

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Outdoor HD Wi-Fi camera

Trade Mark: Guardzilla

Test Model: GO180

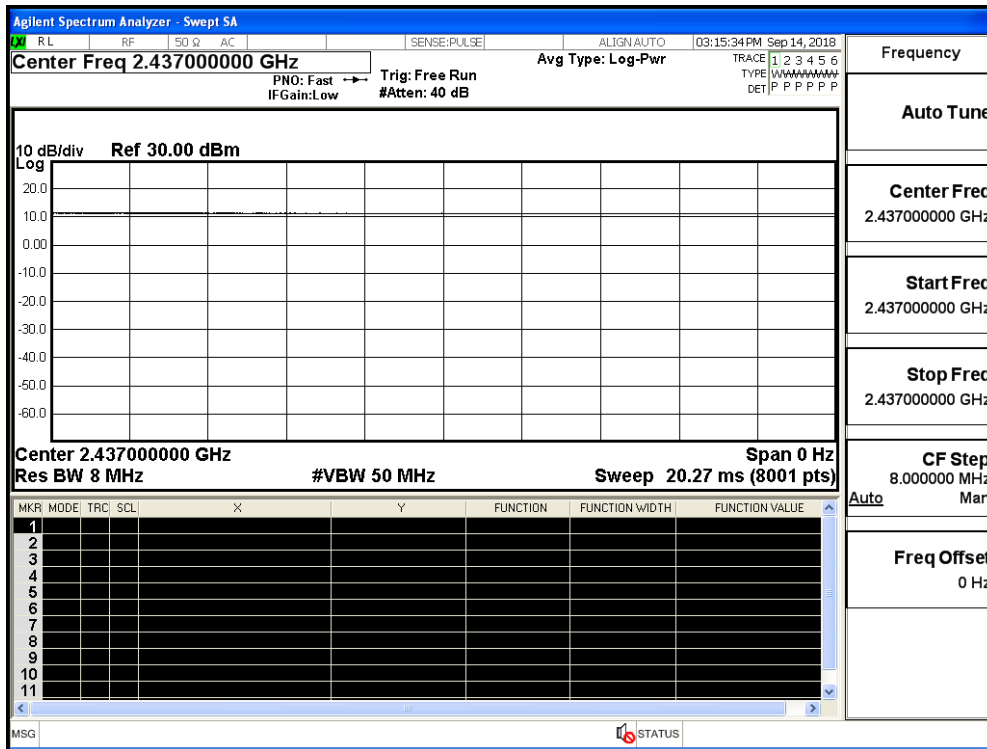
Environmental Conditions

Temperature:	24.6 ° C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.Xu
Supervised by:	Jayden.Zhuo

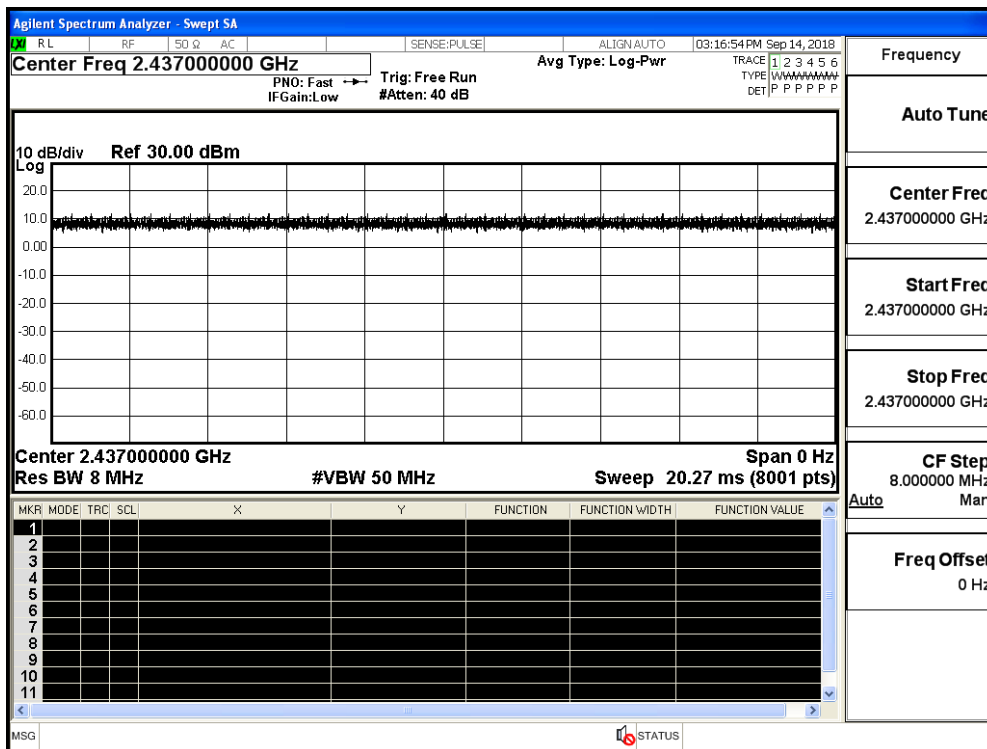
A.1 Duty Cycle

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

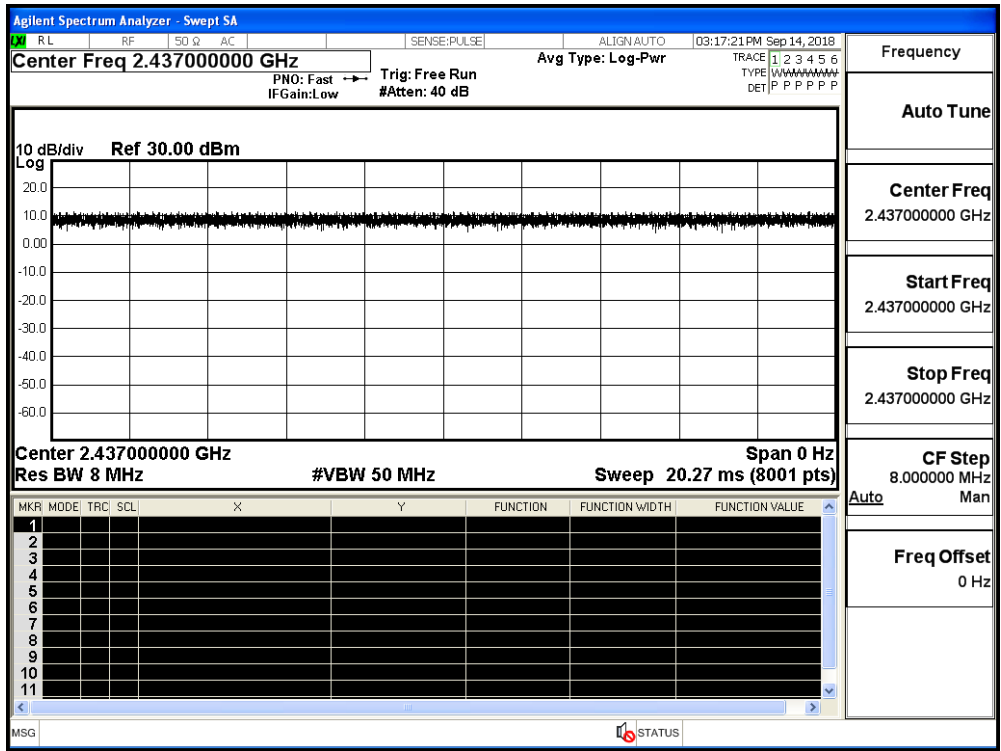
Duty Cycle_11B_2437_Ant1



Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



A.2 Maximum Conducted Output Power

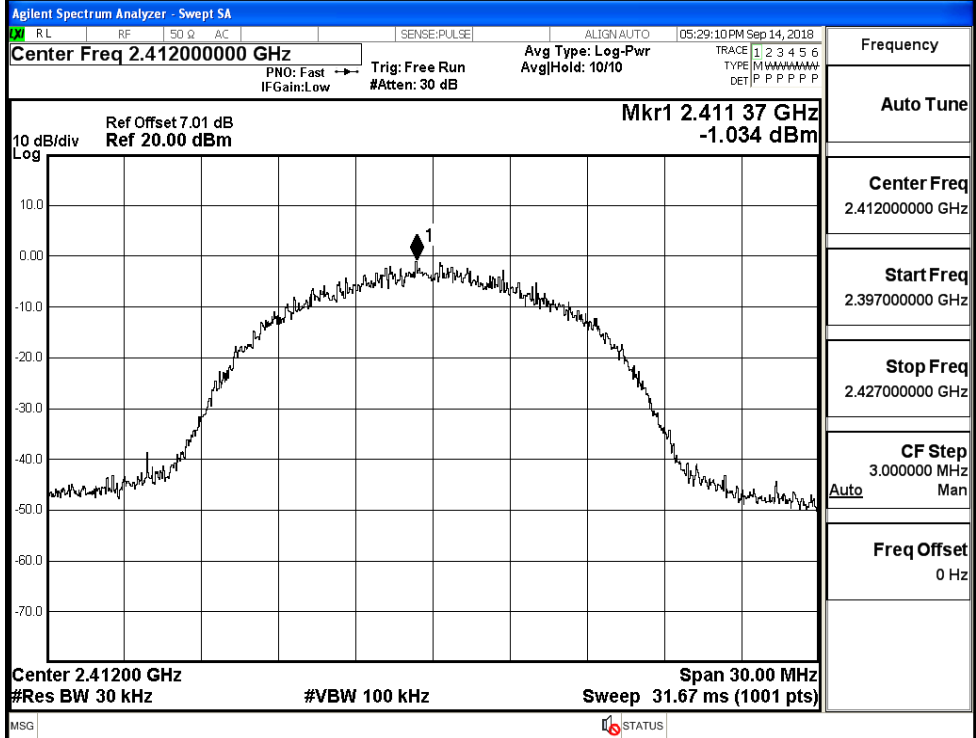
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	17.63	30	PASS
	MCH	18.13	30	PASS
	HCH	18.39	30	PASS
11G	LCH	18.77	30	PASS
	MCH	19.22	30	PASS
	HCH	19.91	30	PASS
11N20SISO	LCH	18.27	30	PASS
	MCH	18.80	30	PASS
	HCH	19.46	30	PASS

A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-1.034	8	PASS
	MCH	-0.265	8	PASS
	HCH	-0.089	8	PASS
11G	LCH	-4.581	8	PASS
	MCH	-4.018	8	PASS
	HCH	-3.588	8	PASS
11N20SISO	LCH	-5.225	8	PASS
	MCH	-4.812	8	PASS
	HCH	-4.003	8	PASS

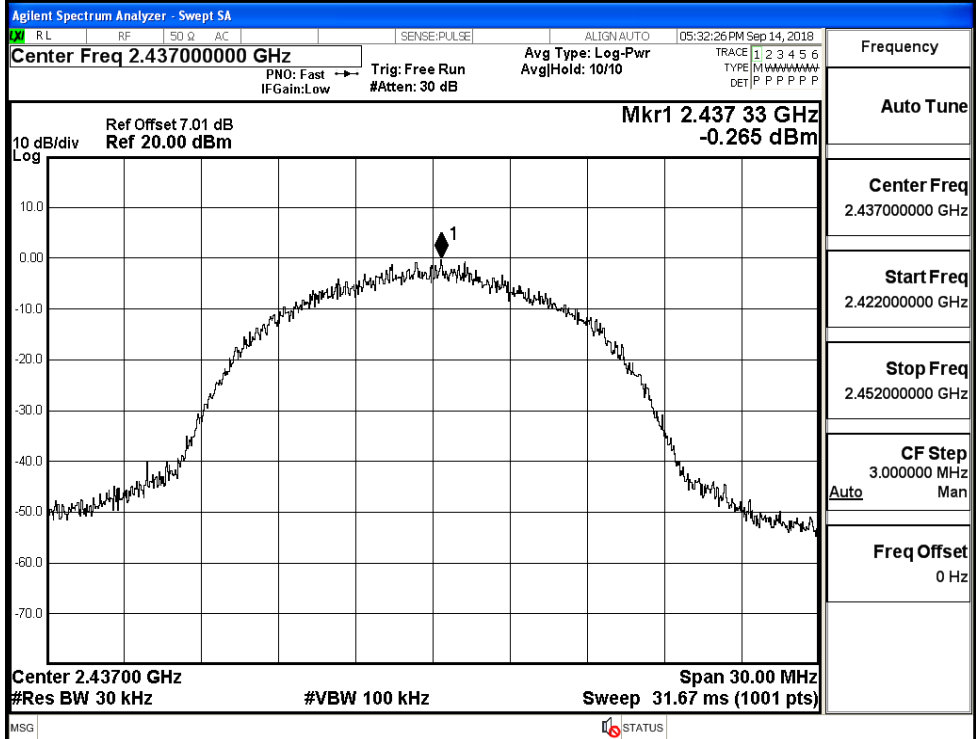
Test Graphs

11B/LCH



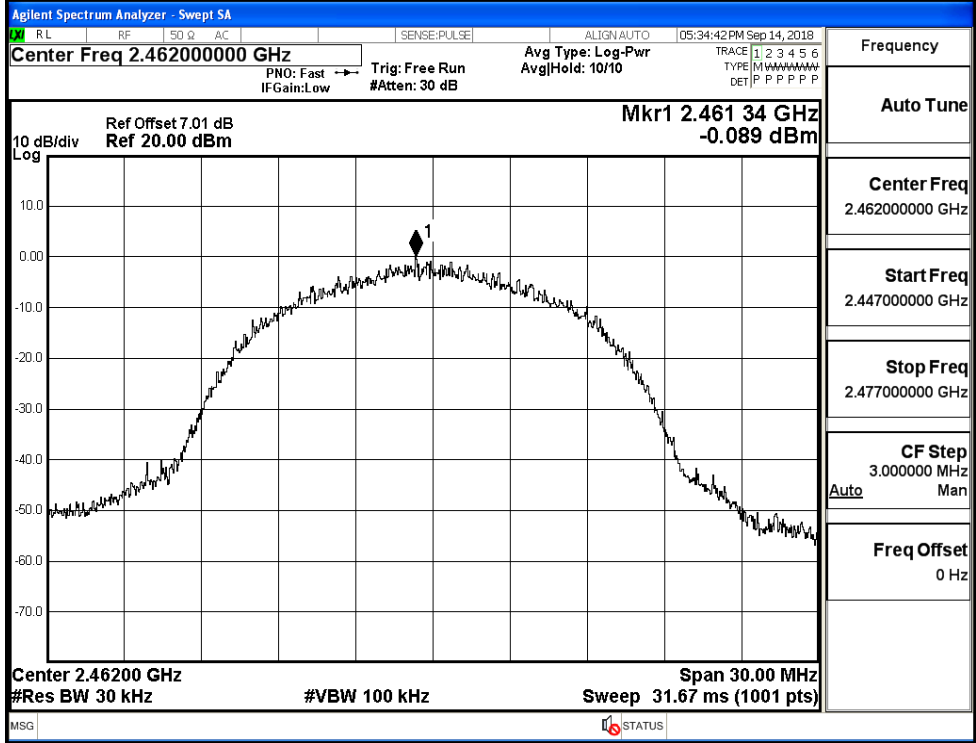
Frequency
Auto Tune
Center Freq 2.41200000 GHz
Start Freq 2.397000000 GHz
Stop Freq 2.427000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

11B/MCH

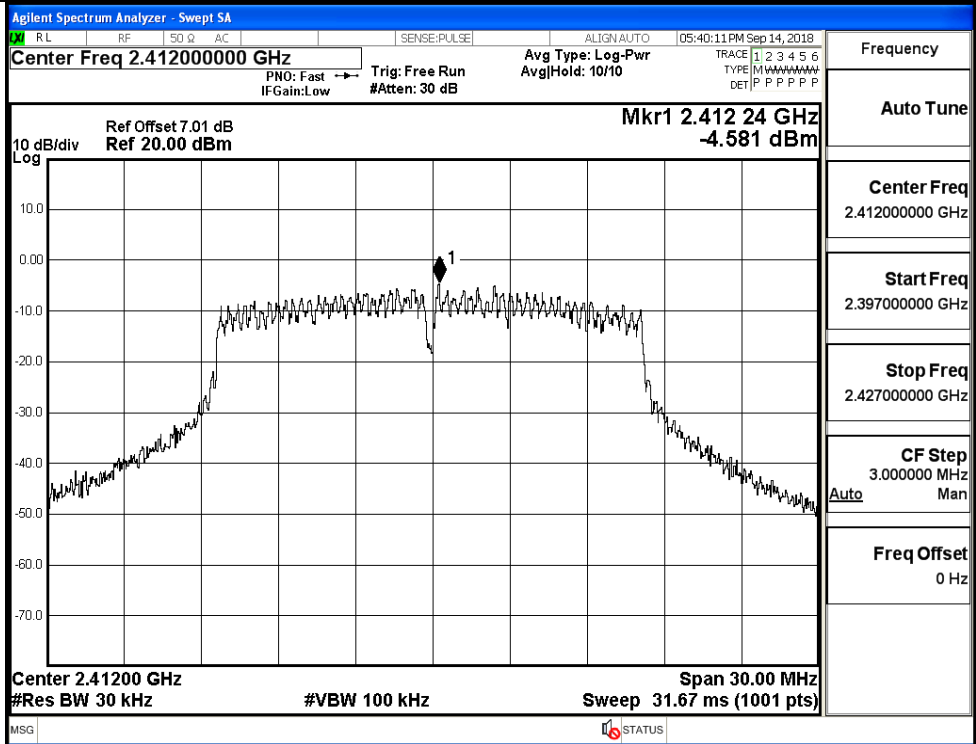


Frequency
Auto Tune
Center Freq 2.43700000 GHz
Start Freq 2.422000000 GHz
Stop Freq 2.452000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

