

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Wi-Fi Video Doorbell

Trade Mark: N/A

Test Model: AWF71D-2

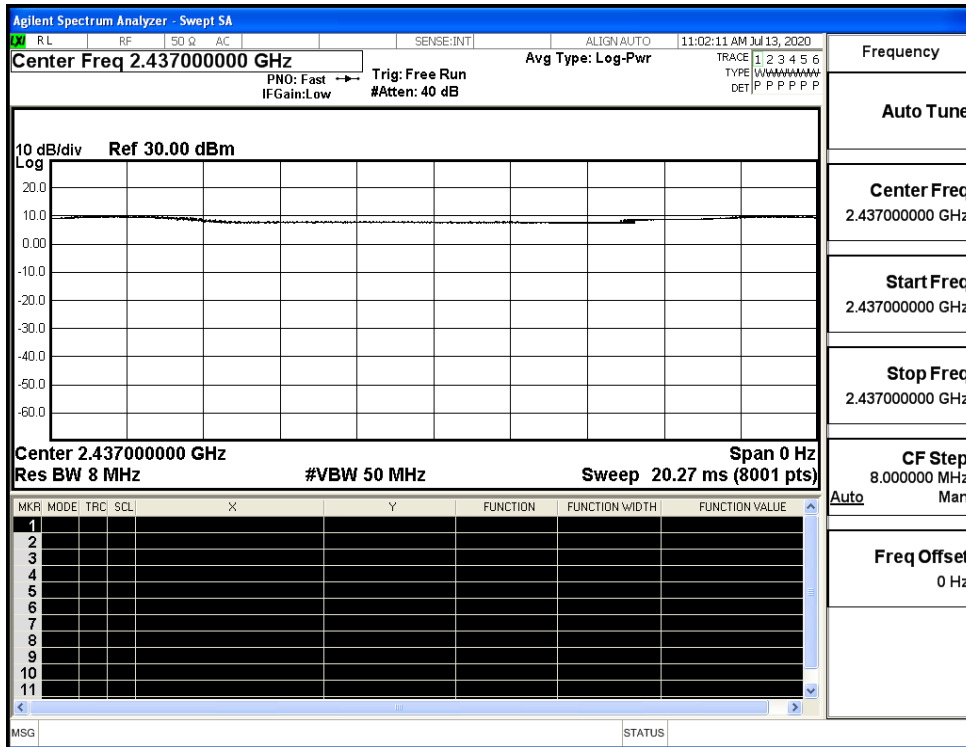
Environmental Conditions

Temperature:	24.2 ° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

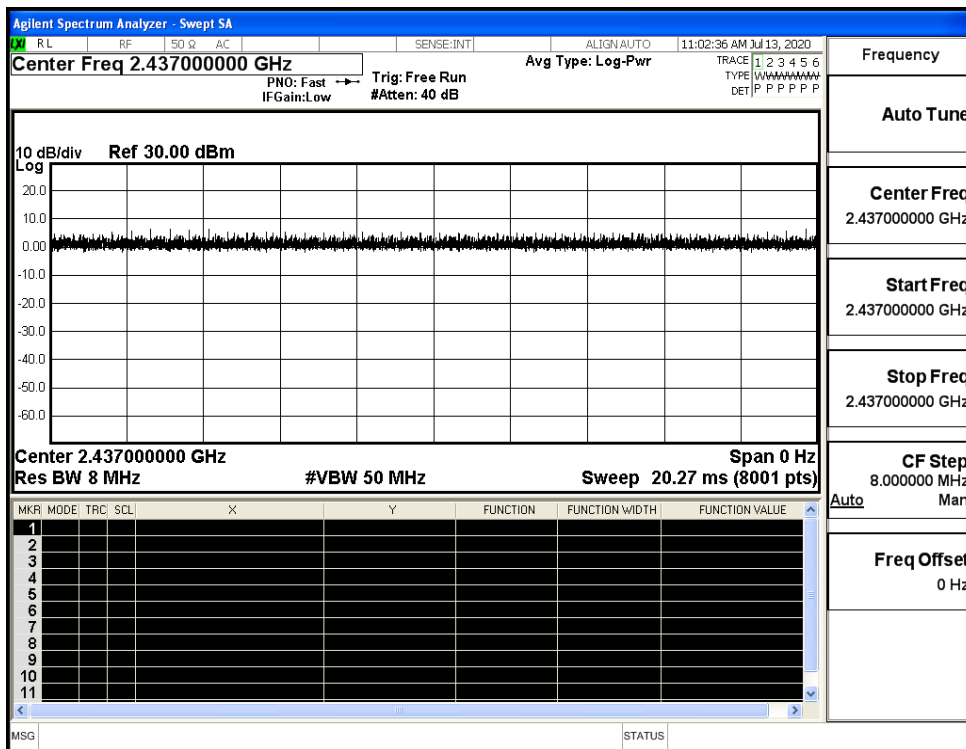
A.1 Duty Cycle

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

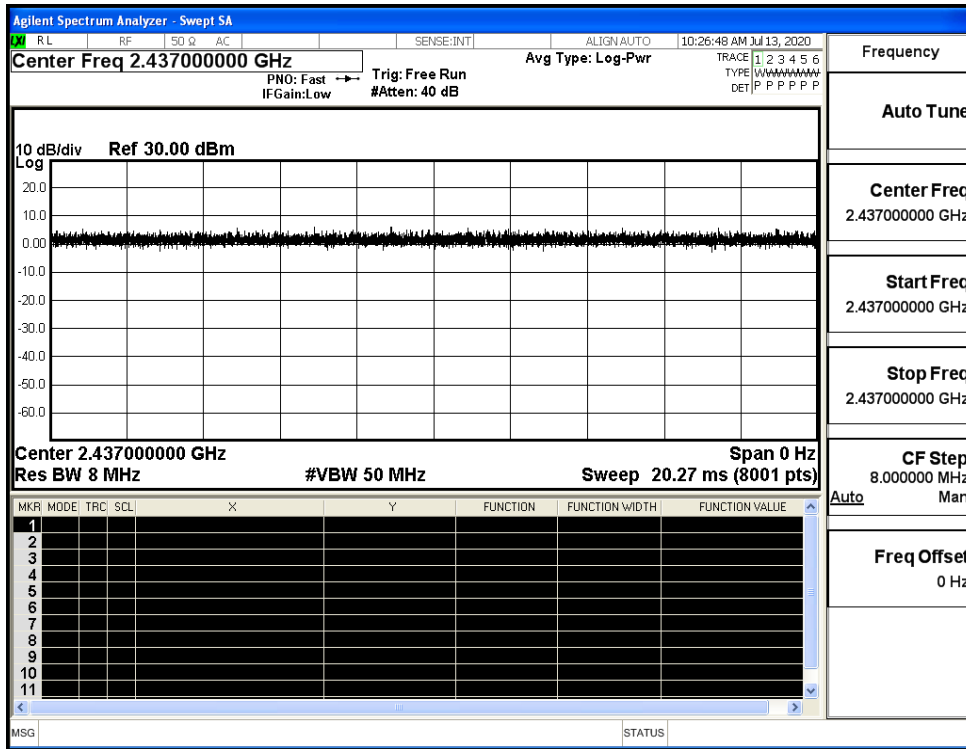
Duty Cycle_11B_2437_Ant1



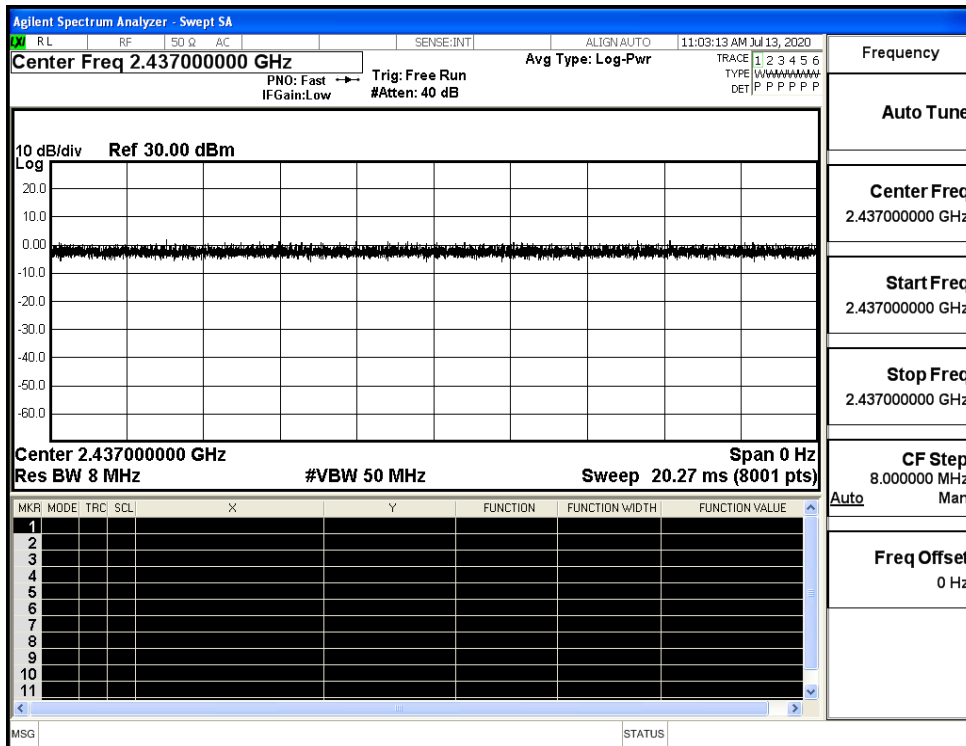
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1

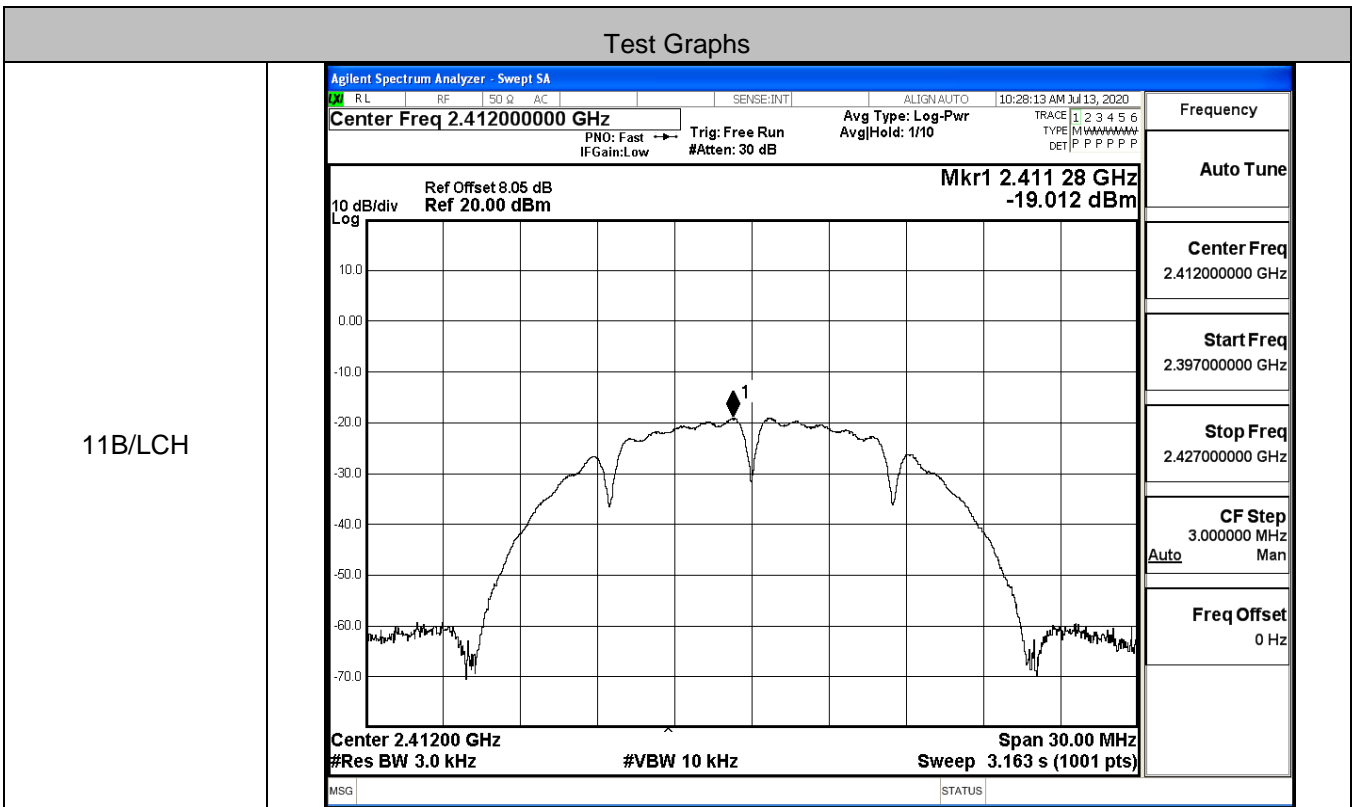


A.2 Maximum Conducted Output Power

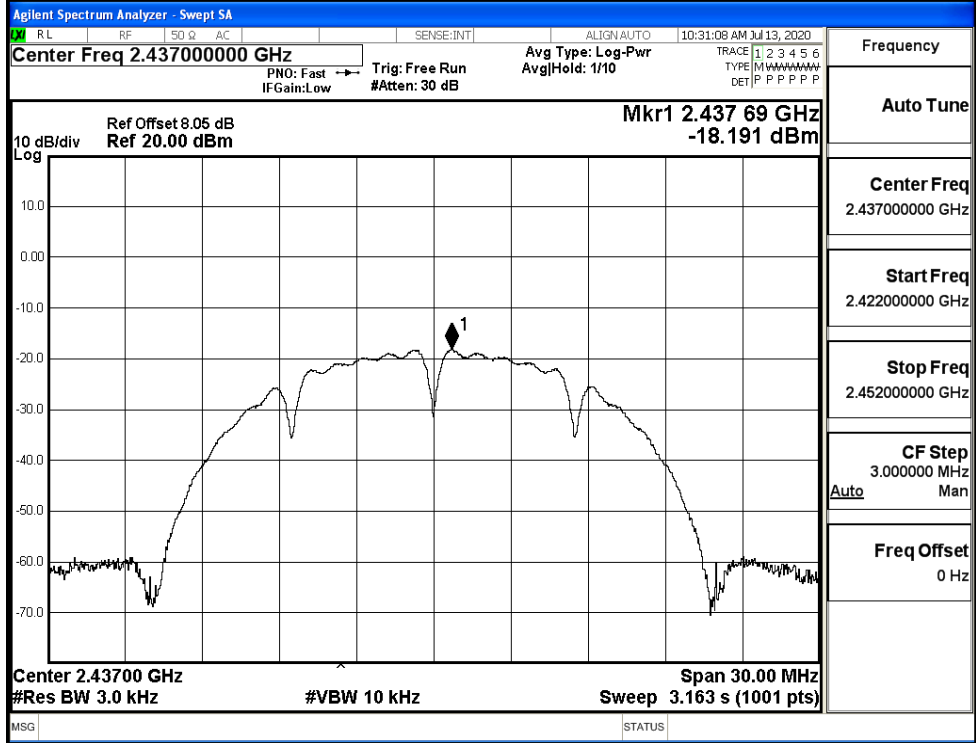
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	13.83	30	PASS
	MCH	14.69	30	PASS
	HCH	14.67	30	PASS
11G	LCH	14.34	30	PASS
	MCH	14.64	30	PASS
	HCH	14.72	30	PASS
11N20SISO	LCH	14.06	30	PASS
	MCH	14.84	30	PASS
	HCH	15.25	30	PASS
11N40SISO	LCH	13.68	30	PASS
	MCH	13.96	30	PASS
	HCH	14.07	30	PASS

A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-19.012	8	PASS
	MCH	-18.191	8	PASS
	HCH	-18.120	8	PASS
11G	LCH	-21.706	8	PASS
	MCH	-21.755	8	PASS
	HCH	-21.745	8	PASS
11N20SISO	LCH	-22.145	8	PASS
	MCH	-21.093	8	PASS
	HCH	-20.899	8	PASS
11N40SISO	LCH	-23.892	8	PASS
	MCH	-24.809	8	PASS
	HCH	-22.366	8	PASS

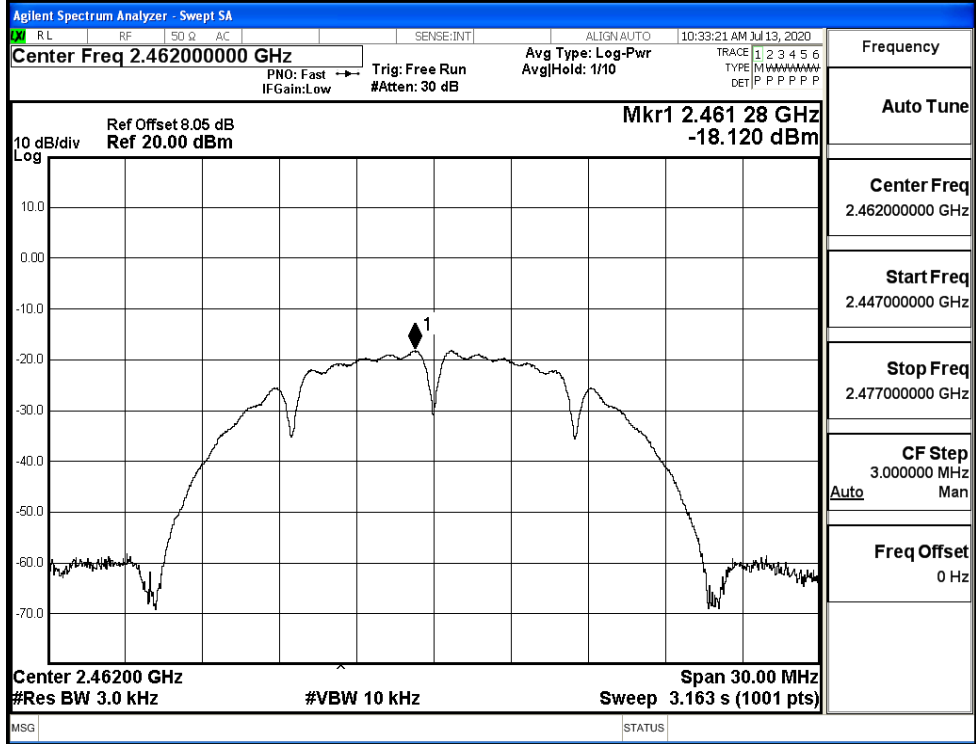


11B/MCH



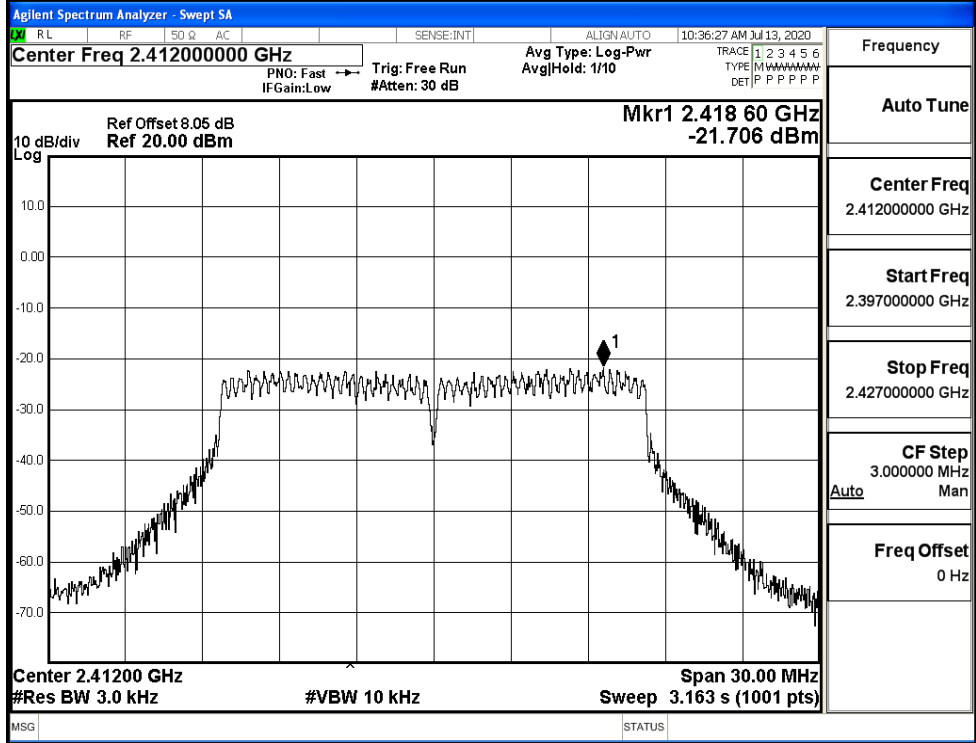
Frequency
Auto Tune
Center Freq 2.437000000 GHz
Start Freq 2.422000000 GHz
Stop Freq 2.452000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

11B/HCH



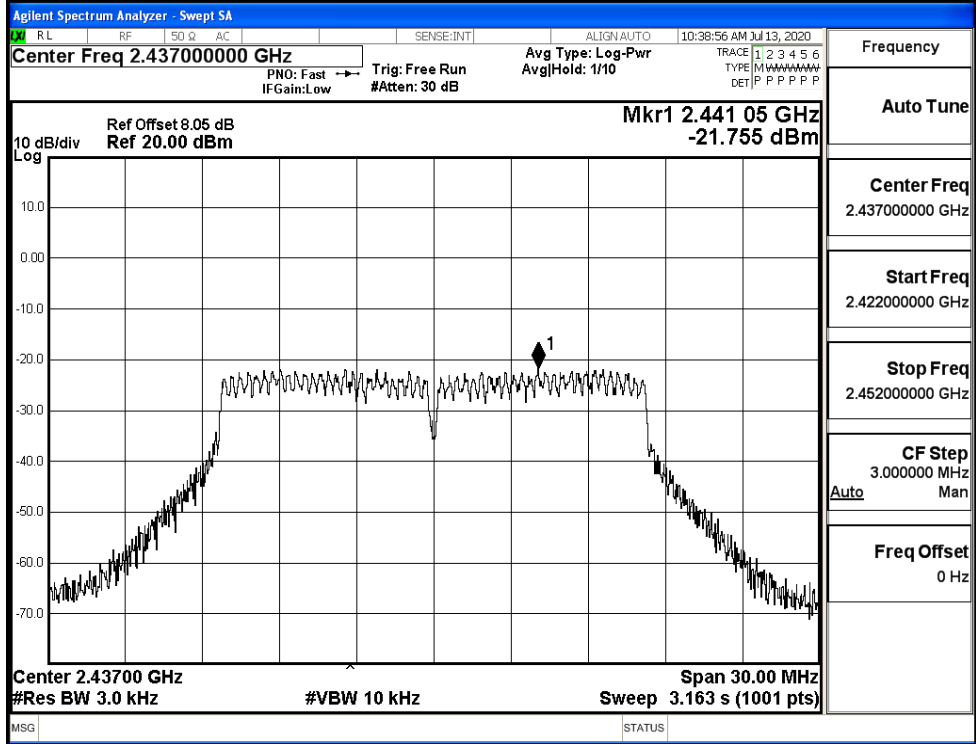
Frequency
Auto Tune
Center Freq 2.462000000 GHz
Start Freq 2.447000000 GHz
Stop Freq 2.477000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

