

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Trustee

Trade Mark: N/A

Test Model: Trustee One

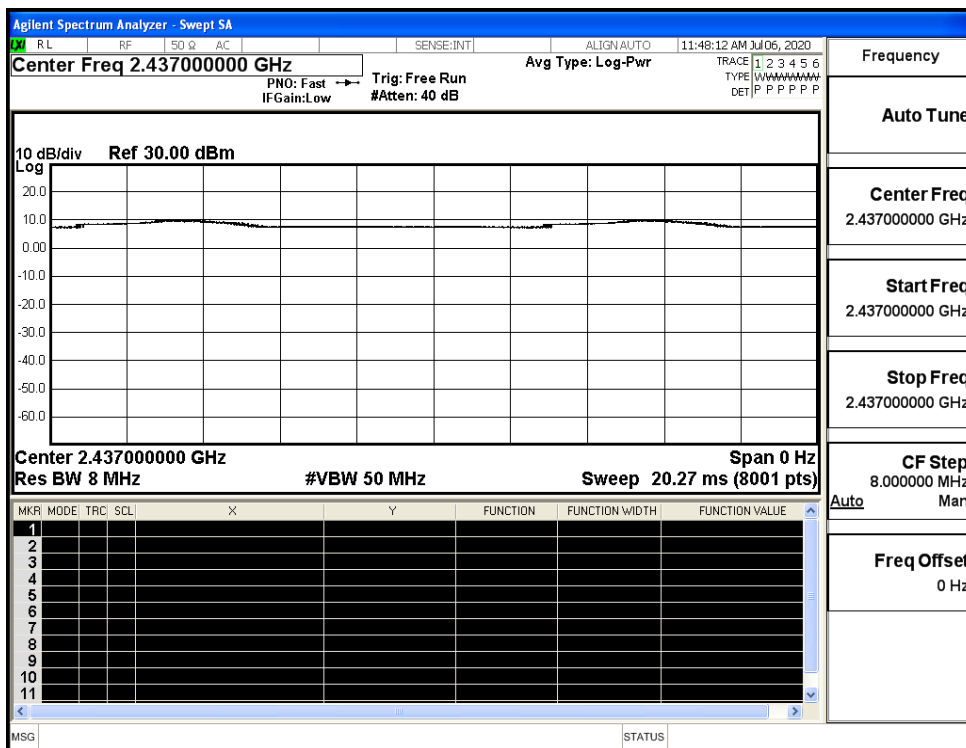
Environmental Conditions

Temperature:	24.5° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

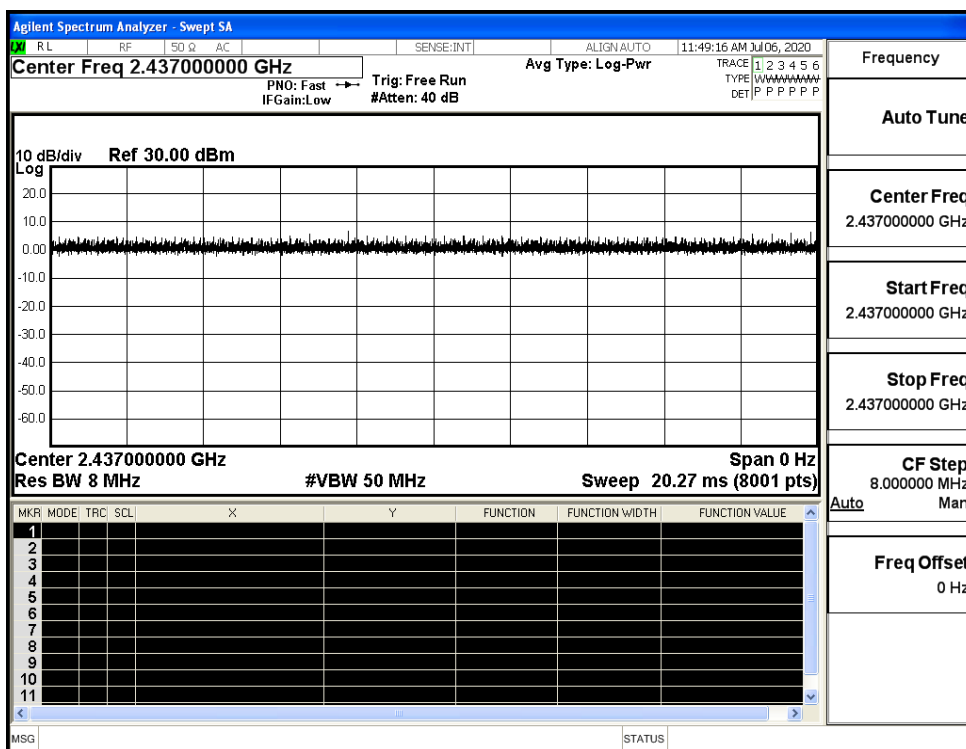
A.1 Duty Cycle

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

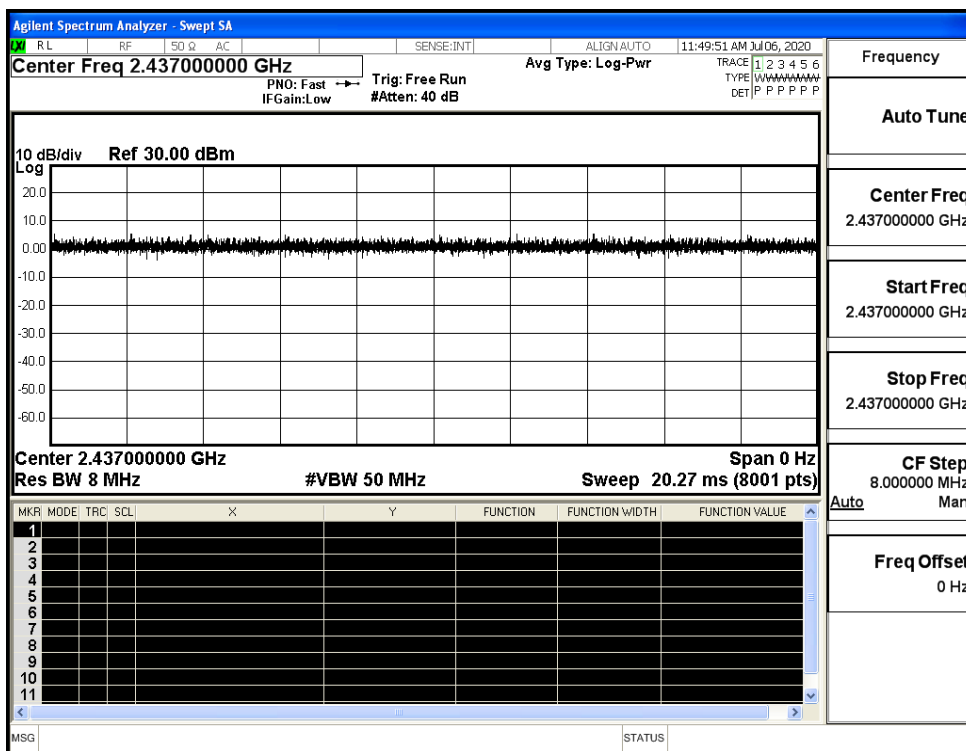
Duty Cycle_11B_2437_Ant1



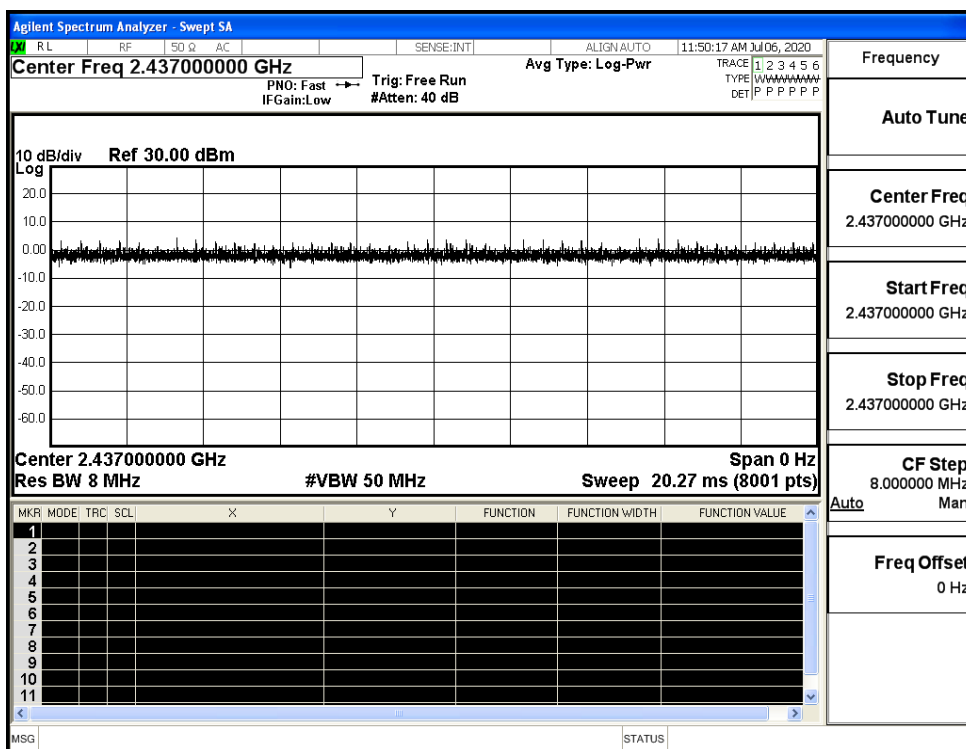
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1

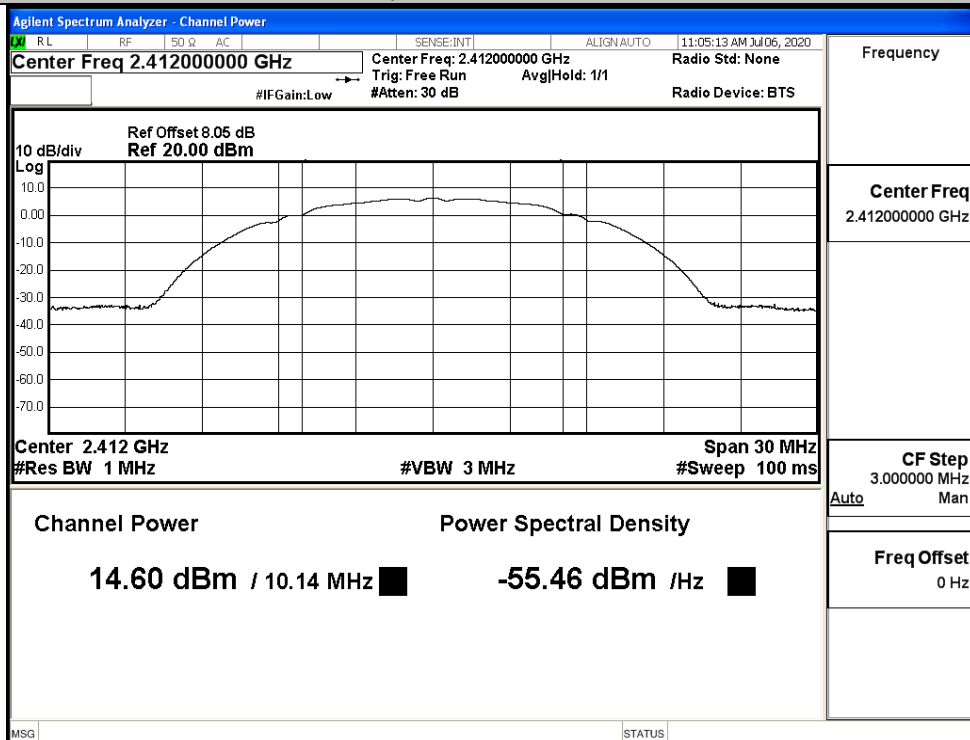


A.2 Maximum Conducted Output Power

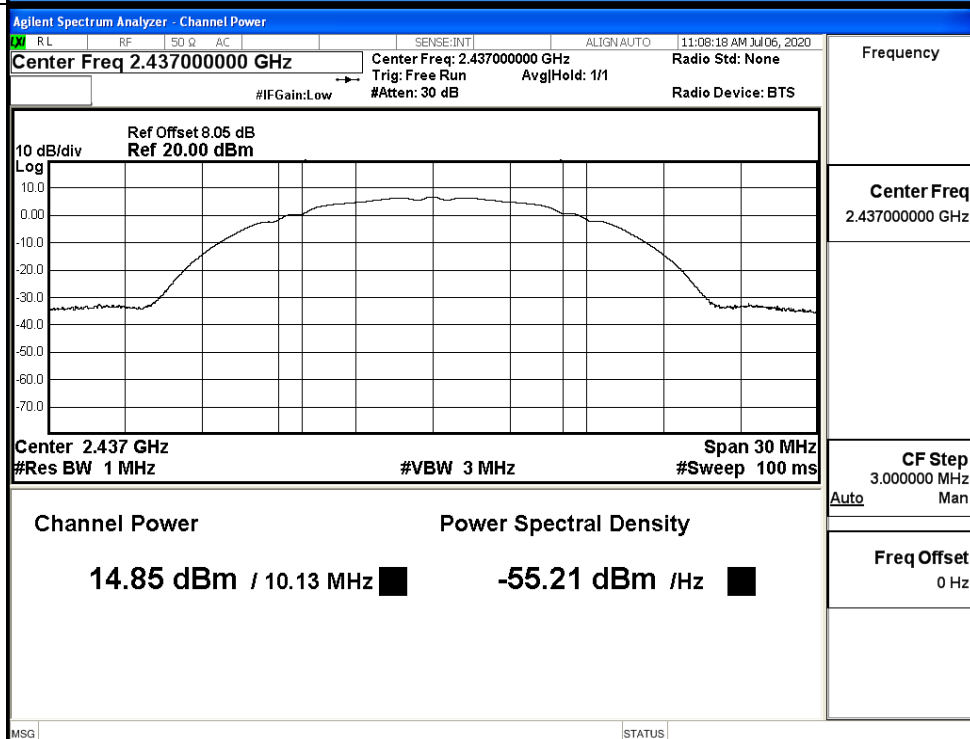
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	14.6	30	PASS
	MCH	14.85	30	PASS
	HCH	14.75	30	PASS
11G	LCH	14.14	30	PASS
	MCH	14.27	30	PASS
	HCH	13.73	30	PASS
11N20SISO	LCH	14.36	30	PASS
	MCH	14.54	30	PASS
	HCH	14.02	30	PASS
11N40SISO	LCH	13.92	30	PASS
	MCH	14.14	30	PASS
	HCH	14.28	30	PASS

Test Graphs

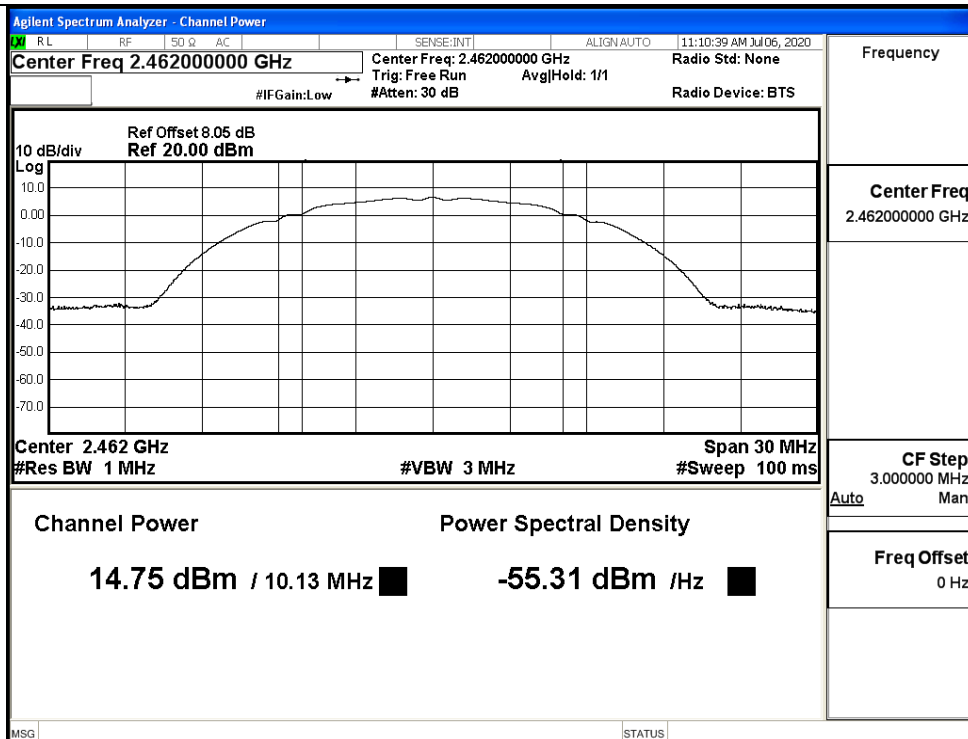
11B/LCH



11B/MCH



11B/HCH



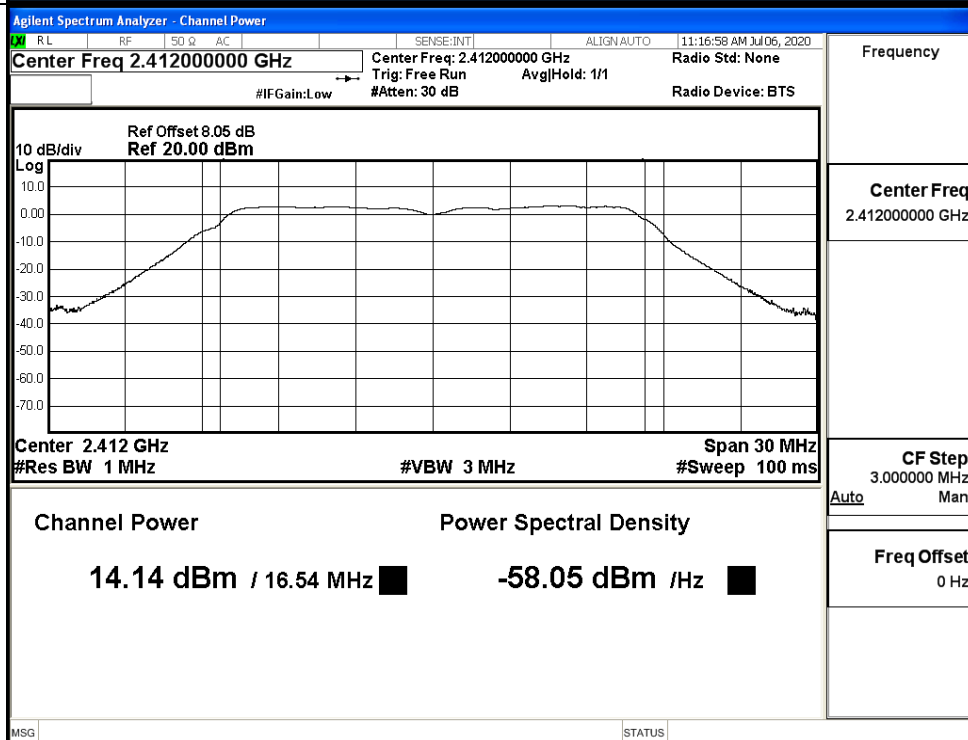
Frequency

Center Freq
2.462000000 GHz

CF Step
3.000000 MHz
Auto Man

Freq Offset
0 Hz

11G/LCH



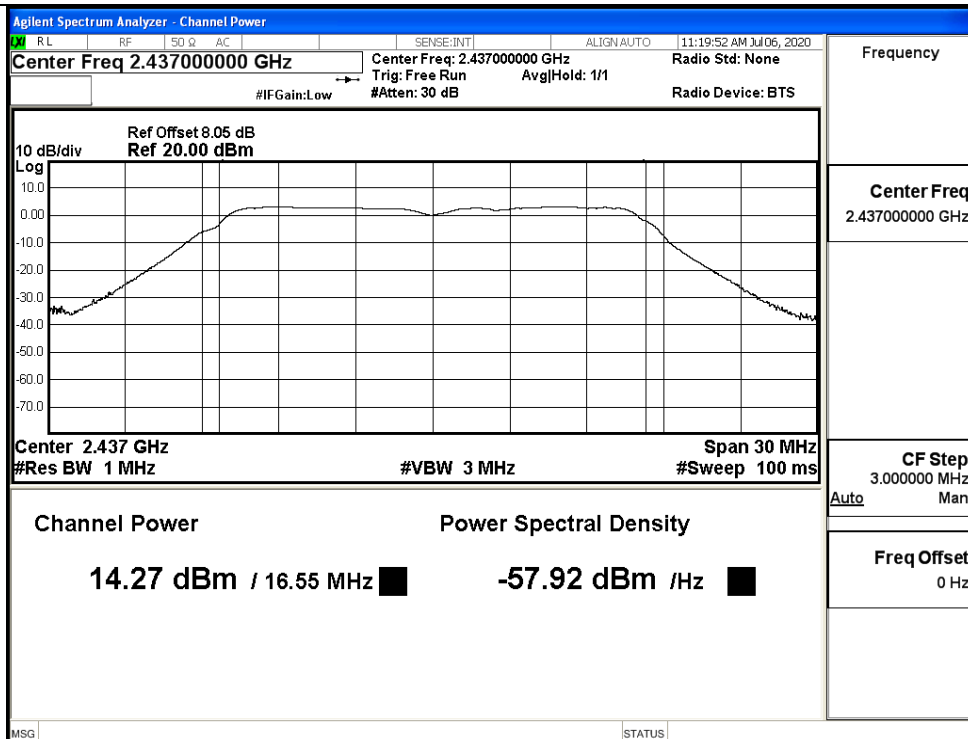
Frequency

Center Freq
2.412000000 GHz

CF Step
3.000000 MHz
Auto Man

Freq Offset
0 Hz

11G/MCH



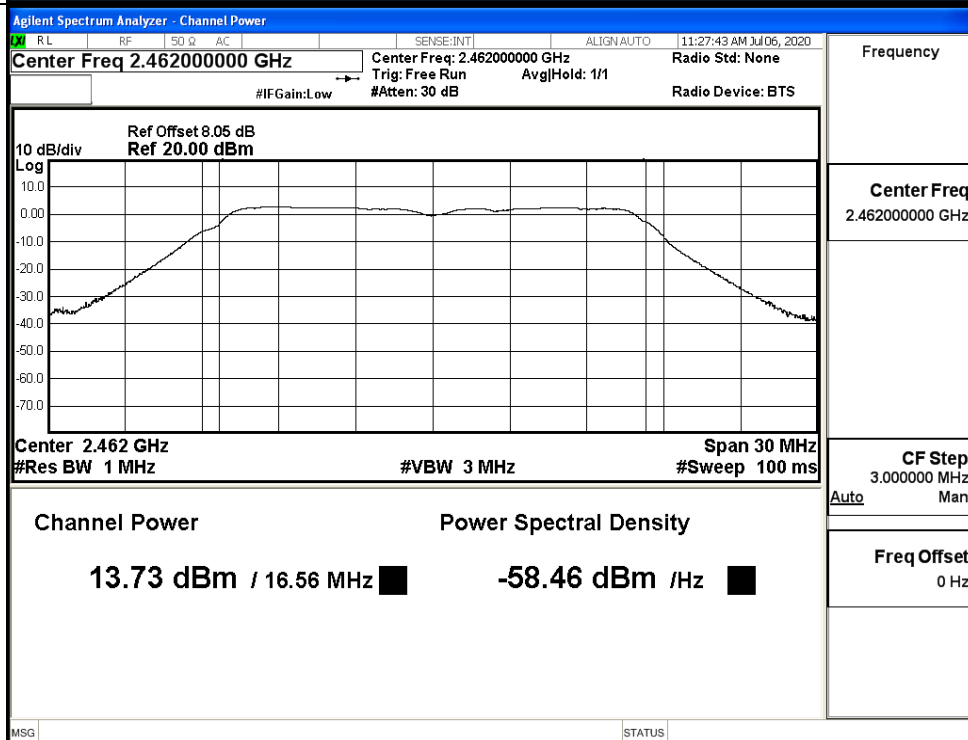
Frequency

Center Freq
2.437000000 GHz

CF Step
3.000000 MHz
Auto Man

Freq Offset
0 Hz

11G/HCH

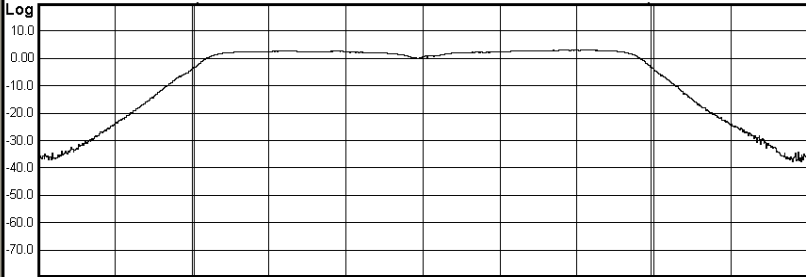
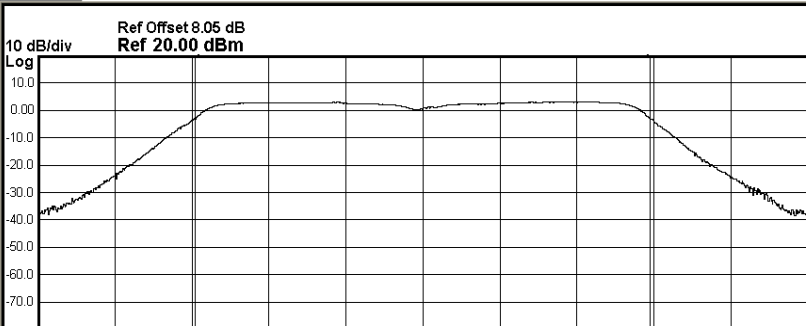