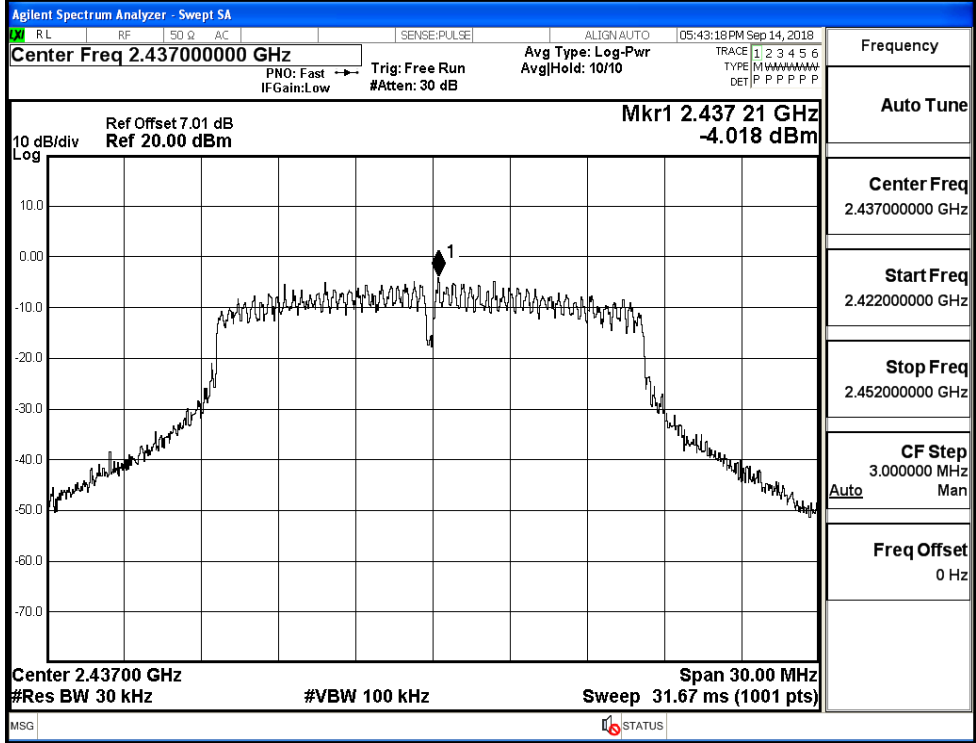
11B/HCH



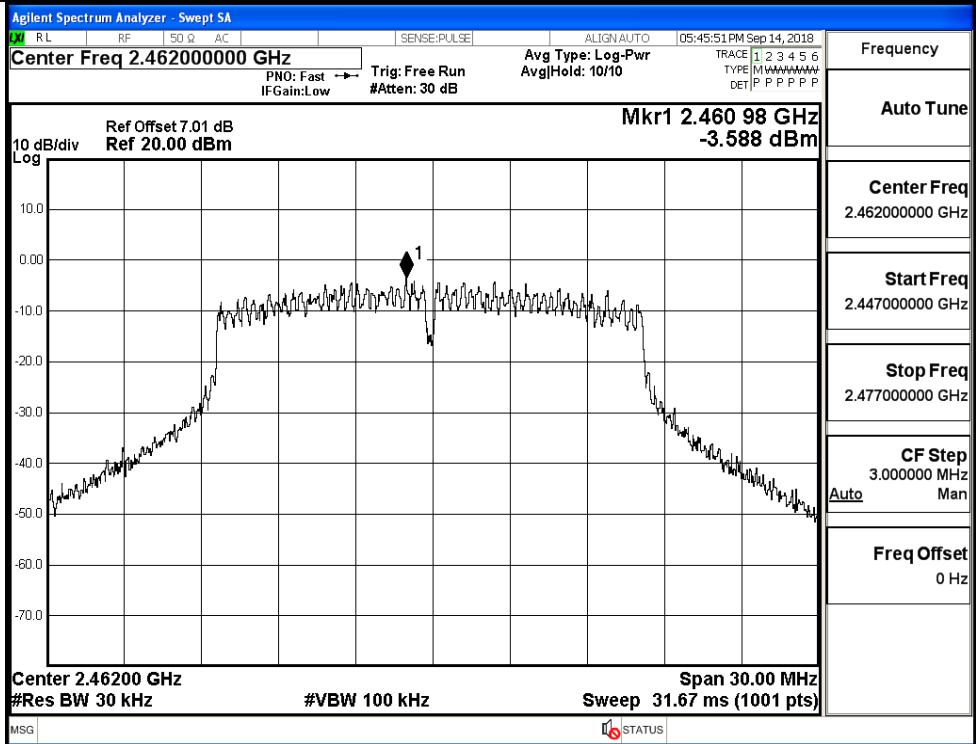
11G/LCH



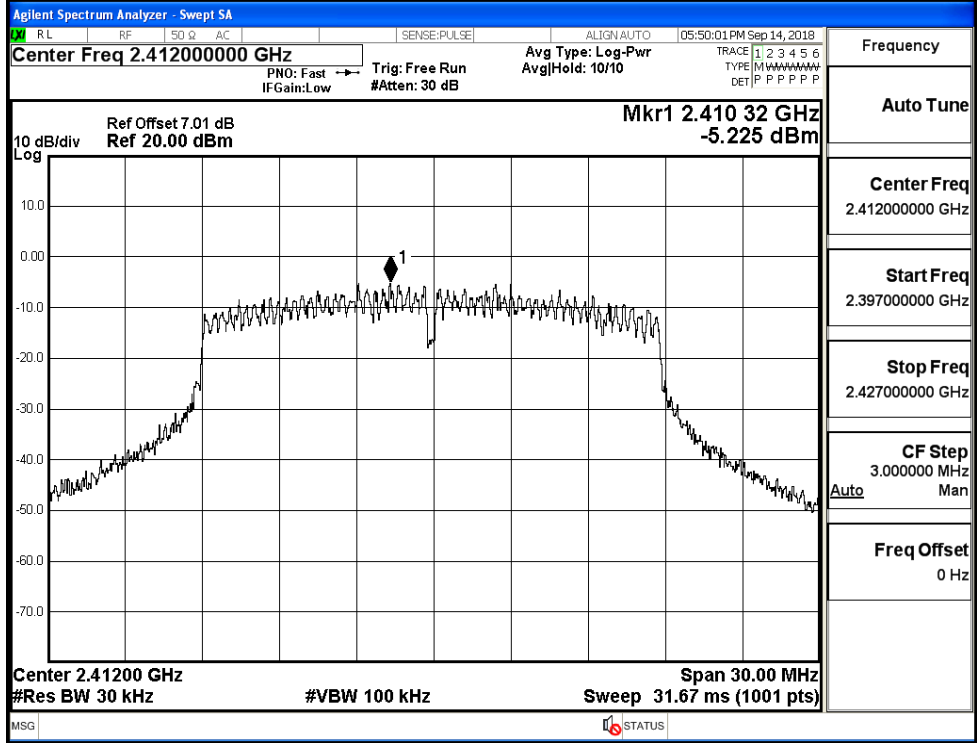
11G/MCH



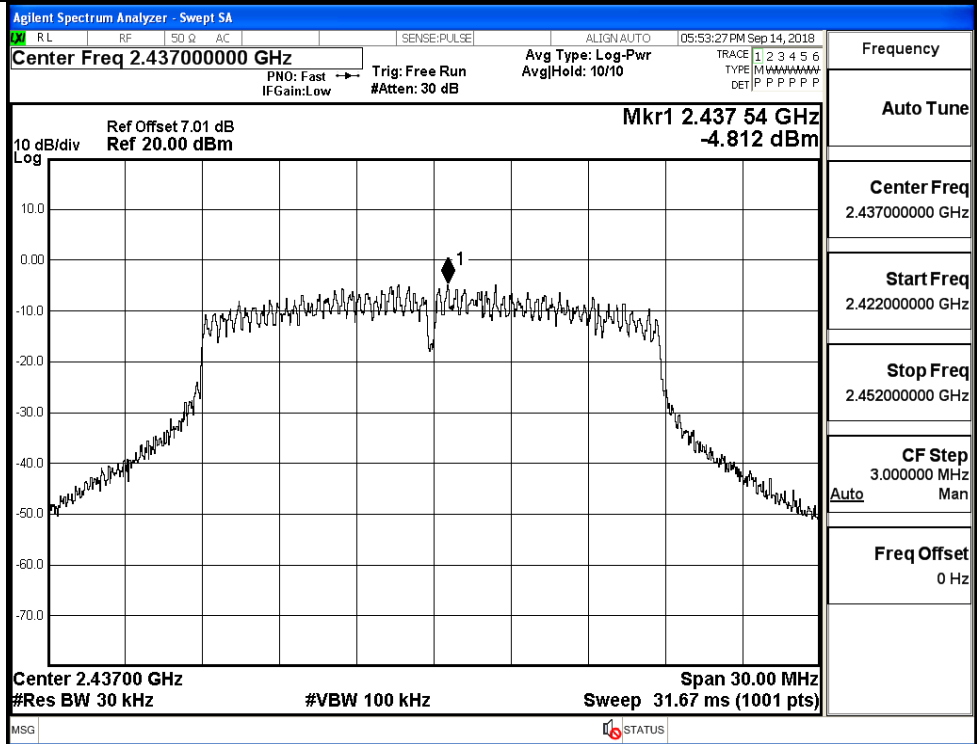
11G/HCH



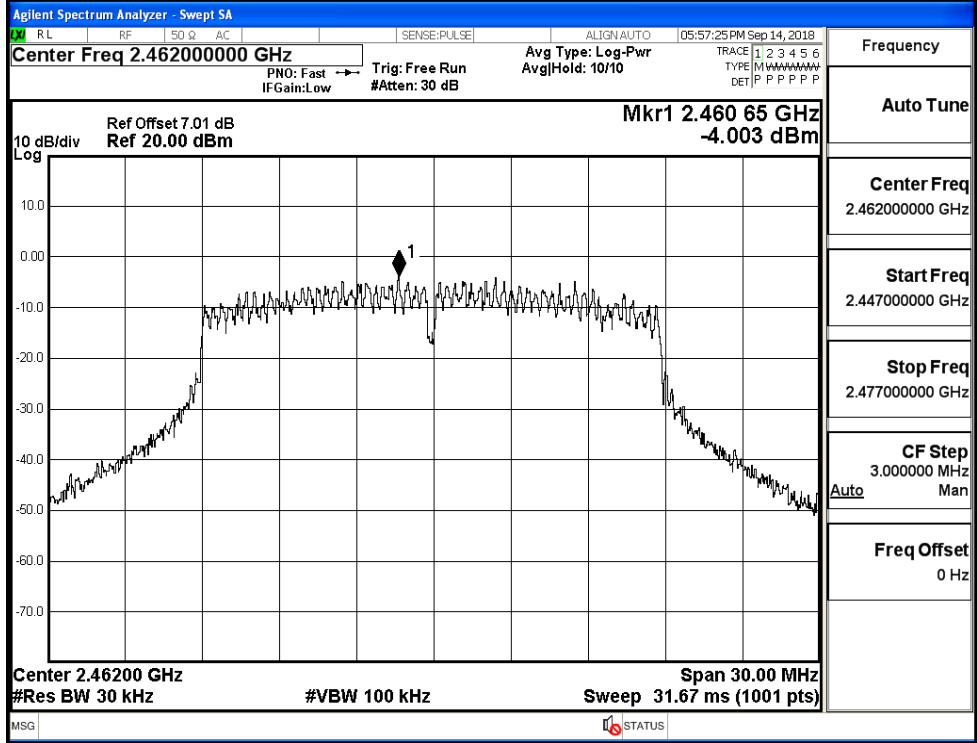
11N20SISO/LCH



11N20SISO/MCH

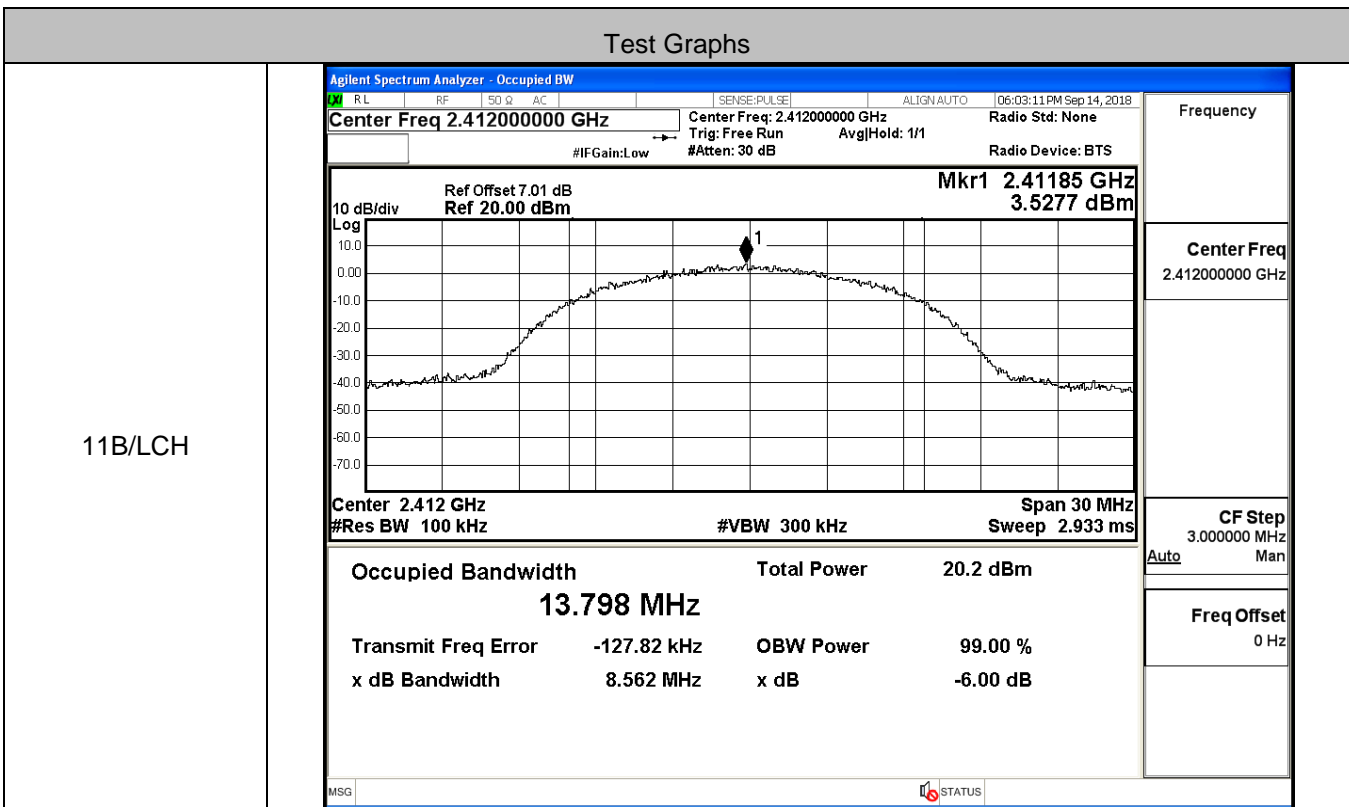


11N20SISO/HCH

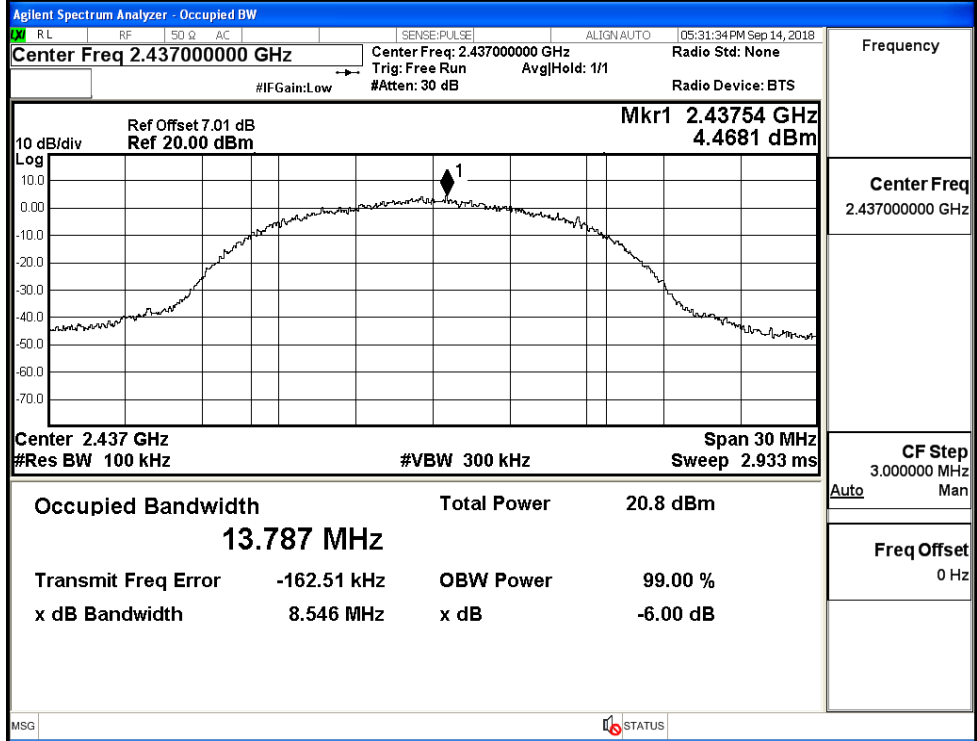


A.4 6dB Bandwidth

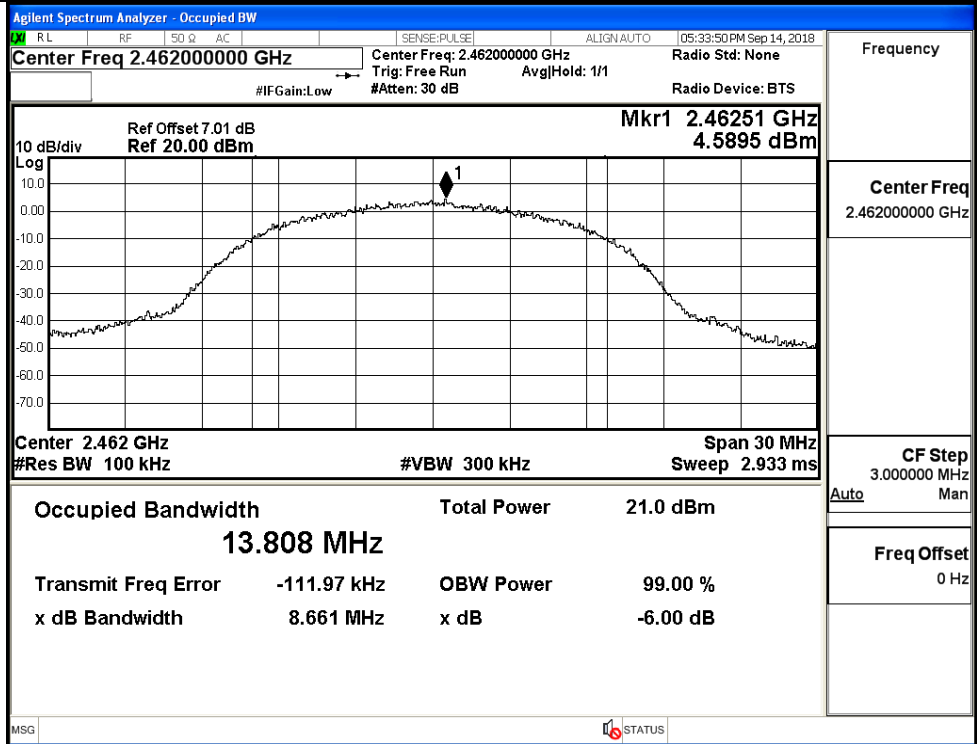
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.562	≥0.5	PASS
	MCH	8.546	≥0.5	PASS
	HCH	8.661	≥0.5	PASS
11G	LCH	15.14	≥0.5	PASS
	MCH	15.42	≥0.5	PASS
	HCH	15.14	≥0.5	PASS
11N20SISO	LCH	15.38	≥0.5	PASS
	MCH	16.04	≥0.5	PASS
	HCH	15.42	≥0.5	PASS