11G/LCH



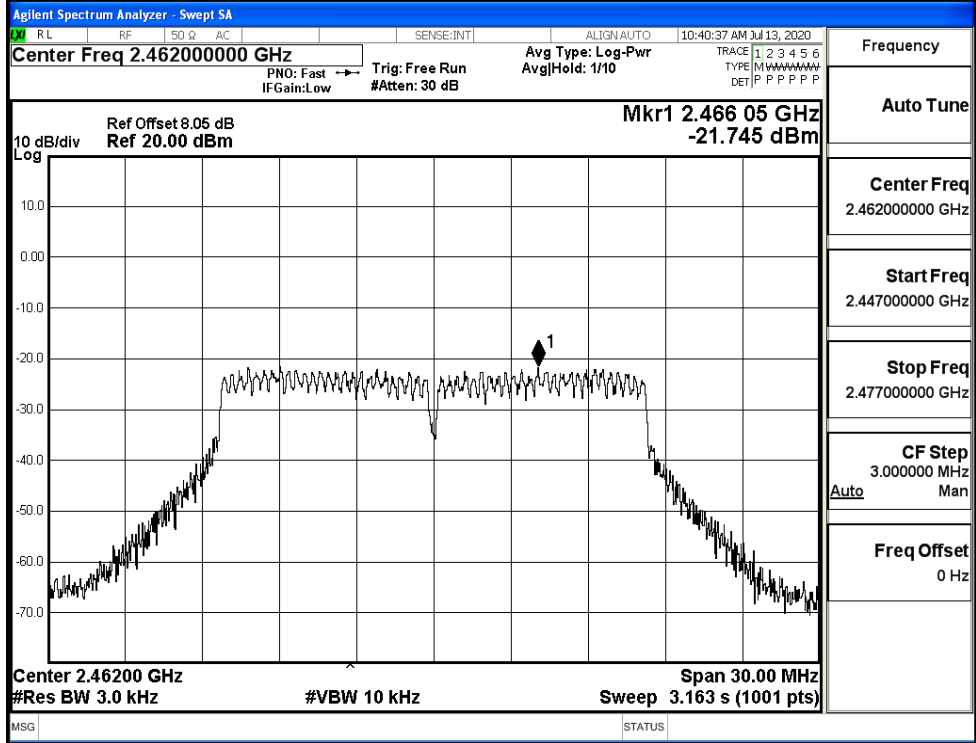
Frequency
Auto Tune
Center Freq 2.412000000 GHz
Start Freq 2.397000000 GHz
Stop Freq 2.427000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

11G/MCH

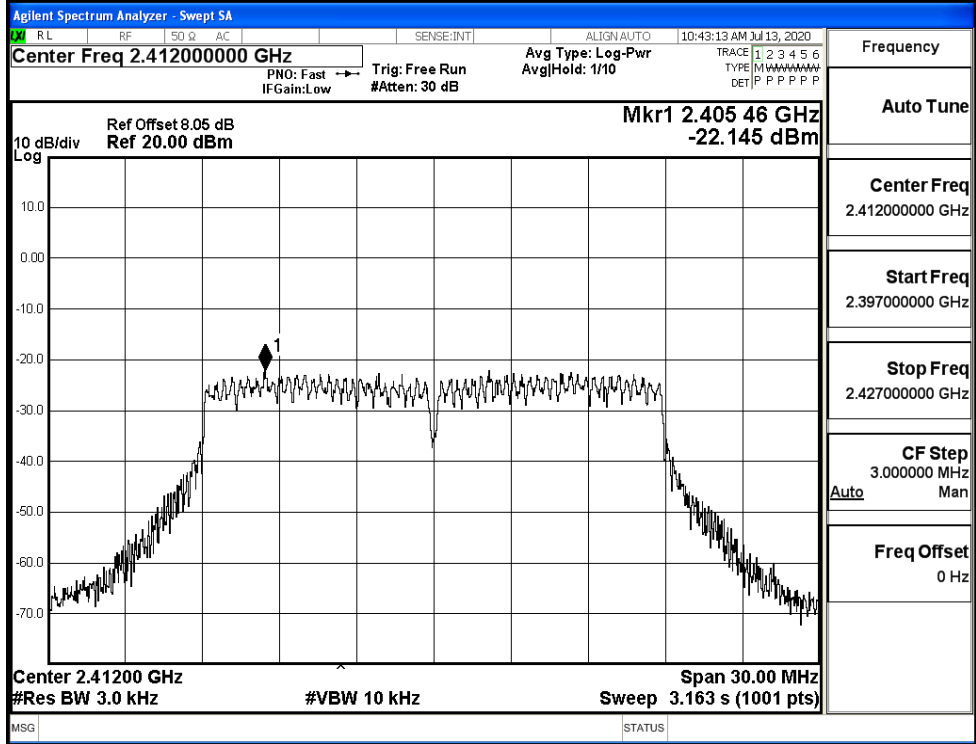


Frequency
Auto Tune
Center Freq 2.437000000 GHz
Start Freq 2.422000000 GHz
Stop Freq 2.452000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

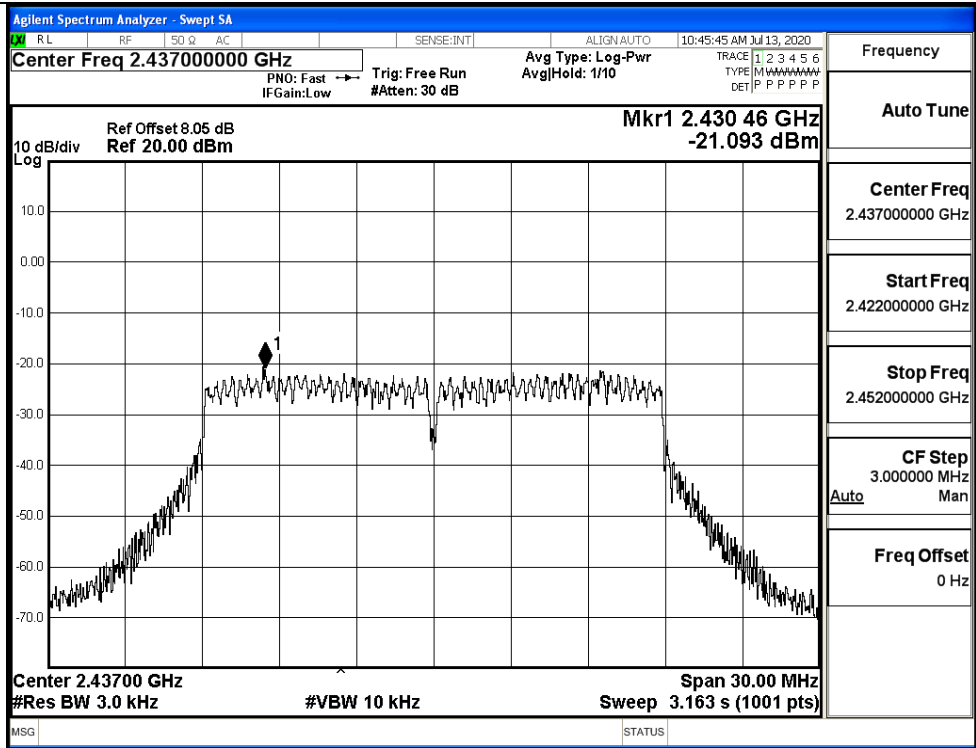
11G/HCH



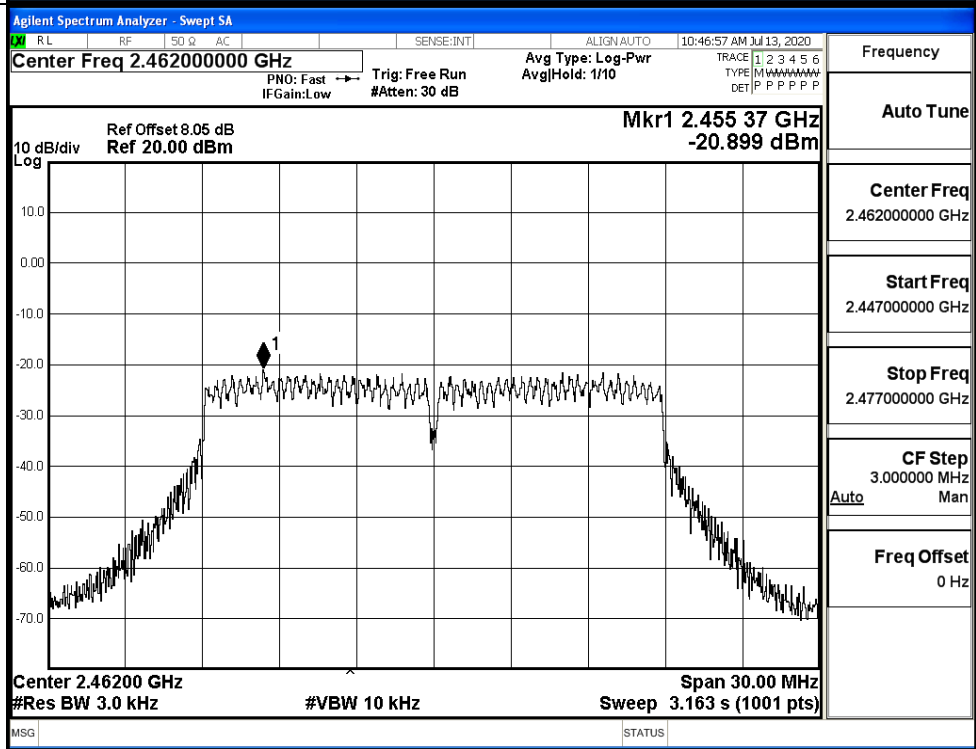
11N20SISO/LCH



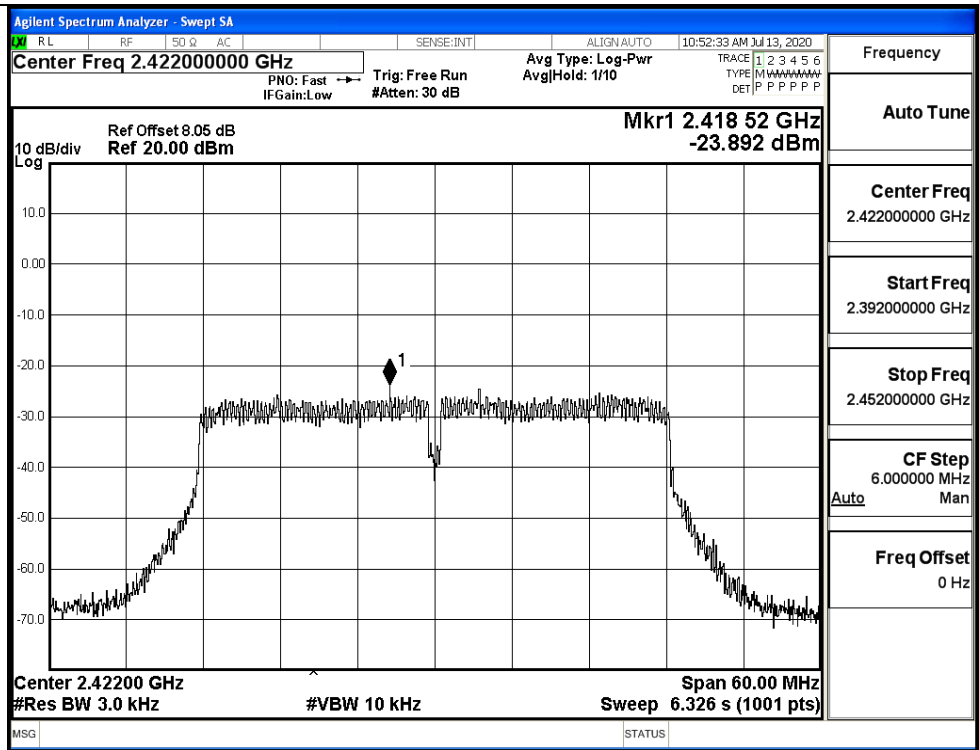
11N20SISO/MCH



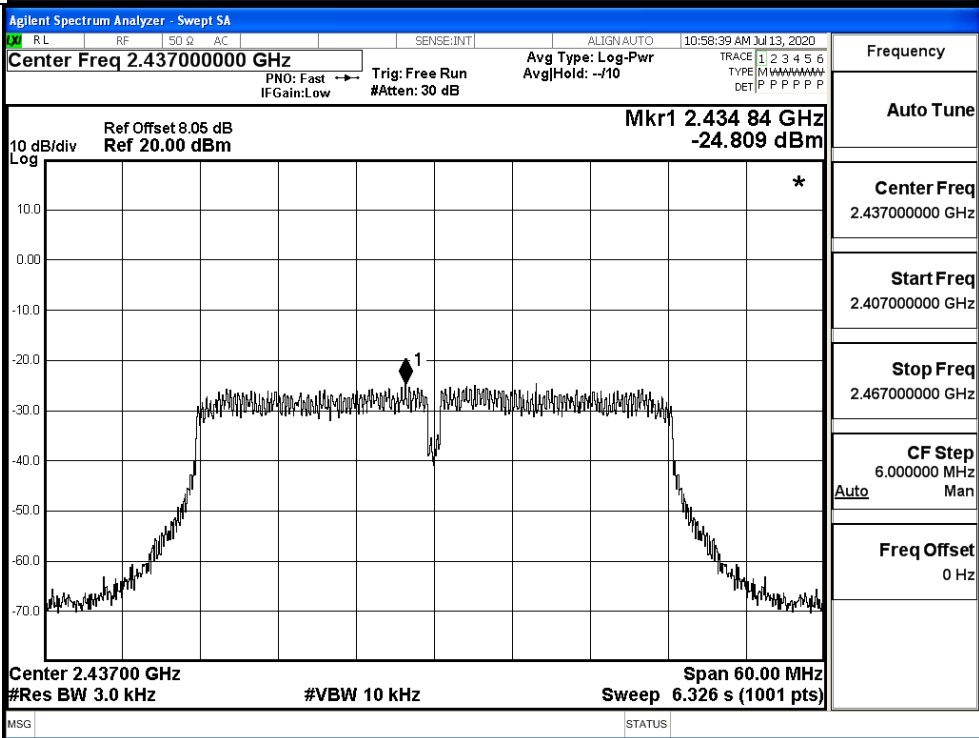
11N20SISO/HCH



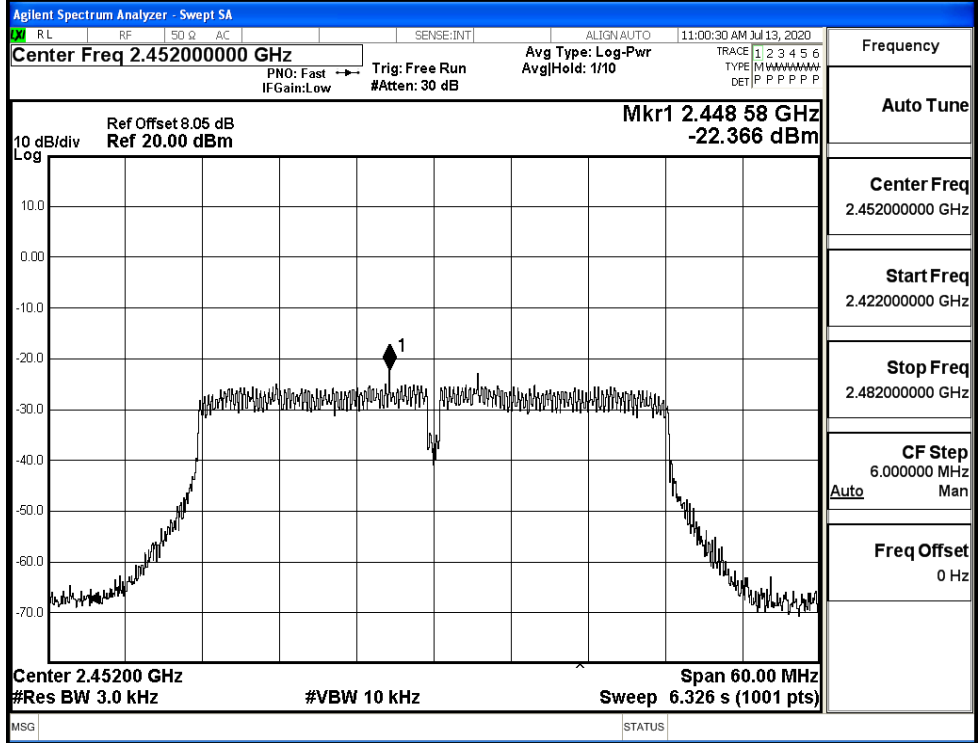
11N40SISO/LCH



11N40SISO/MCH

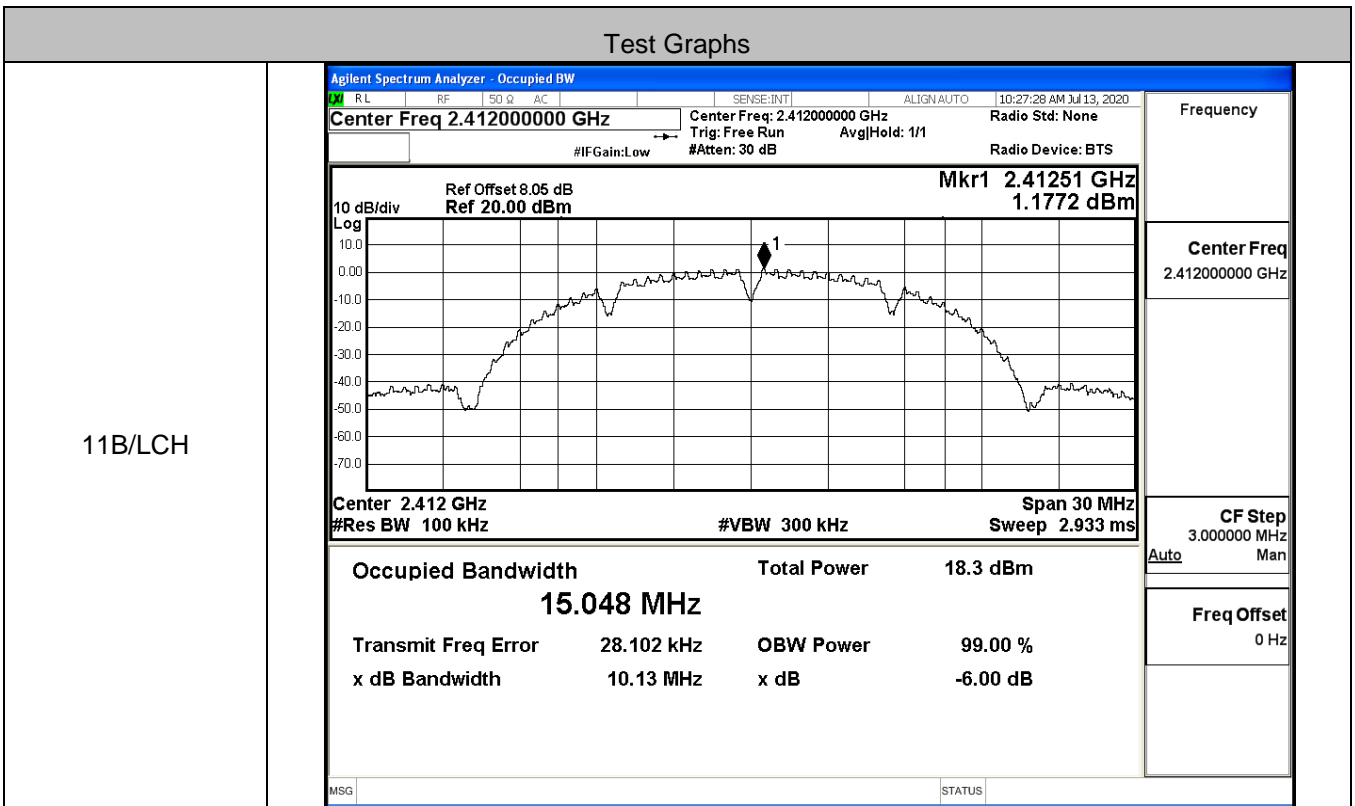


11N40SISO/HCH

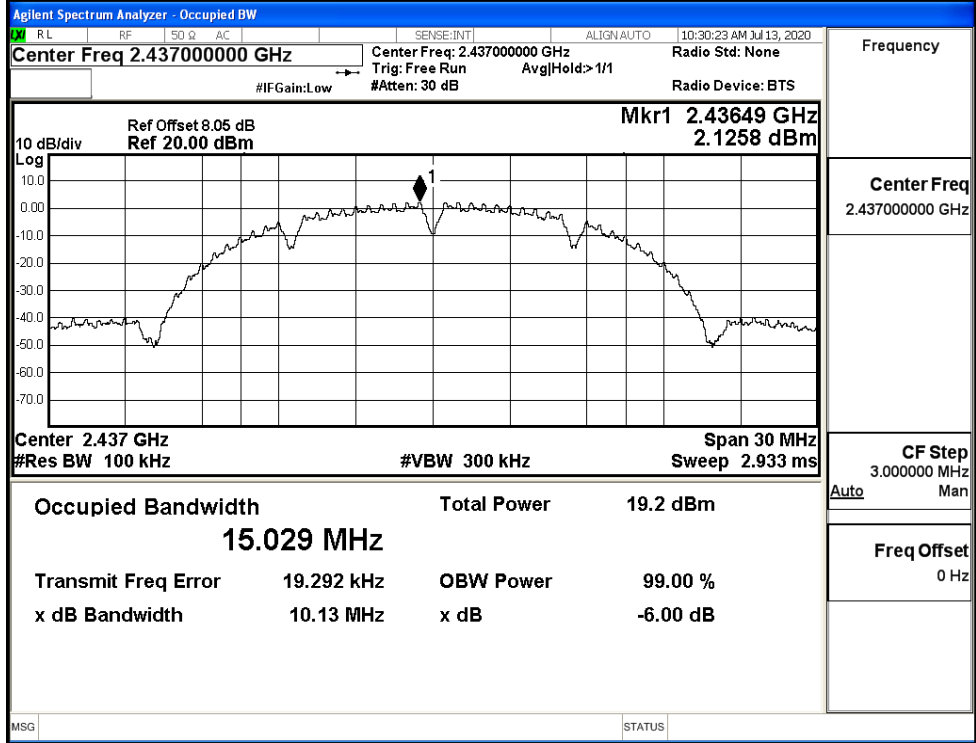


A.4 6dB Bandwidth

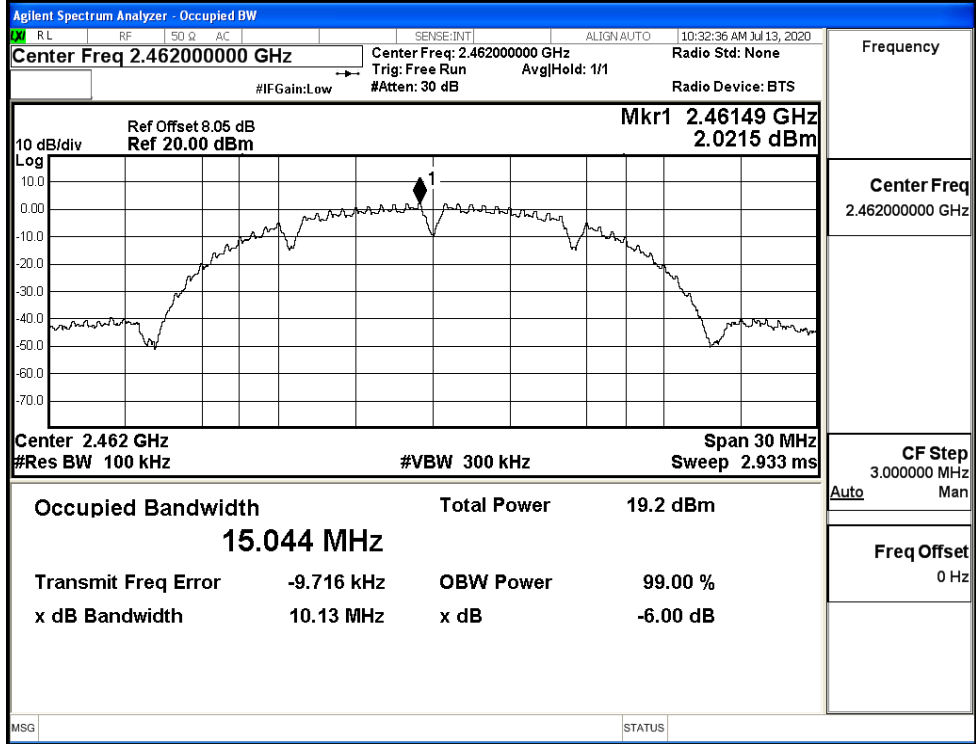
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	10.13	≥0.5	PASS
	MCH	10.13	≥0.5	PASS
	HCH	10.13	≥0.5	PASS
11G	LCH	16.54	≥0.5	PASS
	MCH	16.55	≥0.5	PASS
	HCH	16.57	≥0.5	PASS
11N20SISO	LCH	17.77	≥0.5	PASS
	MCH	17.73	≥0.5	PASS
	HCH	17.72	≥0.5	PASS
11N40SISO	LCH	36.49	≥0.5	PASS
	MCH	36.46	≥0.5	PASS
	HCH	36.49	≥0.5	PASS