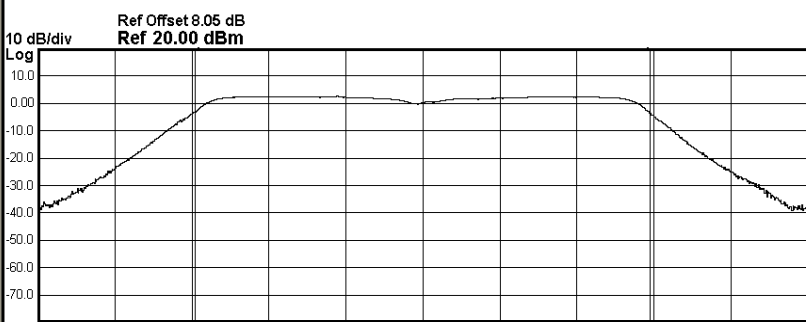
Frequency

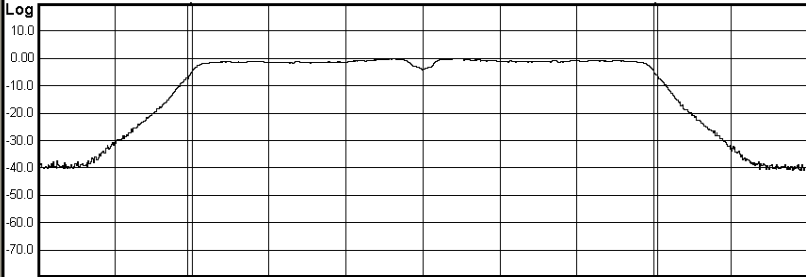
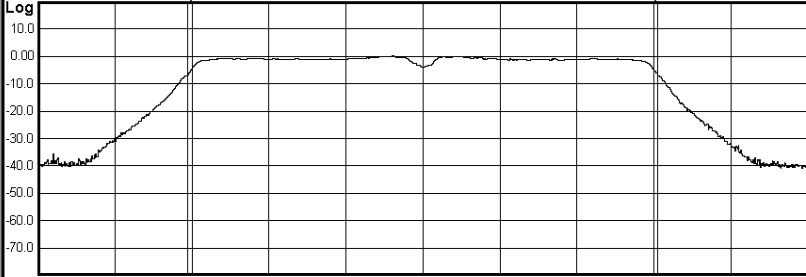
Center Freq
2.462000000 GHz

CF Step
3.000000 MHz
Auto Man

Freq Offset
0 Hz

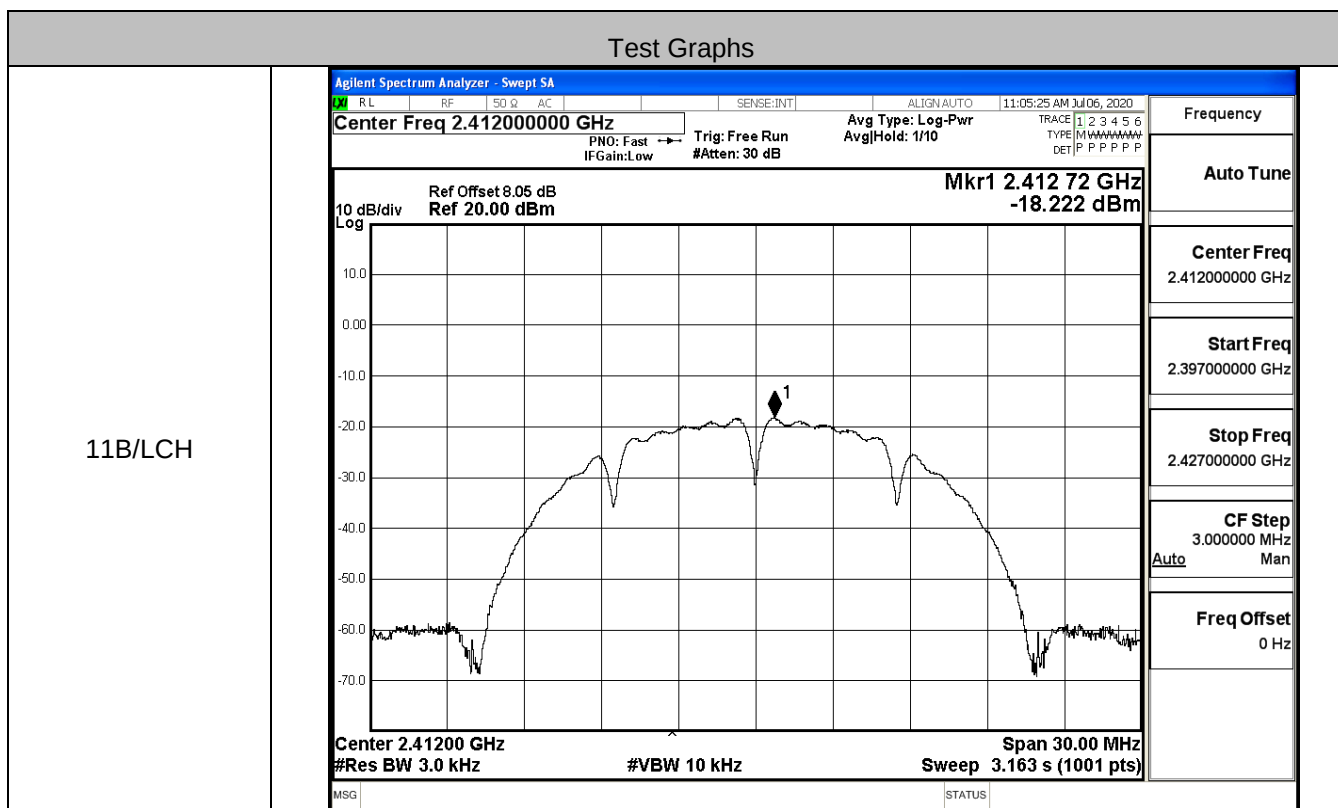
11N20SISO/LCH	Agilent Spectrum Analyzer - Channel Power RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 11:31:01 AM Jul 06, 2020 Center Freq 2.412000000 GHz Center Freq: 2.412000000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None #IFGain: Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref Offset 8.05 dB Ref 20.00 dBm Log  Center 2.412 GHz #Res BW 1 MHz #VBW 3 MHz Span 30 MHz #Sweep 100 ms Channel Power Power Spectral Density 14.36 dBm / 17.72 MHz -58.12 dBm /Hz MSG STATUS	Frequency Center Freq 2.412000000 GHz CF Step 3.000000 MHz Auto Man Freq Offset 0 Hz
11N20SISO/MCH	Agilent Spectrum Analyzer - Channel Power RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 11:34:02 AM Jul 06, 2020 Center Freq 2.437000000 GHz Center Freq: 2.437000000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None #IFGain: Low #Atten: 30 dB Radio Device: BTS 10 dB/div Ref Offset 8.05 dB Ref 20.00 dBm Log  Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 30 MHz #Sweep 100 ms Channel Power Power Spectral Density 14.54 dBm / 17.69 MHz -57.94 dBm /Hz MSG STATUS	Frequency Center Freq 2.437000000 GHz CF Step 3.000000 MHz Auto Man Freq Offset 0 Hz

11N20SISO/HCH	Agilent Spectrum Analyzer - Channel Power RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 11:36:33 AM Jul 06, 2020 Center Freq 2.462000000 GHz Center Freq: 2.462000000 GHz Radio Std: None Trig: Free Run Avg Hold: 1/1 #IFGain: Low #Atten: 30 dB Radio Device: BTS Ref Offset 8.05 dB Ref 20.00 dBm  Center 2.462 GHz Span 30 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 100 ms Channel Power Power Spectral Density 14.02 dBm / 17.69 MHz -58.45 dBm /Hz MSG STATUS Frequency Center Freq 2.462000000 GHz CF Step 3.000000 MHz Auto Man Freq Offset 0 Hz
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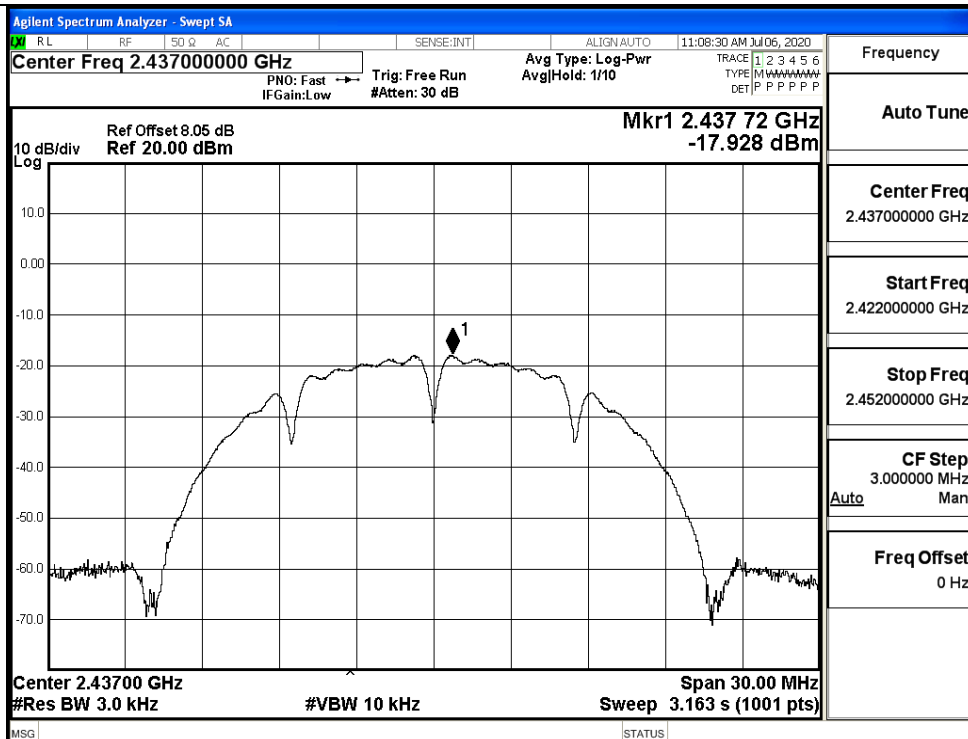
11N40SISO/MCH	Agilent Spectrum Analyzer - Channel Power RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 11:43:02 AM Jul 06, 2020 Center Freq 2.437000000 GHz Center Freq: 2.437000000 GHz Radio Std: None Trig: Free Run Avg Hold: 1/1 #IFGain: Low #Atten: 30 dB Radio Device: BTS Ref Offset 8.05 dB Ref 20.00 dBm 10 dB/div Log  Center 2.437 GHz Span 60 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 100 ms Channel Power Power Spectral Density 14.14 dBm / 36.49 MHz -61.48 dBm /Hz MSG STATUS Frequency Center Freq 2.437000000 GHz CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz
11N40SISO/HCH	Agilent Spectrum Analyzer - Channel Power RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 11:45:45 AM Jul 06, 2020 Center Freq 2.452000000 GHz Center Freq: 2.452000000 GHz Radio Std: None Trig: Free Run Avg Hold: 1/1 #IFGain: Low #Atten: 30 dB Radio Device: BTS Ref Offset 8.05 dB Ref 20.00 dBm 10 dB/div Log  Center 2.452 GHz Span 60 MHz #Res BW 1 MHz #VBW 3 MHz #Sweep 100 ms Channel Power Power Spectral Density 14.28 dBm / 36.48 MHz -61.34 dBm /Hz MSG STATUS Frequency Center Freq 2.452000000 GHz CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz

A.3 Maximum Power Spectral Density

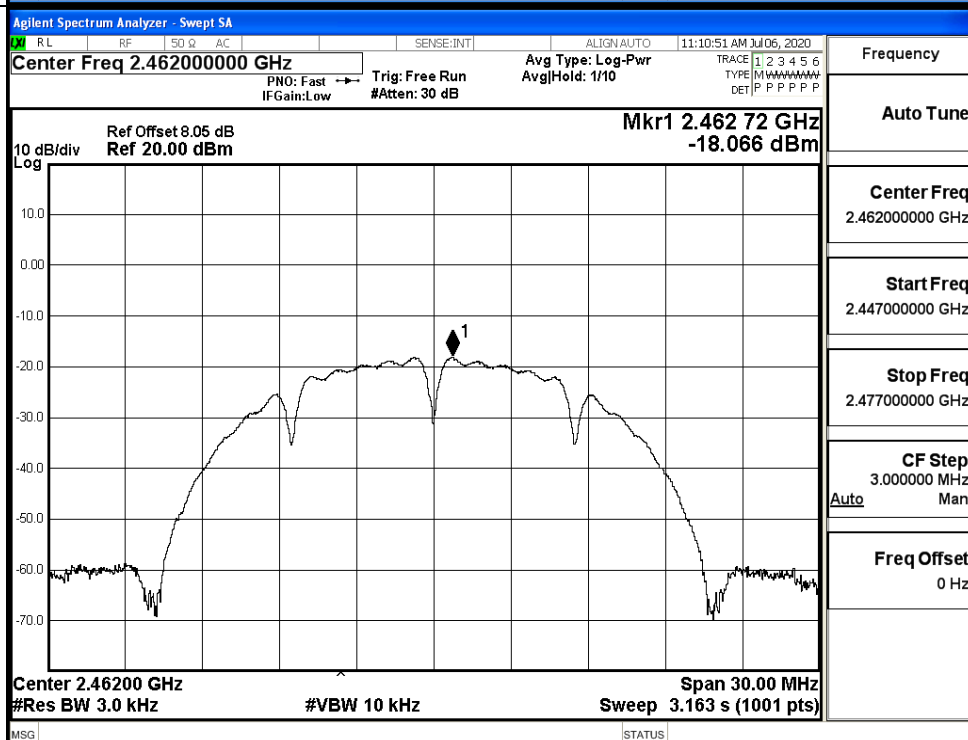
Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-18.222	8	PASS
	MCH	-17.928	8	PASS
	HCH	-18.066	8	PASS
11G	LCH	-22.231	8	PASS
	MCH	-22.104	8	PASS
	HCH	-22.553	8	PASS
11N20SISO	LCH	-21.447	8	PASS
	MCH	-20.682	8	PASS
	HCH	-21.336	8	PASS
11N40SISO	LCH	-23.742	8	PASS
	MCH	-23.883	8	PASS
	HCH	-23.219	8	PASS