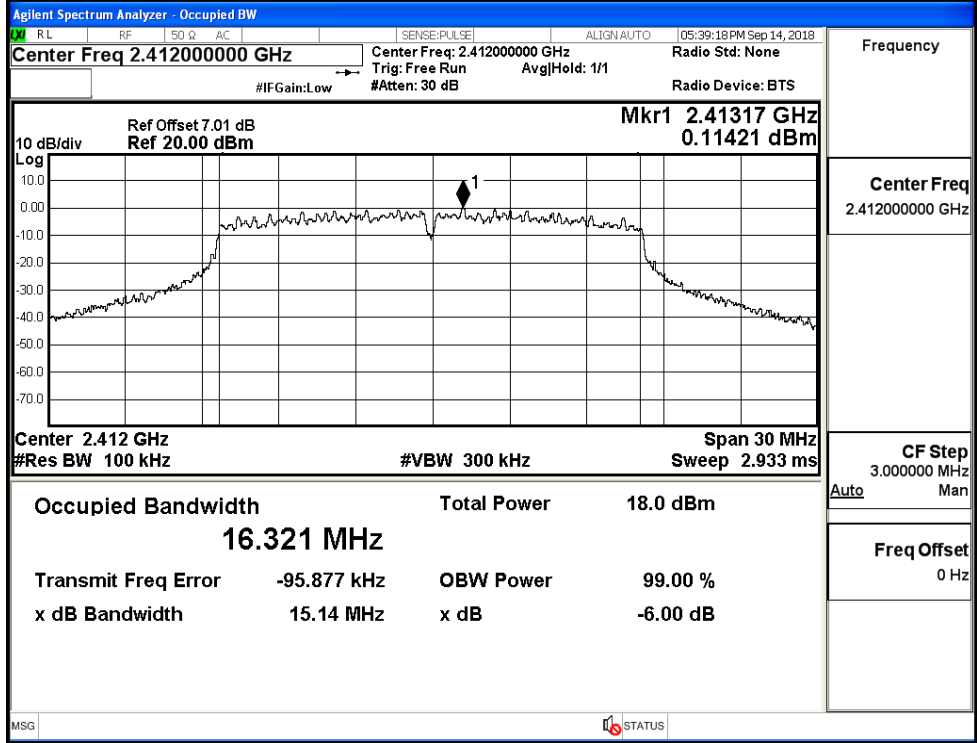
11B/MCH



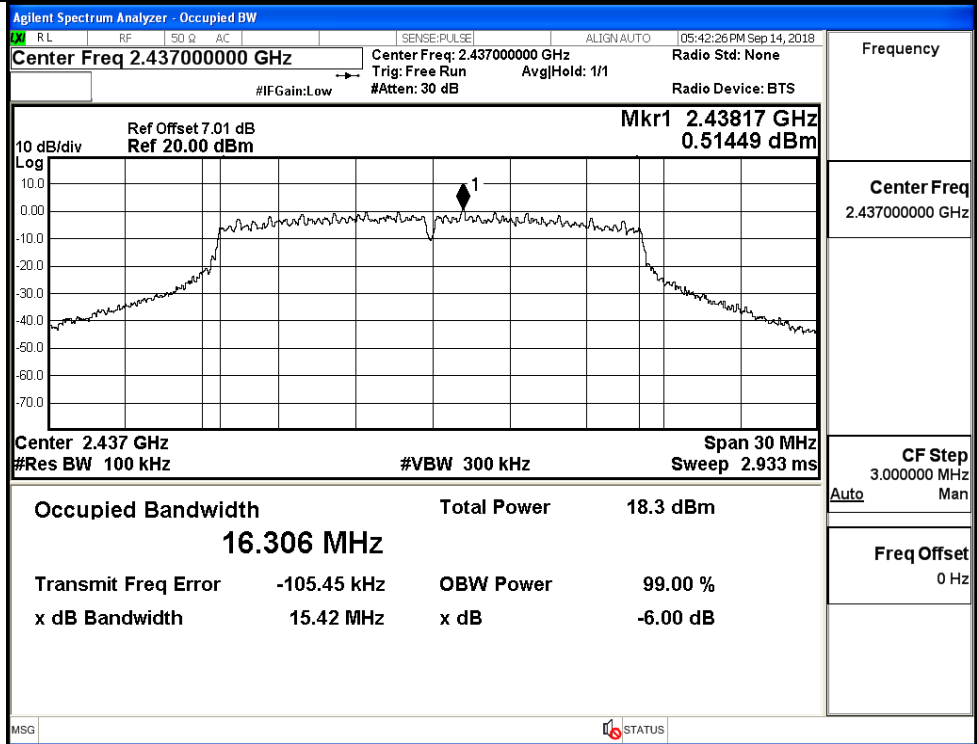
11B/HCH



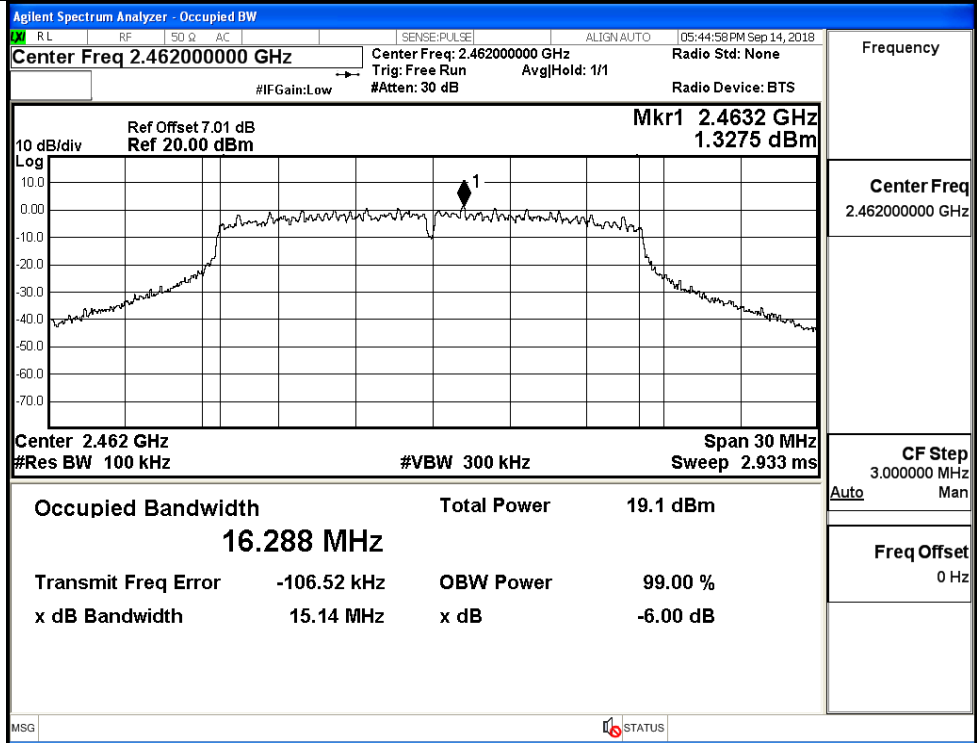
11G/LCH



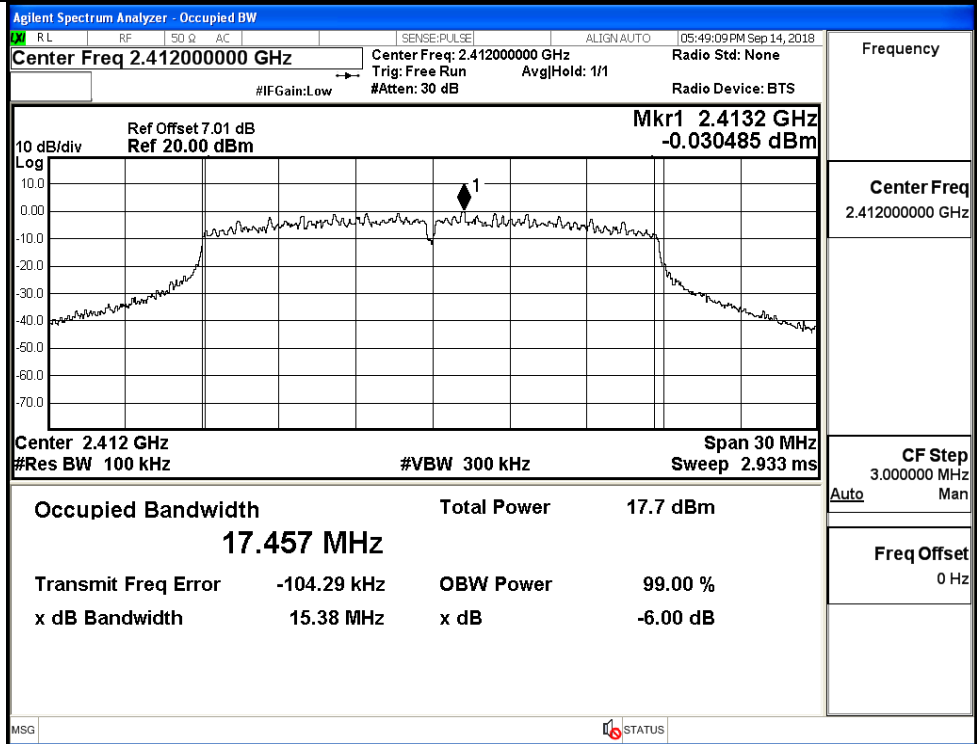
11G/MCH



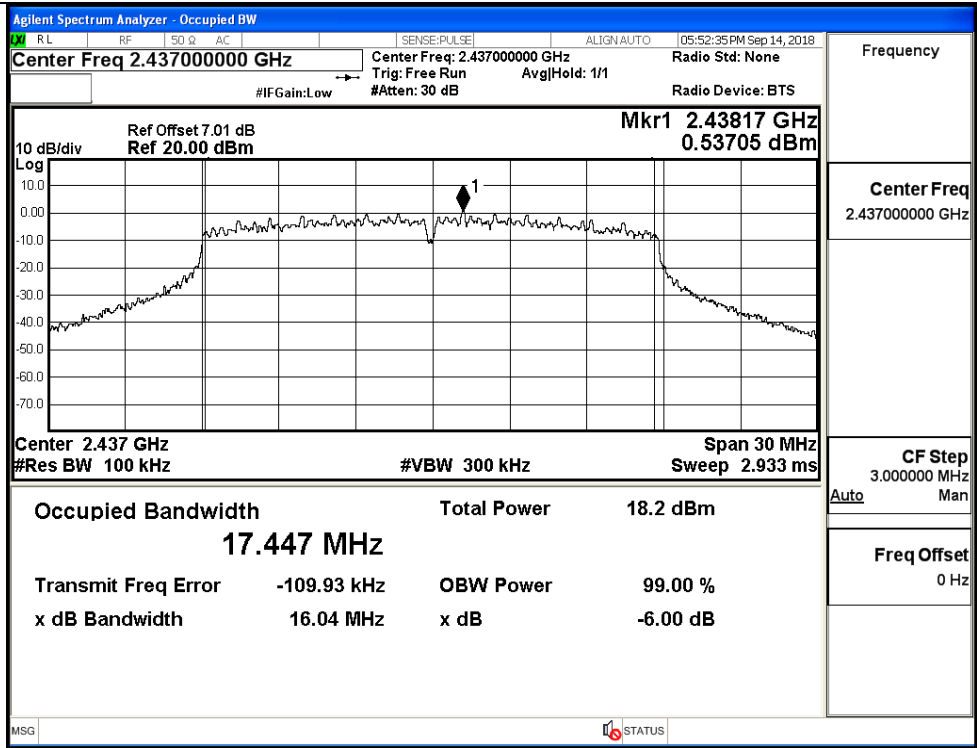
11G/HCH



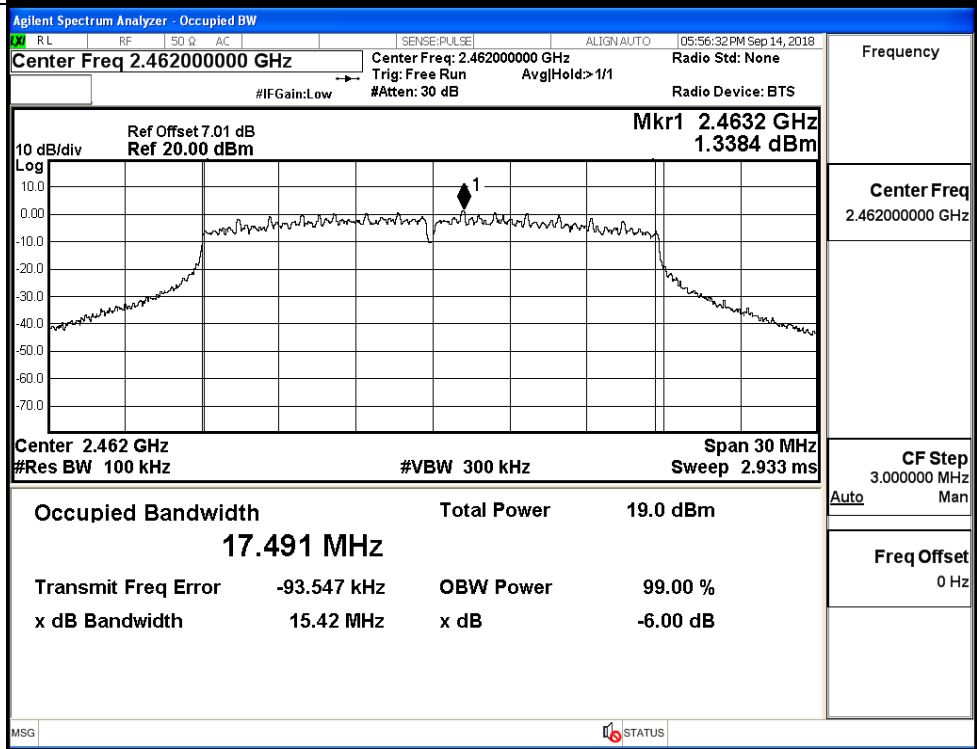
11N20SISO/LCH



11N20SISO/MCH



11N20SISO/HCH

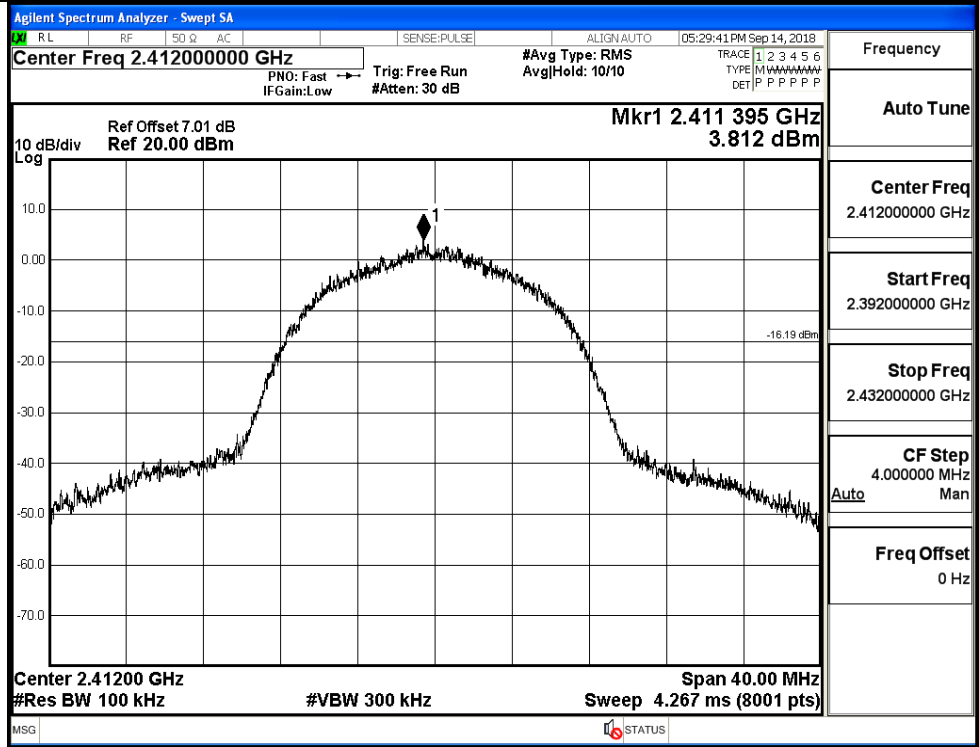


A.5 RF Conducted Spurious Emissions

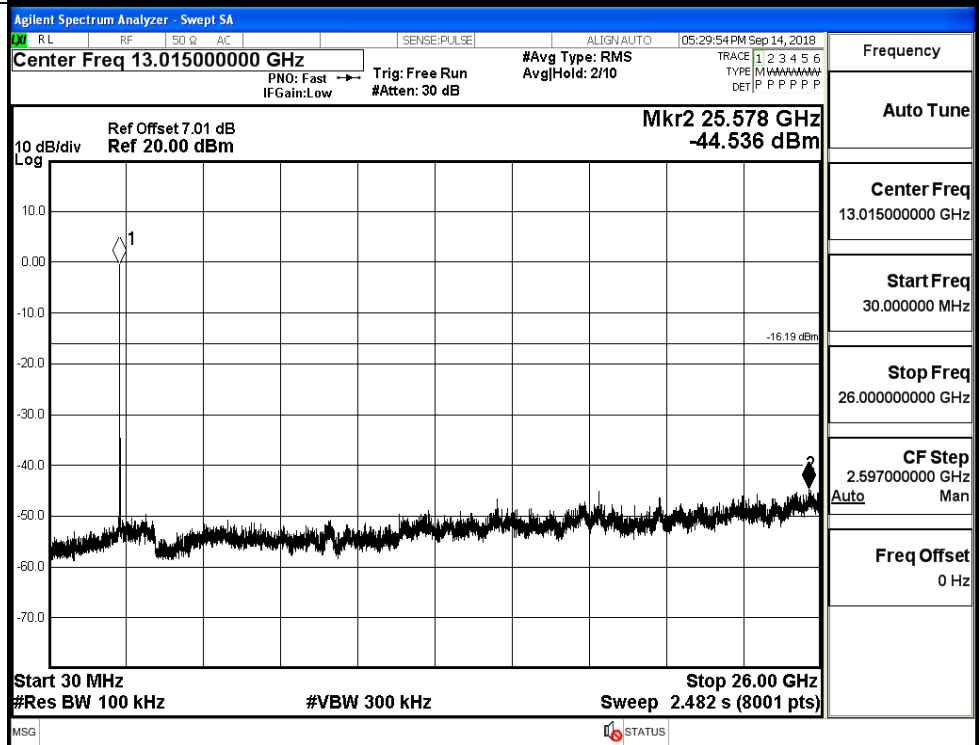
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	3.812	-44.536	-16.188	PASS
	MCH	3.952	-45.046	-16.048	PASS
	HCH	4.301	-44.991	-15.699	PASS
11G	LCH	-0.082	-44.424	-20.082	PASS
	MCH	0.505	-44.828	-19.495	PASS
	HCH	1.078	-44.801	-18.922	PASS
11N20 SISO	LCH	-0.159	-44.571	-20.159	PASS
	MCH	0.397	-45.078	-19.603	PASS
	HCH	1.048	-45.177	-18.952	PASS