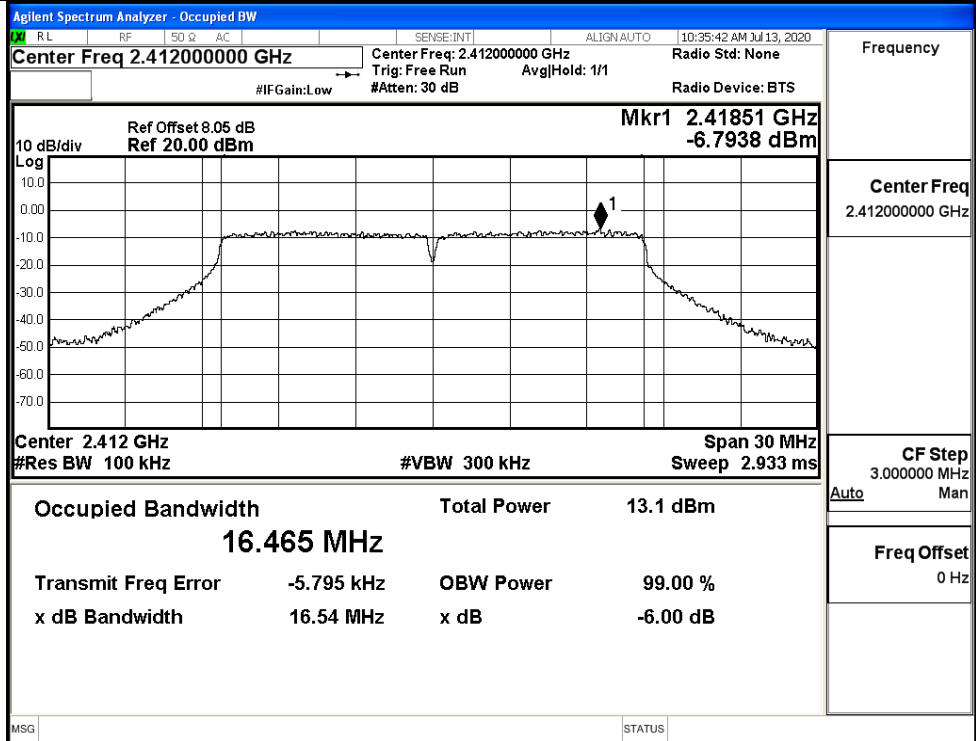
11B/MCH



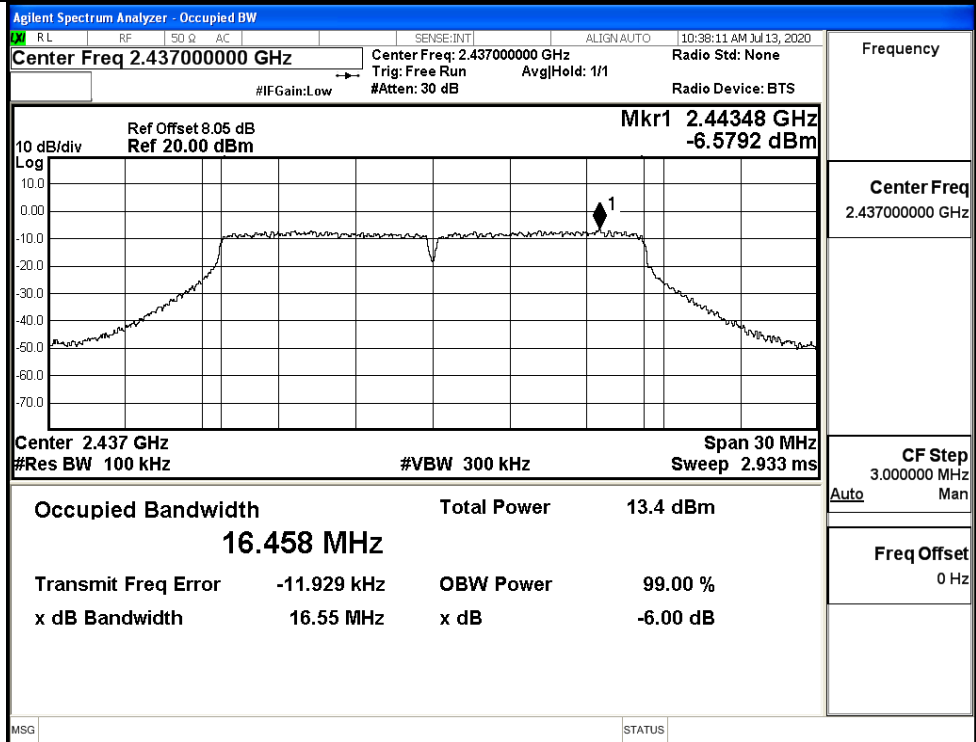
11B/HCH



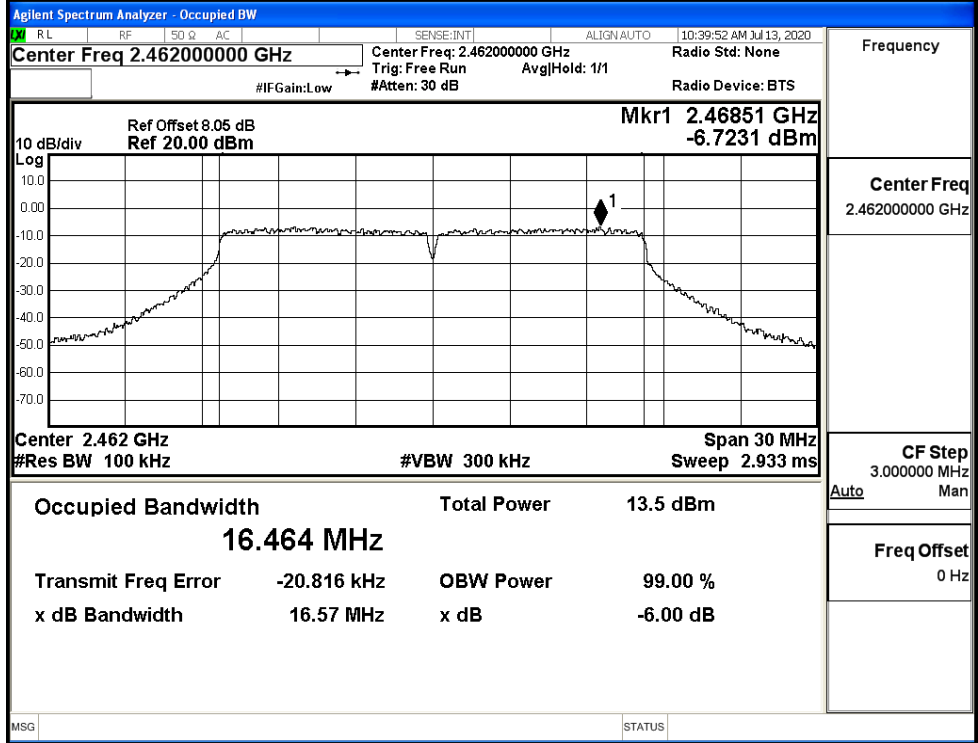
11G/LCH



11G/MCH

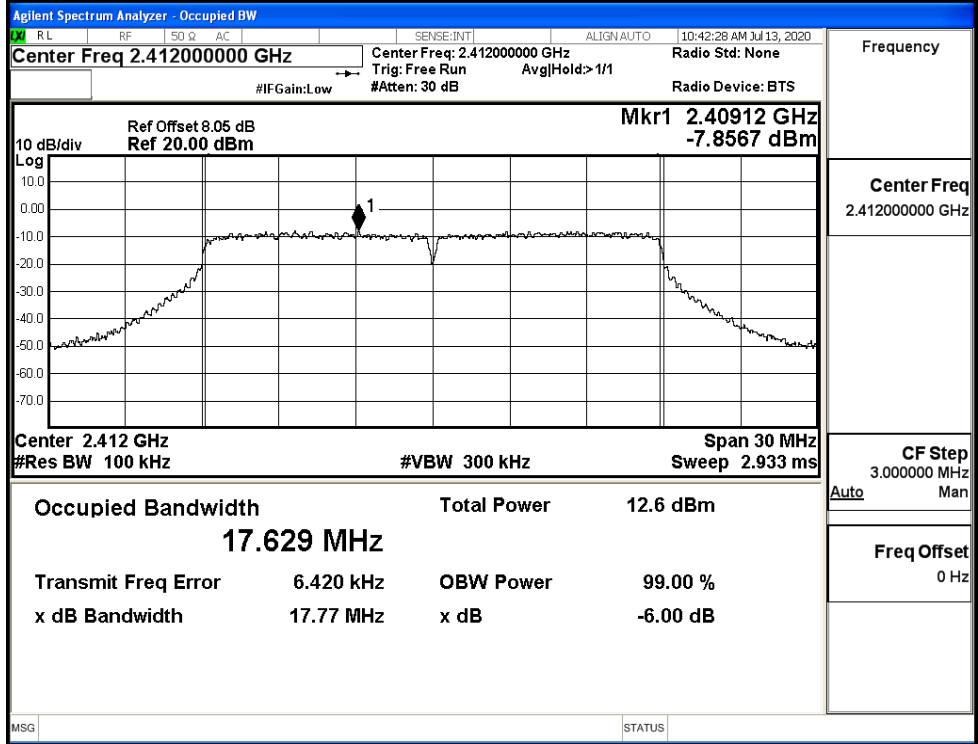


11G/HCH



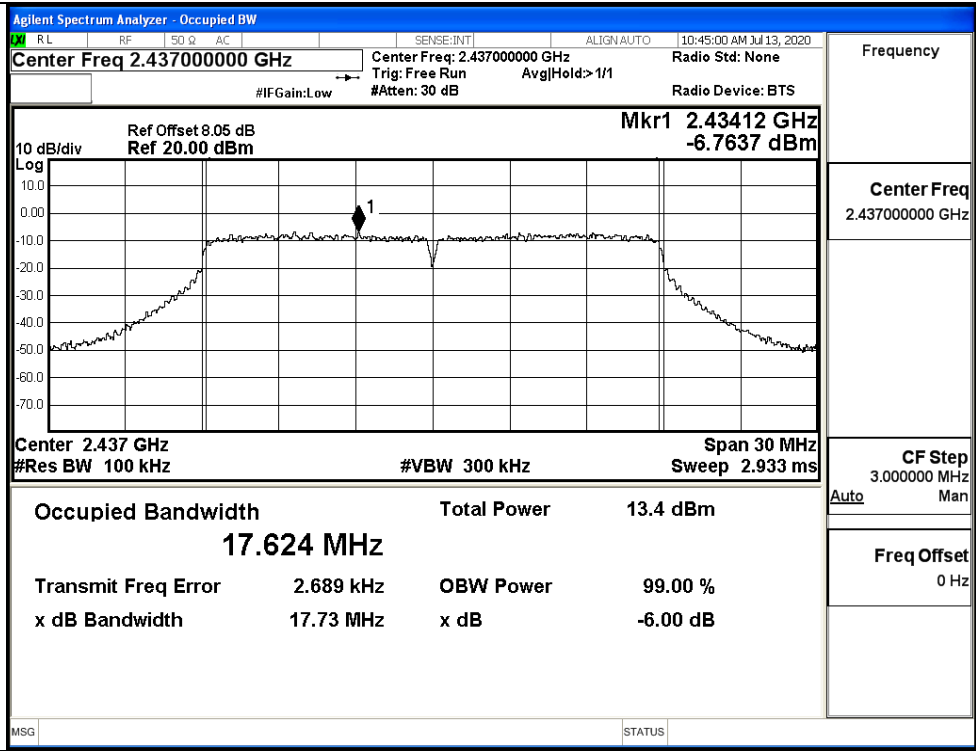
Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11N20SISO/LCH

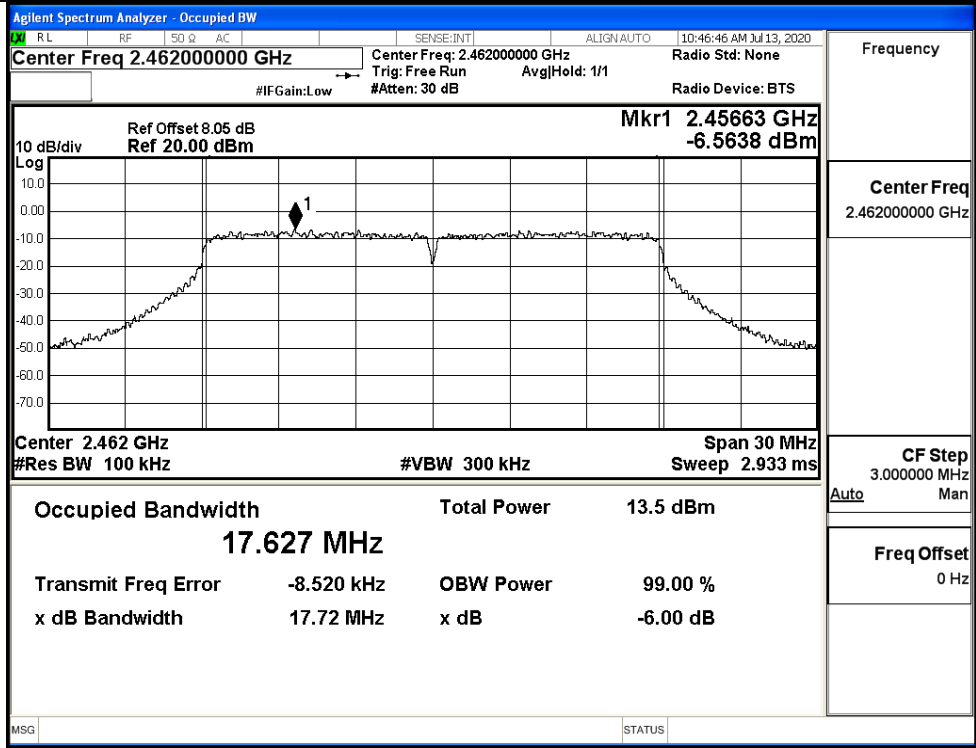


Frequency	2.41200000 GHz
Center Freq	2.41200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

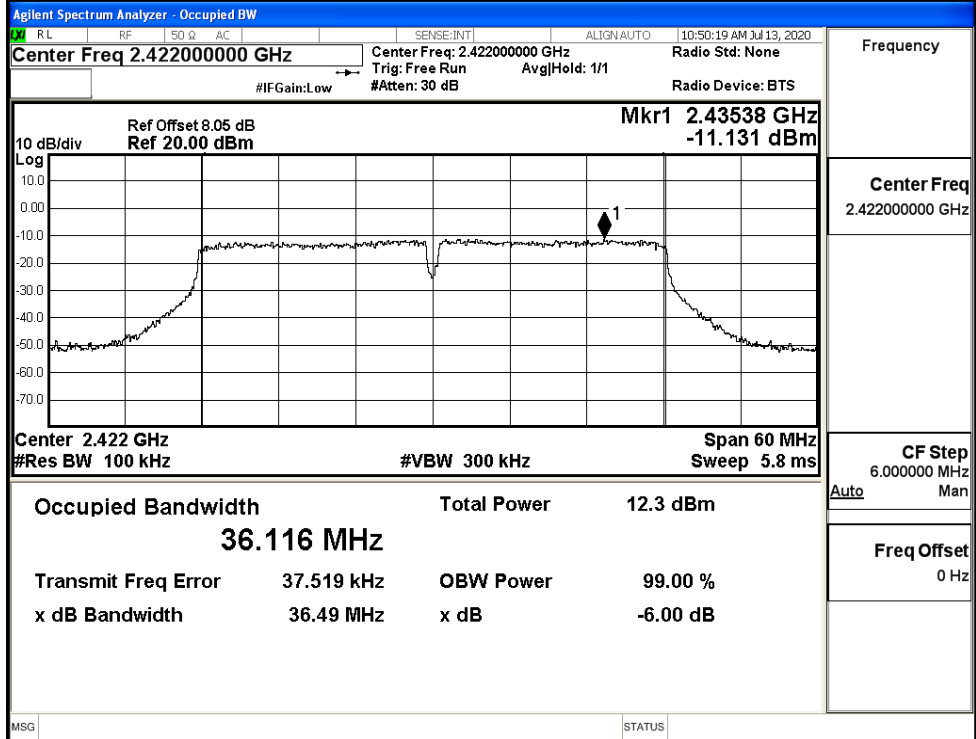
11N20SISO/MCH



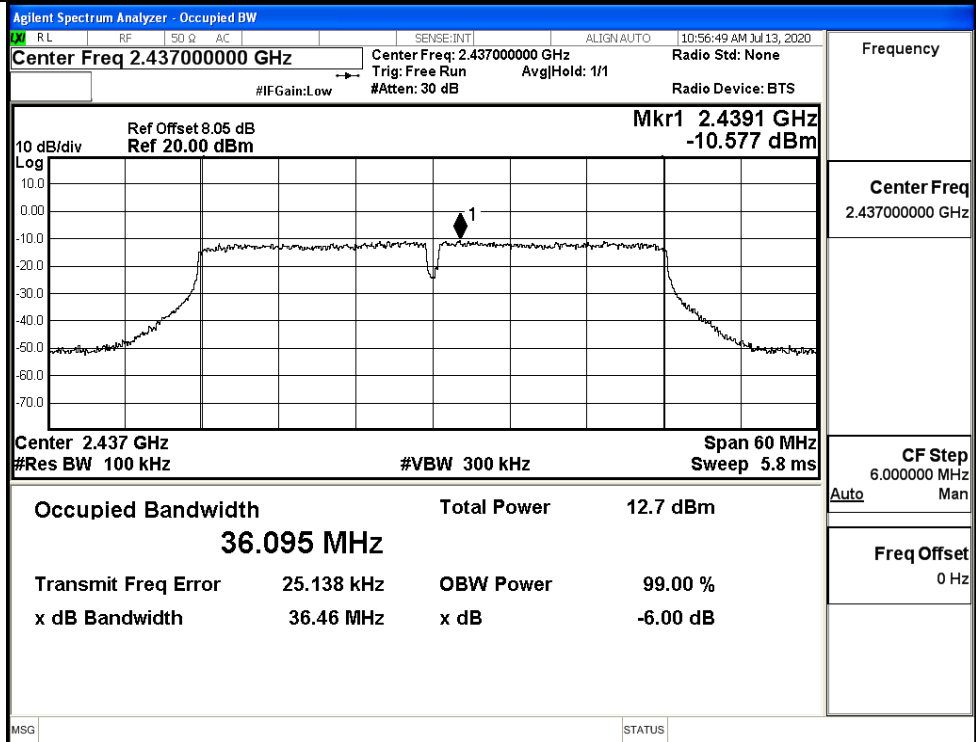
11N20SISO/HCH



11N40SISO/LCH



11N40SISO/MCH



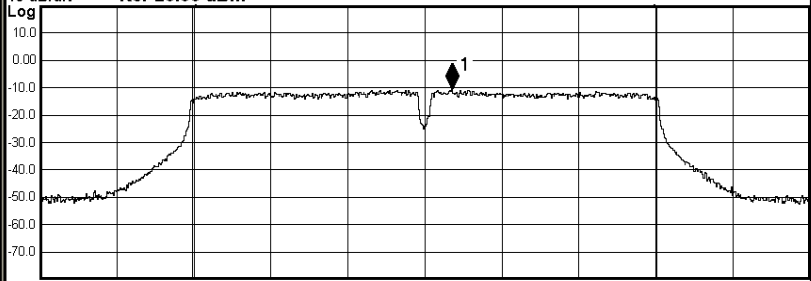
11N40SISO/HCH

Agilent Spectrum Analyzer - Occupied BW

RL	RF	50 Ω	AC	SENSE:INT	ALIGN:AUTO	10:59:38 AM Jul 13, 2020
Center Freq 2.45200000 GHz			Center Freq: 2.45200000 GHz		Radio Std: None	
			Trig: Free Run		Avg Hold: 1/1	
			#IFGain: Low		Radio Device: BTS	
			#Atten: 30 dB			

Mkr1 2.4541 GHz
-10.712 dBm

10 dB/div Ref Offset 8.05 dB
Log Ref 20.00 dBm



The plot shows a spectrum with a central peak at 2.452 GHz. The y-axis is logarithmic, ranging from -70.0 dBm to 10.0 dBm. The x-axis represents frequency. A marker '1' is placed at the peak of the signal.