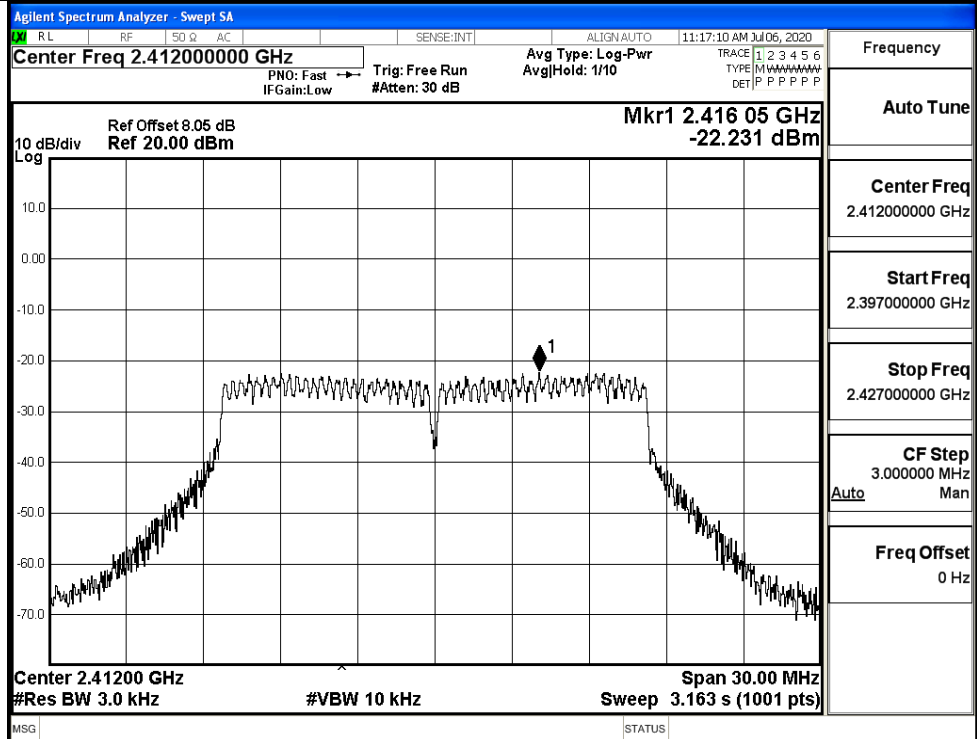
11B/MCH



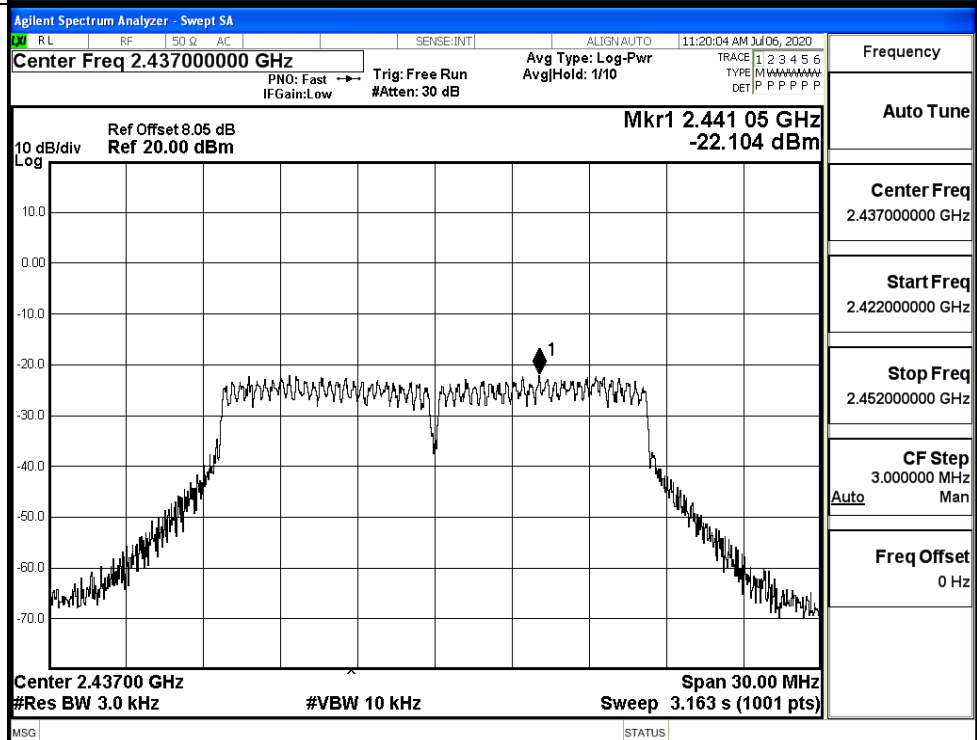
11B/HCH



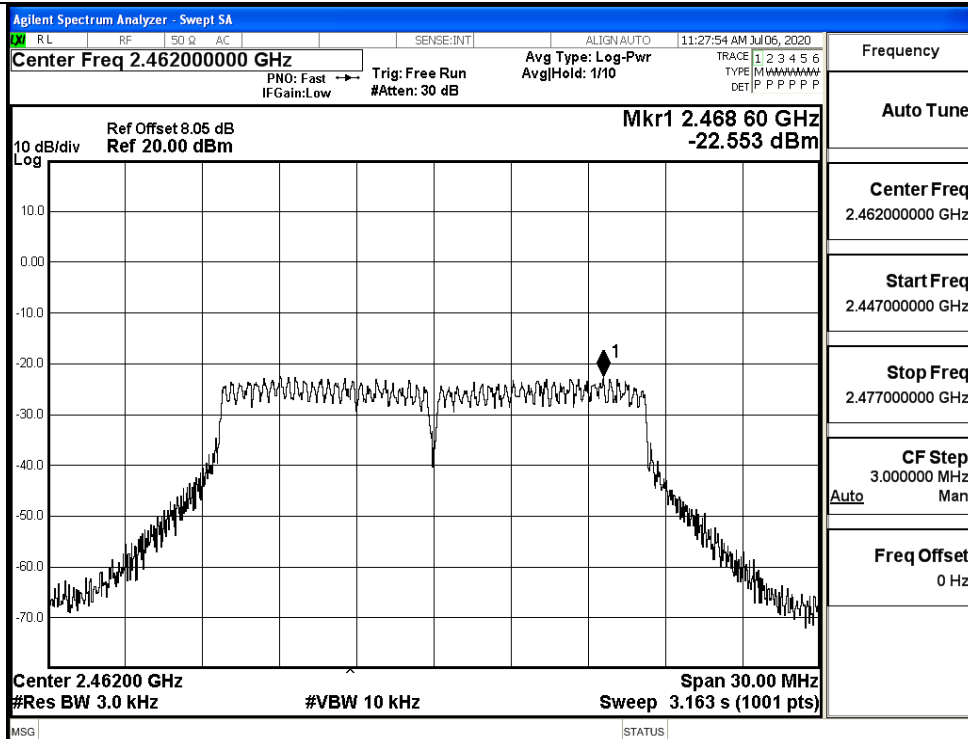
11G/LCH



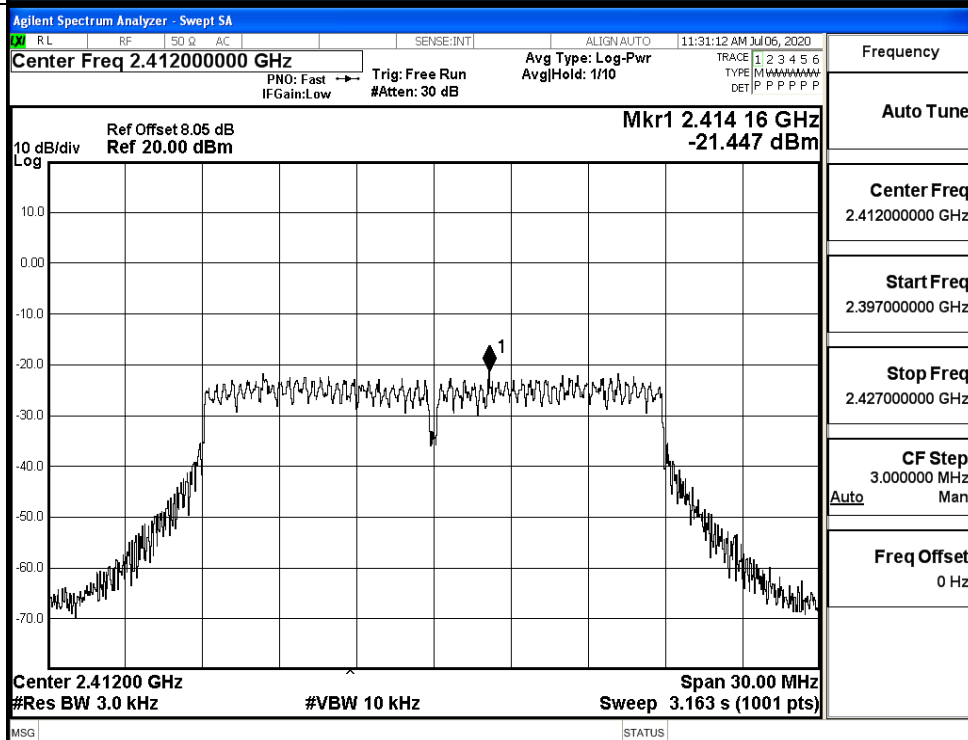
11G/MCH



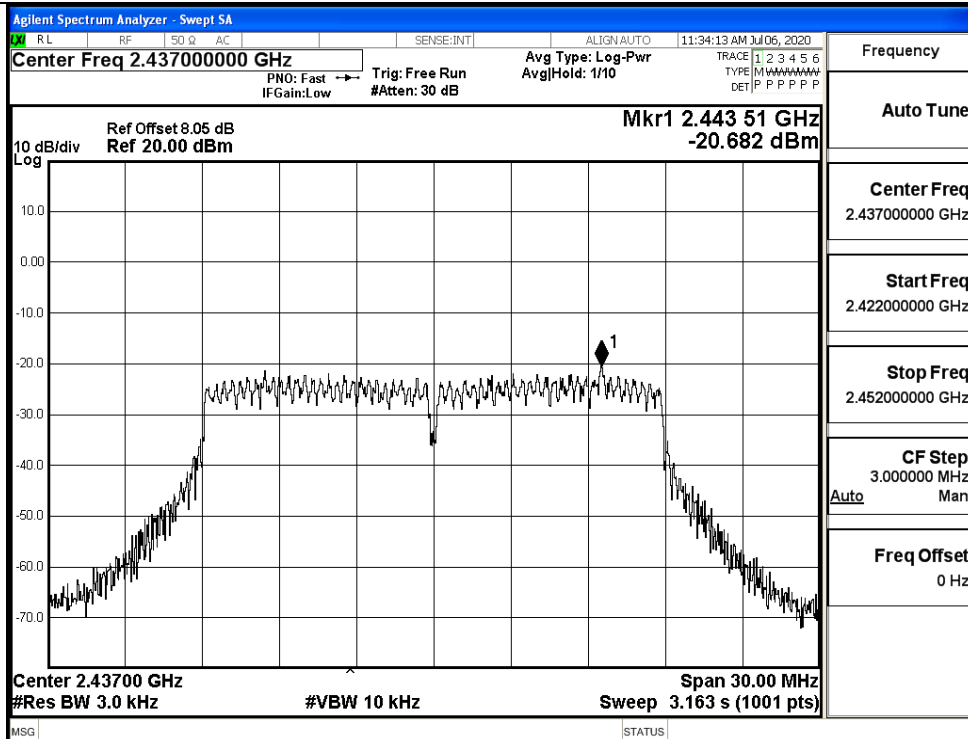
11G/HCH



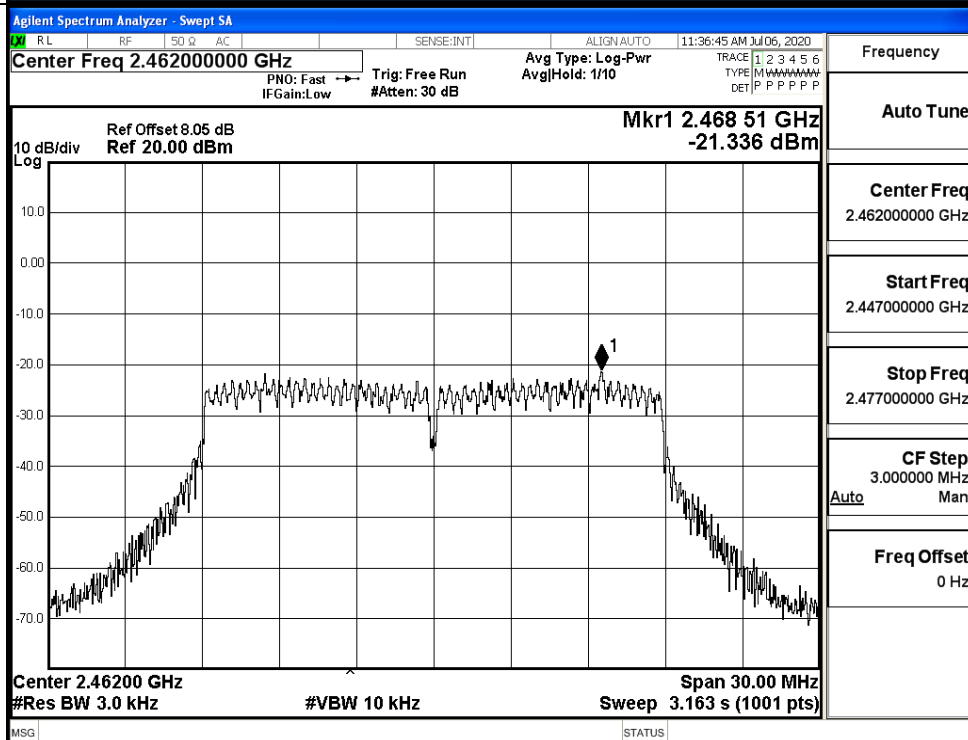
11N20SISO/LCH



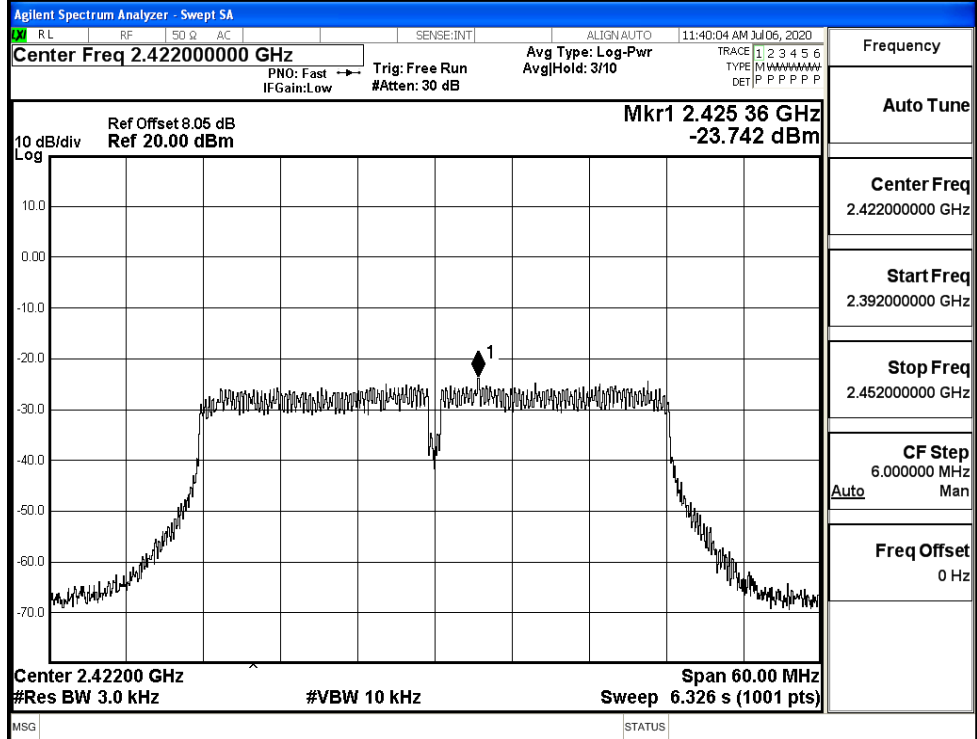
11N20SISO/MCH



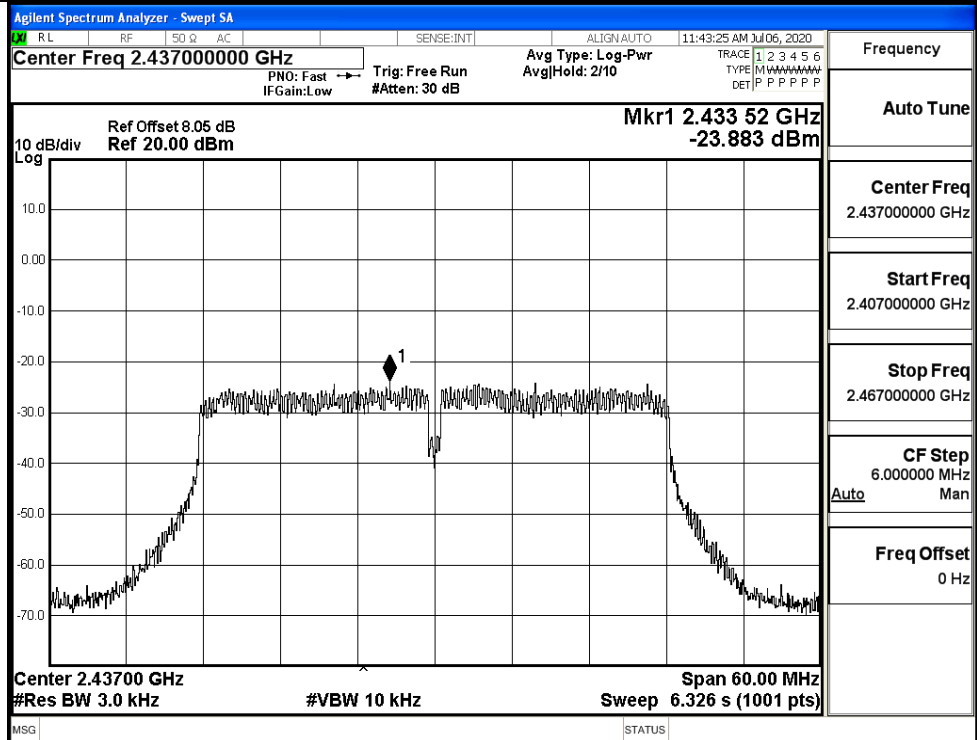
11N20SISO/HCH



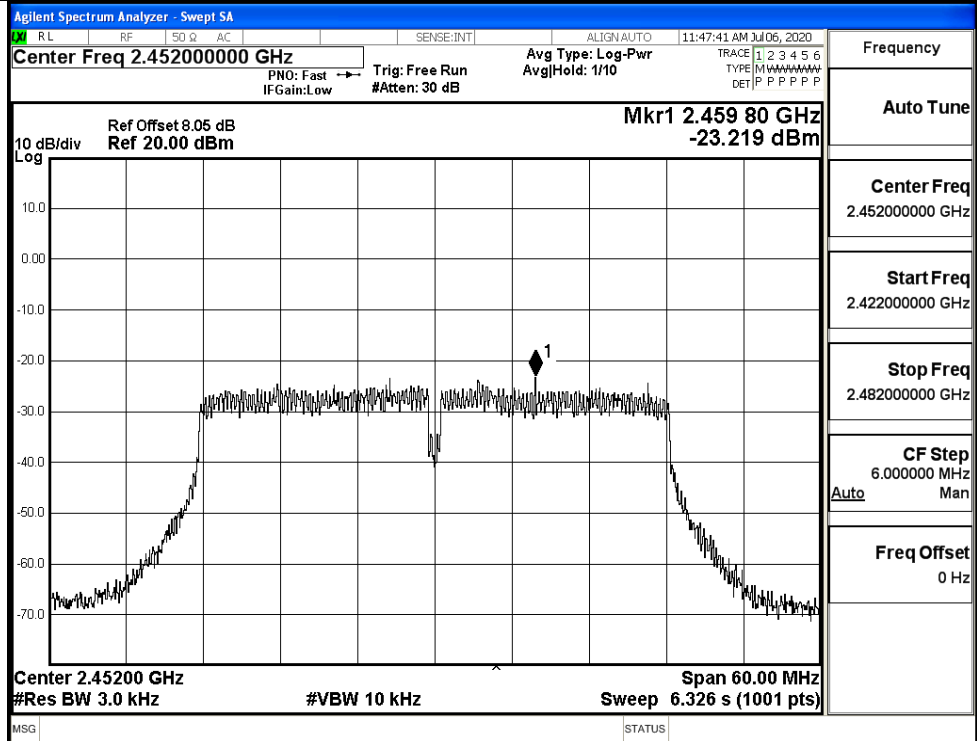
11N40SISO/LCH



11N40SISO/MCH



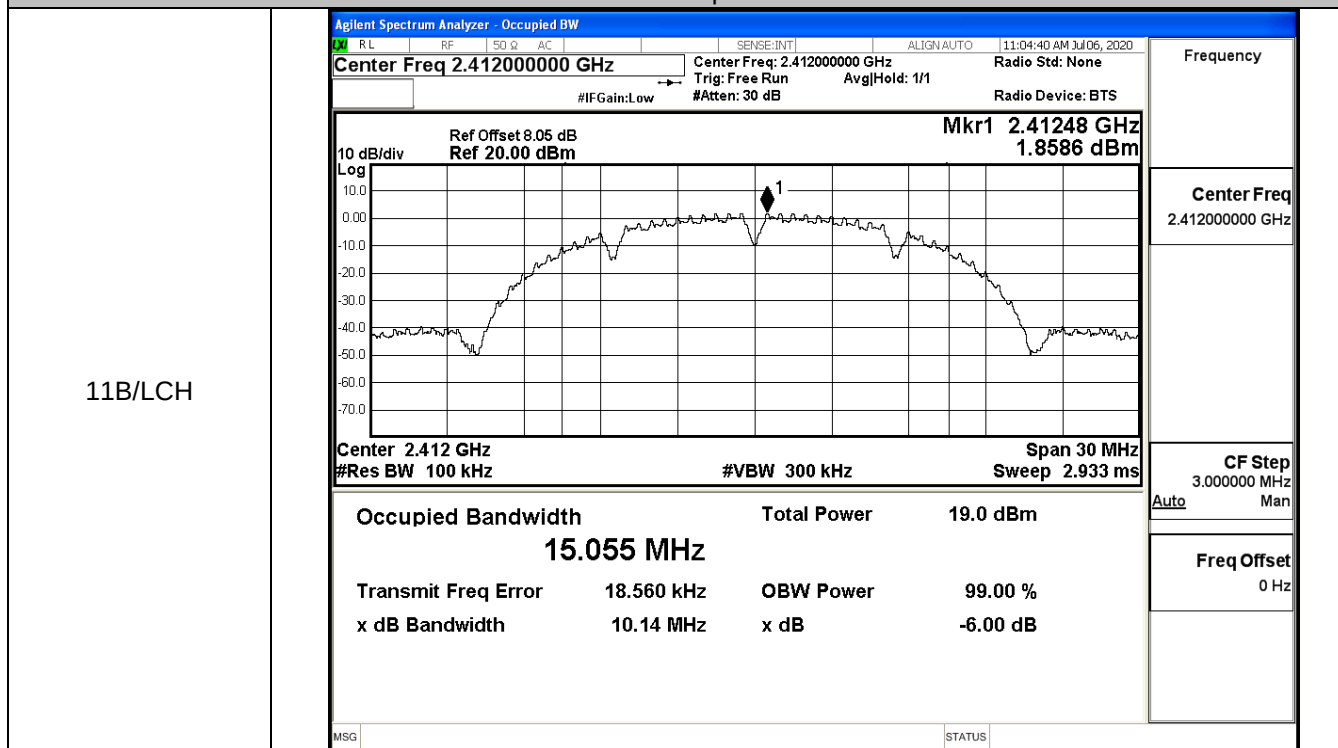
11N40SISO/HCH



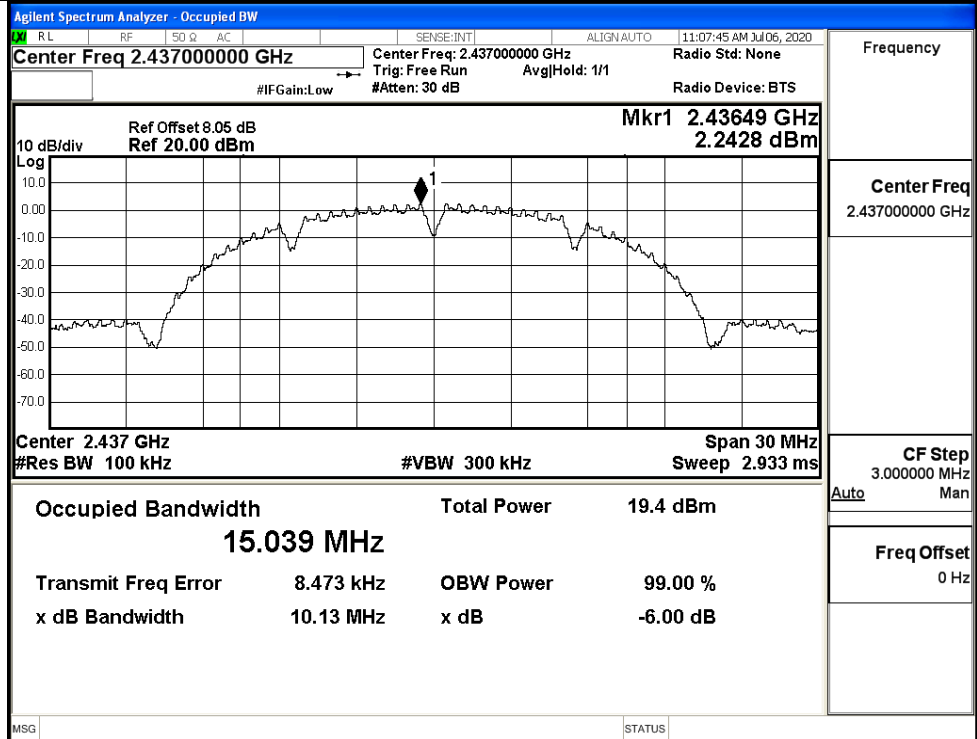
A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	10.14	≥ 0.5	PASS
	MCH	10.13	≥ 0.5	PASS
	HCH	10.13	≥ 0.5	PASS
11G	LCH	16.54	≥ 0.5	PASS
	MCH	16.55	≥ 0.5	PASS
	HCH	16.56	≥ 0.5	PASS
11N20SISO	LCH	17.72	≥ 0.5	PASS
	MCH	17.69	≥ 0.5	PASS
	HCH	17.69	≥ 0.5	PASS
11N40SISO	LCH	36.49	≥ 0.5	PASS
	MCH	36.49	≥ 0.5	PASS
	HCH	36.48	≥ 0.5	PASS

