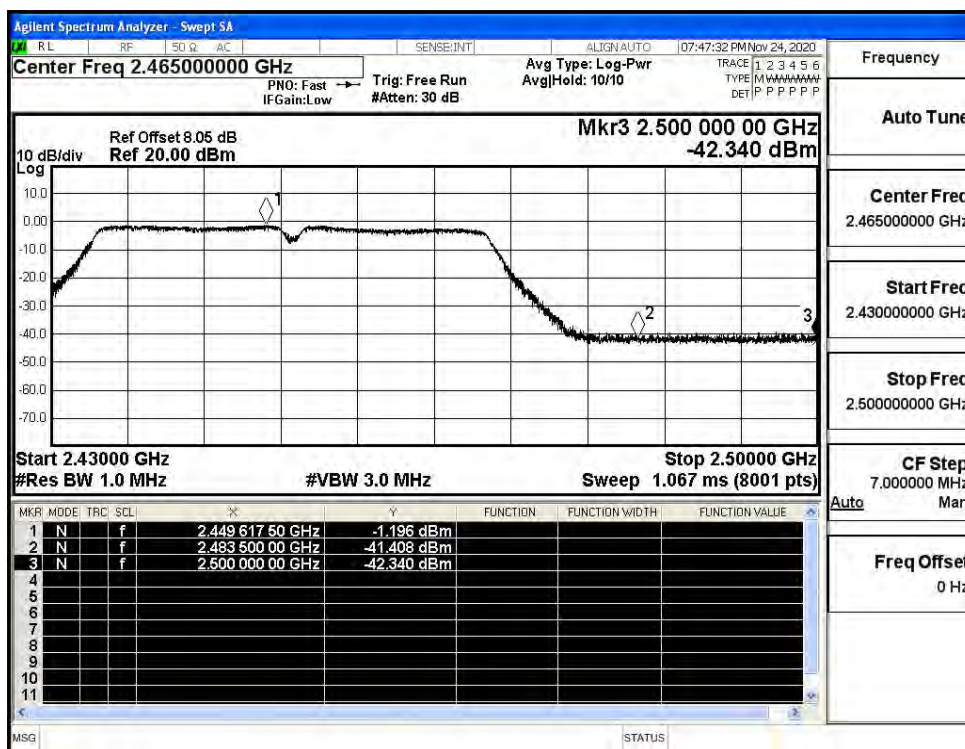
Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



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