Center 2.452 GHz	#VBW 300 kHz	Span 60 MHz
#Res BW 100 kHz		Sweep 5.8 ms

Occupied Bandwidth	Total Power	12.8 dBm
36.113 MHz		
Transmit Freq Error	6.668 kHz	OBW Power
x dB Bandwidth	36.49 MHz	x dB
		99.00 %
		-6.00 dB

CF Step	6.000000 MHz
Auto	Man

Freq Offset	0 Hz
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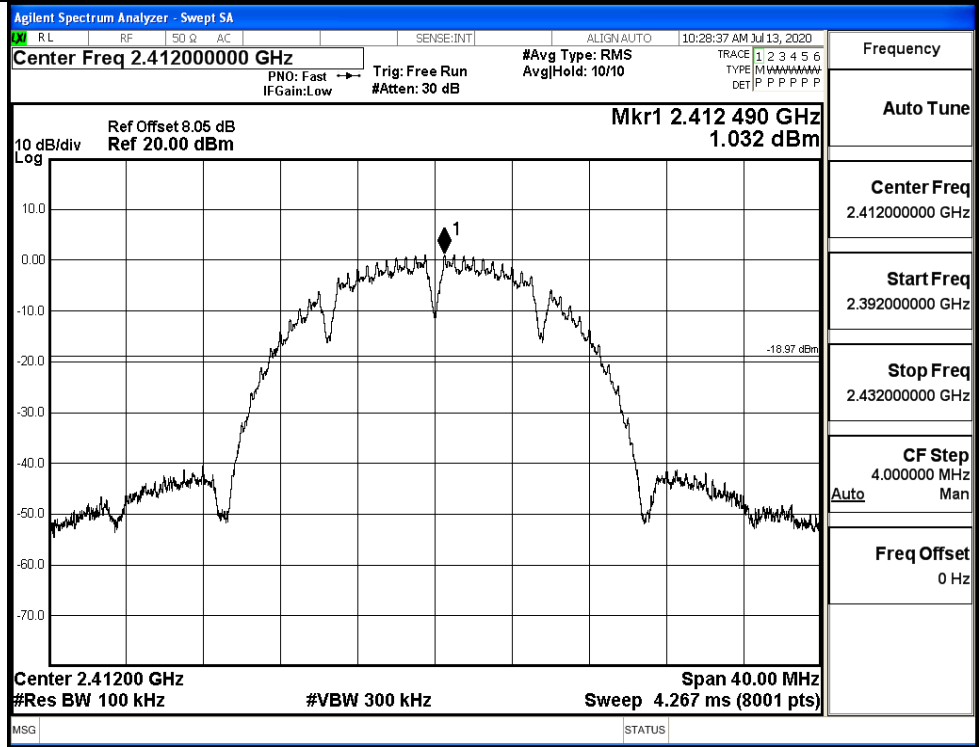
MSG
STATUS

A.5 RF Conducted Spurious Emissions

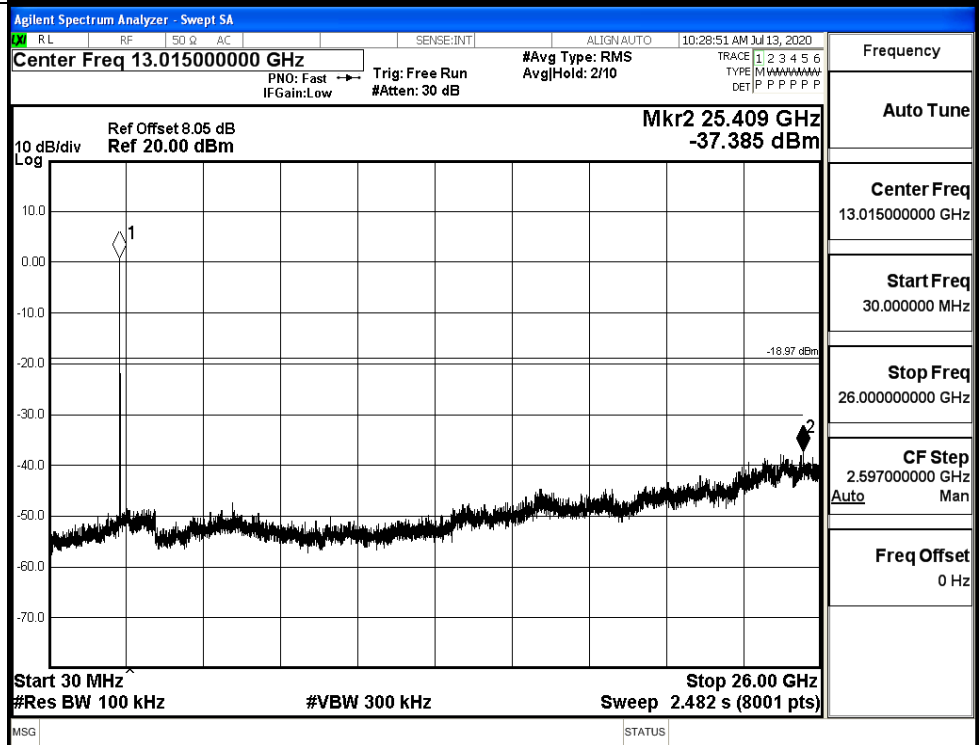
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	1.032	-37.385	-18.968	PASS
	MCH	1.866	-38.551	-18.134	PASS
	HCH	1.899	-38.078	-18.101	PASS
11G	LCH	-6.965	-37.215	-26.965	PASS
	MCH	-7.141	-38.015	-27.141	PASS
	HCH	-6.906	-37.714	-26.906	PASS
11N20 SISO	LCH	-7.945	-38.032	-27.945	PASS
	MCH	-6.74	-36.547	-26.740	PASS
	HCH	-6.756	-38.239	-26.756	PASS
11N40 SISO	LCH	-11.006	-37.962	-31.006	PASS
	MCH	-10.958	-37.659	-30.958	PASS
	HCH	-10.7	-38.551	-30.700	PASS