Test Graphs



11B/MCH



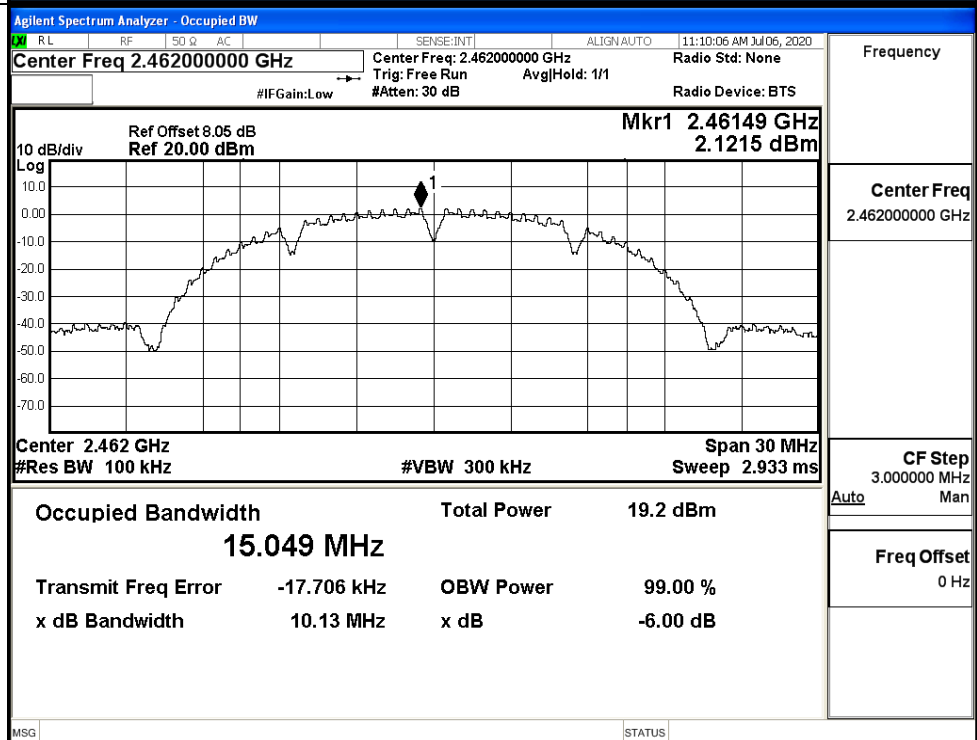
Frequency

Center Freq
2.437000000 GHz

CF Step
3.000000 MHz
Auto Man

Freq Offset
0 Hz

11B/HCH



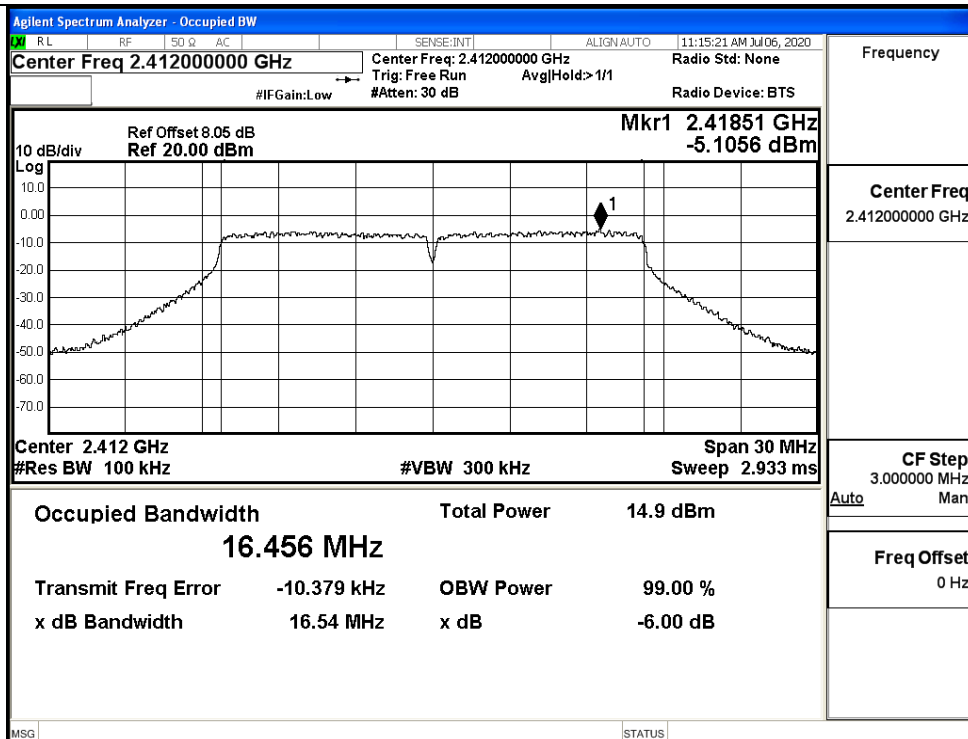
Frequency

Center Freq
2.462000000 GHz

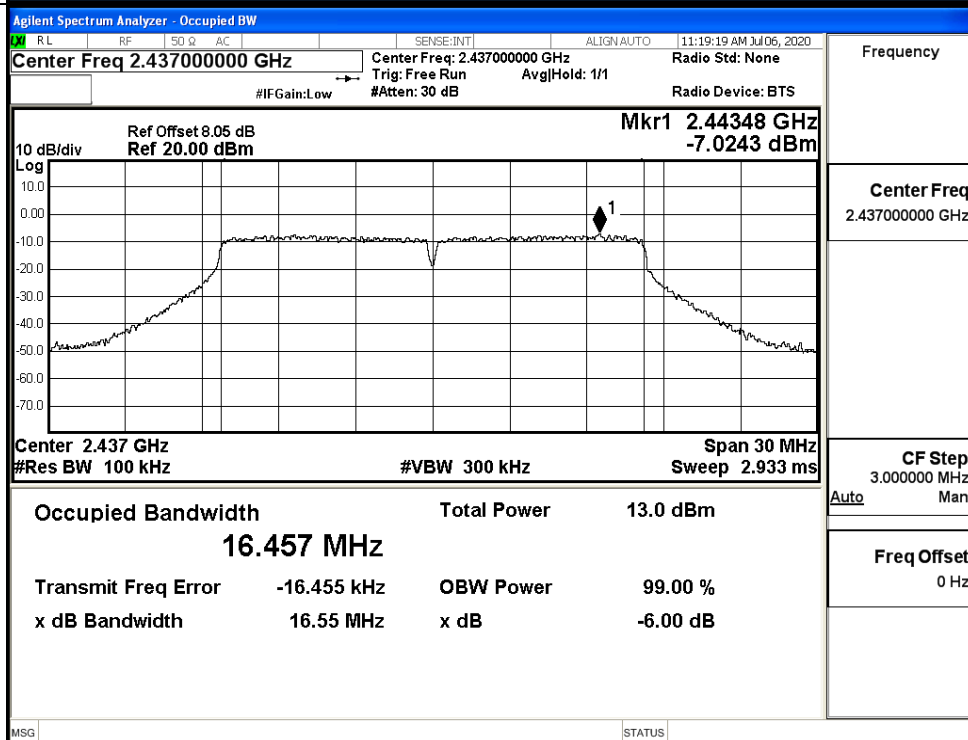
CF Step
3.000000 MHz
Auto Man

Freq Offset
0 Hz

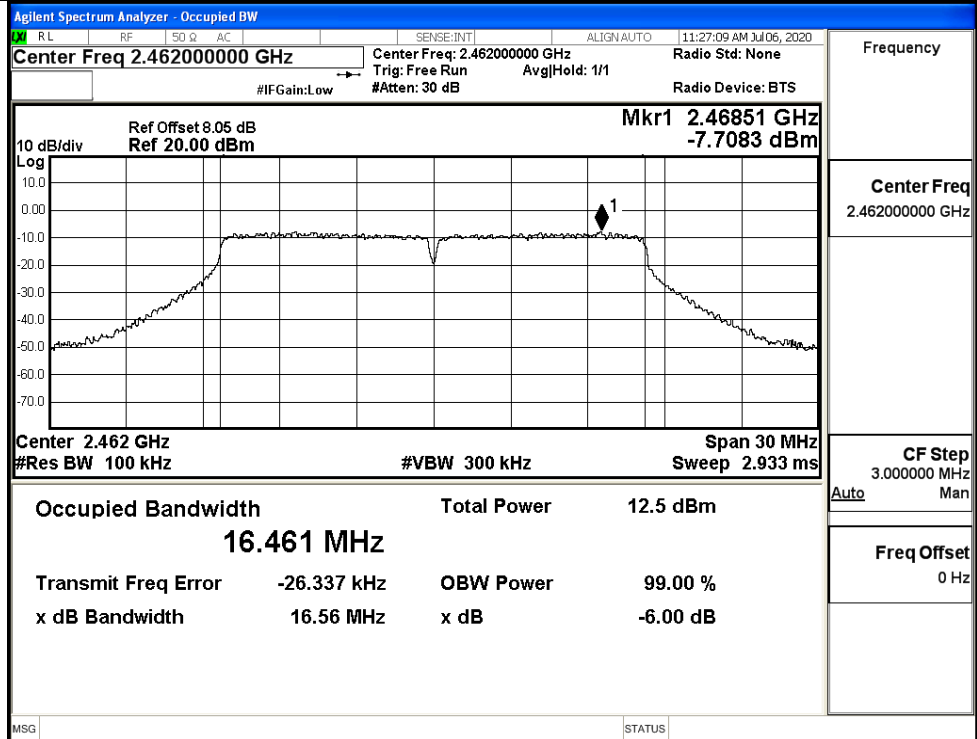
11G/LCH



11G/MCH



11G/HCH



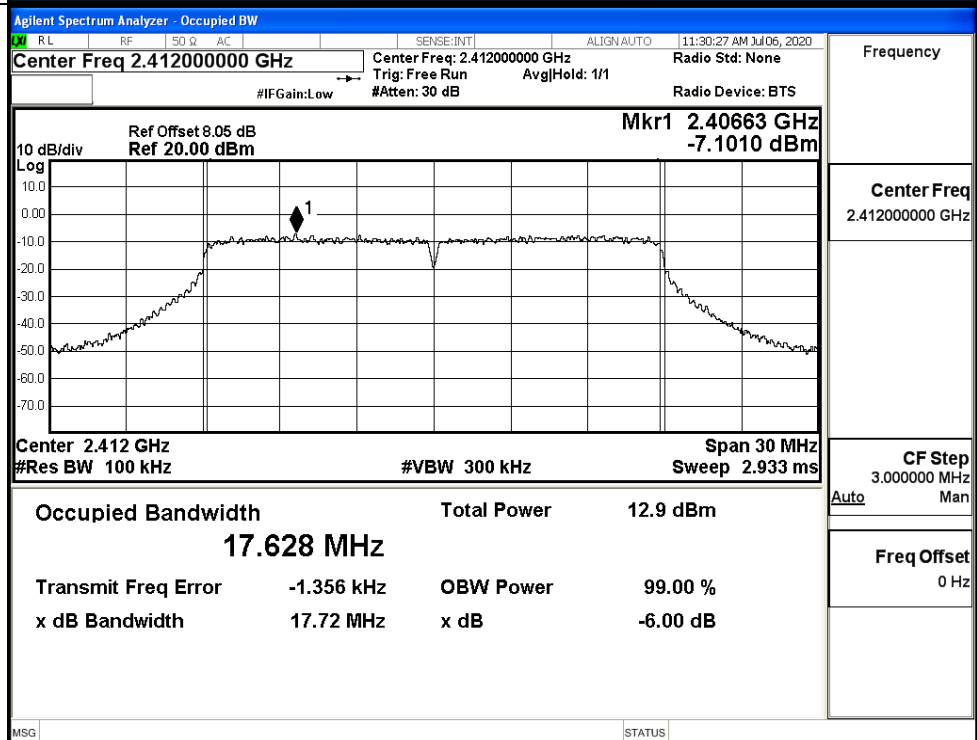
Frequency

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

Agilent Spectrum Analyzer - Occupied BW

Center Freq 2.437000000 GHz

Center Freq: 2.437000000 GHz
Trig: Free Run
Avg/Hold: 1/1

Radio Std: None
Radio Device: BTS

Ref Offset 8.05 dB
Ref 20.00 dBm

Mkr1 2.4316 GHz
-6.6741 dBm

Center 2.437 GHz
#Res BW 100 kHz

Span 30 MHz
#VBW 300 kHz
Sweep 2.933 ms

Occupied Bandwidth	Total Power	13.1 dBm
17.624 MHz		
Transmit Freq Error	-5.544 kHz	OBW Power 99.00 %
x dB Bandwidth	17.69 MHz	x dB -6.00 dB

MSG STATUS

11N20SISO/HCH

Agilent Spectrum Analyzer - Occupied BW

Center Freq 2.462000000 GHz

Center Freq: 2.462000000 GHz
Trig: Free Run
Avg/Hold: 1/1

Radio Std: None
Radio Device: BTS

Ref Offset 8.05 dB
Ref 20.00 dBm

Mkr1 2.4566 GHz
-7.1630 dBm

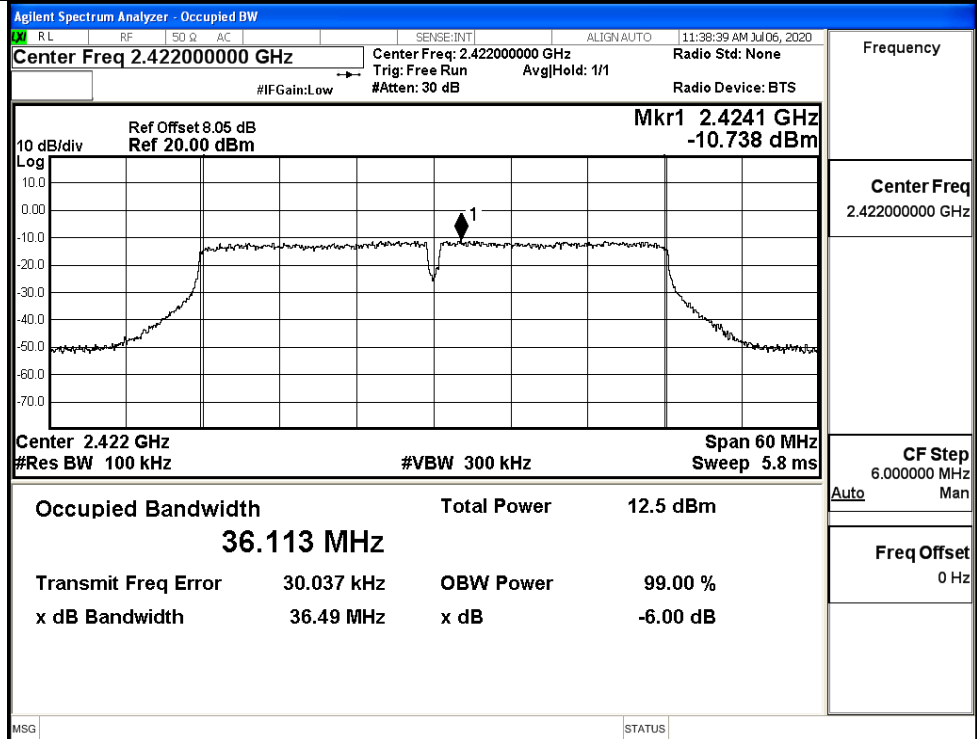
Center 2.462 GHz
#Res BW 100 kHz

Span 30 MHz
#VBW 300 kHz
Sweep 2.933 ms

Occupied Bandwidth	Total Power	12.5 dBm
17.630 MHz		
Transmit Freq Error	-13.887 kHz	OBW Power 99.00 %
x dB Bandwidth	17.69 MHz	x dB -6.00 dB

MSG STATUS

11N40SISO/LCH



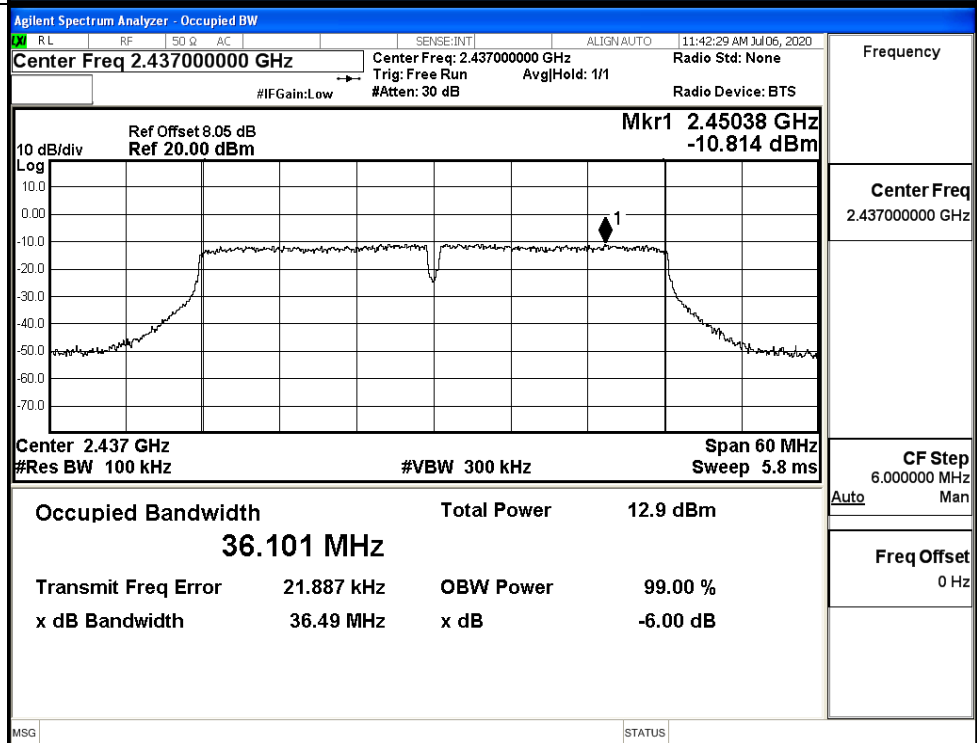
Frequency

Center Freq
2.422000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

11N40SISO/MCH



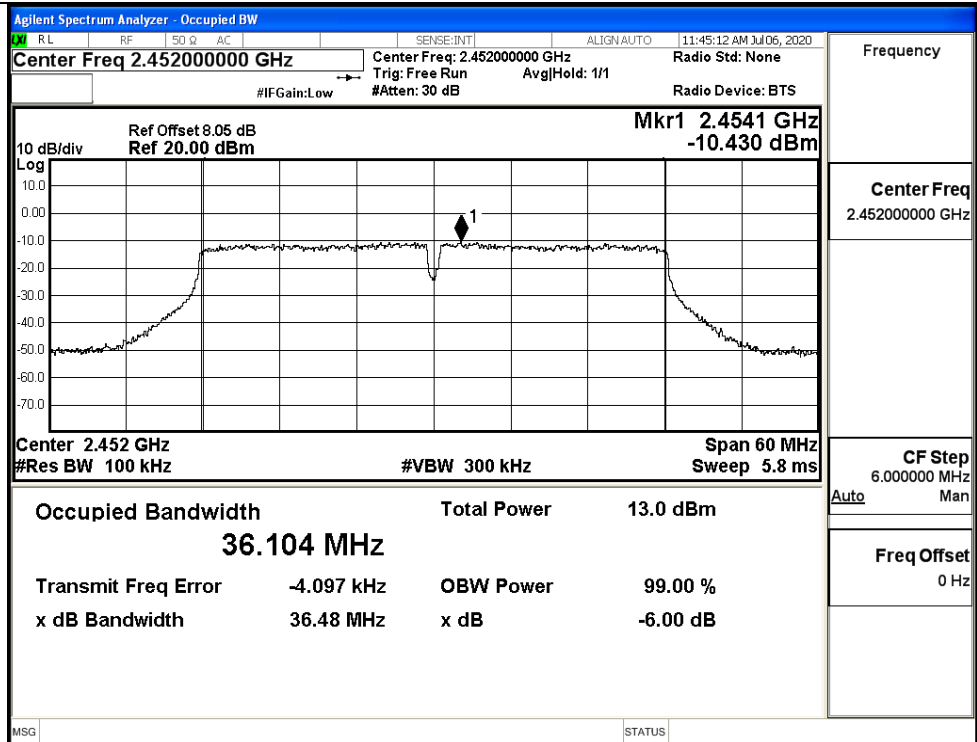
Frequency

Center Freq
2.437000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

11N40SISO/HCH

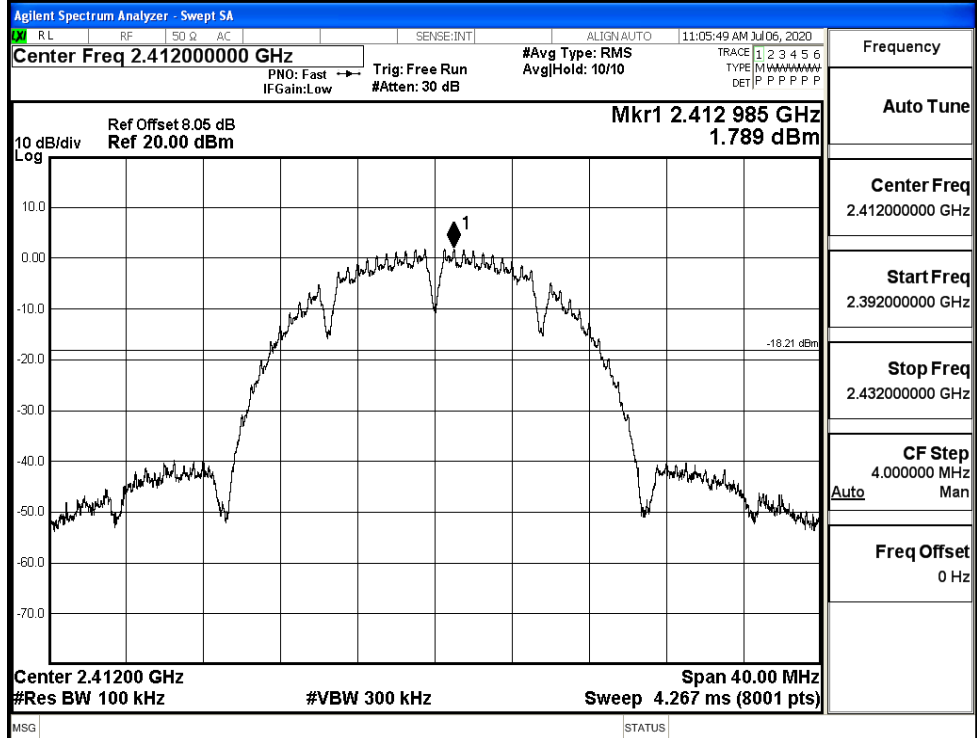


A.5 RF Conducted Spurious Emissions

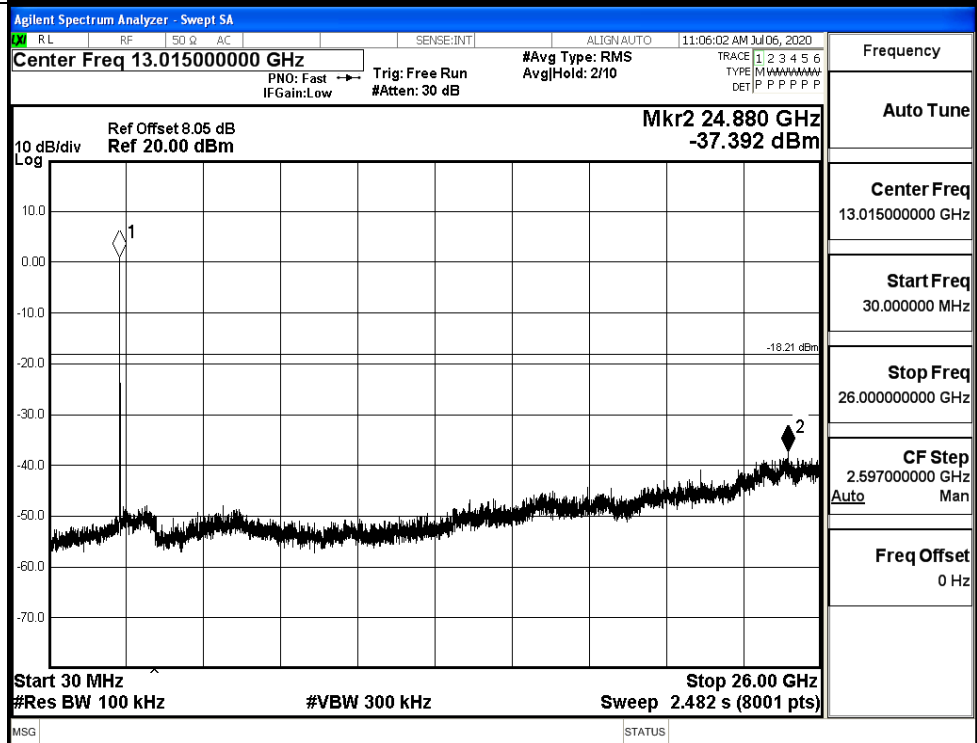
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	1.789	-37.392	-18.211	PASS
	MCH	2.035	-37.397	-17.965	PASS
	HCH	1.925	-38.115	-18.075	PASS
11G	LCH	-7.229	-38.331	-27.229	PASS
	MCH	-7.15	-37.623	-27.150	PASS
	HCH	-7.897	-37.817	-27.897	PASS
11N20 SISO	LCH	-7.401	-38.268	-27.401	PASS
	MCH	-7.217	-37.348	-27.217	PASS
	HCH	-7.73	-38.003	-27.730	PASS
11N40 SISO	LCH	-11.089	-37.715	-31.089	PASS
	MCH	-10.908	-38.488	-30.908	PASS
	HCH	-10.674	-36.297	-30.674	PASS