11B_LCH_Graphs

Pref/11B/LCH

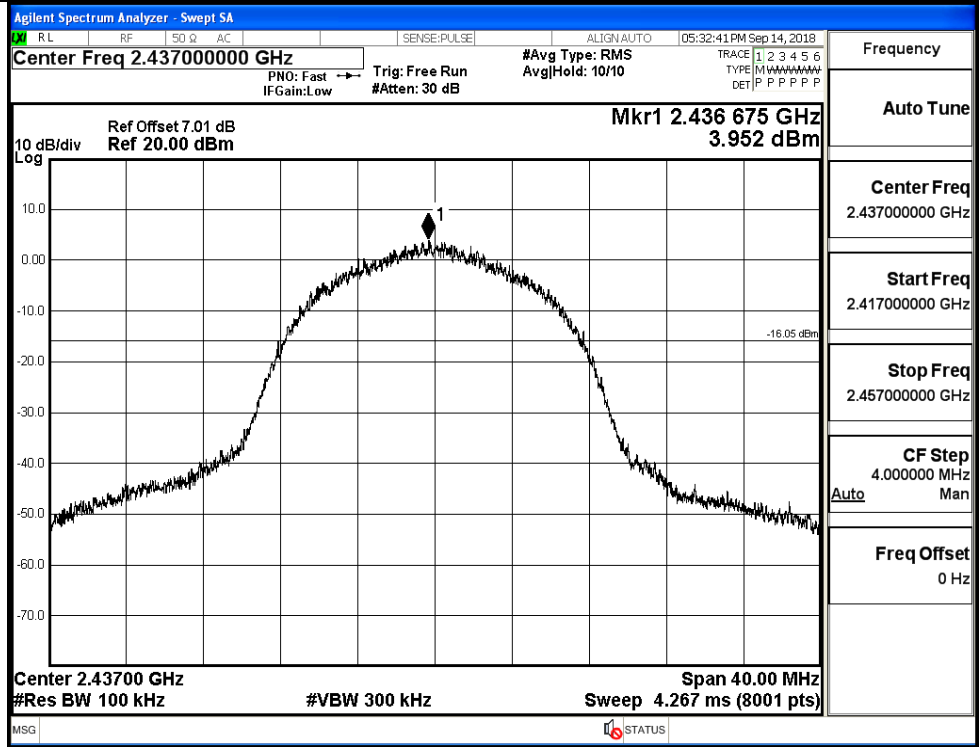


Puw/11B/LCH

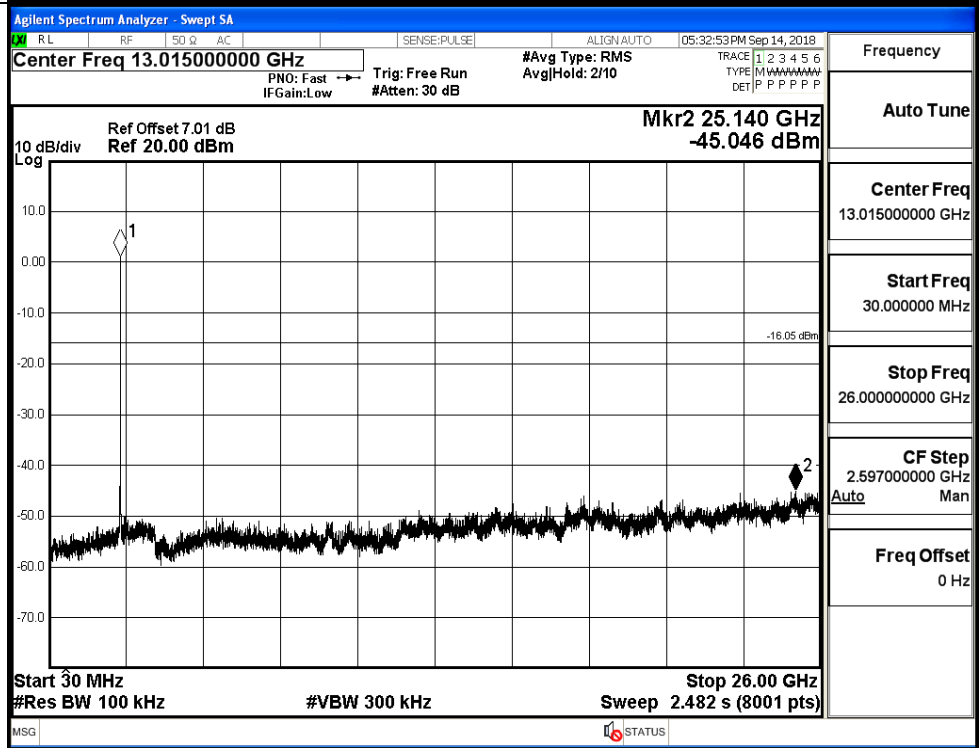


11B_MCH_Graphs

Pref/11B/MCH

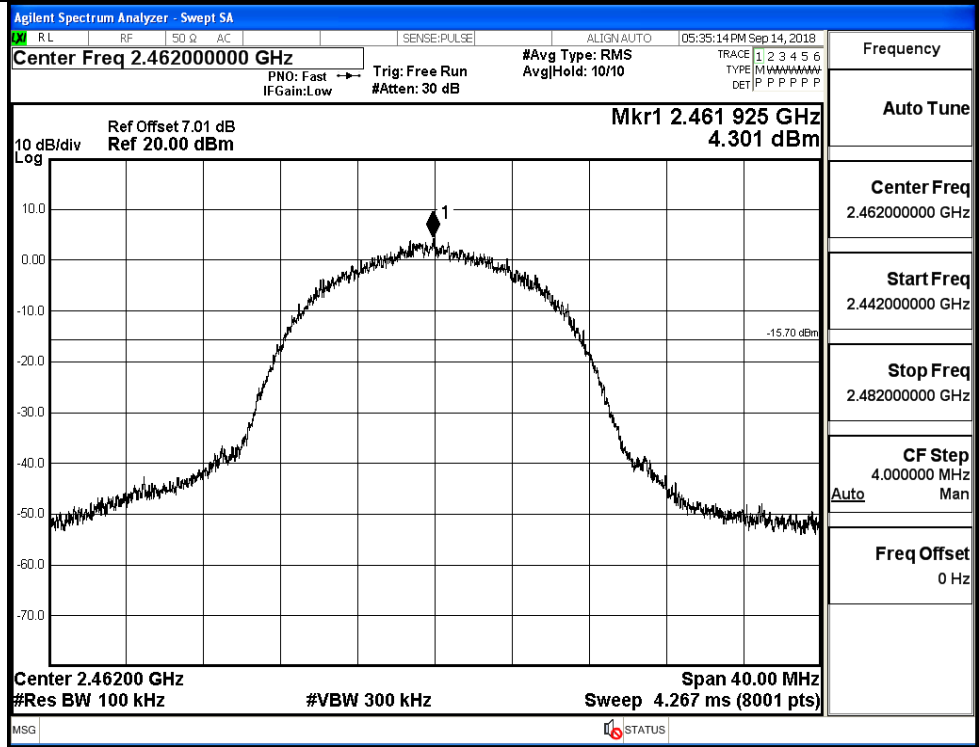


Puw/11B/MCH

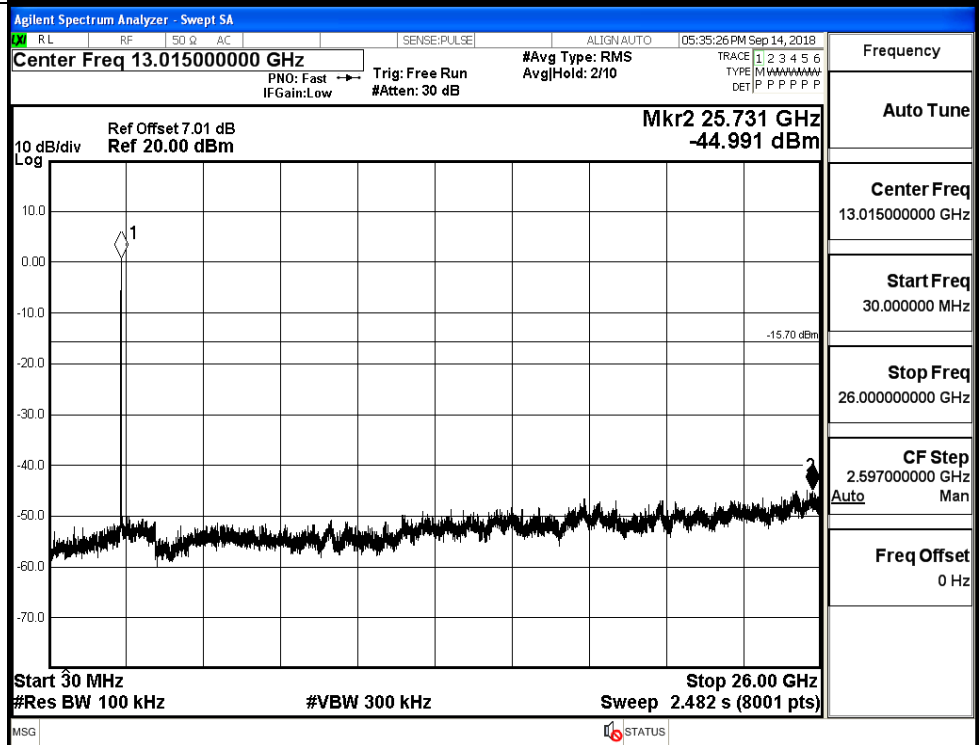


11B_HCH_Graphs

Pref/11B/HCH

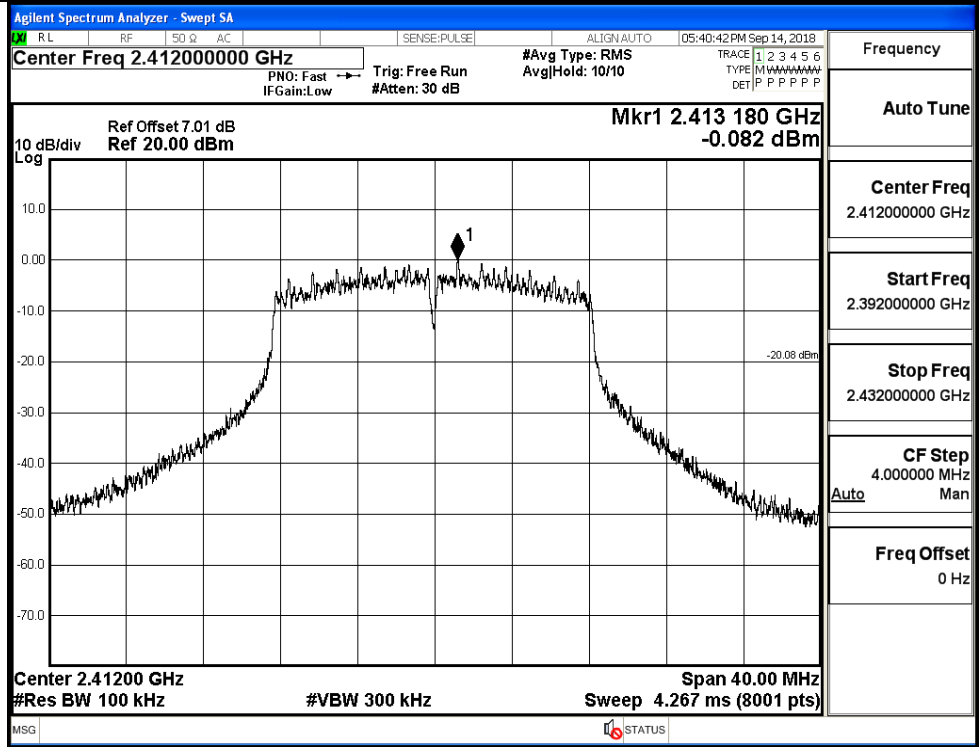


Puw/11B/HCH

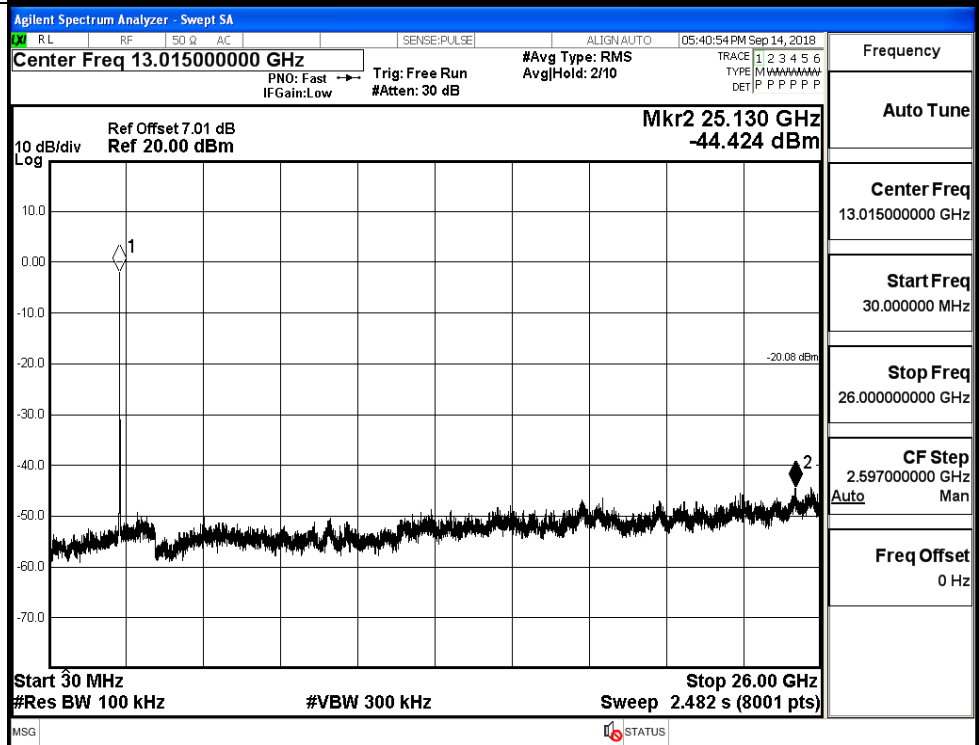


11G_LCH_Graphs

Pref/11G/LCH

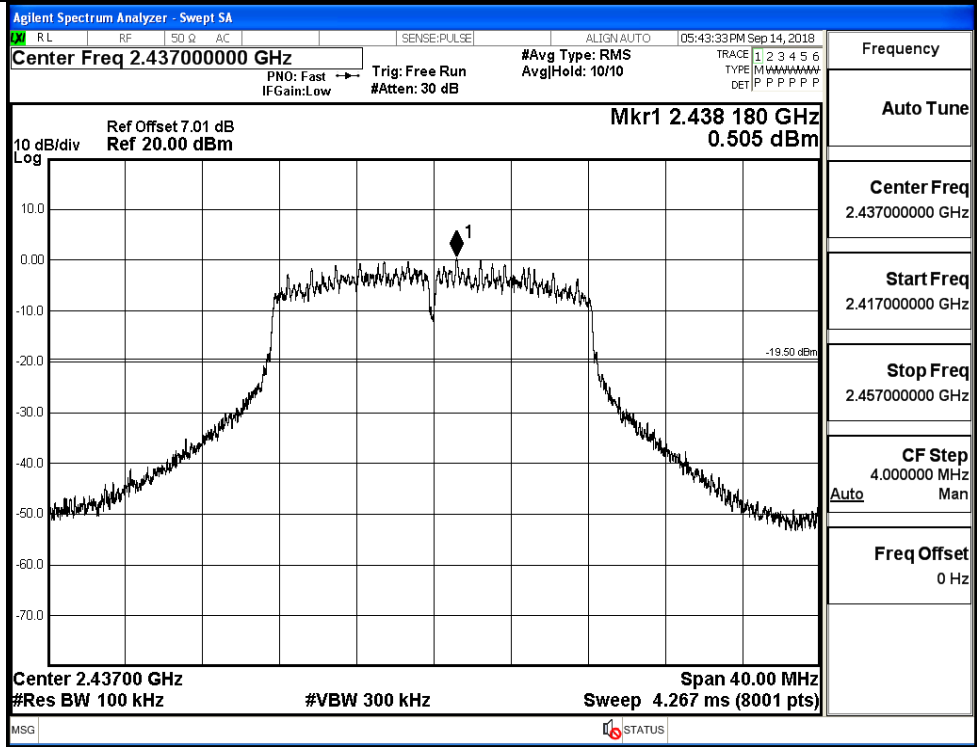


Puw/11G/LCH

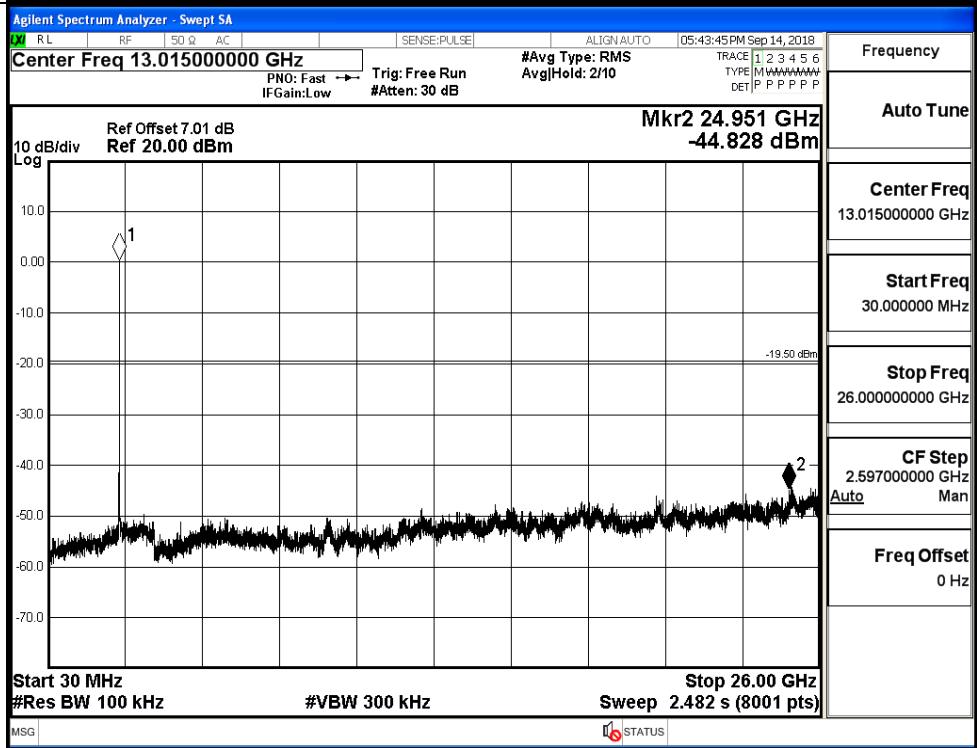