11B_LCH_Graphs

Pref/11B/LCH

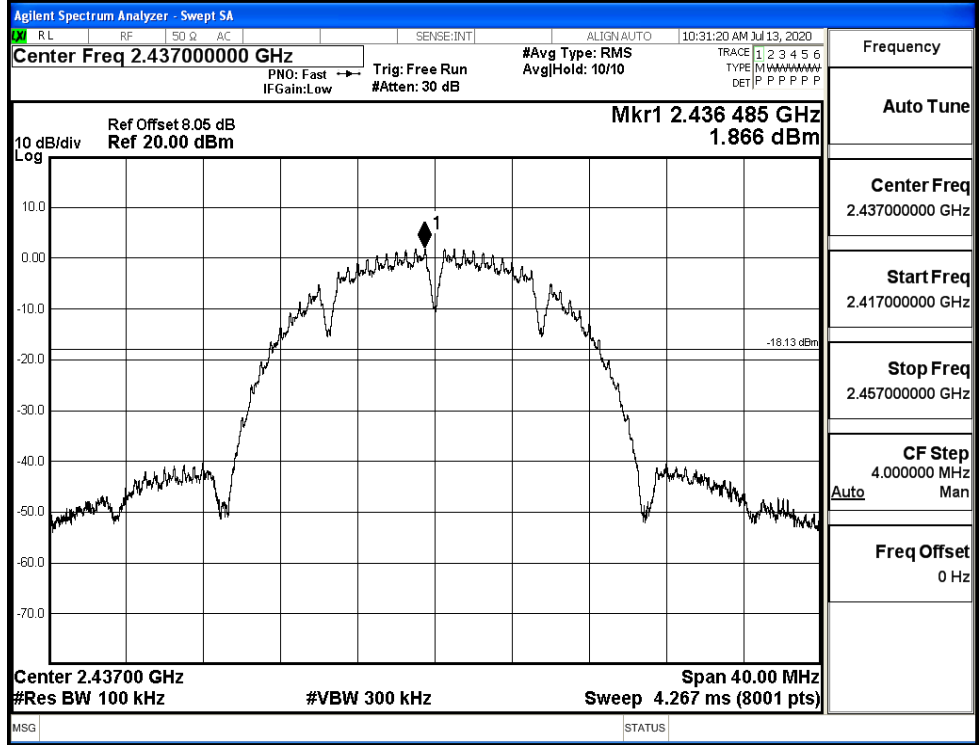


Puw/11B/LCH

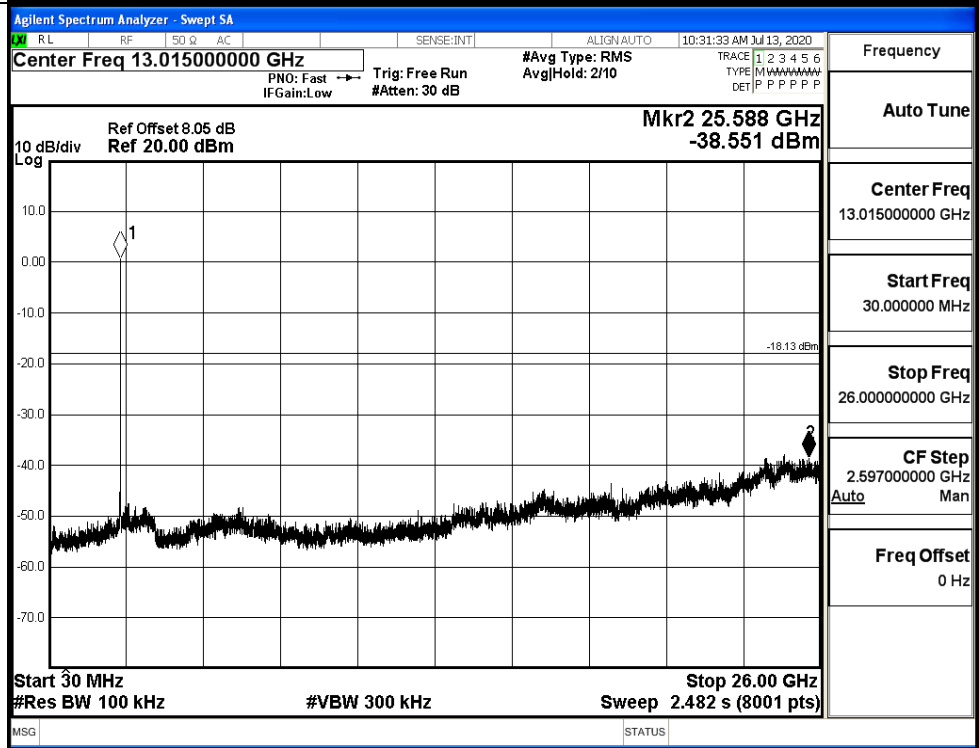


11B_MCH_Graphs

Pref/11B/MCH

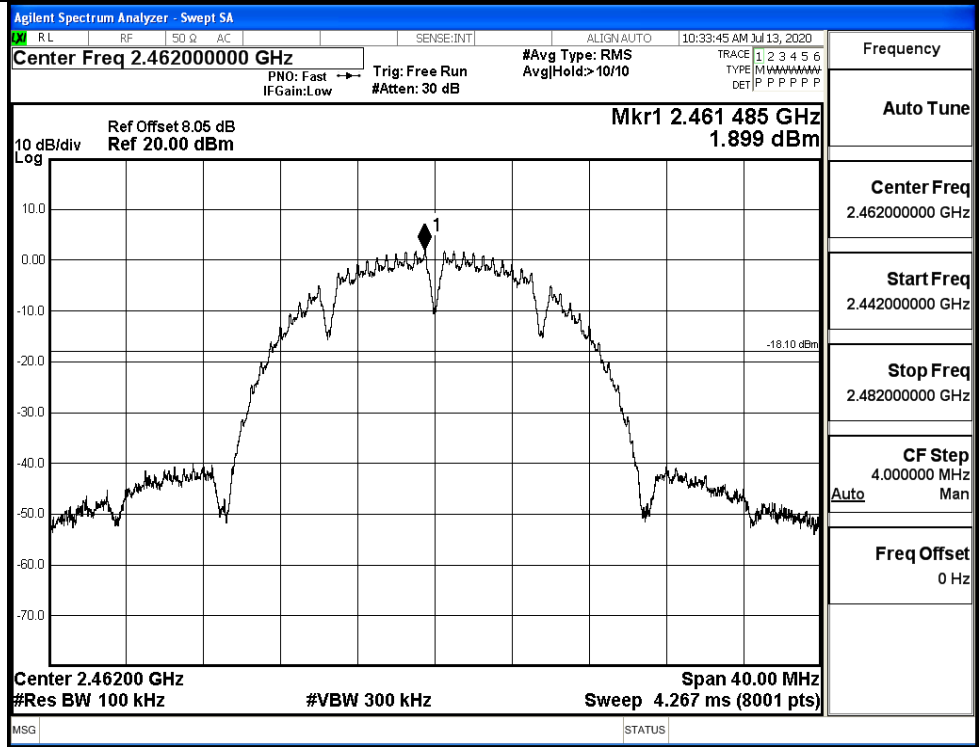


Puw/11B/MCH

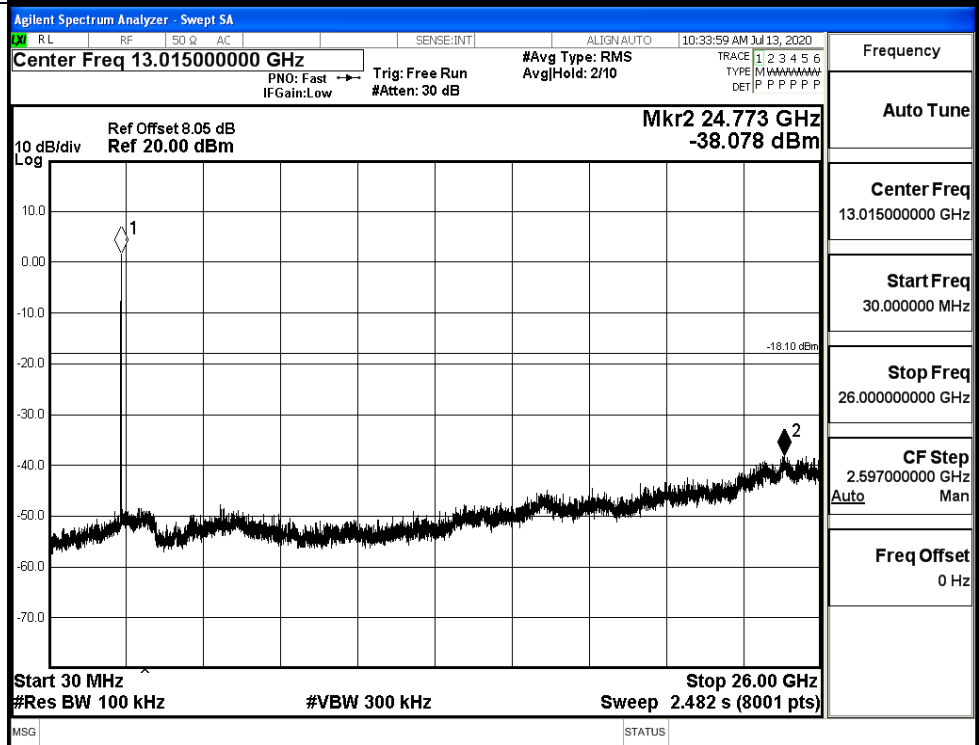


11B_HCH_Graphs

Pref/11B/HCH

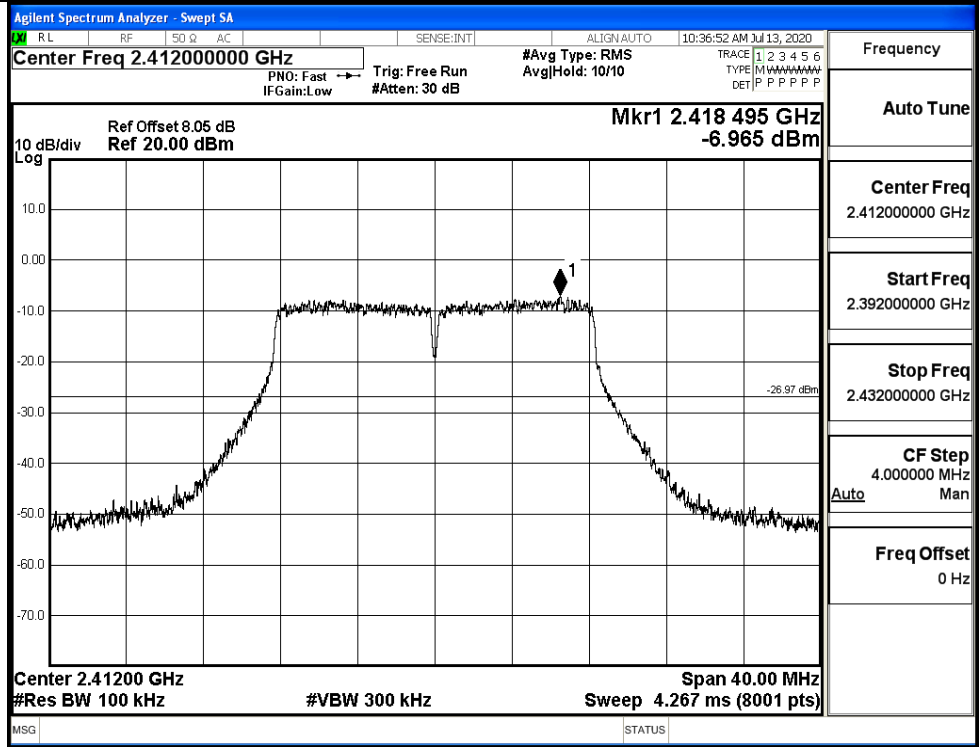


Puw/11B/HCH

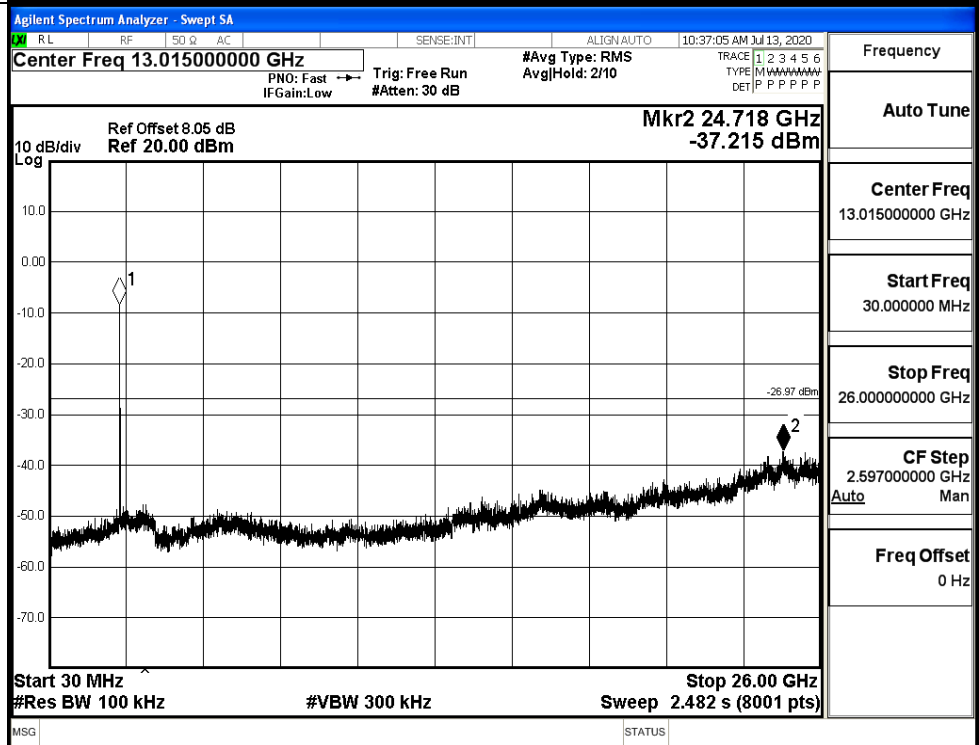


11G_LCH_Graphs

Pref/11G/LCH

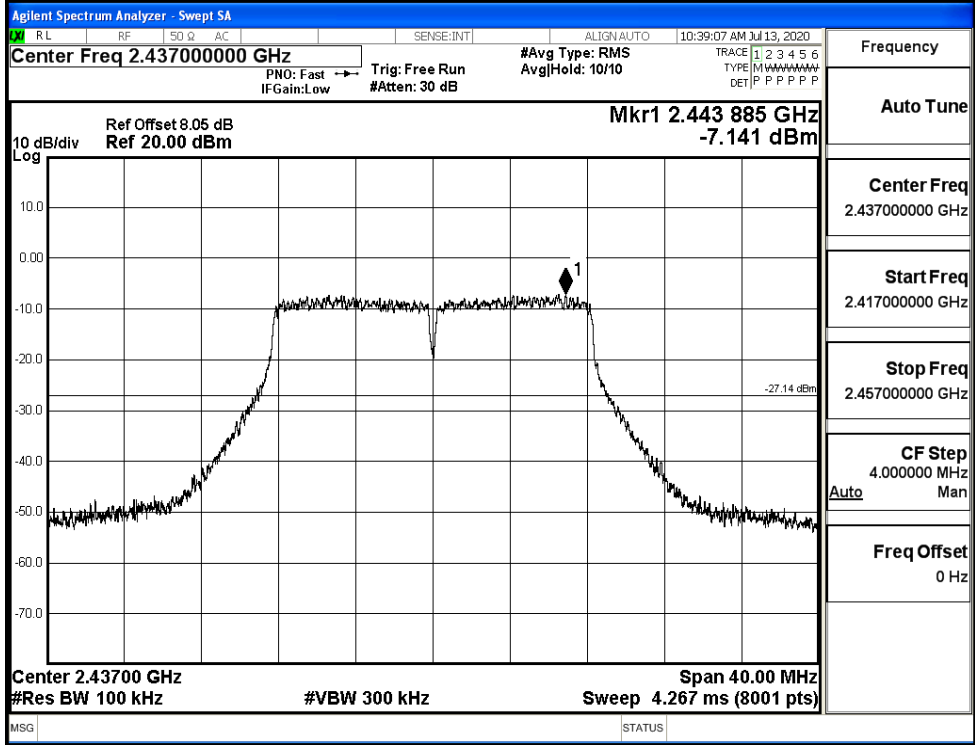


Puw/11G/LCH

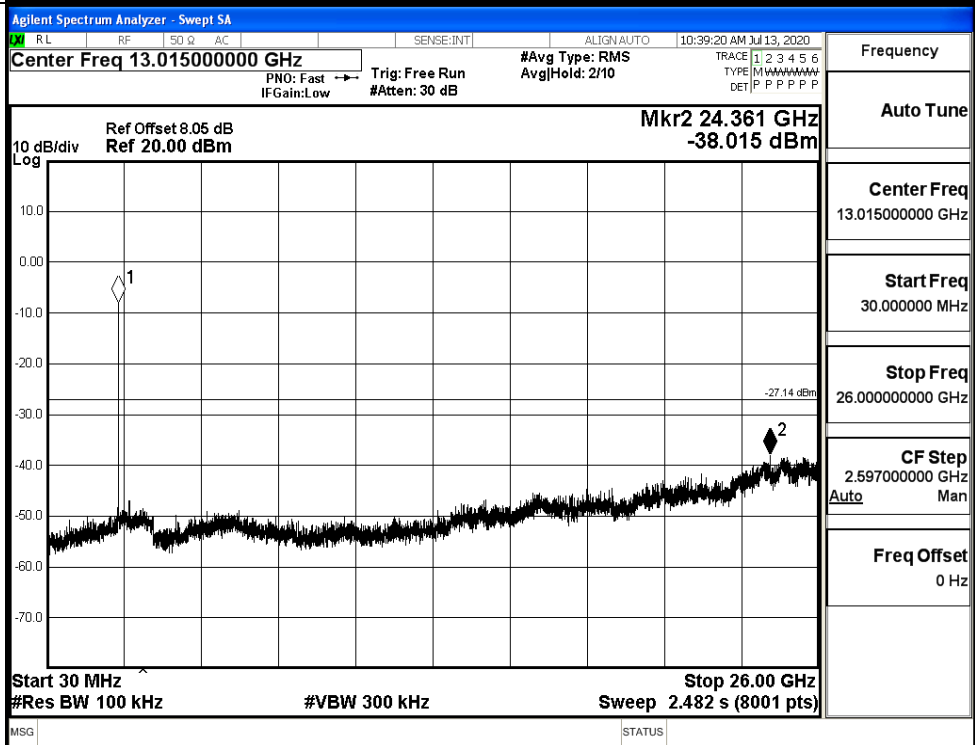


11G_MCH_Graphs

Pref/11G/MCH

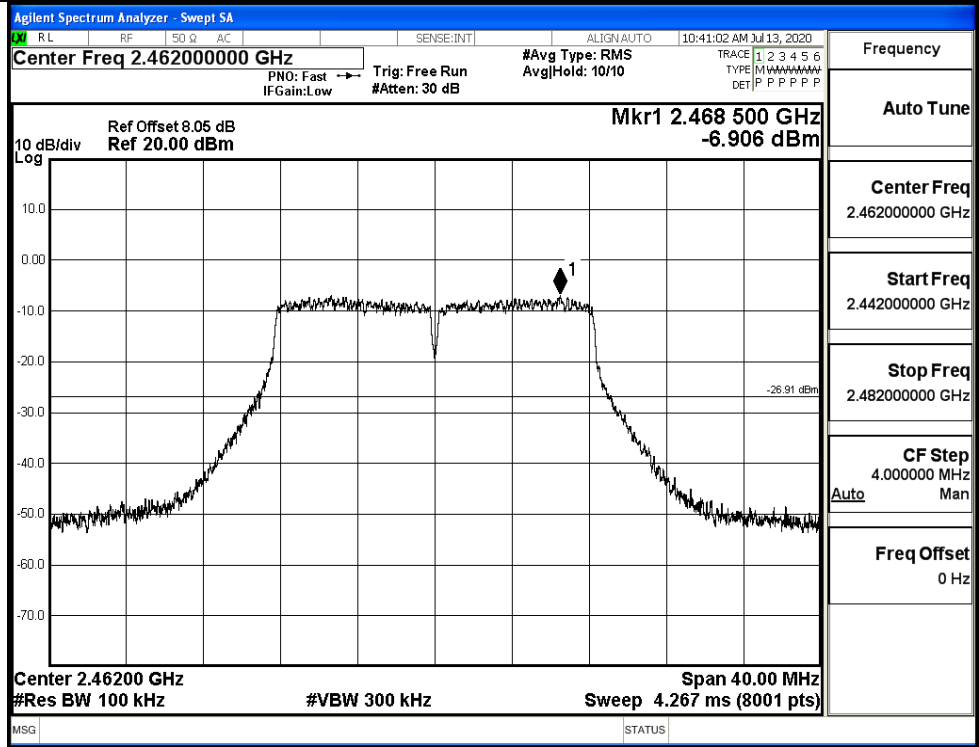


Puw/11G/MCH

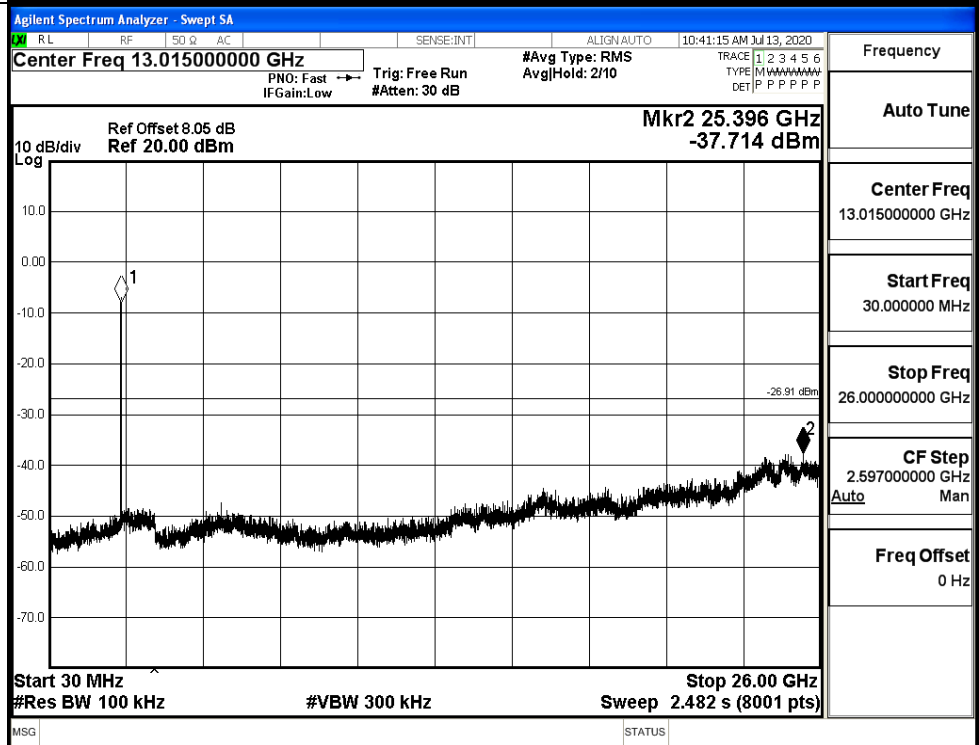


11G_HCH_Graphs

Pref/11G/HCH

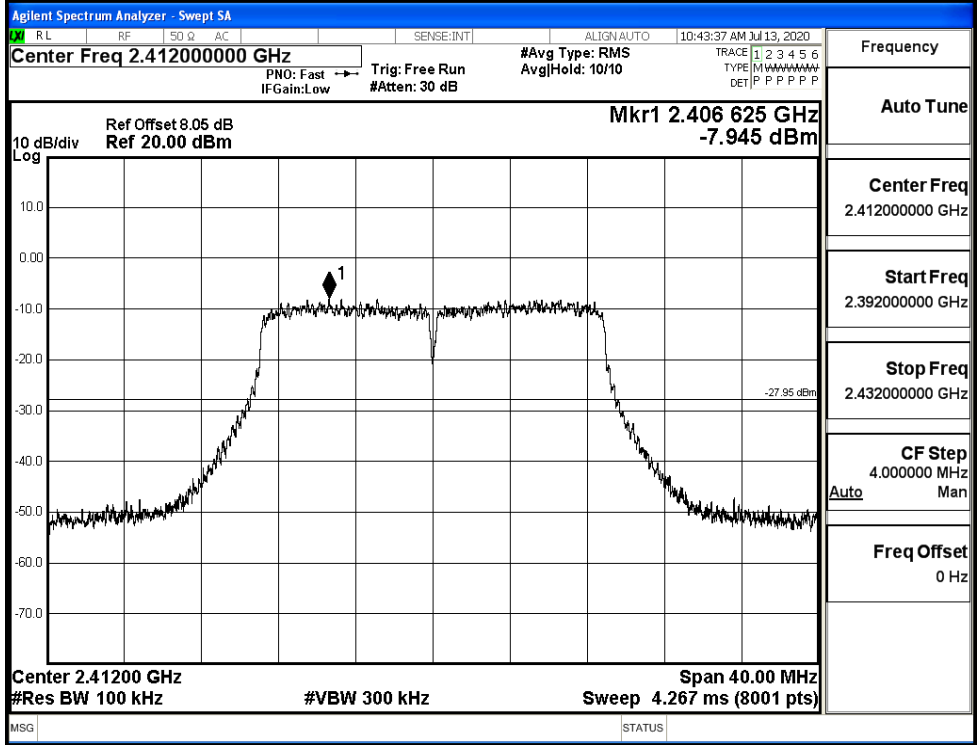


Puw/11G/HCH

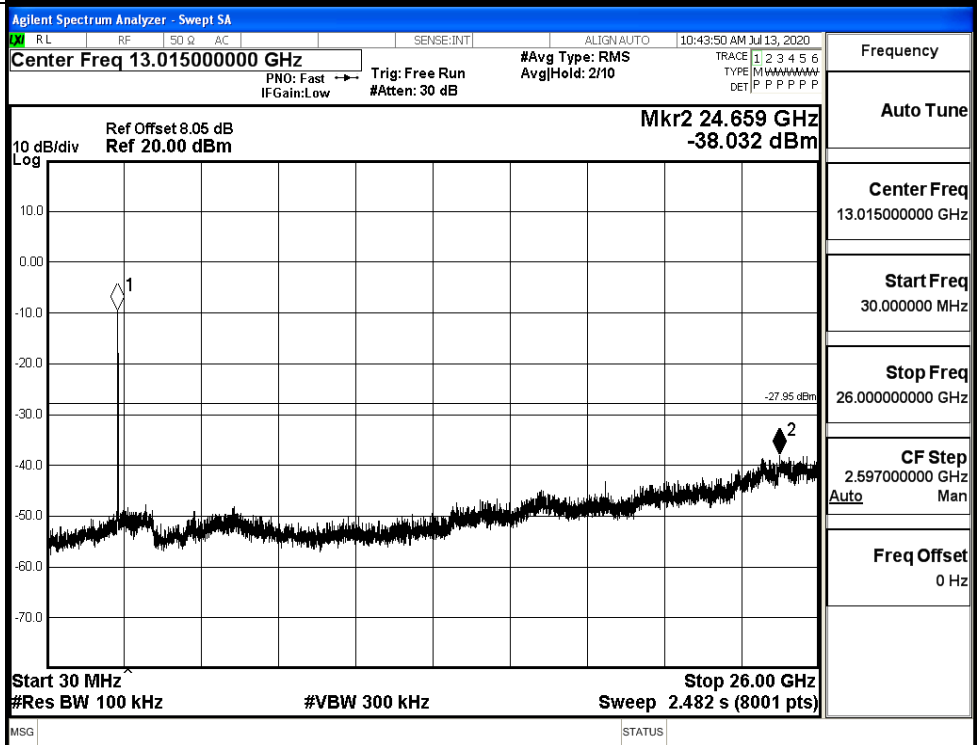


11N20SISO_LCH_Graphs

Pref/11N20SIS
O/LCH

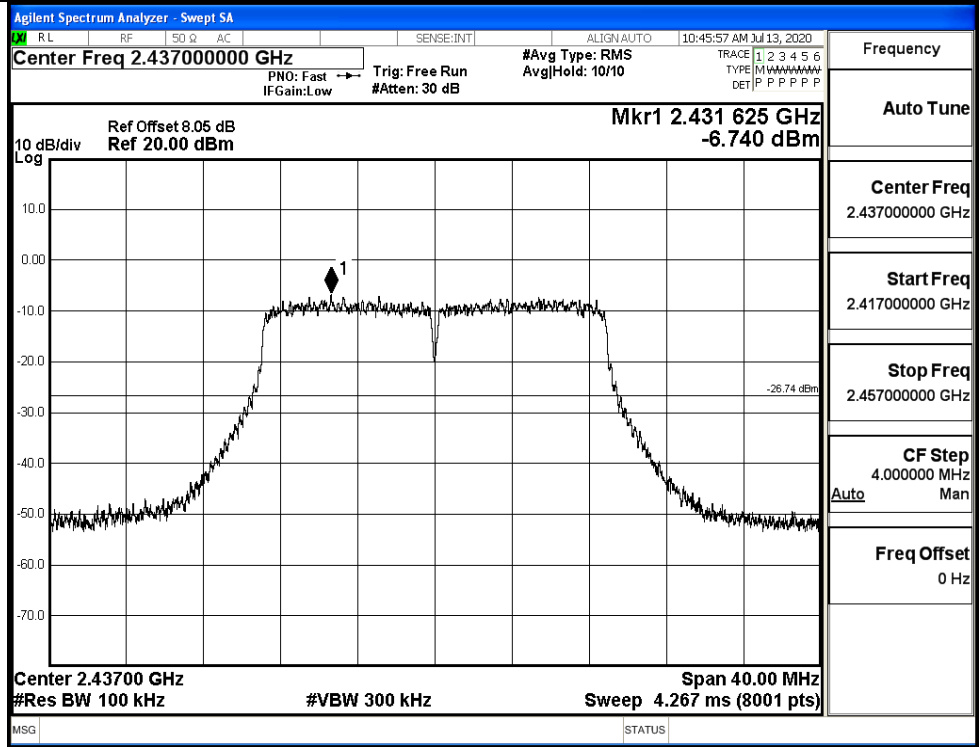


Puw/11N20
SISO/LCH

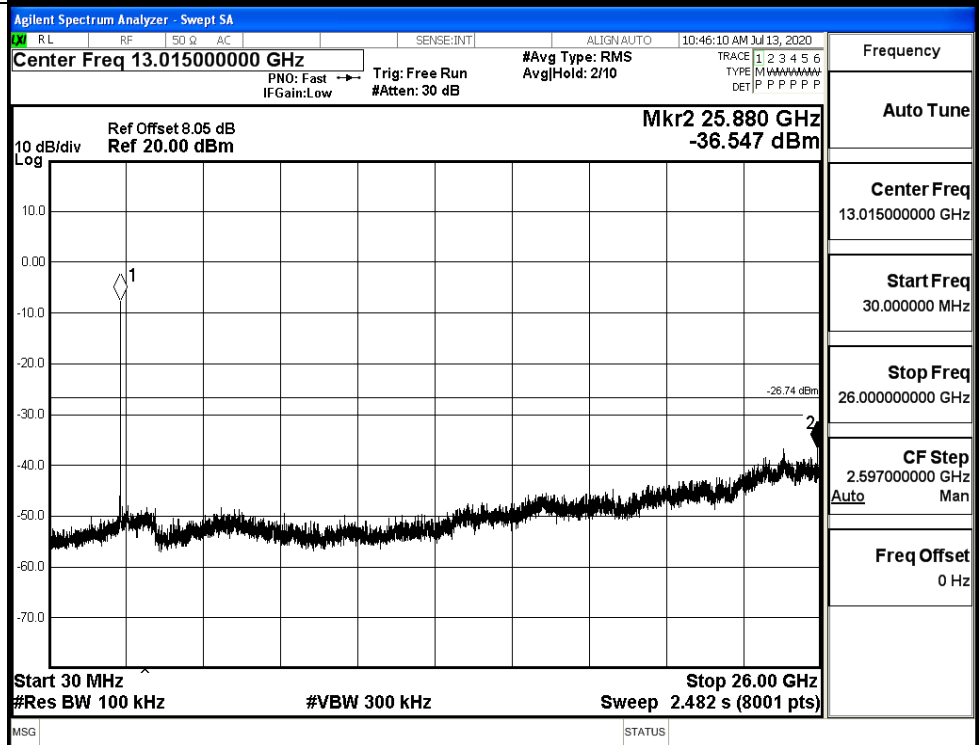


11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCH

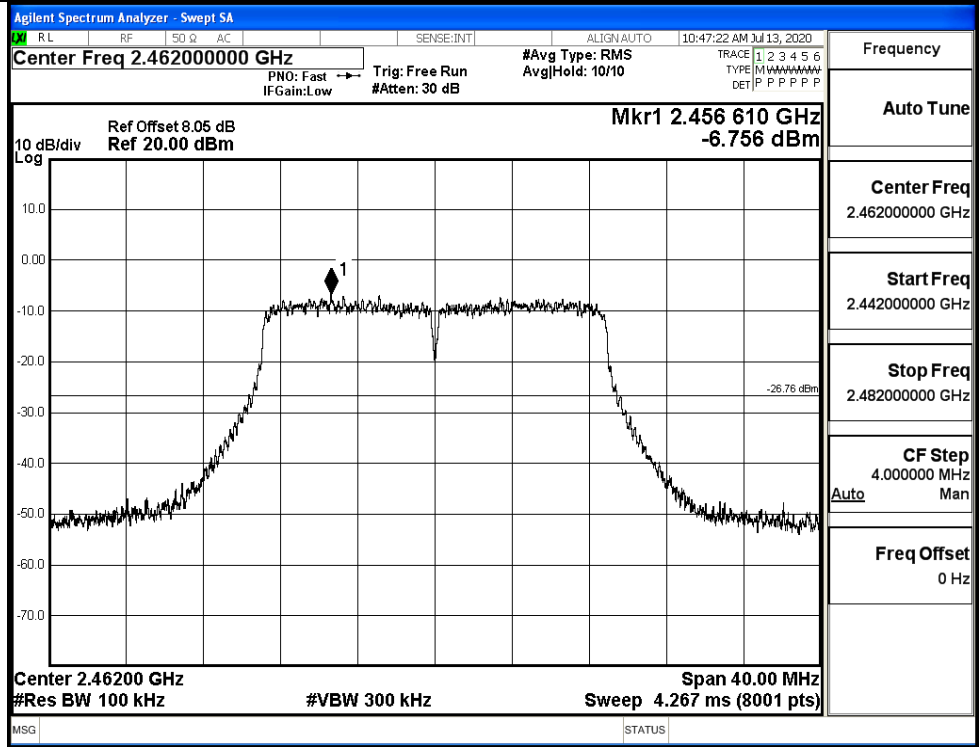


Puw/11N20
SISO/MCH