11B LCH Graphs

Pref/11B/LCH

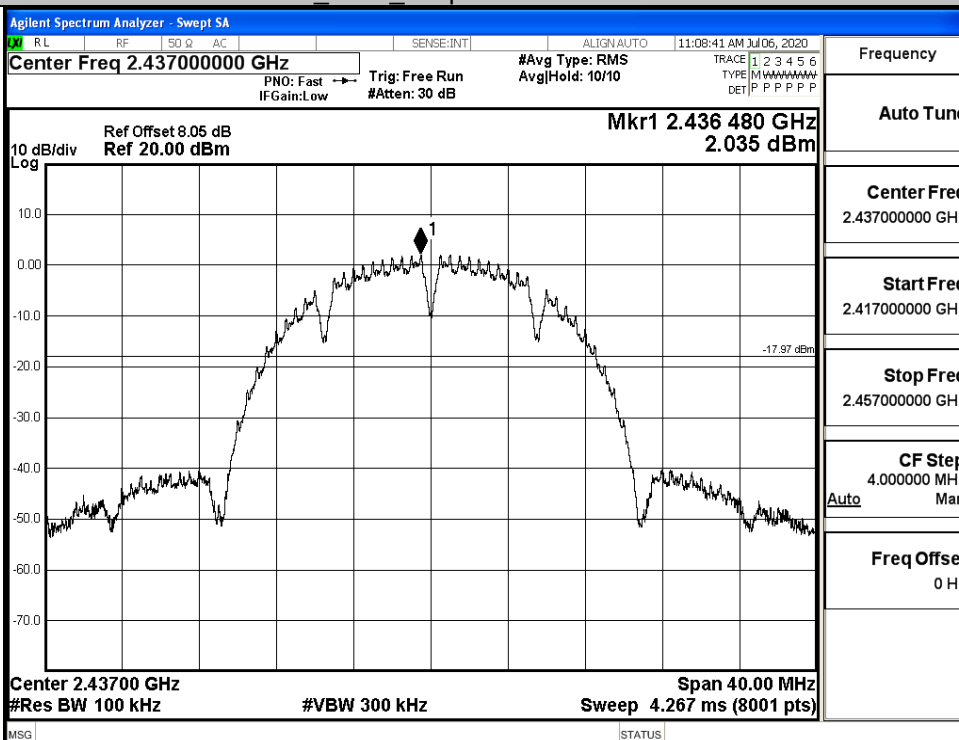


Puw/11B/LCH

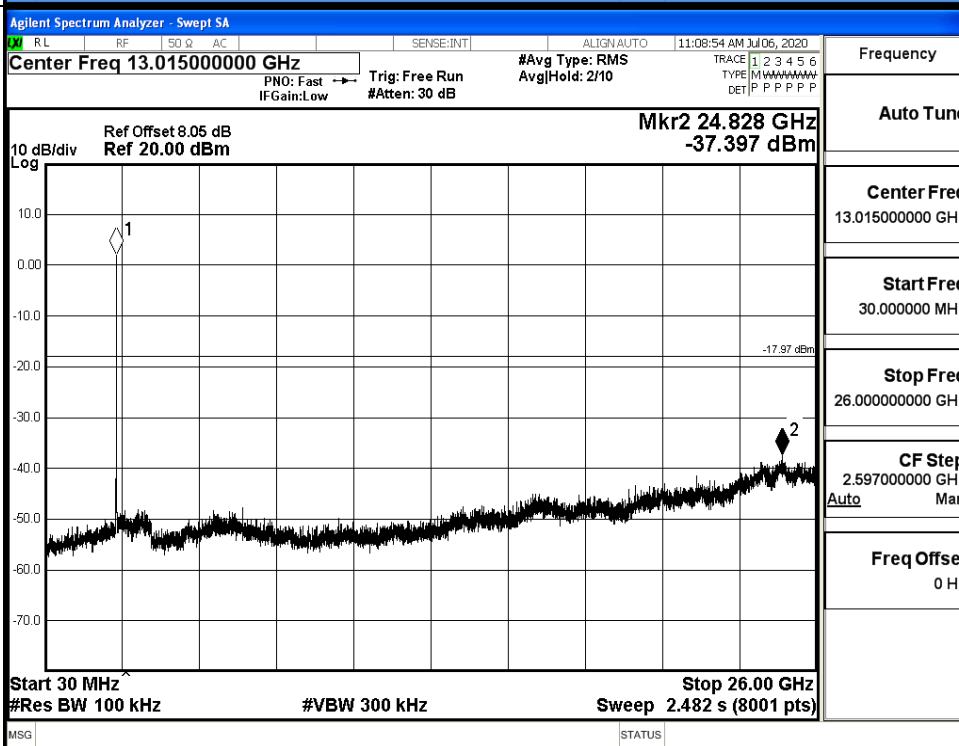


11B MCH Graphs

Pref/11B/MCH

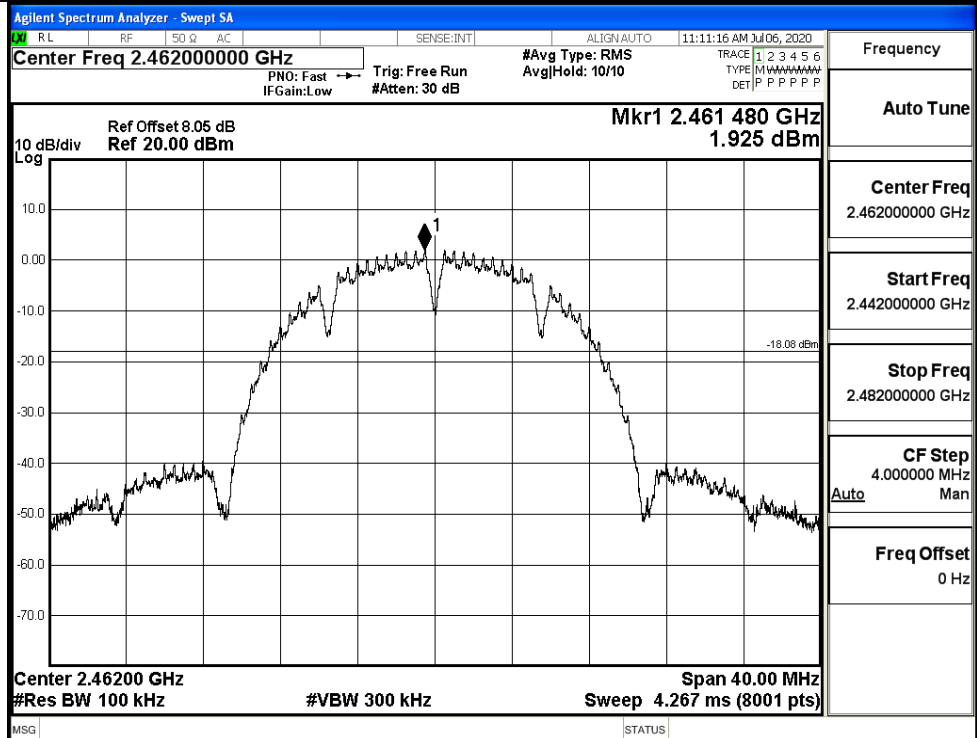


Puw/11B/MCH

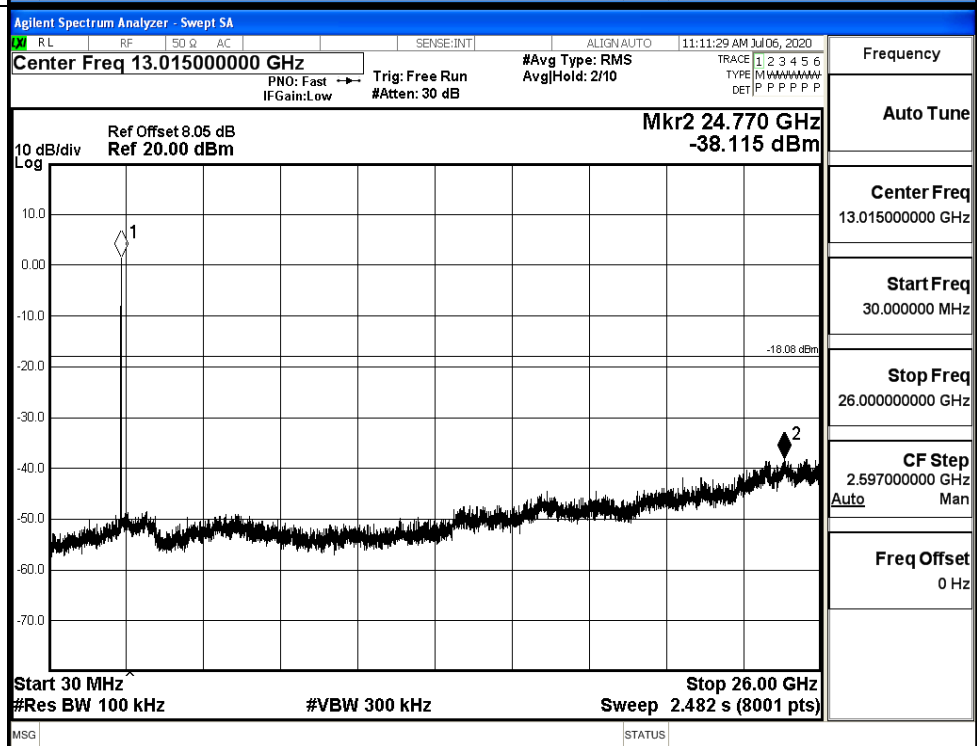


11B HCH Graphs

Pref/11B/HCH

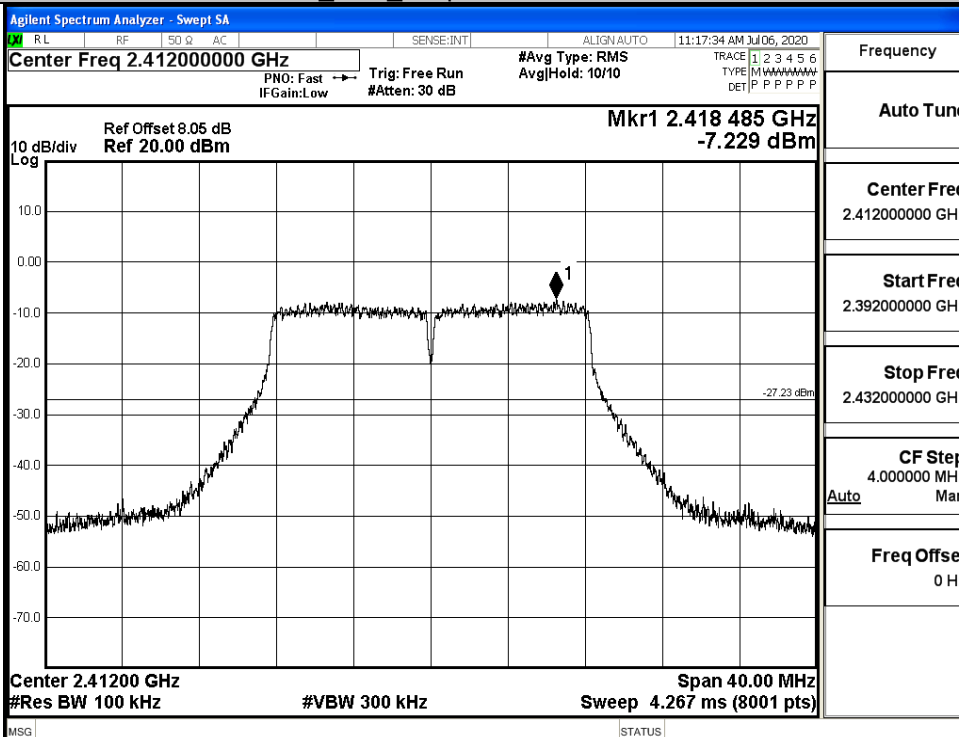


Puw/11B/HCH

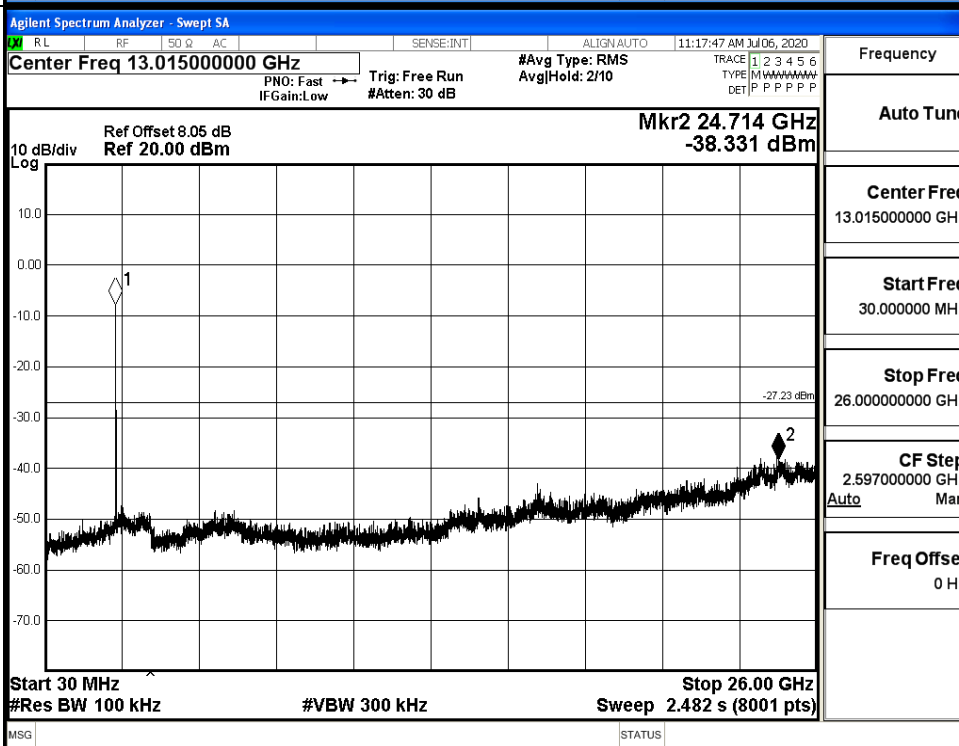


11G LCH Graphs

Pref/11G/LCH

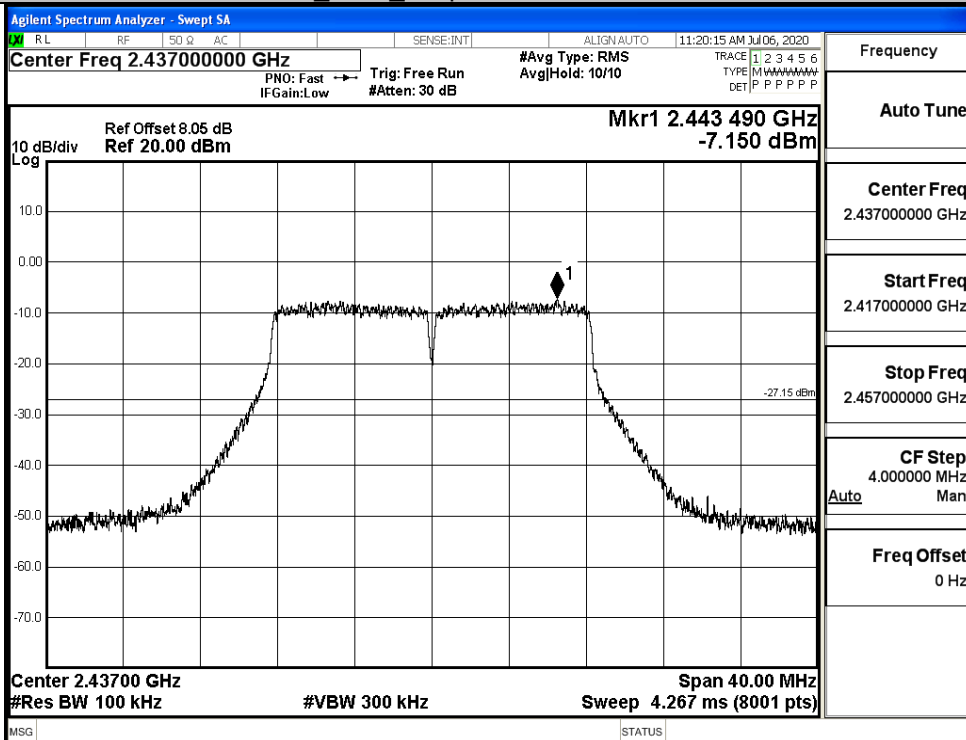


Puw/11G/LCH

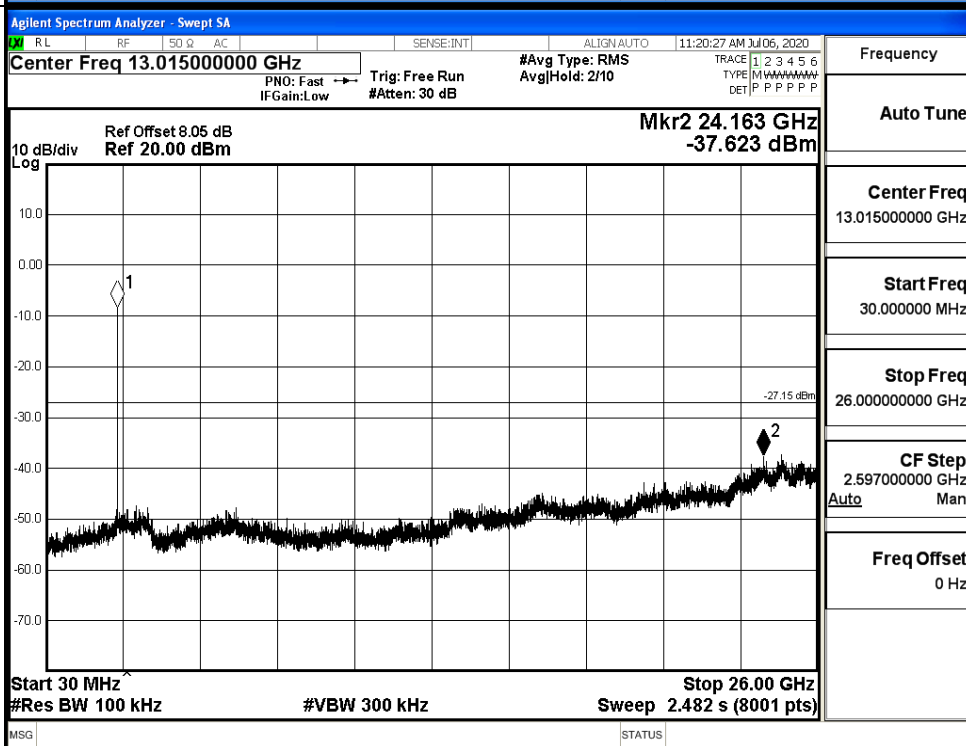


11G MCH Graphs

Pref/11G/MCH

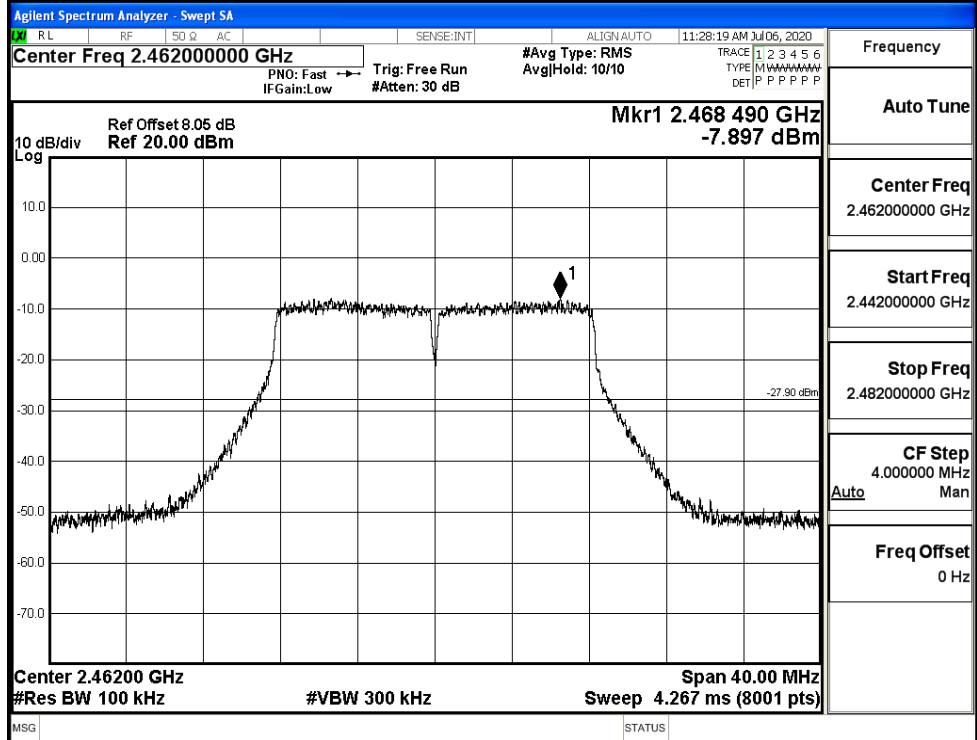


Puw/11G/MCH

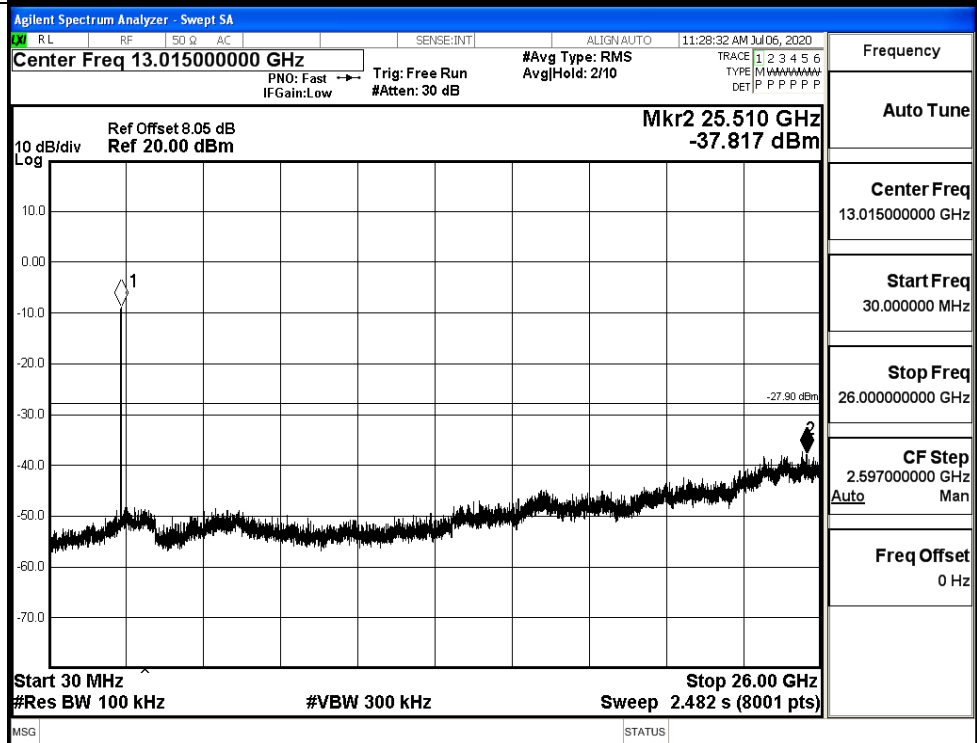


11G HCH Graphs

Pref/11G/HCH

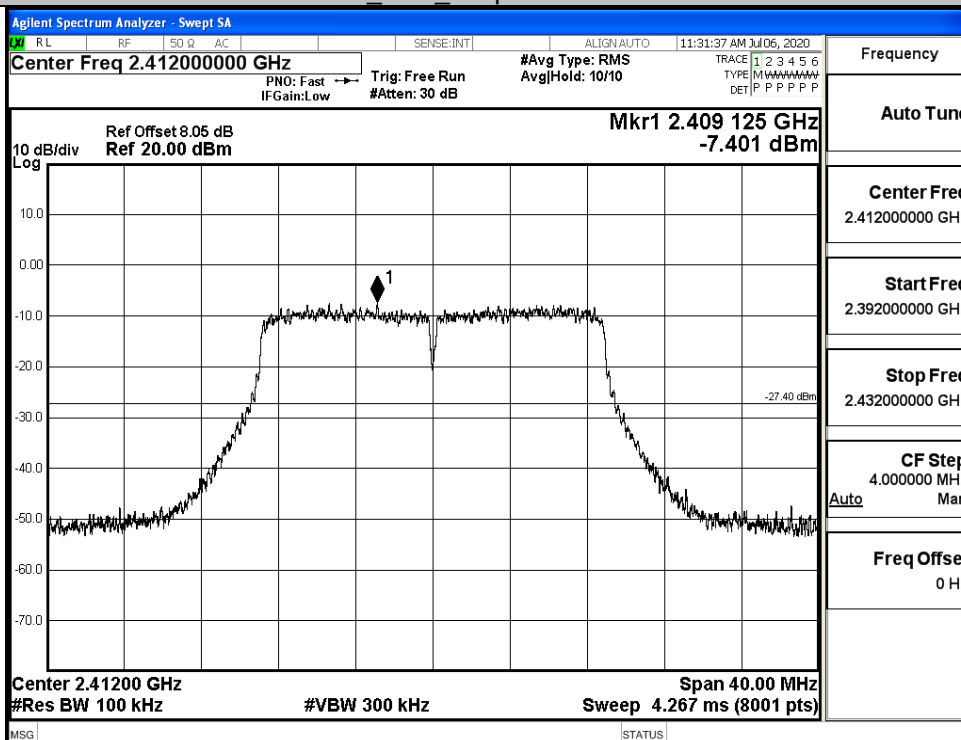


Puw/11G/HCH

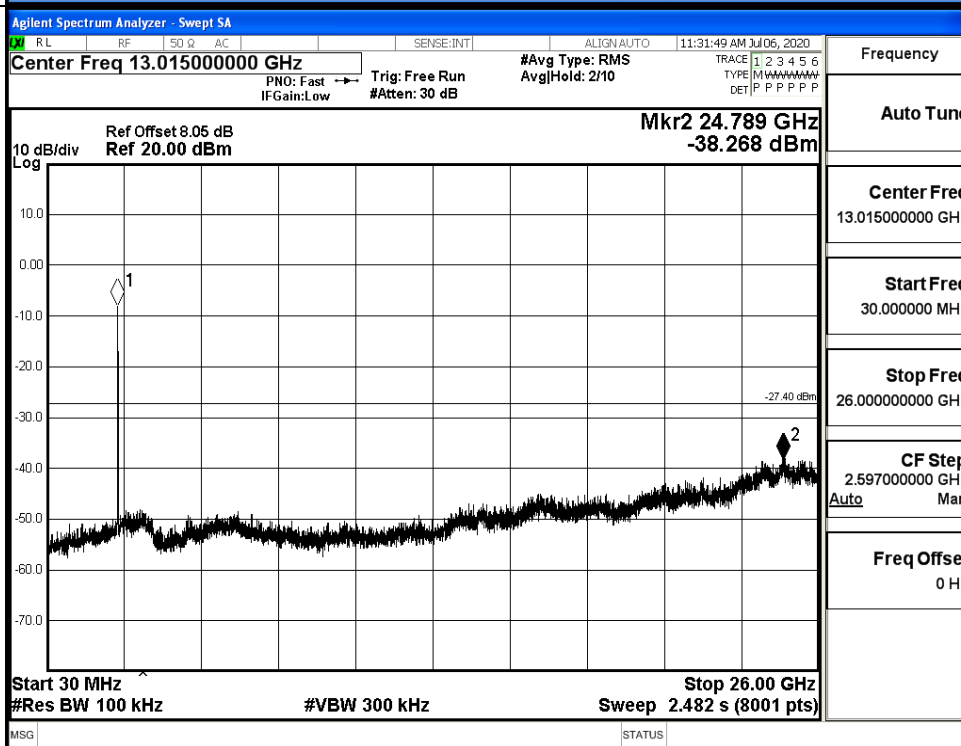


11N20SISO LCH Graphs

Pref/11N20SIS
O/LCH

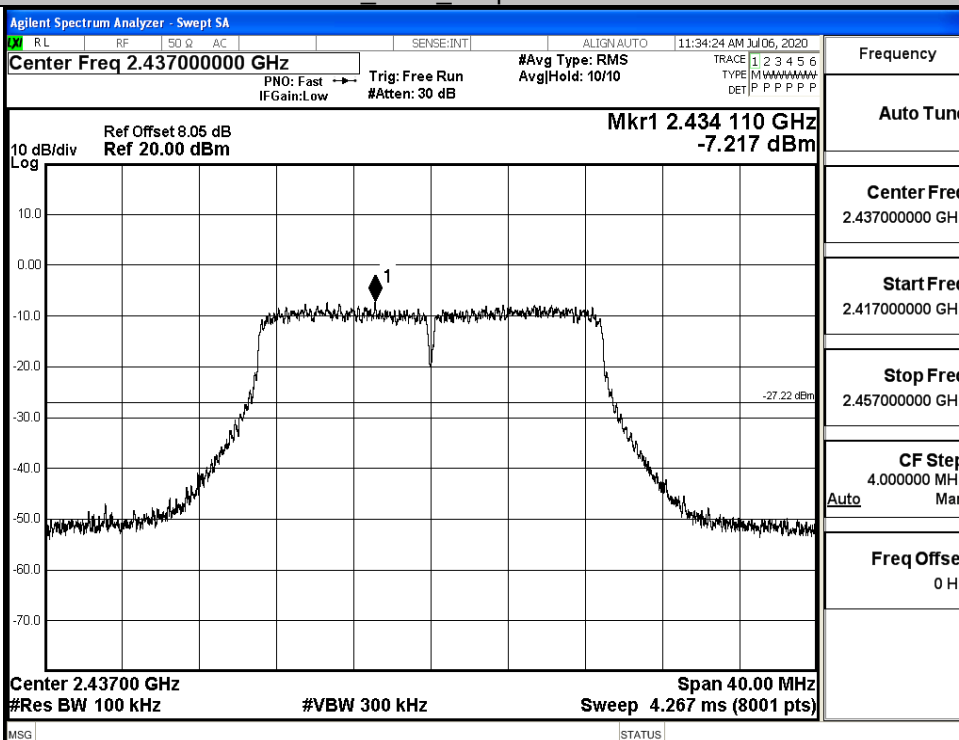


Puw/11N20
SISO/LCH

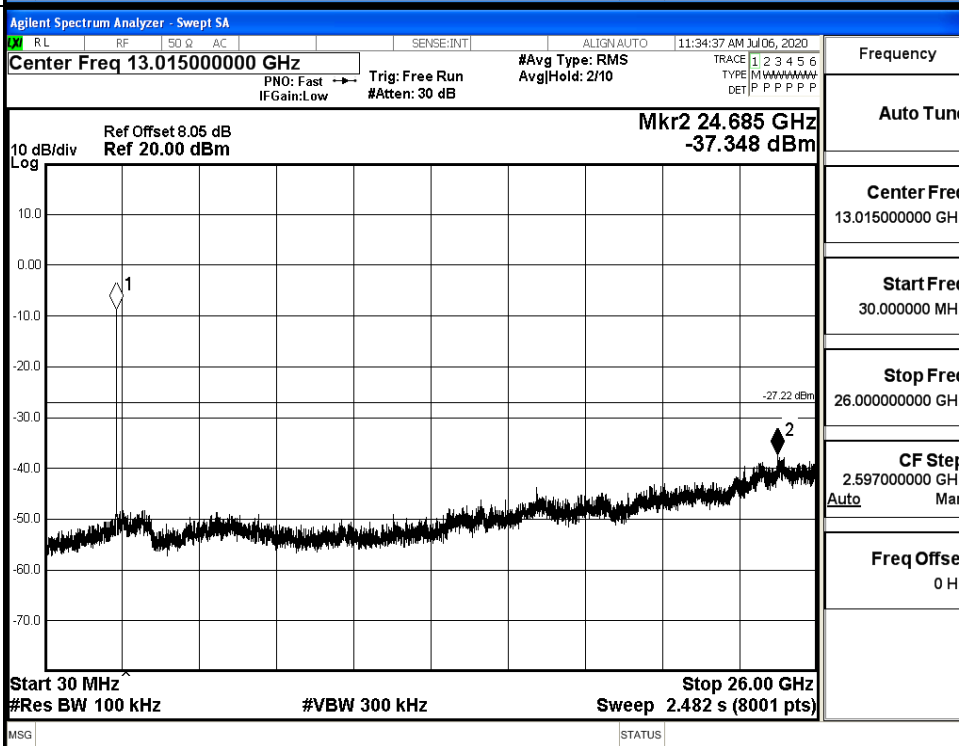


11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCH

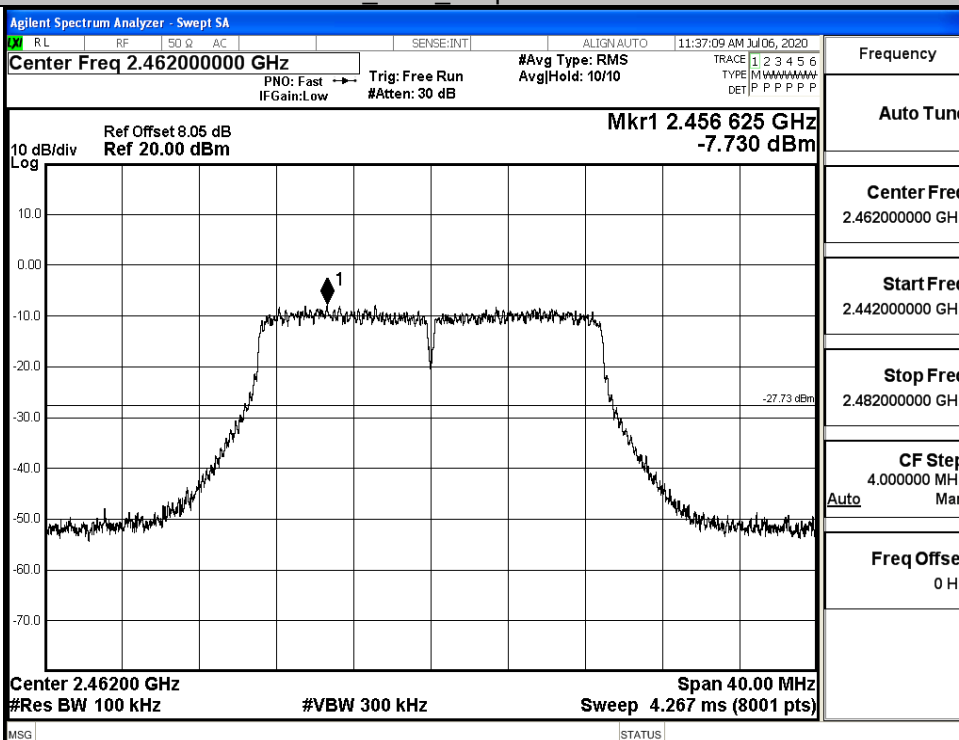