11G_MCH_Graphs

Pref/11G/MCH

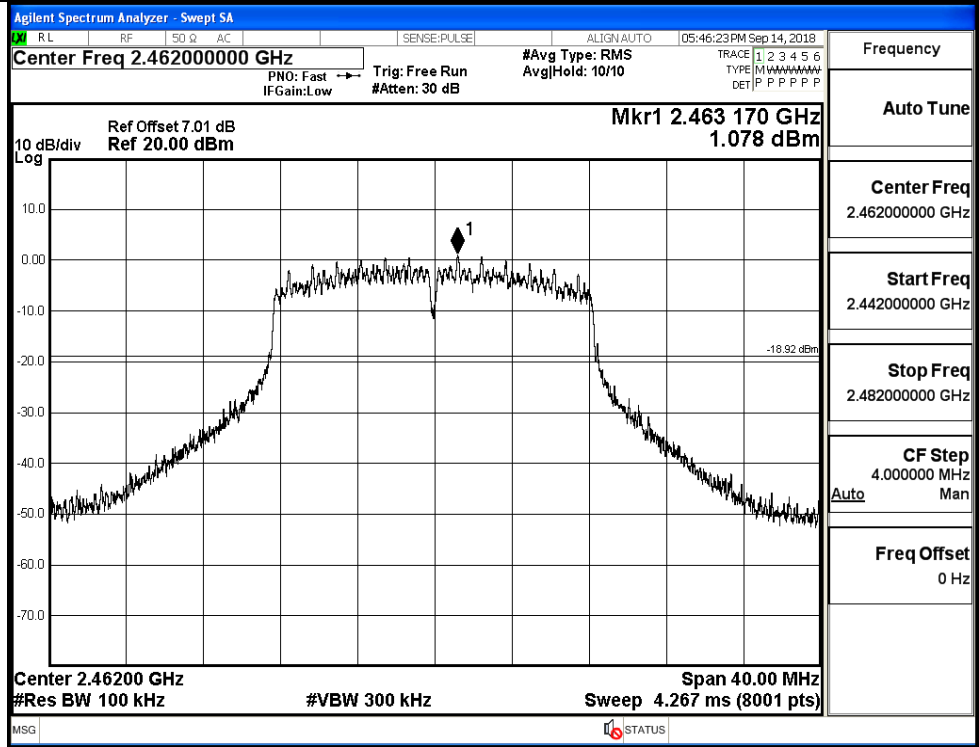


Puw/11G/MCH

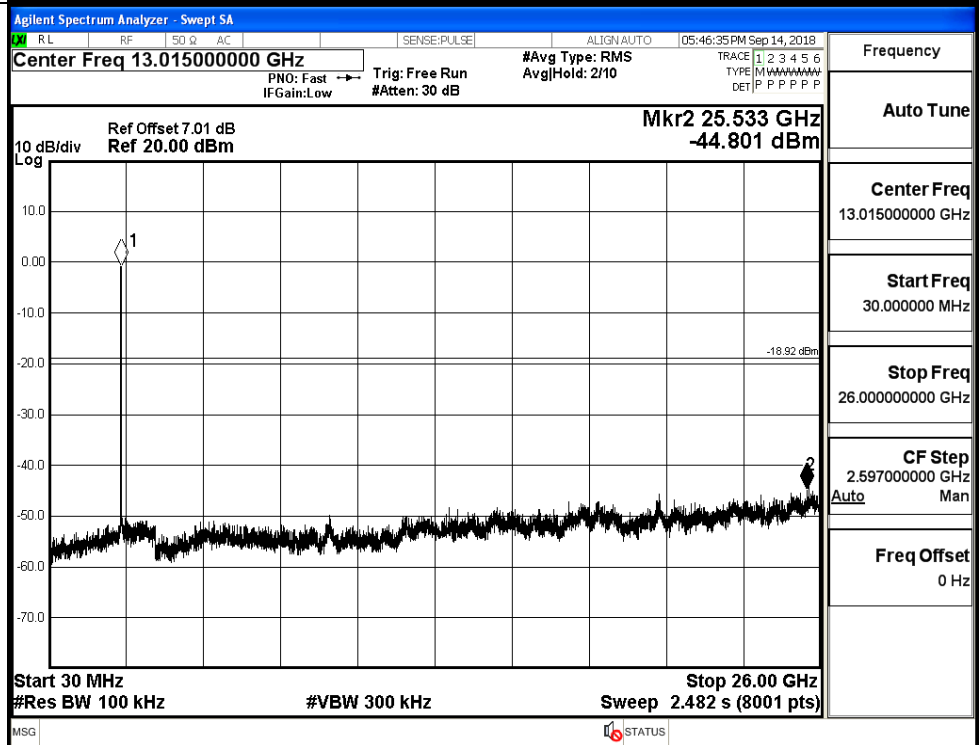


11G_HCH_Graphs

Pref/11G/HCH

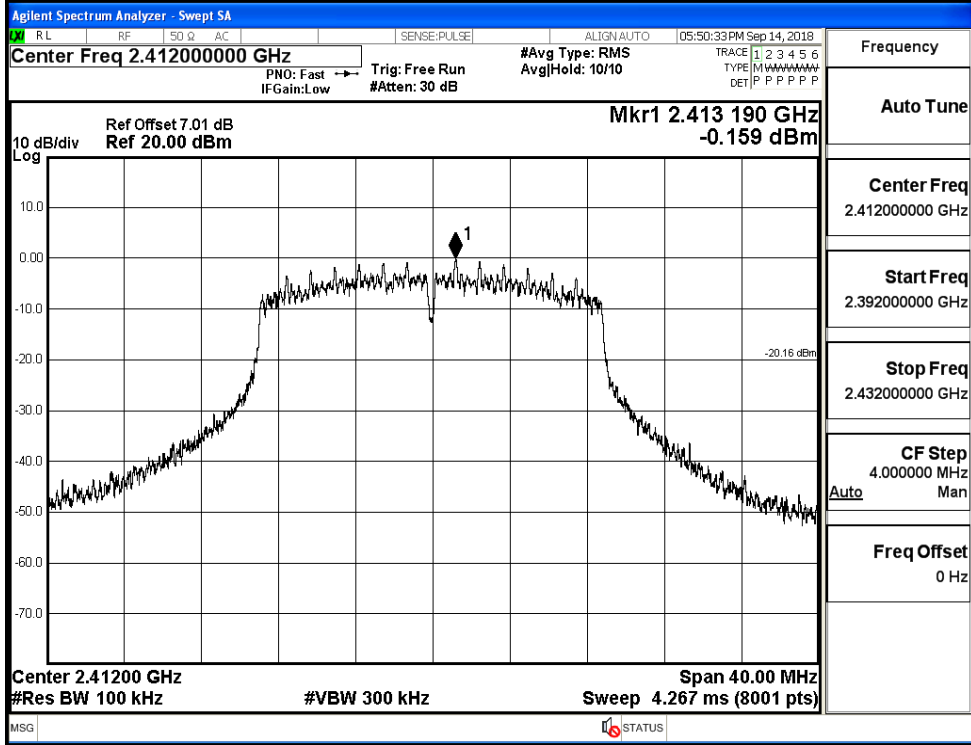


Puw/11G/HCH

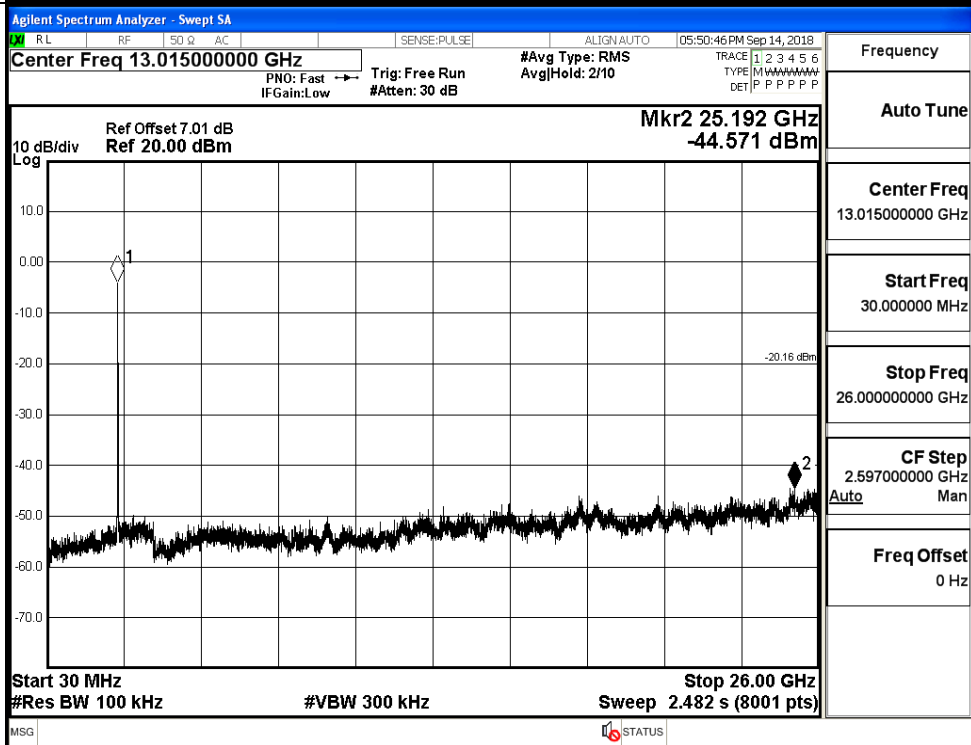


11N20SISO_LCH_Graphs

Pref/11N20SIS
O/LCH

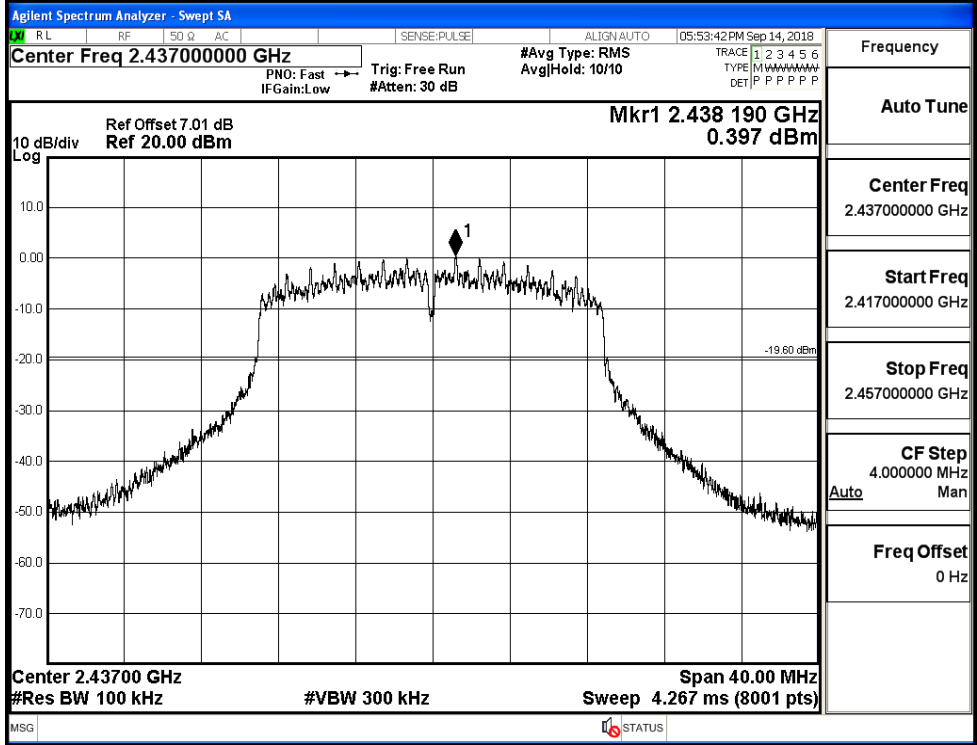


Puw/11N20
SISO/LCH

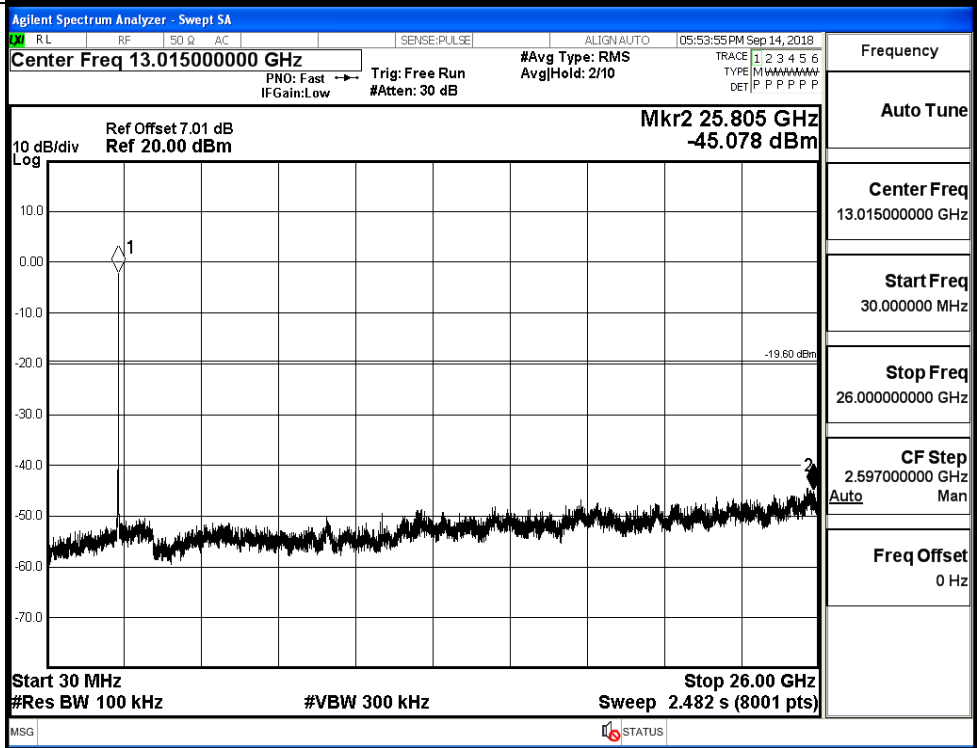


11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCH

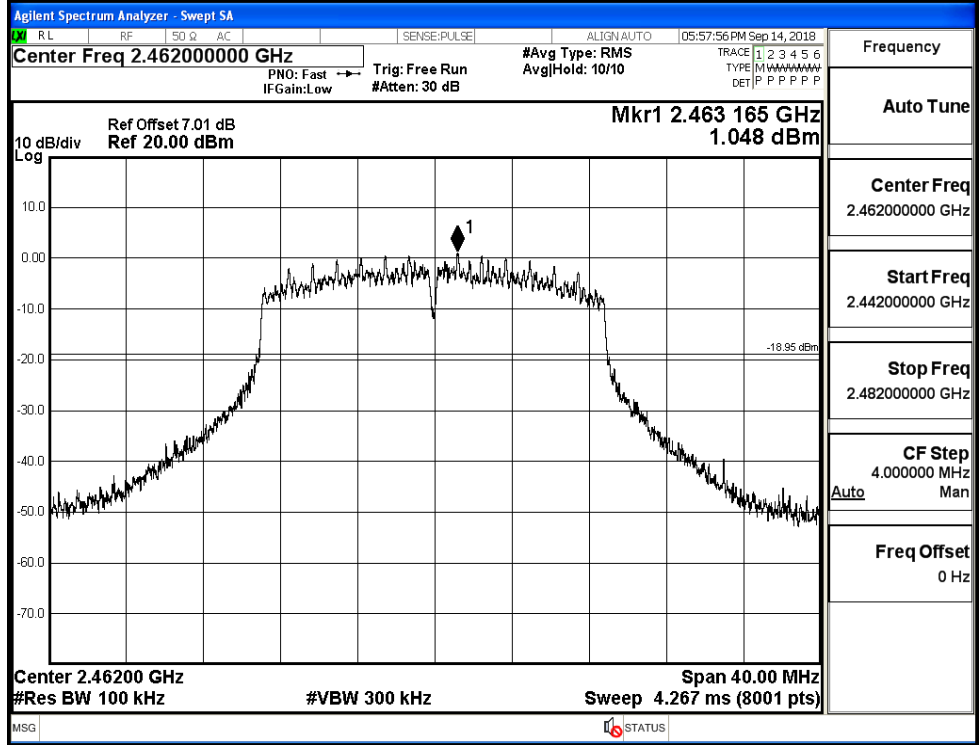