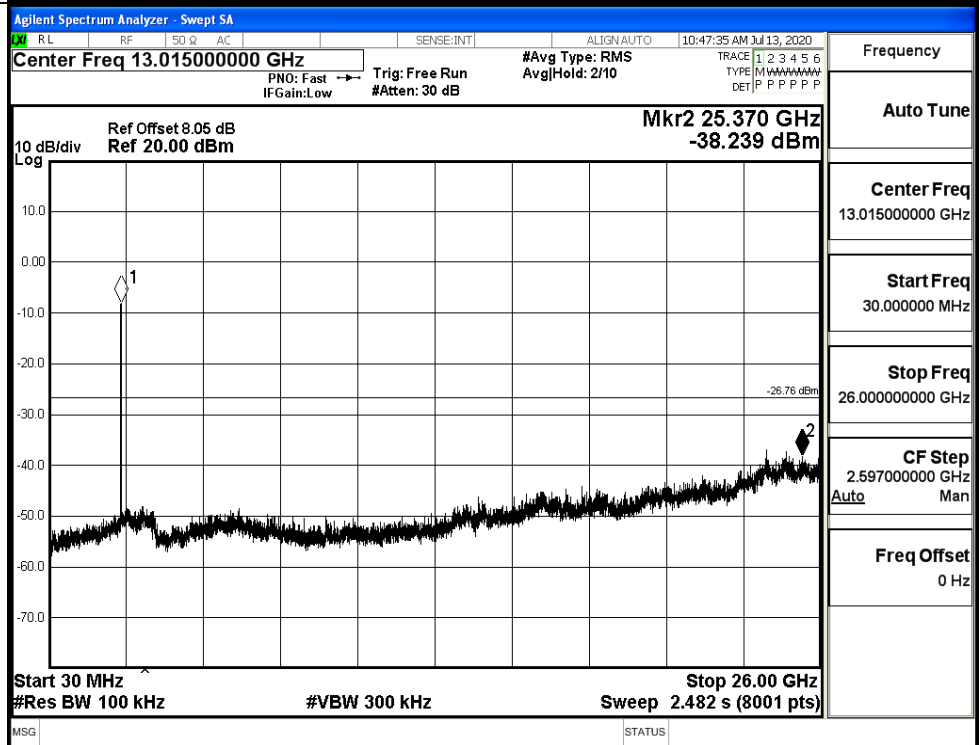


11N20SISO_HCH_Graphs

Pref/11N20
SISO/HCH

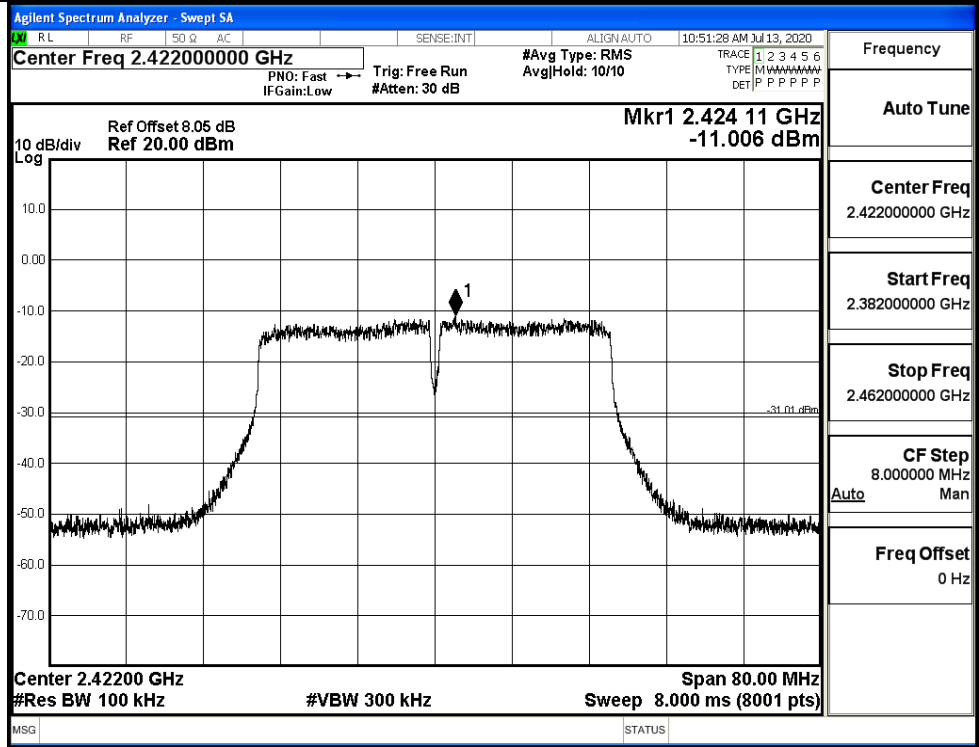


Puw/11N20
SISO/HCH

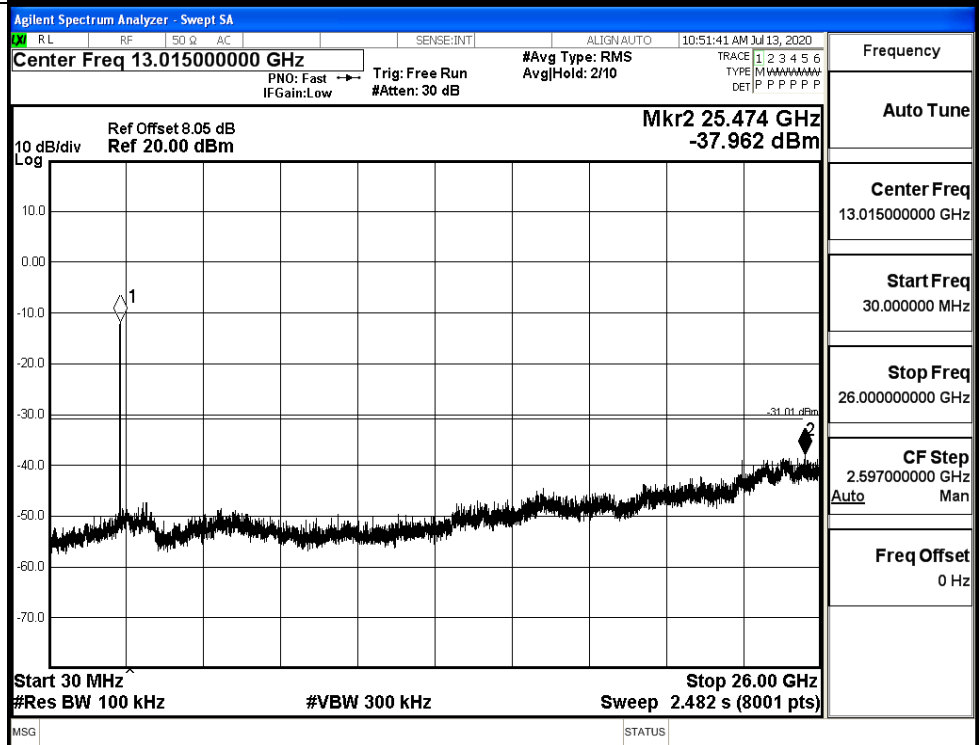


11N40SISO_LCH_Graphs

Pref/11N40
SISO/LCH

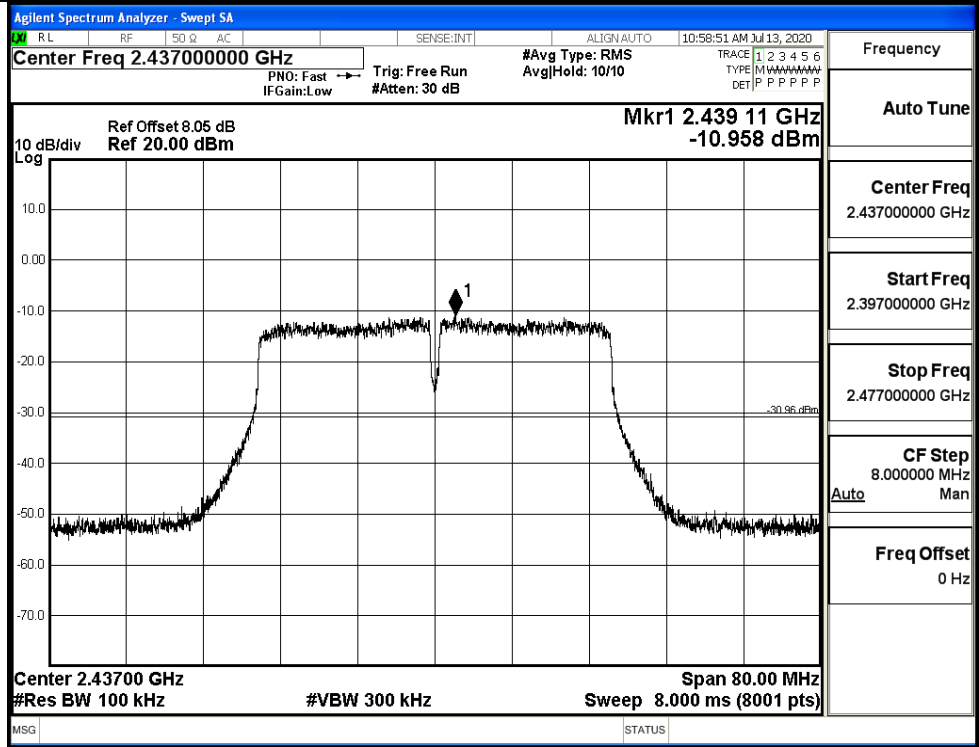


Puw/11N40
SISO/LCH

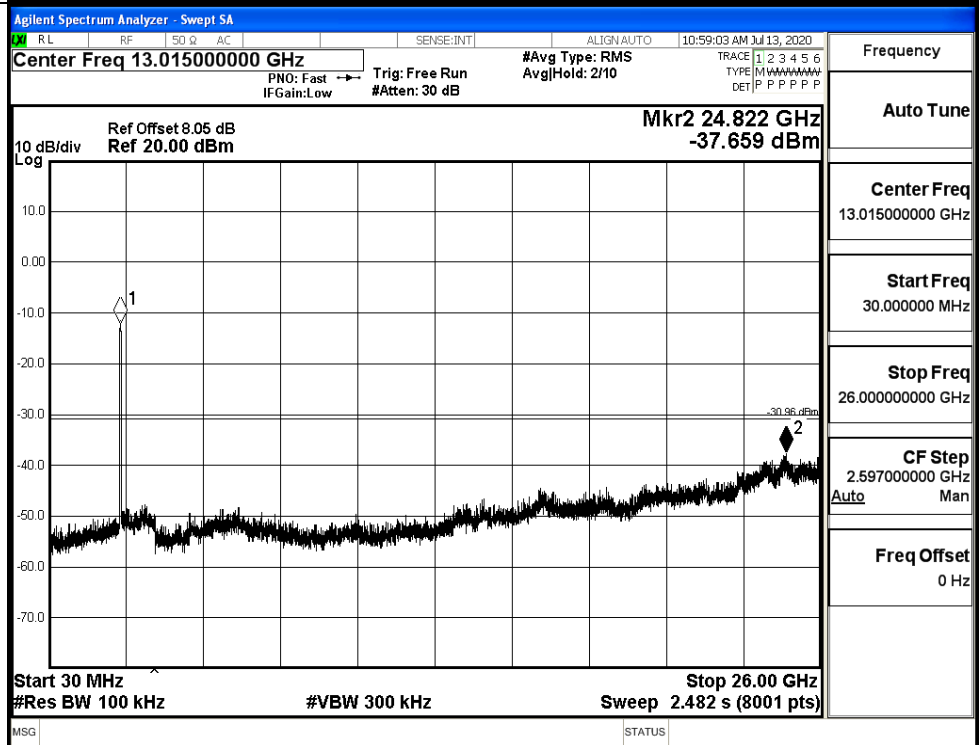


11N40SISO_MCH_Graphs

Pref/11N40
SISO/MCH

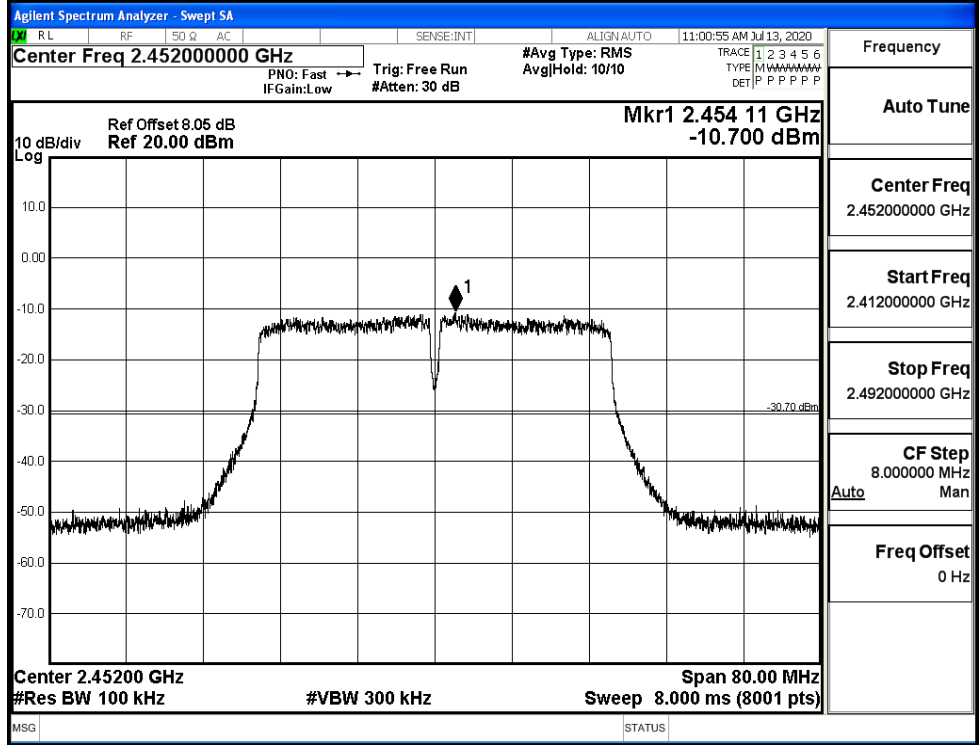


Puw/11N40
SISO/MCH

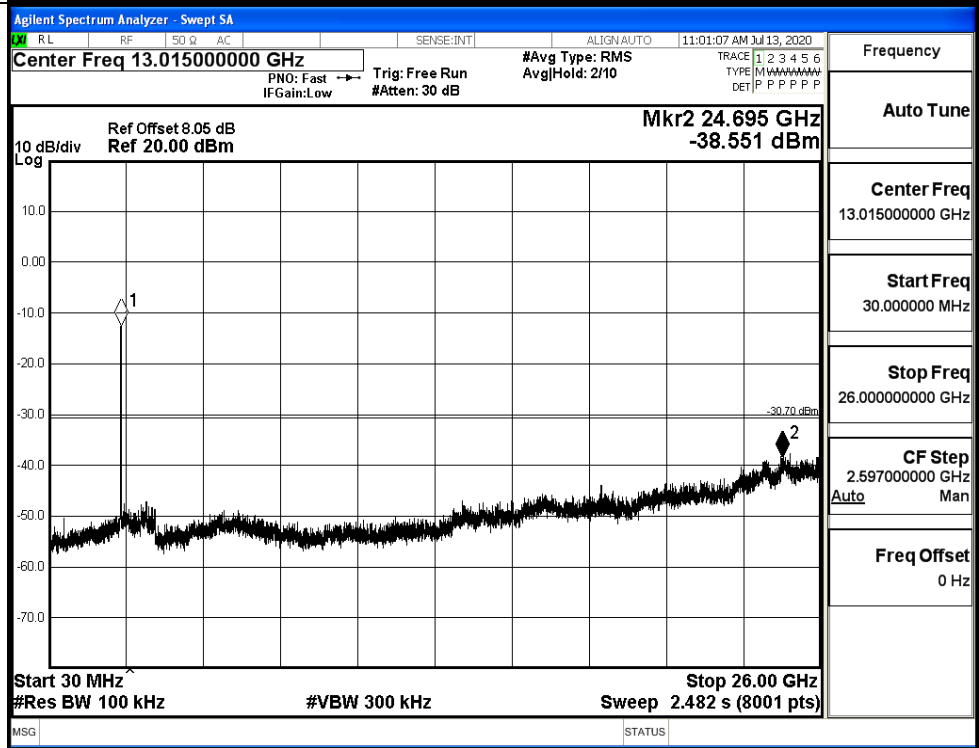


11N40SISO_HCH_Graphs

Pref/11N40
SISO/HCH

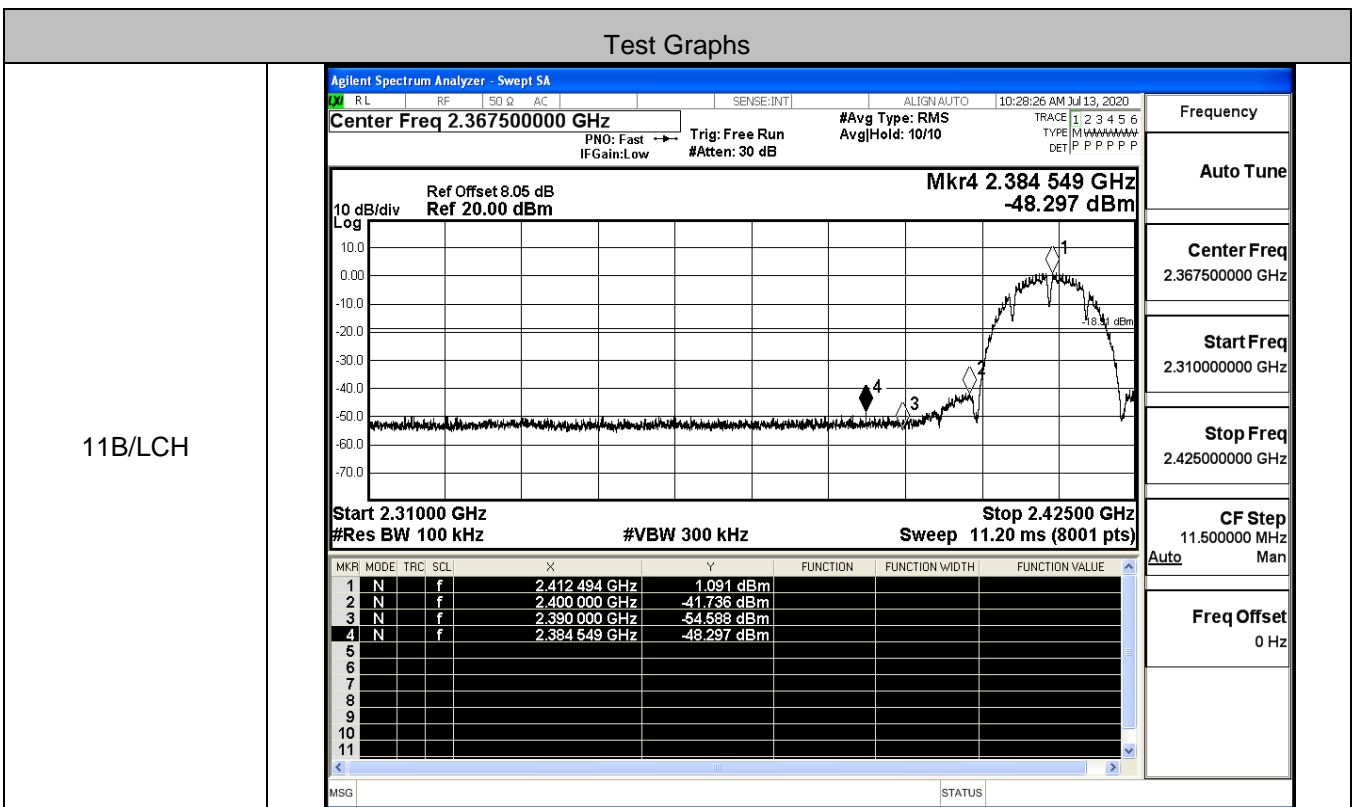


Puw/11N40
SISO/HCH

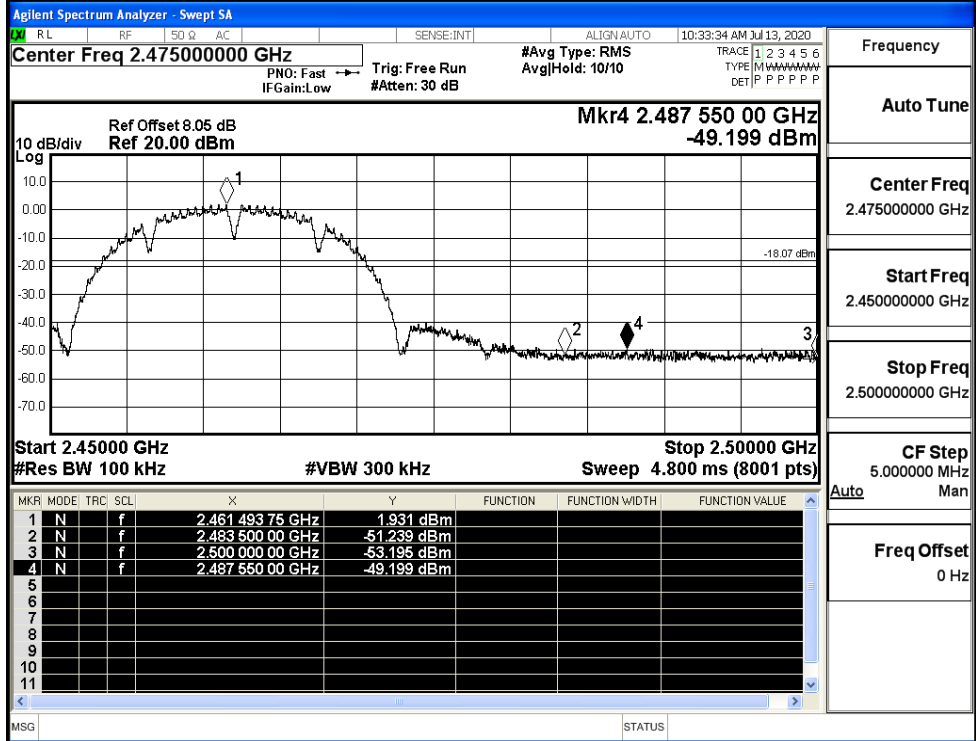


A.6 Band-edge for RF Conducted Emissions

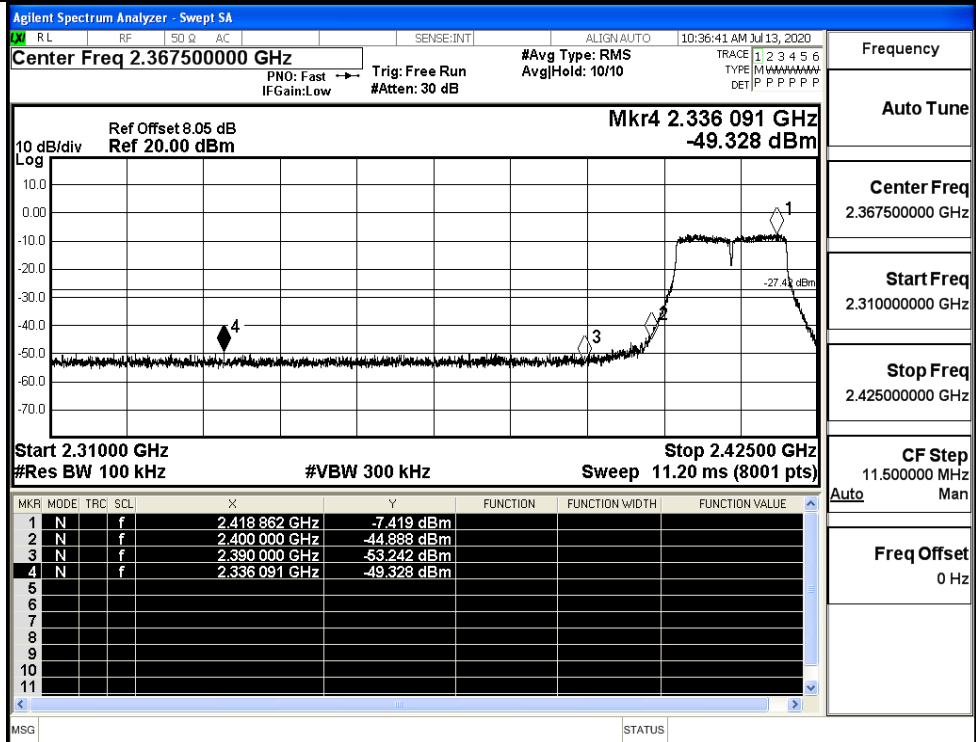
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	1.091	-48.297	-18.91	PASS
	HCH	1.931	-49.199	-18.07	PASS
11G	LCH	-7.419	-49.328	-27.42	PASS
	HCH	-6.951	-48.252	-26.95	PASS
11N20SISO	LCH	-8.036	-48.206	-28.04	PASS
	HCH	-6.373	-48.850	-26.37	PASS
11N40SISO	LCH	-11.367	-48.686	-31.37	PASS
	HCH	-11.098	-49.220	-31.1	PASS