Puw/11N20
SISO/MCH

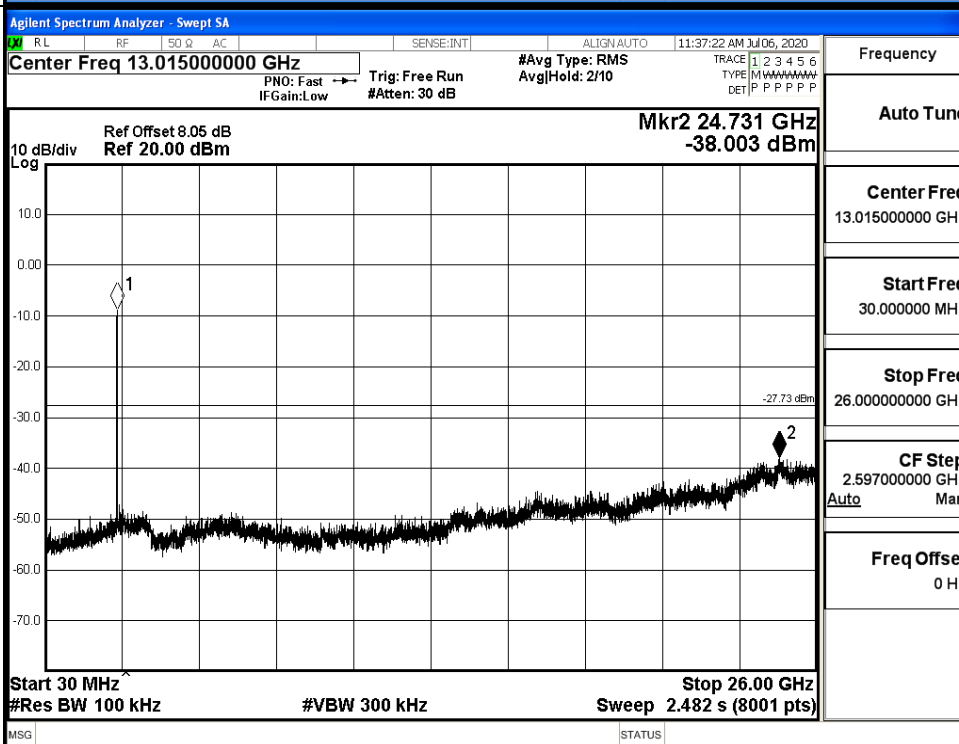


11N20SISO HCH Graphs

Pref/11N20
SISO/HCH

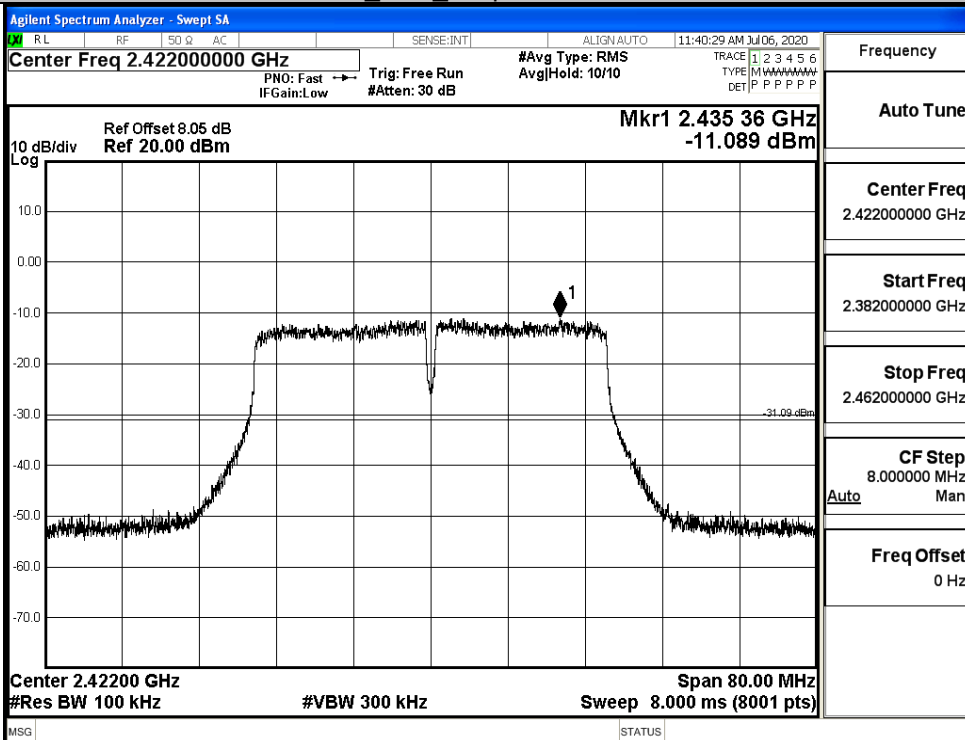


Puw/11N20
SISO/HCH

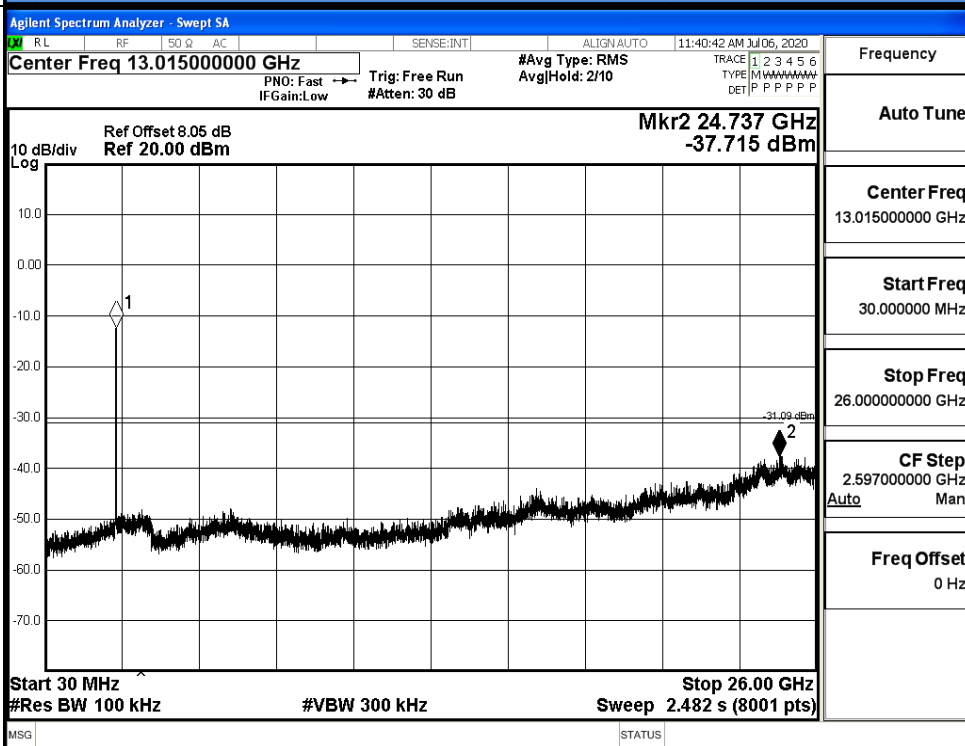


11N40SISO LCH Graphs

Pref/11N40
SISO/LCH

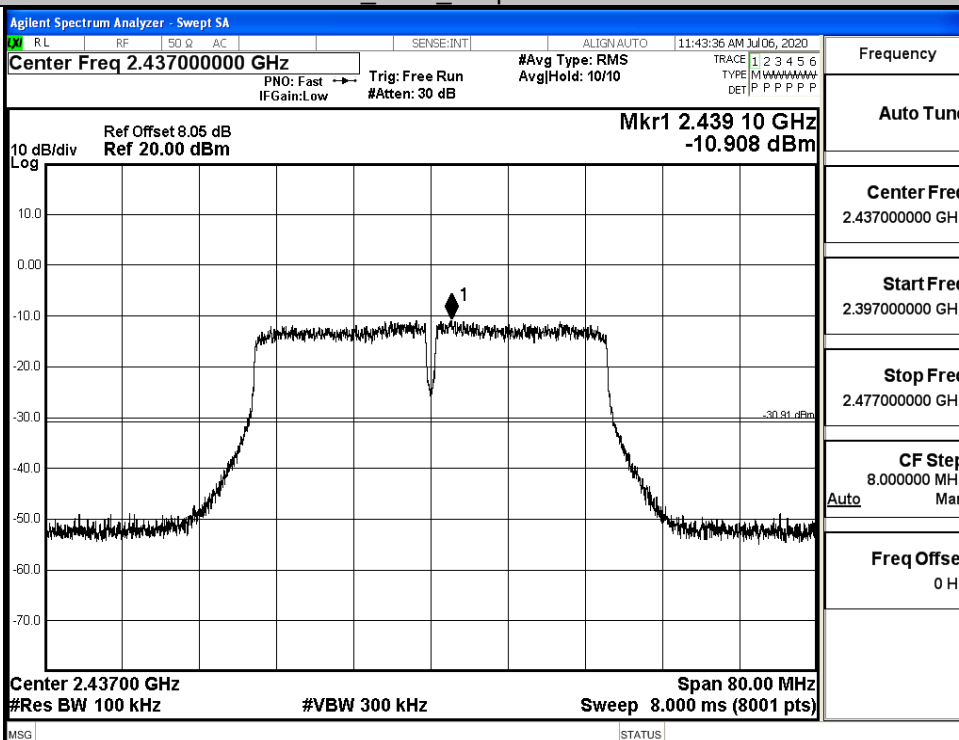


Puw/11N40
SISO/LCH

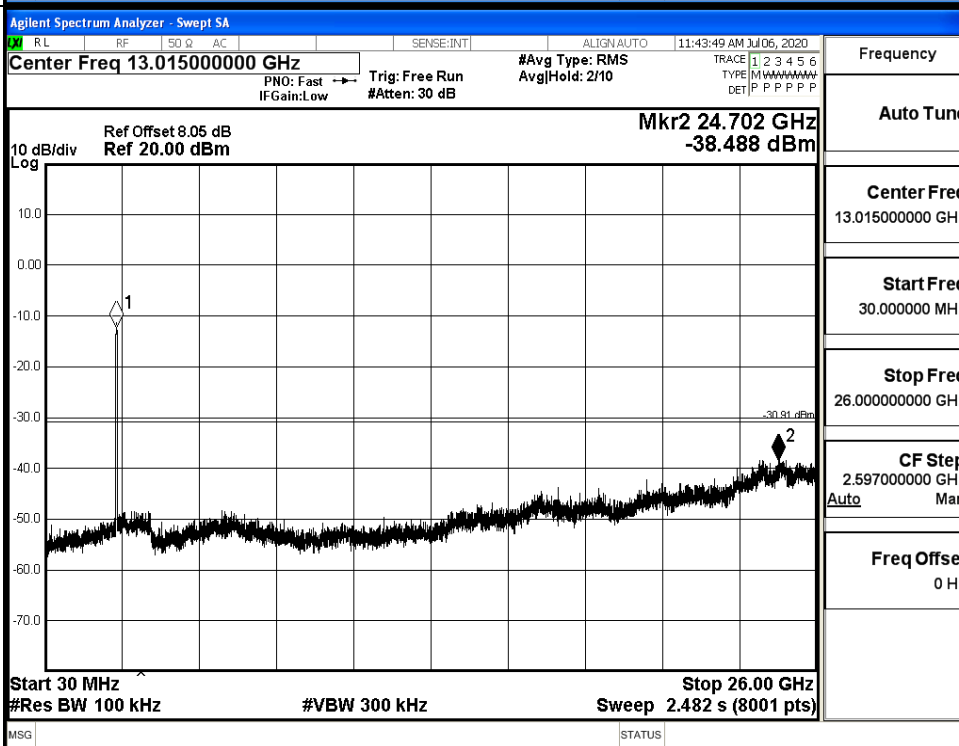


11N40SISO_MCH_Graphs

Pref/11N40
SISO/MCH

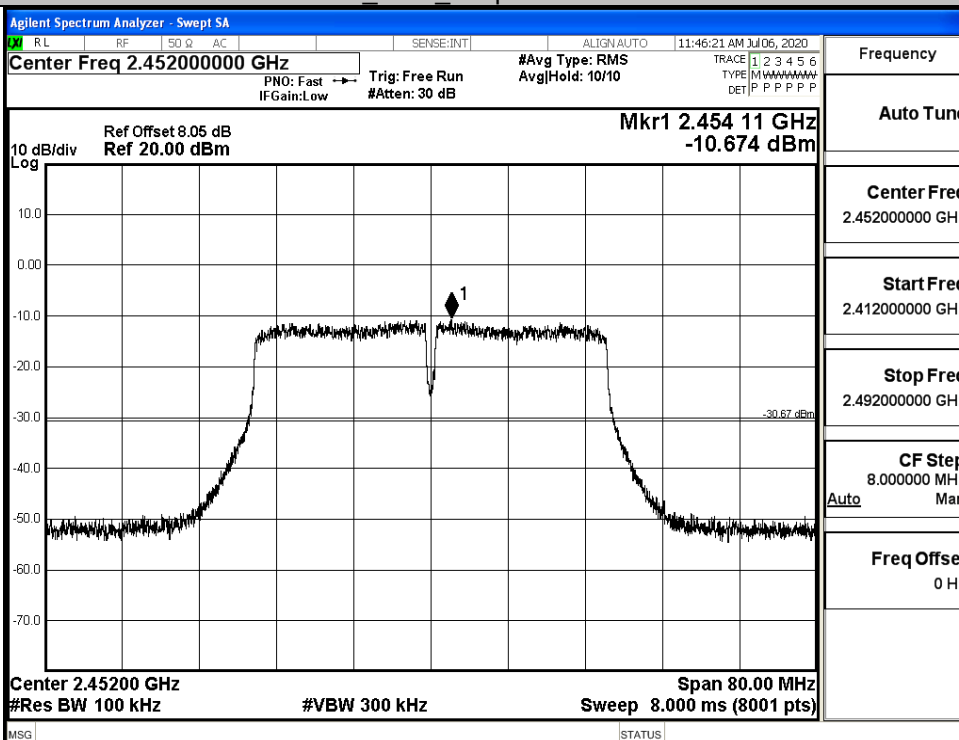


Puw/11N40
SISO/MCH

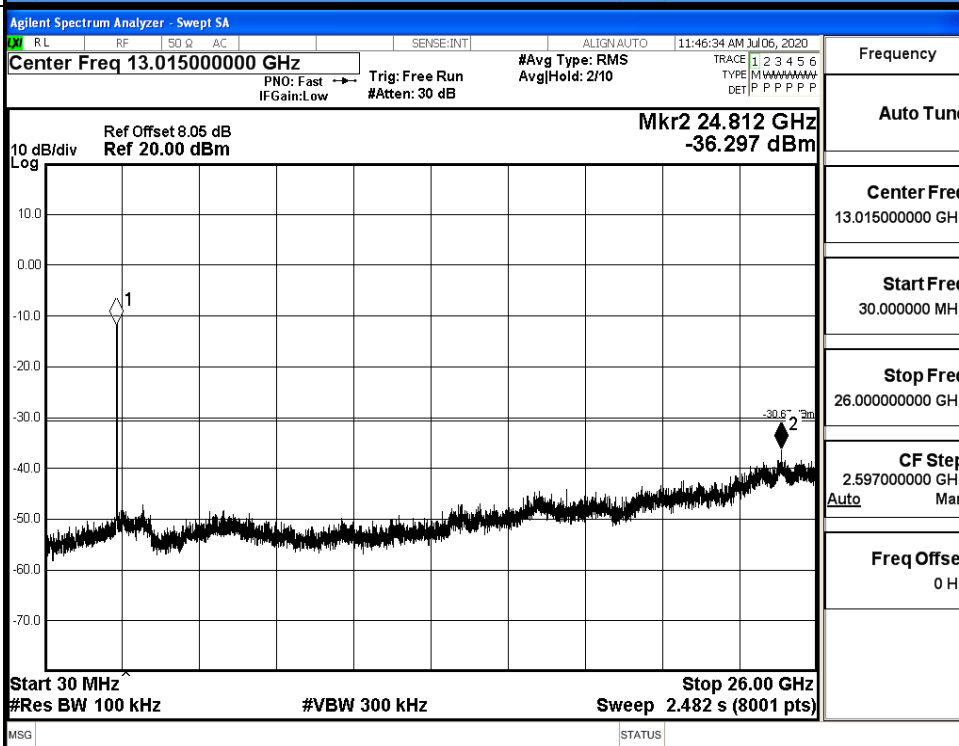


11N40SISO HCH Graphs

Pref/11N40
SISO/HCH



Puw/11N40
SISO/HCH

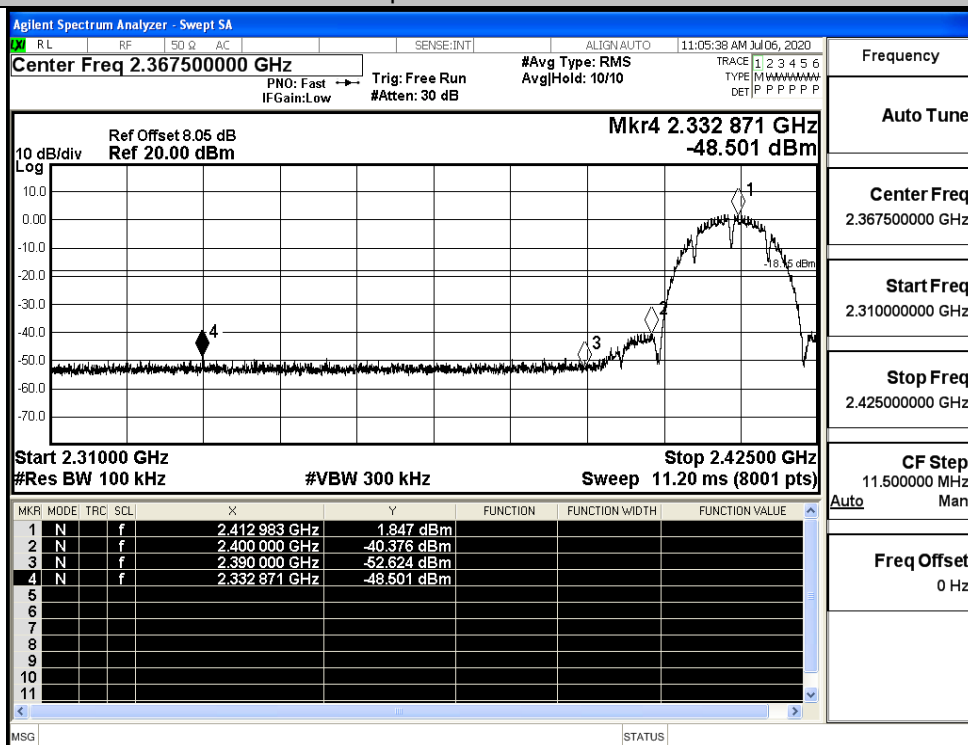


A.6 Band-edge for RF Conducted Emissions

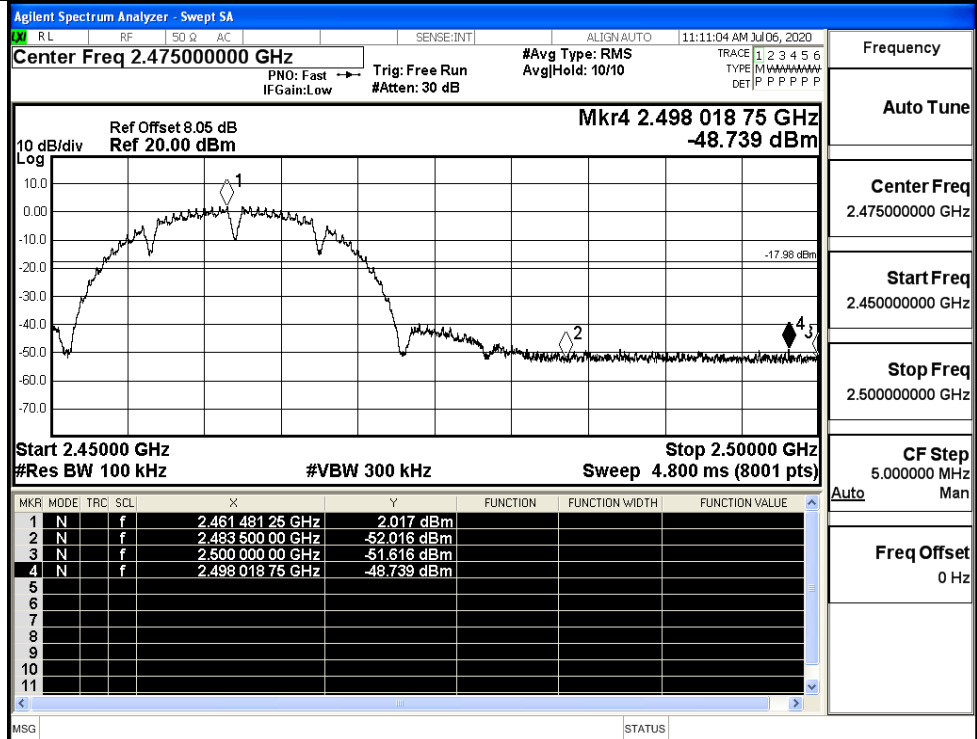
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	1.847	-48.501	-18.15	PASS
	HCH	2.017	-48.739	-17.98	PASS
11G	LCH	-7.476	-49.042	-27.48	PASS
	HCH	-7.922	-49.711	-27.92	PASS
11N20SISO	LCH	-7.351	-49.332	-27.35	PASS
	HCH	-7.297	-47.867	-27.3	PASS
11N40SISO	LCH	-10.873	-49.295	-30.87	PASS
	HCH	-10.917	-48.747	-30.92	PASS