Puw/11N20
SISO/MCH

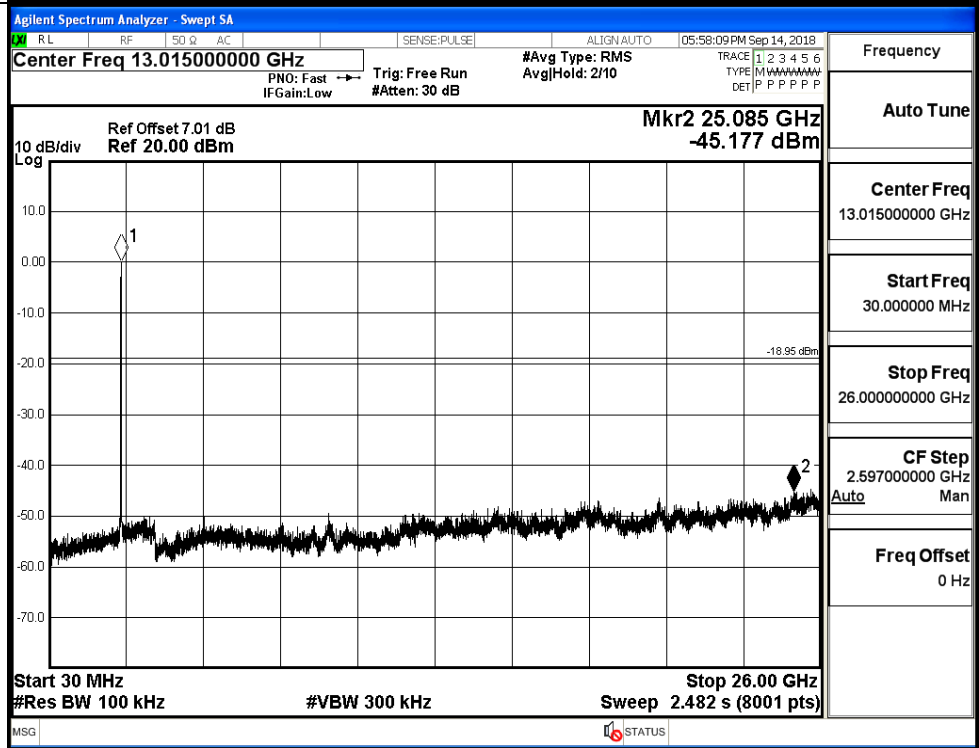


11N20SISO_HCH_Graphs

Pref/11N20
SISO/HCH



Puw/11N20
SISO/HCH

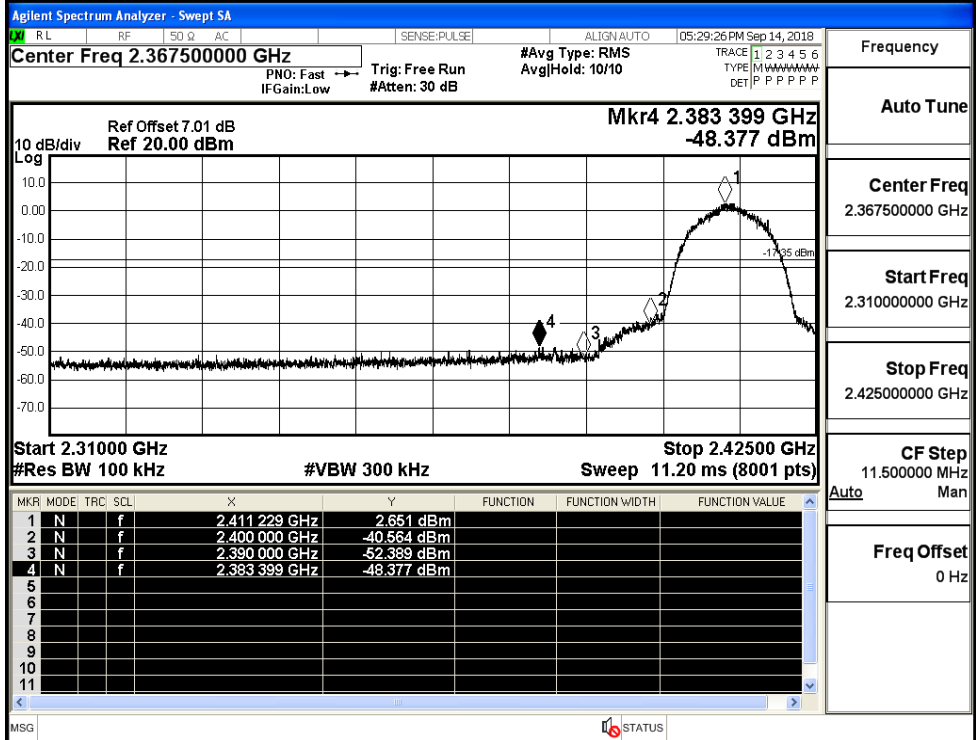


A.6 Band-edge for RF Conducted Emissions

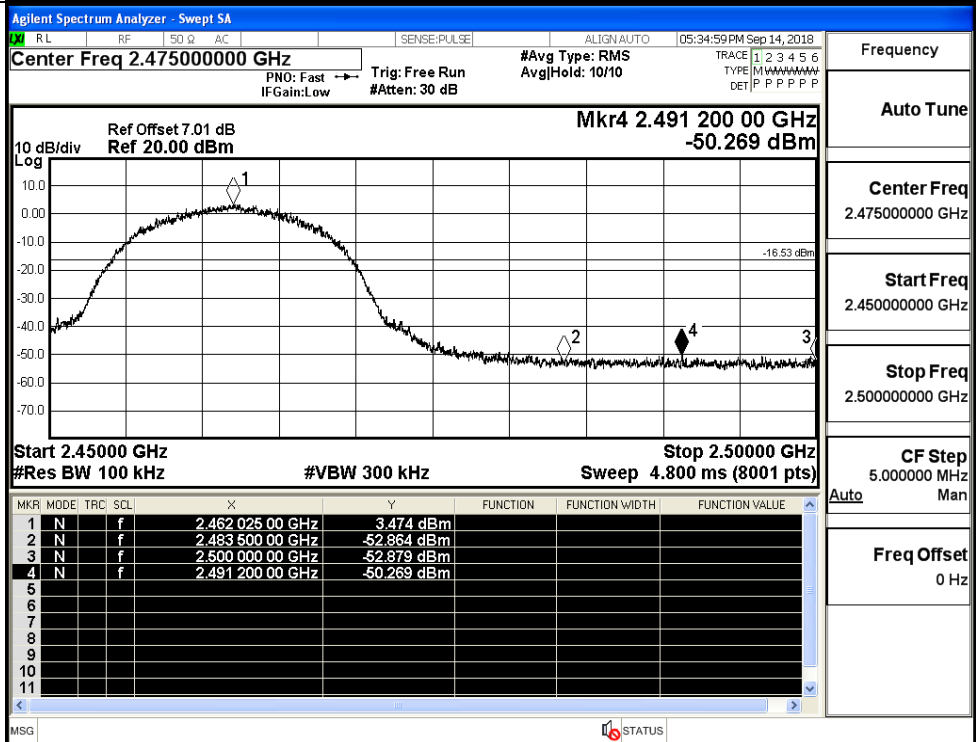
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	2.651	-48.377	-17.35	PASS
	HCH	3.474	-50.269	-16.53	PASS
11G	LCH	-0.140	-48.434	-20.14	PASS
	HCH	1.311	-48.773	-18.69	PASS
11N20SISO	LCH	-0.026	-48.411	-20.03	PASS
	HCH	1.329	-48.373	-18.67	PASS