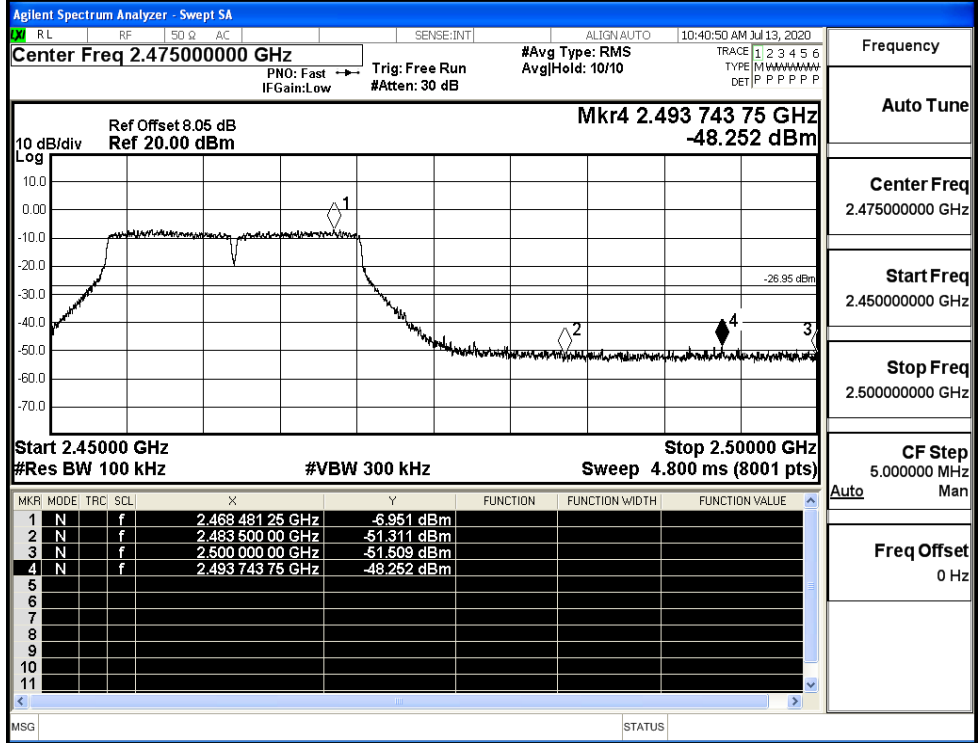
11B/HCH



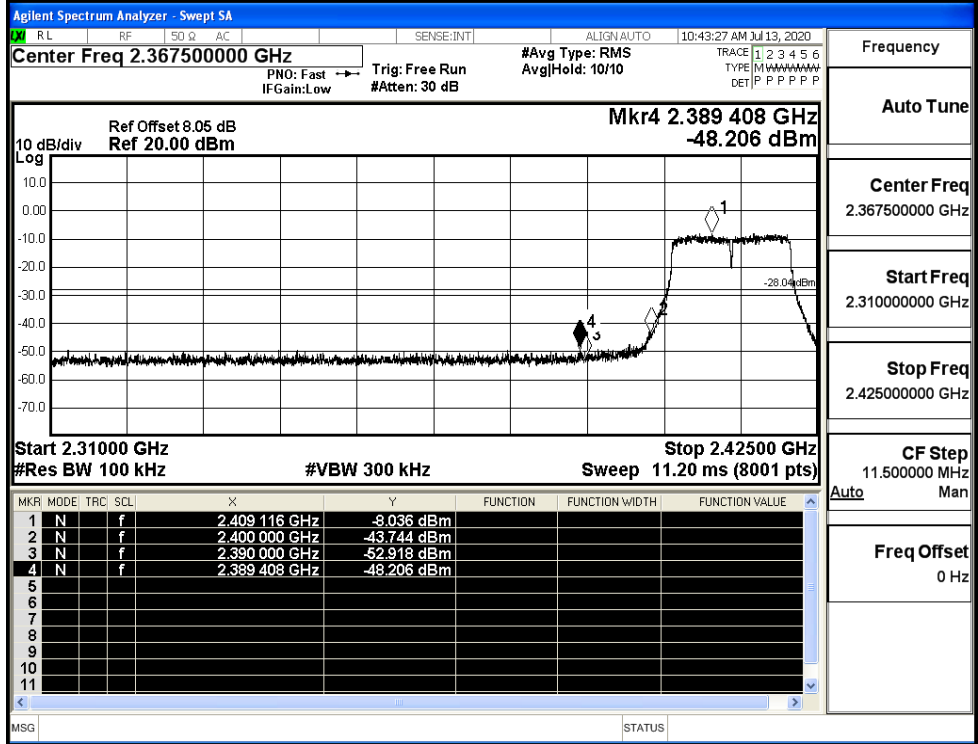
11G/LCH



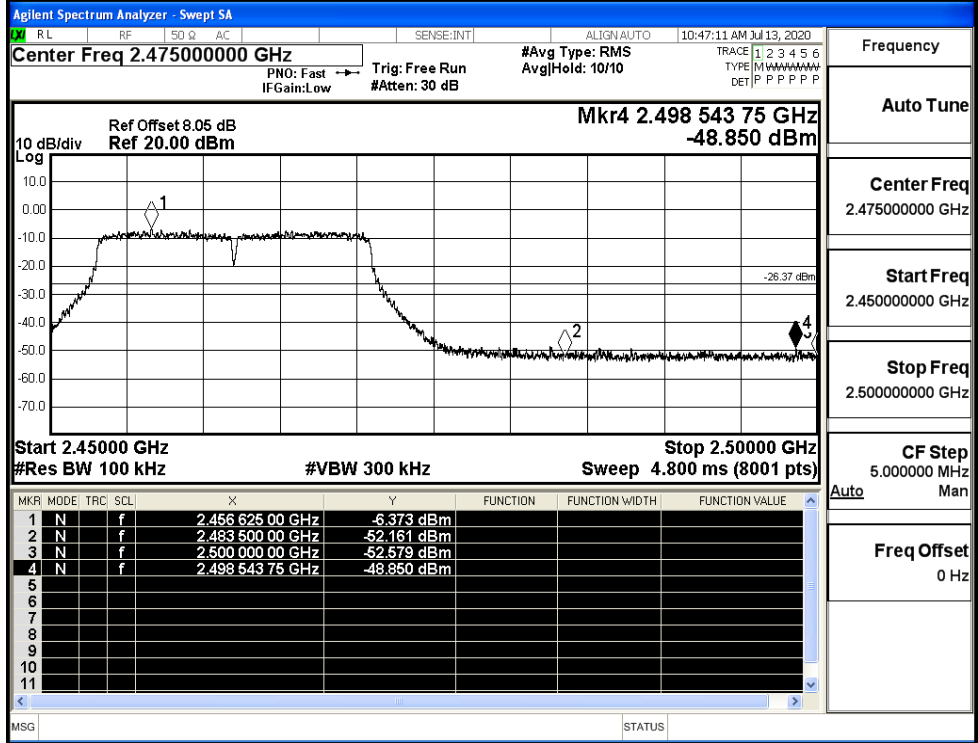
11G/HCH



11N20SISO/LCH



11N20SISO/HCH



Frequency

Auto Tune

Center Freq
2.475000000 GHz

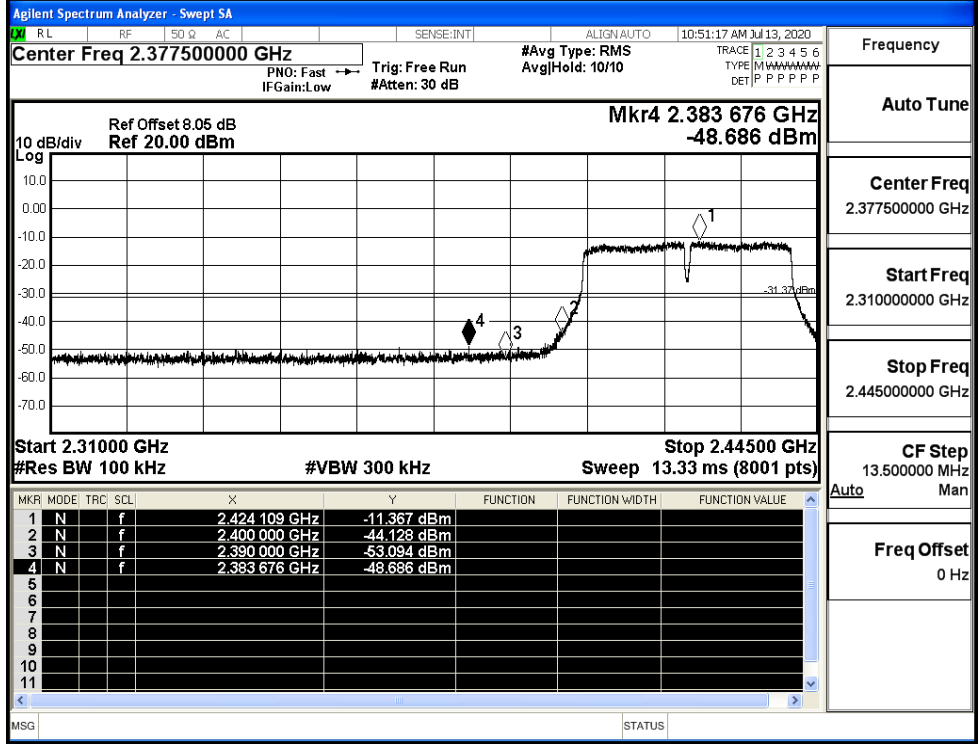
Start Freq
2.450000000 GHz

Stop Freq
2.500000000 GHz

CF Step
5.000000 MHz

Freq Offset
0 Hz

11N40SISO/LCH



Frequency

Auto Tune

Center Freq
2.377500000 GHz

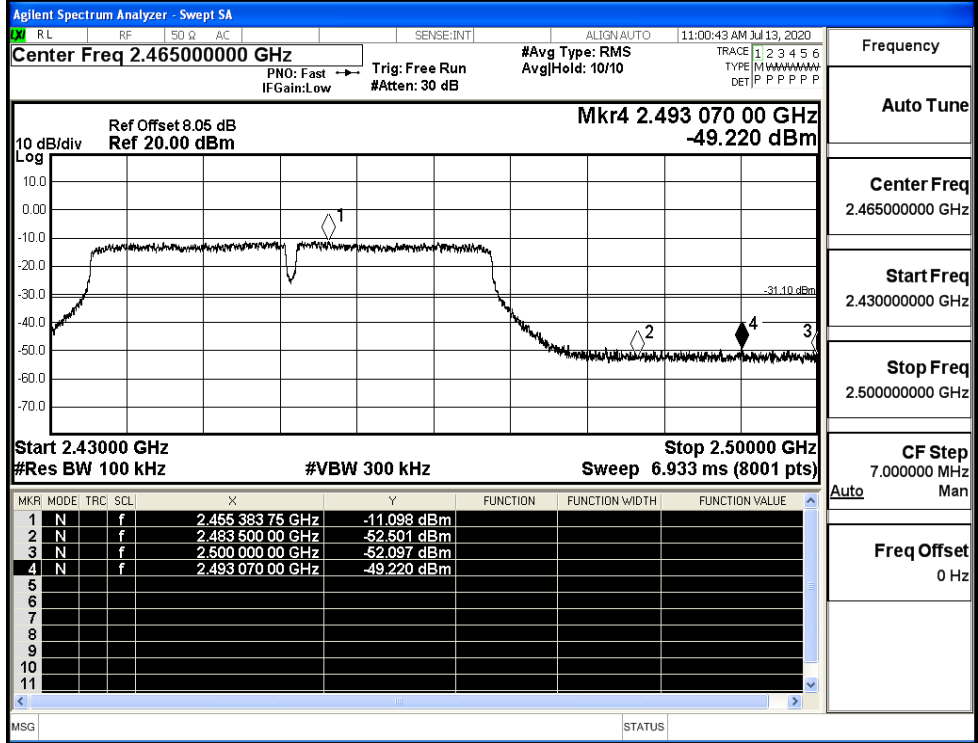
Start Freq
2.310000000 GHz

Stop Freq
2.445000000 GHz

CF Step
13.500000 MHz

Freq Offset
0 Hz

11N40SISO/HCH

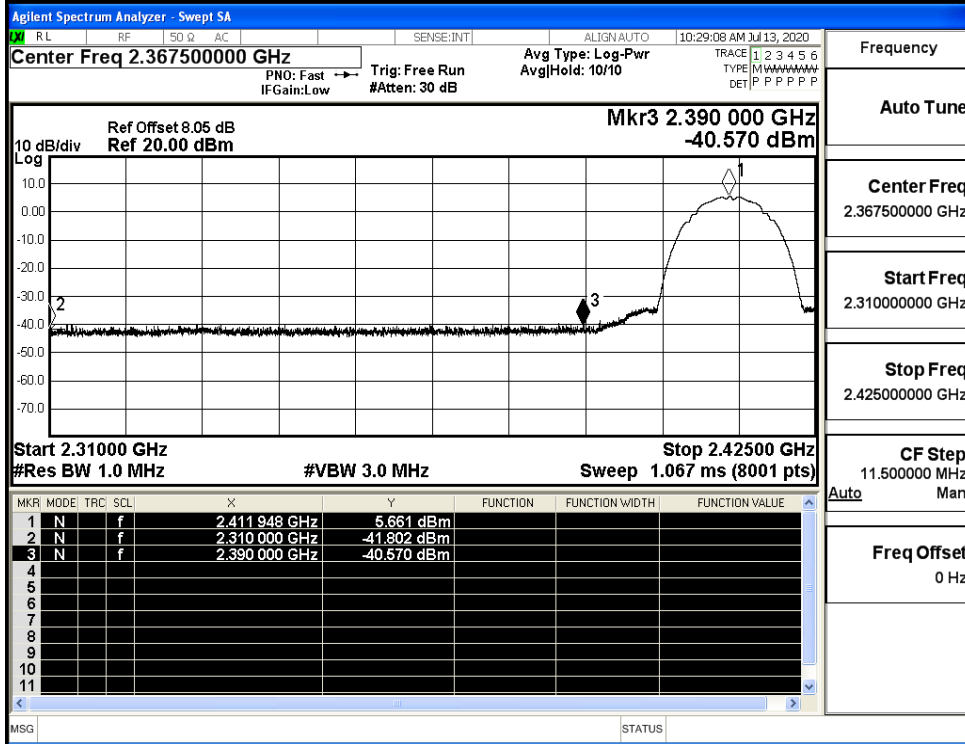


A.7 Restrict-band band-edge measurements

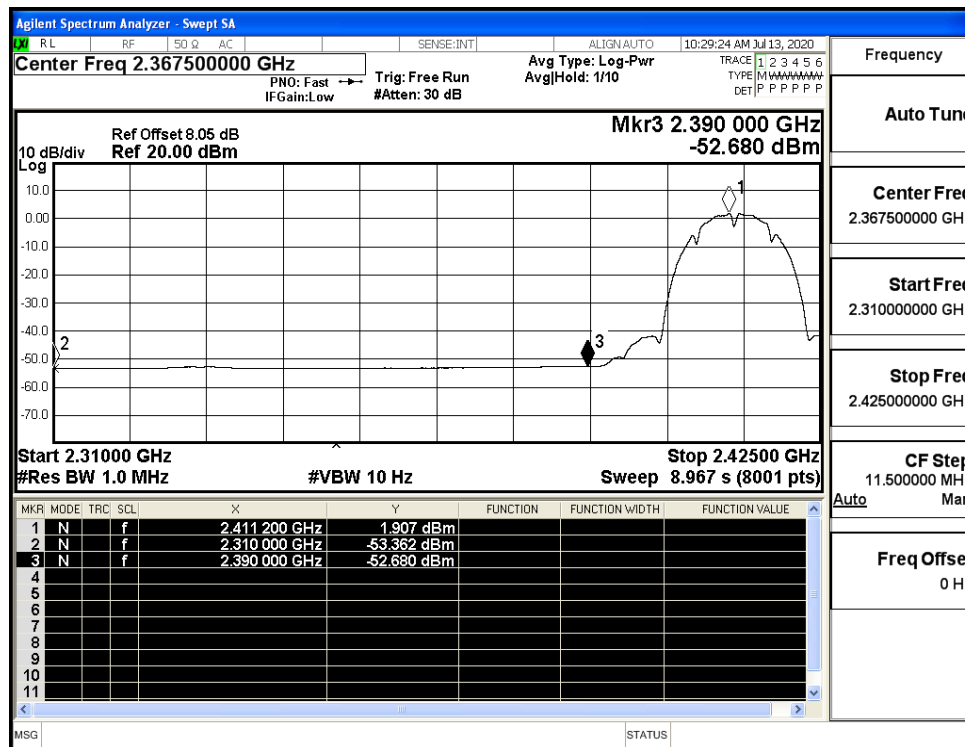
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-41.80	2.0	0	53.46	PEAK	74	PASS
	2412	Ant1	2310.0	-53.36	2.0	0	41.90	AV	54	PASS
	2412	Ant1	2390.0	-40.57	2.0	0	54.69	PEAK	74	PASS
	2412	Ant1	2390.0	-52.68	2.0	0	42.58	AV	54	PASS
	2462	Ant1	2483.5	-41.58	2.0	0	53.68	PEAK	74	PASS
	2462	Ant1	2483.5	-52.21	2.0	0	43.05	AV	54	PASS
	2462	Ant1	2500.0	-41.99	2.0	0	53.26	PEAK	74	PASS
	2462	Ant1	2500.0	-52.30	2.0	0	42.96	AV	54	PASS
11G	2412	Ant1	2310.0	-43.50	2.0	0	51.75	PEAK	74	PASS
	2412	Ant1	2310.0	-53.36	2.0	0	41.90	AV	54	PASS
	2412	Ant1	2390.0	-41.66	2.0	0	53.60	PEAK	74	PASS
	2412	Ant1	2390.0	-52.60	2.0	0	42.66	AV	54	PASS
	2462	Ant1	2483.5	-42.19	2.0	0	53.07	PEAK	74	PASS
	2462	Ant1	2483.5	-52.22	2.0	0	43.04	AV	54	PASS
	2462	Ant1	2500.0	-40.13	2.0	0	55.13	PEAK	74	PASS
	2462	Ant1	2500.0	-52.34	2.0	0	42.92	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-42.05	2.0	0	53.21	PEAK	74	PASS
	2412	Ant1	2310.0	-53.36	2.0	0	41.90	AV	54	PASS
	2412	Ant1	2390.0	-41.61	2.0	0	53.64	PEAK	74	PASS
	2412	Ant1	2390.0	-52.54	2.0	0	42.72	AV	54	PASS
	2462	Ant1	2483.5	-41.85	2.0	0	53.41	PEAK	74	PASS
	2462	Ant1	2483.5	-52.09	2.0	0	43.17	AV	54	PASS
	2462	Ant1	2500.0	-41.94	2.0	0	53.32	PEAK	74	PASS
	2462	Ant1	2500.0	-52.32	2.0	0	42.94	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-43.00	2.0	0	52.26	PEAK	74	PASS
	2422	Ant1	2310.0	-53.55	2.0	0	41.71	AV	54	PASS

	2422	Ant1	2390.0	-41.86	2.0	0	53.40	PEAK	74	PASS
	2422	Ant1	2390.0	-52.58	2.0	0	42.68	AV	54	PASS
	2452	Ant1	2483.5	-40.04	2.0	0	55.22	PEAK	74	PASS
	2452	Ant1	2483.5	-52.24	2.0	0	43.01	AV	54	PASS
	2452	Ant1	2500.0	-42.60	2.0	0	52.66	PEAK	74	PASS
	2452	Ant1	2500.0	-52.44	2.0	0	42.81	AV	54	PASS

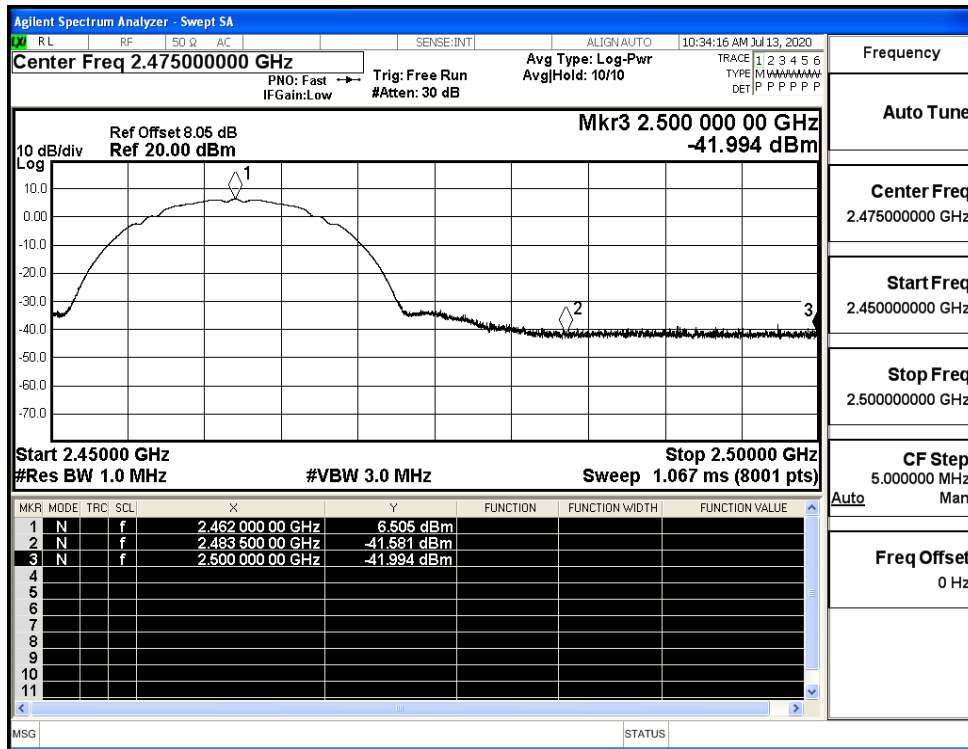
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