Test Graphs

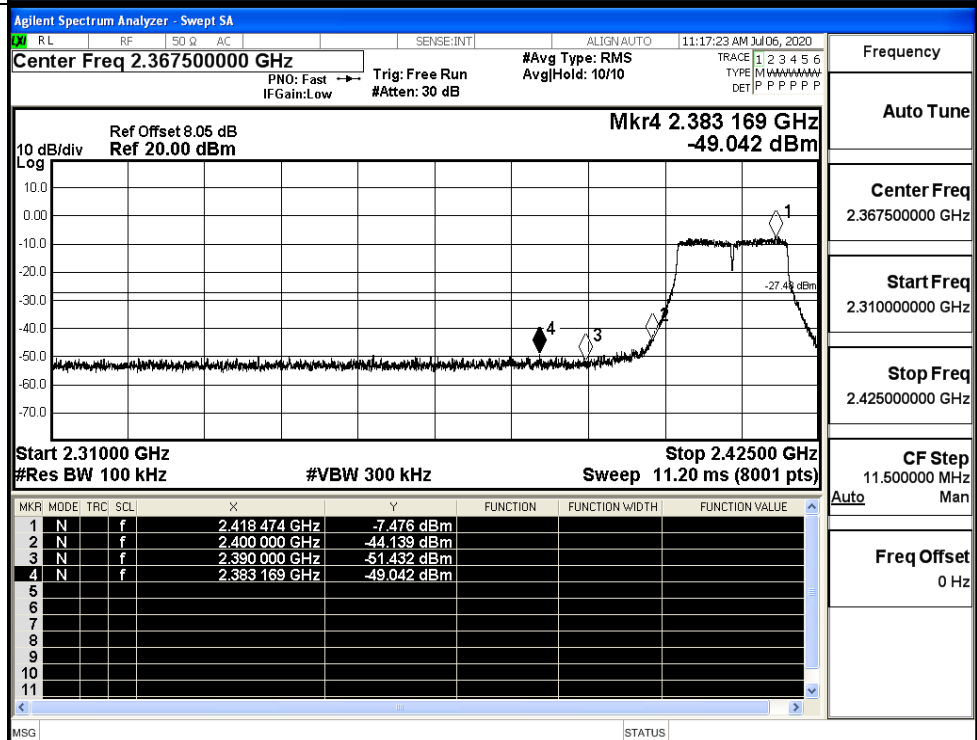
11B/LCH



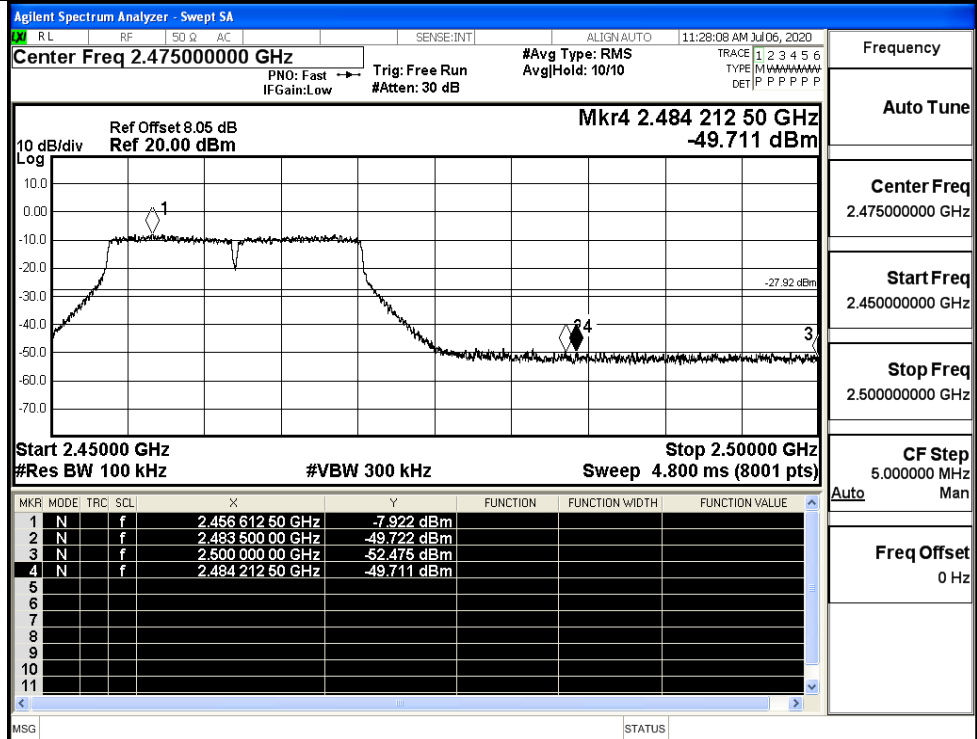
11B/HCH



11G/LCH



11G/HCH



Frequency

Auto Tune

Center Freq
2.475000000 GHz

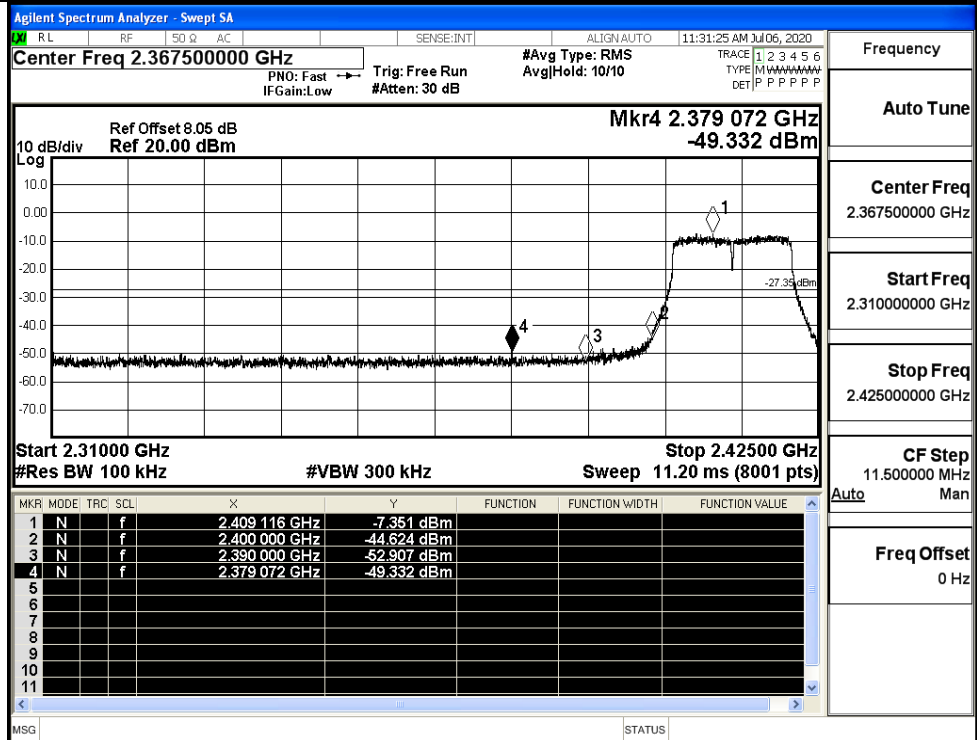
Start Freq
2.450000000 GHz

Stop Freq
2.500000000 GHz

CF Step
5.000000 MHz

Freq Offset
0 Hz

11N20SISO/LCH



Frequency

Auto Tune

Center Freq
2.367500000 GHz

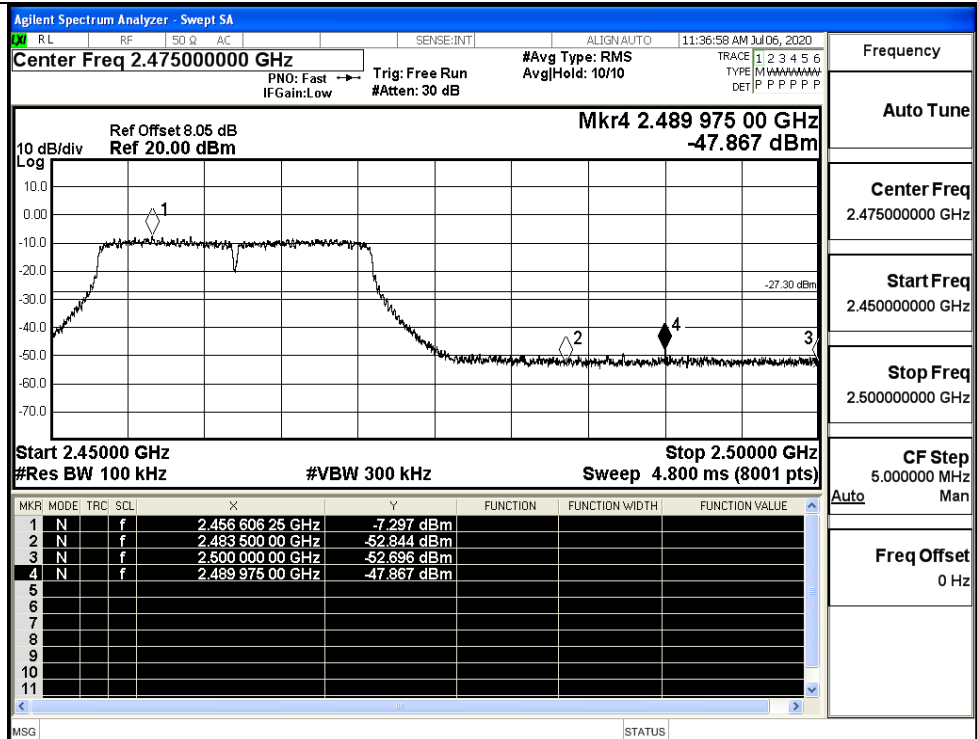
Start Freq
2.310000000 GHz

Stop Freq
2.425000000 GHz

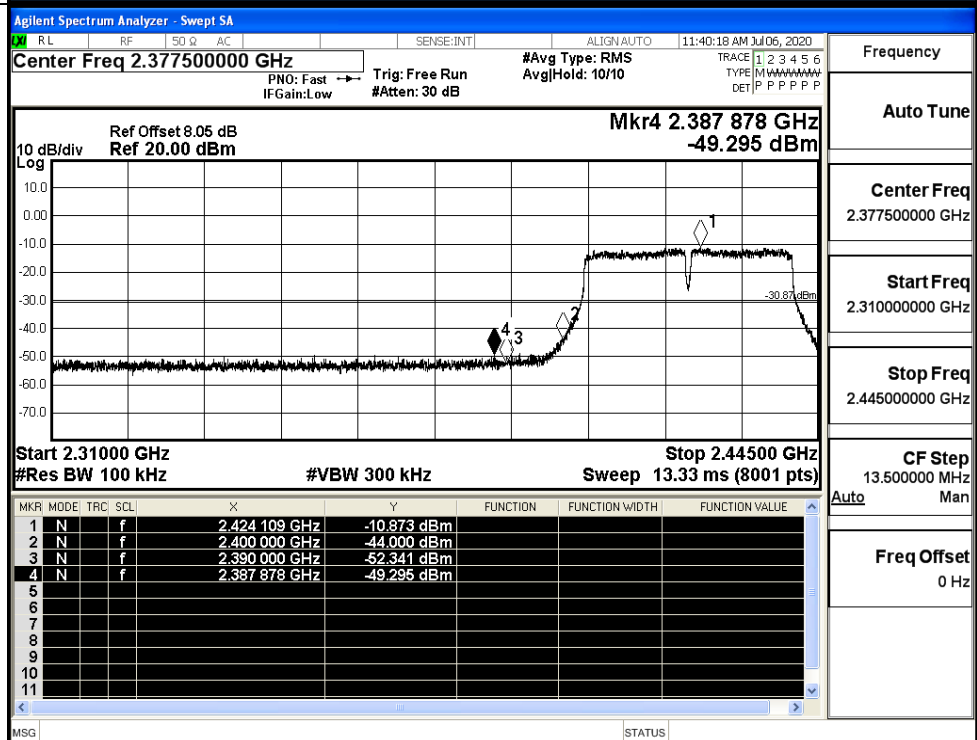
CF Step
11.500000 MHz

Freq Offset
0 Hz

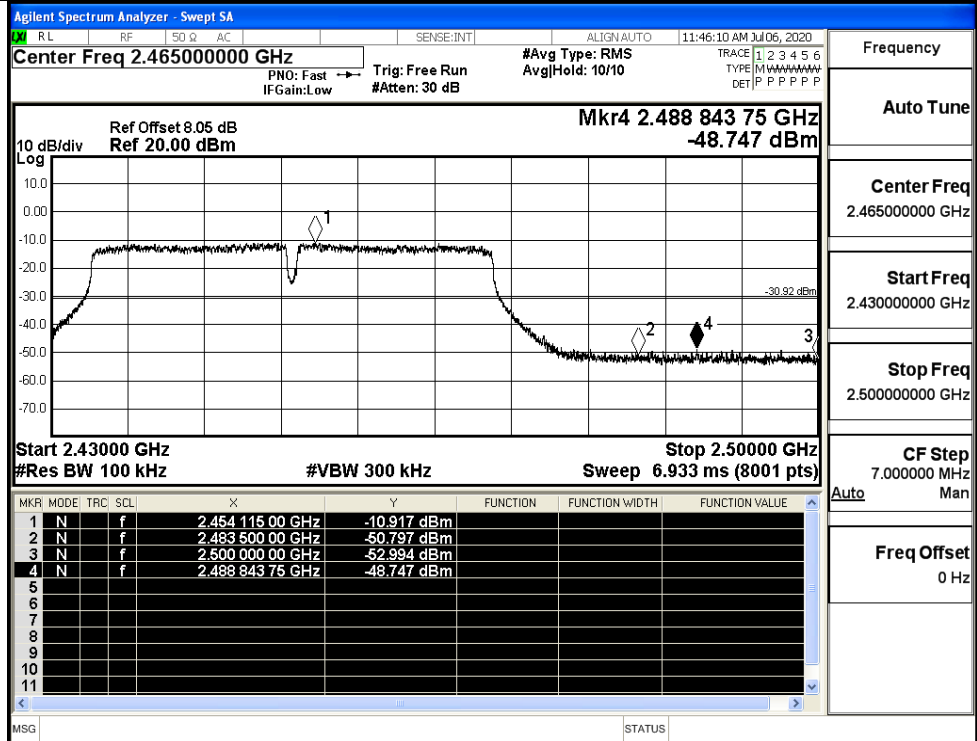
11N20SISO/HCH



11N40SISO/LCH



11N40SISO/HCH

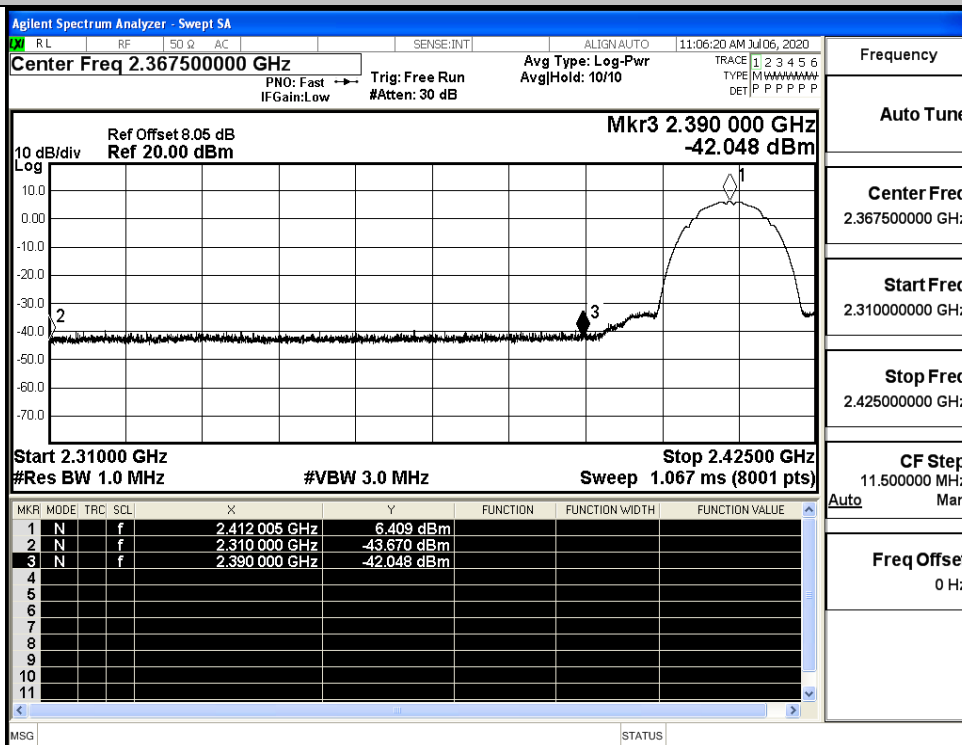


A.7 Restrict-band band-edge measurements

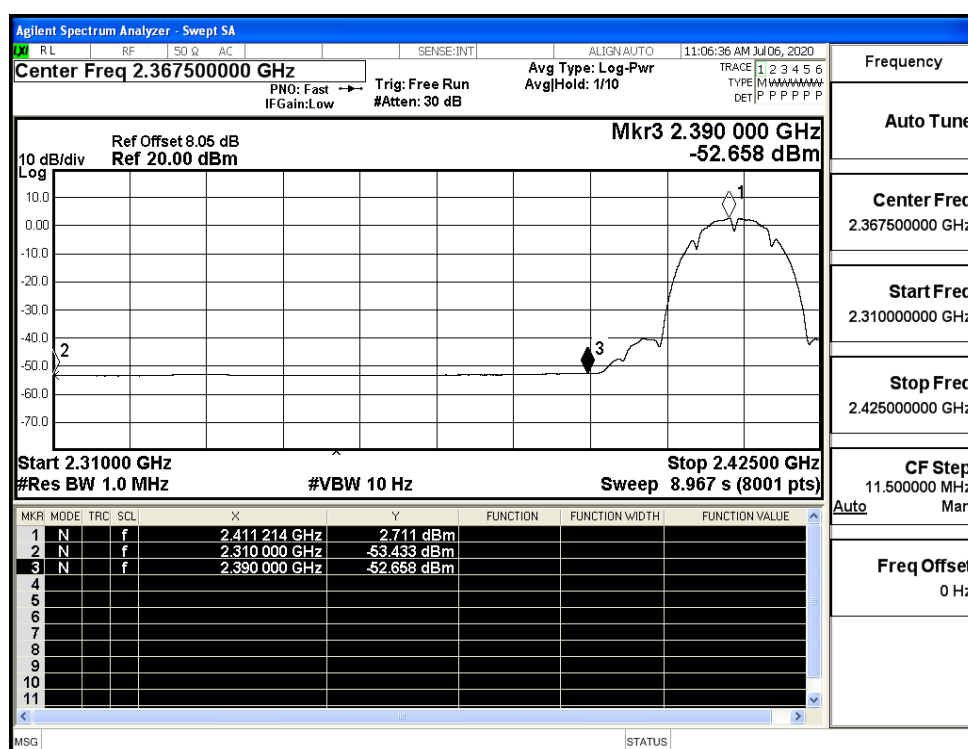
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-43.67	2.0	0	51.59	PEAK	74	PASS
	2412	Ant1	2310.0	-53.43	2.0	0	41.82	AV	54	PASS
	2412	Ant1	2390.0	-42.05	2.0	0	53.21	PEAK	74	PASS
	2412	Ant1	2390.0	-52.66	2.0	0	42.60	AV	54	PASS
	2462	Ant1	2483.5	-41.87	2.0	0	53.39	PEAK	74	PASS
	2462	Ant1	2483.5	-52.25	2.0	0	43.00	AV	54	PASS
	2462	Ant1	2500.0	-41.89	2.0	0	53.37	PEAK	74	PASS
	2462	Ant1	2500.0	-52.37	2.0	0	42.88	AV	54	PASS
11G	2412	Ant1	2310.0	-44.22	2.0	0	51.04	PEAK	74	PASS
	2412	Ant1	2310.0	-53.46	2.0	0	41.80	AV	54	PASS
	2412	Ant1	2390.0	-42.74	2.0	0	52.51	PEAK	74	PASS
	2412	Ant1	2390.0	-52.73	2.0	0	42.53	AV	54	PASS
	2462	Ant1	2483.5	-42.35	2.0	0	52.91	PEAK	74	PASS
	2462	Ant1	2483.5	-52.39	2.0	0	42.87	AV	54	PASS
	2462	Ant1	2500.0	-42.81	2.0	0	52.44	PEAK	74	PASS
	2462	Ant1	2500.0	-52.39	2.0	0	42.87	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.31	2.0	0	51.94	PEAK	74	PASS
	2412	Ant1	2310.0	-53.42	2.0	0	41.84	AV	54	PASS
	2412	Ant1	2390.0	-40.84	2.0	0	54.42	PEAK	74	PASS
	2412	Ant1	2390.0	-52.47	2.0	0	42.78	AV	54	PASS
	2462	Ant1	2483.5	-42.03	2.0	0	53.23	PEAK	74	PASS
	2462	Ant1	2483.5	-52.31	2.0	0	42.95	AV	54	PASS
	2462	Ant1	2500.0	-42.00	2.0	0	53.25	PEAK	74	PASS
	2462	Ant1	2500.0	-52.39	2.0	0	42.86	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-43.15	2.0	0	52.11	PEAK	74	PASS
	2422	Ant1	2310.0	-53.41	2.0	0	41.85	AV	54	PASS

	2422	Ant1	2390.0	-40.38	2.0	0	54.88	PEAK	74	PASS
	2422	Ant1	2390.0	-52.32	2.0	0	42.93	AV	54	PASS
	2452	Ant1	2483.5	-39.79	2.0	0	55.46	PEAK	74	PASS
	2452	Ant1	2483.5	-52.06	2.0	0	43.20	AV	54	PASS
	2452	Ant1	2500.0	-41.60	2.0	0	53.66	PEAK	74	PASS
	2452	Ant1	2500.0	-52.38	2.0	0	42.88	AV	54	PASS

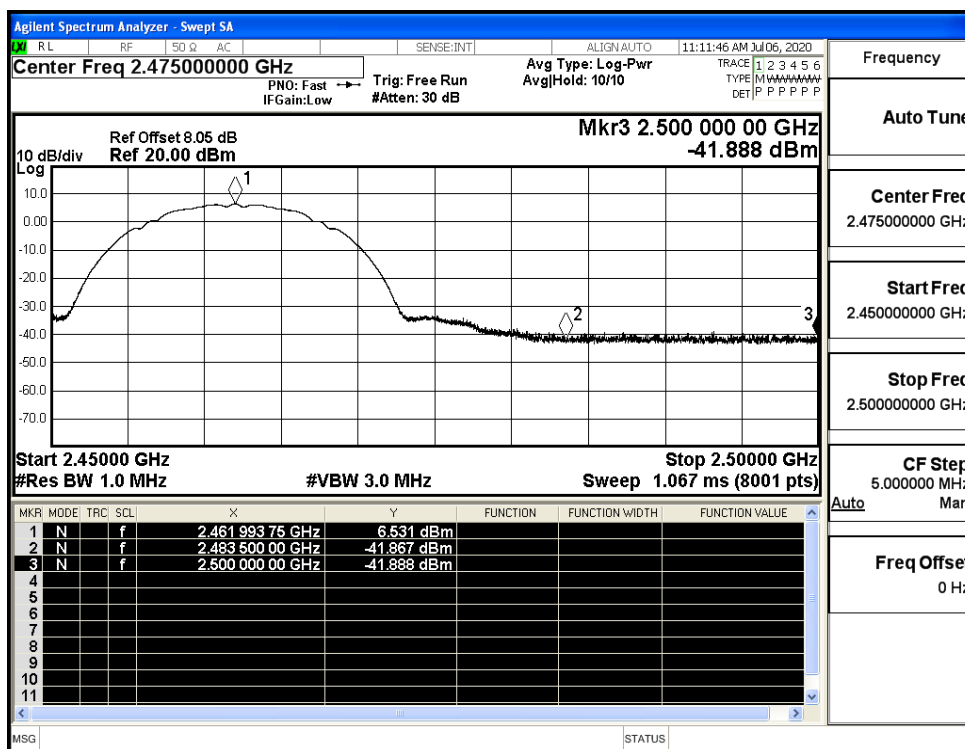
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



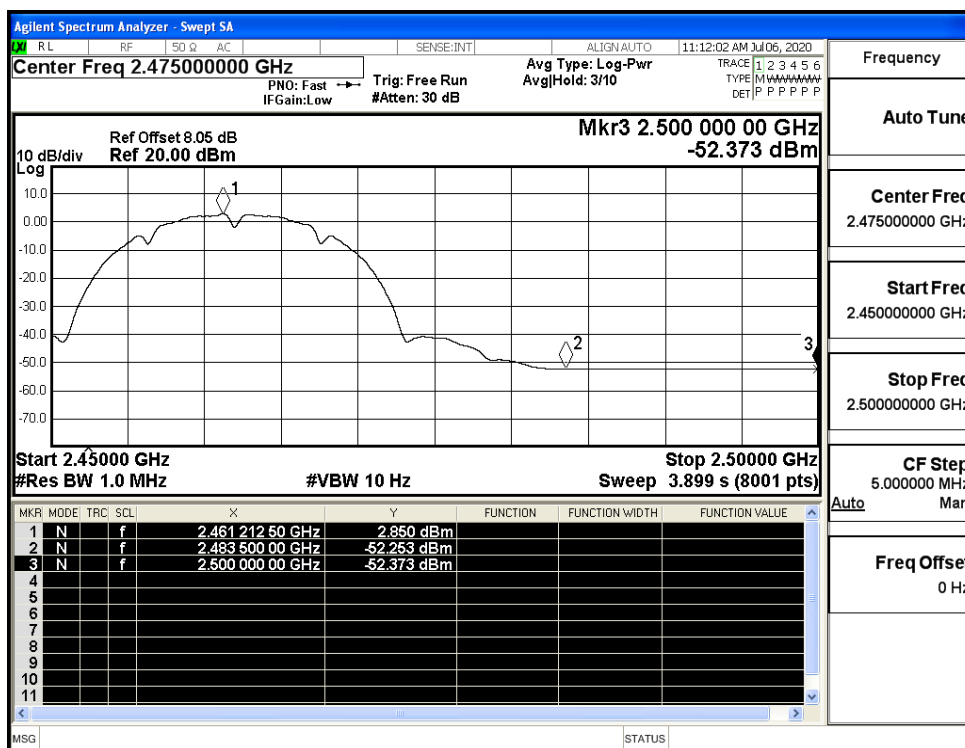
Restrict-band band-edge measurements_11B_2412_Ant1_AV