Test Graphs

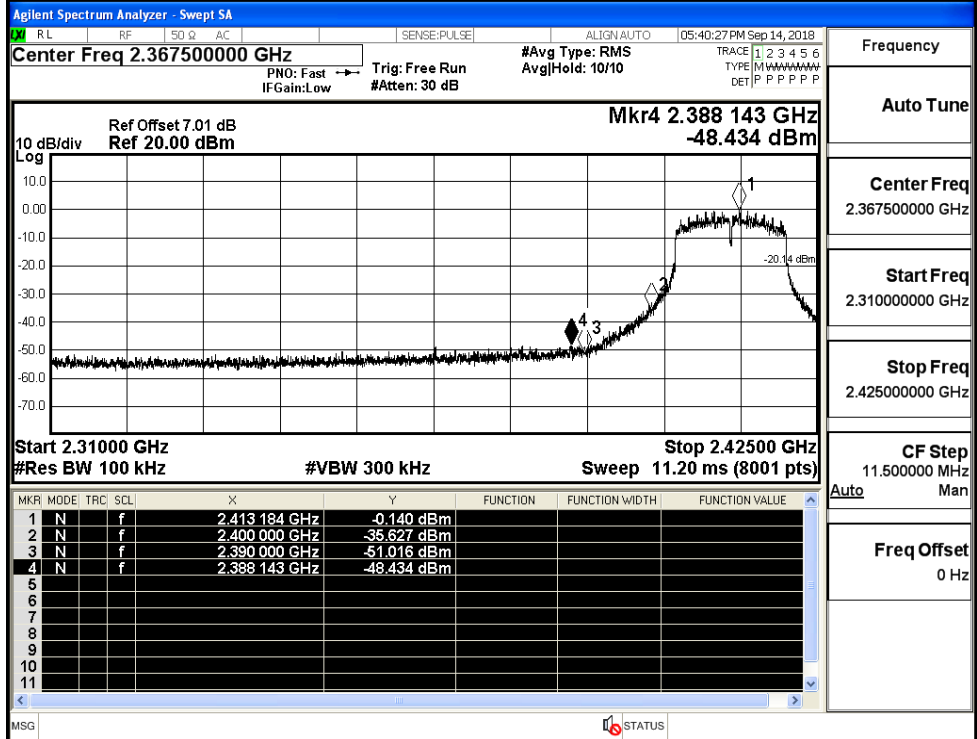
11B/LCH



11B/HCH



11G/LCH



Frequency

Auto Tune

Center Freq
2.367500000 GHz

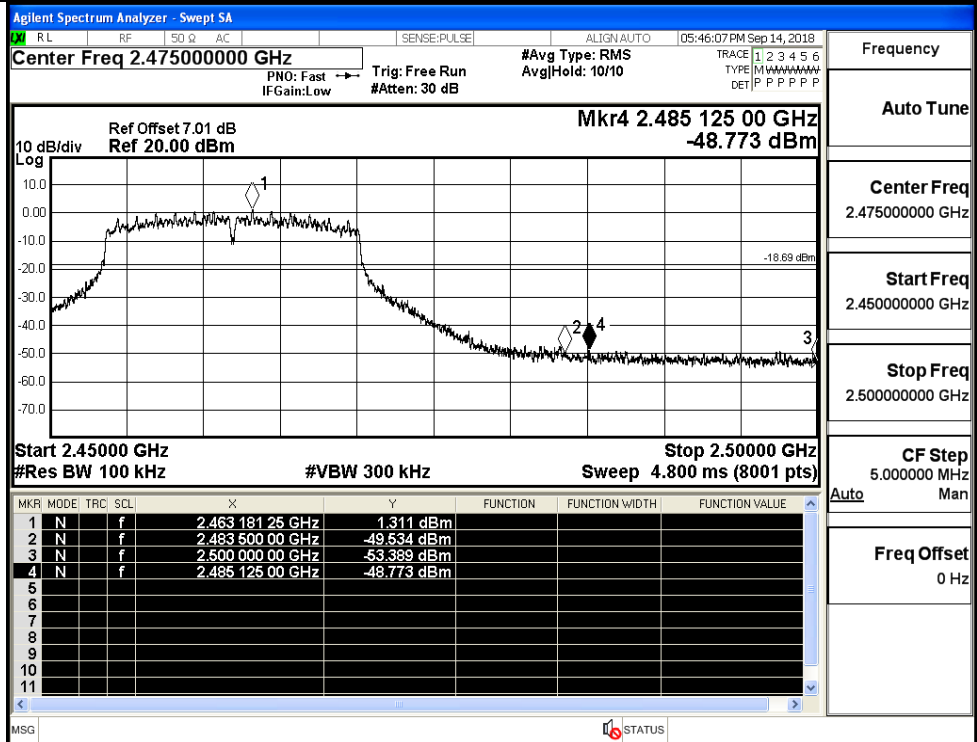
Start Freq
2.310000000 GHz

Stop Freq
2.425000000 GHz

CF Step
11.500000 MHz

Freq Offset
0 Hz

11G/HCH



Frequency

Auto Tune

Center Freq
2.475000000 GHz

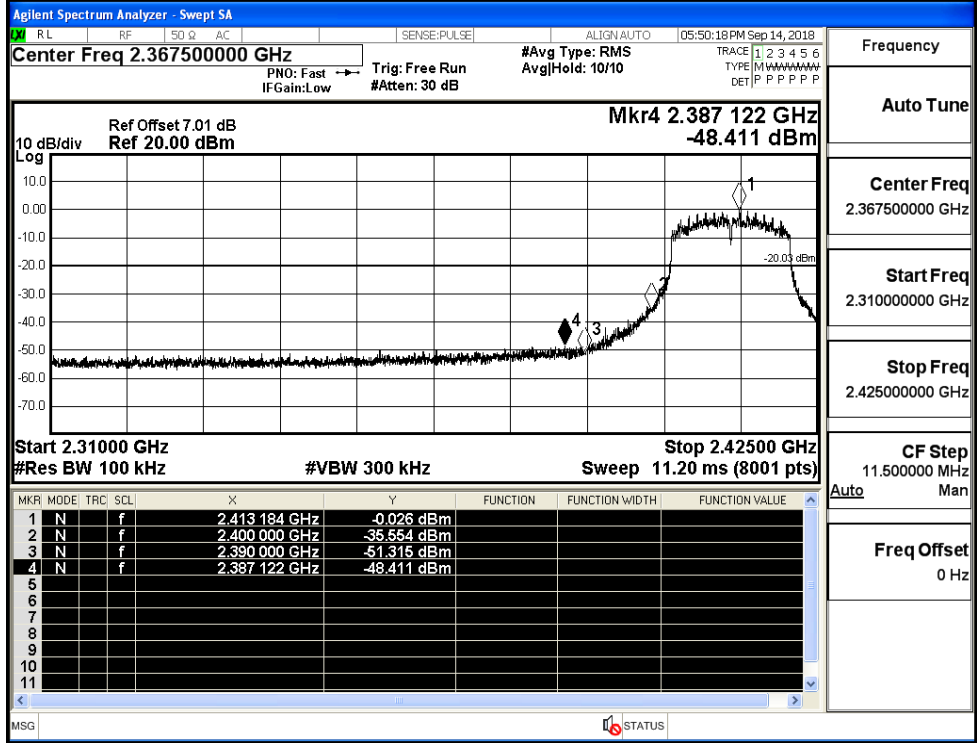
Start Freq
2.450000000 GHz

Stop Freq
2.500000000 GHz

CF Step
5.000000 MHz

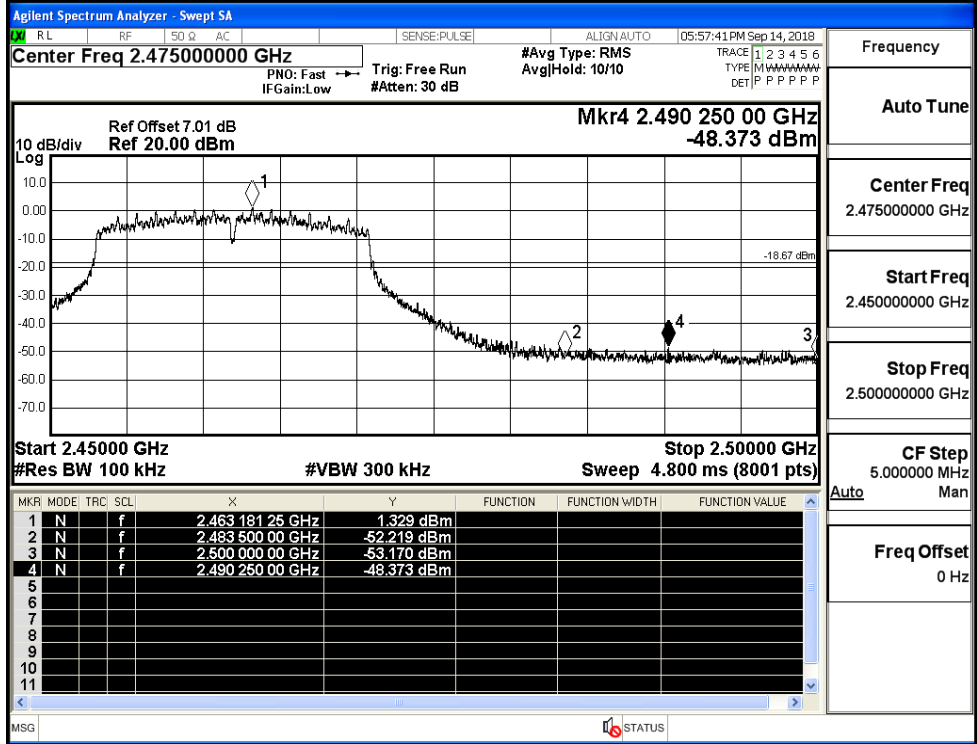
Freq Offset
0 Hz

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
Auto	Man
Freq Offset	0 Hz

11N20SISO/HCH

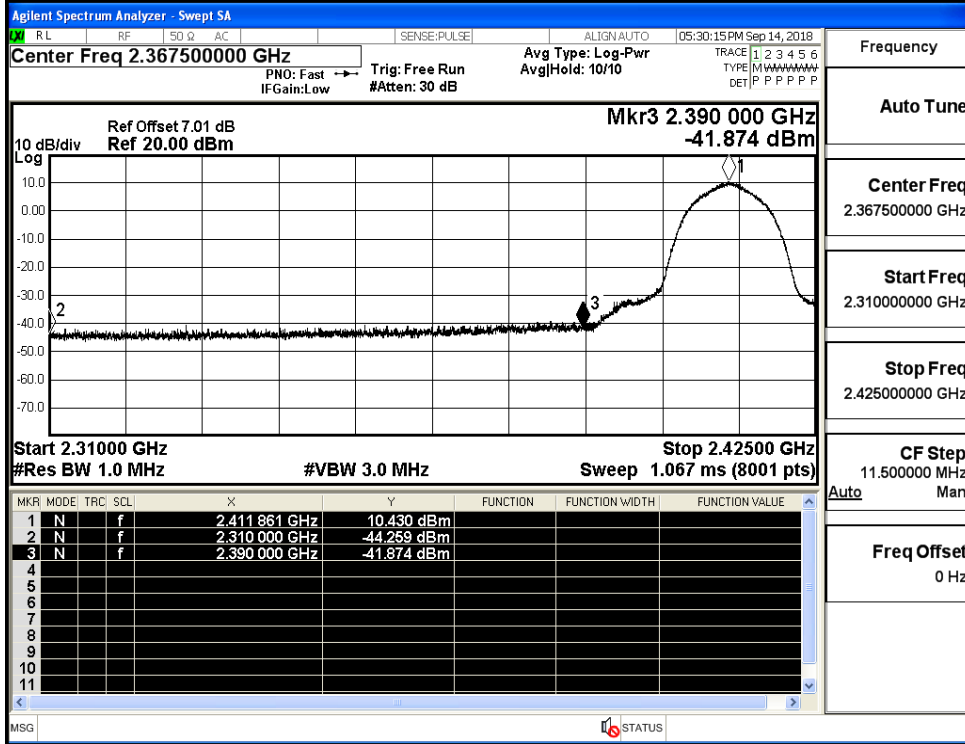


Frequency	
Auto Tune	
Center Freq	2.475000000 GHz
Start Freq	2.450000000 GHz
Stop Freq	2.500000000 GHz
CF Step	5.000000 MHz
Auto	Man
Freq Offset	0 Hz

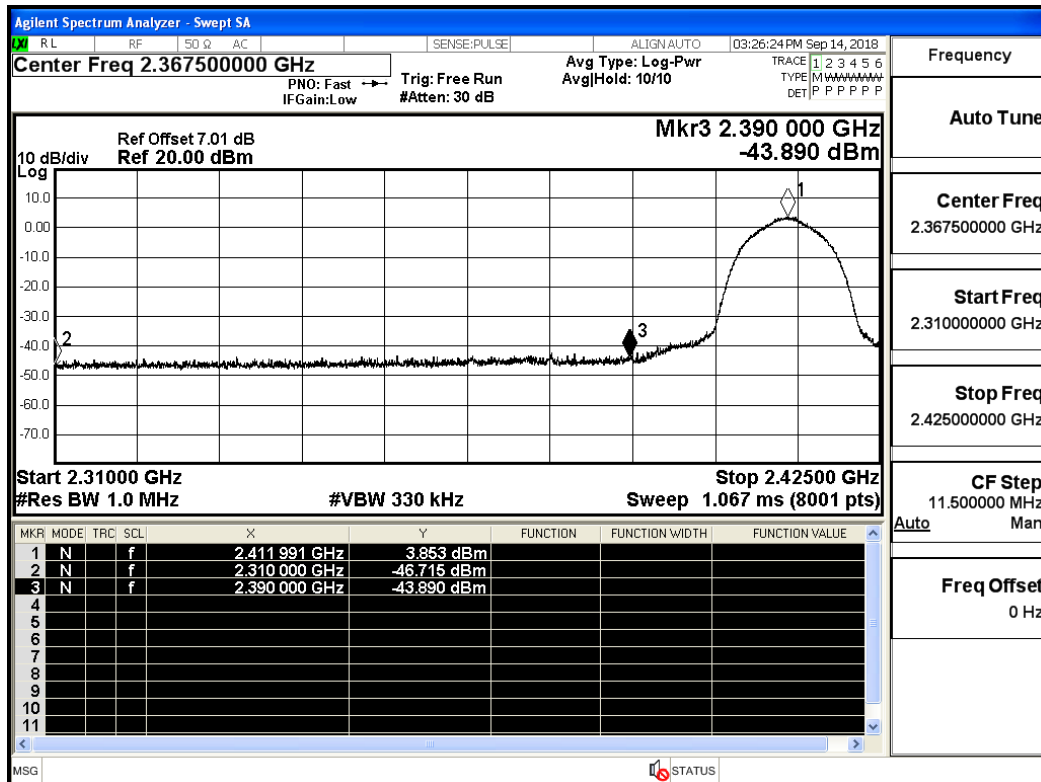
A.7 Restrict-band band-edge measurements

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	-44.259	2.0	0	52.969	PEAK	74	PASS
	2412	Ant1	2310.0	-46.715	2.0	0	50.513	AV	54	PASS
	2412	Ant1	2390.0	-41.874	2.0	0	55.354	PEAK	74	PASS
	2412	Ant1	2390.0	-43.890	2.0	0	53.338	AV	54	PASS
	2462	Ant1	2483.5	-41.263	2.0	0	55.965	PEAK	74	PASS
	2462	Ant1	2483.5	-44.102	2.0	0	53.126	AV	54	PASS
	2462	Ant1	2500.0	-43.292	2.0	0	53.936	PEAK	74	PASS
	2462	Ant1	2500.0	-44.326	2.0	0	52.902	AV	54	PASS
11G	2412	Ant1	2310.0	-44.815	2.0	0	52.413	PEAK	74	PASS
	2412	Ant1	2310.0	-46.159	2.0	0	51.069	AV	54	PASS
	2412	Ant1	2390.0	-39.698	2.0	0	57.530	PEAK	74	PASS
	2412	Ant1	2390.0	-43.425	2.0	0	53.803	AV	54	PASS
	2462	Ant1	2483.5	-39.230	2.0	0	57.998	PEAK	74	PASS
	2462	Ant1	2483.5	-44.267	2.0	0	52.961	AV	54	PASS
	2462	Ant1	2500.0	-43.165	2.0	0	54.063	PEAK	74	PASS
	2462	Ant1	2500.0	-44.278	2.0	0	52.950	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.329	2.0	0	53.899	PEAK	74	PASS
	2412	Ant1	2310.0	-46.326	2.0	0	50.902	AV	54	PASS
	2412	Ant1	2390.0	-36.990	2.0	0	60.238	PEAK	74	PASS
	2412	Ant1	2390.0	-44.114	2.0	0	53.114	AV	54	PASS
	2462	Ant1	2483.5	-39.912	2.0	0	57.316	PEAK	74	PASS
	2462	Ant1	2483.5	-43.770	2.0	0	53.458	AV	54	PASS
	2462	Ant1	2500.0	-42.109	2.0	0	55.119	PEAK	74	PASS
	2462	Ant1	2500.0	-44.720	2.0	0	52.508	AV	54	PASS

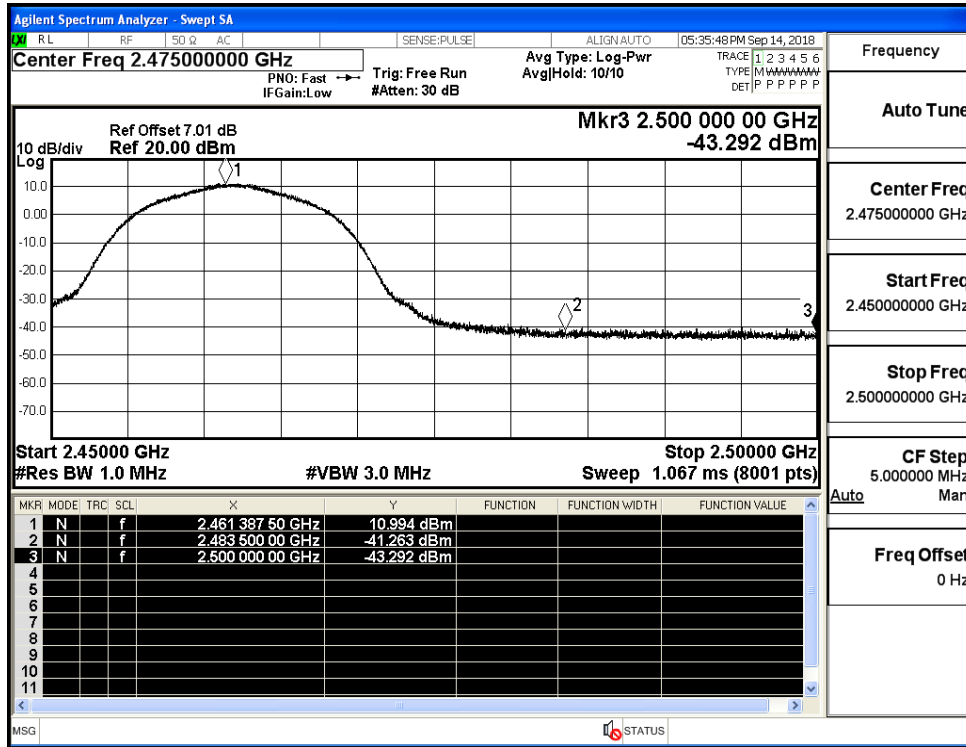
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



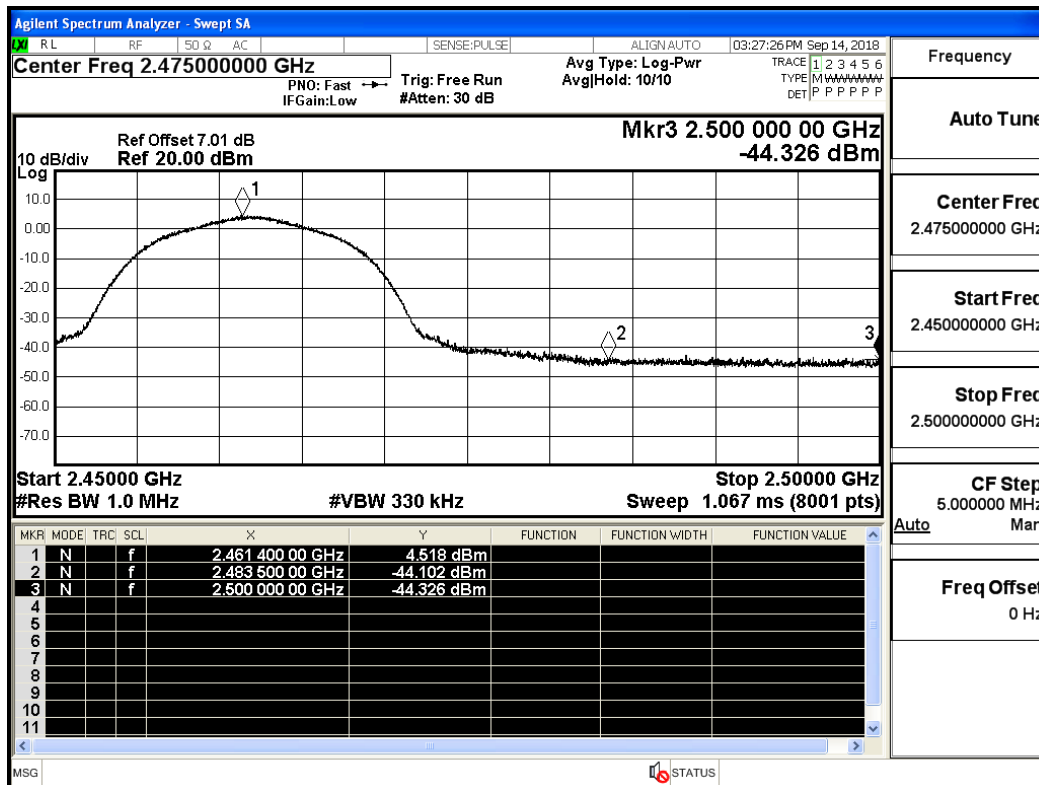
Restrict-band band-edge measurements_11B_2412_Ant1_AV