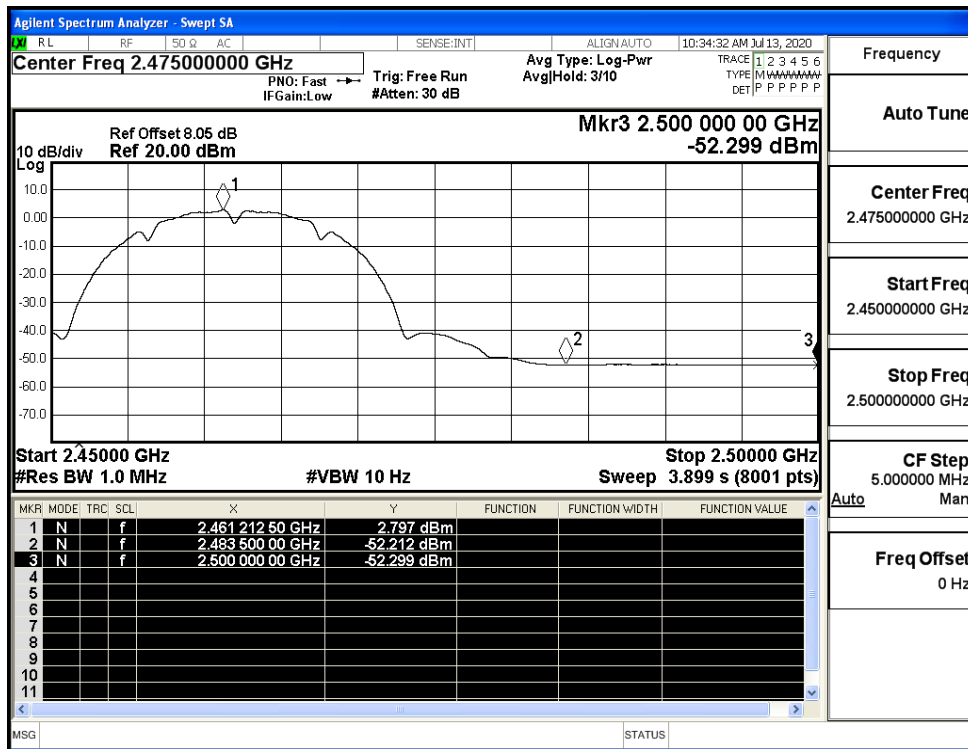
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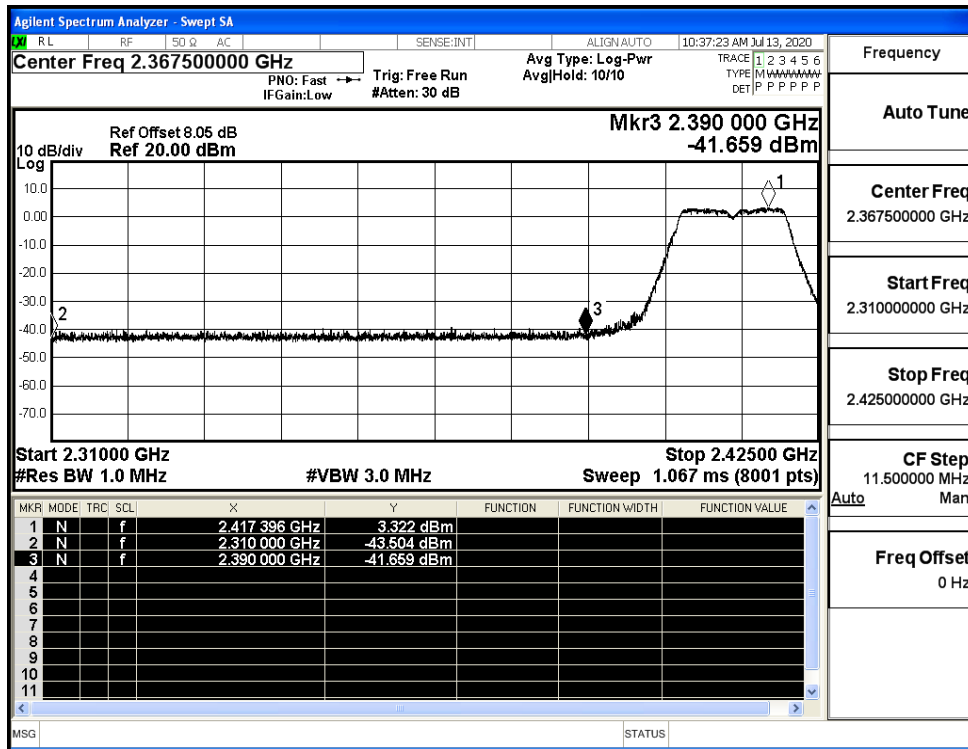
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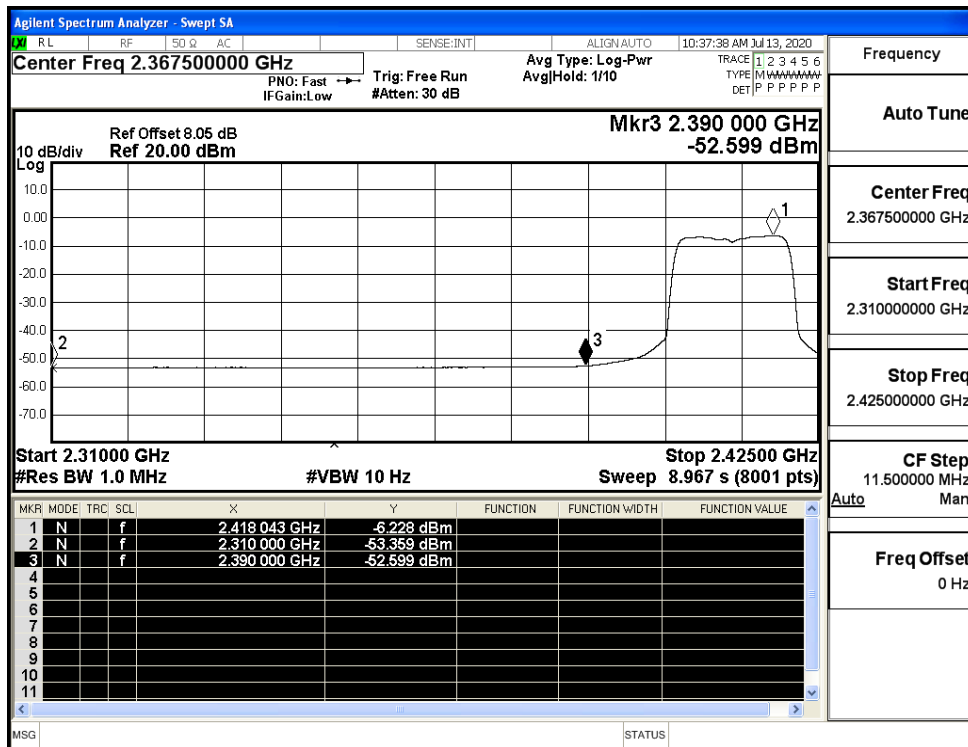
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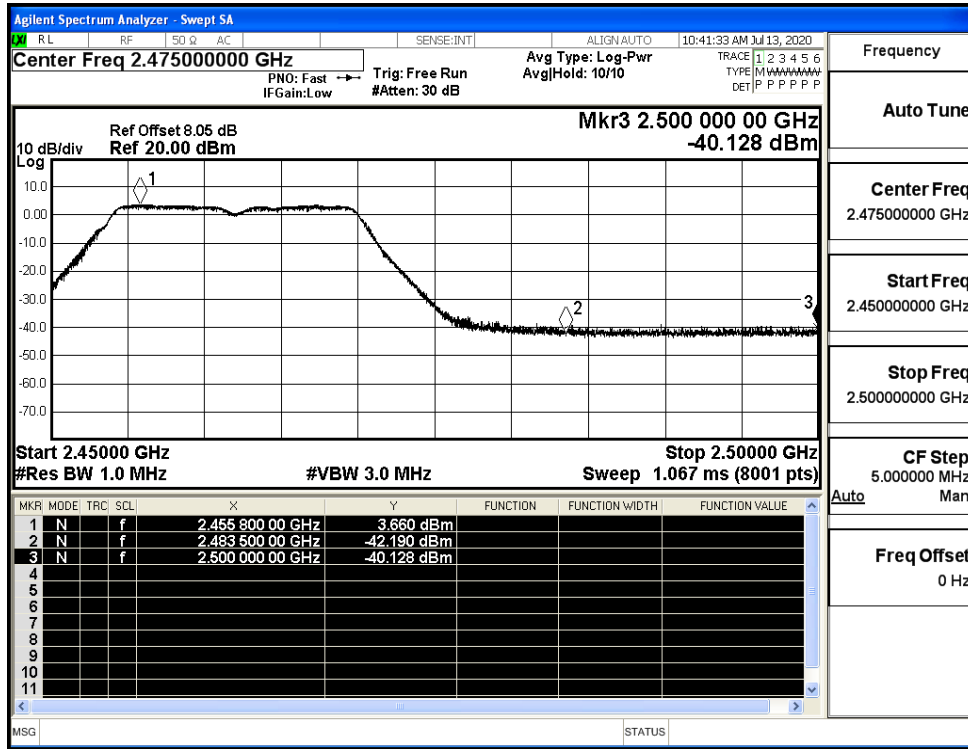
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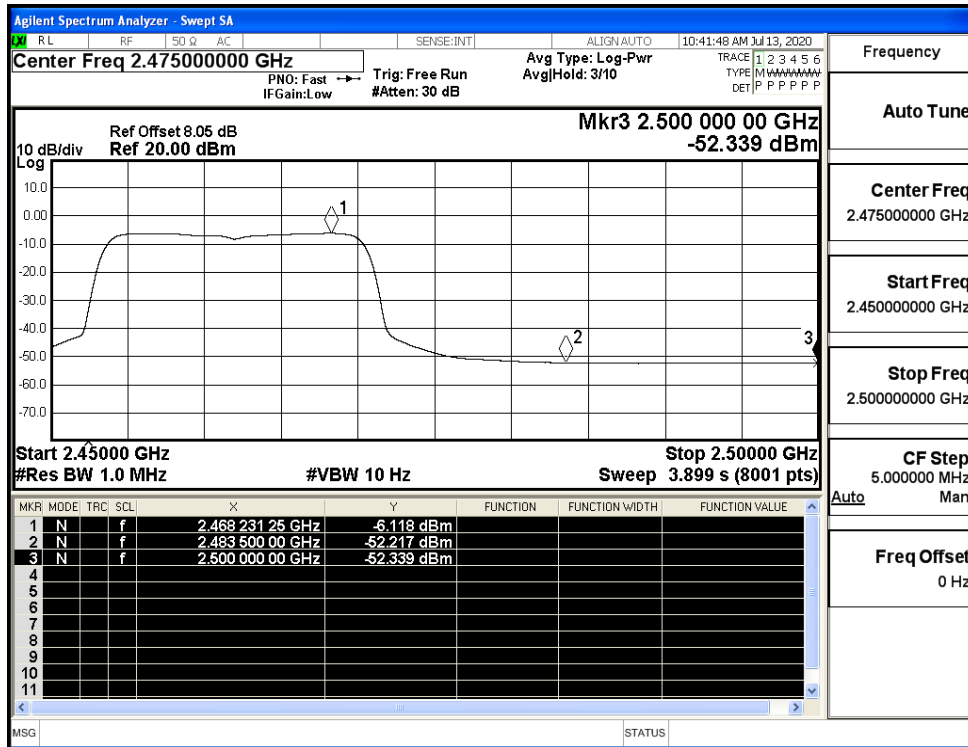
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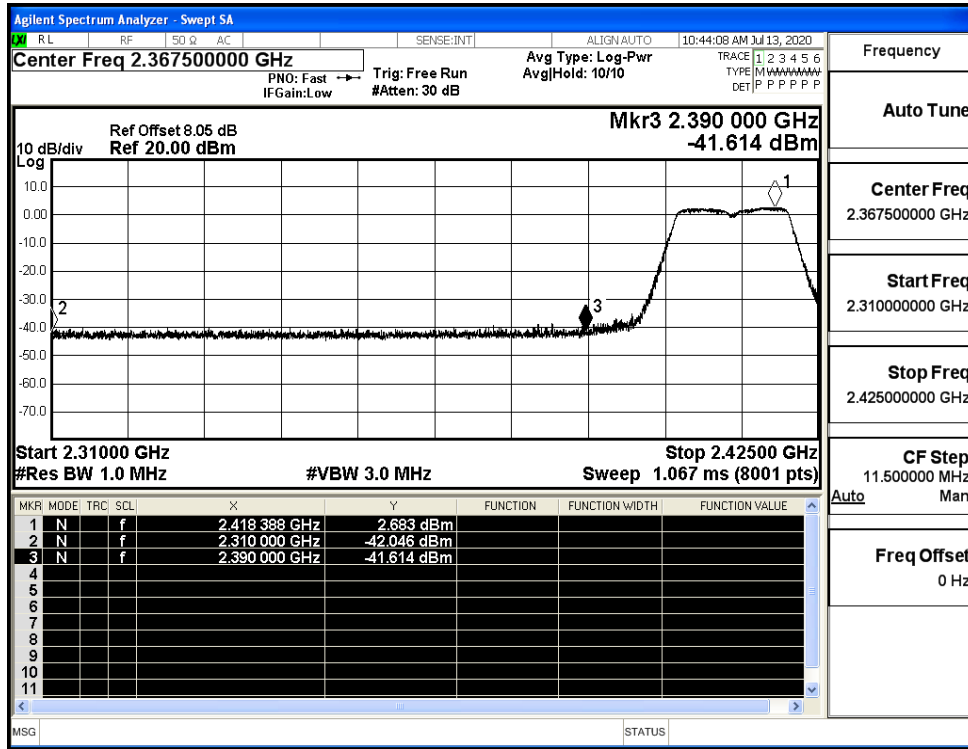
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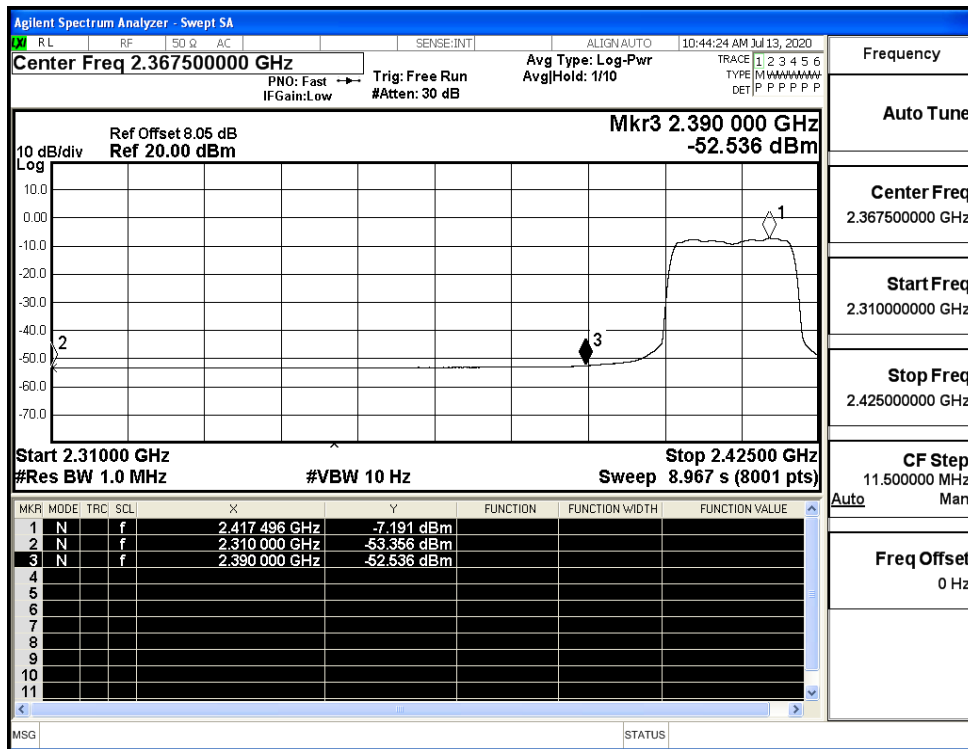
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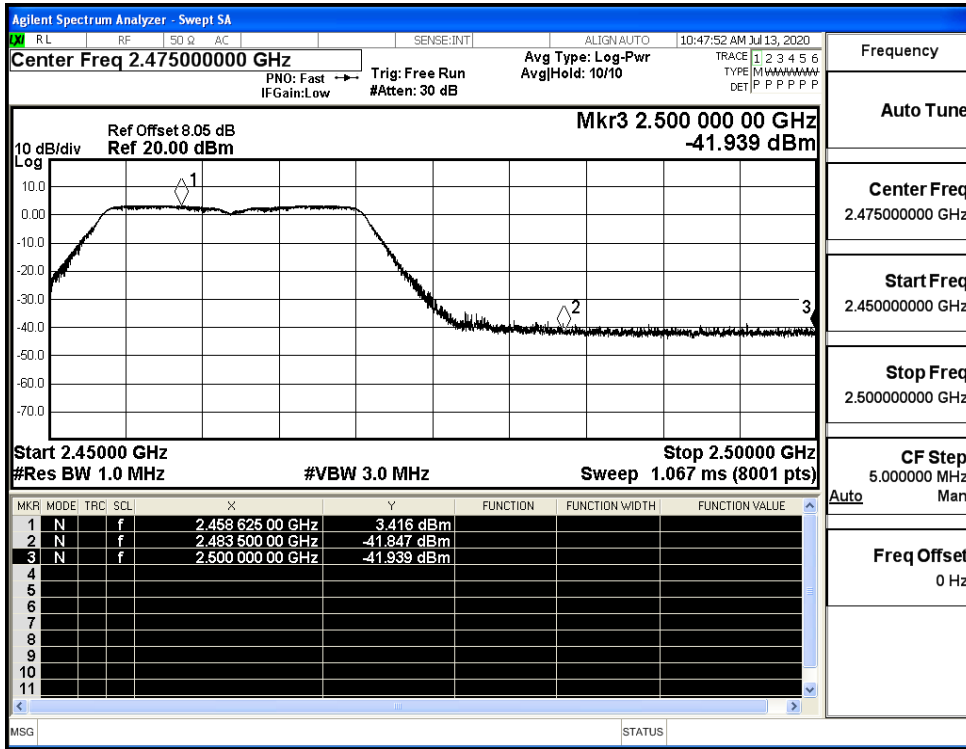
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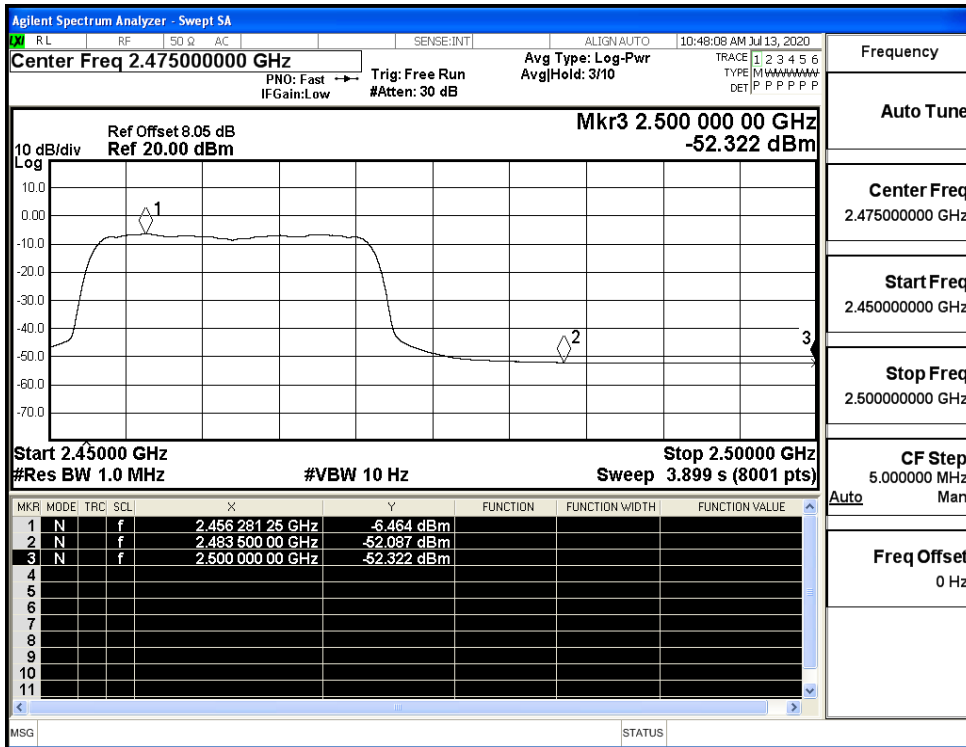
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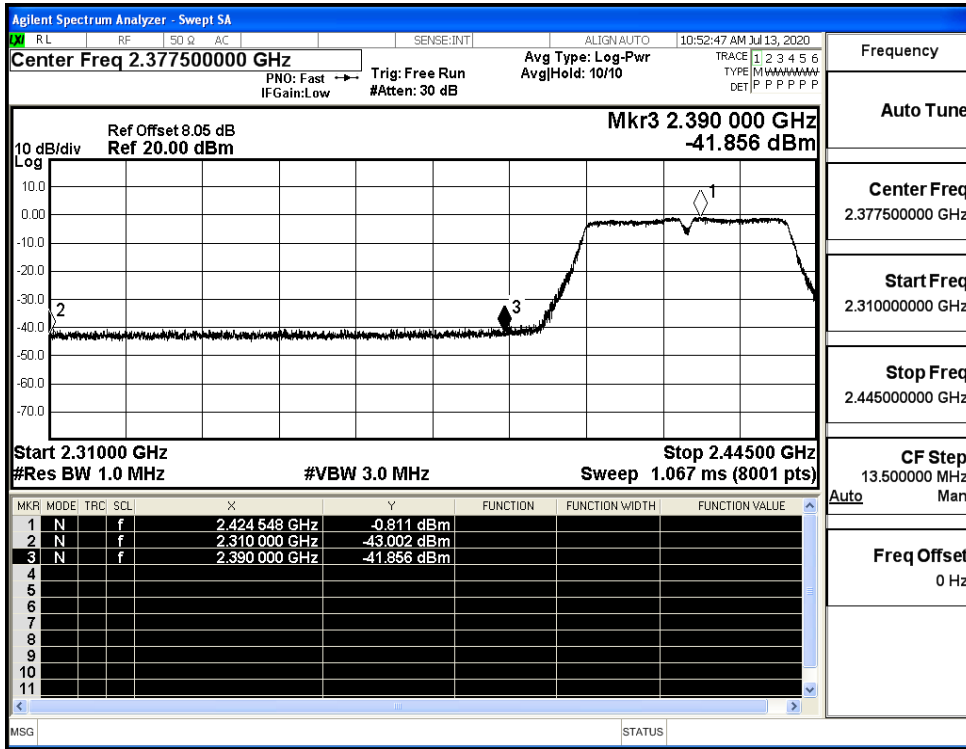
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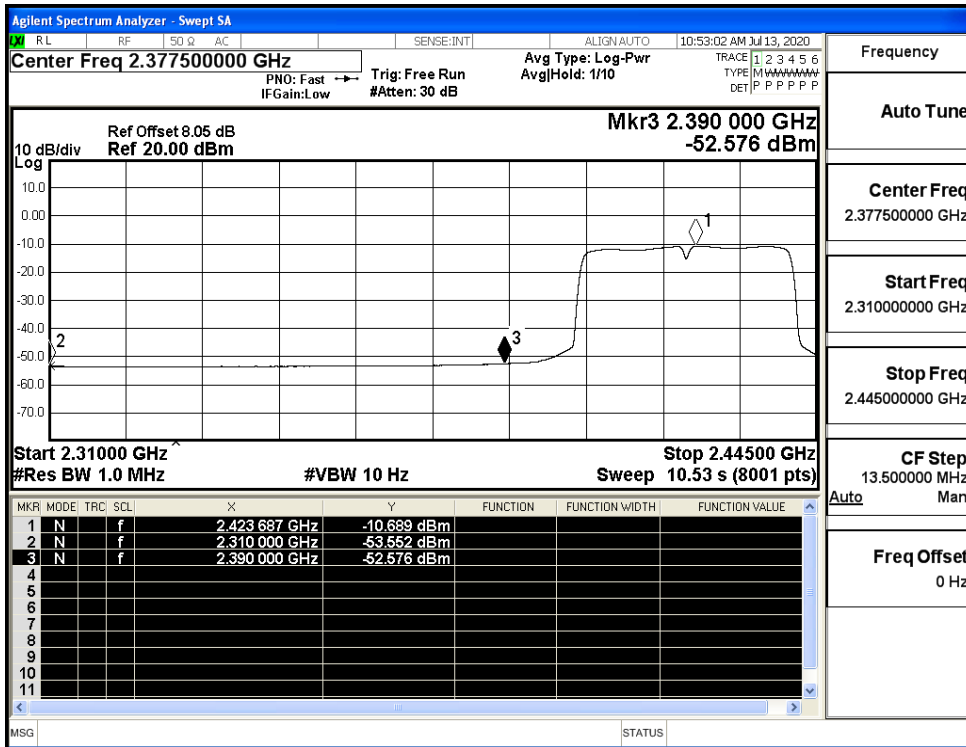
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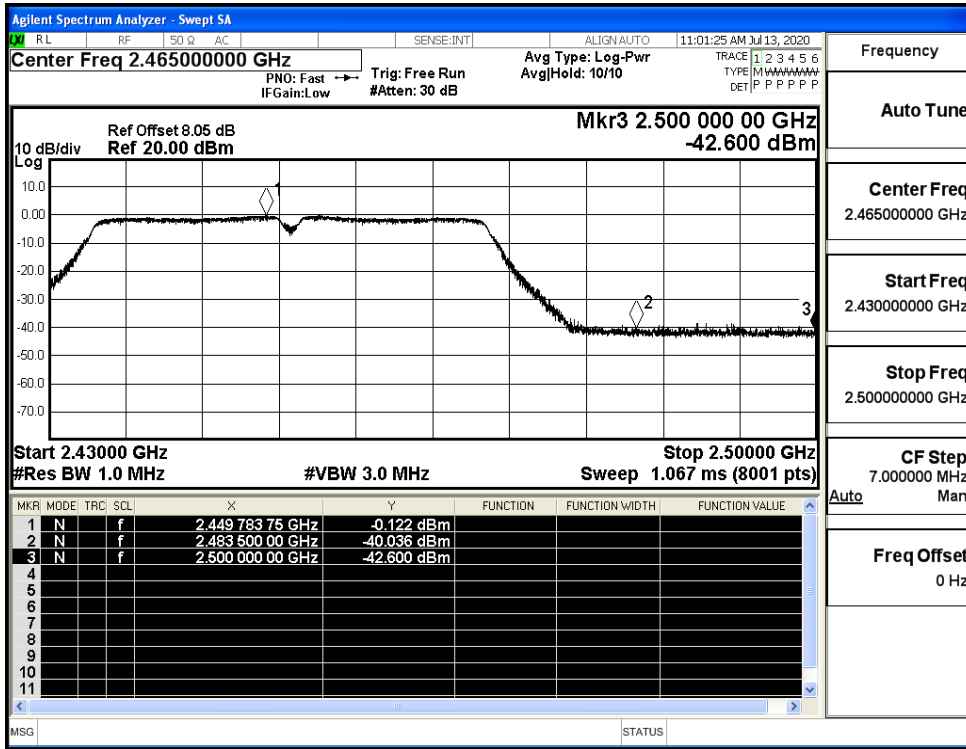
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Restrict-band band-edge measurements_11N40SISO_2422_Ant1_AV



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_PEAK



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_AV