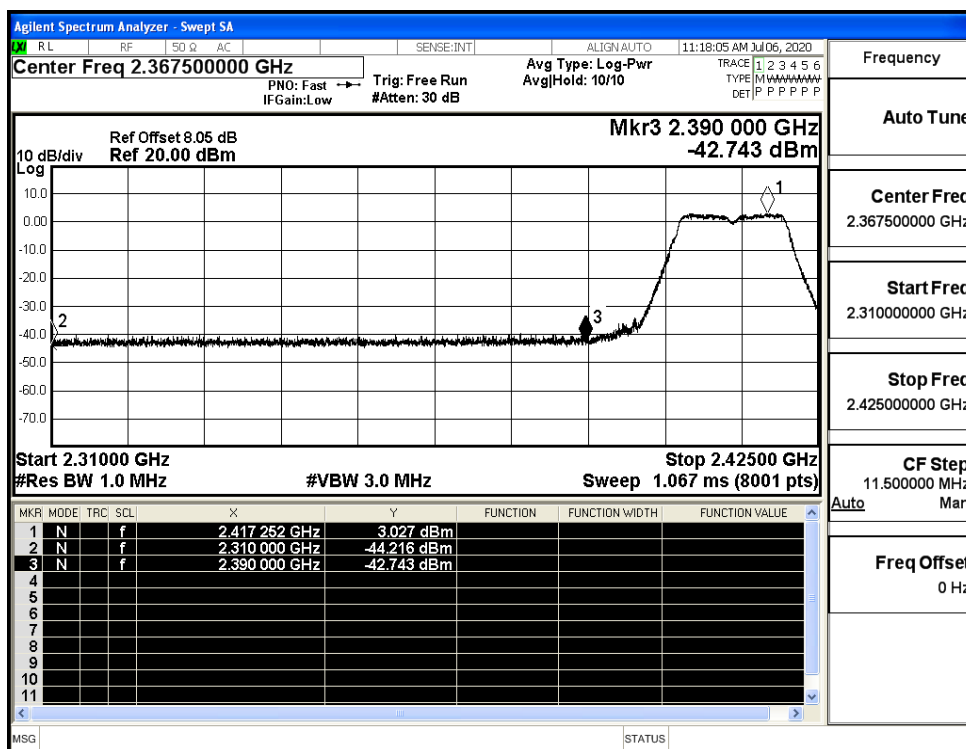
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



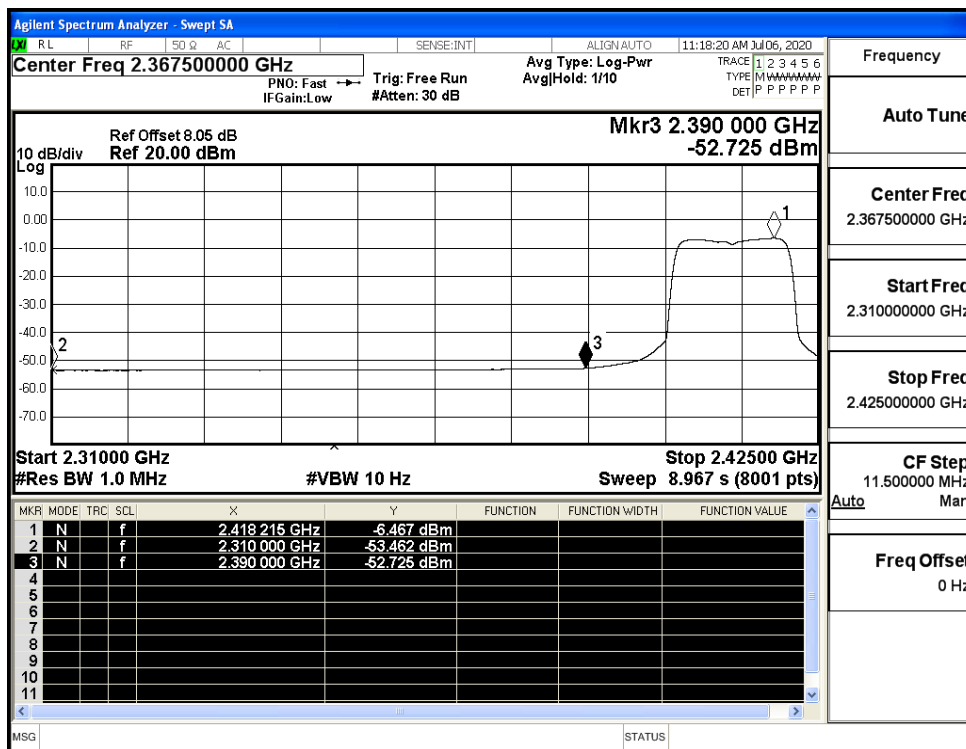
Restrict-band band-edge measurements_11B_2462_Ant1_AV



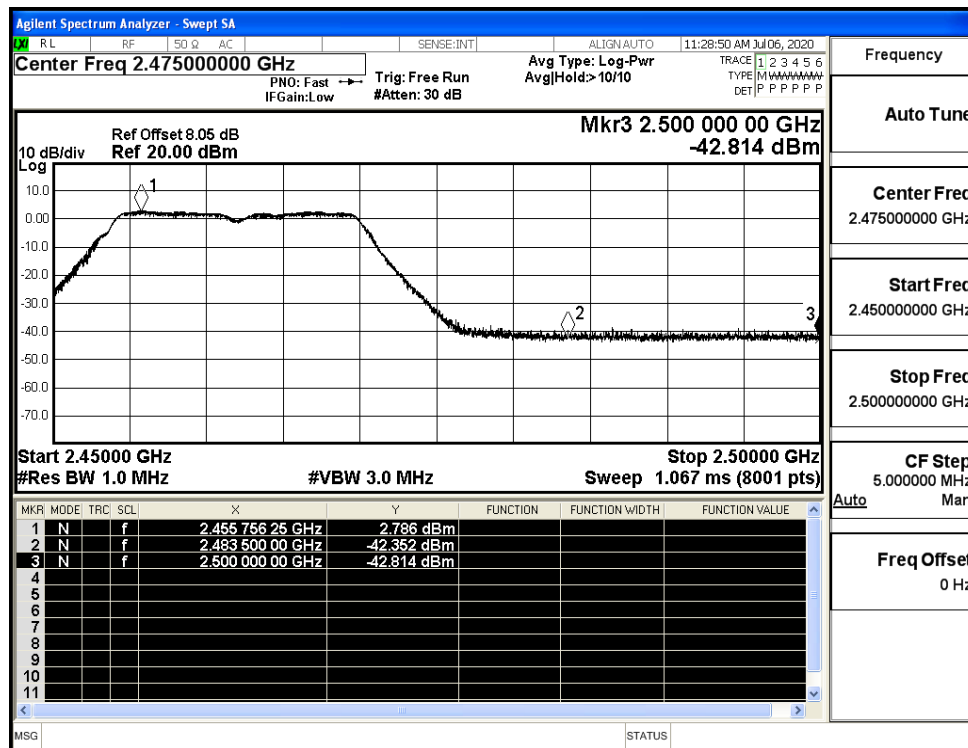
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



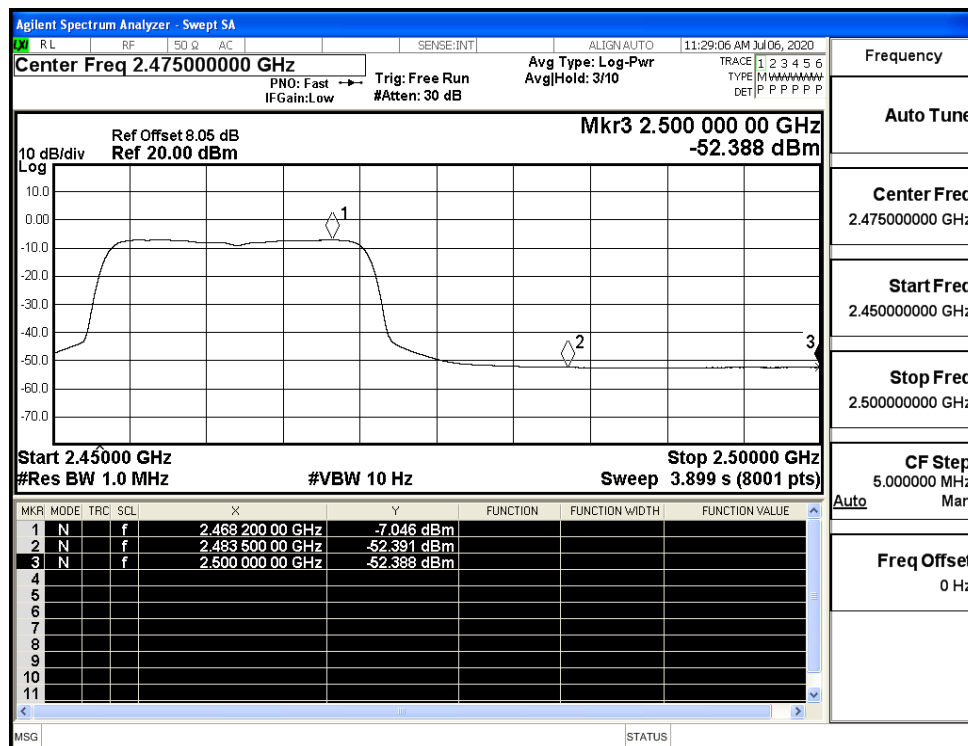
Restrict-band band-edge measurements_11G_2412_Ant1_AV



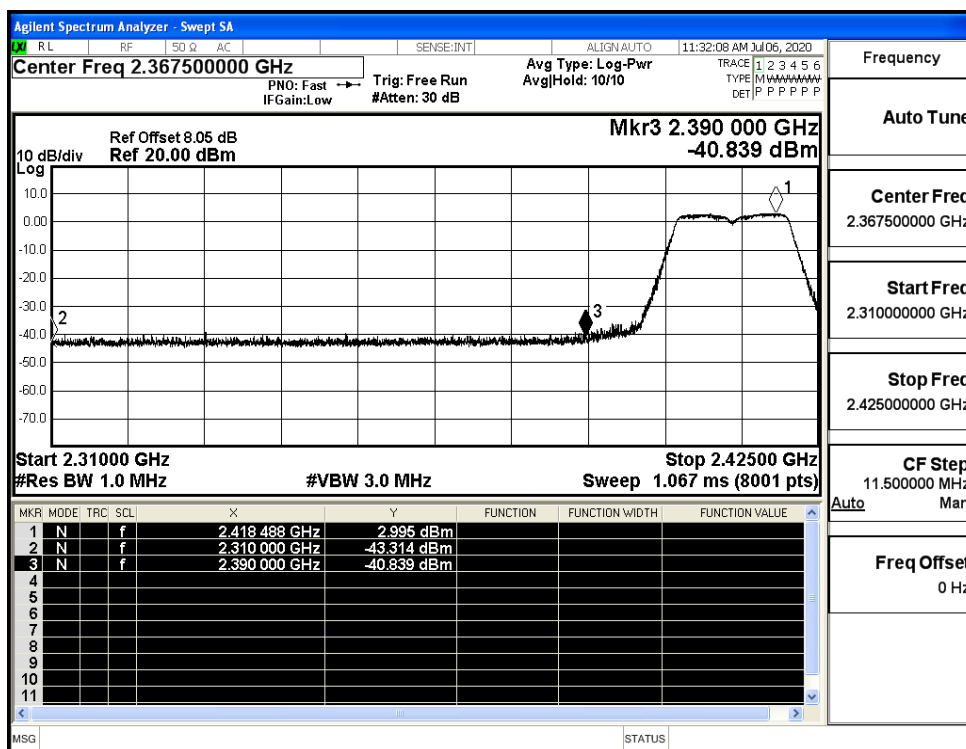
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



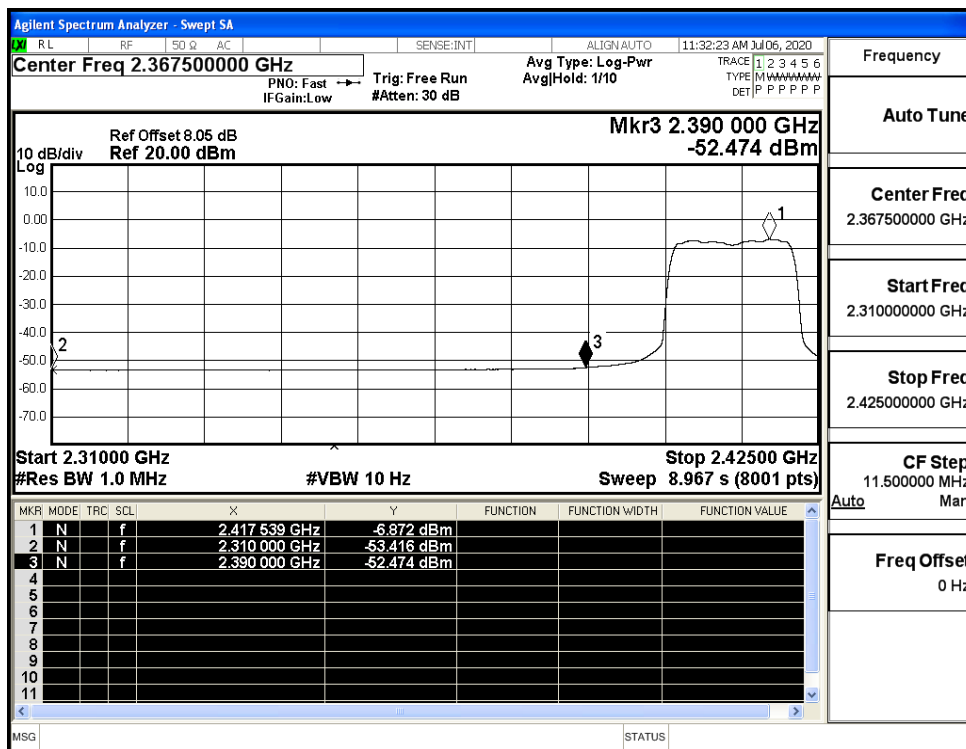
Restrict-band band-edge measurements_11G_2462_Ant1_AV



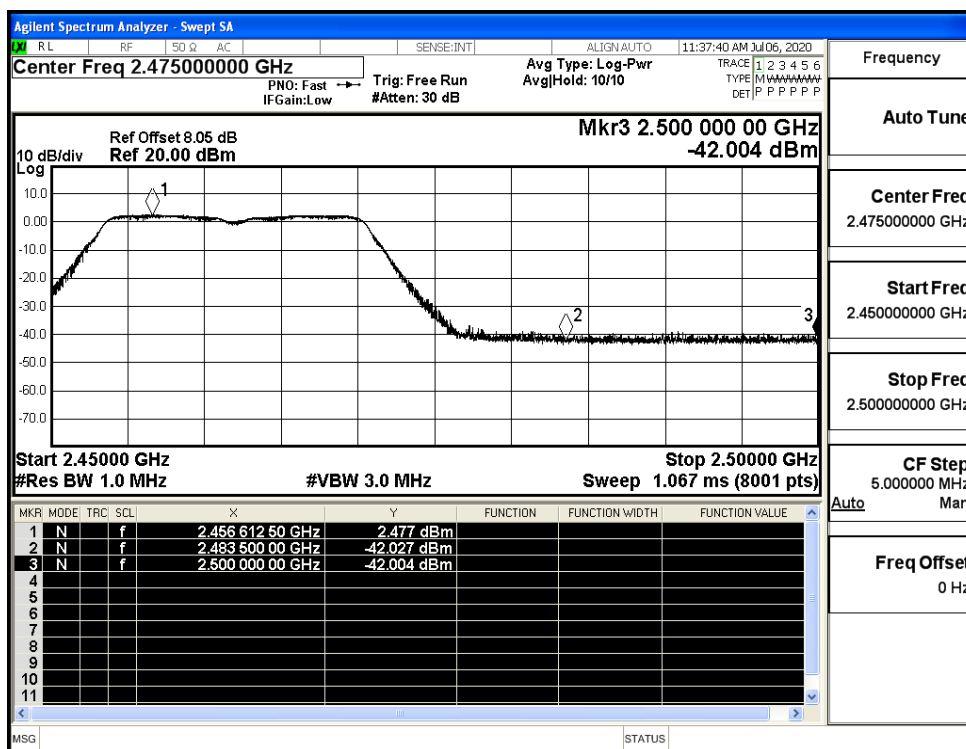
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



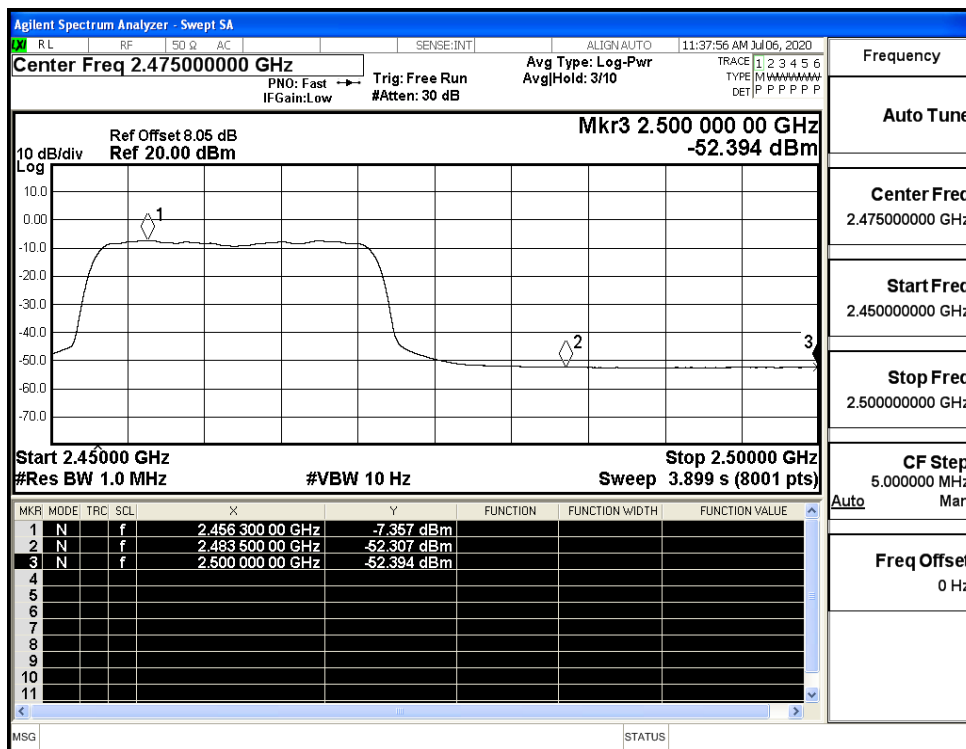
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



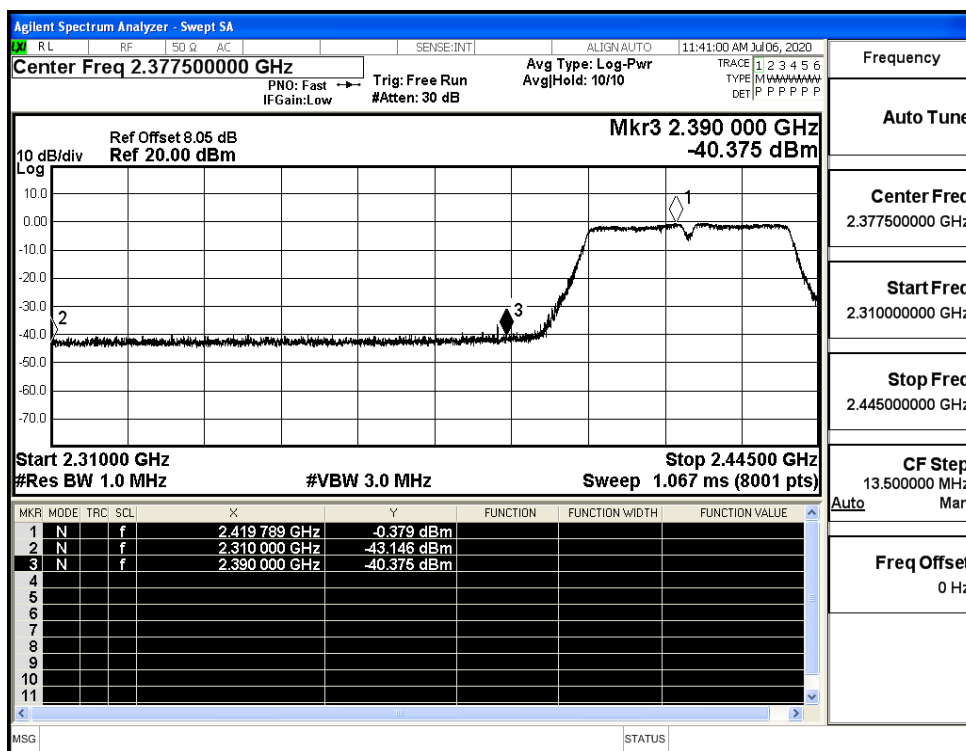
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



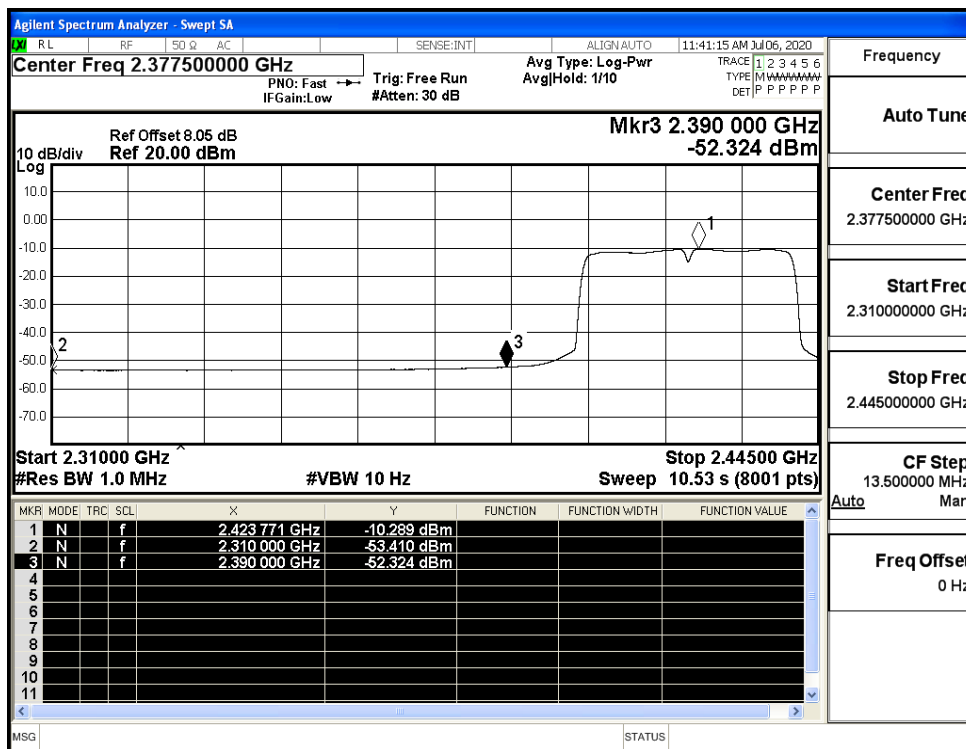
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_AV



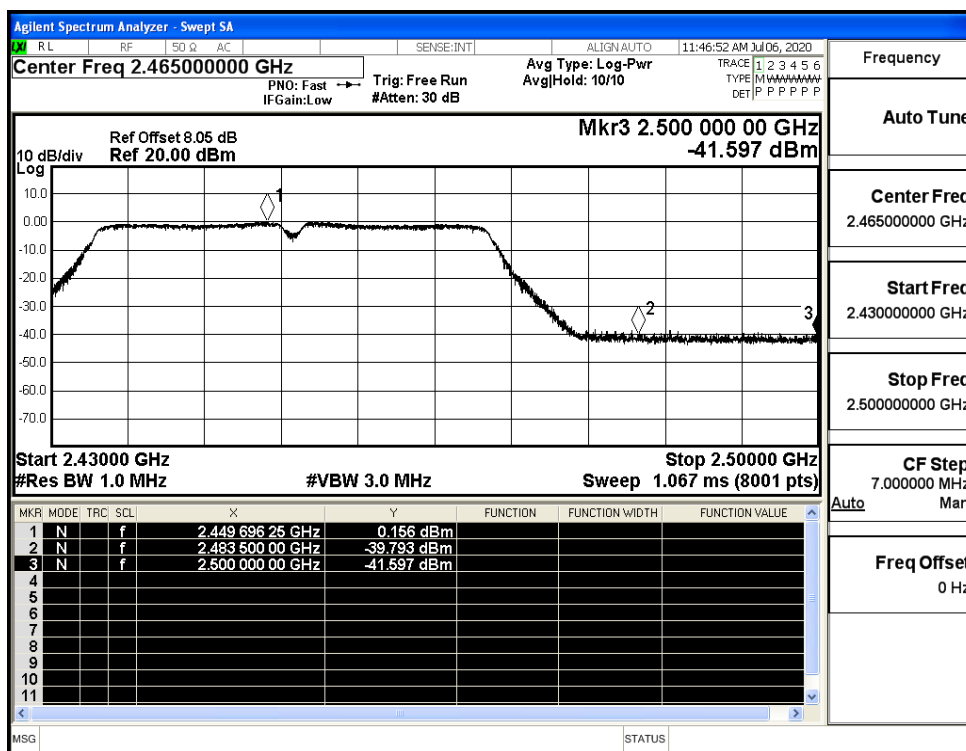
Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



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