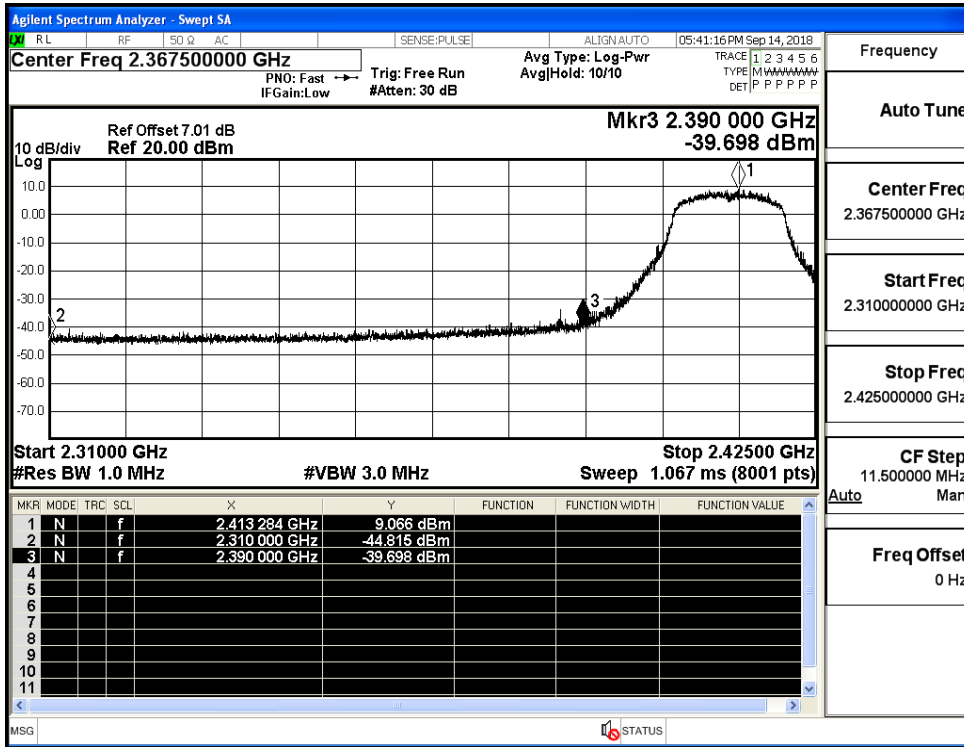
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



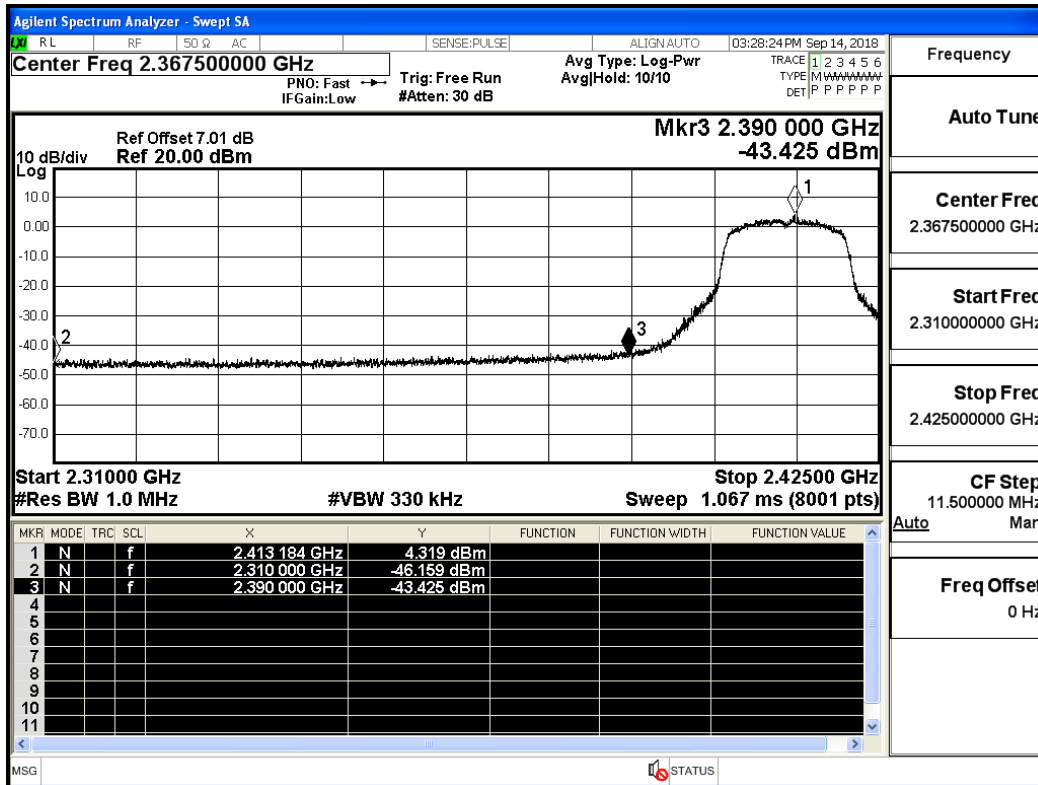
Restrict-band band-edge measurements_11B_2462_Ant1_AV



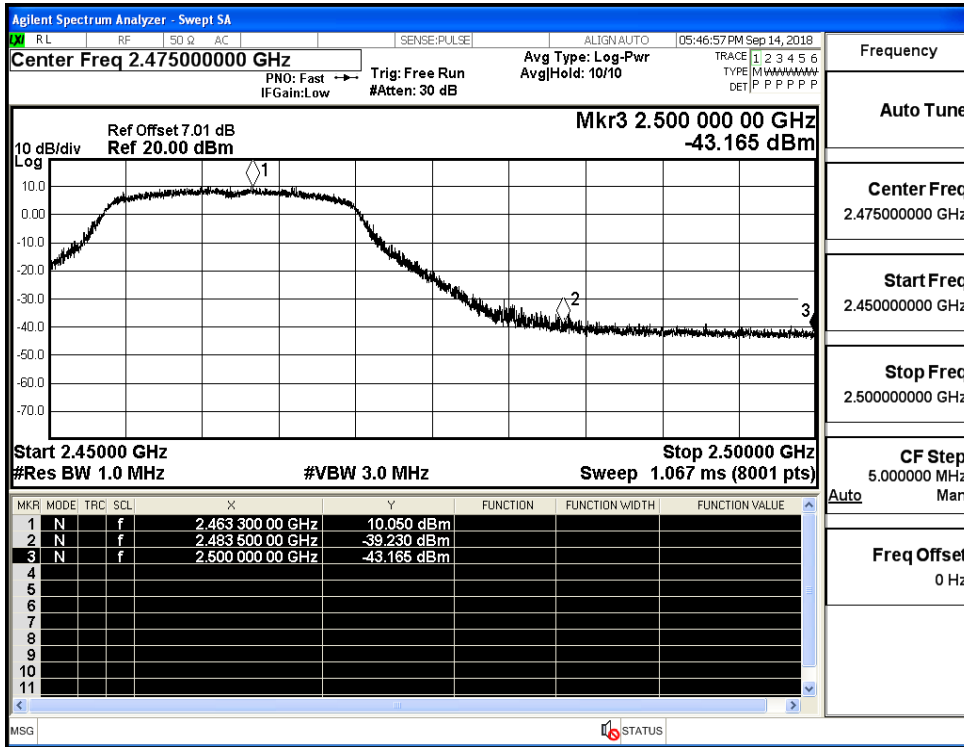
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



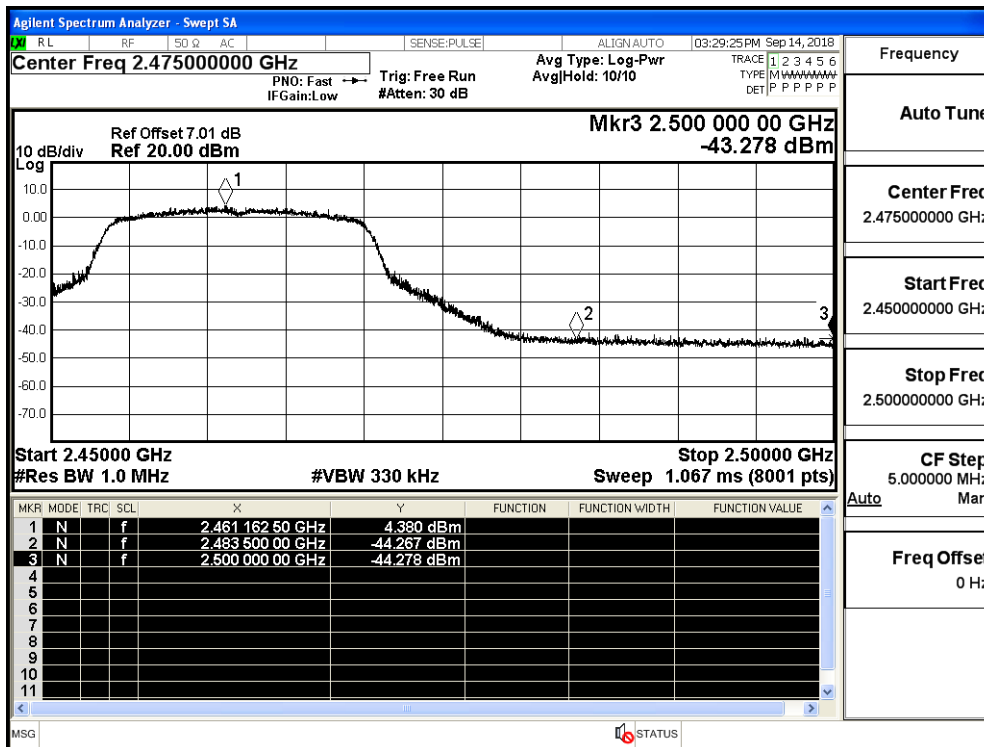
Restrict-band band-edge measurements_11G_2412_Ant1_AV



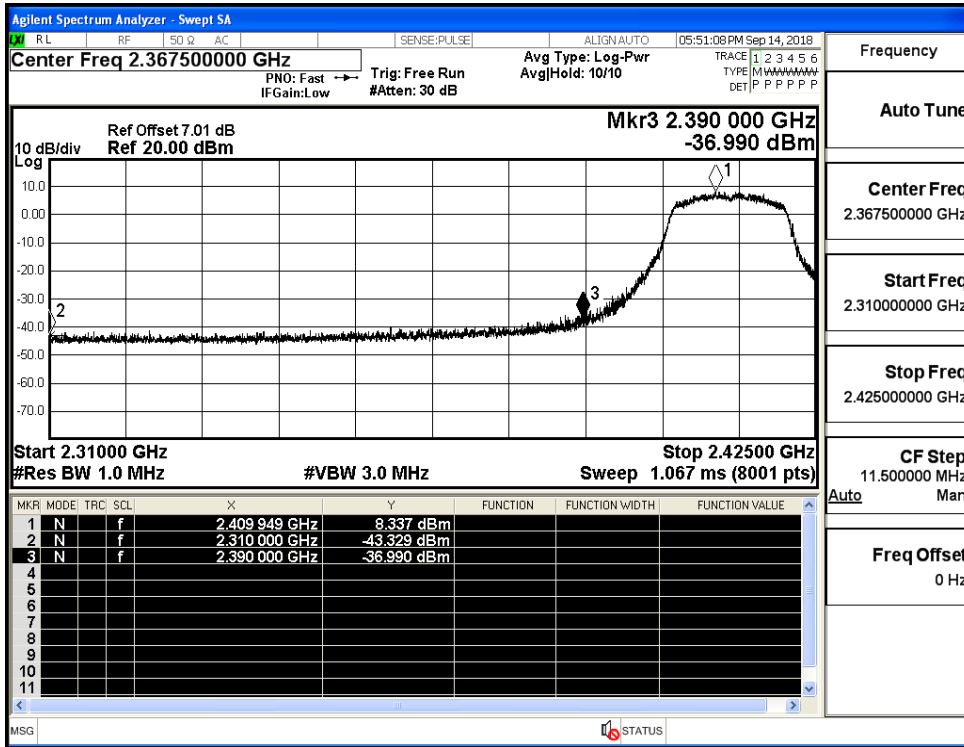
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



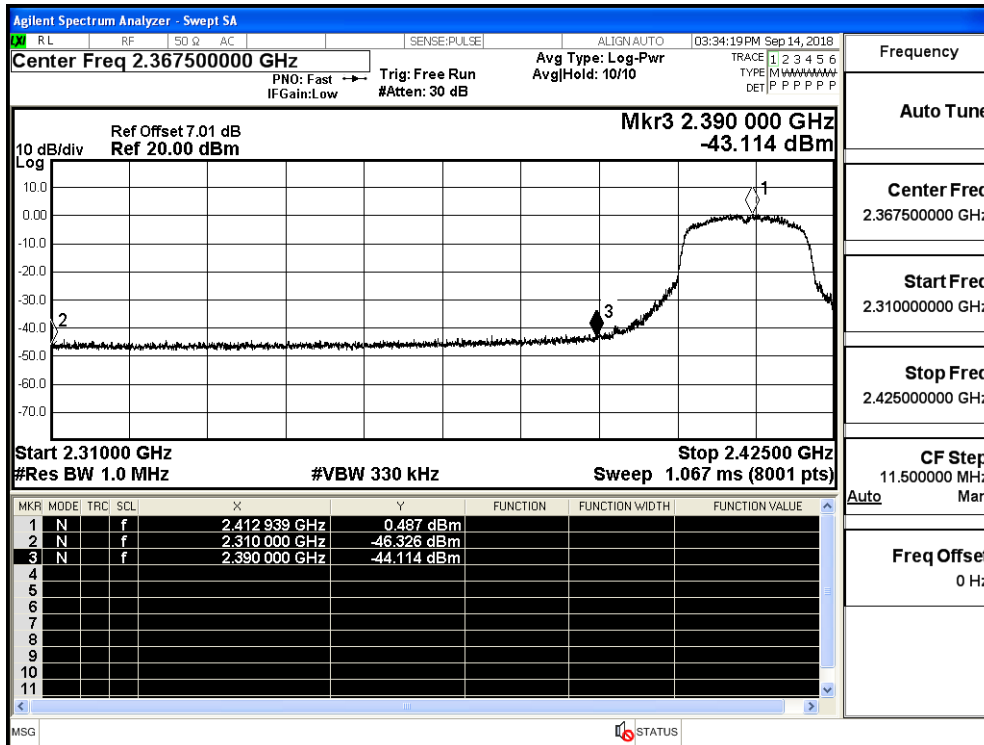
Restrict-band band-edge measurements_11G_2462_Ant1_AV



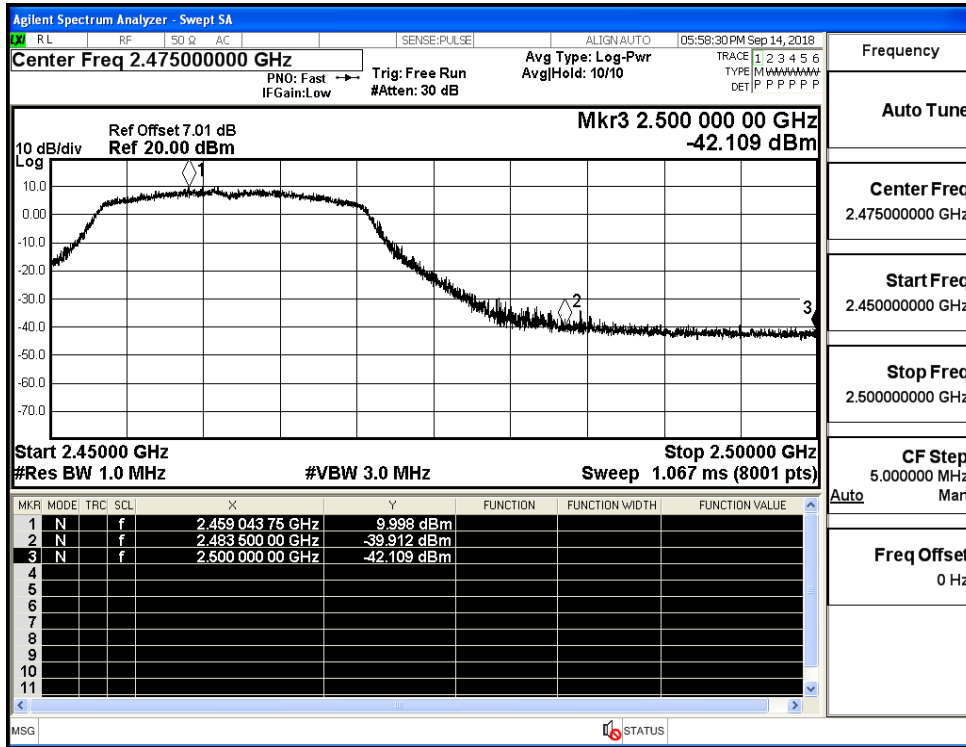
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



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

